



# Systems Delivery and Project Portfolio Management (SDPPM)

## AFIS Renewal

### APPENDIX H: REQUIREMENTS TRACEABILITY MATRIX

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## 1. REQUIREMENTS TRACEABILITY MATRIX

### 1.1 Requirements Declaration

I, (name), (position), declare that (supplier's name) meets all of the Mandatory requirements of the statement of work and associated annexes and compliancy documents. The information provided in the Requirements Traceability Matrix (Appendix H) is, to the best of my knowledge and belief, true, accurate and complete. I am aware that a false or misleading certification or declaration will result in my proposal or offer being deemed non-responsive. I am also aware that Canada may terminate a contract for default when a supplier has provided a false or misleading certification or declaration.

Signature: \_\_\_\_\_

## 1.2 Appendix A: AFIS Renewal Statement of Work – v15b

Appendix A: AFIS Renewal Statement of Work: Chapter 1. Introduction						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>1.1 General</b>						
1.1 General	1. In order to support planned future biometric processing requirements for Real Time Identification (RTID), the Royal Canadian Mounted Police (RCMP) will require a renewal of the existing Automated Fingerprint Identification System (AFIS) and its related subsystems. This Statement Of Work (SOW), its accompanying annexes and compliancy documents describe the requirements that must be satisfied to renew the AFIS and its related subsystems.	(M)				
1.1 General	2. In addition to renewing the AFIS and its subsystems, the RCMP has a requirement to expand its processing capacity to support significantly increased fingerprint processing volumes as well as new biometric processing capabilities such as facial recognition.	(I)				
1.1 General	3. The Contractor shall provide the goods and services described herein in accordance with the terms and conditions of the contract resulting from this SOW that will enable the RCMP to continue efficient, effective and secure AFIS processing for RTID.	(M)				
<b>1.2 High-level Requirement</b>						
1.2 High-level Requirement	1. This requirement includes the renewal of AFIS and its related subsystems with a Commercial Off-The-Shelf (COTS) based solution. This COTS based solution must be configurable to support the AFIS and its related subsystem requirements. The RTID AFIS solution includes all AFIS and Verification Sub-system (VSS) capabilities; as well as AFIS workstations, printers, cameras and scanners used by RCMP staff for all types of	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 1. Introduction</b>						
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	<p>fingerprint analysis; and remote Transcoders which are used by major Canadian Police agencies to complete crime scene fingerprint investigations. In addition to renewing all the existing RTID AFIS related capabilities, the Contractor must provide a Latent Case Management Capability (LCMC) and must be able to provide facial recognition capabilities. Therefore, the Entire AFIS renewal solution includes renewing the existing RTID AFIS solution as well as the new AFIS related capabilities required to satisfy all requirements stated in this SOW and its accompanying documents.</p>					
1.2 High-level Requirement	2. These requirements shall include the replacement/upgrade/re-use of all components and subsystems in the Production environment and three (3) test environments.	(M)				
1.2 High-level Requirement	3. The replacement/upgrade/re-use of the test environment hardware, operating system (OS) and software must ensure the test environments can be used to effectively test all Production functionality.	(M)				
1.2 High-level Requirement	4. This requirement shall include the support and maintenance of all environments in a manner that provides a secure operating environment within the RCMP / Shared Services Canada (SSC) infrastructure.	(M)				
1.2 High-level Requirement	5. This requirement shall include user training on the User Interfaces (UI) for the entire AFIS renewal solution as well as ongoing support and maintenance of all AFIS components.	(M)				
1.2 High-level Requirement	6. This requirement also includes the conversion of all data used by the existing RTID AFIS solution. The Contractor must convert the	(M)				

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	data to a format that is usable by the Contractor's proposed solution.					
1.2 High-level Requirement	7. Rated Requirements are marked with "(R)" at the end of a paragraph or an "R" in tables where rated requirements are listed. The wording used to identify these rated requirements is "should", "could" or "may".	(I)				
1.2 High-level Requirement	8. Mandatory requirements are marked with "(M)" at the end of a paragraph or an "M" in tables where mandatory requirements are listed identified using the terms "must", "shall" or "will".	(I)				
1.2 High-level Requirement	9. Information items are marked with "(I)" at the end of a paragraph.	(I)				
<b>1.3 Document Organization</b>						
1.3 Document Organization	1. This document is organized in a manner that allows the overall high-level requirements to be understood before describing the detailed requirements for each key area to be provided by the Contractor.	(I)				
1.3 Document Organization	2. Unless otherwise stated, all requirements identified throughout this SOW and its annexes, attachments and compliancy documents must be satisfied by the Contractor.	(M)				
1.3 Document Organization	3. The following describes the document organization in point form: a. This Appendix A describes the: i. Compliancy documents that are key parts to this requirement; ii. Scope of supply by the Contractor and the RCMP/SSC; iii. High-level RTID architecture in the background section;	(I)				

Appendix A: AFIS Renewal Statement of Work: Chapter 1. Introduction						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>iv. High-level requirements and the key areas to be delivered by the Contractor;</li> <li>v. High-level technical requirements to be satisfied by the Contractor's proposed solution;</li> <li>vi. On-going support requirements to be provided; and</li> <li>vii. All the deliverables that to be completed by the Contractor;</li> <li>b. Annex A describes the current RTID/AFIS/VSS architecture;</li> <li>c. Annex B describes the detailed requirements for AFIS;</li> <li>d. Annex C describes the detailed requirements for Transcoders;</li> <li>e. Annex D describes the detailed requirements for VSS;</li> <li>f. Annex E describes the detailed requirements for the LCMC;</li> <li>g. Annex F lists all Government Furnished Equipment (GFE) available for use by the Contractor; and</li> <li>h. Annex G lists the workflows for the NNS processing that requires interaction with AFIS.</li> </ul>					
1.4 Document Purpose						
1.4 Document Purpose	1. The purpose of this SOW is to present the RCMP's functional, technical, management, support and maintenance requirements related to the Entire AFIS renewal requirements to be delivered by the Contractor.	(I)				
1.4 Document Purpose	2. The requirements contained in this document and referenced in other attached documents will be used by Canada to select a Contractor to install, configure, make fully operational according to the requirements stated herein and support a renewed RTID AFIS solution.	(I)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
1.4 Document Purpose	3. This document provides the requirements that must be supported to enable the RCMP as well as other national and international police agencies to effectively process all types of submissions received by RTID. It details the functional requirements, technical requirements, interface specifications, performance, capacity requirements, quality, security, availability, integrity, training, conversion, implementation, and support requirements that the Contractor must satisfy.	(M)				
1.5 Compliancy Standards and Reference Documents						
1.5.1 Documents Forming Part of Statement of Work						
1.5.1 Documents Forming Part of Statement of Work	<p>1. The following documents form an integral part of this SOW. The Contractor must propose a solution that complies with the content of all the listed documents in this subsection.</p> <ul style="list-style-type: none"> <li>• AFIS Internal Subsystem Interface Control Documents (a.k.a. AFIS ICDs) (Versions 2.0, 2.1), (RDIMS #42236, 42562);</li> <li>• Web Service Transport Description Document (RDIMS #18413);</li> <li>• NPS-NIST ICD for Immigration External Contributor (IEC) 2.1.1, (AKA: TRB ICD) (RDIMS #40361);</li> <li>• TRB Verification Interface Specification Document, (RDIMS #38553);</li> <li>• NPS-NIST ICD 177 for External Contributors, (RDIMS #22062);</li> <li>• NPS-NIST ICD 178 for External Contributors, (RDIMS #38923);</li> </ul>	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>American National Standards Institute National Institute of Standards and Technology – Information Technology Laboratory ANSI NIST-ITL 1-2011 version as of January 2014 or later. That is, the Contractor's solution must support the 2013 update to the ANSI NIST-ITL 1-2011;</li> <li>Electronic Biometric Transmission Specification (EBTS) V10 (including support for both Extended Feature Set (EFS) and Legacy Integrated Automated Fingerprint Identification System (IAFIS) Type-9); and</li> <li>RTID Secure File Transfer Technical Architecture (RDIMS #39435) (provided after non-disclosure agreement signed).</li> </ul>					
<b>1.5.2 Reference Documents</b>						
1.5.2 Reference Documents	1. The following documents are for reference purposes. The Contractor could use these documents to understand RTID related information. These documents include RTID internal Transaction definitions which are used for paper conversion and for RTID to represent external transactions in an internal form such as Internal Criminal Transaction (CARI), Internal Civil Transaction (MAPI), Internal Refugee Transaction (REFI) and LFSNS. <ul style="list-style-type: none"> <li>Addendum to AFIS ICD (Versions 2.0), (RDIMS #42237); and</li> <li>Internal Subsystem (IIS) ICD (RDIMS #17261).</li> </ul>	(I)				
<b>1.5.3 Maintainability Process</b>						
1.5.3 Maintainability Process	1. The RCMP/SSC has a mature release and change management process. The Contractor must adhere to the RCMP/SSC current	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 1. Introduction</b>						
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	change management policy found at (this link is only available on the RCMP's intranet): <a href="http://infoweb.rcmp-grc.gc.ca/cio/cm-gc/index-eng.htm">http://infoweb.rcmp-grc.gc.ca/cio/cm-gc/index-eng.htm</a>					
1.5.3 Maintainability Process	2. The RCMP will provide the Contractor with a printed copy of the material found in the above link, upon request.	(I)				
<b>1.6 Scope of Supply</b>						
1.6 Scope of Supply	1. This section outlines the scope of supply for the Contractor and the corresponding supply by the RCMP. This is not intended to be a comprehensive list. This list is intended to provide the Contractor with an understanding of the scope of the requirements without reviewing all documentation included in this SOW to determine their potential interest in responding to this Request for Proposal (RFP). The Contractor must supply all goods and services required to satisfy all the requirements stated in this SOW and its accompanying documents.	(M)				
<b>1.6.1 The Contractor</b>						
<b>1.6.1.1 Included in Supply</b>						
1.6.1.1 Included in Supply	1. Hardware, OS, software and all other deliverables (excluding GFE) required to renew the AFIS, Transcoders, VSS and LCMC such that they shall satisfy the requirements stated throughout this SOW and its accompanying documents; and comply with server/workstation security requirements of the RCMP for all environments: a. Development/Test (DEVTEST); b. Quality Control System (QCS);	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 1. Introduction</b>						
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	c. Maintenance/Certification (MAINT); d. Production (PROD); and e. Disaster Recovery. (DR) f. Note: Software means any drivers, application, third-party or any other software required by the Contractor to provide a solution that satisfies all the requirements stated throughout the SOW and its accompanying documents.					
1.6.1.1 Included in Supply	2. All software and/or hardware changes required to the GFE to support the requirements stated in this SOW and its accompanying documents. The Contractor must describe in detail how the GFE will be utilized in the Contractor's proposed solution.	(M)				
1.6.1.1 Included in Supply	3. Any peripheral GFE components (i.e. monitors, printers, flat-bed scanners, hand held scanners) that are not reused by the Contractor must be replaced with quantities including at least as many as the existing Production and test environments as defined in Annex F (Note: cameras must be replaced).	(M)				
1.6.1.1 Included in Supply	4. Testing to ensure all the Contractor functionality shall be fully operational between all Contractor components; and between the Contractor components and the RCMP/RTID components.	(M)				
1.6.1.1 Included in Supply	5. Performance testing that verifies the Entire AFIS renewal will satisfy all the capacity and performance requirements stated in this SOW and its accompanying documents.	(M)				
1.6.1.1 Included in Supply	6. Training shall be completed on all UI aspects of all Contractor components.	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 1. Introduction</b>						
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1.6.1.1 Included in Supply	7. Conversion of all existing AFIS and its subsystems data to a form usable by the Contractor's proposed solution that shall satisfy all requirements in this SOW and its accompanying documents.	(M)				
1.6.1.1 Included in Supply	8. Management of the Contractor's personnel, tasks and processes that ensures the timely, effective and efficient completion of all work identified in this SOW and its accompanying documents will be completed.	(M)				
1.6.1.1 Included in Supply	9. All other deliverables and services required by the Contractor that will satisfy the requirements stated in this SOW and its accompanying documents.	(M)				
<b>1.6.1.2 Contractor Dependencies</b>						
1.6.1.2 Contractor Dependencies	1. RTID is a fully operational system based on the ICDs identified in this SOW. The Contractor's solution must fully support the ICDs. RTID is available to test the Contractor's solution based on the ICDs; therefore, there are no RCMP RTID application dependencies to test all existing functionality.	(M)				
1.6.1.2 Contractor Dependencies	2. Any new functionality that must be supported by the Contractor's solution, such as the LCMC, must adhere to the ICDs and support the requirements in this SOW and its accompanying documents.	(M)				
1.6.1.2 Contractor Dependencies	3. Any Contractor components or modifications to existing components required to support the requirements must be provided by the Contractor and these new/modified components must successfully pass RCMP Departmental Security Branch (DSB) Vulnerability Assessments (VA) before they can be connected to the RCMP Network.	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 1. Introduction</b>						
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1.6.1.2 Contractor Dependencies	4. The Contractor must complete the work included in this SOW and its accompanying documents within a time frame agreed to by the Contractor and RCMP. The RCMP will maintain a project schedule, that includes the activities to be performed by the Contractor, integrated with the activities that must be completed by the RCMP/SSC. However, the renewal of all AFIS, Transcoder, VSS and LCMC capabilities including all AFIS workstation, printers, cameras and scanners must be fully implemented in all test environments and the Production environment within twelve (12) months of contract award unless specifically identified herein. The Production environment includes both the Primary (PR) and Disaster Recovery (DR) sites implementation. Refer to Subsection 1.11 (Timeliness of Deliverables) for additional information concerning scheduling the work to be completed as detailed within this SOW.	(M)				
<b>1.6.1.3 Contractor Configuration Management Tools and Process</b>						
1.6.1.3 Contractor Configuration Management Tools and Process	1. The Contractor must use Configuration Management tools and processes to maintain the software and configuration changes completed throughout the life of the contract resulting from this RFP. The tools and processes must be included in the response to this RFP and described to a level of detail that clearly identifies an effective, efficient and proven method to manage the RCMP specific software/configurations constituting the Contractor's proposed solution.	(M)				

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<b>1.6.1.4 Contractor Documentation</b>						
1.6.1.4 Contractor Documentation	1. The Contractor must provide sufficient detailed design documentation that explains all aspects of the Contractor's proposed solution and how the design/architecture of the proposed solution satisfies the requirements stated in this SOW and its accompanying documents. The Data Item Description (DID) DO-01 Software and Documentation (Section 15) describes the documentation that must be provided through the contract resulting from this RFP.	(M)				
1.6.1.4 Contractor Documentation	2. DO-01 can be used as a guideline for what should be provided by the Contractor in response to this RFP. It is the Contractor's responsibility to include the documentation, in response to this RFP, required to demonstrate that all requirements are satisfied. The documentation provided will be used by the Government Of Canada (GC) to evaluate the proposed solution.	(R)				
<b>1.6.1.5 Benchmark Testing</b>						
1.6.1.5 Benchmark Testing	1. At no cost to Canada, benchmark testing must be completed in North America (i.e. Canada or continental USA) at a location proposed by the Contractor and agreed to by the RCMP.	(M)				
1.6.1.5 Benchmark Testing	2. The benchmarks will take approximately five (5) days per Contractor with, ideally the fifth day of each Benchmark set aside for data reduction and analysis, re-running of tests (only under exceptional conditions) and any required administrative actions.	(I)				
1.6.1.5 Benchmark Testing	3. The Contractor is responsible for providing and configuring a benchmark configuration of the proposed solution to be used in the benchmark testing.	(I)				

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1.6.1.5 Benchmark Testing	4. The Contractor will be provided with the benchmark data set and the first test must start 30 calendar days from the next business day.	(M)				
1.6.1.5 Benchmark Testing	5. The Contractors will submit their detailed Benchmark Procedures to the RTID Public Works and Government Services Canada (PWGSC) Procurement Officer no later than fifteen (15) working days prior the scheduled benchmark. The Contractor's Benchmark Test Procedures will be reviewed by the benchmark evaluation team and feedback will be provided five (5) days prior to the first day of its benchmark. This scheduling and other related details will be discussed further with the Contractor's that successfully reach the benchmark testing stage.	(M)				
1.6.1.5 Benchmark Testing	6. If Canada determines during the benchmark test that the Contractor's proposed solution does not meet the mandatory requirements, where the Contractor's proposal stated it would be supported within the scope of the benchmark test of this solicitation, the Contractor's proposal may be declared non-compliant and be disqualified.	(I)				
1.6.1.5 Benchmark Testing	7. Canada may, as a result of any such demonstration, reduce the score of the Contractor on the COTS rated requirements, if the benchmark test indicates that the score provided to the Contractor on the basis of its written proposal is not validated by the benchmark; where the Contractor's proposal stated it would be supported within the scope of the benchmark test. This is to ensure a Contractor's score for COTS compliancy is accurately determined. No Contractor's score will be increased as a result of any demonstration during the benchmark.	(I)				

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1.6.1.5 Benchmark Testing	8. If a Contractor is not ready to commence the execution of the Benchmark tests on its scheduled date and time, the benchmark will be considered a failed benchmark. The only exception for not being ready to start that may be accepted is if there are circumstances outside the control of the Contractor (e.g. acts-of-God, war, terrorism or widespread power outages) in which case PWGSC may establish a revised schedule based on the situation.	(I)				
<b>1.6.1.6 Exclusions</b>						
1.6.1.6 Exclusions	1. There is no requirement to renew/replace the Paper Conversion Subsystem (PCS) servers or PCS workstations.	(I)				
<b>1.6.2 RCMP</b>						
<b>1.6.2.1 Included in Supply</b>						
1.6.2.1 Included in Supply	1. GFE servers and AFIS/Transcoder workstations recently procured by RCMP through a GC National Master Standing Offer (NMSO) and existing Transcoder flatbed scanners. Refer to Annex F which includes all components provided as GFE.	(I)				
1.6.2.1 Included in Supply	2. Cisco network devices such as Layer three (3) switches and stackable switches. The Layer three (3) switches include Load Balancing (LB) capabilities, Secure Sockets Layer (SSL) termination and synchronous Hypertext Transfer Protocol (HTTP) communication between the RCMP/SSC and the Contractor's VSS solution.	(I)				
1.6.2.1 Included in Supply	3. Communications Security infrastructure.	(I)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 1. Introduction</b>						
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1.6.2.1 Included in Supply	4. McAfee ePolicy Orchestrator (ePo) services and McAfee client software as required.	(I)				
1.6.2.1 Included in Supply	5. Internal/external communications infrastructure.	(I)				
1.6.2.1 Included in Supply	6. Storage Area Network (SAN) storage.	(I)				
1.6.2.1 Included in Supply	7. Server room space, hook-ups.	(I)				
1.6.2.1 Included in Supply	8. RCMP server room racks, as stated in Section 3.3.1 Servers, and server cabling between racks and network switches.	(I)				
1.6.2.1 Included in Supply	9. Technical support for installation to RCMP/SSC components (e.g. network switches).	(I)				
1.6.2.1 Included in Supply	10. NPS-NIST Server (NNS) functionality including all interface capabilities based on the ICDs.	(I)				
1.6.2.1 Included in Supply	11. Project management of the overall project, within which the Contractor activities must be included. The RCMP/SSC has a mature release process which will be followed for the Entire AFIS renewal solution.	(I)				
1.6.2.1 Included in Supply	12. Coordinating Contractor access to Subject Matter Experts (SMEs).	(I)				
1.6.2.1 Included in Supply	13. Approval authority for decisions, approvals and sign-off required by Contractor.	(I)				

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<b>1.7 Terminology Clarification</b>						
1.7 Terminology Clarification	1. The phrase “any OS and/or software upgrade completed through the execution of the work required to complete this SOW must successfully pass a DSB VA” or similar phrases concerning VAs represents a requirement for all networked components to operate with an acceptable level of risk in the RCMP infrastructure. This does not mean that every identified vulnerability must be resolved. However, vulnerabilities must be resolved to an acceptable level for DSB approval. What is considered an acceptable level of risk is defined only by RCMP’s DSB. The names of the tools and applications used by DSB to identify the vulnerabilities can be provided to the Contractor, as required. As well, VAs can be performed as soon as the Contractor has a replacement or upgraded component configured for final delivery to ensure vulnerabilities are identified as early as possible in the implementation process; therefore, enabling corrections as soon as possible.	(I)				
1.7 Terminology Clarification	2. In the context of this SOW, the term “component” means any identifiable part of the Contractor’s solution required to provide a fully operational solution that satisfies all the requirements in this SOW and its accompanying documents. For example, components might include servers, workstations, printers, scanners, cameras, databases, firmware and any other devices/products required to provide the Entire AFIS renewal solution.	(I)				
<b>1.8 Bilingualism</b>						
1.8 Bilingualism	1. The Contractor’s Entire AFIS renewal solution shall be delivered in Canadian English and Canadian French at the user interface	(M)				

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	level. The Contractor shall describe how language is implemented architecturally in their solution.					
1.8 Bilingualism	2. English and French should not appear on a screen at the same time but users shall sign in with either one of the two languages.	(R)				
1.8 Bilingualism	3. The Contractor's Entire AFIS renewal solution shall be functionally equivalent in both official languages (Canadian English and Canadian French) according to Canadian Federal Government standards. The Entire AFIS renewal solution must adhere to the following Acts and Policies: a. Official Languages document entitled Official Languages Act at <a href="http://laws-lois.justice.gc.ca/eng/acts/O-3.01/">http://laws-lois.justice.gc.ca/eng/acts/O-3.01/</a> ; and b. The document entitled Policy on Using the Official Languages on Electronic Networks at <a href="https://www.tbs-sct.gc.ca/archives/hrpubs/ol-lo/uoletoc01-eng.asp">https://www.tbs-sct.gc.ca/archives/hrpubs/ol-lo/uoletoc01-eng.asp</a> .	(M)				
1.8 Bilingualism	4. The software shall support accented and special characters for the input of French data, in data fields where this is allowed. (Refer to the NPS NIST External ICDs).	(M)				
1.8 Bilingualism	5. The shortcut keys shall reflect the language of the interface being used (e.g. "N" for "Next" would become "S" for "Suivant").	(M)				
1.8 Bilingualism	6. The software shall use Canadian spelling, either Canadian English or Canadian French (e.g. "colour" instead of "color").	(M)				
1.8 Bilingualism	7. The Entire AFIS renewal solution shall permit users to select their default language of operation as part of their profile.	(M)				
1.8 Bilingualism	8. The Entire AFIS renewal solution shall use common language-independent codes to ensure that selecting a new	(M)				

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	description from a code table value, when editing the file in one language, is automatically reflected when the file is viewed/edited in another language.					
1.8 Bilingualism	9. The ICDs in Section 1.5 (Compliance Standards and Reference Documents) contain the code values that are applicable to each input field.	(I)				
1.8 Bilingualism	10. The Entire AFIS renewal solution shall make a French and English description available for each code table value.	(M)				
1.8 Bilingualism	11. The Entire AFIS renewal solution shall display the description associated with a code table value in the language currently selected by the user.	(M)				
1.8 Bilingualism	12. The values displayed from the code tables do not change with the selected language, but the descriptions of the code table values associated with the selected language must change based on the language.	(M)				
<b>1.9 Security</b>						
1.9 Security	1. RTID, AFIS and its subsystems operate in a GC Protected B environment. The Contractor must be experienced operating and supporting an AFIS in a Protected B environment.	(M)				
1.9 Security	2. The software and document deliverables are considered Protected A. The Contractor must be experienced handling Protected A deliverables. Any exchange of software or AFIS related documentation between Contractor resources at RCMP sites and off-site Contractor resources must be exchanged securely through a Contractor provided secure portal. As well, any exchanges of AFIS related software/documentation between	(M)				

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	RCMP/SSC resources and off-site Contractor resources must be exchanged through a Contractor provided secure portal.					
1.9 Security	3. For security reasons, all equipment, except Transcoders, provided by the Contractor must be physically located on RCMP premises and used exclusively by RCMP/SSC and Contractor resources on RCMP premises. Transcoders must only be used on RCMP premises or RCMP approved designated law enforcement agencies with secure connections for RTID communication.	(M)				
1.9 Security	4. Under rare exceptions, a temporary secure connection from a specific Contractor off-site location may be allowed to enable engineering assistance for on-site Contractor resources. The on-site Contractor support resources shall perform all daily activities, troubleshoot and resolve all issues as well as complete all the work required to release new software versions through the release process to Production. Consequently, only under rare exception are off-site Contractor personnel expected to require remote access. Planned engineering effort that cannot be performed by the Contractor's support resources shall require the Contractor's engineering staff to be on-site.	(M)				
1.9 Security	5. RCMP's approved mechanism to support external agency devices such as Transcoders is PC Duo. The Entire AFIS renewal solution must be able to provide support using PC Duo as required.	(M)				
1.9 Security	6. The Contractor must gain and maintain RCMP Enhanced Reliability security clearances for a minimum of two (2) personnel or the Contractor will be deemed non-compliant and the contract may be terminated.	(M)				

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<b>1.10 Constraints</b>						
1.10 Constraints	1. This section identifies the constraints related to this SOW.	(I)				
1.10 Constraints	2. The renewed/replaced technology included in the Contractor's proposed solution must be included in the Contractor's ongoing support and maintenance. That is, once accepted and after the warranty period, the renewed/replaced technology will be included in the support and maintenance activities of the Contractor included in this SOW.	(M)				
1.10 Constraints	3. The Contractor must understand and follow the RCMP Change Management process including the Service Desk Manager (SDM) process, the installation process and release promotion process through various environments to the Production environment. The change management documentation (1.5.3) and Annex A of this SOW – Current Architecture describe the process that the Contractor must follow. This is the same process currently used for RTID NNS, AFIS, Transcoders and VSS and any other RTID component. This process involves the Contractor creating the required documentation to enable an effective and efficient release, including, but not limited to implementation steps, input to the RTID release implementation plan and installation checklist.	(M)				
1.10 Constraints	4. RCMP will create the SDM Change Orders (CO), as required, for activities completed for this SOW. The Contractor must create all the information and documentation required for the CO, as documented under this SOW and the RCMP Change Management process.	(M)				

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1.10 Constraints	5. The Contractor is expected to inform the RCMP of anything that might improve the overall solutions requested in this SOW; and/or the efficiency with which the solutions might be implemented. The RCMP has sole responsibility for deciding to use any suggestions presented by the Contractor.	(I)				
1.10 Constraints	6. There will be no changes allowed to the existing workflows, unless specifically stated in this SOW or its accompanying documents. The NNS is fully operational and already supports the workflows with a specific sequence of activities. Any ICD changes required to support the Contractor's proposed solution must be identified and approved by RCMP prior to submission of the Contractor's proposal. The only ICD changes that will be considered by the RCMP will be changes concerning the new functionality. It will be the sole responsibility of the RCMP to determine whether the ICD change is considered acceptable.	(M)				
1.10 Constraints	7. RCMP will be responsible for the racking servers, physically moving racked servers to different racks as required and providing power and network connectivity for the servers.	(M)				
<b>1.11 Timeliness of Deliverables</b>						
1.11 Timeliness of Deliverables	1. The Contractor must provide the personnel and resources required to complete all the deliverables according to the agreed to Entire AFIS renewal solution SOW Master Contract Schedule (MCS – DID PM-01). The schedule of deliverables (15.2), included herein, provides estimated time frames within which the initial AFIS renewal implementation must be completed. The Contractor must receive written approval from the RCMP, prior to submitting its proposal, to exceed the initial AFIS renewal implementation completion time or the proposal may be	(M)				

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	considered non-compliant. Any additional time allowed for the Contractor will be communicated to all potential Contractors.					
1.11 Timeliness of Deliverables	2. The timely completion of all deliverables associated with this SOW is of critical importance to the RCMP. The Contractor must provide highly qualified and experienced resources to ensure the timely completion of all deliverables.	(M)				
1.11 Timeliness of Deliverables	3. All deliverables shall be completed in a timely manner such that they follow all the required review, update, acceptance and approval processes for final sign-off of fully operational solutions according to the MCS. The exception to this date is the ongoing OS and software upgrade activities which must be provided following the completion of all other work in this SOW until the end of the contract resulting from this RFP including any option years that are exercised by the RCMP.	(M)				
1.11 Timeliness of Deliverables	4. All document deliverables provided to RCMP resulting from this SOW will be considered draft until RCMP's acceptance. The RCMP review and approval period for each deliverable is identified in the Section 15, Overall Deliverables Plan and Schedule.	(M)				

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<b>2.1 General</b>						
2.1 General	1. RTID is the Canadian Criminal Real Time Identification Services (CCRTIS) solution to maintain the national repository for criminal, refugee, immigration (aka TRB) and RCMP employee fingerprints. RTID supports submissions from various police agencies, government departments, civil clearance organizations and international police agencies to perform criminal record checks. RTID supports extensive latent crime scene print processing for RCMP Head Quarters' (HQ) staff and personnel from major police agencies across Canada. RTID also supports receiving updates to the criminal and immigration records. Additionally, RTID also supports immigration verification checks at Canadian Ports Of Entry (POE) to verify the identity of an individual seeking entry to Canada.	(I)				
2.1 General	2. AFIS and its related subsystems provide critical capabilities within RTID. The interface between AFIS related components and RTID is defined through Interface Control Documents (ICDs).	(I)				
2.1 General	3. The following diagram depicts a high-level view of AFIS and its related subsystems within the current RTID architecture. Annex A describes additional details concerning the current RTID/AFIS/VSS architecture.	(I)				
2.1 General	4. The following is a high-level description of the devices and subsystems depicted in the current high-level RTID architecture diagram: a. RTID submission devices: i. CardScan, Livescans, remote NIST servers and Records Management Systems (RMS) submit to RTID based on	(I)				

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	<p>the NPS-NIST ICD 1.7.7/1.7.8 or the NPS-NIST ICD for IEC 2.1.1 for External Contributors. These submission devices might be owned and operated by external agencies or the RCMP. For example the RCMP has a separate NMSO contract that enables the procurement of Livescan and CardScan devices. These devices all submit to RTID using Simple Mail Transfer Protocol (SMTP) and receive responses through either SMTP or Post Office Protocol (POP) email protocols;</p> <p>ii. The Canada Border Services Agency (CBSA) VSS web service submits to RTID based on the NPS-NIST ICD for IEC 2.1.1 for External Contributors and the TRB Verification Interface Specification (refer to 1.5 for details). This VSS web service is owned and operated by CBSA. This VSS web service establishes a system-to-system connection with RTID through an SSL session and “posts” NIST packets based on the NPS-NIST ICD for IEC 2.1.1 for External Contributors. The SSL session is through a secure connection provided by the RCMP/SSC; therefore, there is double encryption;</p> <p>iii. The Central Latent Client (CLC) allows RCMP detachments to submit latent images to RTID based on the IIS ICD. These latent images are processed on AFIS by latent fingerprint analysts specializing in fingerprint crime scene investigation. CLC can also be used to retrieve fingerprint/criminal record information based on the NPS-NIST ICD; and</p> <p>iv. RTID submission devices are located across Canada and internationally. These devices connect to RTID through a</p>					

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	<p>secure connection established between the RCMP/SSC and the contributing agency.</p> <p>b. RTID subsystems:</p> <p>i. The NNS is the RTID workflow manager which acts as the hub for almost all RTID activity. The NNS validates all incoming NIST packets to ensure they adhere to the various RTID ICDs and supports communication between most RTID subsystems as depicted in the high-level RTID architecture diagram. The UI for NNS is accessed through a secure portal using the RCMP/SSC RCMP Office Support System (ROSS) workstation from RCMP premises;</p> <p>ii. Electronic Latent Management Operations (ELMO) is the RCMP Latent case management system which works interactively with NNS to support the CLC Latent submissions. The ELMO UI operates on the RCMP/SSC ROSS workstation with access to the ELMO database on a RCMP/SSC Structured Query Language (SQL) server and includes a few capabilities that are supported through an interface with NNS. The CLC/ELMO/NNS/AFIS processing is typically referred to as Central Latent processing since the fingerprint analysis is completed centrally at RCMP HQ;</p> <p>iii. The legacy application Criminal History System (CHS) and Active Document Storage (ADS) maintain criminal record related information processed by or relevant to RTID operations. The Criminal Records Entry Maintenance and Monitoring System (CREMMS) is an entry system used to</p>					

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	<p>maintain criminal record information maintained on Canadian Police Information Center (CPIC);</p> <ul style="list-style-type: none"> <li>iv. The RCMP/SSC Cisco LB/SSL is a module in a Cisco layer three (3) switch that supports SSL establishment with client authentication for the CBSA VSS web interface as well as load balancing and a number of other capabilities;</li> <li>v. The Criminal Justice Information Modernization (CJIM) system and its CJIM web client provide a mechanism to process dispositions associated with criminal charges previously processed through RTID; and</li> <li>vi. These RTID subsystems are located at two (2) Data Centers in Canada. The security architecture for these subsystems is provided by the RCMP/SSC.</li> </ul> <p>c. AFIS and Its Subsystems:</p> <ul style="list-style-type: none"> <li>i. AFIS is the automated fingerprint processing capability of RTID. Transactions between AFIS and the NNS are based on the AFIS Internal Subsystem ICDs (refer to 1.5 for details);</li> <li>ii. AFIS workstations interface directly with AFIS to support all AFIS related user activity;</li> <li>iii. The remote Transcoders are also RTID submission devices; however, they are part of the AFIS solution. The remote transcoders submit to RTID based on the NPS-NIST ICDs 1.7.7/1.7.8 (refer to 1.5 for details). With a few exceptions, the transcoders are owned and managed by the RCMP. A few sites procured additional transcoders that operate as secondary input devices through the primary Transcoder. RTID only interfaces with one RCMP</li> </ul>					

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	<p>owned Transcoder per site. The Transcoders submit to and receive from RTID using SMTP. The transcoders are based on an AFIS workstation with features specifically supporting latent fingerprint analysis. Essentially Transcoders are remote AFIS workstations with an ability to interface with NNS. The Transcoder operators are non-RCMP police agency Latent fingerprint analysts specializing in fingerprint / palm prints crime scene investigation. Similar to CardScans, Transcoders can also be used to perform criminal records searches using an individual's fingerprints and retrieve fingerprints records based on the NPS-NIST ICDs 1.7.7/1.7.8. The Transcoder must also support receiving fingerprints / palm prints directly from a remote AFIS to allow larger police agencies to use the Transcoder to search the RTID database if they cannot identify the latent prints against their own agency AFIS database. The RCMP Remote Network Search Coordinators (RNSC) use Transcoders to assist non-RCMP police agencies with coaching and use of the Transcoders through interactive remote sessions using PC Duo. The Transcoder/NNS/AFIS/ELMO processing is typically referred to as Remote Latent processing since the fingerprint / palm print analysis is completed remotely at police agency sites. Confirmed reverse search idents from Remote Latent processing are recorded in ELMO by the RNSC staff. The police agencies are responsible for case management of the Latents they process. The police agencies do not have access to ELMO. Note that with the LCMC solution as part of this RFP, all remote site idents</p>					

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	<p>will be recorded automatically (refer to LCMC requirements); and</p> <p>iv. The VSS is used to verify the identity of a foreign national attempting to enter Canada. Fingerprints of the foreign national received through RTID, prior to the individual's arrival, are used to compare against CBSA POE fingerprints captured when the individual arrives in Canada. This is a 1:1 search using the immigration identification number provided to the individual when their request to enter Canada was processed by RTID. The VSS performs validation of the received packet against the NPS-NIST ICD for IEC 2.1.1 for External Contributors and a 1:1 search against the previously provided fingerprints of the individual attempting to gain entry to Canada. Performance is a critical requirement for the VSS. The current end-to-end response time is under four (4) seconds; where end-to-end is defined as the moment the CBSA web service starts to send the first byte of data to establish an SSL session with the RCMP LB/SSL module. This sub-four (4) second response time includes any latency on the CBSA connection with the RCMP. The VSS portion of the processing is under three (3) seconds (typically 2.5 seconds) between the RCMP LB/SSL and VSS. This sub-three (3) second response time is measured from the time the LB/SSL sends to VSS and when the LB/SSL receives the complete response from VSS;</p> <p>v. The AFIS PCS is currently being phased out and will be decommissioned prior to expected delivery date of this AFIS renewal. It is currently used to process paper</p>					

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	<p>submissions sent to RCMP. It should not be considered in the response to this SOW;</p> <ul style="list-style-type: none"> <li>vi. The AFIS printers used by RTID are Federal Bureau of Investigation (FBI) certified printers;</li> <li>vii. The Scanners used by Transcoders and direct filing/scanning AFIS workstations to capture images that can be submitted to RTID are FBI certified;</li> <li>viii. Cameras and hand held barcode scanners are used by AFIS workstations to scan Document Control Numbers (DCNs) / DOCIDs to retrieve fingerprint images and certify a paper submission; and</li> <li>ix. AFIS and the AFIS subsystems are located at two (2) Data Centers in Canada. The security architecture for AFIS and these subsystems is provided by the RCMP/SSC.</li> <li>x. Note: Transcoder sites use separate cameras, not included in the scope of this SOW which are used to capture latent images. These images are manually transferred to the Transcoder before a submission is sent.</li> </ul>					

Appendix A: AFIS Renewal Statement of Work: Chapter 3. Requirement						
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<b>3.1 General</b>						
3.1 General	1. The following sub-sections describe the high-level requirements that must be satisfied by the AFIS renewal solution. The detailed	(M)				

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	requirements for each key area to be delivered are described in the annexes attached to this SOW.					
3.1 General	2. The Contractor must provide all the Contractor software, OS, third-party software, configuration and anything else required to create fully operational Production and test environment solutions that function as stated in this SOW and its accompanying documents.	(M)				
<b>3.2 Key Areas to be Delivered</b>						
3.2 Key Areas to be Delivered	1. The four (4) key areas that must be delivered by the Contractor under this SOW are AFIS, Transcoders, VSS and LCMC (replacing ELMO). The Contractor's solution must operate effectively in the current RTID security architecture which was presented at the AFIS Renewal Request For Information (RFI) Industry Day December 14–16, 2015. This same information can be provided at RCMP HQ, upon request, after a non-disclosure agreement is signed for anyone that did not attend the Industry Day presentation. The Security architecture will not be presented in this SOW. Only a high-level description of the Security architecture is included in this SOW to provide sufficient information that allows the Contractor to determine their interest and ability to respond to this SOW. Any potential AFIS Contractor would be expected to only need the level of security architecture provided herein to submit a proposal. The Contractor must also provide training and on-going support for all the key areas.	(M)				
3.2 Key Areas to be Delivered	2. The Contractor's solution must be capable of providing facial recognition capabilities that can be integrated into the Contractor's proposed AFIS solution. This integrated facial	(M)				

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	recognition capability must operate effectively in the current RTID security architecture when/if it is implemented.					
3.2 Key Areas to be Delivered	3. Additionally, the Contractor must convert all the AFIS, Transcoder, VSS and ELMO data to a form usable by the Contractor's Entire AFIS renewal solution.	(M)				
3.2 Key Areas to be Delivered	4. The Contractor's proposed Entire AFIS renewal solution must support everything in the current architecture, Annex A. That is, the RCMP security/network architecture will not be altered to support an inefficient or less secure AFIS/Transcoder/VSS/LCMC design. The proposed AFIS/Transcoder/VSS/LCMC solution must be able to replace the existing solution. This ability to replace any AFIS related component, based on the ICDs, is a fundamental design concept for RTID. The AFIS renewal solution must meet the requirements stated in this SOW and its accompanying documents based on the RCMP infrastructure already in place which is detailed in the SOW.	(M)				
3.2 Key Areas to be Delivered	5. If the AFIS renewal uses different internal ports within the existing security/network architecture, it would be considered an acceptable difference providing it shall not create a vulnerability that is unacceptable to RCMP's DSB. RCMP is solely responsible for determining whether any aspect of the Contractor's proposed solution creates a vulnerability.	(M)				
3.2 Key Areas to be Delivered	6. As part of maintaining RCMP systems, all of the AFIS/Transcoder workstations and several AFIS servers have recently been replaced using Government Of Canada (GC) National Master Standing Offers (NMSOs).	(I)				

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3.2 Key Areas to be Delivered	7. These workstations and servers are considered GFE for this AFIS renewal SOW and they are listed in Annex F.	(I)				
3.2 Key Areas to be Delivered	8. The GFE AFIS/Transcoder workstations use the Windows 7 OS and the Contractor's proposed UI for the AFIS/Transcoder fingerprint analyst must operate on these workstations with Windows 7 or Windows 10 desktop OS.	(M)				
3.2 Key Areas to be Delivered	9. Although not mandatory to utilize the GFE servers, they are available to implement the Contractor's solution.	(I)				
3.2 Key Areas to be Delivered	10. Any costs associated with additional servers; or upgrading the GFE servers or workstations to satisfy the technical, functional or performance requirements of this SOW will be solely the responsibility of the Contractor and must be identified in the Contractor's proposal. As well, the Contractor's proposal must explain how the GFE will be used together with the Contractor's components. The RCMP must approve any changes or upgrades to any GFE components. Any new or modified servers or workstations must successfully pass DSB approval or the proposal would be considered non-compliant. Any proposed changes can be submitted for approval prior to the closing time of the RFP.	(M)				
3.2 Key Areas to be Delivered	11. The Contractor will be responsible for the support and maintenance of the AFIS/Transcoder/VSS/LCMC related GFE including coordinating replacement parts/upgrades from the hardware / operating system vendor under the NMSO support contract. The existing RTID AFIS vendor is currently performing this task, using the onsite support personnel, as part of the terms of the existing contract. Support details will be presented later in this SOW. The Contractor will also be responsible for the support	(M)				

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	and maintenance of any new components provided to satisfy the requirements in this SOW.					
3.2 Key Areas to be Delivered	12. The following diagram depicts a high-level view of AFIS and its related subsystems that must be included with the Entire AFIS renewal solution. The notable differences from the current RTID architecture are the replacement of the existing RCMP ELMO case management system and the removal of PCS. This Entire AFIS renewal must include a LCMC that will replace the existing ELMO. The following subsections briefly describe each key area of the Entire AFIS renewal solution that must to be delivered by the Contractor under this SOW. Detailed requirements for each key area are identified in separate annexes attached to this SOW.	(M)				
<b>3.2.1 AFIS Production and Three Test Environment Renewal</b>						
3.2.1 AFIS Production and Three Test Environment Renewal	1. The AFIS renewal solution must include the following: <ul style="list-style-type: none"> <li>a. Servers, workstations and scanners to support all requirements stated in this SOW for the production environment and three (3) test environments;</li> <li>b. Database conversion from the existing AFIS database to the Contractor's database;</li> <li>c. A direct filing and direct scanning capability to support special requirements where a set of prints needs to be filed directly to AFIS;</li> <li>d. Support an electronic sync filing capability using AFIS ICD transactions, as required, where the Contractor's AFIS must support receiving electronic transactions from NNS and processing them completely without responding back to NNS. This will allow two (2) AFIS solutions to operate in parallel</li> </ul>	(M)				

Appendix A: AFIS Renewal Statement of Work: Chapter 3. Requirement						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	until the final cut-over without affecting existing RTID Production operations; e. FBI certified printers; f. Cameras to support paper certification and other requirements as stated in this SOW and its accompanying documents; and g. Anything else required to fully satisfy the requirements stated in this SOW and its accompanying documents.					
3.2.1 AFIS Production and Three Test Environment Renewal	2. The Production AFIS must operate in RCMP's two (2) Data Center configuration that allows fail-over from RCMP's PR site to the DR site. The AFIS renewal solution must be fully operational, with fifty percent (50%) capacity, at the DR site within eight (8) hours. Refer to Annex A for details concerning the architecture within which the AFIS renewal solution must effectively operate when a site fail-over occurs, as well as the other fail-over requirements as stated in this SOW and its accompanying documents.	(M)				
3.2.1 AFIS Production and Three Test Environment Renewal	3. The test environment servers must be configured in the same, or similar, manner as the Production environment. That is, these servers must be able to support the same OS, software, Database (DB) and configuration that operate in the Production environment which will allow all the Contractor AFIS capabilities to be effectively tested as well as allow Production issues to be recreated in the test environment. Refer to Annex A for details concerning how each test environment must be used and the capabilities that must exist in the test environments.	(M)				
3.2.1 AFIS Production and Three Test	4. The Contractor shall be responsible for providing the required software necessary to satisfy all the requirements identified in this SOW and configuring the servers with a DSB approved operating	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
Environment Renewal	environment that will successfully pass the DSB Vulnerability Assessment (VA).					
3.2.1 AFIS Production and Three Test Environment Renewal	5. The Contractor shall be responsible for providing the required software necessary to satisfy all the requirements identified in this SOW and configuring the GFE AFIS workstations with a DSB approved operating environment that will successfully pass the DSB VA.	(M)				
3.2.1 AFIS Production and Three Test Environment Renewal	6. All production and test environment servers must be maintained with the latest updates for the OS; and the latest Anti-Virus (AV) DAT files and AV policies. For any Windows servers, the maintenance of the latest updates must be through RCMP's automated Windows Server Update Services (WSUS) and McAfee ePolicy Orchestrator (ePo). The Contractor solution must interface with and automatically process data received from RCMP's WSUS and ePo or use manual intervention to complete the updates within five (5) days of receiving the latest Windows patches, DAT files or AV policies. All non-Windows servers must be maintained using either automated or manual processes based on RCMP required security patches and AV DAT files and policies within five (5) days of receiving the data or patch information from the RCMP.	(M)				
3.2.1 AFIS Production and Three Test Environment Renewal	7. All production and test environment AFIS workstations must be maintained with the latest updates for the existing OS and the latest AV DAT files and AV policies. The maintenance of the latest updates must be through RCMP's automated WSUS and ePo. The Contractor solution must interface with and automatically process data received from RCMP's WSUS and ePo with no manual intervention required.	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
3.2.1 AFIS Production and Three Test Environment Renewal	8. Note: The name and version of the tools used to perform the VAs can be provided upon request.	(I)				
<b>3.2.2 Transcoder Renewal</b>						
3.2.2 Transcoder Renewal	1. The Transcoder renewal must include Transcoder software, workstations and scanners to support all requirements stated in this SOW for the production environment and three (3) test environments.	(M)				
3.2.2 Transcoder Renewal	2. The Transcoder is essentially an AFIS workstation which has been distributed remotely, across Canada, to non-RCMP police agencies. The Transcoder allows non-RCMP police agencies to use the RTID database to perform almost all activities available to an RCMP latent fingerprint analyst that uses an AFIS workstation.	(I)				
3.2.2 Transcoder Renewal	3. The Transcoder must interface with RTID using the NPS-NIST ICDs and communicate with RTID through bi-directional SMTP over a secure communication link.	(M)				
3.2.2 Transcoder Renewal	4. The Transcoder UI must be the same or very similar to the AFIS workstations and it must allow the non-RCMP police agency fingerprint analysts to process crime scene prints independent of the RCMP staff.	(M)				
3.2.2 Transcoder Renewal	5. The Transcoders must provide: a. The required functionality as stated in this SOW and its annexes; b. A scanner for scanning Latents; and	(M)				

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	c. Allow Latents captured using images from police agency cameras to be submitted to RTID.					
3.2.2 Transcoder Renewal	6. The Transcoder must also be capable of receiving IAFIS Type-9 records according to the Electronic Biometric Transmission Specification (EBTS) format. In RTID terms, this is referred to as the back-end interface to the Transcoder where larger police agencies send submissions to the Transcoder. These back-end submissions must be automatically received by the Transcoder, automatically converted from a Type-9 record into a latent search and automatically submitted to RTID according to the NPS-NIST ICD. These larger police agencies have their own AFIS and typically only send Latents to RTID that have not been resolved on their own AFIS.	(M)				
3.2.2 Transcoder Renewal	7. The police agencies use SMTP to communicate with the Transcoder back-end interface. The Transcoder must support police agencies submitting IAFIS Type-9 records using SMTP. Responding to the police agency back-end interface is not required. This is a one-way communication; however, the Transcoder mail service must support the SMTP protocol including acknowledging receipt of the email to ensure the police agency's SMTP server receives an acknowledgement that the email was successfully received (i.e. smtp ok 250).	(M)				
3.2.2 Transcoder Renewal	8. The Transcoder must support bi-directional SMTP between the Transcoder and RTID.	(M)				
3.2.2 Transcoder Renewal	9. The Contractor's solution must include the database conversion from the existing Transcoder database to the Contractor's Transcoder database.	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
3.2.2 Transcoder Renewal	10. The Contractor shall be responsible for providing the required software necessary to satisfy all the requirements identified in this SOW and configuring the GFE Transcoders with a DSB approved operating environment that will successfully pass a DSB VA.	(M)				
3.2.2 Transcoder Renewal	11. All production and test environment Transcoders must be maintained with the latest updates for the OS and the latest AV DAT files and AV policies. The maintenance of the latest updates must be through RCMP's automated WSUS and ePo. The Contractor solution must interface with and automatically process data received from RCMP's WSUS and ePo with no manual intervention required.	(M)				
<b>3.2.3 Verification Production Subsystem and Three Test Environment Renewal</b>						
3.2.3 Verification Production Subsystem and Three Test Environment Renewal	1. The Verification Subsystem is dedicated to providing real-time one-to-one (1:1) matching in support of biometric verification of a foreign national's fingerprints received from a CBSA POE to validate an individual's identity.	(I)				
3.2.3 Verification Production Subsystem and Three Test Environment Renewal	2. The VSS renewal must include all the servers to support all requirements stated in this SOW for the production environment and three (3) test environments.	(M)				

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3.2.3 Verification Production Subsystem and Three Test Environment Renewal	3. The Contractor's solution must include the database conversion from the existing VSS database to the Contractor's VSS database.	(M)				
3.2.3 Verification Production Subsystem and Three Test Environment Renewal	4. The VSS must be able to operate independently from the AFIS.	(M)				
3.2.3 Verification Production Subsystem and Three Test Environment Renewal	5. The Contractor's solution must include reconciliation/synchronization reporting that verifies consistency between VSS sites; and between the VSS and AFIS on at least a weekly basis.	(M)				
3.2.3 Verification Production Subsystem and Three Test Environment Renewal	6. The Production VSS must operate in a dual Data Center configuration that allows automatic use of RCMP's DR site if the PR site fails. The Production VSS must have at least two (2) nodes per site to ensure the VSS provide intra-site and inter-site High Availability (HA) capabilities. Refer to Annex A for details concerning the architecture within which the renewal AFIS must effectively operate when a site fail-over occurs as well as the	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	other fail-over requirements as stated in this SOW and its accompanying documents.					
3.2.3 Verification Production Subsystem and Three Test Environment Renewal	7. The test environment servers must be configured in the same, or similar, manner as the Production environment. That is, these servers must be able to support the same OS, software, Data Base (DB) and configuration that operate in the Production environment which will allow all the Contractor VSS capabilities to be effectively tested as well as allow Production issues to be recreated in the test environment. Refer to Annex A for details concerning how each test environment must be used and the capabilities that must exist in the test environments.	(M)				
3.2.3 Verification Production Subsystem and Three Test Environment Renewal	8. The Contractor shall be responsible for providing the required software necessary to satisfy all the requirements identified in this SOW and configuring the VSS servers with a DSB approved operating environment that will successfully pass the DSB Vulnerability Assessment (VA).	(M)				
3.2.3 Verification Production Subsystem and Three Test Environment Renewal	9. The Contractor shall be responsible for providing the required software necessary to satisfy all the requirements identified in this SOW and configuring the GFE AFIS workstations to support the VSS UI in a DSB approved operating environment that will successfully pass the DSB VA.	(M)				
3.2.3 Verification Production	10. All production and test environment servers must be maintained with the latest updates for the existing OS; and the latest AV DAT files and AV policies. For any Windows servers, the maintenance	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
Subsystem and Three Test Environment Renewal	of the latest updates must be through RCMP's automated WSUS and McAfee ePolicy Orchestrator (ePo). The Contractor solution must interface with and automatically process data received from RCMP's WSUS and ePo or use manual intervention to complete the updates within five (5) days of receiving the latest Windows patches, DAT files or AV policies. All non-Windows servers must be maintained using either automated or manual processes based on RCMP required security patches and AV DAT files and polices within five (5) days of receiving the data or patch information from the RCMP.					
<b>3.2.4 Latent Case Management Capability (LCMC) (ELMO Replacement)</b>						
3.2.4 Latent Case Management Capability (LCMC) (ELMO Replacement)	1. The Contractor must provide a fully operational LCMC. This LCMC must be an integrated solution with the Contractor's AFIS. That is, the LCMC/AFIS users must be able to seamlessly interface between the LCMC and AFIS to send fingerprints for search from the LCMC and perform all other required capabilities stated in this SOW.	(M)				
3.2.4 Latent Case Management Capability (LCMC) (ELMO Replacement)	2. The LCMC and AFIS users are the same users that must use the same AFIS windows workstation to perform either LCMC or AFIS activities. Performing latent case management activities are part of the daily activities for an AFIS Latent Fingerprint Analyst.	(M)				
3.2.4 Latent Case Management Capability	3. The preferred LCMC solution is an integrated capability within the AFIS. This would provide a consistent UI for the LCMC/AFIS users and ensure there is no duplication of capabilities available in the LCMC and AFIS.	(R)				

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(LCMC) (ELMO Replacement)						
3.2.4 Latent Case Management Capability (LCMC) (ELMO Replacement)	4. The Contractor's solution must include the database conversion from the existing ELMO SQL database to the Contractor's LCMC database.	(M)				
3.2.4 Latent Case Management Capability (LCMC) (ELMO Replacement)	5. The LCMC must interface with RTID's NNS using the AFIS ICD. The existing AFIS ICD includes existing transactions that are used to communicate between NNS and AFIS. Some of these existing AFIS ICD transactions were modified for this SOW to enable the communication of latent case management information to be exchanged between NNS and AFIS/LCMC.	(M)				
3.2.5 Training						
3.2.5 Training	1. The Contractor must provide training on all user aspects of the Contractor's proposed Entire AFIS renewal solution. As a minimum this training must include: <ul style="list-style-type: none"> <li>a. AFIS TP and Latent UI;</li> <li>b. Transcoder UI;</li> <li>c. VSS UI;</li> <li>d. LCMC UI;</li> <li>e. Direct filing and direct scanning;</li> <li>f. All reporting capabilities for all UIs; and</li> <li>g. All reporting for reconciliation/synchronization processing.</li> </ul>	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
3.2.5 Training	2. Section 10 describes the detailed training requirements that must be satisfied by the Contractor.	(M)				
<b>3.2.6 Ongoing Support</b>						
3.2.6 Ongoing Support	1. The Contractor must provide at least one (1) permanent on-site resource at RCMP HQ in Ottawa, Canada.	(M)				
3.2.6 Ongoing Support	2. This resource must be available on-site during RCMP core hours (weekdays 8am-5pm eastern time).	(M)				
3.2.6 Ongoing Support	3. The Contractor on-site resource must: <ul style="list-style-type: none"> <li>a. Support all AFIS/Transcoder/VSS/LCMC servers, workstations, processes and any other components necessary for the effective and efficient operation of the AFIS and its subsystems;</li> <li>b. Be able to support the Production environment and all test environments with minimal assistance from off-site Contractor personnel. This is to ensure the timely resolution of any issues arising in any environment;</li> <li>c. Be available between 0600 and 2200, seven (7) days a week including statutory holidays for on-call support for Production related issues;</li> <li>d. Ensure that exceptional situations such as vacations, appointments or illness are coordinated in a manner that there is at least one (1) Contractor resource available on-site to support the AFIS environments during RCMP core hours. This requirement indicates that the Contractor must have a backup resource, cleared to Enhanced Reliability, to perform all on-site responsibilities;</li> </ul>	(M)				

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	<ul style="list-style-type: none"> <li>e. Have one (1) hour response time for production or test environment issues during on-site hours;</li> <li>f. Have two (2) hour response time from initial notice by the RCMP of a production or test environment issue, during off hours;</li> <li>g. Unlimited telephone software and hardware maintenance and support services; and</li> <li>h. Provide a strategy and plan to implement a patching regime compliant to RCMP and Government of Canada (GC) standards to maintain all the AFIS/Transcoder/VSS/LCMC servers and workstations at a level that effectively mitigates any risks to an acceptable level. Section 11 describes the detailed on-going patching regime requirements that must be satisfied by the Contractor.</li> </ul>					
3.2.6 Ongoing Support	4. The Contractor must provide an English technical toll-free hotline 24 hours per day, seven (7) days a week and 365 days a year. The toll-free number must be provided within fifteen (15) days of contract award. The Contractor's hotline must be staffed by qualified resources who are able to respond to questions, resolve problems and provide advice regarding problems related to all deliverables as well as installation and integration issues within the Contractor's AFIS/Transcoder/VSS/LCMC solution installed at RCMP.	(M)				
<b>3.2.7 Facial Recognition Capability (FRC)</b>						
3.2.7 Facial Recognition Capability (FRC)	1. The Contractor must support a Facial Recognition Capability (FRC) that can be integrated into the Contractor's proposed AFIS renewal solution.	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
3.2.7 Facial Recognition Capability (FRC)	2. This FRC is not to be implemented with the scope of the initial procurement of the AFIS renewal. The FRC is considered a future requirement that might be implemented after the mandatory requirements in the AFIS renewal solution have been implemented.	(I)				
3.2.7 Facial Recognition Capability (FRC)	3. Section 12 describes the detailed FRC requirements that might be described by the Contractor at the time of the Contractor bid submission.	(I)				
<b>3.2.8 Conversion</b>						
3.2.8 Conversion	1. The Contractor must convert all data used by AFIS and its subsystems to a format that is usable by the Contractor's proposed solution.	(M)				
3.2.8 Conversion	2. The conversion must be completed on RCMP premises within the RCMP/SSC security architecture.	(M)				
3.2.8 Conversion	3. The Contractor must provide a high-level plan and strategy with its proposal explaining: <ul style="list-style-type: none"> <li>a. How the conversion will be completed;</li> <li>b. What tools and/or processes will be used to complete the conversion;</li> <li>c. When the conversion will be completed; and</li> <li>d. Any impact to the existing AFIS data or data format.</li> </ul>	(M)				
3.2.8 Conversion	4. Section 13 describes the detailed conversion requirements that must be satisfied by the Contractor.	(M)				

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<b>3.3 Hardware and Software</b>						
3.3 Hardware and Software	1. All non-GFE hardware proposed by the Contractor must satisfy the requirements stated in this subsection, its subsections and all the other requirements stated throughout this SOW and its accompanying documents.	(M)				
3.3 Hardware and Software	2. This hardware subsection is broken down into the following subcategories: a. Servers; b. Scanners; c. Printers; d. SAN Storage; and e. Cameras.	(I)				
3.3 Hardware and Software	3. To substantiate the hardware and software requirements below, the Contractor shall provide in its solution a description of the hardware and software and their interrelationship within each environment (production and test environments) including, as a minimum, for each COTS hardware and software component included as part of the technical design: a. Item make, model and version number; b. The ANSI/NIST compliance and other standards met; c. Certifications and ratings achieved; d. Number of each required; e. Customization required; f. Recommended and minimum performance criteria and capacities;	(M)				

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	g. The internal/external electronic interfaces; and h. The security services implemented.					
3.3 Hardware and Software	4. All Contractor proposed hardware must satisfy RCMP electrical specifications, including the voltage, amperage, electrical receptacle, and Underwriters' Laboratories (UL) or Canadian Standards Association (CSA) certification.	(M)				
<b>3.3.1 Servers</b>						
3.3.1 Servers	1. The Contractor's AFIS renewal solution shall comply with the following hardware requirements and policies currently implemented within the RCMP: a. All AFIS/VSS/LCMC renewal solution servers shall be configurable to operate in a HA clustered environment. b. All AFIS/VSS/LCMC renewal solution servers shall support graceful shutdown, such that all "inflight" transactions can be completed or re-started automatically upon server re-start with no loss of data. c. All AFIS/VSS/LCMC renewal solution servers shall support automatic restart.	(M)				
3.3.1 Servers	2. The AFIS/VSS/LCMC renewal solution server hardware shall include the following: a. Support for multiple Central Processing Unit (CPU) engines; b. Support for one (1) Gbps Ethernet connections according to the specifications in Annex B subsection 8.7.1; c. Support for server temperature sensor and alarm capability when the temperature of the server becomes too high; and	(M)				

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	d. Support for electrical power sensor and alarm capability when the power signature becomes out of specification.					
3.3.1 Servers	3. All AFIS/VSS/LCMC renewal solution servers requiring access to the RCMP SAN shall be configured to interface to the SAN using multiple Host Bus Adapters (HBAs) each capable of four (4) Gbps.	(M)				
3.3.1 Servers	4. Fiber channel connections are limited and expensive; therefore, the preferred AFIS/VSS/LCMC renewal solution would satisfy all the requirements stated in this SOW and its accompanying documents with a minimum number of fiber channel connections.	(R)				
3.3.1 Servers	5. The Contractor's AFIS/VSS/LCMC proposed solution must have sixteen (16) or less fiber channel connections (i.e. a maximum of eight (8) servers each with two (2) fiber channel connections each) per site unless approved by the RCMP in writing prior to proposal submission.	(M)				
3.3.1 Servers	6. AFIS renewal solution servers to be installed at the RCMP Data Centre or DR site should be compatible with the 19" rack standard (EIA 310-D). If the Contractor provides equipment compatible with the 19" rack standard, then the Contractor is not required to supply racks. RCMP-supplied racks or cabinets will be used.	(R)				
3.3.1 Servers	7. If the Contractor is not proposing standard 19" racks, the Contractor must provide racks at the Contractor's expense which must be included in the Contractor's proposal and must be approved by the RCMP in writing prior to the proposal submission.	(M)				

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<b>3.3.2 Scanners</b>						
3.3.2 Scanners	1. Flat-bed Scanners provided with the AFIS/VSS/LCMC/Transcoder renewal solution shall meet, at a minimum, the Image Quality Specification (IQS) of Appendix F in the Electronic Biometric Transmission Specification (EBTS) Version 10 or later (for latent / ten print printers, latent / ten print display stations and latent and ten print scanners).	(M)				
3.3.2 Scanners	2. The AFIS/VSS/LCMC/Transcoder renewal solution scanners must support all the scanning related requirements stated throughout this SOW and its accompanying documents.	(M)				
3.3.2 Scanners	3. Hand held cameras must support scanning a barcode as stated in the requirements throughout this SOW and its accompanying documents.	(M)				
<b>3.3.3 Printers</b>						
3.3.3 Printers	1. Printers provided with the AFIS/VSS/LCMC renewal solution shall meet, at a minimum, the Image Quality Specification (IQS) of Appendix F in the Electronic Biometric Transmission Specification (EBTS) Version 10 or later (for latent / ten print printers, latent / ten print display stations and latent and ten print scanners).	(M)				
3.3.3 Printers	2. Printers supplied with the AFIS/VSS/LCMC shall include a calibration feature.	(M)				
3.3.3 Printers	3. The AFIS/VSS/LCMC renewal solution printers must support all the printing related requirements stated throughout this SOW and its accompanying documents.	(M)				

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<b>3.3.4 SAN Storage</b>						
3.3.4 SAN Storage	1. The amount of on-line storage space for the new solution is highly dependent upon the Contractor's physical implementation of the functional requirements. A table of today's storage requirements, together with the estimated increase in transaction volumes is provided to aid the Contractor in estimating the overall storage requirements for the AFIS renewal solution. The Contractor shall specify the on-line storage capacity required on the RCMP SAN for its AFIS renewal solution (Primary site, DR site and backup).	(M)				
3.3.4 SAN Storage	2. The AFIS/VSS/LCMC renewal solution should provide efficient and effective use of SAN storage.	(R)				
3.3.4 SAN Storage	3. The RCMP recognizes that on-line storage to accommodate temporary files will be required for the conversion of today's information prior to its incorporation in the AFIS renewal Solution. The Contractor shall specify the storage capacity required on the RCMP SAN for the conversion activities. This space shall be freed up upon completion of the conversion.	(M)				
<b>3.3.5 Cameras</b>						
3.3.5 Cameras	1. The GFE cameras are end-of-service and must be replaced. The replacement cameras must support the following requirements, in addition to the requirements stated throughout the SOW and its accompanying documents: <ul style="list-style-type: none"> <li>a. The fingerprint technician must be able to use a single action (e.g. mouse click on a button) to activate using the camera;</li> <li>b. For barcode scanning the fingerprint technician will:                             <ul style="list-style-type: none"> <li>i. Place the paper fingerprint form under the camera,</li> </ul> </li> </ul>	(M)				

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	<ul style="list-style-type: none"> <li>ii. The UI will display the portion of the paper that is viewable with the camera,</li> <li>iii. The camera will automatically read the barcode and populate a search field with the contents of the barcode (e.g. File number), and</li> <li>iv. The user will initiate a fetch using a single action (e.g. mouse click), which will fetch the prints and start the camera certify process (cold certify);</li> <li>c. For the camera certify process the fingerprint technician will:                             <ul style="list-style-type: none"> <li>i. Move the paper form around to position the paper for viewing one of the images under the camera, and</li> <li>ii. The camera must be capable of displaying a full fingerprint for the user to use in a side-by-side comparison;</li> </ul> </li> <li>d. The camera certify process shall enable a technician to adjust the image being viewed with the camera, to enable the analysis of the image, with at least the following capabilities using a variable sizing capability with a mouse controlled method such as, hover and scroll, or slider; to finely tune the adjustments. Additionally, there must be a reset button for each of these functions to remove the specific image adjustments:                             <ul style="list-style-type: none"> <li>i. Zoom in / zoom out an image,</li> <li>ii. Adjust brightness, and</li> <li>iii. Adjust background brightness (contrast);</li> </ul> </li> <li>e. Provide a button or similar method to reset all of the image adjustments; and</li> </ul>					

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	f. Allow the most common settings for the image adjustments to be pre-set and used as the initial settings for an image display.					
<b>3.3.6 Software</b>						
3.3.6 Software	1. The RCMP has a comprehensive suite of software products for which it has negotiated licences and support agreements.	(I)				
3.3.6 Software	2. However, RCMP understands that the AFIS/VSS/LCMC renewal solution may include additional software products for which licences and support agreements will be required.	(R)				
3.3.6 Software	3. The Contractor will be responsible for providing licenses and support for all non-GFE software products. The Contractor will also be responsible for upgrades/changes to GFE software as indicated in Section 4.7 GFE Clarification and throughout this SOW and its accompanying documents. The Contractor's proposal must explain how each software product is used by the AFIS renewal solution to satisfy the requirements stated throughout this SOW and its accompanying documents.	(M)				
3.3.6 Software	4. COTS software provided as part of the AFIS/VSS/LCMC renewal solution is expected to be specific to the solution. In other words, the Contractor is not expected to provide any standard Office Automation (OA) products (e.g. e-mail, word processing, and spreadsheet) as the RCMP currently have negotiated licences for its standard suite of OA products.	(I)				
3.3.6 Software	5. Additionally, the RCMP has license to other software used as part of the current solution which has been identified throughout this SOW and its accompanying documents.	(I)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>4.1 Purpose</b>						
4.1 Purpose	1. This section provides an overview of what environments are available and possible uses of the environments, with the Entire AFIS renewal solution, that can be supported by RCMP. This information is not intended to define or suggest a specific approach.	(I)				
4.1 Purpose	2. This section also describes what is expected to be accomplished with the complete renewal and how the following sections of the document provide specific details concerning each key area of RTID to be renewed.	(I)				
<b>4.2 Overall Approach</b>						
4.2 Overall Approach	1. There are currently three (3) test environments DEVTEST, QCS and MAINT and the production environment, PROD. This AFIS renewal must replace, upgrade or reuse every server/workstation/Transcoder in all environments that results in satisfying, all the requirements, in all environments according to this SOW and its accompanying documents.	(M)				
4.2 Overall Approach	2. The RCMP will establish a separate RTID test environment for the AFIS renewal solution which will be referred to herein as the AFIS-Renew environment. This AFIS-Renew environment will be available for the Contractor to use in the same or similar manner that the MAINT environment is typically used. That is, the MAINT environment is typically the environment used by the Contractor, in the normal RTID release process, to test their initial site installation of any new hardware and/or upgraded OS, software or DB to allow integration testing with RTID to be performed prior to delivery to the RCMP. This AFIS-Renew environment will have	(I)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	dual AFIS electronic sync filing capability provided by the NNS. This allows the flexibility for the Contractor to use the normal RTID release process and/or the AFIS-Renew environment with electronic sync filing as required; and have multiple releases to satisfy all requirements as stated in this RFP.					
4.2 Overall Approach	3. To ensure flexibility for the Contractor to use the GFE and allow the RCMP to be prepared for the AFIS renewal, the DEVTEST environment must remain as is until after final acceptance of implementation stage 1. The DEVTEST environment will be used to support existing production until the cut-over to the AFIS/Transcoder/VSS renewal solution has been completed.	(M)				
4.2 Overall Approach	4. The Contractor's approach must ensure that it can be verified, by the RCMP, that the AFIS renewal solution satisfies all aspects of all functional, technical, interface and processing requirements for a test environment including support for the interface specifications and ICDs.	(M)				
4.2 Overall Approach	5. The Site Acceptance Test Plans (SATPs) and Site Acceptance Test Reports (SATRs) identify the minimum that must be provided by the Contractor to demonstrate that its AFIS renewal solution satisfies all the requirements stated in this SOW and its accompanying documents.	(M)				
4.2 Overall Approach	6. Following verification by the Contractor that all aspects of the Entire AFIS renewal solution satisfies all RTID interface and processing requirements, the RCMP will start its site acceptance testing. This site acceptance testing by the RCMP will include testing all AFIS and RTID functionality by the RTID test team.	(I)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
4.2 Overall Approach	7. After RCMP approval of the AFIS renewal solution in a test environment, the AFIS renewal solution could follow the RTID release process or the RCMP agreed to adjustment to the release process in the Contractor's AFIS Renewal Implementation Plan (ARIP) (DID AR-01).	(R)				
4.2 Overall Approach	8. The Contractor can configure an initial production environment that partially supports the full production requirements, with capacity that supports at least 80% of the 2019 Latent forward search volumes and 50% of all other 2019 volumes, and then reuse existing production servers after the cut-over to achieve one hundred percent (100%) capacity. The ARIP should show how the GFE and any other Contractor provided components are used to achieve one hundred percent (100%) capacity.	(R)				
4.2 Overall Approach	9. The Contractor's proposed ARIP and supporting documentation should ensure the most effective and efficient approach is used to implement and make operational the AFIS renewal solution. There should be a focus on minimizing the overall operational outage time, minimizing the risk to RCMP RTID/AFIS operations, limiting the number of extended outages (see below paragraph 10), ensuring High Availability (HA) capabilities can be verified before production release and satisfying all requirements stated throughout this RFP in a timely manner. The precise length of each outage required must be identified in the ARIP and SATP with justification for each step in the implementation plan. Any consideration that ensures the integrity of RTID operations should be presented by the Contractor	(R)				
4.2 Overall Approach	10. The normal RTID release window is twelve (12) hours from Saturday night at 2300 hours until Sunday morning at 1100 hours.	(M)				

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	For unusual circumstances, a maximum forty-eight (48) hour extended outage can occur from Friday night at 1800 hours until Sunday night at 1800 hours. Outages must fit within these release windows.					
4.2 Overall Approach	<p>11. To ensure the above flexible use of environments is clear, the following provides point form descriptions of possible uses:</p> <ul style="list-style-type: none"> <li>a. DEVTEST will be available for RCMP to support the existing AFIS;</li> <li>b. The other test environments and their GFE are available for the Contractor's use; however, there must be at least one test environment and at least one other environment where QCS testing can be performed for any release. That is, the QCS environment could be used for QCS testing or the parallel production environment can be used for QCS testing prior to its acceptance and release for production use meaning the pre-production AFIS renewal solution would first serve as a QCS testing environment and then once accepted become the production AFIS renewal solution. In this instance a site fail-over test will also be completed as part of the QCS testing on the pre-production AFIS renewal solution;</li> <li>c. Once the AFIS renewal solution has been accepted in production, the QCS environment must be made fully operational for QCS testing before any other release can be tested. That is, if the parallel production AFIS renewal solution approach is used for a release with QCS testing in the pre-production configuration, once it is accepted in production, all other releases must be tested in the QCS environment prior to release to production; since this would mean that the AFIS</li> </ul>	(I)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<p>renewal solution is in production and it could no longer be used for testing; and</p> <p>d. The parallel Production AFIS renewal solution must operate in the Production environment, at both PR and DR sites, in parallel with the existing AFIS. That is, if the parallel production AFIS renewal solution approach is used for a release, it must operate in the Production environment, at both PR and DR sites, in parallel with the existing AFIS. After verification by the RCMP that the parallel AFIS renewal solution fully supports all the requirements in this SOW and its accompanying documents, the existing AFIS would be disabled and the parallel AFIS/Transcoder/VSS renewal solution would become the system of record for AFIS processing.</p>					
4.2 Overall Approach	<p>12. If the GFE will be used to achieve one hundred percent (100%) capacity after an initial release, the AFIS Renewal solution Production environment must support, at a minimum, at least 80% of the 2019 Latent forward search volumes and 50% of all other 2019 volumes with the initial AFIS Renewal production environment solution to ensure existing RCMP RTID production capacity can be supported until the GFE is used to achieve one hundred percent (100%) capacity. That is, the initial AFIS Renewal solution production environment acceptable to the RCMP must at least support 80% of the 2019 Latent forward search volumes and 50% of all other 2019 volumes before it can be considered for replacement of the existing AFIS solution; and then followed by an upgrade to hundred percent (100%) capacity using the GFE.</p>	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
4.2 Overall Approach	13. The final ARIP is the deliverable that establishes the foundation for the execution of all aspects of this SOW. This deliverable must be completed and approved by the RCMP before work can start on any of the key areas to ensure the most cost effective and efficient implementation strategy can be developed and agreed to by the RCMP. This deliverable establishes the approach, and an overall strategy and plan that explains how each key area will be implemented. This deliverable is the Contractor's opportunity to identify how the Contractor's Entire AFIS renewal solution will be implemented within the RCMP/SSC security architecture.	(M)				
4.2 Overall Approach	14. The SATP is based on the strategy and plan defined in the ARIP. The SATP provides the detailed installation activities, implementation steps and testing that must be completed in each site/environment that ensures the replacements/upgrades/reuse are effectively implemented according to the ARIP strategy and plan.	(M)				
4.2 Overall Approach	15. As part of the normal release process, all applicable implementation steps developed by the Contractor in the SATP will be used by the RCMP to include in the RTID Release Implementation Plan for each site/environment.	(M)				
4.2 Overall Approach	16. Server OSs that are, or will be, end-of-service before February 2020 must be upgraded or replaced by the Contractor at the Contractor's cost.	(M)				
4.2 Overall Approach	17. Server hardware that is end-of-life prior to 2010, even though its end-of-service is not declared, should not be used in the AFIS/VSS/LCMC renewal solution.	(R)				

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<b>4.3 Key Areas of Change</b>						
4.3 Key Areas of Change	1. The relationship between each key area must be considered by the Contractor. Any dependencies between each key area must be identified to formulate an ARIP that allows all the work required in this SOW to be completed in the most effective and efficient manner that minimizes the impact to RTID test and Production environments.	(M)				
4.3 Key Areas of Change	2. The Contractor must provide clear justification for the sequence of activities that minimizes any disruption to RTID test and/or Production environment operations. All the activities and scheduling details resulting from the ARIP must be provided to the RCMP for inclusion in the MCS.	(M)				
4.3 Key Areas of Change	3. The Test environment replacement/upgrade/reuse changes must be included in the ARIP to ensure the RCMP release process can be followed for all releases following the cut-over to the AFIS/Transcoder/VSS renewal solution.	(M)				
4.3 Key Areas of Change	4. The Transcoder upgrades must be fully tested and approved in the test environment before the Production Transcoders can be upgraded. Additionally, the Production Transcoder upgrade must be coordinated with agencies using the Transcoders to ensure minimal impact to remote agency operations and the RNSC.	(M)				
4.3 Key Areas of Change	5. Workstation upgrades must be fully tested and approved before Production workstations can be upgraded. Five (5) existing PCS workstations will be allocated for the AFIS-Renew environment and Ten (10) existing PCS workstations will be allocated for the parallel AFIS renewal production environment.	(M)				

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4.3 Key Areas of Change	6. Except for the Contractor's parallel production environment configuration being used for HA/QCS testing instead of the QCS environment; the QCS environment must be used to test all the HA capabilities of the Contractor's AFIS renewal solution, unless specifically stated herein (i.e. site fail-over). The RCMP will lead all testing in the QCS environment or in the parallel production environment being used for QCS testing for the AFIS renewal solution.	(M)				
4.3 Key Areas of Change	7. The Contractor must configure and implement the QCS environment to support all the HA and QCS requirements stated throughout this SOW and its accompanying documents. Additionally, every possible Production scenario must be testable in the QCS environment and every Production component must be in the QCS environment.	(M)				
4.3 Key Areas of Change	8. Any HA capabilities that can only be tested in the Production environment must be clearly identified in the Contractor's proposal and must be pre-approved by the RCMP in writing to be acceptable HA testing nuances or the proposal may be considered non-compliant. Site fail-over from the PR to DR is the only testing nuance not required in the QCS environment. Refer to subsection 3.3.3 in Annex A – Current Architecture for an example of HA testing in Production only.	(M)				
<b>4.4 RCMP Acceptance</b>						
4.4 RCMP Acceptance	1. RCMP acceptance testing will only start after the Contractor has successfully demonstrated that the replaced/upgraded/reused components are fully operational. The SATR must be completed to document the successfully demonstrated component(s) operation.	(M)				

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4.4 RCMP Acceptance	2. Each key area of this SOW can be accepted separately or together with one or more other key areas depending on the strategy and plan developed in the ARIP; however, the production AFIS/Transcoder/VSS renewal solution must support all existing key areas before parallel operations can be started.	(M)				
4.4 RCMP Acceptance	3. RCMP acceptance will be completed in stages. Following the RTID release process or the RCMP agreed to ARIP release process, system testing and then QCS testing, with final acceptance in the Production environment.	(I)				
4.4 RCMP Acceptance	4. The primary method of acceptance will be testing of all RTID/AFIS functionality to ensure the Contractor's AFIS renewal solution satisfies all requirements stated in this SOW and its accompanying documents. Additionally, all HA capabilities will be tested in the QCS environment. This SOW and its accompanying documents identify the minimum HA testing that must be testable in the QCS environment.	(M)				
4.4 RCMP Acceptance	5. If the parallel production AFIS renewal solution approach is used for a release with QCS testing in the pre-production configuration, then production site fail-over testing must be completed as part of the QCS testing on the pre-production AFIS renewal solution.	(M)				
4.4 RCMP Acceptance	6. All intrasite HA capabilities must be testable in the QCS environment.	(M)				
4.4 RCMP Acceptance	7. The QCS environment does not need to support site fail-over testing.	(I)				
4.4 RCMP Acceptance	8. The full scope of the existing testing that is used by the RCMP is available for the Contractor's review as required.	(I)				

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<b>4.5 Implementation Stages</b>						
4.5 Implementation Stages	<p>1. There will be two (2) distinct stages for implementing the requirements that must be included with the initial procurement associated with this AFIS Renewal RFP. The two (2) stages are:</p> <ul style="list-style-type: none"> <li>a. Renewal of all AFIS related subsystems including AFIS, Transcoder and VSS. This also includes all installation, implementation, integration, conversion, interoperability and set-to-work activities required for the entire scope of work identified in this SOW that is applicable to these key areas. This first stage must provide a fully operational AFIS, Transcoder and VSS renewal solution fully supporting the requirements stated throughout this SOW and its accompanying documents; and</li> <li>b. Replacement of ELMO with LCMC which also includes all installation, implementation, integration, conversion, interoperability and set-to-work activities required for the entire scope of work identified in this SOW that is applicable to this key area as well as any other requirements not specifically associated with one of the key areas as stated in this SOW and its accompanying documents. This second stage must provide a fully operational LCMC solution fully supporting the requirements stated throughout this SOW and its accompanying documents.</li> <li>c. Note: ELMO cannot be replaced until after the AFIS, Transcoder and VSS have been renewed and accepted in production by the RCMP.</li> </ul>	(M)				

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4.5 Implementation Stages	2. To ensure it is clear, these two (2) stages must include installation, implementation, integration, conversion, interoperability and set-to-work activities required for all environments, following the RCMP / Chief Information Officer (CIO) release process or the RCMP agreed to process in the ARIP.	(M)				
4.5 Implementation Stages	3. All the training required with this initial procurement will be completed in stage one (1) or stage two (2).	(M)				
4.5 Implementation Stages	4. It is preferred that the implementation to support US EBTS Extended Feature Set (EFS) is completed as soon as possible.	(R)				
4.5 Implementation Stages	5. However, EFS must be implemented within two (2) years following contract award. This implementation of EFS must ensure backward compatibility to all existing data at the time of implementation, or conversion to EFS in a manner acceptable to the RCMP. As part of the EFS implementation, the Contractor must define a strategy to have EFS supersede the existing use of IAFIS Type-9 and ANSI INCITS 378-2004.	(M)				
4.5 Implementation Stages	6. This strategy should be included with the Contractor's proposal which will be considered part of the evaluation assessing support for EFS.	(R)				
4.5 Implementation Stages	7. Facial recognition might be implemented at a to be determined date; however, the Contractor must support facial recognition capabilities to ensure RCMP will be able to support this additional biometric capability through a single vendor.	(M)				

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<b>4.6 Sync Filing During Parallel AFIS Operation</b>						
4.6 Sync Filing During Parallel AFIS Operation	<p>1. Throughout this SOW and its accompanying documents there are specific requirements stated regarding sync filing during parallel AFIS operation. The following provides a summary of the sync filing requirements that must be satisfied during parallel operations:</p> <ul style="list-style-type: none"> <li>a. The AFIS Renewal solution must process packets received from NNS and record responses normally sent to NNS in a log file accessible by the RCMP. The NIST packets will be as defined in the AFIS ICD; therefore, the Contractor solution is expected to fully process the packet based on the content of the NIST packet in the normal production manner (i.e. except for the responses to NNS).</li> <li>b. The RCMP fingerprint and business staff will process any transactions requiring manual intervention on the AFIS Renewal solution.</li> <li>c. Latent sync filing transactions will not be submitted through NNS. Latent minutia, plotted by RCMP, must be retained for Latent data. To maintain synchronization with the existing AFIS, the AFIS Renewal solution must process the Latent additions and deletions.</li> <li>d. These additions and deletions will be provided by the RCMP weekly for processing in a NIST packet formatted like the data conversion Latent NIST packets. Since the risk of potential misses on the AFIS Renewal during parallel operation due to the Unsolved Latent File (ULF) being one week behind is low, the Latent volumes are low and NNS cannot effectively deliver RCMP plotted minutia in an automated manner; this is</li> </ul>	(M)				

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	<p>considered the most effective method. It is expected that the Contractor will reuse the Latent data conversion capability to support this requirement.</p> <p>e. The Contractor must also provide a System Sync Filing Comparison report that is executed weekly to identify differences between the current AFIS and the AFIS Renewal solution. The RCMP will provide a report from the current AFIS identifying the following, which must be compared against the AFIS Renewal solution:</p> <ul style="list-style-type: none"> <li>i. Subject Id,</li> <li>ii. File number,</li> <li>iii. DCN, and/or</li> <li>iv. Latent image Id;</li> </ul> <p>f. The Contractor's System Sync Filing Comparison report must provide any differences between the current AFIS and the AFIS Renewal solution in a format that can be used by a Microsoft Excel spreadsheet and easily identify which AFIS has, or does not have, which data. This report is expected to be run after the weekly Latent synchronization process. The Contractor's onsite staff and the RCMP will work together to resolve any differences that require a change on the AFIS Renewal solution; and</p> <p>g. Note: Automated sync filing for Ten Print transactions is critical for RCMP to be able to automatically maintain the AFIS renewal solution TPF during parallel AFIS operation. It also allows the RCMP to verify that the AFIS and VSS renewal solutions are operating correctly and as expected against production data. The Ten Print volumes are very high which make the automated sync filing critical. Latents are low</p>					

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	volume and can be reprocessed on the AFIS Renewal solution, as required, to verify that the Latent capabilities of the AFIS renewal solution are operating correctly and as expected against production data.					
4.7 GFE Clarifications						
4.7 GFE Clarifications	<p>1. The following clarifies the separation of responsibilities between the RCMP and the Contractor regarding the GFE. The specific requirements are stated throughout the SOW and its accompanying documents:</p> <p>a. GFE Transcoder/AFIS workstations:</p> <p>i. The GFE Transcoder/AFIS workstations are currently configured with Windows 7. The license cost to upgrade these workstations, if required, to Windows 10 would be provided by the RCMP; and</p> <p>ii. All other changes required (e.g. changes to successfully pass a VA, configure for Contractor components, etc.) to support the Contractor's solution and satisfy the requirements stated in the SOW and its accompanying documents must be provided by the Contractor;</p> <p>b. GFE servers:</p> <p>i. All GFE server changes, including operating system upgrades, must be provided by the Contractor,</p> <p>ii. The hardware maintenance contract for the GFE servers, as they are configured at the time of contract award, will be provided by the RCMP (i.e. GFE changes that increase the maintenance cost will be the responsibility of the Contractor), and</p>	(I)				

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	<ul style="list-style-type: none"> <li>iii. Since all OSs must be kept up-to-date, the latest service pack for any OS that will continue to be used must be included in the Contractor's implementation;</li> <li>c. GFE Printers, Scanners and Cameras:                             <ul style="list-style-type: none"> <li>i. All changes to the GFE printers and/or scanners required to support the Contractor's solution and satisfy the requirements stated in the SOW and its accompanying documents must be provided by the Contractor, and</li> <li>ii. GFE cameras are end-of-service and must be replaced. This includes a minimum of 25 cameras in the Production environment and 5 in the test environments. Refer to Appendix F for totals in each environment;</li> </ul> </li> <li>d. GFE load balancing and network connectivity:                             <ul style="list-style-type: none"> <li>i. The RCMP will provide layer three (3) network components (layer three (3) switches with routing capabilities or equivalent layer three (3) router and layer two (2) switches) that can be used by Contractor's solution to support load balancing and network connectivity, and</li> <li>ii. The Contractor must ensure their solution works effectively with the RCMP load balancing to support all the requirements stated in this SOW and its accompanying documents;</li> </ul> </li> <li>e. GFE SAN:                             <ul style="list-style-type: none"> <li>i. All SAN connectivity, including connectors and cabling to physically connect the servers to the RCMP will be provided by the RCMP according to the specifications identified in this SOW and its accompanying documents,</li> </ul> </li> </ul>					

Appendix A: AFIS Renewal Statement of Work: Chapter 4. Overview of Renewal Approach						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>ii. All server software, fiber channel network cards, firmware, etc. required to utilize the SAN connection must be provided by the Contractor,</li> <li>iii. All SAN storage required for Contractor's solution will be provided by the RCMP, and</li> <li>iv. The Contractor solution's use/consumption of SAN will be evaluated and must be provided with the proposal as part of the ARIP;</li> <li>f. Simple Network Management Protocol (SNMP) reporting:                             <ul style="list-style-type: none"> <li>i. The RCMP will provide an SNMP reporting system,</li> <li>ii. The Contractor must provide an SNMP Version 3 agent for each server that is part of their solution, and</li> <li>iii. The RCMP can provide an SNMP agent for GFE servers that continue to use the same OS, if necessary;</li> </ul> </li> <li>g. Backup, Restore, Recovery:                             <ul style="list-style-type: none"> <li>i. The RCMP will provide the backup, restore, recovery products as stated in this SOW and its accompanying documents, and</li> <li>ii. Anything other than what will be provided by the RCMP necessary to satisfy the requirements in this SOW and its accompanying documents, must be provided by the Contractor;</li> </ul> </li> <li>h. GFE WSUS and Anti-virus (ePo):                             <ul style="list-style-type: none"> <li>i. The RCMP environment supports providing WSUS updates to AFIS/Transcoder workstations and Windows servers,</li> </ul> </li> </ul>					

Appendix A: AFIS Renewal Statement of Work: Chapter 4. Overview of Renewal Approach						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>ii. The RCMP environment supports providing McAfee anti-virus updates including client software on any supported device, and</li> <li>iii. The operating system update and anti-virus update requirements that the Contractor must support are identified in this SOW and its accompanying documents;</li> <li>i. Crystal Report:               <ul style="list-style-type: none"> <li>i. The RCMP will provide the licenses for the users to use Crystal Reports Version 2013, and</li> <li>ii. Any different version or different reporting software required by the Contractor's solution to satisfy the requirements stated in the SOW and its accompanying documents must be provided by the Contractor;</li> </ul> </li> <li>j. PC Duo:               <ul style="list-style-type: none"> <li>i. The RCMP will provide the licenses for PC Duo for use with the Transcoders for RNSC and Contractor onsite support staff as described throughout the SOW and its accompanying documents. The current version in use is 12.1.2035; and</li> </ul> </li> <li>k. Oracle:               <ul style="list-style-type: none"> <li>i. The RCMP will provide the licenses for Oracle 10g, 11g and XE 11g (server and client).</li> </ul> </li> </ul>					

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 5. Contractor Corporate and Management Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>5.1 Purpose</b>						
5.1 Purpose	1. This section describes the corporate and management requirements to be satisfied by the Contractor.	(I)				
<b>5.2 Planning and Oversight</b>						
<b>5.2.1 General</b>						
5.2.1 General	1. The Contractor shall identify key team members that will be accountable for responding to requests and managing the Contract. The Contractor must provide resumes that describe the relevant qualifications and experience of each individual.	(M)				
<b>5.3 Contractor Organization</b>						
<b>5.3.1 Contractor Organizational Structure</b>						
5.3.1 Contractor Organizational Structure	1. The Contractor must provide an organizational chart and associated text that describes the organization it proposes to address the requirements of this Contract. This description should address at least the following: <ul style="list-style-type: none"> <li>a. The proposed resources and their qualifications;                             <ul style="list-style-type: none"> <li>i. The roles and responsibilities of each resource;</li> </ul> </li> <li>b. The reporting relationship, including the resources reporting relationship to their senior management; and                             <ul style="list-style-type: none"> <li>i. The interface points between the Contractor's resources and RCMP resources that should include an executive sponsor and a Single-Point-Of-Contact.</li> </ul> </li> </ul>	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 5. Contractor Corporate and Management Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>5.3.2 Executive Sponsor</b>						
5.3.2 Executive Sponsor	1. The Contractor should identify an executive sponsor with overall responsibility for meeting the terms and conditions of this Contract. The executive sponsor should have ultimate resolution and approval authority, for the Contractor, concerning the Contract resulting from this SOW. The executive sponsor is expected to directly resolve any issues relating to this Contract on behalf of the Contractor. The organizational structure should depict the ultimate authority of the executive sponsor. If the executive sponsor is not the ultimate authority, then the executive level that represents the ultimate authority must be identified as well as the types of decisions that are expected to be directed to the ultimate authority.	(R)				
<b>5.3.3 Single Point of Contact (SPOC)</b>						
5.3.3 Single Point of Contact (SPOC)	1. The Contractor must identify a SPOC that will be assigned to the Contract resulting from this SOW that has the authority and responsibility to directly or indirectly action Task Authorizations TAs and reporting request, and perform the tasks associated with SOW and its accompanying documents.	(M)				
5.3.3 Single Point of Contact (SPOC)	2. The Contractor's SPOC and any other proposed resources directly interacting with the RCMP must have good oral and written communication skills.	(M)				
<b>5.3.4 Technology and Process</b>						
5.3.4 Technology and Process	1. The Contractor should describe any tools and processes that they will use to perform the tasks required for this Contract.	(M)				

Appendix A: AFIS Renewal Statement of Work: Chapter 6. AFIS Production and Three Test Environment Renewal						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>6.1 Purpose</b>						
6.1 Purpose	1. This section describes the high-level functional and technical requirements for replacing/upgrading/reusing all AFIS Production and test environment components. These components must be replaced, upgraded or reused in a manner that fully supports all Production environment requirements as stated in this SOW and its accompanying documents. The detailed requirements that must be satisfied by the Contractor's AFIS renewal solution are described in Annex B.	(M)				
<b>6.2 GFE Components</b>						
6.2 GFE Components	1. Annex F provides a list of all GFE available for use by the Contractor. The Contractor's proposal must explain how each GFE component will be modified and/or used together with all other Contractor components to provide the AFIS renewal solution. The Contractor must include the use of these components in the ARIP and SATP.	(M)				
6.2 GFE Components	2. The Contractor must ensure that the modifications are completed in the most effective and efficient method; and must ensure the modifications can be completed within the normal outage time for Production RTID. The RCMP must approve the method and timing of any modifications to GFE components.	(M)				
<b>6.3 Common Environment Requirements</b>						
<b>6.3.1 General</b>						
6.3.1 General	1. This section describes the common high-level functional and technical requirements that the Contractor must support for all the	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 6. AFIS Production and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	Production and test environments. Refer to Annex A for a more detailed description of how these AFIS environments are currently used. These current AFIS architecture requirements that must be supported are vendor independent capabilities that ensure the RCMP RTID test environments can operate in an effective and efficient manner as well as enable all Production AFIS functional and technical requirements to be effectively tested.					
<b>6.3.2 Functionality</b>						
6.3.2 Functionality	1. The Production environment must support all requirements as stated in this SOW and its accompanying documents. All test environments must provide all the functionality available in the Production environment, unless otherwise specifically stated in this SOW.	(M)				
<b>6.3.3 Load Balancing Scalability with Cisco LB/SSL</b>						
6.3.3 Load Balancing Scalability with Cisco LB/SSL	1. For security, performance, scalability and load balancing reasons, the RCMP has implemented Open Systems Interconnection (OSI) layers 4–7 content switching with load balancing and Network Address Translation (NAT) support through Cisco network devices configured with LB/SSL modules. This load balancing enables application and/or service requests to be directed to a virtual server and then distributed to multiple servers managed by the load balancing. NAT allows the Internet Protocol (IP) addresses of the real servers to be concealed and transparent to the requester. NAT translates the IP address used in the request to the IP addresses of the real servers. This combination of services allows requests to be sent to a Virtual IP address (VIP), to conceal the real IP address and greatly improve performance by creating a scalable environment. This capability is also used to	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 6. AFIS Production and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	direct requests, based on content to the appropriate server. Additionally this network level load balancing inherently provides intra-site and inter-site fail-over at the network level. These are critical requirements that must be supported by the Contractor's AFIS renewal solution proposed to satisfy the requirements in this SOW.					
6.3.3 Load Balancing Scalability with Cisco LB/SSL	2. The Contractor's AFIS renewal solution must support the ability to use the RCMP's LB/SSL technology to enable load balancing to multiple Contractor servers providing intra-site and inter-site HA.	(M)				
6.3.3 Load Balancing Scalability with Cisco LB/SSL	3. The AFIS servers must be able to send responses to VIPs defined on the LB/SSL destined to RCMP servers.	(M)				
6.3.3 Load Balancing Scalability with Cisco LB/SSL	4. The Contractor's AFIS renewal solution must also support inter-site fail-over at the network level that allows AFIS DR operations to continue in case of a PR site failure.	(M)				
6.3.3 Load Balancing Scalability with Cisco LB/SSL	5. These load balancing and HA capabilities must be implemented in the PROD and QCS environments. The QCS environment must be able to support all possible Production scenarios, except inter-site fail-over, unless agreed to in writing by the RCMP.	(M)				
6.3.3 Load Balancing Scalability with Cisco LB/SSL	6. The specific load balancing techniques required by the Contractor's AFIS renewal solution must be explained in the Contractor's proposal.	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 6. AFIS Production and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
6.3.3 Load Balancing Scalability with Cisco LB/SSL	7. Any details concerning the RCMP LB/SSL can be provided by the RCMP upon request; however, LB/SSL related information is available online.	(I)				
6.3.3 Load Balancing Scalability with Cisco LB/SSL	8. All servers in the Entire AFIS renewal solution must support the Network Time Protocol (NTP) to maintain clock synchronization through the RCMP/SSC network devices.	(M)				
<b>6.3.4 Backup, Restore and Recovery</b>						
6.3.4 Backup, Restore and Recovery	1. The Contractor's Production AFIS renewal solution and all test environments must support backup, restore and recovery using the RCMP Tivoli backup/restore/recovery facilities. Each environment must be configured to backup on a regularly scheduled basis as per RCMP guidelines.	(M)				
<b>6.3.5 SAN Connectivity</b>						
6.3.5 SAN Connectivity	1. Annex A describes the current AFIS architecture which includes SAN connectivity for the PROD and QCS environments. The Contractor's QCS AFIS renewal solution must support SAN connectivity that is configured in the same or similar manner as Production to ensure the QCS environment can be used to test all possible Production scenarios. Additionally, the Contractor's PROD and QCS solution must use SAN backup, restore and recovery capabilities using RCMP's Hitachi Data Systems (HDS) Virtual Storage Platform (HVSP) SAN technology with true copy. As with any other AFIS environment, the PROD and QCS environments must also use RCMP Tivoli backup/restore/recovery facilities for non-SAN data.	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 6. AFIS Production and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>6.3.6 High Availability</b>						
6.3.6 High Availability	1. The QCS environment must be configured with sufficient components in the same manner as the Production environment that allows all possible Production HA capabilities to be tested in the QCS environment, except inter-site fail-over. Refer to Annex A for a more detailed description of the requirements each AFIS environment must be able to support.	(M)				
<b>6.3.7 SNMP Reporting</b>						
6.3.7 SNMP Reporting	1. The Contractor's servers in all environments must support SNMP reporting to RCMP's Spectrum/eHealth (or replacement) system monitoring solution. Any servers that cannot support RCMP's SNMP reporting must be pre-approved, in writing by the RCMP, prior to submitting the response to this SOW or the proposal may be considered non-compliant.	(M)				
6.3.7 SNMP Reporting	2. This SNMP reporting must include automated system level monitoring capabilities, at the hardware and software application level, capable of producing SNMP traps/alerts when software or hardware faults are detected. The minimum SNMP reporting must include memory utilization, CPU utilization, disk utilization, key process failures and hardware faults.	(M)				
<b>6.3.8 McAfee Anti Virus (AV) Scanning</b>						
6.3.8 McAfee Anti Virus (AV) Scanning	1. The Contractor's servers in all environments must include McAfee AV scanning.	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 6. AFIS Production and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
6.3.8 McAfee Anti Virus (AV) Scanning	2. Preferably the Contractor's servers should participate in RCMP's ePo.	(R)				
6.3.8 McAfee Anti Virus (AV) Scanning	3. However, as a minimum the Contractor must have a regularly scheduled McAfee DAT file update process completed by the Contractor in a manner approved by the RCMP with a configuration management documented history of the updates.	(M)				
6.3.8 McAfee Anti Virus (AV) Scanning	4. All Contractor AFIS workstations in all environments must participate in RCMP's ePo to automatically receive DAT file and policy updates. These updates will be automatically completed within an RCMP determined timeframe. The Contractor's solution must be able to support the automatic RCMP ePo updates.	(M)				
6.3.8 McAfee Anti Virus (AV) Scanning	5. There are separate ePo containers for Production and test environments. There is flexibility to allow any AFIS workstations to be included in an ePo container. This allows testing of new policies for specific AFIS workstations to eliminate the potential impact of the new policies affecting AFIS workstation operations. The policies defined in these containers for AFIS workstations must be determined through the normal release process, testing AFIS in each test environment, prior to release in the Production environment.	(M)				
<b>6.3.9 Windows Server Update Services (WSUS)</b>						
6.3.9 Windows Server Update Services (WSUS)	1. All Contractor Windows servers, in all environments, must include Windows OS updates on a regular basis and must participate in RCMP's WSUS. Server updates are not automatically enforced to minimize the potential impact on Production operations; however, the Contractor must ensure the Windows servers are updated	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 6. AFIS Production and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	within the time frame defined by the RCMP. This time frame is typically within three (3) weeks of receiving the update; however, this timing can change based on RCMP policy decisions.					
6.3.9 Windows Server Update Services (WSUS)	2. All the Contractor AFIS workstations, in all environments, must include Windows OS updates on a regular basis and must participate in RCMP's WSUS. Windows workstation updates are automatically enforced, typically within five (5) days. The Contractor's AFIS workstation solution must support receiving and automatically processing WSUS updates.	(M)				
<b>6.3.10 Additional OS and Software Upgrades</b>						
6.3.10 Additional OS and Software Upgrades	1. Besides the WSUS automated OS updates, all other OS and software upgrades must be completed according to DID OU-01, Ongoing Updates.	(M)				
<b>6.3.11 Environment Consistency</b>						
6.3.11 Environment Consistency	1. All test environments must be consistently configured, except for software differences that are expected through the normal release process and configuration parameters unique to an environment. That is, the Contractor must ensure the OS, software, AV DAT file and policies; and all other aspects of each component in each environment is consistent based on the function provided by the component. For example, all the Contractor test environment Web servers must use the same OS and third-party software versions that are also consistent with Production, unless the OS or third-party software is in the process of an upgrade.	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 6. AFIS Production and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
6.3.11 Environment Consistency	2. The QCS and PROD environments have HA capabilities which require a different configuration than the DEVTEST and MAINT test environments; however, the Contractor must still use the same common software and configuration parameters throughout the other test environments. For example, Contractor software that supports Web services in QCS and Production, where HA capabilities are required, must be the same software used in other test environments.	(M)				
6.3.11 Environment Consistency	3. The RCMP LB/SSL can load balance to multiple Web servers to provide HA; or to a single Web server to maintain a consistent configuration. To ensure environment consistency, test environments without HA capabilities must be configured in the same manner as the QCS/Prod environments with LB/SSL load balancing to a single server.	(M)				
6.3.11 Environment Consistency	4. Any inability to maintain this consistency among all environments must be specifically identified and agreed to in writing by the RCMP prior to the Contractor's proposal submission or the proposal may be considered non-compliant.	(M)				
<b>6.3.12 Secure Shell (SSH) Special Port</b>						
6.3.12 Secure Shell (SSH) Special Port	1. The Contractor must configure all test environments to use an RCMP designated port for SSH. The default port for SSH must not be used. This designated port will be provided by the RCMP after contract award.	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 6. AFIS Production and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>6.4 Common Test Environment Requirements</b>						
<b>6.4.1 General</b>						
6.4.1 General	1. This section describes the high-level functional and technical requirements to be supported by the Contractor for all test environments.	(I)				
6.4.1 General	2. The replaced, upgraded or reused components must be implemented in a manner that ensures the test environments can be configured in the same, or similar, manner to the Production environment; and fully support all AFIS renewal functional and technical requirements. Other than configuration differences for communicating in different environments and reduced performance, there must be no differences between the Production and test environment AFIS renewal components unless agreed to in writing by the RCMP.	(M)				
6.4.1 General	3. Refer to Annex A for a more detailed description of how the environment capabilities in each AFIS test environment are currently used. These current AFIS architecture capabilities that must be supported are vendor independent features that ensure the RCMP RTID test environments can operate in an effective and efficient manner as well as enable all Production AFIS functional and technical requirements to be effectively tested.	(M)				
<b>6.4.2 Support for Multiple NNS Environments</b>						
6.4.2 Support for Multiple NNS Environments	1. The AFIS DEVTEST environment must support multiple NNS Integration environments, multiple NNS Systest environments, multiple NNS performance environments and multiple individual developer environments. The AFIS DEVTEST must be configured	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 6. AFIS Production and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	initially to support at least 20 different NNS environments. Refer to Annex A for a more detailed description of the requirements each AFIS environment must support.					
6.4.2 Support for Multiple NNS Environments	2. The AFIS MAINT environment must support multiple NNS environments and multiple individual developer environments. The AFIS MAINT must be configured initially to support at least five (5) different NNS environments.	(M)				
<b>6.4.3 Test Environment Performance Requirements</b>						
6.4.3 Test Environment Performance Requirements	1. The current DEVTEST environment database size is: <ul style="list-style-type: none"> <li>a. 5000 Ten Print records;</li> <li>b. 1534 Finger Latents;</li> <li>c. 204 Palm Latents; and</li> <li>d. All test environments are similar in size.</li> </ul>	(I)				
6.4.3 Test Environment Performance Requirements	2. Based on a growth of five percent (5%) per year, each test environment must meet or exceed the following performance measurement requirements for the next five (5) years: <ul style="list-style-type: none"> <li>a. Process 220 transactions per hour, based on 200 Ten Print and 20 finger/palm latent transactions per hour from one NNS environment without negatively affecting any other NNS environment using the DEVTEST AFIS; and</li> <li>b. Where the performance measurement is based on the time AFIS requires to fully process the transaction and respond to RCMP NNS Web service interface.</li> </ul>	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 6. AFIS Production and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>6.5 Specific Test Environment Requirements</b>						
<b>6.5.1 AFIS DEVTEST and Maint</b>						
<b>6.5.1.1 General</b>						
6.5.1.1 General	1. The DEVTEST and Maint environments must be configured to support all the functional requirements of the AFIS Renewal solution.	(M)				
6.5.1.1 General	2. To ensure clarity regarding the functional requirements, if high performance hardware fingerprint matching components are part of the Contractor's Production solution and the Contractor has low performing matching components that fully support the fingerprint matching and functional requirements as well as the common test environment requirements, then the low performing matching components can be used instead of high performance hardware fingerprint matching components in these two (2) test environments.	(I)				
<b>6.5.2 AFIS QCS</b>						
<b>6.5.2.1 General</b>						
6.5.2.1 General	1. The QCS environment must be configured with every possible Production component in the Contractor's AFIS renewal solution. These components must be configured in a manner that allows every possible Production scenario to be tested in the QCS environment, except inter-site fail-over.	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 6. AFIS Production and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>6.5.2.2 High Availability</b>						
6.5.2.2 High Availability	1. The QCS environment must be configured with sufficient components in the same manner as the Production environment that allows all possible Production HA capabilities to be tested in the QCS environment, except inter-site fail-over. Refer to Annex A for a more detailed description of the requirements each AFIS environment must be able to support.	(M)				
<b>6.6 Production Environment Requirements</b>						
<b>6.6.1 General</b>						
6.6.1 General	1. This section describes the high-level functional and technical requirements to be supported by the Contractor for the PROD environment.	(I)				
6.6.1 General	2. This section describes the functional and technical requirements for replacing/ upgrading/reusing all PROD environment components. These components must be replaced, upgraded or reused in a manner that fully supports all Production environment requirements as stated in this SOW and its accompanying documents.	(M)				
<b>6.6.2 Capacity and Performance Requirements</b>						
6.6.2 Capacity and Performance Requirements	1. The Contractor must ensure all capacity and performance requirements stated in this SOW and its accompanying documents are satisfied. The Contractor shall be responsible for ensuring the capacity and performance requirements are met regardless of whether the Contractor chooses to replace, upgrade or reuse any GFE components. Refer to Annex B for details	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 6. AFIS Production and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	concerning the AFIS renewal solution capacity and performance requirements.					
6.6.2 Capacity and Performance Requirements	2. To ensure effective and efficient use of the AFIS renewal solution, the components that provide approximately fifty percent (50%) of the AFIS capacity must reside at the DR site and be active in AFIS processing.	(M)				
6.6.2 Capacity and Performance Requirements	3. If the PR site fails, the AFIS renewal solution must support at least fifty percent (50%) of the AFIS capacity and performance requirements at the DR site.	(M)				
<b>6.6.3 High Availability</b>						
6.6.3 High Availability	1. The Contractor's AFIS renewal solution must support all PR site HA requirements stated in this SOW and its accompanying documents.	(M)				
6.6.3 High Availability	2. The Contractor's AFIS renewal solution must support all the DR requirements stated in this SOW and its accompanying documents. The PROD environment is the only environment with DR site requirements.	(M)				
6.6.3 High Availability	3. All Contractor DR site components must be configured in the same, or similar, manner to the PR site to ensure AFIS operations continue if there is a PR site failure.	(M)				
<b>6.7 Site Acceptance Test Plan</b>						
6.7 Site Acceptance Test Plan	1. The Contractor must provide a Site Acceptance Test Plan (SATP) DID AT-03 that describes all the activities necessary to replace, upgrade, reuse, configure and implement all components required to satisfy all AFIS renewal solution requirements.	(M)				

Appendix A: AFIS Renewal Statement of Work: Chapter 7. Transcoder Renewal						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>7.1 Purpose</b>						
7.1 Purpose	1. This section describes the high-level functional and technical requirements for replacing/ upgrading/reusing all Transcoder Production and test environment components. These components must be replaced, upgraded or reused in a manner that fully supports all Production and test environment requirements as stated in this SOW and its accompanying documents. The detailed requirements that must be satisfied by the Contractor's Transcoder renewal are described in Annex C.	(M)				
<b>7.2 GFE Components</b>						
7.2 GFE Components	1. The list of all GFE available for use by the Contractor, listed in Annex F, includes Transcoder components. The Contractor's proposal must explain how each GFE component will be modified and/or used together with all other Contractor components to provide the Transcoder renewal solution. The Contractor must include the use of these components in the ARIP and SATP.	(M)				
7.2 GFE Components	2. The Contractor must ensure that the modifications are completed in the most effective and efficient method; and must ensure the modifications can be completed within the normal outage time for Production RTID. The RCMP must approve the method and timing of any modifications to GFE components.	(M)				
<b>7.3 Transcoder Common Requirements</b>						
<b>7.3.1 General</b>						
7.3.1 General	1. The Transcoders must be replaced, upgraded or reused in a manner that ensures the Production and test environments are	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 7. Transcoder Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	configured and maintained in the same manner and fully supports all Transcoder functional and technical requirements. Other than configuration differences for communicating in different environments, there must be no differences between the Production and test environment Transcoders unless agreed to in writing by the RCMP.					
<b>7.3.2 Functionality</b>						
7.3.2 Functionality	1. The Transcoder must support all requirements as stated in this SOW and its accompanying documents. The Transcoder is an input device to the NNS; therefore, all Transcoders in all environments must provide the same functionality.	(M)				
<b>7.3.3 McAfee Anti Virus (AV) Scanning</b>						
7.3.3 McAfee Anti Virus (AV) Scanning	1. All Contractor Transcoders in all environments must participate in RCMP's ePo to automatically receive DAT file and policy updates. These updates will be automatically completed with an RCMP determined timeframe. The Contractor's solution must be able to support the automatic RCMP ePo updates.	(M)				
7.3.3 McAfee Anti Virus (AV) Scanning	2. There are separate ePo containers for Production and test environments. There is flexibility to allow any Transcoder to be included in an ePo container. This allows testing of new policies for specific Transcoders to eliminate the potential impact of the new policies affecting Transcoder operations. The policies defined in these containers for Transcoders must be determined through the normal release process testing Transcoders in each test environment prior to release in the Production environment.	(M)				

Appendix A: AFIS Renewal Statement of Work: Chapter 7. Transcoder Renewal						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>7.3.4 Windows Server Update Services (WSUS)</b>						
7.3.4 Windows Server Update Services (WSUS)	1. All the Contractor Transcoders, in all environments, must include Windows OS updates on a regular basis and must participate in RCMP's WSUS. Windows workstation updates are automatically enforced. The Contractor's Transcoder solution must support receiving and automatically processing WSUS updates.	(M)				
<b>7.4 Site Acceptance Test Plan</b>						
7.4 Site Acceptance Test Plan	1. The Contractor must provide a Site Acceptance Test Plan (SATP) DID AT-03 that describes all the activities necessary to replace, upgrade, reuse, configure and implement all components required to satisfy all Transcoder renewal solution requirements.	(M)				
<b>Appendix A: AFIS Renewal Statement of Work: Chapter 8. Verification Subsystem and Three Test Environment Renewal</b>						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>8.1 Purpose</b>						
8.1 Purpose	1. This section describes the high-level functional and technical requirements for replacing/ upgrading/reusing all VSS Production and test environment components. These components must be replaced, upgraded or reused in a manner that fully supports all Production environment requirements as stated in this SOW and its accompanying documents. The detailed requirements that must be satisfied by the Contractor's VSS renewal solution are described in Annex D.	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 8. Verification Subsystem and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>8.2 GFE Components</b>						
8.2 GFE Components	1. Annex F provides a list of all GFE available for use by the Contractor. The Contractor's proposal must explain how each GFE component will be modified and/or used together with all other Contractor components to provide the VSS renewal solution. The Contractor must include the use of these components in the ARIP and SATP.	(M)				
8.2 GFE Components	2. The Contractor must ensure that the modifications are completed in the most effective and efficient method; and must ensure the modifications can be completed within the normal outage time for Production RTID. The RCMP must approve the method and timing of any modifications to GFE components.	(M)				
<b>8.3 Common Environment Requirements</b>						
<b>8.3.1 General</b>						
8.3.1 General	1. This section describes the high-level functional and technical requirements that the Contractor must support for all VSS Production and test environments. Refer to Annex A for a more detailed description of how these requirements in each AFIS environment are currently used. These current VSS architecture requirements that must be supported are vendor independent capabilities that ensure the RCMP RTID test environments can operate in an effective and efficient manner as well as enable all Production VSS functional and technical requirements to be effectively tested.	(M)				
8.3.1 General	2. The replaced, upgraded or reused components must be implemented in a manner that ensures the test environments can	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 8. Verification Subsystem and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	be configured in the same, or similar, manner to the Production environment; and fully support all RTID VSS functional and technical requirements. Other than configuration differences for communicating in different environments and reduced performance, there must be no differences between the Production and test environment VSS renewal components unless agreed to in writing by the RCMP.					
<b>8.3.2 Functionality</b>						
8.3.2 Functionality	1. The Production environment must support all requirements as stated in this SOW and its accompanying documents. All test environments must provide all the functionality available in the Production environment, unless otherwise specifically stated in this SOW.	(M)				
<b>8.3.3 Load Balancing Scalability with Cisco LB/SSL</b>						
8.3.3 Load Balancing Scalability with Cisco LB/SSL	1. The Contractor's VSS renewal solution must support the ability to use the RCMP's Cisco LB/SSL technology to enable load balancing to multiple Contractor servers providing intra-site and inter-site HA.	(M)				
8.3.3 Load Balancing Scalability with Cisco LB/SSL	2. The Contractor's VSS renewal solution must be configured to support a dual Data Center architecture that allows the DR site VSS components to continue working without interruption if the PR site fails.	(M)				
8.3.3 Load Balancing Scalability with Cisco LB/SSL	3. The load balancing and HA capabilities must be implemented in the PROD and QCS environments. The QCS environment must be able to support all possible Production scenarios unless agreed to in writing by the RCMP, except inter-site fail-over.	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 8. Verification Subsystem and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
8.3.3 Load Balancing Scalability with Cisco LB/SSL	4. The Contractor's VSS solution must support load balancing techniques that evenly load balance to at least four (4) VSS nodes, with two (2) nodes at the PR site and two (2) nodes at the DR site.	(M)				
8.3.3 Load Balancing Scalability with Cisco LB/SSL	5. Any details concerning the RCMP LB/SSL can be provided by the RCMP upon request.	(I)				
<b>8.3.4 Backup, Restore and Recovery</b>						
8.3.4 Backup, Restore and Recovery	1. The Contractor's Production VSS renewal solution and all test environments must support backup, restore and recovery using the RCMP Tivoli backup/restore/recovery facilities. Each environment must be configured to backup on a regularly scheduled basis as per RCMP guidelines.	(M)				
<b>8.3.5 SAN Connectivity</b>						
8.3.5 SAN Connectivity	1. Annex A describes the current AFIS architecture which includes SAN connectivity for the PROD and QCS environments. The Contractor's QCS VSS renewal solution must support SAN connectivity that is configured in the same or similar manner as Production to ensure the QCS environment can be used to test all possible Production scenarios, except inter-site fail-over.	(M)				
8.3.5 SAN Connectivity	2. Additionally, the Contractor's PROD and QCS solution must use SAN backup, restore and recovery capabilities using RCMP's HDS VSP SAN technology with true copy. As with any other VSS environment, the PROD and QCS environments must also use RCMP Tivoli backup/restore/recovery facilities for non-SAN data.	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 8. Verification Subsystem and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>8.3.6 High Availability</b>						
8.3.6 High Availability	1. The VSS QCS environment must be configured with sufficient components in the same manner as the Production environment that allows all possible Production HA capabilities to be tested in the QCS environment, except inter-site fail-over.	(M)				
<b>8.3.7 SNMP Reporting</b>						
8.3.7 SNMP Reporting	1. The Contractor's VSS servers in all environments must support SNMP reporting to RCMP's Spectrum/eHealth (or replacement) system monitoring solution. Any servers that cannot support RCMP's SNMP reporting must be pre-approved prior to submitting the response to this SOW in writing by the RCMP or the proposal may be considered non-compliant.	(M)				
8.3.7 SNMP Reporting	2. This SNMP reporting must include automated system level monitoring capabilities, at the hardware and software application level, capable of producing SNMP traps/alerts when software or hardware faults are detected. The minimum SNMP reporting must include memory utilization, CPU utilization, disk utilization, key process failures and hardware faults.	(M)				
<b>8.3.8 McAfee Anti Virus (AV) Scanning</b>						
8.3.8 McAfee Anti Virus (AV) Scanning	1. The Contractor's servers in all environments must include McAfee AV scanning.	(M)				
8.3.8 McAfee Anti Virus (AV) Scanning	2. Preferably participating in RCMP's ePo.	(R)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 8. Verification Subsystem and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
8.3.8 McAfee Anti Virus (AV) Scanning	3. However, as a minimum the Contractor must have a regularly scheduled McAfee DAT file update process completed by the Contractor in a manner approved by the RCMP with a configuration management documented history of the updates.	(M)				
<b>8.3.9 Windows Server Update Services (WSUS)</b>						
8.3.9 Windows Server Update Services (WSUS)	1. All Contractor Windows servers, in all environments, must include Windows OS updates on a regular basis and must participate in RCMP's WSUS. Server updates are not automatically enforced to minimize the potential impact on Production operation; however, the Contractor must ensure the Windows servers are updated within the time frame defined by the RCMP. This time frame is typically within three (3) weeks of receiving the update; however, this timing can change based on RCMP policy decisions.	(M)				
<b>8.3.10 Additional OS and Software Upgrades</b>						
8.3.10 Additional OS and Software Upgrades	1. Besides the WSUS automated OS updates, all other OS and software upgrades must be completed according to DID OU-01, Ongoing Updates.	(M)				
<b>8.3.11 Environment Consistency</b>						
8.3.11 Environment Consistency	1. All test environments must be consistently configured, except for software differences that are expected through the normal release process and configuration parameters unique to an environment. That is, the Contractor must ensure the OS, software, AV DAT file and policies; and all other aspects of each component in each environment is consistent based on the function provided by the component. For example, all the Contractor test environment	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 8. Verification Subsystem and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	Web servers must use the same OS and third-party software versions, that are also consistent with Production, unless the OS or third-party software is in the process of an upgrade.					
8.3.11 Environment Consistency	2. The VSS QCS and PROD environments have HA capabilities which require a different configuration than the DEVTEST and MAINT test environments; however, the Contractor must still use the same common software and configuration parameters throughout the other test environments. For example, Contractor software that supports Web services in QCS and Production, where HA capabilities are required, must be the same software used in other test environments.	(M)				
8.3.11 Environment Consistency	3. To ensure environment consistency, test environments without HA capabilities must be configured in the same manner as the QCS/Prod environments with LB/SSL load balancing to a single server.	(M)				
8.3.11 Environment Consistency	4. Any inability to maintain this consistency among all environments must be specifically identified and agreed to in writing by the RCMP prior to the Contractor's proposal submission or the proposal may be considered non-compliant.	(M)				
<b>8.3.12 SSH Special Port</b>						
8.3.12 SSH Special Port	1. The Contractor must configure all environments to use an RCMP designated port for SSH. The default port for SSH must not be used. This designated port will be provided by the RCMP after contract award.	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 8. Verification Subsystem and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>8.4 Common Test Environment Requirements</b>						
<b>8.4.1 General</b>						
8.4.1 General	1. This section describes the high-level functional and technical requirements that the Contractor must support for all VSS test environments.	(M)				
8.4.1 General	2. The replaced, upgraded or reused components must be implemented in a manner that ensures the VSS test environments can be configured in the same, or similar, manner to the VSS Production environment, and fully support all RTID VSS functional and technical requirements. Reduced performance in the test environments is the only aspect of the Contractor's solution that can be different from the Production environment.	(M)				
8.4.1 General	3. Refer to Annex A for a more detailed description of how the environment capabilities in each VSS test environment are currently used. These current VSS architecture capabilities that must be supported are vendor independent features that ensure the RCMP RTID test environments can operate in an effective and efficient manner as well as enable all Production VSS functional and technical requirements to be effectively tested.	(M)				
<b>8.5 Specific Test Environment Requirements</b>						
<b>8.5.1 VSS QCS</b>						
<b>8.5.1.1 General</b>						
8.5.1.1 General	1. The VSS QCS environment must be configured with every possible Production component in the Contractor's VSS renewal solution. These components must be configured in a manner that	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 8. Verification Subsystem and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	allows every possible Production scenario to be tested in the QCS environment, except inter-site fail-over.					
<b>8.5.1.2 High Availability</b>						
8.5.1.2 High Availability	1. The VSS QCS environment must be configured with sufficient components in the same manner as the Production environment that allows all possible Production HA capabilities to be tested in the QCS environment, except inter-site fail-over.	(M)				
<b>8.6 Production Environment Requirements</b>						
<b>8.6.1 General</b>						
8.6.1 General	1. This section describes the high-level functional and technical requirements to be supported by the Contractor for the PROD environment.	(I)				
8.6.1 General	2. This section describes the functional and technical requirements for replacing/upgrading/ reusing all PROD environment components. These components must be replaced, upgraded or reused in a manner that fully supports all Production environment requirements as stated in this SOW and its accompanying documents.	(M)				
<b>8.6.2 Capacity and Performance Requirements</b>						
8.6.2 Capacity and Performance Requirements	1. The Contractor must ensure all capacity and performance requirements stated in this SOW and its accompanying documents are satisfied. The Contractor shall be responsible for ensuring the capacity and performance requirements are met regardless of whether the Contractor chooses to replace, upgrade or reuse any GFE components.	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 8. Verification Subsystem and Three Test Environment Renewal</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
8.6.2 Capacity and Performance Requirements	2. To ensure effective and efficient use of the VSS renewal solution, the components that provide approximately fifty percent (50%) of the VSS capacity must reside at the DR site and be active in AFIS processing. The VSS is a dual Data Center architecture; therefore, all VSS components must be fully utilized at both the PR and DR sites.	(M)				
8.6.2 Capacity and Performance Requirements	3. If the PR site fails, the VSS renewal solution must support at least fifty percent (50%) of the VSS capacity and performance requirements.	(M)				
<b>8.6.3 High Availability</b>						
8.6.3 High Availability	1. The Contractor's VSS renewal solution must support all PR site HA requirements stated in this SOW and its accompanying documents.	(M)				
8.6.3 High Availability	2. The Contractor's VSS renewal solution must support all the DR requirements stated in this SOW and its accompanying documents. The PROD environment is the only environment with DR site requirements.	(M)				
8.6.3 High Availability	3. All Contractor DR site components must be configured in the same manner to enable dual Data Center operations.	(M)				
<b>8.7 Site Acceptance Test Plan</b>						
8.7 Site Acceptance Test Plan	1. The Contractor must provide a Site Acceptance Test Plan (SATP) DID AT-03 that describes all the activities necessary to replace, upgrade, reuse, configure and implement all components required to satisfy all VSS renewal solution requirements.	(M)				

Appendix A: AFIS Renewal Statement of Work: Chapter 9. Latent Case Management Capability (LCMC)						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>9.1 Purpose</b>						
9.1 Purpose	1. This section describes the high-level functional and technical requirements for the LCMC. The detailed requirements that must be satisfied by the Contractor's LCMC renewal solution are described in Annex E.	(M)				
9.1 Purpose	2. The LCMC must be a replacement of the existing ELMO and must be an integrated solution with the Contractor's AFIS renewal solution. That is, the LCMC/AFIS users must be able to seamlessly interface between the LCMC and AFIS to send Latent fingerprints/palm prints for search from the LCMC and perform all other required capabilities stated in this SOW and its accompanying documents.	(M)				
9.1 Purpose	3. The LCMC requirements must be satisfied using the same AFIS windows workstation to perform either LCMC or AFIS activities. Performing latent case management activities are part of the daily activities for an AFIS Latent Fingerprint Analyst.	(M)				
9.1 Purpose	4. The preferred LCMC solution is an integrated capability within the AFIS. This would provide a consistent UI for the LCMC/AFIS users and ensure there is no duplication of capabilities or data in LCMC and AFIS. That is, this integrated LCMC capability would be part of the AFIS renewal solution UI, where additional buttons or UI icons on the AFIS renewal solution UI would be clicked by the user to perform case management activities.	(R)				
9.1 Purpose	5. ELMO currently records in its database a significant portion of data that is also recorded in AFIS. The LCMC should eliminate all of this duplication.	(R)				

Appendix A: AFIS Renewal Statement of Work: Chapter 9. Latent Case Management Capability (LCMC)						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
9.1 Purpose	6. The LCMC must eliminate all this duplication from an AFIS/LCMC user perspective. That is, with an integrated LCMC solution, this duplication would be inherently eliminated. If the Contractor's chooses a third-party or separate LCMC, the Contractor must ensure any duplication between the LCMC and the AFIS renewal solution is seamless to the user.	(M)				
9.1 Purpose	7. The Contractor's solution must include the database conversion from the existing ELMO SQL database to the Contractor's LCMC/AFIS database.	(M)				

Appendix A: AFIS Renewal Statement of Work: Chapter 10. Training						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>10.1 Purpose</b>						
10.1 Purpose	1. Most of the RCMP fingerprint technicians have many years of experience. The RCMP also has a comprehensive in-house training program with a classroom setup. The RCMP employs a train the trainer approach to any new systems. Consequently, the training required for the AFIS renewal RFP is ten (10) days of time from the Contractor's senior trainer. If there are separate trainers for TP vs latent, then the RCMP will determine the portion of time to be used by each senior trainer after contract award. The Contractor must include ten (10) days of training by a senior trainer in its proposal to cover the training requirements for this AFIS renewal RFP.	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 10. Training</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
10.1 Purpose	2. The ten (10) training days will be used during the first year of the contract. All travel costs by the trainer is subject to Government Of Canada travel expenses. These travel expense are billed separately from the Contractor's bid and will be paid through a Task Authorization, if required, once a training schedule has been agreed to between the Contractor and the RCMP.	(I)				
10.1 Purpose	3. Any additional training beyond the ten (10) days will be completed through a separate Task Authorization as required.	(I)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 11. Ongoing OS, Software and Virus Upgrades</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>11.1 Purpose</b>						
11.1 Purpose	1. This section describes the requirements for the Contractor to provide ongoing OS and software upgrades for all components included in the Contractor's AFIS renewal solution.	(I)				
11.1 Purpose	2. Note: Transcoders procured directly by other Police agencies are not included in this SOW. They are expected to have a separate support contract.	(I)				
<b>11.2 Background</b>						
11.2 Background	1. The other sections throughout this SOW represent work to be completed by the Contractor to replace, upgrade or reuse all existing RTID AFIS solution components as well as add new	(I)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 11. Ongoing OS, Software and Virus Upgrades</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	capabilities such as LCMC. The ongoing OS and software work, identified in this section, is expected to start after the Contractor's initial solution has been fully implemented and all components included in this SOW have been replaced, upgraded or reused.					
<b>11.3 Requirement</b>						
11.3 Requirement	1. The following sub-sections identify general requirements for the ongoing OS and software upgrade; however, the detailed requirements of what must be provided and the deliverables required for this requirement are included in the DID OU-01.	(M)				
11.3 Requirement	2. In general any OS and/or software upgrade completed by the Contractor must not negatively affect the functionality, security, availability, maintainability, scalability, manageability, configurability or the quality of the results experienced by the Entire AFIS renewal solution. Additionally, the improved capacity and performance achieved through the replacements/upgrades/reuse in this SOW must not be negatively affected by any OS and/or software upgrade completed by the Contractor, unless agreed to with the RCMP in writing.	(M)				
11.3 Requirement	3. All the Contractor's Entire AFIS renewal solution servers must be upgraded based on the frequency and timing stated herein (Subsection 11.3.2), unless otherwise agreed to by the RCMP in writing.	(M)				
<b>11.3.1 DSB VA</b>						
11.3.1 DSB VA	1. Any new service pack or new version of the OS and/or software included in an upgrade through the ongoing OS and Software Upgrade activity must successfully pass a DSB VA.	(M)				

Appendix A: AFIS Renewal Statement of Work: Chapter 11. Ongoing OS, Software and Virus Upgrades						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>11.3.2 Upgrade Frequency and Timing</b>						
11.3.2 Upgrade Frequency and Timing	1. Each set of the servers that provide the same function must be upgraded at the same time unless otherwise agreed to by the RCMP in writing. For example, it would be expected that all Web servers would be upgraded at the same time. However, all servers could be updated at the same time if there is justification for this approach or the server upgrades can be staggered such that each set of servers providing the same function are updated on the same cycle to mitigate the risk of changing too many servers at the same time. The Contractor must provide the most effective and efficient upgrade method that allows all servers to be maintained in a manner that provides an acceptable level of risk as agreed to by the RCMP.	(M)				
11.3.2 Upgrade Frequency and Timing	2. Once all servers have been upgraded through replacement/upgrade/reuse or through this ongoing upgrade process, they must be continuously upgraded every three (3) months with at least the latest security patches that RCMP determines should be included. RCMP will provide a list of all security patches that they deem essential for any RCMP servers.	(M)				
11.3.2 Upgrade Frequency and Timing	3. All servers must be upgraded with any new OS service packs within one (1) year of their availability unless agreed to by the RCMP in writing.	(M)				
11.3.2 Upgrade Frequency and Timing	4. This ongoing OS and software upgrade must be provided following the completion of all other work in this SOW until the end of the contract and any option years that are exercised by the RCMP. The ongoing OS and software upgrade strategy and plan (DID OU-01) must be organized to allow costing to be provided on a yearly basis. The resources and activities in the strategy and	(M)				

Appendix A: AFIS Renewal Statement of Work: Chapter 11. Ongoing OS, Software and Virus Upgrades						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	plan must be provided at a level of detail that easily correlates to the Basis of Payment.					
11.3.3 AV Scanning DAT Files and Policies						
11.3.3 AV Scanning DAT Files and Policies	1. AV scanning DAT files and policy requirements are defined throughout this SOW. The Contractor must keep the AV DAT files and policies up-to-date on all servers as part of the on-going support process. The record of updates to the DAT files and/or policies must be recorded in DID UO-01 or an alternate Contractor method approved by the RCMP.	(M)				

Appendix A: AFIS Renewal Statement of Work: Chapter 12. Facial Recognition Capability (FRC)						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
12.1 General						
12.1 General	1. This section describes the functional and technical requirements for the Facial Recognition Capability (FRC) solution.	(I)				
12.1 General	2. The Contractor must support an FRC that can be integrated into the Contractor's proposed AFIS renewal solution. This integration must provide a seamless interface for the NNS-AFIS based on a modified AFIS ICD. That is, the RCMP considers a FRC as another biometric for the AFIS to process; therefore the same interface between NNS and AFIS would be used. To ensure it is clear to all Contractors, the only FRC mandatory requirement that must be satisfied, by the Contractor, at the time of proposal	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 12. Facial Recognition Capability (FRC)</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	submission is a documented and demonstrated (i.e. at Benchmark testing) ability of the Contractor to support FRC.					
12.1 General	3. All other FRC requirements are provided to ensure the Contractor understands the current expectations of the RCMP regarding FRC.	(I)				
12.1 General	4. When implemented, the FRC must be fully operational as an integrated part of the AFIS renewal solution; therefore, all the operational requirements of the AFIS renewal solution must be extended to the FRC. For example, the availability, confidentiality, integrity, security, support, maintenance, bilingual UI and logging requirements for the AFIS renewal solution also apply to the FRC.	(M)				
<b>12.2 FRC Requirements</b>						
12.2 FRC Requirements	1. The suspect photos will typically be from surveillance videos, Closed-Circuit Television (CCTV), hand held cameras including cell phones, or other non-controlled, poor-quality sources. In many cases, only partial facial images will be showing. The FRC is required to perform a one to one (1:1), and a one to many (1:N) digital facial comparisons.	(I)				
12.2 FRC Requirements	2. Prior to implementation, the FRC must support the following requirements: a. Perform searches involving a known or unknown single photo to a target ID photo looking to confirm identity or suspected identity (1:1); b. Search the photo database using a known photo to discover if the person is in the AFIS/FRC database under other aliases (1:N);	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>c. Search the photo database using an unknown photo to find a suspect and generate investigative leads (e.g. a surveillance camera photo from bank robbery matched against the photo database);</li> <li>d. Perform searches of the unknown photo database using a known photo (1:N) to find out if the current enrolled person was involved in previous crimes associated with that investigation;</li> <li>e. Perform searches of the unknown photo database using an unknown photo (1:N) to be used to generate investigative leads. (e.g. a surveillance camera photo matched against another surveillance camera photo from another crime scene establishing that the same person(s) are involved in both crimes);</li> <li>f. Establish a composite (i.e. best set of photos) for all available photo pose angles for an individual that will be used for searching;</li> <li>g. Be able to perform a batch search of the unknown photo database (many to many search), the results of which can be dispositioned by the biometric technician over an extended period of time. These will be done in instances where the photos of unknown persons are retrieved in bulk from a storage device;</li> <li>h. Search tattoos and body marks;</li> <li>i. Allow tattoos and body marks to be included in the AFIS renewal database for known individuals recorded in the AFIS database;</li> </ul>					

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	j. Use aging and weight loss/gain techniques to increase the probability of an ident; and k. Use the ANSI NIST ITL1-2011 Type-10 specification.					
12.2 FRC Requirements	3. Prior to implementation, the Contractor's FRC shall provide tools to review captured photos, crop the quality face segments in the image, re-calibrate, enhance, edit, search and if there is no ident, store in the unknown photo database repository. The FRC shall be capable of saving the photos in an ANSI NIST ITL 1-2011 compatible format.	(M)				
12.2 FRC Requirements	4. The Contractor's FRC should create photographic line-ups, with a configurable number of photos, based on specified parameters from a witness description.	(I)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>13.1 Purpose</b>						
13.1 Purpose	1. This section describes additional requirements for the data conversion that have not been stated elsewhere in this SOW and its accompanying documents that must be satisfied by the Contractor. These additional requirements apply to all required data conversion unless specifically stated herein.	(M)				
13.1 Purpose	2. For the Entire AFIS renewal solution, the Contractor must develop a comprehensive data migration plan for all data to be converted.	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	An initial version of this Data Conversion Plan must be provided with the Contractor's proposal. The Data Conversion Plan must be included as part of the ARIP, where the Contractor must provide the strategy and plan for all activities required to satisfy the entire scope of requirements included in this SOW and its accompanying documents.					
13.1 Purpose	3. The data conversion must be performed at RCMP's Ottawa, Ontario, Canada data center or an alternate RCMP/SSC data center, located in Ontario, Canada identified by the RCMP. The only potential variance will be the conversion of Transcoder data which can be controlled from Ottawa through a secure remote connection to the Transcoder site in order to complete the data conversion.	(M)				
13.1 Purpose	4. The data conversion must include an audit trail of all conversion activity, which must include recording when any error occurs or when any data mapping occurs where the data is represented differently in the Contractor's solution than in the original data set.	(M)				
13.1 Purpose	5. The existing RCMP AFIS database, IMM database, VSS database and Transcoder databases will be exported to ANSI NIST compliant formatted electronic files and include FBI EBTS Legacy IAFIS compliant Type-9 minutia records. The Contractor must complete the data conversion for AFIS, IMM, VSS and the Transcoders using the following data: a. The TP / Palm Print (PP) NIST files are expected to include the following NIST records as applicable: i. Type-1 – Header, ii. Type-2 – Demographics, iii. Type- 4 Fingerprint Images,	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>iv. Type-9 – Minutiae Record (FBI EBTS Compliant) (Contractor AFIS minutia is expected to be generated for TP data. If not, the Contractor must explain the impact of retaining the existing AFIS TP minutia on the Contractor’s solution),</li> <li>v. Type-10 – Photo Image,</li> <li>vi. Type-14 – Fingerprint Images, and</li> <li>vii. Type-15 – Palm Print Images;</li> <li>b. The TP/PP Type-2 record will provide all demographic information maintained on the AFIS database for the subject record;</li> <li>c. The Latent (LT) / Palm Latent (PL) NIST files will include the following NIST records:                             <ul style="list-style-type: none"> <li>i. Type-1 – Header,</li> <li>ii. Type-2 – Demographics,</li> <li>iii. Type-9 – Minutiae Record (FBI EBTS Compliant) (Existing Latent minutia, plotted by RCMP, must be retained for LT data), and</li> <li>iv. Type-13 – Latent Images;</li> </ul> </li> <li>d. The LT/PL Type-2 record will provide all demographic information maintained on the AFIS database for the latent case; and</li> <li>e. The Contractor must ensure the NIST packets used in the conversion are retained representing the initial transaction used to populate the Contractor’s solution.</li> </ul>					
13.1 Purpose	6. The existing log files for AFIS, IMM, VSS and the Transcoders must be converted to a form searchable for historical and audit	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	purposes and retained on the Contractor's solution where the data is accessible by RCMP resources and by remote site resources for Transcoder data.					
13.1 Purpose	7. It is preferable that the converted log files could be used by the Contractor's solution.	(R)				
13.1 Purpose	8. However, the log data must remain unaltered and searchable by the alphanumeric data to allow individual log records to be identified.	(M)				
13.1 Purpose	9. The ELMO data that must be converted is described in detail in Annex E.	(M)				
13.1 Purpose	10. The ELMO log files do not need to be converted, since the AFIS log files will be used to identify the historical activity against the case file data in ELMO.	(I)				
13.1 Purpose	11. The AFIS and Transcoder user management database conversions must also adhere to the requirements herein and be described in the Data Conversion Plan.	(M)				
13.1 Purpose	12. The Contractor shall produce a report; or reports for each type of conversion, of the findings at the conclusion of the loading of the data.	(M)				
<b>13.2 Data Conversion Process</b>						
13.2 Data Conversion Process	1. Data conversion refers to those activities and deliverables necessary to migrate existing AFIS data from the current AFIS to the AFIS renewal solution.	(I)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
13.2 Data Conversion Process	2. No data conversion will be allowed until the RCMP has approved the final version of the Data Conversion plan. The Contractor's Data Conversion plan must be developed in collaboration with the RCMP to ensure all requirements and data nuances stated throughout this SOW and its accompanying documents are clearly understood and reflected in the Contractor's Data Conversion plan.	(M)				
13.2 Data Conversion Process	3. The Contractor shall: a. Identify changes in requirements that will affect data formats and develop a plan of action; b. Develop standard procedures for implementing conversions; c. Design, develop and implement conversion of legacy data formats to new formats; and d. Define quality standards for data conversion.	(M)				
13.2 Data Conversion Process	4. The RCMP will provide witnesses to the Data Conversion process to ensure completeness, accuracy and quality of all Conversion Operations.	(I)				
13.2 Data Conversion Process	5. The Contractor shall prepare and document test cases, including expected results, for each conversion requirement.	(M)				
13.2 Data Conversion Process	6. The Contractor shall carry out testing of the conversion software prior to Site Acceptance Testing.	(M)				
13.2 Data Conversion Process	7. The Contractor, under the supervision of the RCMP, shall perform Site Acceptance Testing of data conversion software, utility(ies) and processes.	(M)				

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13.2 Data Conversion Process	8. The Contractor shall provide conversion statistics, including total number of records to be converted, total number successfully converted, problems encountered and their resolution.	(M)				
13.2 Data Conversion Process	9. The Contractor shall provide controls to ensure that data converted maintains its integrity and referential integrity throughout all processing routines.	(M)				
<b>13.3 Data Conversion Details</b>						
13.3 Data Conversion Details	1. The Data Conversion process must maintain the data architecture of a single Subject filed to a single Subject Identifier, using the existing Subject Identifier. It is essential that the AFIS renewal solution retain the Subject Identifier relationship to an individual to support references to previously generated match reports and NNS audit log data. Inherently the relationship to all other file related data is also retained by using the existing AFIS Subject Identifier in the AFIS renewal solution database.	(M)				
13.3 Data Conversion Details	2. The Contractor shall ensure that the single Subject Identification Number can include multiple sets of images and fingerprint characteristics.	(M)				
13.3 Data Conversion Details	3. The Contractor shall ensure that the single Subject Identification Number includes up to six (6) file numbers, with four (4) currently implemented. Refer to the AFIS ICDs for details.	(M)				
13.3 Data Conversion Details	4. The Contractor shall be responsible for loading all reference tables required for the AFIS solution.	(M)				

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13.3 Data Conversion Details	5. The Contractor shall be responsible for populating all administrator tables and configuration parameters.	(M)				
13.3 Data Conversion Details	6. The Contractor shall provide the schema for all database tables to the RCMP, indicating which data fields shall be used for RCMP data and for what purpose.	(M)				
13.3 Data Conversion Details	7. The Contractor shall carry out the Data Conversion process as per the approved Data Conversion Plan.	(M)				
13.3 Data Conversion Details	8. The Contractor must account for and properly process the unique aspects of RCMP data identified in the ICDs and throughout this SOW and its accompanying documents (e.g. DCN format, DOC ID format, long and short forms of file numbers; and rules for consolidations of non A conversions as well as Refugee consolidations where 8500000 is smaller than 1000000).	(M)				
13.3 Data Conversion Details	9. The data volumes are included in Annex B, AFIS detailed requirements.	(I)				
<b>13.3.1 Database Conversion Nuances</b>						
13.3.1 Database Conversion Nuances	1. The following two paragraphs identify nuances that must be used by the Contractor in the database conversion process, as well as in normal day-to-day processing when consolidations occur.	(M)				
13.3.1 Database	2. For consolidations, involving two (2) or more Criminal records, the following ordinal numbering scheme must be used where	(M)				

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Conversion Nuances	<p>appropriate to support the requirements stated through this SOW and its accompanying documents.</p> <p>a. The short format of a Fingerprint Section (FPS) Number is either a 1 to 6 digit numeric or a 1 to 6 digit numeric + a letter. Forensic Identification Services (FIS) manages the allocation of FPS Numbers. When all the numbers are used up for a specific character, then the next alphabetic character to be used is selected. Each alpha character will last approximately six (6) years. The "G" series (i.e., 999999G) is currently being used. This representation of the FPS Number is the short form representation. The long form representations are translated to a 12 digit equivalent with a 20000 prefix.</p> <ul style="list-style-type: none"> <li>i. A = 0,</li> <li>ii. B = 1,</li> <li>iii. C = 2,</li> <li>iv. D = 3,</li> <li>v. E = 4,</li> <li>vi. F = 5,</li> <li>vii. G = 6,</li> <li>viii. H = 7,</li> <li>ix. I = 8, and</li> <li>x. No letter (non alpha) = 9.</li> <li>xi. Note: When printing Non Alpha file numbers as part of the barcode, the "9" must be replaced by a blank (i.e. space character).</li> </ul>					

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
13.3.1 Database Conversion Nuances	3. For consolidations, involving two (2) or more Refugee records, the following ordinal numbering scheme is to be used from lowest to highest: <ul style="list-style-type: none"> <li>a. 330008xxxx,</li> <li>b. 330001xxxx, and</li> <li>c. Thus, the 330008 is always the lowest, the oldest, of the numbering sequence and then the numbering sequence would follow the "normal" ordinal numbering.</li> </ul>	(M)				
<b>13.3.2 Database Volumes</b>						
13.3.2 Database Volumes	1. The following identifies the data conversion volumes for AFIS, IMM, VSS, Transcoders and ELMO. <ul style="list-style-type: none"> <li>a. AFIS/IMM: refer to Annex B, Section 3.6, Table 5 – Data Volumes for AFIS/IMM data conversion volumes;</li> <li>b. VSS: There are expected to be approximately sixty thousand (60,000) Verification (VER) NIST packets/Transactions and approximately 1 million (1,000,000) VSS sets of prints on file that were submitted through AFIS by the end of 2017;</li> <li>c. Transcoders: The volume of data on the Transcoders will vary depending on the size of the remote agency. It is estimated that that the larger Transcoder sites will have 1000 Ten Print records, 1000 Latent records and Transcoder log files with 30,000 entries. It is estimated that that the smaller Transcoder sites will have 50 Ten Print records, 50 Latent records and Transcoder log files with 10,000 entries. Seventy-five percent (75%) of the sites are considered small. Each site has less than 25 users; and</li> </ul>	(I)				

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	d. ELMO: The ELMO database has approximately 120,000 images, with 80% Latent images and 20% Object shots. Refer to Annex E – LCMC requirements for additional details on the ELMO database and note that the database is directly dependent on the number of images.					
<b>13.4 Ten Print (TP) Additional Requirements</b>						
13.4 Ten Print (TP) Additional Requirements	1. The Contractor shall add descriptors to the ten print file as required by their Entire AFIS renewal solution.	(M)				
13.4 Ten Print (TP) Additional Requirements	2. The Contractor shall search each newly added ten print set to the existing sets filed in the AFIS renewal solution database to identify Subjects filed more than once (i.e. under two (2) different subjects or file numbers).	(M)				
13.4 Ten Print (TP) Additional Requirements	3. The Contractor shall ensure that the Technical Authority is provided with at least two (2) weeks to review and approve the process for carrying out the cleanup of these multiple filings.	(M)				
13.4 Ten Print (TP) Additional Requirements	4. The Contractor shall ensure that a process is defined and implemented to carry out the cleanup where duplicates and other discrepancies are found.	(M)				
<b>13.5 Unsolved Latent File (ULF) Additional Requirements</b>						
13.5 Unsolved Latent File (ULF) Additional Requirements	1. The Contractor shall search each newly added ULF entry against the Ten Print file to identify any highly probable hits.	(M)				
13.5 Unsolved Latent File	2. The Contractor shall enable the RCMP to verify these highly probable hits.	(M)				

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(ULF) Additional Requirements						
13.5 Unsolved Latent File (ULF) Additional Requirements	3. The Contractor shall ensure that the RCMP Technical Authority is provided with at least two (2) weeks to review and approve the process for carrying out the cleanup of these latent hits.	(M)				
13.5 Unsolved Latent File (ULF) Additional Requirements	4. The Contractor shall ensure that a process is defined and implemented to carry out the cleanup where latent hit to ten print and discrepancies are found.	(M)				
13.5 Unsolved Latent File (ULF) Additional Requirements	5. The Contractor shall identify ULF entries that belong to the same case/image (same minutiae).	(M)				
13.5 Unsolved Latent File (ULF) Additional Requirements	6. ULF entries with the same minutia for the same case/image must not be converted. The first or oldest occurrence on the duplicate ULF entry must be retained.	(M)				
13.5 Unsolved Latent File (ULF) Additional Requirements	7. Duplicate ULF entries that belong to the same images with different minutiae, even if they belong to the same case must be converted and retained.	(M)				
13.5 Unsolved Latent File (ULF) Additional Requirements	8. ULF entries belonging to different cases must be converted and retained.	(M)				

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13.5 Unsolved Latent File (ULF) Additional Requirements	9. The Contractor shall ensure that a process is defined and implemented to handle any ULF conversion anomalies in an effective and efficient manner. A mechanism to allow the RCMP Latent technician to identify, investigate and approve/reject each anomaly will be established by the Contractor.	(M)				
<b>13.6 Data Conversion Approach</b>						
13.6 Data Conversion Approach	1. The Contractor will follow the data conversion guidelines outlined in this section.	(I)				
13.6 Data Conversion Approach	2. The RCMP will provide: <ul style="list-style-type: none"> <li>a. A small amount of Government-provided space, in the RCMP HQ complex in Ottawa or alternate Ontario conversion site, for Contractor personnel and equipment, determined by the RCMP for data conversion activities; and</li> <li>b. Network connectivity for the Contractor's devices and SAN storage for the data conversion in a secure area of the RCMP/SSC network infrastructure.</li> </ul>	(I)				
13.6 Data Conversion Approach	3. The Contractor must obtain approval from the RCMP, in writing, for any additional requests for anything else required by the Contractor for data conversion.	(M)				
13.6 Data Conversion Approach	4. The Contractor shall provide all of the equipment and personnel to conduct the necessary conversion operations.	(M)				
13.6 Data Conversion Approach	5. RCMP information is sensitive and must be meticulously safeguarded by the Contractor. The Contractor shall implement controls to safeguard against unauthorized disclosure,	(M)				

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	modification, access, use, destruction, or delay in service, of all information and services provided pursuant to this contract.					
13.6 Data Conversion Approach	6. Conversion Records: <ul style="list-style-type: none"> <li>a. The Contractor shall create and maintain accurate, up-to-date records, in digital form, of conversion information for each image converted, unsolved latent, NIST packet, or any other data converted as part of the conversion activities.</li> <li>b. The Contractor's conversion records shall be sufficiently detailed to provide a complete audit trail of each item converted, identifying each device or user used in the process, records not converted and the reason.</li> <li>c. All conversion records shall be readily accessible, within 24 hours, to the RCMP.</li> <li>d. Upon completion of the conversion, all conversion records, including audit/log files shall be turned over to the RCMP.</li> </ul>	(M)				
13.7 Data Conversion Audit Trail						
13.7 Data Conversion Audit Trail	1. The Contractor shall create and maintain detailed automated records that will provide a full and complete audit trail of control, image-quality, and tracking information on each converted item. These and any other similar records shall be readily accessible to authorized RCMP personnel for review and audit. At a minimum, the audit record maintained for each item converted shall contain the following information: <ul style="list-style-type: none"> <li>a. Transaction Control Number (TCN);</li> <li>b. DCN;</li> <li>c. File number</li> </ul>	(M)				

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	d. Subject ID, where applicable; e. Latent file number, where applicable; f. Latent ID, where applicable; g. Latent image ID, where applicable; h. Type of Transaction Code; i. Date and time the TCN was assigned; j. Previous TCN (if applicable); and k. Previous DCN (if applicable);					
13.7 Data Conversion Audit Trail	2. The Contractor shall back up the complete file at least once a day.	(M)				
13.7 Data Conversion Audit Trail	3. The Contractor shall maintain an up-to-date backup copy of the complete file.	(M)				
13.7 Data Conversion Audit Trail	4. The Contractor shall maintain the Conversion Audit Trail for the life of the AFIS contract.	(M)				
13.7 Data Conversion Audit Trail	5. The Contractor shall provide a complete electronic copy of the file, and the hardware and software necessary to access it, to the RCMP within thirty (30) calendar days of the end of the last AFIS conversion activity.	(M)				
13.7 Data Conversion Audit Trail	6. The Contractor shall maintain a cumulative accounting of data converted. The accounting must be adequate to identify situations where a second or subsequent electronic record is being prepared for a particular fingerprint image. The Contractor shall institute controls to investigate these cases. No second or	(M)				

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	subsequent record shall be submitted unless supported by a valid rationale (e.g. directed rescan). RCMP approval is required for all subsequent submissions.					
13.7 Data Conversion Audit Trail	7. The Contractor shall maintain backups of software applications and conversion records in a fashion that will support full and timely recovery of system capabilities in the event of an unplanned outage. These copies must be stored in a manner to ensure no single event can affect both the system and the backups.	(M)				
<b>13.8 Operational Readiness</b>						
13.8 Operational Readiness	1. The Contractor shall include in the Site Acceptance Test Plan (SATP) all the details concerning who, when, where and how the various conversions will be tested.	(M)				
13.8 Operational Readiness	2. The Contractor shall integrate and test its production system with the converted data in accordance with its approved SATP.	(M)				
13.8 Operational Readiness	3. Prior to the start of any conversion testing, the Contractor shall conduct a complete pre-production test of all functional aspects of the portion of the Entire AFIS renewal solution for which the data was converted. The Contractor shall demonstrate that the entire system is fully operational, end-to-end prior to acceptance testing by the RCMP.	(M)				
13.8 Operational Readiness	4. The Contractor shall be responsible for correcting any errors and reprocessing the conversion as many times as required to achieve the correct conversion result based on RCMP analysis of the converted data and the requirements stated throughout this SOW and its accompanying document.	(M)				

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<b>13.9 Quality Control / Quality Assurance</b>						
13.9 Quality Control / Quality Assurance	1. The Contractor shall implement a comprehensive Quality Control / Quality Assurance (QC/QA) program commensurate with the goals of the conversion and the critical fingerprint identification mission of the RCMP that the integrity of the RCMP's fingerprint data is of the utmost importance.	(M)				
13.9 Quality Control / Quality Assurance	2. The Contractor shall take the necessary steps and implement the necessary audits, reviews, tests, inspections, appropriate procedures, and related QC/QA measures to ensure that each request for conversion services produced by the Contractor meets or exceeds the requirements stated throughout this SOW and its accompanying documents.	(M)				
13.9 Quality Control / Quality Assurance	3. The Contractor shall apply rigorous QC/QA measures in the following areas, and in other areas deemed by the Contractor as critical to the success of the conversions: <ul style="list-style-type: none"> <li>a. Establishing and maintaining the integrity of the subject ID, TCN, DCN, file numbers or other primary keys and the data associated with them throughout the conversion processes;</li> <li>b. Ensuring the security of conversion operations; and</li> <li>c. Have reports that ensure everything was converted properly and discrepancy reports for any data not converting as expected.</li> <li>d. Ensure legacy data (e.g. Latent file number) that does not follow the RTID numbering scheme are properly converted and are fully usable after the conversion by any part of the Entire AFIS renewal solution that requires it.</li> </ul>	(M)				

Appendix A: AFIS Renewal Statement of Work: Chapter 14. Documentation Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>14.1 Purpose</b>						
14.1 Purpose	1. The Contractor must provide comprehensive documentation including architecture diagrams, design documents (e.g. System Design Document (SDD), preliminary ARIP with completed Requirements Traceability Matrix (RTM), screen capture examples) and any other documentation that clearly demonstrates that the Contractor's proposed solution satisfies the requirements stated throughout this SOW and its accompanying documents.	(M)				
14.1 Purpose	2. The preliminary ARIP must be provided to demonstrate that the Contractor understands the requirements and explains how the Contractor's solution will be effectively and efficiently implemented.	(M)				
14.1 Purpose	3. The Contractor must also deliver all the other documentation identified throughout this SOW and its accompanying documents as part of the deliverables required to satisfy the overall requirements.	(M)				

Appendix A: AFIS Renewal Statement of Work: Chapter 15. Overall Deliverables Plan and Schedule						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>15.1 Overview</b>						
15.1 Overview	1. This section identifies the Contractor major deliverables and describes the content of the deliverables that must be completed as part of this SOW.	(M)				
15.1 Overview	2. Expected RCMP deliverables are also listed to allow the Contractor to be aware of these deliverables and ensure they are included in the master schedule with any required dependencies.	(I)				
15.1 Overview	3. Any additional deliverables that the Contractor considers important for the successful completion of this SOW must be identified by the Contractor and indicate any RCMP activity related to the additional deliverables.	(M)				
15.1 Overview	4. Any additional deliverables that the Contractor requires from the RCMP must be identified. RCMP must approve any changes to the list of deliverables identified in the following schedule table (Subsection 15.2 below).	(M)				
15.1 Overview	5. The overall schedule will consider each key area and create a plan that identifies the relationship between each set of components that will be renewed. Any dependencies between components must be identified and an optimized plan that eliminates or minimizes repeating the same steps or tests must be developed. The schedule must correlate to each key area of change and the Basis of Payment. The table in Appendix G, Evaluation Plan and Criteria, might assist with presenting this correlation. The schedule must allow related key areas to be isolated that will allow portions of this SOW to be executed through to completion separately from other key areas.	(M)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 15. Overall Deliverables Plan and Schedule</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
15.1 Overview	6. All documents created or updated to complete the deliverables must use RCMP approved office applications. The RCMP approved office applications are Microsoft Office (Word, PowerPoint, Excel, Visio, Project and Access), Version 2010/2013. All documents must be fully editable so they can be updated by the RCMP as part of ongoing future maintenance. Should the Contractor wish to submit documents in other softcopy formats, this must be expressly authorized by the RCMP Technical Authority.	(M)				
<b>15.2 Contract Deliverables Requirements List (CDRL) Scheduling of Deliverables</b>						
15.2 Contract Deliverables Requirements List (CDRL) Scheduling of Deliverables	1. The following table identifies the deliverables, responsibility for completion, initial delivery date, revision time period and final deliverable dates.	(I)				
15.2 Contract Deliverables Requirements List (CDRL) Scheduling of Deliverables	2. The time estimates, identified in the table, are preferred by the RCMP.	(R)				
15.2 Contract Deliverables Requirements List (CDRL) Scheduling of Deliverables	3. They are provided to indicate timeframes that initially correspond with RCMP schedules which will be considered in the Master Contract Schedule. The approved Master SOW Schedule, created by RCMP, will identify the agreed to delivery dates for all deliverables.	(I)				

<b>Appendix A: AFIS Renewal Statement of Work: Chapter 15. Overall Deliverables Plan and Schedule</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
15.2 Contract Deliverables Requirements List (CDRL) Scheduling of Deliverables	4. The Deliverable Item Description (DID) refers to the detailed descriptions of each deliverable; which follows the table in this section. The Contractor can, if desired, combine the common deliverables for each key area into one document to minimize repetition. If the Contractor chooses to combine a deliverable, then each key area must be separately sectioned such that each key area can be easily reviewed, updated and correlated to the Basis of Payment.	(M)				
15.2 Contract Deliverables Requirements List (CDRL) Scheduling of Deliverables	5. The Implementation Steps and information required for the Change Order (CO) process will be according to the Chief Information Office (CIO) Sector's Change Management policy as referenced in the Maintainability subsection of this SOW.	(M)				
15.2 Contract Deliverables Requirements List (CDRL) Scheduling of Deliverables	6. Note: All dates in Table 15-1 below are calendar dates. The RCMP Review column represents business days.	(I)				

### 1.3 Annex B to Appendix A: AFIS Detailed Requirements – v14b

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 1. Introduction						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>1.1 General</b>						
1.1 General	1. This Annex B to the Appendix A SOW describes the detailed requirements to renew the Automated Fingerprint Identification System (AFIS). This is in addition to the high-level requirements stated throughout the SOW and its accompanying documents.	(I)				
1.1 General	2. This document identifies what the Contractor's AFIS must provide in order to satisfy the RCMP's requirements for processing prints found on criminal, refugee, immigration, civil, latent and RCMP employee submissions received by RCMP's Canadian Criminal Real Time Identification Services (CCRTIS). It describes the functional and technical requirements that must be provided by the Contractor's AFIS renewal solution to support the business, interfaces, capacity, security and quality requirements of the RCMP.	(M)				
<b>1.2 AFIS Renewal Concept</b>						
1.2 AFIS Renewal Concept	1. From a high-level architecture perspective, AFIS is like a replaceable black box for RTID. AFIS interfaces with NNS. NNS controls the overall flow and processing of NPS-NIST submissions. The AFIS ICD defines the interface between NNS and AFIS. Any AFIS that fully supports the AFIS ICD and supports the sequence of activities controlled by the NNS should be able to replace the existing AFIS for submissions processing. There are more AFIS requirements than submission processing; however, this explains the black box concept for the AFIS within the RTID architecture.	(I)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 1. Introduction</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
1.2 AFIS Renewal Concept	2. The AFIS renewal solution must support the AFIS ICD for all communications between NNS and AFIS as well as the sequence of activities for every RTID workflow. The NNS controls all RTID workflows. The AFIS renewal solution must also support the user interface (UI), the interface with the Verification Subsystem (VSS) and all other requirements stated throughout this SOW and its accompanying documents.	(M)				
<b>1.3 Document Organization</b>						
1.3 Document Organization	1. The detailed architecture within which the AFIS renewal solution must operate is explained herein along with a description of the workflow applicable to the AFIS renewal solution.	(M)				
1.3 Document Organization	2. The workflow shows the sequence of processing that the AFIS renewal solution must support. Only a few example workflows are explained in detail to ensure an understanding of the process. These examples show Ten Print, Central Latent and Remote Latent workflows in detail, which are the three (3) most critical and most used workflows. It is expected that the Contractor can use the examples and the AFIS ICD to understand all other workflows.	(M)				
1.3 Document Organization	3. The detailed functional requirements to be supported by the AFIS renewal solution are presented following the detailed architecture and workflow. These requirements are presented under various headings, such as General, Ten Print (TP), Latent and Direct Filing.	(I)				
1.3 Document Organization	4. There are technical requirements included with the functional requirements to ensure clarity concerning the requirements. However, most of the detailed technical and implementation	(I)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 1. Introduction</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	requirements are presented in the sections following the functional requirements.					
<b>1.4 Definitions</b>						
1.4 Definitions	1. A “production administrator” (aka prod admin) is a non-technical AFIS user who monitors the system, sets up new users, produces reports, sets configurable parameters and performs a variety of AFIS support functions. An operational administrator is not a technical support person and as such uses a GUI to carry out tasks on the system.	(I)				
1.4 Definitions	2. A “technician” is a fingerprint technician who uses AFIS to perform specific AFIS production functions such as Ten Print Quality Control, Verification, Certification, and so on. A latent technician is an experienced fingerprint technician specializing in the identification of crime scene prints. The term “technician” is sometimes used within the context of the specific function they are performing (e.g.: QC technician).	(I)				
1.4 Definitions	3. A “supervisor” is an AFIS production user who supervises a group of fingerprint technicians. Ten Print and Latent supervisors also deal with high priority searches and difficult transactions. Latent Supervisors also perform all other latent functions.	(I)				
1.4 Definitions	4. A “remote operator” is a fingerprint technician located at a remote AFIS site who is performing latent and tenprint searches against the RCMP TPF and ULF. This operator has been trained and is regularly monitored by the RCMP.	(I)				
1.4 Definitions	5. An “uncertified remote operator” is an individual who is going through the training period allowing the Remote Network Search Coordinator to monitor their work.	(I)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 1. Introduction</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
1.4 Definitions	6. The "Remote Network Search Coordinators (RNSCs)" are senior latent technicians located at the RCMP who are responsible for coaching and monitoring remote operators.	(I)				
1.4 Definitions	7. "Operator" and "user" are used interchangeably in these requirements and always refer to production users. The Role Based Access Controls (RBAC) defined herein provide the details for the access privileges for each type of user.	(I)				
1.4 Definitions	8. "Operational Support" (OPS) is a 24/7/365 user in the RCMP/SSC data center responsible for monitoring server alarms and taking action, based on predefined guidelines, to recover from whatever failure might occur. Since the Contractor is responsible for AFIS support, OPS typically contacts the Contractor AFIS resources to alert them of any failures and the Contractor AFIS resources resolve the issue.	(I)				
1.4 Definitions	9. "Composite" is a common fingerprint term used to identify the best individual prints selected from multiple sets of prints on file for the same subject, under the same file number.	(I)				
1.4 Definitions	10. "System Administrator" (aka Sys Admin and Administrator) is the Contractor's on-site resource that has system administrative privileges. Refer to on-site resources responsibilities included in Appendix A, SOW for details concerning these resources.	(I)				
1.4 Definitions	11. "AFIS Program Analyst" are highly knowledgeable and experienced fingerprint technicians that have been senior fingerprint technicians for many years. They are a specialized group that generally has the broadest user access privileges of any user group on AFIS and NNS. They have a wide range of responsibilities as subject matter experts and are typically	(I)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 1. Introduction						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	involved in the resolution of any issues related to AFIS and/or RTID, oversee all AFIS system functionality, measure the efficiency and effectiveness of AFIS, perform system testing and recommend changes to improve service delivery.					
1.5 Composite Requirement						
1.5 Composite Requirement	1. There are many mandatory requirements stated throughout this Annex B, the SOW and its accompanying documents concerning composites. If the Contractor's solution uses composites, then the mandatory requirements stated throughout this Annex B, the SOW and its accompanying documents must be supported. If the Contractor's solution does not use composites, the mandatory requirements stated throughout this Annex B, the SOW and its accompanying documents concerning composites must be supported without the use of composites. That is, not using composites cannot be used as a method to not satisfy the requirements stated throughout this Annex B, the SOW and its accompanying documents. For example, the RCMP have many subjects with over 50 sets of fingerprints / palm prints and approximately 10,000 subjects with over 10 sets of fingerprints / palm prints; therefore, the Contractor must still meet all the performance requirements by searching all sets of prints, regardless of the number of prints filed under a subject, if they do not use composites. If composites are not used, the Entire AFIS renewal solution must be designed to support searching all set of prints (i.e. all prints including rolled, plains and ID Flats for all sets of prints). That is, configuration parameters that may reduce the total number of prints to search will not be considered.	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 1. Introduction						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
1.5 Composite Requirement	2. The Contractor's solution should support composites. Composites are used by the RCMP and external agencies for various purposes and they are an integral part of the ICDs.	(R)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 2. AFIS Renewal Architecture and Workflow						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>2.1 AFIS Renewal Detailed Architecture</b>						
2.1 AFIS Renewal Detailed Architecture	1. The following diagram (Figure 2-1) depicts a detailed view of the current AFIS architecture. The Contractor's AFIS renewal solution must operate within this architecture and support the RTID interfaces and technical requirements that provide a secure, efficient and effective solution.	(M)				
<b>2.1.1 NNS/AFIS Interface</b>						
2.1.1 NNS/AFIS Interface	1. The NNS/AFIS interface is an asynchronous HTTP interface which is load balanced in both directions. The Contractor's AFIS renewal solution must support this interface. This WSDL/SOAP HTTP interface is described in detail in the Web Service Transport Description document. The following describes the interaction between the NNS and AFIS that must be supported by the Contractor's AFIS renewal solution:  a. NIST packets are sent to a LB module load balanced address where the LB module provides HA capabilities for the AFIS Web servers;	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 2. AFIS Renewal Architecture and Workflow</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	b. The AFIS completes the required processing based on the NIST packet; and c. The AFIS sends a response NIST packet to a LB module load balanced address where the LB module provides HA capabilities for the NNS Web servers.					
<b>2.1.2 AFIS Load Balancing to Fingerprint Search Capabilities</b>						
2.1.2 AFIS Load Balancing to Fingerprint Search Capabilities	1. The AFIS renewal solution must support load balancing to the AFIS fingerprint search capabilities. That is, the AFIS renewal solution must be architected in a manner that enables additional components to be added to increase the matching capacity. Load balancing to additional components is a common method to increase capacity without requiring replacement components. The Contractor must explain how the proposed AFIS renewal solution supports the ability to increase capacity horizontally.	(M)				
<b>2.1.3 AFIS Interface to VSS</b>						
2.1.3 AFIS Interface to VSS	1. The AFIS renewal solution must provide a guaranteed delivery capability that ensures transactions that must be sent to the VSS are delivered and processed. This guaranteed delivery capability must be a proven method currently operating in at least one large (over three (3) million prints on file) AFIS site that includes both AFIS and VSS capabilities.	(M)				
2.1.3 AFIS Interface to VSS	2. All Immigration (aka TRB) related transactions received by AFIS must include AFIS processing and guaranteed delivery to VSS. Refer to the AFIS ICD for the details concerning NIST packets that include Immigration related transactions.	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 2. AFIS Renewal Architecture and Workflow						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>2.1.4 AFIS Workstation User Interface to AFIS Servers</b>						
2.1.4 AFIS Workstation User Interface to AFIS Servers	1. The AFIS workstations must fully support all UI capabilities required to support all requirements stated in this SOW and its accompanying documents.	(M)				
2.1.4 AFIS Workstation User Interface to AFIS Servers	2. The AFIS workstation must also support all VSS UI capabilities. These capabilities are described in VSS detailed requirements.	(M)				
<b>2.1.5 AFIS Virtual Local Area Network (VLAN)</b>						
2.1.5 AFIS Virtual Local Area Network (VLAN)	1. The AFIS servers and workstations are secured in a separate VLAN. Communication into and out of this VLAN is limited to the minimum required for AFIS interaction. The AFIS renewal solution must satisfy all requirements in the SOW and its accompanying documents while operating in this environment. This minimum communication includes: <ul style="list-style-type: none"> <li>a. From the NNS Web servers to the load balanced Virtual IP address (VIP) for the AFIS Web servers;</li> <li>b. From the AFIS Web servers to the load balanced VIP for the NNS Web servers;</li> <li>c. To a File Transfer Protocol (FTP) server where statistical reporting data is sent daily/weekly;</li> <li>d. From WSUS updates;</li> <li>e. From ePo updates;</li> <li>f. From Spectrum Monitoring reading SNMP traps to monitor server and file system health;</li> </ul>	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 2. AFIS Renewal Architecture and Workflow</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	<ul style="list-style-type: none"> <li>g. To and from AFIS workstations;</li> <li>h. From the VSS LB/SSL to the load balanced VIP for the VSS Web servers; and</li> <li>i. From the VSS Web servers to the load balanced VIP for the VSS LB/SSL.</li> <li>j. Note: The load balanced VIPs are also secured with only the designated communication being allowed. This AFIS VLAN includes the DR site servers.</li> </ul>					
2.1.5 AFIS Virtual Local Area Network (VLAN)	2. All AFIS and VSS servers can communicate to each other within the VLAN. It is preferred that the AFIS renewal solution limits access to within the VLAN to only communications that are required. For example, a common security practice is to create non-routable segments which further secure a specific set of servers within a VLAN.	(R)				
2.1.5 AFIS Virtual Local Area Network (VLAN)	3. The Contractor must explain how the proposed AFIS renewal solution supports security that limits access within the VLAN.	(M)				
2.1.5 AFIS Virtual Local Area Network (VLAN)	4. AFIS workstations must be limited to designated servers. This will limit the possible activities that can be performed from an AFIS workstation to only what is required by the AFIS user. The Contractor's AFIS renewal solution must explain how the proposed solution limits AFIS user access within the VLAN.	(M)				
2.1.5 AFIS Virtual Local Area Network (VLAN)	5. Any additional communication required by the Contractor's AFIS renewal solution must be approved by the RCMP prior to proposal submission or the Contractor's proposal may be considered non-compliant.	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 2. AFIS Renewal Architecture and Workflow</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
2.1.5 AFIS Virtual Local Area Network (VLAN)	6. The purpose of these security related requirements is to ensure the AFIS renewal solution is not exposed to unacceptable risk. For example, if the Contractor's proposed solution required communication to the Internet to access data required for normal operations, the solution would be unacceptable. Transcoders are part of the Entire AFIS renewal solution; however, Transcoders have no ability to directly access anything within the AFIS VLAN. Transcoders are submission devices to NNS.	(I)				
<b>2.2 AFIS Renewal Workflow</b>						
2.2 AFIS Renewal Workflow	1. This subsection presents a list that identifies an example workflow and sequence of activities that occur between NNS and AFIS to support a TP Criminal (CAR Y) submission that identifies to an existing set of prints. Since the AFIS renewal solution must support load balancing and NNS supports load balancing, the sequence of activities may not always be processed in the same order. The combination of the workflows, the AFIS ICD and the requirements stated in this SOW and its accompanying documents identify the sequence of processing that must be completed by the AFIS renewal solution.	(M)				
2.2 AFIS Renewal Workflow	2. Annex G includes a matrix of AFIS ICD transactions to show examples of the circumstances under which the transaction is used and the most common flow of transactions. These are provided to help the Contractor understand the RTID workflow from an AFIS perspective. Annex G does not attempt to identify every combination and permutation that could affect the workflow. The AFIS ICDs identify every transaction that must be received and processed by the AFIS renewal solution as well as every transaction that must be created by the AFIS renewal solution	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 2. AFIS Renewal Architecture and Workflow</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	while processing any workflow. The AFIS ICDs take precedence over anything in Annex G.					
2.2 AFIS Renewal Workflow	3. The LCMC detailed requirements in Annex E identify the modified workflow that must be supported by the AFIS renewal solution. The sequences of activities in the modified workflow are expected to effectively satisfy the new requirements identified in this SOW and its accompanying document. However, if necessary and only for the modified portion of the workflows in support of the new requirements, the RCMP may allow adjustments to the workflow. It is at the sole discretion of the RCMP whether to allow any adjustment to the modified portion of the workflows required to support the new requirements.	(M)				
2.2 AFIS Renewal Workflow	4. There will be no changes allowed to the existing workflows, unless specifically stated in this SOW or its accompanying documents. The NNS is fully operational and already supports the workflows with a specific sequence of activities. The NNS will not be changed to adjust to the AFIS renewal solution unless specifically agreed to in writing by the RCMP.	(I)				
<b>2.2.1 Criminal Ten Print Submission (CAR) Y Workflow</b>						
2.2.1 Criminal Ten Print Submission (CAR) Y Workflow	1. The following Table 2-1 shows the sequence of activities for an existing TP CAR Y submission. Following this table is an explanation of the activities and transactions included in the workflow related to understanding the workflow applicable to the AFIS renewal solution. The AFIS renewal solution must receive and correctly process each AFIS ICD NIST transaction sent to the AFIS renewal solution as well as respond back to NNS with the required AFIS ICD NIST transaction correctly populated with the	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 2. AFIS Renewal Architecture and Workflow						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	data required by the NNS in the sequence required for each workflow.					
2.2.1 Criminal Ten Print Submission (CAR) Y Workflow	2. Note: The generic term AFIS is used in the following workflow explanation since it is describing the existing workflow. The AFIS renewal solution must support all the processing and workflow indicated generically with the term AFIS.	(M)				
2.2.1 Criminal Ten Print Submission (CAR) Y Workflow	<p>3. The above table shows all activities for a CARY submission to reflect the other non-AFIS activities that also occur throughout this process. These non-AFIS activities allow a better understanding of the overall business processing, shows how the data that will be sent to the AFIS renewal solution is derived and how the data received from the AFIS renewal solution would be used. The following focusses on the activities that must be supported by the AFIS renewal solution in the above example CARY submission:</p> <ul style="list-style-type: none"> <li>a. Line #11 shows NNS sending a TPRI NIST transaction to AFIS;</li> <li>b. AFIS will process the TPRI which will include a quality check and a response to NNS concerning the quality check with the TPQCI NIST transaction;</li> <li>c. Line #12 shows the TPQCI NIST transaction sent from AFIS to NNS;</li> <li>d. NNS will process the TPQCI to determine if the fingerprints passed the quality check (Lines 14–16). If successful NNS will respond to the contributor with an ACKT NIST Transaction to acknowledge that the submission has been validated and can be processed;</li> </ul>	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 2. AFIS Renewal Architecture and Workflow						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<p>e. Line #17 shows the TPREI NIST transaction sent from AFIS to NNS. Note that there must be continuous processing on AFIS from the TPRI sent earlier in the workflow;</p> <p>f. NNS will process the TPREI NIST transaction and create additional entries in the activity log, line #18 and 19, to show key information from the TPREI. Line #18 shows the AFIS operator was the AFIS system operator 99 reflecting a System Declared Hit and Line #19 shows AFIS enrolled the prints. As well, NNS shows an Ident in Line #21;</p> <p>g. Line #20 shows the TPULI Transaction sent from AFIS to NNS indicating that the reverse search for finger was submitted and awaiting processing. Again note that this must be continuous processing on AFIS from the TPRI sent earlier in the workflow. All CARY submissions automatically include a reverse search against the Unsolved Latent File (ULF) fingers. At this stage, an AFIS user must disposition the reverse search before any other AFIS communication will occur on this finger reverse search.</p> <p>h. Line #31 shows the TPULI Transaction sent from AFIS to NNS indicating that the reverse search for palm was submitted and awaiting processing. Again note that this must be continuous processing on AFIS from the TPRI sent earlier in the workflow. All CARY submissions automatically include a reverse search against the Unsolved Latent File (ULF) palms, if palms have been included in the search submission. At this stage, an AFIS user must disposition the reverse search before any other AFIS communication will occur on this palm reverse search.</p>					

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 2. AFIS Renewal Architecture and Workflow						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	i. Line #45 shows the STI transaction from AFIS to NNS for the reverse search on fingers indicating some processing has been completed and therefore has a change in status; j. Line #46 shows the TPULI transaction sent from AFIS to NNS indicating that the reverse search on fingers has been dispositioned and includes the dispositioning data in the TPULI NIST packet; k. Line #48 shows completion of service; however, AFIS activity will still be received, processed and recorded in the NNS activity log. For example, the reverse search for palms could be processed at a later time.					

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 3. General AFIS Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>3.1 AFIS COTS Compliance</b>						
3.1 AFIS COTS Compliance	1. The AFIS renewal solution must be a Commercial Off-the-Shelf (COTS) software product.	(M)				
3.1 AFIS COTS Compliance	2. The AFIS renewal solution to the greatest extent possible should satisfy the AFIS Renewal solution requirements through the COTS product.	(R)				
3.1 AFIS COTS Compliance	3. This COTS product must be customizable to modify, extend, expand and/or introduce new functionality to the COTS product to support the AFIS renewal solution.	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
3.1 AFIS COTS Compliance	4. This COTS product must be configurable to support changes or additions made to the base set of data values of the COTS product to reflect the requirements of the RCMP. These application configuration changes should not include modifying existing or adding new, programming code, or changing the application architecture or data structure.	(M)				
3.1 AFIS COTS Compliance	5. The Contractor shall migrate RCMP-specific functionality as the AFIS COTS baseline evolves over the life of the contract. RCMP must have the ability to upgrade the COTS as upgrades become available.	(M)				
3.1 AFIS COTS Compliance	6. The Contractor should describe in detail its strategy for migrating RTID-specific functionality as the AFIS COTS baseline evolves over the life of the contract addressing the extent to which it will include custom features into its COTS product and to what extent that the Contractor's strategy will minimize disruption in terms of availability if RCMP chooses to implement an upgrade.	(R)				
3.1 AFIS COTS Compliance	7. The AFIS renewal solution shall capture and store the following images: a. Ten Print Card (Rolled & Plain); b. Ten Print ID Flats; c. Latent Fingerprints; d. Palm Prints; e. Latent Palm Prints; f. Latent Object shots; g. Photos; and h. Any associated information required to support the above.	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
3.1 AFIS COTS Compliance	8. The AFIS renewal solution shall support the following searches: <ol style="list-style-type: none"> <li>a. Ten Print Card (Rolled &amp; Plain) to Ten Print Card (Rolled &amp; Plain);</li> <li>b. Ten Print ID Flat to Ten Print Card (Rolled &amp; Plain);</li> <li>c. Ten Print Card (Rolled &amp; Plain) to Ten Print ID Flat;</li> <li>d. Ten Print ID Flat to Ten Print ID Flat;</li> <li>e. Ten Print Card (Rolled &amp; Plain &amp; Palm) to Unsolved Latent File (ULF (Finger &amp; Palm));</li> <li>f. Ten Print ID Flat to Unsolved Latent File (ULF Finger);</li> <li>g. Ten Print Palm to Unsolved Latent File (ULF Palm);</li> <li>h. Latent (Finger or Palm) to Ten Print Card (Rolled, Plain &amp; Palm);</li> <li>i. Latent Finger to Ten Print ID Flats; and</li> <li>j. Latent (Finger or Palm) to Latent (Finger or Palm).</li> </ol>	(M)				
<b>3.2 Paperless Environment</b>						
3.2 Paperless Environment	1. The AFIS renewal solution is intended to be a paperless environment. There is paper processing required with Direct Filing and Direct Scanning, which is described in this Annex. All other paper processing is intended to be on an exceptional basis only, using RCMP internal Cardscans.	(I)				
3.2 Paperless Environment	2. The AFIS renewal solution must support paper processing from an AFIS workstation to allow paper processing using either a scanner (flat bed or hand held) or a camera. The paper processing requirements that must be satisfied are identified throughout this Annex, this SOW and its accompanying documents.	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
3.2 Paperless Environment	3. Every AFIS workstation must be able to support paper processing with a scanner and/or camera.	(M)				
3.2 Paperless Environment	4. The initial implementation of the AFIS renewal solution must include at least ten (10) AFIS workstations configured with a flat-bed scanner (GFE, or provided by the Contractor).	(M)				
3.2 Paperless Environment	5. The initial implementation of the AFIS renewal solution must include at least twenty-five (25) AFIS workstation configured with a camera (provided by the Contractor). These cameras are used by the AFIS workstation for paper certification, to scan a DCN on a paper C216 to retrieve the set of prints on file, view prints on the paper and other uses as stated throughout this SOW and its accompanying documents.	(M)				
3.2 Paperless Environment	6. The initial implementation of the AFIS renewal solution must include at least thirty (30) AFIS workstations configured with a hand held scanner (GFE, or provided by the Contractor). These hand held scanners can be used to initiate a fetch using the barcode on the paper C216. After this fetch the user might view, delete or start a verification with the fetched prints.	(M)				
<b>3.3 Logging of Transaction Activities</b>						
3.3 Logging of Transaction Activities	1. The AFIS renewal solution shall, in an automated fashion, log all activity performed as a result of the receipt and processing of transactions received from the NNS as well as any activities initiated within the AFIS environment.	(M)				
3.3 Logging of Transaction Activities	2. The purpose of this Transaction Log is to retain an administrative record of the complete processing history of a request for service, including each wait state, each activity, who performed the activity, and which actions were taken. The AFIS renewal solution	(M)				

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	must ensure all events associated with AFIS data are recorded; and that it is verifiable that the recorded events resulted in whatever action was taken concerning an individual's prints or ULF prints. The AFIS renewal solution needs to record when, where and why, whatever happened and by whom, related to any request processed on the AFIS renewal solution.					
3.3 Logging of Transaction Activities	3. For fingerprints that have been processed, the AFIS renewal solution shall retain Transaction Log entries for a period of time, as indicated in the configurable parameters subsection 8.1, after the transaction has been serviced.	(M)				
3.3 Logging of Transaction Activities	4. The AFIS renewal solution shall not allow modification of the information recorded in the Transaction Log, as it provides a true representation of activities that occurred at a specific point in time.	(M)				
3.3 Logging of Transaction Activities	5. The AFIS renewal solution shall make the Transaction Log entries available on screen through a series of queries and/ or reports that will allow users to view and print some or all entries – based on the filters selected, the query specified and the user's security-level access profile.	(M)				
3.3 Logging of Transaction Activities	6. The Transaction Log entries must be available for the authorized user to query as part of the operational data until the administrative archive period has been reached. Once the administrative archive period has been reached the data can be moved to an audit log state, where only users authorized to access the audit log will have access the Transaction Log data.	(M)				

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3.3 Logging of Transaction Activities	7. The AFIS renewal solution Transaction Log shall include, as a minimum, all the fields identified in the TP and Latent reporting requirements as well as the activity/event type, associated status change caused by the activity/event (see list below #8), file numbers/subject ID/latent file number/latent image ID to which the Entry certified to and internal priority. If the activities/events have abbreviated forms, the AFIS renewal solution must allow the user to view the full list of all activities/events with a description of the abbreviated form.	(M)				
3.3 Logging of Transaction Activities	8. For the purposes of logging, the following activity/event types are identified to show an example of the extent to which the AFIS renewal solution must be logging. This allows the earlier requirements, which indicate all activities must be logged (refer to #2 above), to be more clearly understood. Consequently, this list includes what must be included by AFIS renewal solution, but not be limited to, the following Activity Types: a. Internal Activities: i. Ten Print Manual QC, ii. Ten Print Manual Verification, iii. Ten Print Certification, iv. Ten Print Auto QC, v. Ten Print Auto Certification, vi. AFIS One-to-One (1:1) Match, vii. AFIS One-to-Many (1:N) Search, viii. Latent Editing, ix. Latent Verification, x. Latent Certification,	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	xi. Latent to Latent Search, xii. Latent to TP Search, xiii. Latent Manual Encoding, xiv. Latent Insert, xv. Automated Latent Encoding, xvi. Error/Rejection, xvii. FBI Latent Encoding, xviii. FBI Latent Verification, xix. FBI Latent Certification, xx. Reverse Search, xxi. Reverse Search Verification, xxii. Reverse Search Certification, xxiii. Fetch TP, xxiv. Fetch Latent, xxv. Rescan, xxvi. Scanned (hardcopy or softcopy), xxvii. Text Conversion, xxviii. QC of Scanned Document Image, xxix. QC of Scanned Fingerprint Image, xxx. TP Amend, xxxi. TP Purge, xxxii. Latent Purge, xxxiii. Print, xxxiv. Terminate / Cancel,					

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	xxxv. Reset, and xxxvi. Change Search Parameters; b. Exception Processing; c. Update Activities at the Subject Level, File Level, Fingerprint Set Level, Field Level: amend, creation, purge (including image adjustments); and d. Update Activities for Work In Progress (WIP) at the Fingerprint Set Level, Field Level: amend, purge, status changes (including image adjustments and priority changes).					
<b>3.4 Workflow Management and Related Services</b>						
<b>3.4.1 Work In Progress</b>						
3.4.1 Work In Progress	1. The concept of Work In Progress (WIP) is applied throughout the requirements. When a fingerprint transaction arrives, the transaction logically becomes Work In Progress (WIP) until such time as the Fingerprint Identification process is complete, the Subject has certified to one or more Subject Files, or it has been determined that no match has been found and that a new Subject needs to be created. The AFIS WIP is not intended to be a physical partitioning of the database. The AFIS WIP is a transaction state.	(I)				
3.4.1 Work In Progress	2. The AFIS renewal solution should minimize the possibility of a miss due to transactions in WIP or queued for processing.	(R)				
3.4.1 Work In Progress	3. The Contractor shall describe in detail its mechanisms for preventing misses as a result of two submissions for the same subject being processed within a short time of one another (e.g.: a civil submission arrives shortly after a criminal submission). The	(M)				

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	Contractor shall describe how its solution manages Work In Progress. At a minimum all WIP states must be searched to ensure no misses occur and duplicate DCNs are identified.					
3.4.1 Work In Progress	4. The AFIS renewal solution shall use the search thresholds to limit the number of candidates for TP-TP WIP searches (refer to configurable parameters Section 8.1.1). For example, if the number of candidates returned by the application of the thresholds is three (3), then the number of candidates to be produced for the TP-TP WIP view is three (3) candidates. When these three (3) candidates are completed searching and enrolled (when enrolment is requested) then the submission shall move out of Wait 4 WIP view and proceed to the next workflow step.	(M)				
3.4.1 Work In Progress	5. The AFIS renewal solution shall enable a user to save partial work. For example, a latent technician might wish to save a partial encoding, go on lunch break, retrieve the work, proceed to finish the encoding after lunch and submit the latent for search. The latent technician might also set aside work on a routine search to complete an urgent search request. The AFIS renewal solution must allow a different user to process the transaction with the saved partial work (e.g.: if the user that set aside the transaction was off sick); however, under normal work conditions the set aside work would show assigned to a user which would inform all other users that this transaction is being worked on.	(M)				
3.4.1 Work In Progress	6. The AFIS renewal solution shall provide a user interface feature that ensures that a user can set aside a transaction for later (e.g.: need clarification from another technician). This feature must hold the transaction and exclude the transaction when a next transaction is selected by another user. This hold remains until the transaction is released. The transaction may be released by a	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	different user (i.e. the AFIS renewal solution must not prevent a different user from releasing a transaction on hold).					
3.4.1 Work In Progress	7. When work has been set aside for later, the AFIS renewal solution shall enable the user to process other work and come back to the work set aside.	(M)				
<b>3.4.2 Workflow Rules</b>						
3.4.2 Workflow Rules	1. The AFIS renewal solution shall be flexible enough to support different workflow instructions provided to the AFIS in the internal transactions. The NNS will set these parameters differently depending on the information received with the transaction (e.g.: FPS Number, repository to search, Type of External Transaction: Criminal with Add (CAR Ret=Y), Criminal Record Inquiry (CAR Ret=N), Immigration (IMM Ret=Y), Civil with Add (RCMP Employee), Civil without Add (MAP), Latent (Finger or Palm Search). The internal parameters might indicate, for example, that a 1:N Search is to be performed, that a Certification is to be performed where a hit is found, that a Reverse Search is to be performed against fingers and palms, that a reverse search is to be performed against fingers only and so on. Refer to the AFIS ICD for a detailed description of transactions between the AFIS renewal solution and NNS.	(M)				
<b>3.4.3 Priority of Work</b>						
3.4.3 Priority of Work	1. The AFIS renewal solution shall use the priority setting specified in the internal transaction (AFIS ICD), to set the priority of the transaction.	(M)				
3.4.3 Priority of Work	2. The priority setting of 1 will be used to place emergency transactions to the top of the queue. A priority setting of 2 or 3 is	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	for urgent transactions. A priority setting of 4 or greater is for routine transactions.					
3.4.3 Priority of Work	3. Priority 1 is reserved for RCMP internal use only. Priority 1 transactions are deemed to be critical.	(I)				
3.4.3 Priority of Work	4. Priority 1 Turnaround Times shall be less than any other Turnaround Time available within any other given priority for that particular transaction type such that these transactions are placed at the top of the search queue.	(M)				
3.4.3 Priority of Work	5. The AFIS renewal solution shall enable authorized users to change the priority of any transaction within the AFIS environment.	(M)				
3.4.3 Priority of Work	6. The Turnaround Times required for each priority are defined for each transaction type under subsection 3.6.	(I)				
<b>3.4.4 Order of Processing</b>						
3.4.4 Order of Processing	1. The AFIS renewal solution shall perform an automatic re-sequencing of work to ensure that all work meets its service delivery objective.	(M)				
3.4.4 Order of Processing	2. The Work Queues shall display the criteria used in making order of processing and routing decisions which shall include, as a minimum: Internal Priority, External TCN, DCN (for Ten Print) / Latent ID (for latent), Arrival Date and Time, External Transaction Type and Retention Code, Status, Role, Originating Agency ID.	(M)				
<b>3.4.5 Operational Control and Workload Monitoring</b>						
3.4.5 Operational	1. The AFIS renewal solution shall provide underlying workflow management capabilities that will:	(M)				

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Control and Workload Monitoring	a. Automatically route work to the appropriate process; b. Forward notifications (e.g.: forward to supervisor); c. Make work available to enabled users in the appropriate Role, User Profile, Service and State of Readiness; d. Control the loading of the operations by monitoring and control of WIP and backlog for each external transaction type; e. Track the Status of transactions; f. Enable users in the authorized role to view summary statistics; g. Enable users to use filters to view specific types of transaction in the work queue to monitor activities. The filters, which must include as a minimum, Internal Priority, External TCN, DCN (for Ten print) / Latent ID (for latent), Arrival Date and Time, External Transaction Type and Retention Code, Status, Role, Originating Agency ID; must allow the user to filter appropriately for their role. For example, a supervisor must be able to view with filters so they see only transactions forwarded to them for review (i.e. there must be an indicator/attribute that can be used to filter on); and h. Identify overdue transactions and enable users in the authorized role to view same (i.e., a transaction that is not being serviced within the turnaround time requirements described in subsection 3.6).					
3.4.5 Operational Control and Workload Monitoring	2. The AFIS renewal solution shall support the operational control and monitoring of workloads. The following types of capabilities must be provided within the AFIS renewal solution to further enhance control and monitoring of workloads:	(M)				

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	a. Presentation of summary statistics overall and by queue (total number of transactions in queue, earliest date/time received, latest date/time received, number overdue and for each External Transaction Type: total number of transactions in queue, earliest date/time received, latest date/time received, total number overdue, total number at each priority). b. Provision of monitoring work queues, view the contents of a transaction selected from the work queue list, view summary statistics. c. Enable printing of the above statistics.					
3.4.6 Work Queue Features						
3.4.6 Work Queue Features	1. For the purpose of these requirements, a Work Queue is defined as a user interface feature enabling a user to view all work in process and enabling them to initiate work on a specific item. Except where explicitly stated, these requirements apply to both Ten Print and Latent.	(I)				
3.4.6 Work Queue Features	2. The AFIS renewal solution shall enable a user to display all contents of a selected transaction, including all data in all record types, from a single user action on the work queue user interface.	(M)				
3.4.6 Work Queue Features	3. The Work Queue capability shall enable a user to loop forward and backward through the list of outstanding transactions.	(M)				
3.4.6 Work Queue Features	4. The work queue shall function without having to return to the Work Queue to select the next transaction to be worked on. There must be a next button to present the next transaction or if the current transaction has been completed, the next transaction must be presented automatically. The AFIS renewal solution must also allow a user to process through a filtered range. If a filter	(M)				

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	range of transactions has been selected, then the queue must function in the same manner with the filtered transaction. That is, the next button can be used to present the next transaction in the filtered list or if the current transaction has been completed, the next transaction in the filtered list must be presented automatically.					
3.4.6 Work Queue Features	5. The Ten Print user interface and Latent user interface shall provide a Work Queue that can be filtered as stated in this Annex and limit what is viewable in the work queue according to the RBAC.	(M)				
3.4.6 Work Queue Features	6. As a minimum, the work queues shall display: <ul style="list-style-type: none"> <li>a. External Transaction Type and Retention Code;</li> <li>b. Date of Arrival;</li> <li>c. DCN (Ten Print);</li> <li>d. Latent ID, (Latent);</li> <li>e. Agency ORI;</li> <li>f. Status;</li> <li>g. Internal Priority;</li> <li>h. Reason work is on the queue (i.e., work related note);</li> <li>i. User Role;</li> <li>j. User ID (of user working on an item);</li> <li>k. Contractor's unique transaction number;</li> <li>l. Transaction Attribute Codes (i.e.: N – Note Attached, R – Requires Supervisor review); and</li> </ul>	(M)				

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	m. Total transactions in the queue and in the queue hierarchy. For example, total TP transactions and total transaction in a particular state: <ul style="list-style-type: none"> <li>• Central Ten Print Region</li> <li>• TP Transaction (500)</li> <li>• Manual QC (20)</li> <li>• Immigration Region (100)</li> <li>• Certification (10)</li> </ul>					
3.4.6 Work Queue Features	7. The AFIS renewal solution shall automatically remove Work from the Work Queues and Work In Progress (WIP) when the services requested in the internal transaction are fully delivered.	(M)				
3.4.6 Work Queue Features	8. The AFIS renewal solution shall only allow users in the authorized role to delete transactions from a Work Queue and Work in Progress.	(M)				
3.4.6 Work Queue Features	9. The AFIS renewal solution shall enable a user in the authorized role to change the Priority of a transaction on the work queue.	(M)				
3.4.6 Work Queue Features	10. The AFIS renewal solution shall enable a user to release work back to a general pool of work or to assign a specific item of work to a supervisory role and specify the reason in a work-related note (both Latent and Ten Print).	(M)				
3.4.6 Work Queue Features	11. The AFIS renewal solution shall enable a user to add a 5000 character work-related note to a transaction in work in progress.	(M)				
3.4.6 Work Queue Features	12. The AFIS renewal solution shall provide the following functionality pertaining to work related notes:	(M)				

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	a. Retain the note and automatically record the User ID that created the note, date and time created along with the note. b. Enable a user to view the notes along with user name, date and time created from the main work queue, and during the following states of processing; Verification, Certification, Manual Segmentation, Quality Check and Sequence Check, Latent Lasso, Latent Edit, Latent Verification, Latent Certification1, Latent Certification 2, Latent 3rd Certify, Latent Insert, Latent Search and UL Search. c. Enable an authorized user to discard / purge a note created by the same authorized user. That is, a note created by one user cannot be deleted by a different user. d. Support word wrap and carriage return within a note. e. Enable a transaction to have at least 5 notes attached to it. f. Support these functions from the work queue, from the TP Verification, TP Certification, TP Manual Segmentation, TP Quality Check, TP Sequence Check, Latent Lasso, Latent Edit, Latent Verification, Latent Certification 1, Latent Certification 2, Latent 3rd Certify, Latent Insert, Latent Search and UL Search user interfaces.					
3.4.6 Work Queue Features	13. The AFIS renewal solution shall enable a technician to forward a transaction to a supervisory role and add a note if desired.	(M)				
3.4.6 Work Queue Features	14. The AFIS renewal solution must allow the supervisor to remove the forward to supervisor role indicator/attribute, which will return the transaction to the main work queue.	(M)				

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3.4.6 Work Queue Features	15. When a transaction is assigned to a supervisory role on the Work Queue, the AFIS renewal solution shall display a reason on the Work Queue.	(M)				
3.4.6 Work Queue Features	16. In some cases, the reason why an item is identified as an exception for the supervisor will be generated by the AFIS renewal solution. In other cases, the user forwarding the external transaction will enter the reason.	(M)				
3.4.6 Work Queue Features	17. The AFIS renewal solution shall permit an authorized user to filter the work queue to locate work in progress based on one or a combination of the following parameters, as a minimum, and to search with wildcard characters or character sub-strings: a. Transaction number; b. Transaction status; c. Transaction creation date; d. Transaction attribute; e. DCN or Doc ID (TP only); f. File number; g. Latent File Number (Latents only); h. Latent Identifier (Latents only); i. Latent Image Identifier (Latents only); j. Internal TCN; k. External TCN; l. Agency ORI; m. User ID; n. Submission number; and	(M)				

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	o. Internal priority;					
3.4.6 Work Queue Features	18. The AFIS renewal solution response to a find query shall indicate which service/function (e.g.: Ten Print QC, Ten Print Verification, Ten Print Certification, Latent Encoding) has the transaction on their queue, the status of the transaction, the date received of the transaction, the name/Human Resources Management Information System (HRMIS) # (i.e. unique number associated to an RCMP employee/contractor) of the individual that is presently servicing the transaction.	(M)				
3.4.6 Work Queue Features	19. The AFIS renewal solution shall automatically make work available to the appropriate role.	(M)				
3.4.6 Work Queue Features	20. The AFIS renewal solution shall have a trainee role, whereby the work performed by a trainee is logged and the work is re-assigned to a supervisory role upon the trainee's completion of the work. For Ten Print Training transactions the AFIS renewal solution shall not advance the transaction to the next process (where Ten Print processes are defined as Manual QC, Verification, and Certification) upon completion of the trainee's work without the supervisor performing the work themselves. For Latent training transactions the AFIS renewal solution shall not advance the transaction beyond the Verification process upon completion of the trainee's work without the supervisor performing the work themselves. The AFIS renewal solution shall enable the supervisor to review the work of the trainee and perform the work themselves to advance the transaction to the next process.	(M)				
3.4.6 Work Queue Features	21. The AFIS renewal solution shall provide the capability for a user to view the complete contents of a transaction, including all data	(M)				

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	in all record types, in work in progress within the AFIS renewal solution.					
3.4.6 Work Queue Features	22. The AFIS renewal solution shall provide a view that lists the status history of a transaction that can be selected from the work queue or search function.	(M)				
3.4.6 Work Queue Features	23. The AFIS renewal solution must provide the ability for a user to view the complete history of a transaction from the queue (e.g.: right mouse click): a. The date of arrival; b. All users who worked on the transaction; c. Each activity performed by a specific user; d. The role of the user while performing an activity; e. The start and end time related to each activity that was performed; f. The total actual time spent working on the transaction within a particular activity; g. The status changes and priority changes of the transaction and their associated dates and time; and h. The wait time in queue.	(M)				
3.4.6 Work Queue Features	24. By default, the AFIS renewal solution shall sort the work queue by Internal Priority and Date of Arrival.	(M)				
3.4.6 Work Queue Features	25. The work queue should be designed so that a large number of transactions in the queue can be processed in a timely manner.	(R)				
3.4.6 Work Queue Features	26. An authorized user, such as a Program Analyst or Prod Admin (typically no more than 10 users) who has a broad set of	(R)				

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	responsibilities, should be able to view all transactions in all regions/queues at the same time.					
3.4.6 Work Queue Features	27. As a minimum, all transactions from the TP region and IMM region must be viewable and usable for all transaction processing as stated in this SOW and its accompanying documents.	(M)				
<b>3.5 Operational Reporting and Statistics</b>						
3.5 Operational Reporting and Statistics	1. The AFIS renewal solution shall enable authorized users to use reporting capabilities that must provide the ability to filter any query on all fields that are available for reporting; and be able to print the report or export the resulting report to at least PDF, Comma-Separated Value (CSV) and XML file types. The AFIS renewal solution shall have a predefined format for these reports.	(M)				
3.5 Operational Reporting and Statistics	2. Any fields listed in the search criteria for any report listed herein must have a drop-down pick list for any fields that have values that are available for a pick list (e.g.: list of TOTs, list of ORIs, activity/event type).	(M)				
3.5 Operational Reporting and Statistics	3. All reports listed herein must have a final row at the bottom of the report showing totals for any columns in the reports, unless totals are not applicable (e.g.: a total for ORI is not applicable).	(M)				
3.5 Operational Reporting and Statistics	4. The AFIS renewal solution shall provide at least the following predefined reports, including but not limited to the data/fields identified herein for each report (the Contractor will determine any additional data/fields details to be included in collaboration with the RCMP after contract award): a. Hourly Statistics Reporting: i. Hourly Number Of Transactions Report – For a past period based on specified start date/time and end	(M)				

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	<p>date/time for all TP and Latent transaction within the date/time range, select transactions using at least the following search criteria: agency ORI and TOT. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT or date. The fields to be included in the report must be at least the following: date organized by hour, agency ORI, TOT, number of transactions for each of received, processed, overdue, rejected and exceptions.</p> <p>ii. Processing Time For Hourly Transactions Reporting – For a past period based on specified start date/time and end date/time for all TP and Latent transaction within the date/time range, select transactions using at least the following search criteria: agency ORI(s) and TOT(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT or date. The fields to be included in the report must be at least the following: date organized by hour, agency ORI, TOT, average processing time, minimum processing time, maximum processing time, average exception time and total exception time.</p> <p>iii. Hourly Search Statistics Reporting – For a past period based on specified start date/time and end date/time for all TP and Latent transaction within the date/time range, select transactions using at least the following search criteria: agency ORI(s) and TOT(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following</p>					

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	<p>criteria: agency ORI, TOT or date. The fields to be included in the report must be at least the following: date organized by hour, agency ORI, TOT, with totals for 1:1 searches, 1:N searches, TP-latent, Latent-TP, latent-latent, TP palm-TP palm, TP palm-latent palm, latent palm-TP palm and latent palm-latent palm.</p> <p>iv. Hourly Hit Statistics Reporting – For a past period based on specified start date/time and end date/time for all TP and Latent transaction within the date/time range, select transactions using at least the following search criteria: agency ORI(s) and TOT(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT or date. The fields to be included in the report must be at least the following: date organized by hour, agency ORI, TOT, with totals for the following searches and totals for identifications for each type of search: 1:1 searches, 1:N searches, TP-latent, Latent-TP, latent-latent, TP palm-TP palm, TP palm-latent palm, latent palm-TP palm and latent palm-latent palm.</p> <p>b. Daily Statistics Reporting:</p> <p>i. Daily Number Of Transactions Report – For a past period based on specified start date/time and end date/time for all TP and Latent transactions within the date/time range, select transactions using at least the following search criteria: agency ORI(s) and TOT(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT or date. The fields to be included in the report must be at least the following: date</p>					

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	<p>organized by day, agency ORI, TOT, number of transactions for each of received, processed, overdue, rejected and exceptions.</p> <p>ii. Processing Time For Daily Transactions Reporting – For a past period based on specified start date/time and end date/time for all TP and Latent transactions within the date/time range, select transactions using at least the following search criteria: agency ORI(s) and TOT(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT or date. The fields to be included in the report must be at least the following: date organized by day, agency ORI, TOT, average processing time, minimum processing time, maximum processing time, average exception time and total exception time.</p> <p>iii. Daily Search Statistics Reporting – For a past period based on specified start date/time and end date/time for all TP and Latent transactions within the date/time range, select transactions using at least the following search criteria: agency ORI(s) and TOT(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT or date. The fields to be included in the report must be at least the following: date organized by day, agency ORI, TOT, with totals for 1:1 searches, 1:N searches, TP-latent, Latent-TP, latent-latent, TP palm-TP palm, TP palm-latent palm, latent palm-TP palm and latent palm-latent palm.</p>					

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	<p>iv. Daily Hit Statistics Reporting – For a past period based on specified start date/time and end date/time for all TP and Latent transactions within the date/time range, select transactions using at least the following search criteria: agency ORI(s) and TOT(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT or date. The fields to be included in the report must be at least the following: date organized by day, agency ORI, TOT, with totals for the following searches and totals for identifications for each type of search: 1:1 searches, 1:N searches, TP-latent, Latent-TP, latent-latent, TP palm-TP palm, TP palm-latent palm, latent palm-TP palm and latent palm-latent palm.</p> <p>c. Monthly Statistics Reporting:</p> <p>i. Monthly Number Of Transactions Report – For a past period based on specified start date/time and end date/time for all TP and Latent transactions within the date/time range, select transactions using at least the following search criteria: agency ORI(s) and TOT(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT or date. The fields to be included in the report must be at least the following: date organized by month, agency ORI, TOT, number of transactions for each of received, processed, overdue, rejected and exceptions.</p> <p>ii. Processing Time For Monthly Transactions Reporting – For a past period based on specified start date/time and end date/time for all TP and Latent transactions within the</p>					

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	<p>date/time range, select transactions using at least the following search criteria: agency ORI(s) and TOT(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT or date. The fields to be included in the report must be at least the following: date organized by month, agency ORI, TOT, average processing time, minimum processing time, maximum processing time, average exception time and total exception time.</p> <p>iii. Monthly Search Statistics Reporting – For a past period based on specified start date/time and end date/time for all TP and Latent transactions within the date/time range, select transactions using at least the following search criteria: agency ORI(s) and TOT(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT or date. The fields to be included in the report must be at least the following: date organized by month, agency ORI, TOT, with totals for 1:1 searches, 1:N searches, TP-latent, Latent-TP, latent-latent, TP palm-TP palm, TP palm-latent palm, latent palm-TP palm and latent palm-latent palm.</p> <p>iv. Monthly Hit Statistics Reporting – For a past period based on specified start date/time and end date/time for all TP and Latent transactions within the date/time range, select transactions using at least the following search criteria: agency ORI(s) and TOT(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following</p>					

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	<p>criteria: agency ORI, TOT or date. The fields to be included in the report must be at least the following: date organized by month, agency ORI, TOT, with totals for the following searches and totals for identifications for each type of search: 1:1 searches, 1:N searches, TP-latent, Latent-TP, latent-latent, TP palm-TP palm, TP palm-latent palm, latent palm-TP palm and latent palm-latent palm.</p> <p>d. Yearly Statistics Reporting:</p> <p>i. Yearly Number Of Transactions Report – For a past period based on specified start date/time and end date/time for all TP and Latent transactions within the date/time range, select transactions using at least the following search criteria: agency ORI(s) and TOT(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT or date. The fields to be included in the report must be at least the following: date organized by year, agency ORI, TOT, number of transactions for each of received, processed, overdue, rejected and exceptions;</p> <p>ii. Processing Time For Yearly Transactions Reporting – For a past period based on specified start date/time and end date/time for all TP and Latent transactions within the date/time range, select transactions using at least the following search criteria: agency ORI(s) and TOT(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT or date. The fields to be included in the report must be at least the following: date organized by year, agency ORI, TOT, average</p>					

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	<p>processing time, minimum processing time, maximum processing time, average exception time and total exception time.</p> <p>iii. Yearly Search Statistics Reporting – For a past period based on specified start date/time and end date/time for all TP and Latent transactions within the date/time range, select transactions using at least the following search criteria: agency ORI(s) and TOT(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT or date. The fields to be included in the report must be at least the following: date organized by year, agency ORI, TOT, with totals for 1:1 searches, 1:N searches, TP-latent, Latent-TP, latent-latent, TP palm-TP palm, TP palm-latent palm, latent palm-TP palm and latent palm-latent palm.</p> <p>iv. Yearly Hit Statistics Reporting – For a past period based on specified start date/time and end date/time for all TP and Latent transactions within the date/time range, select transactions using at least the following search criteria: agency ORI(s) and TOT(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT or date. The fields to be included in the report must be at least the following: date organized by year, agency ORI, TOT, with totals for the following searches and totals for identifications for each type of search: 1:1 searches, 1:N searches, TP-latent, Latent-TP, latent-latent, TP palm-TP palm, TP palm-latent palm, latent palm-TP palm and latent palm-latent palm.</p>					

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	<p>e. Repository Reports:</p> <ul style="list-style-type: none"> <li>i. TP Repository Report – For a past period based on specified start date/time and end date/time for all TP fingerprint data within the date/time range, select transactions using at least the following search criteria: agency ORI and TOT. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, or TOT. The fields to be included in the report must be at least the following: repository number, repository name, TOT, file number prefix, number of unique subject IDs, number of unique file numbers, number of cards, number of composites; and total number of cards and composites.</li> <li>ii. Palm Repository Report – For a past period based on specified start date/time and end date/time for all TP palm data within the date/time range, select transactions using at least the following search criteria: agency ORI and TOT. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, or TOT. The fields to be included in the report must be at least the following: agency ORI, TOT and total number of palms.</li> <li>iii. Latent Repository Report – For a past period based on specified start date/time and end date/time for all Latent finger data within the date/time range, select transactions using at least the following search criteria: agency ORI and TOT. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, or TOT.</li> </ul>					

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	<p>The fields to be included in the report must be at least the following: agency ORI, TOT and total number of latent fingers.</p> <p>iv. Latent Palm Repository Report – For a past period based on specified start date/time and end date/time for all Latent palm data within the date/time range, select transactions using at least the following search criteria: agency ORI and TOT. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, or TOT. The fields to be included in the report must be at least the following: agency ORI, TOT and total number of latent palms.</p> <p>f. Transaction Logging.</p> <p>i. Transaction Summary statistics – For a past period based on specified start date/time and end date/time for all TP and Latent transactions within the date/time range, select transactions using at least the following search criteria: agency ORI and TOT(s). The fields to be included in the report must be at least the following: agency ORI, TOT and total number of transactions per TOT.</p> <p>ii. Transaction Log statistics – For a past period based on specified start date/time and end date/time for all TP and Latent transactions within the date/time range, select transactions using at least the following search criteria: agency ORI, TOT, transaction number, DCN, transaction status, workstation and/or user. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following</p>					

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	<p>criteria: agency ORI, TOT, transaction number, DCN, workstation or user. The fields to be included in the report must be at least the following: agency ORI, TOT, transaction number, DCN, transaction priority, transaction start time, transaction end time, transaction duration and user for each transaction.</p> <p>iii. TP Transaction Log Detailed statistics – For a past period based on specified start date/time and end date/time for all TP transactions within the date/time range, select transactions using at least the following search criteria: agency ORI, TOT, transaction number, TCN, external TCN, DCN, file number, transaction status and/or document ID. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, TCN, external TCN, DCN, file number or document ID. The fields to be included in the report must be at least the following: agency ORI, TOT, transaction number, priority, TCN, external TCN, DCN, file number, document ID, subject ID, transaction start time, transaction end time and transaction duration for each transaction.</p> <p>iv. Latent Transaction Log Detailed statistics – For a past period based on specified start date/time and end date/time for all Latent transactions within the date/time range, select transactions using at least the following search criteria: agency ORI, TOT, transaction number, external TCN, transaction status, latent file number, latent ID and/or latent image ID. As well, the desired sort criteria must be able to be selected by the user prior to executing</p>					

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	<p>the report by selecting from the following criteria: agency ORI, TOT, transaction number, external TCN, latent file number, latent ID and/or latent image ID. The fields to be included in the report must be at least the following: agency ORI, TOT, transaction number, priority, external TCN, latent file number, latent ID, latent image ID, transaction start time, transaction end time and transaction duration for each transaction.</p> <p>g. Transaction Event Logging:</p> <p>i. TP Activity/Event Transaction statistics – For a past period based on specified start date/time and end date/time, select TP transactions using at least the following search criteria: agency ORI, TOT, transaction number, TCN, DCN, file number, activity/event, workstation and/or user. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, TCN, DCN, file number, activity/event, workstation or user. The fields to be included in the report must be at least the following: agency ORI, TOT, transaction number, TCN, DCN, file number, activity/event, activity/event start time, activity/event end time and activity/event duration for each activity/event workstation and user for each activity/event.</p> <p>ii. Latent Activity/Event Transaction statistics – For a past period based on specified start date/time and end date/time, select Latent transactions using at least the following search criteria: agency ORI, TOT, transaction number, latent file number, latent ID, latent image ID, activity/event, workstation and/or user. As well, the desired</p>					

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	<p>sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, latent file number, latent ID, latent image ID, activity/event, workstation or user. The fields to be included in the report must be at least the following: agency ORI, TOT, transaction number, TCN, latent file number, latent ID, latent image ID, activity/event, activity/event start time, activity/event end time and activity/event duration for each activity/event workstation and user for each activity/event.</p> <p>h. User Activity/Event Logging:</p> <p>i. User Activity/Event Summary statistics – For a past period based on specified start date/time and end date/time for all TP and Latent transaction within the date/time range, select transactions using at least the following search criteria: user and activity/event. The fields to be included in the report must be at least the following: user, activity/event, total number of transactions processed and average time to process.</p> <p>ii. User Activity/Event TP Detail statistics – For a past period based on specified start date/time and end date/time, select TP transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, external TCN, DCN, file number, activity(ies)/events, workstation and/or user(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, external TCN, DCN, file number, activity/event, workstation or user. The fields to be included in the report must be at least the following:</p>					

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	<p>agency ORI, TOT, transaction number, TCN, DCN, file number, activity/event, workstation, activity/event start time, activity/event end time and activity/event duration for each activity/event.</p> <p>iii. User Activity/Event Latent Detail statistics – For a past period based on specified start date/time and end date/time, select Latent transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, latent file number, latent ID, latent image ID, activity(ies)/events, workstation and/or user(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, latent file number, latent ID, latent image ID, activity/event, workstation or user. The fields to be included in the report must be at least the following: agency ORI, TOT, transaction number, TCN, latent file number, latent ID, latent image ID, activity/event, workstation, activity/event start time, activity/event end time and activity/event duration for each activity/event.</p> <p>i. Verification Logging:</p> <p>i. TP Auto Verification statistics – For a past period based on specified start date/time and end date/time, select TP transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, external TCN, DCN, file number, disposition, and/or user(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, external TCN, DCN, file number or user. The fields to be</p>					

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	<p>included in the report must be at least the following: agency ORI, TOT, user, transaction number, TCN, DCN, file number, verification start time, verification end time, candidate TP card, candidate file number, score and disposition for each transaction.</p> <p>ii. TP Manual Verification statistics – For a past period based on specified start date/time and end date/time, select TP transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, external TCN, DCN, file number, disposition, workstation and/or user(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, external TCN, DCN, file number, workstation or user. The fields to be included in the report must be at least the following: agency ORI, TOT, user, transaction number, TCN, DCN, file number, verification start time, verification end time, candidate TP card, candidate file number, score and disposition for each transaction.</p> <p>iii. TP Reverse Search Verification statistics – For a past period based on specified start date/time and end date/time, select TP transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, external TCN, DCN, file number, disposition, workstation and/or user(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, external TCN, DCN, file number, workstation or user. The fields to</p>					

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	<p>be included in the report must be at least the following: agency ORI, TOT, user, transaction number, TCN, DCN, file number, verification start time, verification end time, candidate TP card, candidate file number, score and disposition for each transaction.</p> <p>iv. Latent To TP Verification statistics – For a past period based on specified start date/time and end date/time, select Latent transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, latent file number, latent ID, latent image ID, disposition, workstation and/or user(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, latent file number, latent ID, latent image ID, workstation or user. The fields to be included in the report must be at least the following: agency ORI, TOT, user, transaction number, TCN, latent file number, latent ID, latent image ID, verification start time, verification end time, candidate TP card, candidate file number, score and disposition for each transaction.</p> <p>v. Latent To Latent Verification statistics – For a past period based on specified start date/time and end date/time, select Latent transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, latent file number, latent ID, latent image ID, disposition, workstation and/or user(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, latent file</p>					

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	<p>number, latent ID, latent image ID, workstation or user. The fields to be included in the report must be at least the following: agency ORI, TOT, user, transaction number, TCN, latent file number, latent ID, latent image ID, verification start time, verification end time, candidate latent card, candidate latent image ID, score and disposition for each transaction.</p> <p>j. Certification Logging:</p> <p>i. TP To TP Certification statistics – For a past period based on specified start date/time and end date/time, select TP transactions using at least the following search criteria: agency ORI, TOT, transaction number, external TCN, external TOT, DCN, file number, workstation and/or user(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, external TCN, external TOT, DCN, file number, workstation or user. The fields to be included in the report must be at least the following: agency ORI, TOT, external TOT, workstation, user, transaction number, retention flag, TCN, DCN, file number, certification start time and certification end time for each transaction.</p> <p>ii. TP To Latent Certification statistics – For a past period based on specified start date/time and end date/time, select TP transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, external TCN, external TOT, DCN, file number, workstation and/or user(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT,</p>					

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	<p>transaction number, external TCN, external TOT, DCN, file number, workstation or user. The fields to be included in the report must be at least the following: agency ORI, TOT, external TOT, workstation, user, transaction number, activity/event, TCN, DCN, file number, certification start time and certification end time for each transaction.</p> <p>iii. Latent To TP Certification statistics – For a past period based on specified start date/time and end date/time, select Latent transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, latent file number, latent ID, latent image ID, workstation and/or user(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, latent file number, latent ID, latent image ID, workstation or user. The fields to be included in the report must be at least the following: agency ORI, TOT, external TOT, workstation, user, transaction number, activity/event, latent file number, latent ID, latent image ID, file number, certification start time and certification end time for each transaction.</p> <p>iv. Latent To Latent Certification statistics – For a past period based on specified start date/time and end date/time, select Latent transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, latent file number, latent ID, latent image ID, workstation and/or user(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, latent file number, latent ID,</p>					

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	<p>latent image ID, workstation or user. The fields to be included in the report must be at least the following: agency ORI, TOT, external TOT, workstation, user, transaction number, activity/event, latent file number, latent ID, latent image ID, candidate latent card, candidate latent image ID, score, certification start time and certification end time for each transaction.</p> <p>v. TP To TP Certified To statistics – For a past period based on specified start date/time and end date/time, select TP transactions using at least the following search criteria: transaction number, external TCN, DCN of the search prints, file number, submission number of search prints, subject ID, TCN of the file prints, DCN of the file prints, file number of the file prints and/or submission number of the file prints. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: transaction number, TCN, DCN of the search prints, file number or submission number of search prints. The fields to be included in the report must be at least the following: transaction number, TCN, DCN of the search prints, file number of the search prints (if available), submission number of search prints, certification date/time, candidate card ID, TCN of the candidate, DCN of the candidate, file number of the candidate and submission number of the candidate for each transaction.</p> <p>vi. Latent To TP Certified To statistics – For a past period based on specified start date/time and end date/time, select Latent transactions using at least the following search criteria: transaction number, external TCN, latent</p>					

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	<p>file number, latent ID, latent image ID, submission number of search print, subject ID, TCN of the file prints, DCN of the file prints, file number of the file prints and/or submission number of the file prints. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: transaction number, external TCN, latent file number, latent ID, latent image ID or submission number of search print. The fields to be included in the report must be at least the following: transaction number, TCN, latent file number, latent ID, latent image ID, submission number of search prints, certification date/time, candidate card ID, TCN of the candidate, DCN of the candidate, file number of the candidate and submission number of the candidate for each transaction.</p> <p>vii. Auto Certification statistics – For a past period based on specified start date/time and end date/time, select TP transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, external TCN, external TOT, DCN, file number, retention code, workstation and/or user(s). As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, external TCN, external TOT, DCN, file number, workstation or user. The fields to be included in the report must be at least the following: agency ORI, TOT, external TOT, workstation, user, transaction number, retention flag, TCN, DCN, file number, certification start time and certification end time for each transaction.</p>					

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	<p>k. Discrepancy logs.</p> <p>i. TP To TP Discrepancies – For a past period based on specified start date/time and end date/time, select TP transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, external TCN, external TOT, DCN of the search prints, file number, submission number and/or DCN of the file prints. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, external TCN, DCN, file number or submission number. The fields to be included in the report must be at least the following: agency ORI, TOT, transaction number, TCN, DCN, file number, submission number, candidate ID, candidate file number, candidate score, auto confirm flag, verifier user, verification status, certifier user and certification status for each transaction.</p> <p>ii. TP To Latent Discrepancies – For a past period based on specified start date/time and end date/time, select TP transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, external TCN, external TOT, DCN of the search prints, file number, submission number and/or latent candidate ID of the file print. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, external TCN, DCN, file number or submission number. The fields to be included in the report must be at least the following: agency ORI, TOT, transaction number, TCN, DCN, file number, submission</p>					

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	<p>number, latent candidate ID, latent image ID, candidate score, auto confirm flag, verifier user, verification status, certifier user, certification status and second certifier user for each transaction.</p> <p>iii. Latent To TP Discrepancies – For a past period based on specified start date/time and end date/time, select Latent transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, external TCN, latent file number, latent ID, latent image ID, submission number and/or latent candidate ID of the file print. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, external TCN, latent file number, latent ID, latent image ID or submission number. The fields to be included in the report must be at least the following: agency ORI, TOT, transaction number, TCN, latent file number, latent ID, latent image ID, submission number of search prints, candidate card ID, candidate file number, candidate score, verifier user, verification status, certifier user, certification status, second certifier user and second certification status for each transaction.</p> <p>iv. Latent To Latent Discrepancies – For a past period based on specified start date/time and end date/time, select Latent transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, external TCN, latent file number, latent ID, latent image ID, submission number and/or latent candidate ID of the file print. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by</p>					

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	<p>selecting from the following criteria: agency ORI, TOT, transaction number, external TCN, latent file number, latent ID, latent image ID or submission number. The fields to be included in the report must be at least the following: agency ORI, TOT, transaction number, TCN, latent file number, latent ID, latent image ID, submission number of search prints, latent candidate card ID, latent image ID, candidate score, verifier user, verification status, certifier user, certification status, second certifier user and second certification status for each transaction.</p> <p>I. Log of declines.</p> <p>i. TP To TP Declines – For a past period based on specified start date/time and end date/time, select TP transactions using at least the following search criteria: agency ORI, TOT, transaction number, external TCN, external TOT, DCN of the search prints, file number, number and/or DCN of the file prints. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, external TCN, DCN or file number. The fields to be included in the report must be at least the following: agency ORI, TOT, transaction number, TCN, DCN, file number, external TCN, candidate ID, candidate file number, candidate score, auto confirm flag, verifier user, verification status, certifier user and certification status for each transaction.</p> <p>ii. TP To Latent Declines – For a past period based on specified start date/time and end date/time, select TP transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, external TCN,</p>					

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	<p>external TOT, DCN of the search prints, file number, submission number and/or latent candidate ID of the file print. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: Agency ORI, TOT, transaction number, external TCN, DCN, file number or submission number. The fields to be included in the report must be at least the following: agency ORI, TOT, transaction number, TCN, DCN, file number, external TCN, latent candidate ID, latent image ID, candidate score, auto confirm flag, verifier user, verification status, certifier user, certification status and second certifier user for each transaction.</p> <p>iii. Latent To TP Declines – For a past period based on specified start date/time and end date/time, select Latent transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, external TCN, latent file number, latent ID, latent image ID, submission number and/or latent candidate ID of the file print. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, external TCN, latent file number, latent ID, latent image ID or submission number. The fields to be included in the report must be at least the following: Agency ORI, TOT, transaction number, TCN, DCN of search prints, latent file number, latent ID, latent image ID, external TCN, candidate card ID, candidate file number, candidate score, verifier user, verification status, certifier user and certification status for each transaction.</p>					

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	<p>iv. Latent To Latent Declines – For a past period based on specified start date/time and end date/time, select Latent transactions using at least the following search criteria: agency ORI, TOT(s), transaction number, external TCN, latent file number, latent ID, latent image ID, submission number and/or latent candidate ID of the file print. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, external TCN, latent file number, latent ID, latent image ID or submission number. The fields to be included in the report must be at least the following: Agency ORI, TOT, transaction number, TCN, DCN of search prints, latent file number, latent ID, latent image ID, external TCN of search prints, latent candidate card ID, latent image ID, candidate score, verifier user, verification status, certifier user, certification status, second certifier user and second certification status for each transaction.</p> <p>m. Database activity log.</p> <p>i. Database Summary Statistics – For a past period based on specified start date/time and end date/time for all amendments and deletions to the database within the date/time range, select transactions using at least the following search criteria: agency ORI, TOT and file number. The fields to be included in the report must be at least the following: Agency ORI, TOT, file number, amendment/deletion action and total number of whatever action was taken.</p> <p>ii. Database Amendments Statistics – For a past period based on specified start date/time and end date/time for</p>					

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	<p>all amendments to the database within the date/time range, select transactions using at least the following search criteria: agency ORI, TOT, file number, transaction number and/or user. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, file number, transaction number or user. The fields to be included in the report must be at least the following: Agency ORI, TOT, file number, transaction number, date/time and user for each amendment.</p> <p>iii. Database Deletion Statistics – For a past period based on specified start date/time and end date/time for all deletions to the database within the date/time range, select transactions using at least the following search criteria: agency ORI, TOT, file number, DCN, transaction number, user. TP rolled, ID flat, palm print, latent finger and/or latent palm. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, file number, DCN, transaction number or user. The fields to be included in the report must be at least the following: agency ORI, TOT, file number, DCN, transaction number, TP rolled, ID flat, palm print, latent finger, latent palm date/time and user for each deletion.</p> <p>n. AFIS Error Log Statistics:</p> <p>i. AFIS Error Log Summary Statistics – For a past period based on specified start date/time and end date/time for all significant errors within the date/time range, select transactions using at least the following search criteria: server name, process name and/or process function. The</p>					

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	<p>fields to be included in the report must be at least the following: server name, process name, process function and total number of whatever error occurred.</p> <ul style="list-style-type: none"> <li>ii. AFIS Error Log Detailed Statistics – For a past period based on specified start date/time and end date/time for all significant errors within the date/time range, select transactions using at least the following search criteria: server name, process name and/or process function. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: server name, process name, process function or time. The fields to be included in the report must be at least the following: server name, process name, process function, date/time and error message.</li> <li>o. Audit Log Statistics:                             <ul style="list-style-type: none"> <li>i. Summary Audit Log Statistics – For a past period based on specified start date/time and end date/time for all logins within the date/time range, select transactions using at least the following search criteria: user and/or workstation. The fields to be included in the report must be at least the following: user, workstation and total number of logins.</li> <li>ii. Detailed Audit Log Statistics – For a past period based on specified start date/time and end date/time for all logins within the date/time range, select transactions using at least the following search criteria: user and/or workstation. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: user, workstation or time. The fields to be included in the report must be at</li> </ul> </li> </ul>					

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	<p>least the following: user, workstation, login time and logout time.</p> <p>iii. Unsuccessful Login Statistics – For a past period based on specified start date/time and end date/time for all unsuccessful logins within the date/time range, select transactions using at least the following search criteria: user and/or workstation. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: user, workstation or time. The fields to be included in the report must be at least the following: user, workstation, login time and login error.</p> <p>iv. Administrative Audit Log Statistics – For a past period based on specified start date/time and end date/time for login activity within the date/time range, select transactions using at least the following search criteria: user, workstation, user management activity and/or user account affected. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: user, workstation, user management activity, user account affected or time. The fields to be included in the report must be at least the following: user, workstation, time of activity, type of activity (e.g.: add a user, change user privileges) and user account affected.</p> <p>v. Current User Logged In Statistics – For a past period based on specified start date/time and end date/time for all users currently logged in within the date/time range, select transactions using at least the following search criteria: user and/or workstation. As well, the desired sort</p>					

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	<p>criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: user or workstation. The fields to be included in the report must be at least the following: user, workstation, session number and login time.</p> <p>p. Print Quality Logging.</p> <p>i. TP Quality statistics – For a past period based on specified start date/time and end date/time, select TP data using at least the following search criteria: agency ORI, TOT, transaction number, type of print, finger/palm id, print quality and/or minutia count. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, transaction number, type of print, finger/palm id, print quality or minutia count. The fields to be included in the report must be at least the following: agency ORI, TOT, transaction number, type of print, finger/palm id, print quality and minutia count.</p> <p>ii. Latent Quality statistics – For a past period based on specified start date/time and end date/time, select Latent data using at least the following search criteria: transaction number, type of print, finger/palm id, print quality and/or minutia count. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: transaction number, type of print, finger/palm id, print quality or minutia count. The fields to be included in the report must be at least the following: transaction number, type of print, finger/palm id, print quality and minutia count.</p>					

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	<p>q. "Miss" Consolidation Logging – The AFIS renewal solution shall generate a report identifying the miss that was reconciled and all steps that preceded the miss reconciliation that may have led to the generation of multiple subjects for the same individual once the reconciliation has taken place (after being authorized by a certification technician). For a past period based on specified start date/time and end date/time, select TP transactions using at least the following search criteria: agency ORI, TOT(s), DCN, old file number and/or new file number. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, TOT, DCN, old file number and/or new file number. The fields to be included in the report must be at least the following: agency ORI, TOT, transaction number, old file number, new file number transaction number, DCN of search prints, DCN of the file prints, old subject ID, new subject ID and consolidation date/time for each transaction.</p> <p>r. ULF Expiry Reporting.</p> <p>i. ULF Expiry Summary Report – For a future period based on specified start date/time and end date/time, list a summary of the ULF entries that will expire using at least the following search criteria: agency ORI, crime type and latent type (i.e. finger, palm). The fields to be included in the report must be at least the following: agency ORI, Latent type, crime type and total per agency ORI.</p> <p>ii. ULF Expiry Detailed Report – For a future period based on specified start date/time and end date/time, list a summary of the ULF entries that will expire using at least the following search criteria: agency ORI, crime type, latent</p>					

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	<p>type (i.e. finger, palm), transaction number, case file number, latent file number, latent ID and latent image ID. As well, the desired sort criteria must be able to be selected by the user prior to executing the report by selecting from the following criteria: agency ORI, crime type, latent type, transaction number, expiry date, case file number, latent file number, latent ID and latent image ID. The fields to be included in the report must be at least the following: agency ORI, latent type, transaction number, expiry date, case file number, latent file number, latent ID and latent image ID, crime type and expiry date.</p> <p>iii. Each ULF contributor will receive a report of all ULF entries that their agency contributed that are about to expire (e.g.: Monthly/Yearly ULF Expiry Report) in the next month/year. For example, on Sept 1, a Police Department would receive a list of all of their latent entries on the ULF that will expire in October.</p>					
3.5 Operational Reporting and Statistics	<p>5. The AFIS renewal solution shall provide an authorized user with a COTS ad hoc report preparation capability (Report Generator) so that non-standard reports can be produced (i.e. created, saved, viewed, printed and/or export the resulting report to at least PDF, CSV and XML file types) without requiring programming or SQL code. Crystal reports 2013 is the GFE Report Generator tool that is used to generate ad hoc reports, which is available for the Contractor to use, or a replacement Report Generator tool that fully satisfies all the ad hoc reporting requirements can be provided by the Contractor as part of the Contractor's proposal.</p>	(M)				

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3.5 Operational Reporting and Statistics	6. The AFIS renewal solution Report Generator shall, at a minimum, enable users to access and summarize database statistics, search results, database activity, user activity, agency activity and remote site statistics.	(M)				
3.5 Operational Reporting and Statistics	7. The AFIS renewal solution Report Generator shall enable an authorized user to query data in the AFIS renewal solution's database using SQL-like commands in a user-friendly GUI.	(M)				
3.5 Operational Reporting and Statistics	8. The AFIS renewal solution must provide a read-only database view that will be used by the Report Generator to create and print ad hoc reports. This database view must include all database fields that are part of the user's operational view of AFIS renewal solution. That is, any database field that is viewable by any user, either as part of the UI or in a report, must be available in the database view.	(M)				
3.5 Operational Reporting and Statistics	9. The ad hoc reporting feature shall be designed to accommodate at least ten (10) reports per day.	(M)				
3.5 Operational Reporting and Statistics	10. The ad hoc reporting feature shall only be available to authorized users, physically located at RCMP HQ.	(M)				
3.5 Operational Reporting and Statistics	11. If the GFE Crystal reports will not be used as part of the Contractor's AFIS renewal solution, then the replacement tool must provide easy to use report preparation capabilities: a. Enable users to extract data from the database; b. Enable users to export extracted data to a spreadsheet, PDF, CSV and XML file types;	(M)				

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	<ul style="list-style-type: none"> <li>c. Provide summary statistics, including totals, minimums, maximums, averages and medians;</li> <li>d. Specify the start and end periods for a specific report definition;</li> <li>e. Specify the report format for a specific report definition;</li> <li>f. Specify the search parameter(s) for a specific report definition;</li> <li>g. Save report definitions;</li> <li>h. Modify report definitions; and</li> <li>i. Delete report definitions.</li> </ul>					
3.5 Operational Reporting and Statistics	12. For the purposes of these requirements, a state refers to specific steps which correlate to an activity/event in the Ten Print or Latent process such as Ten Print QC, Ten Print Verification, Ten Print Certification, Latent Encoding, etc.	(I)				
3.5 Operational Reporting and Statistics	13. The AFIS renewal solution shall enable an authorized user to generate a report of all Misses that were reconciled and all steps that preceded the miss reconciliation that may have led to the generation of multiple subjects for the same individual.	(M)				
3.5 Operational Reporting and Statistics	14. The AFIS renewal solution should provide tools for analyzing misses.	(R)				
3.5 Operational Reporting and Statistics	15. The AFIS renewal solution shall automatically retain a record of all the data required to support the reporting and audit logging requirements in an efficient and effective manner. That is, the data required for the reporting must be retained in a manner that allows the reports to be executed without negatively affecting the normal service delivery time for all other AFIS renewal solution processing activities.	(M)				

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3.5 Operational Reporting and Statistics	16. The Remote Monthly Statistics Report must include for each remote site: Number of Latent identifications made, Number of individuals identified, Number of Ten Print searches performed, Number of identifications on Ten Print searches, Number of Adds to the ULF, Number of Latent Searches submitted.	(M)				
<b>3.6 Volumetrics and Service Delivery</b>						
3.6 Volumetrics and Service Delivery	1. RCMP has rigorously monitored and analyzed RTID volumes over the past five (5) years. This monitoring and analysis has allowed volumes and expected service delivery to be estimated with reasonable confidence. The AFIS renewal solution must be able to support the service delivery requirements stated herein based on the 2019 volumes shown in Table 3-1: AFIS Renewal Solution Sizing Design Volumes – 2019. The Contractor must explain precisely how the 2019 service delivery requirements will be met by explaining how the Contractor's design/configuration processes the volumes. The evaluation process, including benchmark testing, will be used to determine if the Contractor's AFIS renewal solution satisfies the service delivery requirement for the 2019 volume.	(M)				
3.6 Volumetrics and Service Delivery	2. The AFIS renewal solution shall be designed to accommodate the 2019 Daily Design Volume shown in Table 3-1. Since the RCMP will only have volumes as of 2016/2017 when the contract is planned for award, the 2016/2017 volumes will be used to validate that AFIS renewal solution supports the service delivery times with the 2016/2017 volumes in the production environment. The Contractor's proposal must explain how the design will be able to support the projected 2019 volumes.	(M)				

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3.6 Volumetrics and Service Delivery	3. The AFIS renewal solution shall be designed to accommodate a Peak Hourly Load as shown in Table 3-1.	(M)				
3.6 Volumetrics and Service Delivery	4. The 2019 Peak Daily Design Volumes are based on the projected Annual Volume in 2019 with various factors applied depending on the type of transactions. Typically the peak daily volumes for manual intervention activities are equal to the yearly volume divided by 249 working days and for activity that does not have manual intervention, yearly volume is divided by 365 working days, and multiplied by three. The Peak Hourly Load is based on the projected peak daily average, divided by the 24 hours multiplied by a percentage estimate error of 20% to allow for volume projection errors.	(I)				
3.6 Volumetrics and Service Delivery	5. The unit of measure for the latent volumetrics is “searches”. Presently there are on average two (2) set-up searches per latent image, which includes the original automatic search and one additional setup. The AFIS renewal must allow up to ninety-nine (99) set-up searches per latent.	(M)				
3.6 Volumetrics and Service Delivery	6. The same image can presently be searched with a combination of filters: probable digit, gender, repository, case type, distortion or rotation. It is preferred that searching by filters is not required. The AFIS renewal solution should be able to search with the same accuracy to find matching candidates without requiring filters.	(R)				
3.6 Volumetrics and Service Delivery	7. The AFIS renewal solution shall include sufficient workstations to meet the volumes specified in Table 3-1: AFIS Renewal Solution Sizing Design Volumes – 2019. The Contractor must explain the workstation configuration that will support the workstation	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 3. General AFIS Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	volumes. As well, any workstation additions or modification to the GFE workstations required to support the Contractor's AFIS renewal solution software and configuration must be explained.					
3.6 Volumetrics and Service Delivery	8. It is anticipated that a total of 150,000 transactions resulting in Ten Print Deletes will be received in the year 2019. In some cases, the whole file is purged and in other cases, only a single set of prints are purged. The AFIS renewal solution must support these delete requirements.	(M)				
3.6 Volumetrics and Service Delivery	9. Approximately 20,000 Unsolved Latent Delete transactions are anticipated to be received in the year 2019. The AFIS renewal solution must support these delete requirements.	(M)				
3.6 Volumetrics and Service Delivery	10. Canadian Police Services Information Centre (CPSIC) is a special unit within RCMP HQ tasked with handling the 24x7x365 service delivery requirements in situations where the main Service does not have the staff on duty to do so.	(I)				
3.6 Volumetrics and Service Delivery	11. CPSIC will be responsible for handling all ten-print submissions that require processing within 2-hours or less, 24x7x365 and that arrive during off hours. They will also handle all latent transactions that must be serviced during off hours. They will not handle civil transactions that require manual intervention.	(I)				
3.6 Volumetrics and Service Delivery	12. The AFIS renewal solution shall enable CPSIC to process all off-hour service delivery requests according to what is authorized for CPSIC users.	(M)				
3.6 Volumetrics and Service Delivery	13. The AFIS renewal solution shall enable CPSIC staff to perform all of their fingerprint related tasks on a single AFIS workstation.	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 3. General AFIS Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
3.6 Volumetrics and Service Delivery	14. The AFIS renewal solution shall be designed to meet the Turnaround Time Requirements in Table 3-2: Business Hours, Priorities and Turnaround Times for Searches for 95% of the transactions given the Daily Design Volume and the Peak Hourly Load indicated in Table 3-1.	(M)				
3.6 Volumetrics and Service Delivery	15. The AFIS renewal solution shall process the required volumes for Ten Print (TP) searches within the required turnaround times whether TP Rolled, Plain, ID Flat or any mix of these are received.	(M)				
3.6 Volumetrics and Service Delivery	16. The turnaround time is calculated starting from the point at which the transaction is received by AFIS until the point where certification is complete or a confirmation is received that no hit has been found and the reply transaction has been sent to the NNS. The AFIS renewal solution must provide turnaround times that are as fast, or faster, than Table 3-2 for transactions requiring no manual intervention and transactions requiring manual intervention.	(M)				
3.6 Volumetrics and Service Delivery	17. The two 8 hour shifts begin at 7am and end at 11pm Monday to Friday (i.e. 7am-3pm and 3pm-11pm).	(I)				
3.6 Volumetrics and Service Delivery	18. Where hours are indicated in Table 3-2, this is to be interpreted as business hours when human resources are available to service a particular type of external transaction. For example, a 12 hour turnaround time combined with 16x5 business hours implies that a transaction received on Friday at 2 pm is not required to complete processing until Monday at 10am. The volumes provided in Table 3-2 are average annual projections for 2019. The volumes in Table 3-1 have a multiplying factor and	(I)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 3. General AFIS Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	percentage error added; therefore, the volumes in Table 3-2 should not be used to directly correlate to Table 3-1.					
3.6 Volumetrics and Service Delivery	19. The AFIS renewal solution shall achieve Peak Hourly Load and service delivery requirements. This shall be measured based on a fully populated database and a two-hour maximum peak load production sample.	(M)				
3.6 Volumetrics and Service Delivery	20. The AFIS renewal solution shall be designed to accommodate the business hours in Table 3-2.	(M)				
3.6 Volumetrics and Service Delivery	21. The AFIS renewal solution shall perform an image quality check with ten (10) rolled, four (4) plain and six (6) palm prints in less than 2 minutes. This shall be measured from the time the request is received by AFIS from the NPS NIST Server to the time the reply (TPQCI) is returned to the NPS NIST Server. This specific performance requirement with rolled, plains and palms is used since this represents the highest number of images included in a TP transaction. All other TP image quality checks must be faster than 2 minutes.	(M)				
3.6 Volumetrics and Service Delivery	22. The AFIS renewal solution shall delete fingerprint images (Rolled & Plain, ID Flat, Palm impressions) in less than 10 seconds from the time the request is received from the NNS to the time the confirmation / reply transaction is returned to the NNS.	(M)				
3.6 Volumetrics and Service Delivery	23. The AFIS renewal solution shall update fingerprint-related file descriptors such as File Number in less than 5 seconds from the time the request (TPAI, ULAI) is received from the NNS to the time the confirmation / reply transaction is returned to the NNS.	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 3. General AFIS Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
3.6 Volumetrics and Service Delivery	24. Priority one (1) transactions must be placed at the top of the queue for immediate processing and their turnaround time must not exceed the priority two (2) and priority three (3) turnaround times.	(M)				
3.6 Volumetrics and Service Delivery	25. Regardless of priority, an enrolment transaction, not stopped for manual processing, must be processed within ten (10) minutes. That is, if an enrolment is in the queue for longer than ten (10) minutes because of an increase in high priority search transactions, the enrolment must be automatically increased in priority or use some other method that ensures it is processed within fifteen (15) minutes.	(M)				
3.6 Volumetrics and Service Delivery	26. The AFIS renewal solution must support searching and processing Latent fingers vs TP Palms or Latent Palms vs TP finger. This is for unusual circumstances where a Latent is submitted as a finger; however, the Latent technician considers it a potential palm or where a Latent is submitted as a palm; however, the Latent technician considers it a potential finger. These volumes are not expected to exceed fifty (50) transactions per year and the performance of these searches does not need to meet the normal UI response times.	(M)				
3.6 Volumetrics and Service Delivery	27. The AFIS renewal solution shall be sized to accommodate the database volumes as outlined in Table 3-3: Data Volumes.	(M)				
<b>3.7 AFIS User Interface Feature</b>						
3.7 AFIS User Interface Feature	1. This section contains the AFIS User Interface features that are common to most user activities performed by fingerprint technicians.	(I)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 3. General AFIS Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
3.7 AFIS User Interface Feature	2. All TP and Latent UI features must have the same look and feel with a Windows GUI. For example, a side-by-side view of two TP fingers must look the same as a side-by-side view of a latent finger and a TP finger.	(M)				
3.7 AFIS User Interface Feature	3. A side-by-side view must use as much of the screen as possible while still providing the user the ability to use the features that must be available on the UI.	(M)				
3.7 AFIS User Interface Feature	4. The AFIS renewal solution UI must allow personalized settings to be configured on a per workstation basis, as a minimum, and have those personalized settings saved and used every time the user logs into the workstation. If the AFIS renewal solution UI allows personalized settings to be configured and saved by each user regardless of workstation, as described in the next paragraphs (5, 6), this personalized settings per workstation is not required. That is, if the AFIS renewal solution UI supports the requirements in the next paragraphs (5, 6), the Contractor can show satisfying this requirement by indicating support for the requirements in the next paragraphs (5, 6).	(M)				
3.7 AFIS User Interface Feature	5. The AFIS renewal solution UI should allow personalized settings to be configured by each user and have those personalized settings saved and used every time the user logs in.	(R)				
3.7 AFIS User Interface Feature	6. These personalized settings should include as many UI features as possible from the available features.	(R)				
3.7 AFIS User Interface Feature	7. Additionally, the user should be able to temporarily toggle between their personal settings and the default settings through a single click mouse method (e.g.: button).	(R)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 3. General AFIS Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
3.7 AFIS User Interface Feature	8. All AFIS renewal solution TP and Latent features must be available for any AFIS user, on any AFIS workstation with restrictions based on Role Based Access Controls (RBAC).	(M)				
3.7 AFIS User Interface Feature	9. The Ten Print UI and the Latent UI shall provide the ability for a technician to perform the mandatory image adjustments, features and views to the submitted Ten Print/Latent fingerprint/palm print images and filed Ten Print/Latent fingerprint/palm print images as described in Table 3-4: AFIS User Interface Features. These features shall be available under all circumstances under which a Ten Print/Latent fingerprint/palm print image is viewed/compared except where noted in Table 3-4.	(M)				
3.7 AFIS User Interface Feature	10. In addition, the Ten Print and Latent UI should provide the ability for a technician to perform the rated features in Table 3-4: AFIS User Interface Features and other image adjustments, features and views as described in Table 3-4: AFIS User Interface Features. These features should be available under all circumstances under which a Ten Print/Latent fingerprint/palm print image is viewed/compared except where noted in Table 3-4.	(R)				
3.7 AFIS User Interface Feature	11. Each AFIS workstation shall provide the ability to perform all Ten Print and Latent User Interface software features and software functions. This does not imply that all workstations include each of the input devices.	(M)				
3.7 AFIS User Interface Feature	12. The input devices to be provided with each workstation are specified in the Technical Requirements.	(I)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 3. General AFIS Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
3.7 AFIS User Interface Feature	13. The AFIS renewal solution shall enable a technician to adjust the images during the TP and Latent processing with at least the following capabilities using a variable sizing capability with a mouse controlled method such as, hover and scroll, or slider; to finely tune the adjustments. Additionally, there must be a reset button for each of these functions to remove the specific image adjustments: a. Zoom in / zoom out an image; b. Adjust brightness; c. Adjust background brightness; d. Rotate; and e. Histogram equalization to adjust image intensities to enhance contrast.	(M)				
3.7 AFIS User Interface Feature	14. The AFIS renewal solution should enable a technician to hover and scroll to zoom in / zoom out (i.e. hover on the image and use the mouse scroll wheel to adjust the image), since this is one of the most frequently used features.	(R)				
3.7 AFIS User Interface Feature	15. The AFIS renewal solution shall enable a technician to adjust the images during the TP and Latent processing with at least the following capabilities using a single mouse click method (e.g.: button, click/move): a. Select best fit so the AFIS renewal solution determines how to display the prints; b. Select actual size to display the prints in their actual size; c. Size to 50% through a single mouse click; d. Size to 200% through a single mouse click;	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 3. General AFIS Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>e. Previous pair;</li> <li>f. Next pair;</li> <li>g. Minutia with tail;</li> <li>h. Minutia without tail;</li> <li>i. Hide minutia / show matching minutia;</li> <li>j. Ridge count off/on;</li> <li>k. Match orientation off/on;</li> <li>l. Move images close to each other to reduce the distance the fingerprint technician's eyes need to move to compare the prints;</li> <li>m. White background;</li> <li>n. Black background;</li> <li>o. Colour background; and</li> <li>p. Highlight a portion of the print to analyze more closely through actions the same or similar to the following:                             <ul style="list-style-type: none"> <li>i. Isolate (e.g.: box, lasso) a portion of a fingerprint on the search print and the candidate print; where lasso means allowing a user to select a region of interest (i.e. a circle or line to select an area inside or outside the area selected),</li> <li>ii. Change the portion of the print isolated (e.g.: move around a box),</li> <li>iii. Have the isolated portion of each print magnified (configurable parameter) for more detailed analysis, and</li> <li>iv. Be able to identify specific points in one print and move the focal point of the magnified portion of the print (i.e.:</li> </ul> </li> </ul>					

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 3. General AFIS Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	move around in the magnified portion to better analyze whether the print is a match).					
3.7 AFIS User Interface Feature	16. The AFIS renewal solution shall provide a means for the technician to indicate “certify” or “fail to certify”/”decline” by an explicit single user interface action (e.g.: Certify button, Decline button) with confirmation (e.g.: Are you sure?). The Certify button must be highlight in green and the Decline button must be highlighted in red using Alpha Blending or Alpha Compositing method.	(M)				
3.7 AFIS User Interface Feature	17. The AFIS renewal solution shall enable an AFIS user to view the NIST Packet during any state of processing. As a minimum, this shall include, viewing the packet from the work queue, from the TP quality check UI while the transaction is open for work, and similarly from TP manual segmentation, TP sequence check, TP verification, TP certification, Latent Lasso, Latent Edit, Latent Verification, Latent Certification 1, Latent Certification 2, Latent 3rd Certify, Latent Insert, Latent Search and UL Search.	(M)				
<b>3.8 Administrative Capabilities</b>						
3.8 Administrative Capabilities	1. The AFIS renewal solution shall provide an administrative tool/capability to be used by an authorized user that shall provide, at a minimum, the following functionality: a. Monitor all hardware and software; b. Monitor the transactions in the AFIS workflow and give the transaction status, time in and time out; c. Allow an authorized user to change the priority of a transaction or to push one or more transactions up or down the processing queue;	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 3. General AFIS Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<p>d. Give access to the error logs, and allow them to be searchable by, as a minimum: time error occurred, External TCN, DCN, and External Transaction Type;</p> <p>e. Monitor databases and provide utilities to dump selected data, including all descriptors;</p> <p>f. Monitor remote transactions;</p> <p>g. Monitor all images stored in the Ten Print File, their corresponding minutiae and the descriptor data for a subject(s) to ensure that they are all correctly associated to one another;</p> <p>h. Monitor image quality and view all images stored in the Ten Print File (TPF), the Unsolved Latent File (ULF), and work in progress; view their corresponding descriptor data and feature sets;</p> <p>i. Manually consolidate a set of Ten Print entries to the same Subject Identifier and File Number to reconcile misses when the consolidation of the files has not occurred, or on an as-needed basis when two subjects have been identified as a possible miss by external sources;</p> <p>j. Provide functionality to delete entries (one by one and in batch) on the TPF, ULF and work in progress while leaving the transaction log intact and removing the entry from all work queues and candidate lists. Log all deletion activity by, as a minimum, External TCN, DCN, Subject Identifier, File Number, Latent Image Identifier (in the case of ULF only) user ID, workstation ID, date, time;</p> <p>k. Provide access to the AFIS renewal solution statistics for reporting purposes;</p>					

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 3. General AFIS Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	l. Provide access to ad hoc reporting capability and predefined/canned reports as described in subsection 3.5 Operational Reporting and Statistics; m. Provide functionality to amend the file number of a TPF directly and log all such actions; n. Provide functionality to amend the following ULF fields directly and log all such actions: AFIS Latent ID, Latent Image ID, Offence Date and Creation Date; and o. Change the Expiry Date for a specific search or group of searches saved on the ULF.					
3.8 Administrative Capabilities	2. If there is a problem with the matching capability, then the AFIS renewal solution shall notify the administrator so that action can be taken to discontinue operations.	(M)				
3.8 Administrative Capabilities	3. The AFIS renewal solution shall provide a function that enables an administrator to select a number of transactions for which the fingerprint identification process is to be re-initiated, and to indicate the point at which these transactions are to be re-introduced into the AFIS workflow. This capability is within the AFIS renewal solution through the UI and this is not resulting from a Ten Print Work in progress Delete (TPWDI).	(M)				
3.8 Administrative Capabilities	4. Failures and errors. If the AFIS renewal solution reports a failure or error to a user or operational administrator, then the message shall include the reason why the failure or error occurred.	(M)				
3.8 Administrative Capabilities	5. The AFIS renewal solution shall log all AFIS renewal solution failures and errors as well as any error notifications issued and corrective actions taken.	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 3. General AFIS Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
3.8 Administrative Capabilities	6. The AFIS renewal solution shall enable an operational administrator to view and print a list of transactions affected by failure or error during a specified period that indicates, as a minimum, the External TCN, DCN, Originating Agency ID, a description of the failure or error, the status of the transaction at the time of the failure or error and the date/ time the failure / error occurred.	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 4. Ten Print Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>4.1 General</b>						
4.1 General	1. As explained in the AFIS renewal workflow subsection, NNS will send a request to AFIS to initiate a TP search based on the AFIS ICD. The Ten Print Request (TPRI) packet is used to initiate the TP search. The AFIS renewal solution must process the TP search based on the content of the TPRI and the requirements stated throughout this SOW and its accompanying documents. The AFIS ICDs and the requirements stated throughout this SOW and its accompanying documents explain the processing that must be supported by the AFIS renewal solution. NNS will use the response transactions from the AFIS renewal solution to take whatever action is required by the NNS such as update the NNS processing status of a submission, respond to the contributor and any other action that is part of NNS processing.	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 4. Ten Print Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
4.1 General	2. The AFIS renewal solution shall: <ul style="list-style-type: none"> <li>a. Accept requests received from the NNS;</li> <li>b. Manage requests through the AFIS renewal solution;</li> <li>c. Encode and verify the search requests;</li> <li>d. Enable a technician to certify proposed identifications;</li> <li>e. Return search results, log information and statistical information to the NNS using the internal reply transactions; and</li> <li>f. Notify the NNS of the status of transactions.</li> </ul>	(M)				
4.1 General	3. Each internal Ten Print Request will have a set of parameters that must be used by the AFIS renewal solution to perform the search. Refer to the AFIS ICD for all the parameters that must be supported. For example, the parameters could indicate: Electronic Quality Check, 1:1 Ten Print Match, 1:N Search and/or auto certify upon a System Declared Hit. In addition the incoming transaction will indicate which file types and special repositories to search against.	(M)				
4.1 General	4. The workflow for fingerprint search shall be designed to support fully automated processing based on the parameters in the internal Ten Print transactions passed to the AFIS renewal solution. That is, if auto reject and auto certify parameters indicate a fully automated search, then the AFIS renewal solution must complete the processing without manual intervention.	(M)				
4.1 General	5. The Type 14 Record may contain flat images as image records 13, 14, and 15. If the Type 14 ID Flats Record does not contain the segmentation information; the transaction shall be rejected.	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 4. Ten Print Processing</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
4.1 General	6. Where the AFIS renewal solution finds that the quality of the prints requires manual intervention, then the AFIS renewal solution shall perform the search with the required level of manual intervention to assure the accuracy and reliability of the results.	(M)				
4.1 General	7. In the case of Ten Print transactions, the AFIS renewal solution shall process at 500 ppi.	(M)				
4.1 General	8. The AFIS renewal solution shall automatically take into consideration a possible +/- 5% adjustment in sizing when performing a search.	(M)				
4.1 General	9. The AFIS renewal solution shall automatically take into consideration a MINIMUM +/- 30 degrees rotation adjustment when performing a search.	(M)				
4.1 General	10. The AFIS renewal solution shall return an Internal Status Transaction (TOT STI) to the NNS when the transaction is queued for manual processing. The specific contents of the STI and the states are indicated in the AFIS ICD.	(M)				
4.1 General	11. Prior to certification, when two or more files numbers not under the same Subject ID are to be certified and while the AFIS renewal solution is waiting for the fingerprint technician to certify a transaction, the AFIS renewal solution shall send an internal transaction (TPCI) advising the NNS of the File Number(s) of the candidates to which the transaction is to be certified.	(M)				
4.1 General	12. The AFIS renewal solution shall enable a technician to display any two of the ten fingers simultaneously for verification/certification purposes. The fingers displayed from the candidate shall correspond to the fingers displayed in the submission.	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 4. Ten Print Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
4.1 General	13. The AFIS renewal solution shall provide the following UI capabilities during verification/certification: <ul style="list-style-type: none"> <li>a. The TP UI shall at all times display the TP submitted for search and the candidate TP file currently being worked on.</li> <li>b. The TP UI shall, as a minimum, display the following fields in addition to the TP search and candidate fingerprint images while verifying/certifying the results of a TP search:                             <ul style="list-style-type: none"> <li>i. Search prints DCN;</li> <li>ii. Candidate File Number;</li> <li>iii. Finger number of candidate;</li> <li>iv. Fingerprint quality of prints; and</li> <li>v. Number of minutia.</li> </ul> </li> </ul>	(M)				
4.1 General	14. During TP processing, the fingerprint technician must be able to switch from the normal single finger side-by-side view to a view with two fingers side-by-side or to view all 10 fingers for searched prints and the candidate fingerprints on the DB. This switch between views must be through a single mouse action (e.g.: button or tab).	(M)				
4.1 General	15. During the two fingers view or the 10 finger view, the UI must display which fingers are being viewed and related characteristics of the fingers including but not limited to quality and number of minutia.	(M)				
4.1 General	16. During the two fingers view or the 10 finger view, the UI must allow a single finger in the view to be selected and apply the image adjusting features available during the side-by-side view.	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 4. Ten Print Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>4.2 Extract and Save</b>						
4.2 Extract and Save	1. Retention is normally requested in conjunction with a search. This process shall include the encoding of the fingerprints and a determination by the AFIS renewal solution as to whether the feature set must be saved or not depending on the quality. However, the AFIS renewal solution shall be capable of processing a Ten Print Request with only a Retention and no search being requested, using the Direct Filing / Direct Scanning configured workstation (Section 6).	(M)				
4.2 Extract and Save	2. The AFIS renewal solution shall save every image in its original state prior to any image adjustments for retention on the Ten Print File, where retention is requested.	(M)				
4.2 Extract and Save	3. If the image is adjusted then the image adjustment parameters shall be saved as well so they can be re-applied to the original image to display the enhanced image.	(M)				
4.2 Extract and Save	4. The AFIS renewal solution shall not save fingerprint images or their corresponding feature sets where the DCN already exists on the TPF. Where this occurs, the AFIS renewal solution shall reject the transaction with an Error Internal (ERRIN) response. The NNS performs this validation for a duplicate DCN prior to sending a request to AFIS; however, in case there is an issue with NNS, AFIS must ensure a duplicate DCN is rejected.	(M)				
4.2 Extract and Save	5. Where the TPRI transaction has requested retention of the images, the AFIS renewal solution shall retain these images indefinitely until an explicit request to delete these images has been received or the defined retention period has been reached.	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 4. Ten Print Processing</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
4.2 Extract and Save	6. The AFIS renewal solution shall automatically extract fingerprint features from digitized ten-print images and, where retention is indicated and where the quality and feature set limit have been considered, save these in the TPF.	(M)				
4.2 Extract and Save	7. The AFIS renewal solution shall have the ability to extract ten-print fingerprint features with no manual intervention.	(M)				
4.2 Extract and Save	8. The AFIS renewal solution shall automatically assign a fingerprint quality measurement to each impression in each submission received including Rolled, Plain, ID Flat and Palm impressions and save this measurement in the TPF, where retention is requested in the internal TPRI transaction.	(M)				
4.2 Extract and Save	9. The AFIS renewal solution shall extract any descriptors (i.e.: from all record types) from the internal transaction needed to support the Contractor's Entire AFIS renewal solution and save these in the TPF.	(M)				
4.2 Extract and Save	10. The AFIS renewal solution must save data in the TPF with a specific set of fingerprints to ensure all requirements stated through this SOW and its accompanying documents are satisfied. For example, AFIS Subject Identifier, File Number, DCN, External TCN, File Type Code, Date Fingerprinted, Image Resolution, Image Quality Measurement, Original Image Indicator, Originating Agency ID, Date Added, Gender, and all data required to support the LCMC requirements and the subsection 3.5 Operational Reporting and Statistics requirements.	(M)				
4.2 Extract and Save	11. The AFIS renewal solution should be flexible in its ability to store and retain data in WIP and in the TPF.	(R)				

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4.2 Extract and Save	12. The original TPRI NIST packet for any retained transaction must be saved by the AFIS renewal solution.	(M)				
4.2 Extract and Save	13. The AFIS renewal solution shall accept and store fingerprint images and palm print images in any valid resolution received (e.g.: 500 ppi, 1000 ppi), minimum 500 ppi as supported by the ANSI/NIST-ITL-1-2011. Currently, 100% of Ten Print transactions are submitted at 500 ppi.	(M)				
4.2 Extract and Save	14. In the case of Ten Print and palm transactions, the AFIS renewal solution shall support encoding, search, and storage at the original image resolution received (500 ppi or 1000 ppi). The original image resolution shall be retained and made available for viewing.	(M)				
4.2 Extract and Save	15. The AFIS renewal solution shall store fingerprint, palm print and photo images compliant with ANSI/NIST-ITL-1-2011 image record specifications to support the requirements stated in the RTID internal and external ICDs.	(M)				
4.2 Extract and Save	16. Palm prints – The AFIS renewal solution shall retain palm print images received with Ten Print transactions and file these to the File Number assigned according to the results of their corresponding Ten Print searches.	(M)				
4.2 Extract and Save	17. The AFIS renewal solution shall allow an authorized user to perform a TP fetch, swap the palms or fingers if desired/required, save the result, without affecting the original submission and then re-launch the search.	(M)				

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<b>4.3 Electronic Quality and Sequence Check</b>						
4.3 Electronic Quality and Sequence Check	1. The AFIS renewal solution must support accurate automated quality assessment of rolled fingerprint impressions, plain impressions, ID Flat impressions and palm impressions that can detect distortion, incomplete impressions (pattern area missing, roll from nail edge to nail edge), uneven impressions, impressions not positioned correctly, incorrect sequence, incorrect orientation, and indistinct / insufficient characteristic detail.	(M)				
4.3 Electronic Quality and Sequence Check	2. The AFIS renewal solution shall automatically assign a fingerprint quality measurement to each impression in each submission received including Rolled, Plain, ID Flat and Palm impressions and use the quality measures to determine processing of the transaction.	(M)				
4.3 Electronic Quality and Sequence Check	3. Sequence Check – The AFIS renewal solution shall automatically compare the fingerprints in the plain impression area of the form with those in the rolled impression area of the form to determine if the impressions have been provided in the same sequence. Where the sequence of the rolled impressions is not consistent with the plain impressions then the AFIS renewal solution shall automatically queue the transaction for manual review if the out of sequence configurable parameter to force this review is set; otherwise, a quality error must be returned.	(M)				
4.3 Electronic Quality and Sequence Check	4. Fingerprint Image Quality – The AFIS renewal solution shall provide a fully automated process to determine and record the quality of scanned and electronically received fingerprint images. The quality of each fingerprint and palm image and a graded measurement of the overall quality of the transaction shall be	(M)				

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	saved in the TPF where retention is requested and returned as and when required in the AFIS ICD transactions.					
4.3 Electronic Quality and Sequence Check	5. The AFIS renewal solution shall have a configurable set of quality measures that shall be used in conjunction with automated quality checking to determine if a submission can be automatically rejected. Refer to configurable parameters subsection 8.1.	(M)				
4.3 Electronic Quality and Sequence Check	6. The AFIS renewal solution must have a configurable parameter that is used, when set, to determine if the quality of the plain impressions exceeds the rolled impressions. If the quality of the plain impressions exceeds the rolled impressions by the value of this "Plain Quality Indicator" configurable parameter (Section 8.1) then the plain impressions must be used in the search instead of the rolled impression. Alternatively, the AFIS renewal solution must search using all rolled and all plain impressions.	(M)				
4.3 Electronic Quality and Sequence Check	7. Where the TPRI parameters indicate that automated quality rejection is allowed and the "automatic quality rejection" measures indicate a failure, then the AFIS renewal solution shall reject the transaction by returning a TPQCI indicating rejection and including the poor quality reasons.	(M)				
4.3 Electronic Quality and Sequence Check	8. Upon completion of quality control the AFIS renewal solution shall always return a TPQCI transaction indicating the outcome.	(M)				
<b>4.4 Ten Print Manual Quality Control</b>						
4.4 Ten Print Manual Quality Control	1. Ten Print Manual Quality Control refers to the practice of having a fingerprint technician review and adjust the fingerprints for quality as part of the search process. Poor quality fingerprint handling is	(I)				

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	an important issue for the RCMP because it provides flexibility for the RCMP to process transactions that would otherwise be rejected. During user acceptance testing, every Ten Print Submission with fingerprints below a configurable parameter will be reviewed by a QC fingerprint technician for fingerprint quality. Once there is very high confidence in the quality processing of the AFIS renewal solution, the Ten Print Manual QC is intended to be an exception-based process.					
4.4 Ten Print Manual Quality Control	2. The AFIS renewal solution must allow a fingerprint technician to segment and perform other applicable image adjustments to resolve potential quality issues. For example, adjust the box or equivalent method for each print to ensure the segmentation considers the most effective portion of the print is included in the search.	(M)				
4.4 Ten Print Manual Quality Control	3. The box sizes, or equivalent method for segmentation, should be dynamic. This feature should allow different size plain fingerprints to be completely included within the box and therefore, included in the search.	(R)				
4.4 Ten Print Manual Quality Control	4. The box sizes, or equivalent method for segmentation, should have a 360 degree rotation capability with an indicator denoting the bottom of the box to allow different size prints to be completely included within the box and therefore, included in the search.	(R)				
4.4 Ten Print Manual Quality Control	5. The AFIS renewal solution shall enable a technician to view all electronic quality and sequence assessments (perform QC) made by the AFIS renewal solution, assess the quality and sequence of the rolled impressions, plain impressions, ID flats and palm impressions (where palm impressions are available in the	(M)				

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	transaction), compare the rolled fingerprint impressions to the plain impressions, and the plain impressions to the palm impressions, assess the ability to search with the plain impressions, and either: reject the transaction with selected reasons, accept the transaction or accept the transaction for search, but with partial/no retention of the fingerprint characteristics.					
4.4 Ten Print Manual Quality Control	6. For further clarity while performing QC (including sequence correction), the AFIS renewal solution shall enable a technician to select the fingers/plains/palms/ID Flat images for potential swap, view them side by side, and enlarge the images at the same zoom level. If the plain impressions have been changed as part of the manual QC process, such that the segmentation would no longer be valid, the AFIS renewal solution shall recreate the segmentation and continue the processing.	(M)				
4.4 Ten Print Manual Quality Control	7. If any fingers have been swapped (i.e. Rolled to rolled, and /or plain to rolled) as part of the manual QC process, the AFIS renewal solution should verify that sequencing is correct and allow the user to correct the sequencing if it is not correct.	(R)				
4.4 Ten Print Manual Quality Control	8. The AFIS renewal solution shall enable the technician to undo any sequence corrections using a single / double user interface action.	(M)				
4.4 Ten Print Manual Quality Control	9. The AFIS renewal solution shall provide a mechanism for searching and handling of poor quality prints.	(M)				

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4.4 Ten Print Manual Quality Control	10. The AFIS renewal solution shall return the technician's assessment of quality, or the AFIS renewal solution assessment of quality if auto reject is indicated, in the internal reply (TPQCI) transaction. Upon completion of quality control the AFIS renewal solution shall always return a TPQCI transaction indicating the outcome.	(M)				
4.4 Ten Print Manual Quality Control	11. The technician's assessment of quality shall include, but is not limited to: indication of transaction rejection, indication of rescan required, a selection of one or more poor quality reasons, a free text comment.	(M)				
4.4 Ten Print Manual Quality Control	12. The AFIS renewal solution shall enable the technician to select Unsuitable/Rejection Reasons from a selection list and have the selection(s) automatically appended to the reply transaction.	(M)				
4.4 Ten Print Manual Quality Control	13. The AFIS renewal solution shall, on an exception basis, enable a specialized and "authorized" technician to perform QC on extracted fingerprint features such as editing of Minutiae with option to save or not, correct Fingerprint characteristics.	(M)				
4.4 Ten Print Manual Quality Control	14. The AFIS renewal solution shall, where the encoding has been manually altered, log an indication of the alteration, by whom and when.	(M)				
4.4 Ten Print Manual Quality Control	15. The AFIS renewal solution shall, when out of sequence has been identified at any stage of processing (e.g.: Verification, Certification), enable an authorized user to have the transaction reprocessed so it returns to a state that allows the sequence to be corrected.	(M)				

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4.4 Ten Print Manual Quality Control	16. The AFIS renewal solution shall, where the sequence of fingerprints has been manually altered by a technician, perform a sequence check and enable a technician to override the outcome.	(M)				
4.4 Ten Print Manual Quality Control	17. The AFIS renewal solution shall log all Ten Print QC activity including the nature of any adjustments performed (e.g.: minutiae editing, image rotation, sequence correction) by whom and when.	(M)				
4.4 Ten Print Manual Quality Control	18. The AFIS renewal solution shall, on an exception basis, enable a technician to copy any Finger Impression from the Plain Impressions and affix these into the Rolled Impression blocks or to segment the Plain Impressions for search against the Ten Print File Rolled Impressions. This may be required where two identical fingerprint impressions have been provided in the rolled. In this instance, one of the rolled could be removed and replaced by a plain impression for the correct finger.	(M)				
4.4 Ten Print Manual Quality Control	19. The AFIS renewal solution shall display the following information during Ten Print Manual QC in support of the rejection decisions: a. The Type of External Transaction; b. The External Retention Code; c. An indication of whether the external transaction was originally received on paper or electronically; d. The Fingerprint Quality Overrides (tag 2.893); and e. The Missing Fingerprint Reasons (tag 2.8084).	(M)				
<b>4.5 One-to-One Ten Print Search</b>						
4.5 One-to-One Ten Print Search	1. The 1:1 Ten Print Search refers to the fully automated process of scoring an incoming set of prints against the prints on file for the specified File Numbers and determining if any of these File	(M)				

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	Numbers are worthy of consideration as a potential identification. The 1:1 Ten Print Search could be used in several situations: Submission arrives with FPS and identification needs to be confirmed prior to proceeding to certification, a Name Search candidate list (performed by NNS) needs to be filtered to determine if any name search candidates are worthy candidates for verification/certification. The Internal Ten Print Search transaction will provide a candidate list of one or more File Numbers for which a 1:1 Ten Print Search must be performed.					
4.5 One-to-One Ten Print Search	2. The AFIS renewal solution shall provide the capability to automatically match fingerprint features in a new submission with fingerprint features contained in a specific RCMP Ten Print file based on a specified File Number.	(M)				
4.5 One-to-One Ten Print Search	3. The AFIS renewal solution shall have a configurable 1:1 Hit Threshold or other "System Declared Hit" parameters to meet the accuracy requirements.	(M)				
4.5 One-to-One Ten Print Search	4. The AFIS renewal solution shall give each 1:1 match a score and an assessment as a "System Declared Hit", candidate for verification or no hit.	(M)				
4.5 One-to-One Ten Print Search	5. The AFIS renewal solution 1:1 Ten Print Search shall search against all sets on File within the same Subject File, unless configured to search the best "x" number of sets of prints based on a configurable parameter, plus the composites. Where "x" will be agreed to with the Contractor during the implementation.	(M)				
4.5 One-to-One Ten Print Search	6. The AFIS renewal solution shall retain a record of all 1:1 scores and the AFIS renewal solution's assessment as a "System	(M)				

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	Declared Hit", candidate or negative for each File Number specified in the Internal Ten Print Request transaction.					
4.5 One-to-One Ten Print Search	7. Where a list of multiple File Numbers (candidates) are provided, the AFIS renewal solution shall automatically filter (score and reduce) the candidate list using a 1:1 Ten Print Search with a 1:1 Threshold to create a short list and long list for review purposes. The short list must include only one set of prints per subject. The long list must include all prints for all subjects.	(M)				
4.5 One-to-One Ten Print Search	8. If there is more than one candidate left after filtering, then the AFIS renewal solution shall consider these candidates as candidates for Verification.	(M)				
4.5 One-to-One Ten Print Search	9. If there is only one candidate left and the AFIS renewal solution has determined that this candidate is a hit and automatic certify has been indicated in the Internal Ten Print Request, then the Ten Print search shall be considered complete and the results of the search returned in the internal reply transaction.	(M)				
4.5 One-to-One Ten Print Search	10. Where a File Number provided in the TPRI Candidate List cannot be found in the TPF, then the specific File Number shall be ignored. This situation shall not generate an error condition. For example, this is possible if a purge occurred before the search completed.	(M)				
4.5 One-to-One Ten Print Search	11. On a 1:1 Search, where either the search set or the file set is below a configurable quality level, then the match shall be forwarded to manual verification even if the score is below the grey area threshold limit.	(M)				

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<b>4.6 One-to-Many Ten Print Search</b>						
4.6 One-to-Many Ten Print Search	1. A 1:N Ten Print Search refers to the automated process of searching an incoming Ten Print against a specified subset or all of the TPF and any special Ten Print repositories.	(I)				
4.6 One-to-Many Ten Print Search	2. The AFIS renewal solution shall perform a fully automated 1:N Ten Print Search and reply with the result where the Internal Ten Print Request parameters indicate that an automatic search is to be performed.	(M)				
4.6 One-to-Many Ten Print Search	3. The AFIS renewal solution shall search and score the incoming Fingerprints against the subset of the Ten Print File and special repositories, as specified by the Ten Print Request parameters (target set), in a fully automated fashion.	(M)				
4.6 One-to-Many Ten Print Search	4. The Ten Print Request (TPRI) will indicate which files and special repositories to search against.	(M)				
4.6 One-to-Many Ten Print Search	5. The AFIS renewal solution should search with the required accuracy and reliability as stated in 3.6 Volumetrics and Service Delivery using as few descriptors as necessary.	(R)				
4.6 One-to-Many Ten Print Search	6. The "File/File Number" terminology used within the AFIS context is not intended to imply a physical partition of data in the AFIS renewal solution. A subject will have a potential Criminal File Number (FPS Number), a Refugee File Number, an Immigration Number and/or an Employee File Number linked together via a unique Subject Identifier.	(M)				

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4.6 One-to-Many Ten Print Search	7. The AFIS renewal solution shall search against all composite feature sets on the TPF for the same subject or all sets of prints if composites are not used. For example, if the subject is both a criminal and refugee then it shall search both the criminal composite and the refugee composite for the subject; or if composites are not used then it shall search all sets of prints in both the criminal and the refugee repositories.	(M)				
4.6 One-to-Many Ten Print Search	8. The AFIS renewal solution shall have a configurable 1:N Hit Thresholds for "System Declared Hit", and any other parameters proposed by the Contractor to meet the accuracy requirements.	(M)				
<b>4.7 Ten Print Verification</b>						
4.7 Ten Print Verification	1. Verification refers to the practice of having a fingerprint technician review a list of candidates to find a matching set of fingerprints.	(I)				
4.7 Ten Print Verification	2. The AFIS renewal solution shall perform verification with manual intervention where the AFIS renewal solution has automatically determined that there are multiple candidates worthy of consideration.	(M)				
4.7 Ten Print Verification	3. The AFIS renewal solution must ensure all Candidates, in the short list only, are dispositioned for mandatory verification.	(M)				
4.7 Ten Print Verification	4. The candidate list shall include the File Numbers associated to a candidate subject (e.g.: FPS Number, Employee File Number, Refugee File Number, Immigration number), the digit to be displayed and all other data identified in Section 3 general AFIS requirements.	(M)				
4.7 Ten Print Verification	5. Where a subject has more than one File Number (e.g.: both a Refugee File Number and a Criminal File Number) then all shall	(M)				

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	be available for display at time of verification even though they are considered as one candidate.					
4.7 Ten Print Verification	6. To ensure that verification is performed without bias, the AFIS score shall not be visible on the verification user interface, unless the user is authorized to view the score.	(M)				
4.7 Ten Print Verification	7. The AFIS renewal solution shall display the candidates in descending order of probability.	(M)				
4.7 Ten Print Verification	8. The AFIS renewal solution shall only display the highest scoring candidate for the same Subject on the Candidate List even though there are multiple set of prints on file or the subject has multiple files (e.g.: both a refugee file and a criminal file).	(M)				
4.7 Ten Print Verification	9. The AFIS renewal solution shall present fingerprint images from a ten-print Submission and fingerprint images of corresponding digits from a selected candidate side by side at the same size.	(M)				
4.7 Ten Print Verification	10. The AFIS renewal solution shall present the best matching fingerprint images (rolled or plain) for verification from a ten-print Submission search. As well, the AFIS Renewal solution shall enable the technician to select a specific finger (rolled or plain) for comparison and/or toggle to the next pair.	(M)				
4.7 Ten Print Verification	11. Additionally, the fingerprint technician should have the option to switch from rolled impression to plain impression (or vice versa) on the candidate side of the comparison while submission side stays the same, by means of a single mouse click.	(R)				
4.7 Ten Print Verification	12. Once verification is completed for a candidate, the AFIS renewal solution shall proceed to the next candidate without delay. UI response times are described in the Technical Requirements.	(M)				

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4.7 Ten Print Verification	13. The AFIS renewal solution shall automatically display the next submission from a technician's filtered view of the Ten Print work queue when the technician requests the next submission.	(M)				
4.7 Ten Print Verification	14. The AFIS renewal solution shall enable a technician to loop forward and backward through a list of candidates and to select a specific candidate for display from the Candidate List without delay. The AFIS renewal solution shall stop at the end of the list and indicate to the user when the end of the list has been reached. UI response times are described in the Technical Requirements.	(M)				
4.7 Ten Print Verification	15. The AFIS renewal solution shall provide a visual indication in the Candidate List of which candidates have already been verified.	(M)				
4.7 Ten Print Verification	16. The AFIS renewal solution shall enable the technician to view the Rolled Impression or the corresponding Plain Impression, or ID Flat impression of the candidate in the Ten Print comparison window without delay. UI response times are described in the Technical Requirements.	(M)				
4.7 Ten Print Verification	17. The AFIS renewal solution shall provide a visual indication to the technician of the other sets of fingerprints on file for the same subject including their resolutions, overall quality, availability of palms, indication of which sets have already been viewed and enable the technician to view any of these other sets of images (rolled and plain and palm, or ID Flat).	(M)				
4.7 Ten Print Verification	18. The AFIS renewal solution shall enable a technician to disposition with confirmation a Submission as either ident to a candidate or non-ident.	(M)				

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4.7 Ten Print Verification	19. The AFIS renewal solution shall enable a technician to assign a transaction to a supervisory role with a work related note if they are having difficulty verifying the identification.	(M)				
4.7 Ten Print Verification	20. If a verification technician does not confirm an AFIS renewal solution System Declared Hit above the Absolute Hit threshold, then the AFIS renewal solution shall assign the submission to a supervisory role to confirm the verification by setting a flag in the queue which shows the transaction that the supervisor is to work on. If the supervisor and AFIS renewal solution assessments are not the same, then the AFIS renewal solution shall update the Discrepancy Report with the supervisor's certification results, which the AFIS Program Analyst will review for further analysis.	(M)				
4.7 Ten Print Verification	21. The AFIS renewal solution shall record a Discrepancy Log of all identifications (System Declared Hits) that were overturned by a verification technician.	(M)				
4.7 Ten Print Verification	22. The AFIS renewal solution shall merge the verification candidates from 1:1 Match and 1:N such that only a single candidate list is presented for manual verification.	(M)				
4.7 Ten Print Verification	23. The AFIS renewal solution shall enable a technician to filter the Ten Print work queue by transaction status. Depending upon the technician's role, the technician will be able to view transactions of a given status.	(M)				
4.7 Ten Print Verification	24. The AFIS renewal solution shall enable a user to print out a comparison quality hardcopy of the verification screen image and the search and candidate information associated with the verification (e.g.: ORI, DCN, TCN, File Number, Subject ID, finger	(M)				

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	number, score, etc. – complete list to be determined with the Contractor).					
<b>4.8 Ten Print Certification</b>						
4.8 Ten Print Certification	1. Manual certification at the RCMP refers to the practice of having a senior fingerprint technician confirm a proposed identification.	(I)				
4.8 Ten Print Certification	2. The AFIS renewal solution shall automatically forward all manual identifications proposed by a verification technician to Certification, where the Ten Print Request indicates that manual certification is mandatory.	(M)				
4.8 Ten Print Certification	3. If verification is not mandatory for a particular transaction and the AFIS renewal solution has proposed a hit, then the AFIS renewal solution shall automatically forward the System Declared Hit to Certification where the Ten Print Request parameters indicate that Certification is mandatory (TPRI Certification Indicator).	(M)				
4.8 Ten Print Certification	4. The AFIS renewal solution shall provide the capability to auto certify based on a certification request received directly from the NNS as a TPRI. In this case the certification result is automatically returned to the NNS without manual intervention, unless stated in this SOW or its accompanying documents.	(M)				
4.8 Ten Print Certification	5. In support of the historical paper based certification, the AFIS renewal solution shall enable a Certification technician to initiate a Certification by scanning the unique barcode that was affixed to the paper fingerprint form.	(M)				
4.8 Ten Print Certification	6. The AFIS renewal solution shall automatically display the next submission from a technician's filtered view of the Ten Print work queue when the technician requests the next submission.	(M)				

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4.8 Ten Print Certification	7. The AFIS renewal solution shall provide the capability for a fingerprint technician to certify fingerprints by enabling the certification technician to view a selected finger image from a proposed identification or specified File Number beside the corresponding finger image from the new transaction at the same size. In this case, referred to as a "cold certify" (i.e.: camera certify), the AFIS renewal solution shall enable the certifier to enter / scan from a barcode the File Number or DCN/Doc ID to fetch the File Number to certify. Subsequently, the certifier must be able to view a print using the camera to determine if it can be certified.	(M)				
4.8 Ten Print Certification	8. The AFIS renewal solution shall enable a certification technician to view complete images of any of the fingers, plain impressions, ID Flats or palm impressions of the candidate (including all sets on file for the candidate) beside the corresponding print image for the new submission without delay. UI response times are described in the Technical Requirements.	(M)				
4.8 Ten Print Certification	9. The AFIS renewal solution shall provide a visual indication to the technician of the other sets of fingerprints on file for the same subject including their resolutions, quality, palm availability and enable the technician to view any of these other sets of impressions.	(M)				
4.8 Ten Print Certification	10. The AFIS score shall not be visible on the certification user interface, unless the user is configured to view the score.	(M)				
4.8 Ten Print Certification	11. The AFIS renewal solution shall provide a means for the technician to indicate "certify" or "fail to certify" the Submission to an existing File by an explicit single user interface action (e.g.:	(M)				

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	Certify button, Decline button) with confirmation (e.g.: Are you sure?).					
4.8 Ten Print Certification	12. The AFIS renewal solution should provide a means to indicate "unsuitable for certification" for the Submission to an existing File by an explicit single user interface action.	(R)				
4.8 Ten Print Certification	13. Additionally, the fingerprint technician should have the option to switch from rolled impression to plain impression (or vice versa) on the candidate side of the comparison while submission side stays the same, by means of a single mouse click.	(R)				
4.8 Ten Print Certification	14. The AFIS renewal solution shall automatically retain in the Transaction Log a record of the certifier's User ID, the date and time of certification and the score of matching candidates.	(M)				
4.8 Ten Print Certification	15. The AFIS renewal solution shall automatically determine and display the best matching fingers for certification.	(M)				
4.8 Ten Print Certification	16. If a proposed identification is not certified, then the AFIS renewal solution shall retain a Certification Declined Log of the following, as a minimum: the User ID of the technicians involved, the User ID of the verification technician(s) (if verification was performed), the verification technician proposal, the System proposal, the AFIS Score, the File Number, DCN and TCN of the proposed ident, the External TCN and DCN of the Submission, the date and time that the certifiers' decision was made. Refer to the 3.5 Operational Reporting and Statistics for additional details.	(M)				
4.8 Ten Print Certification	17. If a certification decision overturns a verification decision, then the AFIS renewal solution shall record the details in the Certification Declined Log.	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
4.8 Ten Print Certification	18. A "System Declared Hit" decision is an identification that has been determined by the AFIS renewal solution with no manual intervention.	(I)				
4.8 Ten Print Certification	19. If a certification decision overturns a System Declared Hit decision, then the AFIS renewal solution shall: a. Record the following information, as a minimum: Activity, User ID of the certification technician, the AFIS Score, the FPS File Number and DCN of the proposed ident, the TCN and DCN of the Submission, the date and time that the certification decision was made; and b. Automatically log this information for monitoring purposes in the Certification Declined Log.	(M)				
4.8 Ten Print Certification	20. For any verification or certification overturn that is recorded in Certification Declined Log, automatically generate a report for declines and notify the AFIS Program Analyst.	(R)				
4.8 Ten Print Certification	21. The AFIS Program Analysts will use AFIS renewal reporting to monitor the AFIS renewal solution's matching accuracy, contributor quality, trouble shoot misses and so on.	(M)				
4.8 Ten Print Certification	22. While certifying the search results of a Ten Print search, the AFIS renewal solution shall display the fingerprint images, and as a minimum, external TCN, file Number of the candidate, finger number and all other data as described in the general AFIS requirements (Section 3).	(M)				
4.8 Ten Print Certification	23. The AFIS renewal solution shall enable the Certification Technician to view the new submission in its entirety, including all data in all record types. A NIST packet viewer which must be	(M)				

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	available anytime to view the submission, would be used to view the data.					
4.8 Ten Print Certification	24. When certifying, the AFIS renewal solution shall allow the technician to: <ul style="list-style-type: none"> <li>a. See the best quality fingers;</li> <li>b. Once they hit the Certify button, then the next dialogue shall display all fingerprint impressions from the submission and the file print;</li> <li>c. Select rolled, plain or ID Flat impressions from each available card stored in AFIS; and</li> <li>d. If a problem is observed, then the technician shall have the ability to take appropriate action (Cancel or Decline) before Ident Search Conclusion takes place. Ident Search Conclusion shall only occur once the Conclude (or equivalent) button is hit.</li> </ul>	(M)				
4.8 Ten Print Certification	25. When certifying, the AFIS renewal solution should allow the technician to view other rolled, plain or ID Flat impressions, for any finger and for all cards stored in AFIS as part of the process of certifying.	(R)				
4.8 Ten Print Certification	26. Where a certification technician determines that a candidate forwarded to certification is not identical, then the technician shall have the ability to review and disposition the full list of candidates.	(M)				
4.8 Ten Print Certification	27. In the case of a "cold certify" (i.e.: camera certify), the AFIS renewal solution shall log the following information: File Number fetched, File Number to certify, Operator ID of certification technician, Workstation ID on which certification took place, start time of certification, end time of certification.	(M)				

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4.8 Ten Print Certification	28. If the manual certification flag is turned off (AFIS renewal solution is allowed to auto certify) and if the AFIS renewal solution makes a hit in the grey zone (below the hit threshold and above the no-hit threshold), then the AFIS renewal solution shall forward the submission for manual verification and if a hit is confirmed then the submission shall be forwarded to manual certification. In addition, if the manual certification flag is turned off and the AFIS renewal solution makes multiple hits that are confirmed by a verification technician then the AFIS renewal solution shall forward the submission for manual certification. That is, auto certification cannot occur if either grey zone hits are made or multiple hits are made.	(M)				
4.8 Ten Print Certification	29. The AFIS renewal solution shall enable a user to print out a comparison quality hardcopy of the certification screen image and the search and candidate information associated with the certification (e.g.: ORI, DCN, TCN, File Number, Subject ID, finger number, score, etc. – complete list to be determined with the Contractor).	(M)				
<b>4.9 Search Conclusion</b>						
4.9 Search Conclusion	1. If no identification is made under any of the above circumstances, then: <ul style="list-style-type: none"> <li>a. If the internal TPRI transaction requested that the AFIS save the prints, then the AFIS renewal solution shall automatically assign a new Subject Identifier.</li> <li>b. If the internal TPRI transaction requested that the AFIS save the prints, then the AFIS renewal solution shall automatically save the fingerprint images, photos and palm print images in the TPF with necessary descriptors and feature sets (as</li> </ul>	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	determined by the AFIS renewal solution) associated to the newly assigned Subject Identifier. c. The AFIS renewal solution shall automatically return a negative response in the internal reply transaction along with the newly assigned Subject Identifier and all other information as required by the AFIS ICD.					
4.9 Search Conclusion	2. When the NNS receives the internal reply transaction from AFIS, it will obtain the File Number references to be added to the TPF. The NNS will return to the AFIS an internal Ten Print Amend (TPAI) transaction to add the external File Number reference to the TPF entry. The AFIS renewal solution must associate the File Number reference to the TPF entry. An FPS Number will be assigned for criminals, an Immigration File Number for Refugee subjects, an Employee File Number for RCMP Employees or an Immigration File Number for Immigration subjects. Each of these numbers are mutually exclusive, of the same format and only one of these is assigned to any given set of fingerprints, up to 6 file types for any one subject.	(M)				
4.9 Search Conclusion	3. RCMP will assign the File Numbers using a 12 digit numbering convention that clearly distinguishes criminal files, refugee files, employee files and immigration files. For example, criminal files will use a 20000 prefix and refugee/immigration files will use a 50000 prefix plus a unique seven digit number within each file type.	(I)				
4.9 Search Conclusion	4. Once a File Number is assigned, it is generally assigned for the lifetime of the individual. The exception to this rule is the cases in which a file is fully purged and a subsequent Submission is received for the same individual. Misses also result in changes to	(M)				

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	File Numbers over time. Multiple submissions filed on the base can be associated to the same File Number over time (e.g.: repeat offenders can have several sets of fingerprints stored on the base). If an individual has both a criminal file and a refugee file, then both File Numbers will be associated to the same Subject via the internal Subject Identifier. A Subject can have up to six (6) File Numbers. For identification processing purposes, these associated files for the same subject will be treated as a single Subject File.					
4.9 Search Conclusion	5. The AFIS renewal solution shall automatically remove all information pertaining to a transaction with the exception of the logs and stats when the transaction has completed processing and retention is not indicated in the internal TPRI.	(M)				
4.9 Search Conclusion	6. The AFIS renewal solution shall include in the reply to the TPRI all parameters needed to generate the Ten Print Match Report. A list of these parameters is detailed in the AFIS ICD.	(M)				
4.9 Search Conclusion	7. Where a Ten Print submission hits to two or more Subject identifiers, the AFIS renewal solution shall return a Ten Print Consolidation internal transaction (TPCNI) to the NNS after certification, prior to consolidation and enrollment.	(M)				
4.9 Search Conclusion	8. Where consolidation is indicated in the TPCNRI, the AFIS renewal solution shall consolidate each of the files as per the following rules: a. The logic to consolidate more than one refugee is as follows: When 2 or more Refugee File Numbers are being consolidated, and one or more has the prefix 330001 and one or more has the prefix 330008 then consolidate to the smallest File Number with prefix 330008. In all other	(M)				

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	<p>circumstances, consolidate to the smallest of the Refugee File Numbers.</p> <p>b. The logic to consolidate more than one criminal is as follows:</p> <p>i. The oldest FPS Number is the smallest Number. If there is no long version Criminal FPS with a "9" in the 6th position then sort all numbers to be consolidated using the long format FPS Number. The "9" number represents pre letter suffixes currently used by the RCMP.</p> <p>ii. If there is a single FPS Number with a "9" in the sixth position, then this one is the oldest.</p> <p>iii. If there is more than one FPS with a "9" in the 6th position then sort only those with a "9" in the sixth position. The smallest number in this sort is the oldest FPS Number.</p> <p>c. In all other cases, the AFIS renewal solution shall consolidate files of the same file type to the smallest/oldest file number.</p> <p>d. Refer to the database conversion section in the SOW and the ICDs for additional clarification concerning file number processing.</p>					
4.9 Search Conclusion	9. The AFIS renewal solution shall store all consolidated fingerprints under the Subject Identifier associated with the file number that was determined to be the smallest/oldest.	(M)				
4.9 Search Conclusion	10. Where consolidation is not indicated in the TPCNI, the AFIS renewal solution shall not consolidate any of the files identified under the original Ten Print Consolidation internal transaction (TPCNI).	(M)				
4.9 Search Conclusion	11. Where the Ten Print Retention Code is set to "Y", the AFIS renewal solution shall add the new prints to the file identified	(M)				

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	under the file number identified through the AFIS ICD transactions.					
4.9 Search Conclusion	12. The AFIS renewal solution shall provide a standalone process that will permit an authorized user to consolidate multiple Ten Print entries directly on AFIS. This feature will allow users to consolidate files that have been identified as potential duplicates by some external source – without the need for an NNS interface.	(M)				
<b>4.10 Ten Print Amend</b>						
4.10 Ten Print Amend	1. The Ten Print Amend (TPAI) transaction will be used on a routine basis to send File Number assignments to be added against specific fingerprint sets and Subjects on the TPF. It will also be used to alter the priority of a transaction in WIP. When the AFIS renewal solution receives a Ten Print Amend (TPAI) request from the NNS, the AFIS renewal solution shall automatically change the Ten Print entry or the Ten Print transaction in WIP (e.g.: file references numbers, priority) as indicated.	(M)				
4.10 Ten Print Amend	2. The AFIS renewal solution shall log all changes made to the TPF as a result of an internal Ten Print Amend transaction and also log all priority changes to the WIP initiated from within the AFIS environment.	(M)				
4.10 Ten Print Amend	3. The AFIS renewal solution shall return a reply to the NNS acknowledging the completion of the Ten Print Amend transaction.	(M)				
4.10 Ten Print Amend	4. This transaction is part of the normal TP search workflow when a new file number needs to be created. NNS will provide the new file number for AFIS and AFIS must save with the new file created.	(M)				

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<b>4.11 Ten Print Delete</b>						
4.11 Ten Print Delete	1. When the AFIS renewal solution receives a Ten Print Delete (TPDI) request from the NNS, the AFIS renewal solution shall automatically delete the complete Ten Print entry(ies) associated to the specific File Number and/or DCN and make any other necessary database changes as a result of the deletion (e.g.: removing a file number reference at the Subject level).	(M)				
4.11 Ten Print Delete	2. The complete Ten Print entry shall include the rolled, plain, ID Flat and palms print images and feature sets, descriptors, file reference numbers, photos and any other Type 2 data retained on the File for that particular set of fingerprints.	(M)				
4.11 Ten Print Delete	3. If only a File Number is specified and no DCN is specified, then all Ten Print entries corresponding to that File Number shall be deleted with the exception of the Transaction log and statistics.	(M)				
4.11 Ten Print Delete	4. If only a DCN is specified in the internal Ten Print Delete, then only the specific Ten Print entry corresponding to the DCN shall be deleted. The corresponding transaction log, statistics shall not be deleted.	(M)				
4.11 Ten Print Delete	5. The AFIS renewal solution shall log all changes made to the TPF as a result of an internal Ten Print Delete transaction and also those made internally within the AFIS environment.	(M)				
4.11 Ten Print Delete	6. The AFIS renewal solution shall return a reply to the NNS acknowledging the completion of the Ten Print Delete transaction.	(M)				
4.11 Ten Print Delete	7. If the File Number purged corresponds to a transaction pending certification to that purged File Number (i.e., all fingerprints associated to the file are being purged), then the AFIS renewal	(M)				

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	solution shall not permit the certification to complete to that File Number, notify the Certification Technician of the purged File Number, enable the certification technician to conclude the transaction without carrying out the certification to the purged File Number, and indicate that this has occurred in the TPRED transaction. If there are other certification candidates for the same submission then these will be permitted to proceed.					
4.11 Ten Print Delete	8. The AFIS renewal solution should ensure that purges do not disrupt the workflow.	(R)				
4.11 Ten Print Delete	9. This transaction is used on a routine basis in conjunction with legislated purges.	(I)				
4.11 Ten Print Delete	10. If the AFIS renewal solution receives a TPWDI, then the AFIS renewal solution shall cancel all further processing on the specified DCN in all WIP regions, remove the submission from AFIS queues in all regions, add a record of the delete in the transaction log and leave all previous entries in the transaction log intact. The normal use of the TPWDI transaction is to delete a transaction so it can be resent by NNS. This approach is used by NNS to resolve processing issues resulting from unforeseen failures.	(M)				
4.11 Ten Print Delete	11. The AFIS renewal solution must reply to the NNS with the results of the TPWDI in the Ten Print WIP Delete Response (TPWDRI).	(M)				
4.11 Ten Print Delete	12. The AFIS renewal solution shall provide a standalone process that will permit an authorized user to manually delete Ten Print entries directly from AFIS. This feature will allow authorized users to delete through the AFIS renewal solution without the need for an NNS interface The AFIS renewal solution must ensure that the	(M)				

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	TP entry is also deleted from the VSS if the TP entry also exists on VSS.					
4.12 Fingerprint Image Request						
4.12 Fingerprint Image Request	1. Fingerprint Image Retrieval Request (IRQI) transactions will be used by the NNS to fetch images (herein referred to as an "image fetch") from AFIS. Image List Retrieval (ILRI) transactions will be used to return the list of prints available on the file (herein referred to as a "list fetch").	(M)				
4.12 Fingerprint Image Request	2. When the AFIS renewal solution receives an Image Retrieval Request (IRQ) image fetch, then the AFIS renewal solution shall automatically return the images requested, if any, associated to the specific File Number and/or DCN. Furthermore: a. The AFIS renewal solution shall return the adjusted images in response to an IRQI. That is, if a fingerprint technician has previously made image adjustments and these image adjustments were saved then the images returned in the Image Request Response Internal (IRRI) shall include the application of these saved image adjustments. b. If the FPS of the DCN requested does not match the FPS in the IRQI, then the AFIS renewal solution will respond with an ERRIN.	(M)				
4.12 Fingerprint Image Request	3. The images requested might include: the fingerprints, the palm prints and/or the photos.	(I)				
4.12 Fingerprint Image Request	4. In the case of an image fetch, if only a File Number is specified, then the composite set of requested images corresponding to that File Number, or best set from the images available for the File	(M)				

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	Number if composites do not exist, shall be fetched and returned along with the file descriptors.					
4.12 Fingerprint Image Request	5. In the case of an image fetch, if a DCN is specified, then the Fingerprint Image Request shall return the specific set of images requested along with the file descriptors associated with that DCN.	(M)				
4.12 Fingerprint Image Request	6. In the case of a list fetch (ILRI), the AFIS renewal solution shall return a list of available sets of prints on file.	(M)				
4.12 Fingerprint Image Request	7. The AFIS renewal solution shall perform fetches within the AFIS environment as stated throughout this SOW and its accompanying documents.	(M)				
4.12 Fingerprint Image Request	8. If the Contractor's solution does not use composites, then the best set of prints must be provided for an image fetch that does not include a specific DCN.	(M)				
<b>4.13 Special Search and File Requests</b>						
4.13 Special Search and File Requests	1. The AFIS renewal solution shall process special low volume "search only", "search and file" or "file only" requests.	(M)				
4.13 Special Search and File Requests	2. These are typically very urgent requests handled by exceptions. The request may be received on paper.	(I)				
4.13 Special Search and File Requests	3. The Direct File/Scan services will be used for the conversion of some of these requests.	(M)				

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4.13 Special Search and File Requests	4. For sensitive requests, the AFIS renewal solution shall limit physical handling and access to the electronic information including the logs to specific users with designated privileges.	(M)				
4.13 Special Search and File Requests	5. The AFIS renewal solution shall enable an authorized technician to file a new or existing set of fingerprints with a new File Number or a reactivated File Number as a new Subject without performing a search.	(M)				
4.13 Special Search and File Requests	6. The AFIS renewal solution shall enable a user to initiate a TP to TP search from a single fingerprint or whole set of fingerprints captured from a scanner within the AFIS environment.	(M)				
4.13 Special Search and File Requests	7. The AFIS renewal solution shall allow a limited set of users with the appropriate authority and privileges to file a set of fingerprint images to a reopened or new FPS number.	(M)				
<b>4.14 Retention of Fingerprints and Photos</b>						
4.14 Retention of Fingerprints and Photos	1. For those transactions where retention is indicated, the AFIS renewal solution shall retain all fingerprint images, photos and palm images until an explicit request to purge has been received from the NNS or an authorized AFIS user.	(M)				
4.14 Retention of Fingerprints and Photos	2. For latent to TP searches, the AFIS renewal solution shall be capable of searching all Ten Print feature sets from rolled impressions, all Ten Print feature sets from plain impressions, all Ten Print feature sets from ID flat impressions, and all Ten Print feature sets from palm impressions per subject.	(M)				
4.14 Retention of Fingerprints and Photos	3. For TP to TP searches, the AFIS renewal solution shall be capable of searching the composite rolled or composite ID flats depending on what type of fingerprints have been retained for a	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	specific subject or if no composite is used then all sets of prints must be searched unless the best "x" number of sets of prints based on a configurable parameter for each file type and fingerprint type has been set (i.e. rolled/plain and ID Flat – refer to configurable parameters Section 8.1).					
4.14 Retention of Fingerprints and Photos	4. In those situations where there are rolled and plains and the overall quality of the plain impressions exceeds the overall quality of the rolled impressions; then the plain impressions will be added to the search engine, along with the composite rolled set for future searching purposes. If composites are not used, all prints must be added to the search engine.	(M)				
4.14 Retention of Fingerprints and Photos	5. The AFIS renewal solution shall automatically prepare a composite best set from all rolled impressions received and a composite best set from all ID Flat impressions received for a subject file type. If a subject file has a combination of the rolled, plains and ID flats (e.g.: Immigration), then two composites shall be created, one rolled and an ID flat composite. If composites are not used in the Contractor's solution, there is no requirement for the composites to be created, since all sets of prints must be searched if no composites have been provided.	(M)				
4.14 Retention of Fingerprints and Photos	6. The projected size of the feature set file is provided in Section 3.6.	(I)				
4.14 Retention of Fingerprints and Photos	7. The AFIS renewal solution must maintain the composite feature sets automatically based on the sets of fingerprints retained for each subject, if the Contractor's solution includes composites. That is, no manual intervention shall be required to constitute the	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	best set of prints in the composite feature set. If composites are not used, then all feature sets must be maintained.					
4.14 Retention of Fingerprints and Photos	8. If a criminal file is purged or particular submissions are purged, then the AFIS renewal solution shall automatically purge all data associated with the purged submissions by file number and DCN including: the fingerprint images, photos, palm images, minutiae and other fingerprint features. All log file entries must not be affected by purging the fingerprint files.	(M)				
4.14 Retention of Fingerprints and Photos	9. The Composite Set prepared by the AFIS renewal solution shall not at any time include a fingerprint from a submission that has been purged, if the Contractor's solution includes composites. When a set of fingerprints is purged, the composite set must be updated to remove any purged fingerprints included in the composite set and replace them with the next best fingerprint for any finger purges from the composite, if the Contractor's solution includes composites.	(M)				
4.14 Retention of Fingerprints and Photos	10. The definition of purge is as follows: "To remove from the operational system in a manner that ensures the fingerprints cannot be recovered in the operational environment". This excludes log file data and data retained in RCMP backups. Log files must be retained indefinitely for audit purposes and backup files will eventually be rolled over; therefore, permanently removing the data.	(M)				
4.14 Retention of Fingerprints and Photos	11. The AFIS renewal solution shall be capable of searching up to twelve (12) composites per subject, where a subject might have six file types (e.g.: rolled composite, plain composite, ID Flat composite), if the Contractor's solution includes composites. If composites are not used, all prints must be searched.	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>4.15 Fingerprint Endorsement</b>						
4.15 Fingerprint Endorsement	1. The use of a "Biometric Endorsement" in lieu of a signature will be used as an electronic means of capturing an applicant's approval for such things as releasing criminal record search results to a 3rd party (3rd Party Waiver) and consent to disclose pardoned offences for applicants to positions in the vulnerable sector. In order to provide automatic verification of the consent, the AFIS renewal solution must compare the endorsement fingerprint to the fingerprints provided for identification. The AFIS renewal solution will report the results of the comparison of the endorsement fingerprint to the identification fingerprint(s) back to the NNS in the TPQCI reply transaction.	(M)				
4.15 Fingerprint Endorsement	2. The AFIS renewal solution shall perform a comparison between the fingerprint image identified in the TPRI as the endorsement fingerprint (Type-14 identified by the Type-2 tag – Biometric Consent Image Designator) to the corresponding (same finger) provided for AFIS searching purposes (Type-4 record or Type-14 record) and provide indication of the results of the comparison to the NNS in the TPQCI transaction. The Type-14 Record may contain flat images as image records 13, 14, and 15. If the Type-14 ID Flats Record does not contain the segmentation information; the transaction shall be rejected.	(M)				
4.15 Fingerprint Endorsement	3. If the AFIS renewal solution confirms that the endorsement fingerprint matches a fingerprint in the identification set, the AFIS renewal solution shall indicate this result in the TPQCI.	(M)				
4.15 Fingerprint Endorsement	4. If the AFIS renewal solution determines that the endorsement fingerprint does not match the corresponding fingerprint provided in the identification set, the AFIS renewal solution shall compare	(M)				

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	the endorsement fingerprint to each of the other fingers provided in the identification set.					
4.15 Fingerprint Endorsement	5. If the Manual Biometric Consent configurable parameter (Section 8.1) is set, any endorsement fingerprint that does not match must go to manual certification. If the technician decides that the endorsement fingerprint is identical to the corresponding fingerprint image and is certifiable, then the AFIS shall send the TPQCI indicating a biometric consent pass.	(M)				
4.15 Fingerprint Endorsement	6. If the Manual Biometric Consent configurable parameter (Section 8.1) is set, any endorsement fingerprint that does not match must go to manual certification. If the technician decides that the endorsement fingerprint is not identical to the corresponding fingerprint image or is not certifiable, then the AFIS shall stop processing the transaction and send the TPQCI indicating a biometric consent failure.	(M)				
4.15 Fingerprint Endorsement	7. If the Manual Biometric Consent configurable parameter (Section 8.1) is not set, any endorsement fingerprint that does not match must stop AFIS fingerprint processing and the result will be returned to the NNS in the TPQCI.	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>5.1 Latent Workflows</b>						
5.1 Latent Workflows	1. There are two different latent workflows, referred to as Central Latent and Remote Latent. Central latent processing starts with a Central Latent Client (CLC) site collecting the latent prints and submitting them to RTID through an LFSNS transaction. Each CLC submission can have up to ten (10) latent images. Through NNS processing, each latent image is submitted to AFIS individually. These individual latents are processed by RCMP Latent technicians at RCMP HQ.	(I)				
5.1 Latent Workflows	2. Each remote site collects their own latents and submits them to RTID using a Transcoder, one latent at a time through the LFFS transaction. Each remote site has Latent technicians that process each latent. RCMP HQ has a group called Remote Network Search Coordinators that provide assistance as required for the Remote Latent technicians; otherwise, these Remote Latent technicians' process their latents without assistance from RCMP HQ.	(I)				
5.1 Latent Workflows	3. Electronic Latent Management Operations (ELMO) is the RCMP's present Latent Case Management System that was custom-developed in 2002. The AFIS renewal solution LCMC will replace ELMO. This replacement will be completed as a second stage in the AFIS renewal implementation. To minimize the risk on the AFIS renewal, the first stage will include the AFIS renewal using ELMO for latent case management. After transition to the renewed AFIS, the second stage will include the conversion of ELMO data and implementation of LCMC. Refer to the implementation plan concerning these details.	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
5.1 Latent Workflows	4. The AFIS renewal solution must support latent processing with ELMO in the first stage of the implementation. Since the AFIS renewal solution has no direct communication with ELMO, this support means that the existing workflow must be supported in the first stage of implementation. This also means that the LCMC requirements identified herein and throughout this SOW and its accompanying documents must be implemented in stage two (2).	(M)				
5.1 Latent Workflows	5. All central latent and remote latent activity must be recorded automatically in the LCMC. The LCMC detailed requirements are identified in a separate Annex within this SOW; however, it is mentioned herein to reflect the relationship between the latent processing and LCMC. For example, any identification to a TP or latent must be recorded automatically and viewable in the LCMC when a user is reviewing the case where the identification was made. As well, all data required for the LCMC, provided to the AFIS renewal solution by NNS through the various latent transactions must be recorded in the LCMC in a manner that can be effectively and efficiently used by the AFIS renewal solution users.	(M)				
5.1 Latent Workflows	6. The LCMC must provide the ability to launch a search directly from the LCMC. This is simply a continuation of the processing of a case at a date well beyond the initial analysis (e.g.: cold case); therefore, the AFIS renewal solution must support all the requirements stated throughout this SOW and its accompanying documents for these searches initiated from the LCMC. For example, the latent image ID numbering requirement for any latent must always be maintained by the AFIS renewal solution. The latent image ID is a unique value that is used by NNS, LCMC and the AFIS renewal solution.	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 5. Latent Fingerprint Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
5.1 Latent Workflows	7. In stage one (1) of the AFIS renewal solution implementation an ELMO user will initiate a research using an existing latent case. Since ELMO interfaces with NNS, this will result in a Latent Image Search Request (LFSI) transaction being sent to the AFIS renewal solution which is part of the existing workflow.	(M)				
5.1 Latent Workflows	8. The CLC user submits Latent Fingerprint Search (LFSNS) and Fingerprint Image Requests (IRQI) transactions to NNS. The LFSNS submission is processed through an NNS workflow that interfaces repeatedly with AFIS to process all the latent images included in the LFSNS. Refer to the Central Latent workflow below for further details on what the AFIS renewal solution must support for LFSNS processing. Refer to the AFIS ICD for details concerning the processing of the IRQI.	(M)				
5.1 Latent Workflows	9. CLC is an interactive UI for users at sites that collect and submit crime screen prints to Central Latents. CLC will be used to manage the latent portion of their police incident investigation. Consequently, the AFIS renewal solution must provide a read only database view that will allow a portion of the LCMC data to be displayed to the CLC user in order to satisfy the UI response times for CLC users. The Contractor can propose an alternate approach; however, this alternate approach must support a response time that is comparable to a direct database query. The AFIS ICD asynchronous interface is not considered acceptable for the CLC UI.	(M)				
5.1 Latent Workflows	10. Note that the Central Latent workflow changes required for the LCMC implementation, including this read only database view, are included in a separate Annex with the detailed requirements for LCMC.	(I)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 5. Latent Fingerprint Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
5.1 Latent Workflows	11. The AFIS renewal solution shall process all internal latent AFIS transactions as specified in the AFIS ICD.	(M)				
5.1 Latent Workflows	12. The AFIS renewal solution shall: <ul style="list-style-type: none"> <li>a. Accept requests received from NNS;</li> <li>b. Manage requests through the AFIS renewal solution;</li> <li>c. Automatically encode the area identified by the Latent technician and process latent search requests that generate a search result which can be reviewed by a Latent technician;</li> <li>d. Facilitate the manual encoding of latent search requests which will then be processed, generating a search result which can be reviewed by a Latent technician;</li> <li>e. Enable a Latent technician to verify the latent search candidates;</li> <li>f. Enable a Latent technician to certify proposed identifications;</li> <li>g. Enable a supervisor or senior Latent technician to second certify the proposed identifications;</li> <li>h. Return search results, log information and statistical information to NNS using the internal reply transactions;</li> <li>i. Notify the NNS of the status of LFSI transactions;</li> <li>j. Create US Electronic Biometric Transmission Specification (EBTS)-compliant Latent Fingerprint Feature Search (TOT US LFFS) transactions, provide the capability to verify and disposition the results (US SRL) and return the search results to NNS using the LSRFI transaction; and</li> <li>k. Notify the NNS when a latent image has been committed (TOT LTCI). This will either happen after a re-launch of a previously submitted search or when the original image is</li> </ul>	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 5. Latent Fingerprint Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	adjusted OR when an existing image is duplicated. A latent image may be duplicated on AFIS so that the rotation, lasso or size can be adjusted OR so that a new minutiae set or descriptor set (e.g.: finger number, fingerprint classification) can be searched and/or added to the ULF for the same image.					
5.1 Latent Workflows	13. The AFIS renewal solution must support an ability to fetch any type of print against any other type of print as part of normal submission processing or through the UI. This will allow any two prints to be analysed in a side-by-side view and then follow the normal verification/certification process (e.g. a Latent user is viewing an image in a wait for lasso state and they fetch an image for comparison; and then process it in the same manner as if the comparison image from selected as a search candidate). In stage two (2) implementation, this type of scenario for Latent processing would be reflected as a "Fetch" Search Type in LCMC. Refer to Annex E LCMC Detailed Requirements for additional information on the Search Type field.	(M)				
5.1 Latent Workflows	14. The AFIS renewal solution must provide a Latent queue capability that allows Latent users to pull work from and/or return work to depending on their specific role.	(M)				
5.1 Latent Workflows	15. The AFIS renewal solution shall accept and store fingerprint images in any valid resolution (e.g.: 500 ppi, 1000 ppi), as supported by the ANSI/NIST-ITL-1-2011 or a later version. The 500 ppi is required to support legacy latents.	(M)				
5.1 Latent Workflows	16. The minimum resolution for latent images (fingerprints and palms) shall be 1000 ppi.	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 5. Latent Fingerprint Processing</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
5.1 Latent Workflows	17. The AFIS renewal solution must allow a user to confirm that finger/palm latent images are scaled 1:1, prior to searching (i.e. provide a UI feature where images are shown consistently at their actual size so a user can measure the ruler in the image to confirm 1:1 scaling).	(M)				
5.1 Latent Workflows	18. Fifty (50) percent of the latent transactions are Central transactions and the other fifty (50) percent are Remote latent transactions. The fingerprint images found in these transactions are stored at 1000 ppi.	(I)				
5.1 Latent Workflows	19. The AFIS renewal solution shall allow encoding and search of legacy latent images at 500 ppi and shall allow encoding and search at 1000 ppi if received at 1000 ppi.	(M)				
5.1 Latent Workflows	20. In the case of latents received at resolutions above 1000 ppi, the AFIS renewal solution shall support the ability for the latent examiner to rescale the image to 1000 ppi, without affecting the scale of the image (i.e. remaining 1:1).	(M)				
5.1 Latent Workflows	21. The AFIS renewal solution shall return an Internal Status Transaction (STI) to the NNS when the transaction is queued for manual processing, when a latent image transaction is committed, and when a latent image transaction is ended. The specific contents of the STI and the states are indicated in the AFIS ICD.	(M)				
5.1 Latent Workflows	22. The following two subsections present example workflows for Central Latent and Remote latent submissions.	(I)				
5.1 Latent Workflows	23. Note: The generic term AFIS is used in the following workflow explanations since it is describing the existing workflow. The AFIS	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 5. Latent Fingerprint Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	renewal solution must support all the processing and workflow indicated generically with the term AFIS.					
<b>5.1.1 Central Latent Workflow</b>						
5.1.1 Central Latent Workflow	1. The following table shows the sequence of activities for an existing Central Latent submission. Following this table is an explanation of each activity and transaction included in the workflow related to understanding the workflow applicable to the AFIS renewal solution. The AFIS renewal solution must receive and correctly process each AFIS ICD NIST transaction sent to the AFIS renewal solution as well as respond back to NNS with the required AFIS ICD NIST transaction correctly populated with the data required by the NNS in the sequence required for each workflow.	(M)				
5.1.1 Central Latent Workflow	2. Note: The following example is an existing flow; therefore, there are references to ELMO.	(I)				
5.1.1 Central Latent Workflow	3. The above table shows all activities for a LFSNS submission to reflect the other non-AFIS activities that also occur throughout this process. These non-AFIS activities allow a better understanding of the overall processing, show how the data that will be sent to the AFIS renewal solution is derived and how the data received from the AFIS renewal solution would be used. The following focusses on the activities that must be supported by the AFIS renewal solution in the above example LFSNS submission: a. Line #1 shows the LFSNS received, which has two (2) latent images in the LFSNS; b. Line #5 shows NNS creating an LFSI using the first latent image and assigning it a "-001" suffix to the case file name	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<p>provided by the contributor. The Latent ID created by NNS is ON10814-2015-TESTCASE-001;</p> <p>c. Line #6 shows NNS sending the LFSI to AFIS for processing;</p> <p>d. Line #7 shows NNS creating an LFSI using the second latent image and assigning it a "-002" suffix to the case file name provided by the contributor. The Latent ID created is ON10814-2015-TESTCASE-002;</p> <p>e. Line #8 shows NNS sending the LFSI to AFIS for processing;</p> <p>f. Line #9 shows NNS receiving an STI from AFIS indicating the receipt of the first image with the "-00" suffix for the first latent resulting in the Latent Image ID ON10814-2015-TESTCASE-001-00. The AFIS renewal solution must ensure a duplicate Latent Image ID is never created. If a duplicate is detected the AFIS renewal solution must respond with an ERRIN;</p> <p>g. Line #10 shows NNS receiving an STI from AFIS indicating the receipt of the first image with the "-00" suffix for the second latent resulting in the Latent Image ID ON10814-2015-TESTCASE-002-00;</p> <p>h. Line #11 shows NNS receiving an LSRI from AFIS indicating the User: 01 has performed a lasso on the second latent image and the AFIS renewal solution has created Latent Image ID ON10814-2015-TESTCASE-002-01. The AFIS renewal solution must increment the image id number every time the image is duplicated;</p> <p>i. Line #15 show the NNS receiving the LTCl from AFIS indicating the Latent has been committed for search by the AFIS system;</p>					

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 5. Latent Fingerprint Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<p>j. Lines #18–#23 show NNS receiving the LSRI from AFIS and recording the disposition in ELMO;</p> <p>k. Lines #20–#30 show NNS receiving LSRIs and STIs from AFIS indicating the AFIS activity by User: 01 on the Latent Image ID ON10814-2015-TESTCASE-002-01;</p> <p>l. Line #31 show NNS recording the non-ident result in ELMO;</p> <p>m. Lines #32–#61 show NNS receiving various transactions from AFIS by User: 02 for processing on the Latent Image ID ON10814-2015-TESTCASE-001-01 which is virtually the same activity for Latent Image ID ON10814-2015-TESTCASE-002-01. Included in this list of activities is line #56 which indicates a non-ident received from AFIS which is recorded in ELMO by NNS;</p> <p>n. Lines #65–#66 show NNS receiving an STI indicating the Latent Image ID ON10814-2015-TESTCASE-002-01 has been saved to the ULF which ends the processing for this particular image;</p> <p>o. Lines #72–#73 show NNS receiving an STI indicating the Latent Image ID ON10814-2015-TESTCASE-001-01 has been saved to the ULF which ends the processing for this particular image; and</p> <p>p. Lines #74–#75 shows NNS using message text received from ELMO to create and send a response email to contributor concerning this submission for this file.</p>					
<b>5.1.2 Remote Latent Workflow</b>						
5.1.2 Remote Latent Workflow	1. The following Table shows the sequence of activities for an existing Remote latent submission. Following this table is an explanation of each activity and transaction included in the	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 5. Latent Fingerprint Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	workflow related to understanding the workflow applicable to the AFIS renewal solution. The AFIS renewal solution must receive and correctly process each AFIS ICD NIST transaction sent to the AFIS renewal solution as well as respond back to NNS with the required AFIS ICD NIST transaction correctly populated with the data required by the NNS in the sequence required for each workflow.					
5.1.2 Remote Latent Workflow	<p>2. The above table shows all activities for an LFFS submission to reflect the other non-AFIS activities that also occur throughout this process. These non-AFIS activities allow a better understanding of the overall processing, shows how the data that will be sent to the AFIS renewal solution is derived and how the data received from the AFIS renewal solution would be used. The following focusses on the activities that must be supported by the AFIS renewal solution in the above example LFFS submission:</p> <ul style="list-style-type: none"> <li>a. Line #8 shows NNS sending an LFFSI NIST transaction to AFIS. The Transcoder is responsible for creating the unique Latent Image ID; however, the AFIS renewal solution must ensure a duplicate Latent Image ID is never created. If a duplicate is detected the AFIS renewal solution must respond with an ERRIN;</li> <li>b. AFIS will process the LFFSI and respond back through the NNS to the Transcoder;</li> <li>c. Line #9 shows the SRLI NIST transaction sent from AFIS to NNS;</li> <li>d. NNS will transform the SRLI to an SRL and send the SRL to the Transcoder (Lines #10–#12). If successful NNS will respond to the contributor with an ACKT NIST Transaction to</li> </ul>	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<p>acknowledge that the submission has been validated and can be processed;</p> <p>e. Line #13 shows another LFFS received from the Transcoder. This implies that the Transcoder took some action on the latent and sent it again for search. Lines 13-24 are virtually a duplicate of lines #1-12 since it is showing the LFFS transaction being processed;</p> <p>f. Line #25 shows NNS receiving the disposition NIST transaction (LFSRD) for the latent that was being processed by the Transcoder user;</p> <p>g. Line #31 shows NNS sending a LFSRDI NIST transaction to AFIS. From an AFIS perspective this disposes the latent being processed and no further activity will occur against this latent by the Transcoder users unless the Transcoder initiates a new submission;</p> <p>h. Line #32 shows NNS receiving the LCLO indicating the Transcoder user has finished with processing this submission. As noted in the AFIS ICD the LCLOI is not communicated to AFIS since this processing is all within the NNS; and</p> <p>i. The Contractor is also responsible for providing the Transcoder renewal solution from which the LFFS and related NPS-NIST ICD transaction originate in the above example workflow. The Transcoder detailed requirements are described in a separate Annex within this SOW.</p>					
5.2 Latent Fingerprint Search Request						
5.2 Latent Fingerprint Search Request	1. The AFIS renewal solution shall process Latent Search Requests for Latent vs Ten Print searches and Latent vs Latent searches.	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 5. Latent Fingerprint Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
5.2 Latent Fingerprint Search Request	2. The term "Latent Search" refers to a single set-up of a latent image. The typical terminology used by RCMP is as follows: A police occurrence results in one or more latent submissions that may be comprised of several fingerprint impressions. This is referred to as a file. The Latent File Number is associated to the set of submissions corresponding to one police occurrence. For a single submission, there may be several Latent Searches prepared as a result of multiple latent images in the submission or as a result of different set-ups (e.g.: lasso). The ULF stores individual Latent Images. The same image may occur multiple times on the ULF if it was adjusted or encoded differently. The LSRI holds a single set-up search performed for a single image.	(I)				
5.2 Latent Fingerprint Search Request	3. The AFIS renewal solution shall automatically assign a Search Creation Date equal to the present date to each Latent Search.	(M)				
5.2 Latent Fingerprint Search Request	4. The AFIS renewal solution shall augment a unique identifier (Latent Image Identifier) for each latent image committed by using the Latent Identifier submitted in the LFSI transaction and adding a two digit suffix that is incremented by one every time the same image is committed starting at "01". (e.g.: <Latent Identifier><2 digit image instance>) If an instance of an image is retained on the ULF, then the Latent Image Identifier shall be retained with it. There can be up to 99 images for one Latent Identifier.	(M)				
5.2 Latent Fingerprint Search Request	5. The Latent Identifier passed to the AFIS in the LFSI transaction will have a 7 digit ORI prefix added by the NNS. In stage 2 implementation the AFIS renewal solution must support this complete numbering scheme for all Latents.	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 5. Latent Fingerprint Processing</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>5.3 Encoding and Latent Searching</b>						
5.3 Encoding and Latent Searching	1. The AFIS renewal solution shall allow for automatic and manual extraction of fingerprint features.	(M)				
5.3 Encoding and Latent Searching	2. The AFIS renewal solution shall enable a user to filter the work queue by ISF, Latent File Number and by Latent Identifier, thereby enabling a single user to process through all searches pertaining to the same image or the same latent file. The AFIS renewal solution shall enable the user to perform the encoding, verification and certification of the same image on the same workstation.	(M)				
5.3 Encoding and Latent Searching	3. The AFIS renewal solution shall provide the ability to save Fingerprint features of a latent image.	(M)				
5.3 Encoding and Latent Searching	4. The AFIS renewal solution shall enable a technician to change the encoding of an image, the search criteria for an image (i.e., set-up of a search), add a new Search for a specific image, delete a specific Search and delete a specific image or image duplicate.	(M)				
5.3 Encoding and Latent Searching	5. The AFIS renewal solution shall provide a single entry screen to support modification of descriptors, data fields from set-up and parameters for search.	(M)				
5.3 Encoding and Latent Searching	6. The AFIS renewal solution shall enable a user to edit and delete automatically extracted features from latent images.	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 5. Latent Fingerprint Processing</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
5.3 Encoding and Latent Searching	7. The AFIS renewal solution shall enable a technician to delete all minutiae inside or outside a selected area, after identifying the area with a lasso like action.	(M)				
5.3 Encoding and Latent Searching	8. On Latent to Ten Print searches, the AFIS renewal solution shall search the TPF including, but not limited to, the Criminal Files, Refugee Files, Immigration files and Special Repositories as specified in the Internal Latent Fingerprint Search (LFSI); or as specified by an AFIS latent technician from within the AFIS when processing images created from the original latent included in the LFSI.	(M)				
5.3 Encoding and Latent Searching	9. The AFIS renewal solution shall return the search results automatically to a central work queue.	(M)				
5.3 Encoding and Latent Searching	10. The AFIS renewal solution shall enable a user to view and select the search results from a central queue based on user defined filters.	(M)				
5.3 Encoding and Latent Searching	11. The AFIS renewal solution shall enable a technician to save a Latent Image or one of its duplicates to the ULF.	(M)				
5.3 Encoding and Latent Searching	12. The ULF will be used by Latent Operations to file Latent Images so that these can be searched as part of the reverse search or ULF to ULF searches.	(M)				
5.3 Encoding and Latent Searching	13. The AFIS renewal solution must save data in the ULF with a specific print to ensure all requirements stated through this SOW and its accompanying documents are satisfied. For example, Latent File Number, Ident Section File Number, Latent Image ID, Latent ID, Image Data, Finger Number(s), Palm Position(s),	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 5. Latent Fingerprint Processing</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	Fingerprint Features/Characteristics, Crime Type, Offence Date, Creation Date, Expiry Date, Originating Agency ID, Palm Indicator, Operator ID (of operator that last encoded the entry), Authority to Release Indicator and all data required to support the LCMC requirements and the subsection 3.5 Operational Reporting and Statistics requirements.					
5.3 Encoding and Latent Searching	14. In addition, the ULF shall distinguish between finger latents and palm latents.	(M)				
5.3 Encoding and Latent Searching	15. Latent searches must be full penetration searches that search all TPF finger and palm prints. Since RCMP saves multiple sets of prints for a file number, this means that all sets of prints for all subjects must be included in the latent searches.	(M)				
5.3 Encoding and Latent Searching	16. The AFIS renewal solution must enable a user to increase or reduce the size of the print to search by a percentage by entering a value.	(M)				
5.3 Encoding and Latent Searching	17. The AFIS renewal solution should have a button that allows a specific configurable percentage (i.e. configurable parameter) adjustment to the size of a print based on the most common percentage change.	(R)				
<b>5.4 General Latent User Interface Features</b>						
5.4 General Latent User Interface Features	1. Latent Search List must include: <ul style="list-style-type: none"> <li>a. The Latent Work Queue is a list of work that must be performed by latent technicians. The Latent Technician shall be able to filter the contents of the work queue so that it includes only outstanding searches and completed searches do not appear on the list.</li> </ul>	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	b. The Latent User Interface shall provide a work queue that can be sorted ascending / descending. c. By default, the Latent User Interface (UI) shall list the searches for verification/certification in the order specified by the sequential search numbering such that all searches pertaining to the same image are grouped together on the work queue. d. The UI shall enable a technician to loop forward and backward through the list of outstanding searches. e. The latent UI shall automatically refresh the search list at timed intervals. f. The AFIS renewal solution shall enable a user to process through a range or the entire search list without having to return to the search list to select the next search to be worked on by automatically bringing up the next search in the range or search list upon disposition of the current one. g. The Latent UI shall enable a technician to remove (purge) a search from the search list. If a search is pending completion of the AFIS search, then this shall cancel the AFIS search. h. The Latent UI shall allow a technician to view the outstanding searches on the work queue and filter all of the searches based on the image (Latent Identifier) they are working on. When they request additional work, the AFIS renewal solution will automatically bring forward the next item from the filtered work queue.					
5.4 General Latent User	2. The AFIS renewal solution shall display at least the following data during the verification/certification process:	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
Interface Features	a. The Latent UI shall at all times display the Latent Image Identifier (unique identifier associated to an image instance) currently being worked on. b. The Latent UI shall, as a minimum, display the following fields in addition to the latent search image and candidate fingerprint images while verifying/certifying the results of a latent search: <ul style="list-style-type: none"> <li>i. Transaction number;</li> <li>ii. Agency ORI;</li> <li>iii. Latent File Number;</li> <li>iv. Latent Identifier;</li> <li>v. Latent Image Identifier;</li> <li>vi. Candidate File Number;</li> <li>vii. Candidate DCN;</li> <li>viii. Candidate agency ORI;</li> <li>ix. External TCN;</li> <li>x. Offence Date;</li> <li>xi. Finger number of candidate;</li> <li>xii. Fingerprint quality of prints; and</li> <li>xiii. Number of minutia.</li> </ul>					
5.4 General Latent User Interface Features	3. The AFIS renewal solution must ensure the Candidates, in the short list (Default Minimum Number of Latent Forward Search Candidates configurable parameter Section 8.1), are dispositioned for verification.	(M)				
5.4 General Latent User	4. The AFIS renewal solution must allow the user to view all Candidates, in the long list (Default Maximum Number of Latent	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
Interface Features	Forward Search Candidates configurable parameter Section 8.1), through a single mouse click, which will allow the user to then review the additional Candidates.					
<b>5.5 Latent Verification</b>						
5.5 Latent Verification	1. The AFIS renewal solution shall rank the candidates list in the order of most likely to least likely match and enable a technician to view the candidate list.	(M)				
5.5 Latent Verification	2. The AFIS renewal solution shall provide only a single candidate for a given Subject. That is, if a subject is both a criminal and a refugee, then only the best matching candidate (regardless of file type) is to be presented. The AFIS renewal solution shall indicate the number of sets of fingerprints on file, including their resolutions, palm availability and quality, and enable the technician to view any of these other sets of impressions for each candidate subject.	(M)				
5.5 Latent Verification	3. If a subject has multiple sets of fingerprints/palm prints on File or has both a Refugee File and a Criminal File, then only the best matching impression identified by the search will be used for comparison. The technician will have the option of viewing other impressions from different sets on file for the same subject.	(M)				
5.5 Latent Verification	4. For finger/palm latent, the AFIS renewal solution shall include on the candidate list, as a minimum: a. All File Numbers pertaining to the subject (FPS Number, Refugee File Number, Immigration number); and b. Matching Finger Number and/or Palm description/code.	(M)				

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5.5 Latent Verification	5. The AFIS renewal solution shall not display the AFIS score on the verification user interface, unless the user is configured to view the score.	(M)				
5.5 Latent Verification	6. The AFIS renewal solution shall enable a system administrator to configure the AFIS renewal solution hit threshold and the default number of top ranked candidates for latent to Ten Print searches. Refer to configurable parameters subsection 8.1 for additional information.	(M)				
5.5 Latent Verification	7. The AFIS renewal solution shall enable a technician to loop forward and backward through the list of candidates and to select a specific candidate for display from the candidate list. The AFIS renewal solution shall stop at the end of the list and indicate to the user when the end of the list has been reached.	(M)				
5.5 Latent Verification	8. The AFIS renewal solution shall provide a side-by-side view of the Latent fingerprint or palm image along with the corresponding single finger or palm in the matching Ten Print to support verification.	(M)				
5.5 Latent Verification	9. The AFIS renewal solution shall display the unsolved latent beside the candidate Ten Print at the same size and scale, even if the resolutions differ.	(M)				
5.5 Latent Verification	10. The AFIS renewal solution shall enable a technician to view complete images of any of the fingers, plain impressions, ID Flat impressions or palm impressions of the candidate (including images from any sets on file for the candidate) sized and rotated accordingly beside the latent image.	(M)				
5.5 Latent Verification	11. Latent technicians generally move through the candidate list top to bottom. The AFIS renewal solution shall provide a visual	(M)				

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	indication in the Candidate List of which candidates have already been verified.					
5.5 Latent Verification	12. The AFIS renewal solution shall perform verification by enabling a Latent technician to view the verification image of the candidate beside the latent search image.	(M)				
5.5 Latent Verification	13. The AFIS renewal solution shall enable a technician to disposition with confirmation each Latent Search as either ident to a candidate or non-ident. For any ident (e.g.: Latent to Ten Print, Latent to Latent), the AFIS renewal solution shall include a type-16 record with the screen image of the identification. Refer to section 5.7 Latent Certification for additional details.	(M)				
5.5 Latent Verification	14. The AFIS renewal solution shall enable a user to print out a comparison quality hardcopy of the verification screen image and the search and candidate information associated with the verification (e.g.: ORI, DCN, TCN, File Number, Subject ID, Latent file, Latent image ID, score, etc. – complete list to be determined with the Contractor).	(M)				
<b>5.6 Latent Cancellation Handling</b>						
5.6 Latent Cancellation Handling	1. The AFIS renewal solution shall enable a technician to cancel an image at any time during Latent processing (e.g.: lasso, verification) and specify the reasons why.	(M)				
5.6 Latent Cancellation Handling	2. The AFIS renewal solution shall provide a pick list of configurable unsuitable/cancelled reasons that can be selected for inclusion in the internal reply transaction (LCANI). Refer to the AFIS ICD for a list of possible reasons that must be available in the pick list.	(M)				

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5.6 Latent Cancellation Handling	3. Once cancelled the transaction must remain in the queue, in a cancelled state, until it is reviewed by another technician. For example, the additional user will delete the transaction, which would end the transaction and remove it from the queue, or relaunch the transaction for further processing.	(M)				
5.6 Latent Cancellation Handling	4. When a transaction is deleted within the AFIS, the response must be sent to the NNS. In implementation stage, NNS will update ELMO indicating a cancellation. In stage 2 the processing of the cancellation will be handled in AFIS/LCMC.	(M)				
5.6 Latent Cancellation Handling	5. Contributors can notify RCMP NPS of a cancellation of a Latent submission, or an image, by a telephone call, e-mail message or fax. The details of the cancellation must be added to the Latent File in the LCMC in stage 2 implementation. In stage 1, they are added to ELMO by RCMP technicians. The Cancellation Request will be performed in LCMC and the result of the cancellation sent to the NNS. The AFIS renewal solution will cancel the search request and delete the details from the AFIS renewal solution.	(M)				
5.6 Latent Cancellation Handling	6. Remote Transcoder users cancel a transaction through an LCLO. Refer to Annex C for detailed requirement on the Transcoder.	(I)				
5.6 Latent Cancellation Handling	7. The AFIS renewal solution must support cancelling a transaction initiated from the Transcoder.	(M)				
<b>5.7 Latent Certification</b>						
5.7 Latent Certification	1. The AFIS renewal solution shall provide the capability for a Senior Latent technician to certify every latent identification.	(M)				

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5.7 Latent Certification	2. The AFIS renewal solution shall perform certification by enabling a Senior Latent technician to view the certification image of the candidate beside the latent search image.	(M)				
5.7 Latent Certification	3. In the case where a Senior Latent technician does not agree with the verification Latent technician's decision, a second certification process is required. The AFIS renewal solution shall automatically ensure that a configurable number of two (2) Senior Latent technicians process each latent candidate to support this specific scenario. For example, a Latent technician confirms yes to a candidate. However, the Senior Latent technician confirms no to the same candidate. In this scenario a third verification/certification process is required. As a consequence a 2nd Senior Latent technician must confirm no or confirm yes to complete the transaction.	(M)				
5.7 Latent Certification	4. The AFIS renewal solution shall enable a technician to display any of the fingers, the plain impressions, ID Flat impressions or palm impressions, as well as any of these from any other submission on File for the candidate subject, for certification without delay. The UI response time requirements are described in the Technical requirements.	(M)				
5.7 Latent Certification	5. The AFIS renewal solution shall enable a technician to view a list of sets of prints on file including, as a minimum: Resolution, Quality, indication of which sets on file have already been viewed and indication of which sets on file have palms.	(M)				
5.7 Latent Certification	6. The AFIS renewal solution shall provide a means for the technician to indicate certification of the Submission to an existing File by a single user interface action (e.g.: on screen button) with confirmation.	(M)				

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5.7 Latent Certification	7. The AFIS renewal solution shall automatically retain a record of the certifier's identity, the finger(s) used for certification, Candidate File Number, DCN, Device ID, the date and time of certification, the Latent File Number, the Latent Identifier, the Latent Image Identifier and the AFIS Score in the Transaction Log.	(M)				
5.7 Latent Certification	8. The AFIS renewal solution should include an indication of whether it was the rolled or flat impressions used for certification in the Transaction Log.	(R)				
5.7 Latent Certification	9. Upon any certification (e.g.: Latent to Ten Print, Latent to Latent), the AFIS renewal solution shall automatically create a "screen image" as a locked comparison quality image that combines the submission latent search image and the image on the Ten Print File as viewed at the time of certification, containing the following information: the user ID of the Latent Certifier, Device ID on which Certification took place, Ten Print File Number and DCN certified to, Subject Identifier certified to, Latent File Number, Finger/Palm Number, submission latent image, Ten Print File fingerprint/palm image (indicating rolled or plain where possible), Latent Identifier as well as date and time that certification took place. The "screen image" format is defined in the AFIS ICD.	(M)				
5.7 Latent Certification	10. This "screen image" shall be created and returned to NNS, in the type-16 record, for each certification against the same latent image (i.e.: where two certifications are performed on one latent image then two images shall be created; where more than two certifications are required, then each certification shall have a screen image created).	(M)				

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5.7 Latent Certification	11. The AFIS renewal solution shall enable a user to print out a comparison quality hardcopy of the certification screen image and the search and candidate information associated with the certification (e.g.: ORI, DCN, TCN, File Number, Subject ID, Latent file, Latent image ID, score, etc. – complete list to be determined with the Contractor).	(M)				
5.7 Latent Certification	12. If an identification is not certified, then the AFIS renewal solution shall retain a Certification Declined Log of the following, as a minimum: the User ID of each Latent Certifier, the User ID of the verification technician(s) (if verification was performed), the Verification technician recommendation, the AFIS Score, the Latent File Number and Subject Identifier of the proposed ident, the Latent Image Identifier, and the date and time that the certifier's decision was made. Refer to subsection 3.5 Operational Reporting and Statistics for the full set of data that must be recorded when a certification is declined.	(M)				
5.7 Latent Certification	13. The AFIS renewal solution shall enable a technician to assign a certification request to a supervisory role when the certification cannot be confirmed.	(M)				
5.7 Latent Certification	14. When the second certification results are negative, the AFIS renewal solution shall enable the technician to assign the certification request to a supervisory role for a third certification.	(M)				
5.7 Latent Certification	15. Where a Certification technician determines that a candidate forwarded to certification is not identical, then the Senior Latent technician shall have the ability to review and disposition the full candidate list. This will then place the submission in a state that requires a third certification (Refer to AFIS ICD STI status code "Wait for 3rd certify").	(M)				

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<b>5.8 Search Conclusion</b>						
5.8 Search Conclusion	1. If the last Latent Search associated to an image is dispositioned as negative or the image is fully certified, then the technician shall conclude the search by ending the transaction.	(M)				
5.8 Search Conclusion	2. The Internal Latent Search Response (TOT LSRI, LSRLI) shall include a subset of the transaction log information as defined in the AFIS ICD.	(M)				
5.8 Search Conclusion	3. The AFIS renewal solution shall create and send the Latent Fingerprint Search Response (TOT LSRI, LSRLI) to the NNS at the conclusion of a single search associated to one image.	(M)				
5.8 Search Conclusion	4. Where no match is found and the technician indicates retention of the image on the ULF, then the AFIS renewal solution shall automatically retain the Latent image on the ULF with Expiry Date as specified in the LFSI.	(M)				
5.8 Search Conclusion	5. The AFIS renewal solution shall include in the LSRI and LSRLI all parameters needed to generate the Latent Print Match Report. A list of these parameters is detailed in the AFIS ICD.	(M)				
<b>5.9 Reverse Search</b>						
5.9 Reverse Search	1. The Unsolved Latent File (ULF) retains all cases for which an identification could not be found. Reverse Searching refers to the practice of searching Ten Prints / palm prints against the ULF and any other special repositories containing latent fingerprints/palm prints.	(I)				

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5.9 Reverse Search	2. The Internal Ten Print Request will indicate whether a Reverse Search is to be performed and which unsolved latent repositories to search against.	(I)				
5.9 Reverse Search	3. Where the Internal Ten Print Request indicates that a reverse search is to be performed, then the AFIS renewal solution shall automatically initiate a Ten Print to Latent Search, (including Palm Print to Latent Palm – if requested in the TPRI) against the latent repositories specified.	(M)				
5.9 Reverse Search	4. The AFIS renewal solution shall perform the search and present at Verification the reverse search candidates above a configurable reverse search threshold score.	(M)				
5.9 Reverse Search	5. The AFIS renewal solution shall forward proposed identifications by a Latent Technician to Senior Latent Technician. Certification to reverse searches shall be carried out as per Latent Certification above.	(M)				
5.9 Reverse Search	6. The AFIS renewal solution shall not release a reverse search result without intervention by an authorized user.	(M)				
5.9 Reverse Search	7. There might be multiple identifications made on a reverse search because the ULF may hold latent impressions of the same subject active at more than one crime scene.	(I)				
5.9 Reverse Search	8. When multiple identifications are made on a reverse search, then the Ten Print to Unsolved Latent response (TPULI) shall include all of the Latent File Numbers to which the Ten Print transaction identified.	(M)				
5.9 Reverse Search	9. Where the reverse search is complete, then the AFIS shall return the results to the NPS NIST Server in the Ten Print to Unsolved	(M)				

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	Latent response transaction (TPULI). A separate TPULI will be sent if a palm reverse search is dispositioned.					
5.9 Reverse Search	10. The AFIS renewal solution shall include in the TPULI all parameters needed to generate the Reverse Search match Report. A list of these parameters is detailed in the AFIS ICD.	(M)				
5.9 Reverse Search	11. Upon certification, the AFIS renewal solution shall automatically create a "screen image" as a locked comparison quality image that combines the file latent image and the search image on the Ten Print submission as viewed at the time of certification, containing the following information: the user ID of the Latent Certifier, Device ID on which Certification took place, Ten Print File Number and DCN certified to, Subject Identifier certified to, Latent File Number, Finger/Palm Number, submission latent image, Ten Print File fingerprint/palm image (indicating rolled or plain where possible), Latent Identifier as well as date and time that certification took place. The "screen image" format is defined in the AFIS ICD.	(M)				
5.9 Reverse Search	12. This "screen image" shall be created and returned to NNS, in the type-16 record, for each certification against the same latent image (i.e., where two certifications are performed on one latent image then two images shall be created; where more than two certifications are required, then each certification shall have a screen image created).	(M)				
5.9 Reverse Search	13. The AFIS renewal solution shall enable a user to print out a comparison quality hardcopy of the certification screen image and the search and candidate information associated with the certification (e.g.: ORI, DCN, TCN, File Number, Subject ID,	(M)				

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	Latent file, Latent image ID, etc. – complete list to be determined with the Contractor).					
5.9 Reverse Search	14. The AFIS renewal solution must support a role based privilege that allows an authorized user the ability to sort all reverse search transactions by score. This will allow an authorized user to action reverse search transactions different from the normal processing (e.g.: View/process reverse search transactions with high scores, delete reverse search transactions with low scores if the queue becomes too large).	(M)				
<b>5.10 Unsolved Latent Delete/Amendment</b>						
5.10 Unsolved Latent Delete/Amendment	1. The Contractor's LCMC solution may affect how ULF deletes/amendments are performed. Any difference must be identified while still satisfying the requirements stated throughout this SOW and its accompanying documents.	(M)				
5.10 Unsolved Latent Delete/Amendment	2. The AFIS renewal solution shall receive and process deletion requests (TOT ULDI) from the Remote Transcoder sites via the NNS.	(M)				
5.10 Unsolved Latent Delete/Amendment	3. Upon receipt of a deletion request (TOT ULDI), the AFIS renewal solution shall delete the Latents as identified in the ULDI from the AFIS renewal solution.	(M)				
5.10 Unsolved Latent Delete/Amendment	4. The AFIS renewal solution shall create the deletion response (TOT ULDR1) and send it to the Remote Transcoder site via the NNS.	(M)				

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5.10 Unsolved Latent Delete/Amendment	5. The AFIS renewal solution shall also allow the Central Latent user to delete Latents through the AFIS UI and in stage 2 implementation in the AFIS/LCMC UI. The AFIS renewal solution must delete the Latents identified by the Latent technician through the AFIS/LCMC UI.	(M)				
5.10 Unsolved Latent Delete/Amendment	6. Contributors can notify RCMP NPS of an amendment by a telephone call, e-mail message or fax. The details of the amendment will be added to the Latent File in AFIS/LCMC. The AFIS renewal solution shall allow the AFIS/LCMC user to amend the Latent File through the AFIS UI in stage 1 implementation and in the AFIS/LCMC UI in stage 2 implementation.	(M)				
5.10 Unsolved Latent Delete/Amendment	7. Alternatively, the Unsolved Latent Amend (TOT ULAI) will be created by the Remote Transcoder site to notify the AFIS to amend the file on the ULF. The AFIS renewal solution shall accept and process Unsolved Latent Amendments (TOT ULAI) received from the NNS.	(M)				
5.10 Unsolved Latent Delete/Amendment	8. The AFIS renewal solution shall create the Unsolved Latent Amend Reply (TOT ULARI) and send it to the NNS.	(M)				
5.10 Unsolved Latent Delete/Amendment	9. The AFIS renewal solution shall purge / amend at all three levels: Latent File Number, Latent Identifier and Latent Image Identifier.	(M)				
5.10 Unsolved Latent	10. If only a Latent File Number is specified, then the AFIS renewal solution shall amend/purge all searches on the ULF associated to that Latent File Number.	(M)				

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Delete/Amendment						
5.10 Unsolved Latent Delete/Amendment	11. If a Latent Identifier and Latent File Number are specified then all entries on the ULF pertaining to the particular image and file shall be amended / purged.	(M)				
5.10 Unsolved Latent Delete/Amendment	12. If a Latent Image Identifier is specified then only this particular Latent Image instance in the ULF will be amended / purged.	(M)				
5.10 Unsolved Latent Delete/Amendment	13. If the Expiry Date precedes the present date, then the AFIS renewal solution shall remove the candidate from the search of the ULF.	(M)				
5.10 Unsolved Latent Delete/Amendment	14. If a remote AFIS site is purging a ULF entry associated with a specific latent image and there are other entries on the ULF for that same image (same Latent File Number, same Latent Identifier, same Originating Agency ID), then the AFIS renewal solution shall automatically return a warning to the remote AFIS site advising them that they may wish to purge all entries associated with the same image. The wording of this message is to be as follows: "Please ensure that you have deleted all instances of the same image <Latent Identifier> from the RCMP ULF if the latent has been identified."	(M)				
5.10 Unsolved Latent	15. The AFIS renewal solution shall return this notification/warning as a Narrative Message with the acknowledgement of the purge (TOT ULDR1).	(M)				

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Delete/Amendment						
<b>5.11 ULF Purge and Retention</b>						
5.11 ULF Purge and Retention	1. Each Internal Latent Search Request (TOT LFSI) will be received with an Expiry Date which must be properly recorded by the AFIS renewal solution.	(M)				
5.11 ULF Purge and Retention	2. The AFIS renewal solution shall use the crime type expiry period for the Operating Statistics and Reporting Code (OSR) to determine the Expiry Date of when the entry will be purged automatically for Latents saved to the ULF.	(M)				
5.11 ULF Purge and Retention	3. In implementation stage 2, the AFIS renewal solution shall use the crime type expiry period for the OSR and the Offence Date (provided in the LFSNSI) to determine the Expiry Date of when the entry will be purged automatically for Latents saved to the ULF. In stage 1, NNS provides the Expiry Date in the LFSI. Refer to Annex E for LCMC stage 2 implementation requirements.	(M)				
5.11 ULF Purge and Retention	4. For example, murders and other serious crimes have an Expiry Period of 99 years, Breaking and Entering (B&E) might have a default expiry period of 8 years, sexual assaults 20 years and so on.	(I)				
5.11 ULF Purge and Retention	5. When an entry in the ULF reaches its Expiry Date, then the AFIS renewal solution shall automatically purge the entry.	(M)				
<b>5.12 International Latent Fingerprint Features Search Requests</b>						
5.12 International Latent	1. The AFIS renewal solution shall prepare US EBTS-compliant Latent Fingerprint Feature Search Transactions (TOT US LFFS)	(M)				

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Fingerprint Features Search Requests	and send these to the NNS for issuance to the FBI AFIS, in the US.					
5.12 International Latent Fingerprint Features Search Requests	2. The AFIS renewal solution shall enable a latent technician to initiate the preparation of a US EBTS Latent Fingerprint Feature Search Transaction (TOT US LFFS).	(M)				
5.12 International Latent Fingerprint Features Search Requests	3. The NNS supports the interface between the RCMP and FBI in the same manner as all other contributors. The key exception with the FBI is that NNS also supports sending search requests to the FBI AFIS and receiving response results automatically.	(I)				
5.12 International Latent Fingerprint Features Search Requests	4. The AFIS renewal solution must ensure the US EBTS LFFS transactions are created in a manner that ensures the FBI database can be searched. That is, the AFIS renewal solution must ensure any FBI limitation on US LFFS transactions is adhered to (e.g.: search penetration limits).	(M)				
5.12 International Latent	5. The AFIS renewal solution should provide the ability to automatically encode, transform or both (as required) to create a US EBTS EFS compliant transaction (TOT US LFFS) with as little	(R)				

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Fingerprint Features Search Requests	additional effort over and above the encoding done for the Canadian search as possible on the part of the latent technician (e.g.: adding text for fields required for the FBI search).					
5.12 International Latent Fingerprint Features Search Requests	6. The AFIS renewal solution shall receive the FBI Latent Search Results (TOT USSRL) from the NNS and forward to a Latent work queue for verification.	(M)				
5.12 International Latent Fingerprint Features Search Requests	7. The AFIS renewal solution shall enable a user to view the verification packet received from the FBI (TOT USSRL), perform the comparisons and disposition in a similar fashion as those searched against the Canadian database.	(M)				
5.12 International Latent Fingerprint Features Search Requests	8. The AFIS renewal solution shall record the disposition results from the foreign verification packet in LCMC and shall send the Internal Latent Foreign Search Reply Transaction (TOT LSRFI) the NNS.	(M)				
5.12 International Latent	9. The AFIS renewal solution shall automatically log the activities performed to carry out Latent international exchanges and update the Transaction Log accordingly.	(M)				

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Fingerprint Features Search Requests						
<b>5.13 Special Search and File Requests</b>						
5.13 Special Search and File Requests	1. The AFIS renewal solution shall enable a user to initiate a Latent to TP search from a single latent fingerprint captured from a latent workstation scanner within the AFIS environment.	(M)				
5.13 Special Search and File Requests	2. The Latent User Interface features will be used to adjust these images captured directly into the AFIS renewal solution and use the normal Latent workflow. This normal Latent workflow includes saving the latent to the ULF if required. Note: This is to be examined more closely with LCMC requirements.	(M)				
<b>5.14 Management of Remote Sites</b>						
5.14 Management of Remote Sites	1. The RTID Remote Transcoder will enable Remote AFIS users to search on the national Ten Print File and ULF directly through NIST transactions, verify their search results, submit searches to be added to the RCMP ULF, disposition their latent searches, cancel searches, fetch Ten Prints or Latents and purge their Latents added to the RCMP ULF.	(M)				
5.14 Management of Remote Sites	2. The AFIS renewal solution shall process and prepare replies for the following Remote site transactions in a fully automated manner based on the AFIS ICD and workflow described in this SOW and its accompanying documents. a. Latent Fingerprint Feature Search (TOT LFFSI), its reply (TOT SRLI) and corresponding search disposition (TOT LFSRDI);	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 5. Latent Fingerprint Processing</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	<ul style="list-style-type: none"> <li>b. Unsolved Latent Delete and its reply (TOT ULDI, ULDR1);</li> <li>c. Unsolved Latent Retrieve and its reply (TOT ULRI, ULRRI);</li> <li>d. Fingerprint Image Request and its reply (TOT IRQI, IRR1); and</li> <li>e. ULF Enroll and its reply Internal transaction (TOT ULEI, ULERI).</li> </ul>					
5.14 Management of Remote Sites	3. The AFIS renewal solution shall receive fingerprint search disposition information (TOT LFSRDI) from Remote AFIS sites via the NNS to support central reporting and monitoring.	(M)				
5.14 Management of Remote Sites	4. The AFIS renewal solution shall forward the Disposition response (TOT LFSRDI) to the Remote Network Search Coordinator (RNSC) when the LFSRDI indicates that the transaction must be forwarded to the RNSC (Forward to RNSC Reason Code).	(M)				
5.14 Management of Remote Sites	5. Note that the NNS will add the "Forward to RNSC Indicator" to the Disposition response (LFSRDI) based on the CPIC File Status and File Type.	(M)				
5.14 Management of Remote Sites	6. The AFIS renewal solution shall only allow Remote AFIS sites to have the ability to enrol / delete ULF entries that belong to their agency.	(M)				
5.14 Management of Remote Sites	7. The AFIS renewal solution must provide the ability to prevent an uncertified Remote Latent user from adding to the ULF database and allow the RNSC to monitor any work completed by the uncertified Remote Latent user.	(M)				
5.14 Management of Remote Sites	8. The AFIS renewal solution shall enable the RNSC to monitor Remote AFIS site activity by providing the following capabilities on the ULF and using the "Remote transaction queue":	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 5. Latent Fingerprint Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	a. The ability to purge Remote AFIS site searches on the ULF one at a time or by Latent File Number on the RNSC's Latent Workstation at RCMP HQ. b. The ability to re-encode or edit Remote AFIS site searches on the RNSC Latent Workstation at RCMP HQ and either amend the existing search or create a new search. c. The ability to amend the Expiry Date of a Remote AFIS site search on the ULF. d. The ability to amend the data descriptors of a Remote AFIS site search on the ULF. e. The ability for the RNSC to resubmit Remote AFIS site Latent Searches for search against the national Ten Print File and selected special repositories.					
5.14 Management of Remote Sites	9. The AFIS renewal solution shall enable the RNSC to obtain comparison quality hardcopy images of the display screen. That is, the RNSC must be able to certify latent matches using the print out of the screen display.	(M)				
5.14 Management of Remote Sites	10. The AFIS renewal solution shall automatically record in LCMC when an identification is made at a Remote AFIS site by an uncertified Remote operator and notify the RNSC.	(M)				
5.14 Management of Remote Sites	11. PC Duo is the remote software used by RNSC to support the Remote site Transcoder users. The AFIS renewal solution must support the ability for the RNSC to be able to continue to provide this support for Remote sites.	(M)				
5.14 Management of Remote Sites	12. The AFIS renewal solution shall enable the RNSC to perform the same functions on the RNSC Latent Workstation as specified by their role as an AFIS/LCMC user.	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 5. Latent Fingerprint Processing</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
5.14 Management of Remote Sites	13. The AFIS renewal solution should enable the RNSC at RCMP HQ to effectively monitor remote activity on the ULF using the RTID Latent Workstation.	(R)				
5.14 Management of Remote Sites	14. The AFIS renewal solution shall retain, in a "remote transaction queue", all Remote latent search disposition transactions (LFSRDI) that have a "Forward to RNSC Reason Code".	(M)				
5.14 Management of Remote Sites	15. The "Forward to RNSC Reason Code" transactions shall remain in a WIP queue (remote transaction queue) until the Remote Network Search Coordinator has explicitly deleted them from the queue or has concluded the review of the transaction.	(M)				
5.14 Management of Remote Sites	16. The "remote transaction queue" shall enable the RNSC to select an item from a filtered list of items from the queue. In addition, the RNSC shall have the ability to filter the remote transaction queue by queue heading (e.g.: Forward to RNSC Reason Code, operator id, Latent Image Identifier, and Latent File Number).	(M)				
5.14 Management of Remote Sites	17. The "remote transaction queue" shall enable the RNSC to "force close" one, a selection of items, or all filtered items from the queue. The AFIS renewal solution shall return a latent cancel (TOT LCANI) indicating the Final Search Result Code as Cancelled and the Cancelled Reason Code as "Cancelled by RNSC".	(M)				
5.14 Management of Remote Sites	18. The AFIS renewal solution shall delete transactions that are complete from the "remote transaction queue" after a configurable period of time. In this case an LCANI is not required.	(M)				
5.14 Management of Remote Sites	19. If the RNSC authorized user deletes a latent transaction from the work queue and indicates that the AFIS renewal solution is not	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 5. Latent Fingerprint Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	required to send a notification to the NNS to indicate the action, then no notification will be sent to the NNS.					
5.14 Management of Remote Sites	20. The AFIS renewal solution shall enable a technician to cancel a latent transaction on the work queue, at any stage of processing. As part of this cancellation process the AFIS renewal solution shall allow the technician to select a cancellation reason. The AFIS renewal solution shall return a latent cancel (TOT LCANI) to the NNS.	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 6. AFIS Direct Filing/Scanning Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>6.1 General</b>						
6.1 General	1. The AFIS renewal solution must provide a direct file and direct scan capability to support special scanning services.	(M)				
6.1 General	2. These special scanning services (direct file, direct scan) must be provided on the same workstation, with the separate functions clearly identified.	(M)				
6.1 General	3. These special scanning services must be limited to authorized personnel. The minimum of five (5) workstations (redundant in case of temporary failure of one workstation) will be located in a physically separate area within RCMP HQ. As with all AFIS workstation access, the special scanning services must be	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 6. AFIS Direct Filing/Scanning Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	controlled by two factor authentication (i.e.: biometric and password).					
6.1 General	4. These special scanning services shall be used for specialized situations such as Foreign Fingerprint Submissions, exceptional requests, and information considered sensitive.	(M)				
6.1 General	5. These special scanning services shall include image scanning and association of these images, where possible, to a specific File Number, and DCN. Five (5) GFE flatbed image scanners are already allocated to the special scanning services. If the Contractor chooses to provide a separate scanning solution, at the Contractor's expense, then the scanner must be FBI certified and support the scanning requirements identified herein.	(M)				
6.1 General	6. The AFIS renewal solution shall enable an operator to attach a work related note to these scanned images.	(M)				
6.1 General	7. The AFIS renewal solution shall make documents scanned at special scanning available for viewing immediately in the region for which these activities are assigned.	(M)				
6.1 General	8. The special scanning services shall also handle the conversion of paper (i.e.: paper C216 form) or electronic document images to internal NIST transactions. These images may be received as e-mail attachments, an image collection on Compact Disc (CD), and so on. They are received in various image formats and compressions (typically JPEG, bitmap or TIFF files).	(M)				
6.1 General	9. The special scanning services shall be designed to handle 100,000 transactions per year.	(M)				
6.1 General	10. There must be no interaction with NNS for direct filing/ scanning.	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 6. AFIS Direct Filing/Scanning Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
6.1 General	11. The special scanning station will also be used to support TP palm to TP palm searches, where an individual with no fingers or other special circumstances requires this type of search. Refer to volumes in Section 3.6 for this type of search. These volumes are not expected to exceed twenty (20) transactions per year and the performance of these searches does not need to meet the normal UI response times.	(M)				
<b>6.1.1 Unique Identifiers and Logging</b>						
6.1.1 Unique Identifiers and Logging	1. The special scanning services shall maintain a log of assigned identifiers such that no two submissions and no two documents to be scanned have the same identifier.	(M)				
6.1.1 Unique Identifiers and Logging	2. The special scanning services shall use the unique identifiers to create a NIST packet (TPSEI, TPRI) that is submitted directly to the AFIS renewal solution. Direct file/scan NIST packets do not get submitted to NNS. This NIST packet approach allows consistency with all other transactions and awareness of the process by RCMP for audit purposes. The Contractor can propose an alternate approach that provides the same or better level of security and process; however, this alternate approach must be approved in writing by the RCMP prior to the proposal being submitted by the Contractor.	(M)				
6.1.1 Unique Identifiers and Logging	3. The special scanning services shall log all activities performed during processing.	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 6. AFIS Direct Filing/Scanning Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>6.1.2 Formats and Scanning</b>						
6.1.2 Formats and Scanning	1. The special scanning services shall be capable of converting the C-216 fingerprint form formats into an electronic NIST packet.	(M)				
6.1.2 Formats and Scanning	2. The scanning equipment shall be designed and configured in such a way that documents are protected from damage, loss or marking.	(M)				
6.1.2 Formats and Scanning	3. The special scanning services shall capture the document image, fingerprint images, palm images in a single pass that allows the fingerprints to be captured at 500 ppi.	(M)				
6.1.2 Formats and Scanning	4. The fingerprint areas of fingerprint forms are particularly sensitive to damage or unnecessary marking. The Contractor's solution must ensure there is no damage to the forms.	(M)				
6.1.2 Formats and Scanning	5. The scanning process and equipment shall be designed such that there is no loss of document integrity (e.g.: scanning part of one document to another).	(M)				
6.1.2 Formats and Scanning	6. The scanning equipment shall not alter the information provided on the original submission.	(M)				
6.1.2 Formats and Scanning	7. The special scanning services and its processes shall not damage or obscure information on the fingerprint form, in particular fingerprint impressions with any marking/label affixed or printed on the fingerprint forms.	(M)				
6.1.2 Formats and Scanning	8. The special scanning services shall provide whatever features are provided to adjust and capture the fingerprints regardless of their placement on the form, on the front side of the document or the back side of the document as well.	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 6. AFIS Direct Filing/Scanning Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
6.1.2 Formats and Scanning	9. The scanned fingerprint images and palm images shall conform to the scanned fingerprint form and not exceed the ANSI NIST-ITL-1-2011 maximum size dimensions.	(M)				
6.1.2 Formats and Scanning	10. The scanners must support operator adjustment of brightness and contrast and be able to display the scanner settings.	(M)				
<b>6.1.3 Resolution</b>						
6.1.3 Resolution	1. The special scanning services shall apply the standard compression for fingerprint images WSQ nominal 15:1.	(M)				
6.1.3 Resolution	2. The special scanning services shall capture (i.e.: "scan") rolled and plain fingerprint impressions as well as palm impressions at 256 levels of greyscale (eight bits/pixel) and at a minimum of 500 +/- five pixels/inch, and record the resultant images at 500 +/- five pixels/inch as defined for Type-4 or Type-14 records in the NPS-NIST External ICD and ANSI/NIST standard ANSI/NIST-ITL-1-2011, Data Format for the Interchange of Fingerprint Information. If a scanning resolution greater than 500 pixels/inch is used, it shall have a tolerance of +/- one percent of the scanning resolution.	(M)				
<b>6.1.4 Segmentation</b>						
6.1.4 Segmentation	1. For rolled/plain impressions, the special scanning services shall capture and segment up to 14 fingerprint impressions from each fingerprint Submission, including, as a minimum, all 10 rolled impressions, both thumbs from the plain impressions and the two four-finger plain impressions.	(M)				
6.1.4 Segmentation	2. When a fingerprint form is prepared in the field, the correct fingerprint will be inked in each of 14 designated fingerprint	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 6. AFIS Direct Filing/Scanning Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	blocks. The primary exception to this rule is a subject who is missing one or more fingers, or is unable to support the fingerprinting of one or more fingers for another sufficient reason (e.g.: bandaged). In this case, the fingerprint form blocks corresponding to the missing finger(s) are marked ("Amp" for amputation, or other reason) by the preparer. In the rare event that a subject has more than 10 fingers, then the technician will select 10 fingers to be used in the NIST blocks and the entire form will be scanned at 500 ppi for preservation of the complete set.					
6.1.4 Segmentation	3. The special scanning services shall capture images of all the fingerprint blocks present on the fingerprint form. This includes those that contain an impression, those that do not but are marked by the preparer accordingly missing, with an appropriate reason (e.g.: as "Amp" or "Bandaged"). The special scanning services shall report the missing digit(s), (amputated, bandaged or otherwise missing impressions) appropriately in the corresponding electronic Type 2 record, in accordance with the NPS-NIST External ICD.	(M)				
6.1.4 Segmentation	4. The special scanning services shall provide for the capture of fingerprint blocks on the front of the form as well as the back.	(M)				
6.1.4 Segmentation	5. Based on the ten-print fingerprint form dimensions from the C216 and C216C sample fingerprint forms, the special scanning services shall provide default positions for each of the fingerprint segmentation blocks as follows: a. Rolled blocks shall coincide with the pre-printed fingerprint form blocks;	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 6. AFIS Direct Filing/Scanning Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	b. The left and lower margins of the left plain four finger block shall coincide with the left and lower margins of the pre-printed block; c. The right and lower margins of the right plain four finger block shall coincide with the right and lower margins of the pre-printed block; d. The lower margin of each plain thumb impression block shall coincide with the lower margin of each pre-printed block; e. Each block shall be centered horizontally over its corresponding pre-printed block; f. The same default block positioning approach shall apply to fingerprint form types that are not covered by the referenced specification; g. File number barcode; and h. DCN / Doc ID.					
6.1.4 Segmentation	6. The special scanning services shall provide a means of shifting images that are partially out of the pre-printed block to place the segments within the image of the fingerprint area of the fingerprint form to capture as much fingerprint data as possible, even if some overlap with other blocks occurs.	(M)				
<b>6.1.5 User Interface</b>						
6.1.5 User Interface	1. The special scanning services must be configurable in the same or a similar manner as the AFIS workstation. The configurability can be limited to only the fields being processed by direct filing/scanning.	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 6. AFIS Direct Filing/Scanning Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
6.1.5 User Interface	2. After all fields have been entered in the UI, the special scanning services must allow a review before committing the transaction.	(M)				
<b>6.2 Direct Filing</b>						
6.2 Direct Filing	1. The direct filing process must allow all the fields on the form to be captured and/or filled; and submitted in the TPRI NIST packet with the prints. The following are the minimum fields: a. File number; b. File type; c. DCN / Doc ID; d. Sex; e. TOT; f. Indicate whether a search is to be performed; g. Select the list of repositories to search (i.e. any defined TP and/or ULF repository); h. Indicate whether a manual certification is required; i. Indicate whether auto reject is allowed; j. Indicate whether paper certification is required; k. Transaction date; l. Provide fingerprint quality override reasons, if necessary; m. Provide fingerprint missing reasons, if necessary; n. Indicate whether the transaction is to be retained; and o. Date fingerprinted.	(M)				
6.2 Direct Filing	2. The Contractor will determine the default settings, for the above fields, with the RCMP prior to implementation.	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 6. AFIS Direct Filing/Scanning Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
6.2 Direct Filing	<p>3. If there are no fingerprint impressions on the submission with retention requested, then the AFIS renewal solution will include palm prints being used under exceptional circumstances (e.g.: the subject has no fingers) to open a new File and search the TP palm database. If an identification is made under these circumstances then:</p> <p>a. If the internal TPRI transaction requested that the AFIS save the prints, then the AFIS renewal solution shall automatically assign the same Subject Identifier as the prints certified to.</p> <p>b. If the internal TPRI transaction requested that the AFIS save the prints, then the AFIS renewal solution shall automatically save the fingerprint images, photos and palm print images, necessary descriptors and features sets in the TPF associated to the Subject Identifier certified to.</p> <p>c. The AFIS renewal solution shall automatically return a positive response in the internal reply transaction along with the Subject Identifier, all File Number references associated with the Subject Identifier, an indication that the search is complete and all other information as required by the AFIS ICD.</p>	(M)				
<b>6.3 Direct Scanning</b>						
6.3 Direct Scanning	<p>1. The direct scanning process shall only require DCN/Doc ID and file number to be captured and submitted in the Ten Print Direct Scan and File on AFIS (TPSEI) NIST packet with the prints. The mandatory fields are identified in the TPSEI in the AFIS ICD.</p>	(M)				
6.3 Direct Scanning	<p>2. User activity/event logging must be recorded to allow reporting in the various AFIS renewal reports (refer to Section 3.5 for reporting details).</p>	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 7. Palm and Extraction Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>7.1 Palm Print Searching</b>						
7.1 Palm Print Searching	1. The AFIS renewal solution must retain palm prints received as part of a Submission where the Retain flag is positive.	(M)				
7.1 Palm Print Searching	2. Refer to 3.6 Volumetrics and Service Delivery for the palm prints capacity requirements that must be satisfied by the AFIS renewal solution.	(M)				
7.1 Palm Print Searching	3. The Contractor shall provide for palm print searching as stated in this SOW and its accompanying documents.	(M)				
7.1 Palm Print Searching	4. The AFIS renewal solution shall perform the automatic segmentation and feature extraction of the palm print images.	(M)				
7.1 Palm Print Searching	5. If the AFIS renewal solution cannot perform the automatic segmentation, the AFIS renewal solution shall stop for manual review and allow the technician to manually segment and attempt to certify the upper palms to the rolled/plain impressions.	(M)				
7.1 Palm Print Searching	6. The AFIS renewal solution should permit a fingerprint technician to edit the automatically extracted features, rotation and perform image adjustments as part of Ten Print Manual Palm QC.	(R)				
7.1 Palm Print Searching	7. The AFIS renewal solution shall perform the searching and comparison of latent palm prints to the palm print collection, where requested (Latent Palm to Palm).	(M)				
7.1 Palm Print Searching	8. The AFIS renewal solution shall allow the Latent user to identify which palm position to search. Refer to AFIS ICD tag 15.013 for details.	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 7. Palm and Extraction Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
7.1 Palm Print Searching	9. The AFIS renewal solution shall perform reverse search of palm prints to unsolved latent impressions for new fingerprint submissions including palms (Palm to Latent Palm). All applicable submissions (i.e. those subject to reverse search as per AFIS ICD processing) shall have the palm impressions searched against the ULF.	(M)				
7.1 Palm Print Searching	10. The AFIS renewal solution shall store latent palm impressions with a NIST-compliant Position (tag 15.013) as a descriptor.	(M)				
7.1 Palm Print Searching	11. The AFIS renewal solution shall search a palm-only submission against the Ten Print File through the Direct File/Scan capability. A palm-only submission is one that is not accompanied by a full set of rolled or plain impressions.	(M)				
7.1 Palm Print Searching	12. The AFIS renewal solution shall enable a Certifier to certify the palms on a submission to palms on file for the same subject. This will result in the palms being "certified" to the file. This feature is required in cases where the subject has no fingers or the fingers are unsuitable for search.	(M)				
7.1 Palm Print Searching	13. The AFIS renewal solution shall support the search of palm latents against a Special Repository and of palm impressions against a Special Repository.	(M)				
7.1 Palm Print Searching	14. Where fingertips are received with upper palm impressions, the AFIS renewal solution shall automatically perform a 1:1 match of the fingertips of the palms against the rolled / plain impressions in the same submission. Where a match is found, the AFIS renewal solution shall indicate that the palms are included in the file. If the AFIS renewal solution is unable to determine a match, the AFIS renewal solution shall enable a certification technician to "certify"	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 7. Palm and Extraction Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	the palms to the file and where the certification fails the palms shall not be retained.					
7.1 Palm Print Searching	15. Where an electronic submission is received with a palm print, and the prints are to be stored on AFIS, the AFIS renewal solution shall indicate that the palms are included in the file.	(M)				
7.1 Palm Print Searching	16. For clarity, the complete set of palm images shall be retained on AFIS and be searchable. This shall include the upper, lower and writer's palms. Where a full palm is provided, the full palm images and the writer's palms shall be retained.	(M)				
<b>7.2 AFIS Data Extraction for Reporting</b>						
7.2 AFIS Data Extraction for Reporting	1. The AFIS renewal solution shall make data available for Extract, Transform and Load (ETL) to the RCMP's Cognos Reporting process. The RCMP in collaboration with the Contractor will determine the data to be extracted prior to implementation.	(M)				
7.2 AFIS Data Extraction for Reporting	2. The AFIS renewal solution process that prepares the data for extraction must assure that only data for transactions which have been completed are prepared for extraction.	(M)				
7.2 AFIS Data Extraction for Reporting	3. The AFIS renewal solution must identify transactions for which no response was issued and the transaction is in a state that prevents any further processing. a. Any transactions that meet this criteria shall also be included in the data for extraction to the RCMP's Cognos reporting system.	(M)				
7.2 AFIS Data Extraction for Reporting	4. The AFIS renewal solution shall "push" a text file extract of the required data elements to a predetermined RCMP network area directory (location of directory shall be configurable). The text file	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 7. Palm and Extraction Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	extract must be a Comma-separated values (CSV) file. The reporting system is already designed to support a CSV file. The Secure File Transfer method identified by the RCMP (refer to compliancy documents) or equivalent secure method approved by DSB must be used.					
7.2 AFIS Data Extraction for Reporting	5. The AFIS renewal solution must support at least one extract per day without affecting the performance and SLA requirements. The extract time period must be configurable.	(M)				
7.2 AFIS Data Extraction for Reporting	6. A process running remotely (within the RCMP/AFIS renewal solution infrastructure) shall access the data source (extract) to feed the RCMP's Reporting infrastructure. <ul style="list-style-type: none"> <li>a. The data source access is expected to occur daily;</li> <li>b. The AFIS renewal solution must ensure the ETL files are uniquely named and ordered to ensure each file can be retrieved in order. This is to ensure files are retrievable, in order, in case they are not retrieved before the next file is created; and</li> <li>c. The AFIS renewal solution must provide the filename structure that supports the requirement, which will be approved during implementation stage.</li> </ul>	(M)				
7.2 AFIS Data Extraction for Reporting	7. The AFIS renewal solution shall explain how this ETL requirement will be satisfied in the Contractor's proposal including at least the following: <ul style="list-style-type: none"> <li>a. Any negative impact to the Contractor's proposal solution by the use of an ETL strategy; and</li> <li>b. Any impact to data retention on the AFIS renewal solution.</li> </ul>	(M)				

Annex B to Appendix A: AFIS Detailed Requirements: Chapter 8. AFIS Technical Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>8.1 Configurable Parameters</b>						
8.1 Configurable Parameters	1. The AFIS renewal solution must be designed with an emphasis on configurable parameters to maximize the flexibility to change the solution without requiring a code change.	(M)				
8.1 Configurable Parameters	2. As well, to the greatest extent possible, these configuration parameters should be modifiable without requiring a server restart to complete the change; therefore, the change can be effected automatically or within a thirty (30) minute outage, where specific process restarts will use the changed parameters.	(R)				
8.1 Configurable Parameters	3. The following subsections identify configurable parameters to be supported by the AFIS renewal solution at a minimum.	(I)				
8.1 Configurable Parameters	4. The Contractor is responsible for identifying the value of all configurable parameters as part of the evaluation process. That is, it is the Contractor's responsibility to assign values for the configurable parameters that provide the Contractor with the best opportunity to pass the benchmark testing which is part of the bid evaluation process.	(I)				
8.1 Configurable Parameters	5. The AFIS renewal solution must effectively support all the functionality associated with the configurable parameters. For example, the time for UI inactivity before the screen is locked configurable parameter requires the AFIS renewal solution to be monitoring the user activity and when the time threshold has been met, the AFIS renewal solution must lock the user's AFIS workstation. Once locked the user must login again to access the AFIS workstation.	(M)				

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<b>8.1.1 Thresholds</b>						
8.1.1 Thresholds	1. The following are the minimum thresholds parameters that must be configurable by the AFIS renewal solution: <ul style="list-style-type: none"> <li>a. TP Match 1:N Thresholds – The AFIS renewal solution must provide a score threshold for a System Declared Hit and a No-Hit; where:                             <ul style="list-style-type: none"> <li>i. Any score above the System Declared Hit value indicates an ident by the AFIS renewal solution;</li> <li>ii. Any score below the No-Hit value indicates a non-ident by the AFIS renewal solution; and</li> <li>iii. A score between the System Declared Hit value and the No-Hit value is considered a grey area where there are candidates worthy of consideration for verification and manual intervention is required to determine whether an ident can be proposed.</li> </ul> </li> <li>b. TP Match 1:1 Thresholds – The AFIS renewal solution must provide a score threshold for a System Declared Hit and a No-Hit; where:                             <ul style="list-style-type: none"> <li>i. Any score above the System Declared Hit value indicates an ident by the AFIS renewal solution for the candidate;</li> <li>ii. Any score below the No-Hit value indicates a non-ident by the AFIS renewal solution for the candidate; and</li> <li>iii. A score between the System Declared Hit value and the No-Hit value is considered a grey area where there are candidates worthy of consideration for verification and manual intervention is required to determine whether an ident can be proposed for the candidate.</li> </ul> </li> </ul>	(M)				

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	<p>c. Latent Search Thresholds – The AFIS renewal solution must provide a score threshold for Potential Candidates; where any candidate with a score above the threshold must be available for the user.</p> <p>d. Reverse Search Thresholds – The AFIS renewal solution must provide a score threshold for Potential Candidates where any Reverse Search transaction that includes at least one candidate with a score above this threshold must be available for the user. To further clarify, a Reverse Search transaction could have many candidates that are below this threshold; however, all candidates must be available up to the Default Maximum Number of Reverse Search Candidates To Review configurable parameter.</p> <p>e. WIP Number of Candidates – The AFIS renewal solution must provide a threshold for the number of candidates that are in TP-TP WIP to be included in a candidate list.</p>					
<b>8.1.2 Quality Measure</b>						
8.1.2 Quality Measure	<p>1. The following are the minimum quality measure parameters that must be configurable by the AFIS renewal solution:</p> <p>a. Quality threshold – The AFIS renewal solution must automatically determine a quality measure for fingerprints (i.e. rolled/plain, ID Flats) received for search. This quality threshold must be able to consistently determine the quality of any fingerprint and assign a quality score for the fingerprint. The AFIS renewal solution must be able to use this quality score to compare against the quality threshold to determine if the finger meets the minimum quality for search;</p>	(M)				

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	<p>b. Number of Quality Fingers – The AFIS renewal solution must provide the ability to identify how many fingers (i.e. rolled/plain, ID Flats) must meet the minimum quality threshold to be considered for search. For example, if the quality fingers number is three (3) fingers (e.g.: could be two (2) rolled and one (1) plain), then at least three (3) fingers of the prints submitted for search must be meet the minimum quality threshold. If the minimum number of fingers has not been met and the Allowed to Auto Reject Indicator is “Yes”, then the transaction will be rejected as poor quality;</p> <p>c. The above two (2) configurable parameters must be considered together by the AFIS renewal solution to determine whether a set of fingerprint meets the minimum quality for search;</p> <p>d. If Auto Reject Indicator is “No” and the fingerprints do not meet the minimum quality for search, then the transaction must go to a Wait for Quality Check state requiring manual intervention by a fingerprint technician;</p> <p>e. The “Plain Quality Indicator” identifies the quality value by which the plain impressions must exceed the rolled impression before the plain impressions will be used in the search instead of the rolled impressions. The result of the processing by the AFIS renewal solution using this configurable parameter could have a mix of rolled and plain impressions used in the search. Or alternatively, use all rolled and plain impressions in the search; and</p> <p>f. Any size limitations (e.g.: minimum size for finger) that affect the AFIS renewal solution processing must be clearly indicated in the Contractor’s proposal, as well, as the impact</p>					

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	of changing the size. For example, a quality check fails resulting from a print being too small. These box sizes must be configurable.					
<b>8.1.3 Out of Sequence</b>						
8.1.3 Out of Sequence	1. The AFIS renewal solution must have a configurable parameter that allows out of sequence errors to go to wait for manual segmentation / manual QC regardless of whether or not the Allowed to Auto Reject Indicator is "Yes". This allows RCMP to correct out of sequence errors if desired.	(M)				
<b>8.1.4 List Limit Parameters</b>						
8.1.4 List Limit Parameters	1. The following are the minimum quality measure parameters that must be configurable by the AFIS renewal solution: <ul style="list-style-type: none"> <li>a. Default Minimum Number of Latent Forward Search Candidates – The AFIS renewal solution must have a configurable parameter that identifies the minimum number of TP (ULF-TP) or ULF (ULF-ULF) candidates that will be presented to the user (i.e. short list with one set of prints per subject and an initial value of six (6));</li> <li>b. Default Maximum Number of Latent Forward Search Candidates – The AFIS renewal solution must have a configurable parameter that identifies the maximum number of TP or ULF candidates that will be presented to the user (i.e.: long list with all prints for all subjects and an initial value of fifty (50));</li> <li>c. Default Minimum Number of Latent Forward Search Candidates To Review – The AFIS renewal solution must have a configurable parameter that identifies the minimum</li> </ul>	(M)				

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	<p>number of TP or ULF candidates that the user must review before the transaction can be dispositioned;</p> <p>d. Default Minimum Number of Reverse Search Candidates To Review – The AFIS renewal solution must have a configurable parameter that identifies the minimum number of reverse search ULF candidates that the user must review before the transaction can be dispositioned (i.e. short list with an initial value of two (2));</p> <p>e. Default Maximum Number of Reverse Search Candidates To Review – The AFIS renewal solution must have a configurable parameter that identifies the maximum number of reverse search ULF candidates that the user might review before the transaction can be dispositioned (i.e.: long list with an initial value of forty (40)).</p> <p>f. Default Minimum Number of Latent Certifiers – The AFIS renewal solution must have a configurable parameter that identifies the minimum number of latent certifiers (initial value = two (2));</p> <p>g. Default Minimum Number of Fingers to be Examined – The AFIS renewal solution must have a configurable parameter that identifies the minimum number of fingers to be examined to consider a transaction reviewed (initial value = one (1));</p> <p>h. Maximum Number of File Numbers in a Fetch – The AFIS renewal solution must have a configurable parameter that identifies the maximum number of file numbers that can be retrieved when a database fetch is performed (initial value = one thousand (1,000)); and</p> <p>i. Threshold for number of unsuccessful login attempts before a user account is locked out (initial value = three (3)),</p>					

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<b>8.1.5 Regions</b>						
8.1.5 Regions	1. The AFIS renewal solution must be configurable with a concept of regions, where a region is defined as an area within which a set of transactions will be processed. The AFIS renewal solution must allow each region to have separate configurable parameters that allow the thresholds, quality measures and other configurable parameters to be applied per region.	(M)				
8.1.5 Regions	2. The AFIS renewal solution must be initially configured with at least the following regions and they must process the transactions specified in each region: a. TP region, supporting all TP transactions, except IMM and REF; b. IMM region supporting IMM and REF transactions; c. Latent region supporting all Central Latent and Reverse Search transactions; d. RNSC region supporting all Remote Latent transactions; and e. Direct Filing region supporting Direct Filing and Direct Scanning transactions.	(M)				
8.1.5 Regions	3. The AFIS renewal solution must also support the creation of at least 5 additional regions without affecting the overall performance requirements stated in this SOW and its accompanying documents.	(M)				
8.1.5 Regions	4. Each AFIS user must be able to select the region within which they want to work as part of their login process. AFIS users normally work in either TP or Latent at one time depending on their role. Since the IMM region includes special TP transactions, with different thresholds and quality measures, the AFIS renewal	(M)				

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	solution must allow an AFIS user to select a combined region within which they want to work as part of the login process that will allow them to work on TP transactions from the TP region and the IMM region.					
8.1.5 Regions	5. The AFIS renewal solution must support adding regions, deleting regions and changing which type of transactions are processed in a specific region with minimal effort.	(M)				
8.1.5 Regions	6. As with all requirements in this SOW and its accompanying documents, each region must be available in French. The AFIS user must be able to select the French version of the region within which to login or the French version of the region must be presented to the user based on their language preference identified in the User Management Function of the AFIS renewal solution.	(M)				
8.1.5 Regions	7. There must be a correlation between regions and work queues. This correlation and the queues will be determined through a collaborative effort between the RCMP and the Contractor. The Contractor must present a proposed approach for queues that best supports the requirements stated in this SOW and its accompanying documents.	(M)				
8.1.5 Regions	8. The AFIS renewal solution should allow an authorized user to toggle between regions/work queues without requiring the user to login again.	(R)				
<b>8.1.6 Repositories</b>						
8.1.6 Repositories	1. The AFIS renewal solution must be configurable with a concept of repositories, where a repository is used to retain specific sets of prints under a file type.	(M)				

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8.1.6 Repositories	2. The AFIS renewal solution must be initially configured with at least the following repositories: a. TP Repositories: i. Criminal; ii. Refugee (Legacy Refugee); iii. Employee; iv. Immigration; and v. Two (2) additional special TP repositories for special purposes. b. Latent Repositories: i. ULF (finger & palm); and ii. Five (5) additional special latent repositories for special purposes.	(M)				
8.1.6 Repositories	3. The AFIS renewal solution must also support the creation of at least six (6) additional TP repositories and six (6) additional latent repositories, of varying sizes at any given time, without affecting the overall performance requirements stated in this SOW and its accompanying documents.	(M)				
8.1.6 Repositories	4. The AFIS renewal solution shall enable AFIS users to file and search against these repositories apart from the routine workload.	(M)				
8.1.6 Repositories	5. The AFIS renewal solution shall also enable these repositories to be targeted for search as part of the routine workload.	(M)				
8.1.6 Repositories	6. If used for routine processing, the Internal Ten Print Request will indicate which of these repositories to search against.	(M)				

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8.1.6 Repositories	7. The AFIS renewal solution shall assign a Logical Name (File Type Code) to each Special Repository. This code shall be used to indicate which repository to target for search, deletion, amend, file to or other applicable functions.	(M)				
8.1.6 Repositories	8. The AFIS renewal solution must allow special repositories to be set up for testing program effectiveness.	(M)				
8.1.6 Repositories	9. The AFIS renewal solution shall enable the entries in these special repositories to be searched against the TPF and the ULF.	(M)				
8.1.6 Repositories	10. The AFIS renewal solution shall provide the ability to selectively manage, backup and delete a special repository database and a special repository definition.	(M)				
8.1.6 Repositories	11. The AFIS renewal solution shall perform all searches available for other repositories. Refer to subsection 3.1, item 8 for the list of searches that must be supported.	(M)				
<b>8.1.7 Time Related Parameters</b>						
8.1.7 Time Related Parameters	1. The AFIS renewal solution must have configurable parameters for at least the following time related parameters: a. Time after a transaction has been completed that it stays in the queue (initial value = 24 hours); b. The frequency that reports are automatically generated (initial value = 24 hours); c. Retention period before data, transactions and transaction log automatically move to an administrative archive for audit purposes (initial value 2 years); d. Retention period for maintaining the Audit Log (initial value = indefinite);	(M)				

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	e. Time AFIS UI is refreshed automatically (initial value = 30 seconds); f. Time for UI inactivity before screen is locked (initial value = 30 minutes); g. Time for UI inactivity, after the screen has been locked, before a user is automatically logged off (initial value 30 minutes); and h. Note: The Contractor's Entire AFIS renewal solution must require a user login after the screen has been locked.					
<b>8.1.8 Toggle Related Parameters</b>						
8.1.8 Toggle Related Parameters	1. The AFIS renewal solution must have configurable parameters for at least the following toggle related parameters: a. Toggle to turn on auto segmentation; and b. Toggle to turn on Manual Biometric Consent.	(M)				
<b>8.1.9 Size Based Parameters</b>						
8.1.9 Size Based Parameters	1. The AFIS renewal solution must have configurable parameters for at least the following size related parameters: a. Magnification size for prints.	(M)				
<b>8.1.10 Table Based Parameters</b>						
8.1.10 Table Based Parameters	1. The AFIS renewal solution must have configurable tables/fields, with unlimited expansion, that an authorized user can add, change or delete, where separate tables/fields are available for at least the following: a. Agency ORI table (list of all ORIs);	(M)				

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	b. Authorized Agency ORI table (list of ORIs authorized to submit AFIS transactions); c. Civil application types and sub types; d. Missing fingerprint reason codes and descriptions; e. Sex selection options; f. Province codes and description; g. Complexion codes and descriptions; h. Hair colour; i. Eye colour; j. Scars, marks and tattoo codes and descriptions; k. Race codes and descriptions; l. Next of kin codes and descriptions; m. Country codes and descriptions; n. Vulnerable sector codes and descriptions; o. Language codes and descriptions; p. Province of birth codes and descriptions; q. Fingerprint quality reasons codes and descriptions; r. Authority to release codes and descriptions; s. Fingerprint codes and descriptions; t. Internal priority codes and descriptions; u. File number prefixes codes and descriptions; v. Crime type codes and descriptions; w. Repository codes and descriptions; and x. Internal TOT codes and descriptions.					

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8.1.10 Table Based Parameters	2. Note: The use of this data is identified throughout the SOW and its accompanying documents.	(I)				
<b>8.1.11 Rated Configurable Parameters</b>						
8.1.11 Rated Configurable Parameters	<p>1. The AFIS renewal solution should have additional configurable parameters that allow adjustments to support operational changes without requiring any code changes. These parameters are described throughout Annex B within the context of their use. The following identifies the additional configurable parameters that will be evaluated as rated criteria:</p> <ul style="list-style-type: none"> <li>a. Magnify portion of print configurable parameter: A configurable parameter that will magnify the isolated portion of each print to enable more detailed analysis. This should magnify by a percentage. A variable method of magnification (e.g.: slider) is considered inherently configurable and more desirable;</li> <li>b. Search only best “x” number of sets of prints: A configurable parameter used to identify that only the best “x” number of sets of prints should be searched when an individual has many sets of prints; and</li> <li>c. The AFIS renewal should have a button for Latent analysis that allows a specific configurable percentage adjustment of the size of the print based on the most common percentage change. This button should allow a percentage increase (e.g.: fifteen percent (15%)) each time the button is clicked, as well as a decrease button to reduce the size of the print each time the button is clicked.</li> </ul>	(R)				

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<b>8.2 User Management and Role Based Access Controls (RBAC)</b>						
8.2 User Management and Role Based Access Controls (RBAC)	1. The AFIS renewal solution must support user management through a Windows based intuitive, easy to use UI for production administrators and any other user authorized to use the user management capabilities. The UI must allow the data identified herein to be easily managed (i.e.: add, change, delete, disable, enable).	(M)				
8.2 User Management and Role Based Access Controls (RBAC)	2. The AFIS renewal solution must support the Role Based Access Controls (RBAC) requirements stated herein and throughout this SOW and its accompanying documents.	(M)				
8.2 User Management and Role Based Access Controls (RBAC)	3. This user management UI must also support all user management capabilities required for the Verification Subsystem (VSS). Refer to Annex D for detailed requirements concerning VSS.	(M)				
8.2 User Management and Role Based Access Controls (RBAC)	4. The System shall include application-specific user IDs and passwords.	(M)				
8.2 User Management and Role Based Access Controls (RBAC)	5. The passwords shall not be hard-coded and must be stored in an encrypted form that satisfies Government of Canada requirements (i.e.: Communication Security Establishment (CSE) standards ISA-11(b) or later).	(M)				

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8.2 User Management and Role Based Access Controls (RBAC)	6. AFIS users shall only be presented with options and resources for which they have authorized access, based on their user profile and group membership.	(M)				
8.2 User Management and Role Based Access Controls (RBAC)	7. The System shall uniquely identify and authenticate all users and resources that require access to AFIS resources.	(M)				
8.2 User Management and Role Based Access Controls (RBAC)	8. The System shall not store or cache identification and accreditation (I&A) information on platforms other than those explicitly sanctioned by RCMP Security Infrastructure Services.	(M)				
8.2 User Management and Role Based Access Controls (RBAC)	9. The System shall not cache sensitive information after use.	(M)				
8.2 User Management and Role Based Access Controls (RBAC)	10. The System shall provide auto-alarming of unauthorized access attempts to designated roles, such as the System Administration subsystem operating under the root password.	(M)				
8.2 User Management	11. Any fields listed in the user management UI that have a list to choose from should be presented in the UI through a drop-down	(R)				

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and Role Based Access Controls (RBAC)	pick list, or similar user friendly method, for any fields that have values that are available for a pick list.					
8.2 User Management and Role Based Access Controls (RBAC)	12. The user management UI must allow the authorized user to add, change or delete at least the following data in support of managing access to the AFIS renewal solution: a. Roles b. Groups c. User ID d. User name e. Change password f. Language of work g. Trainee designation h. Permissions – work specialties, type of work, functions (e.g.: Ten Print QC, Ten Print Verification, Ten Print Certification, Ten Print Supervisor). These permissions will be based on the functions identified in the RBAC subsection herein.	(M)				
8.2 User Management and Role Based Access Controls (RBAC)	13. The AFIS renewal solution's admin function shall enable an authorized user to release locked transactions, which will be returned to the queue.	(M)				
8.2 User Management and Role Based Access Controls (RBAC)	14. The Contractor shall determine which user profile items are configurable at the user level or at the group level in collaboration with RCMP.	(M)				

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<b>8.2.1 Role Based Access Controls</b>						
8.2.1 Role Based Access Controls	1. For purpose of explaining the access control requirements stated herein and throughout the AFIS renewal SOW and its accompanying documents, the following definition for access control is used. Access Control is any mechanism by which a system grants or revokes the right to access some data, or perform some action.	(I)				
8.2.1 Role Based Access Controls	2. The approach to providing AFIS renewal solution access control requirements that the AFIS renewal solution must provide are in accordance with the NIST Role-Based Access Control (RBAC) Standard as stated herein. Central to this standard is the concept of assigning a role to a user. This is a fundamental mechanism that must be employed by the AFIS renewal solution to ensure that the relevant policies, operating procedures, and overall transaction security are enforced.	(M)				
8.2.1 Role Based Access Controls	3. These requirements that must be satisfied by the AFIS renewal solution have been developed with reference to the NIST Core RBAC Model as shown in Figure 8-1. This model provides the key semantic concepts on the subject of access control, is the conceptual basis for the NIST standard, and has been largely adopted and implemented by many different vendor communities. These reasons illustrate why the Core RBAC model is considered to be an excellent starting point for developing a concise set of access control requirements to serve the present business requirements.	(M)				
8.2.1 Role Based Access Controls	4. The following is a description of the key elements and relationships within the model:	(I)				

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	<p>a. USER – a user (in the majority of cases) is an individual who is an employee of Canadian Criminal Real Time Identification Services (CCRTIS). However, in certain cases, where automated processes transact across several systems, a user may also be an automated system agent that has been granted a user account;</p> <p>b. ROLE – a role is a job function within the context of an organization where authorities and responsibilities have been conferred to the user assigned to the role. Groups are expected to exist for larger systems where multiple roles will be contained within a group. This concept of a group is simply a mechanism to organize multiple roles to ease the overall user management;</p> <p>c. SESSION – the active system context in which the user is requesting and executing transactions;</p> <p>d. OBJECT – an object is anything that must be protected by the system. A protected object may be any system resource, personal and sensitive information (e.g.: file, attribute, image), or parts thereof. Objects may vary in granularity; an object may range from being considered as an entire system component, an entire record, or a specific attribute or flag within a record;</p> <p>e. OPERATION – an operation is any function that may be performed upon an object (e.g.: read, write, delete, append); and</p> <p>f. PERMISSION – can be viewed as a composite of operation and object. An assignment of permissions to a role implies the approval of this role to perform this operation on an object.</p>					

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<b>8.2.2 Roles, Groups and Objects</b>						
8.2.2 Roles, Groups and Objects	1. The following identifies the roles, groups and objects that must be supported by the AFIS renewal solution within the RBAC model. Most of the objects are identified within the context of a role function whereby the function is controlling access to the object.	(M)				
8.2.2 Roles, Groups and Objects	2. The user ID must be definable by the User Management user. Typically, this will be an RCMP assigned number for the user.	(M)				
8.2.2 Roles, Groups and Objects	3. The following are the minimum role functions (privileges) that must be available in the AFIS renewal solution. This list implicitly identifies the objects and the level of granularity that must be managed/controlled by the AFIS renewal solution: a. AFIS Related i. Work queue access (queue view only), ii. Work queue management (transaction processing), iii. Work queue transaction reset, iv. Work queue transaction reject, v. TP Quality Control (QC) (includes manual segmentation and quality control capabilities), vi. TP verification, vii. TP certification, viii. Latent verification (performs verify/first certify), ix. Latent 1st certification (performs second certify), x. Latent 2nd certification (performs Latent third certify), xi. Latent data entry,	(M)				

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	xii. Latent edit, xiii. Latent insert, xiv. Latent database delete, xv. TP database access/view, xvi. TP database update and reprocess, xvii. TP database delete, xviii. Latent database access/view, xix. Latent database update, xx. TP Palm database access/view, xxi. TP Palm database update, xxii. Latent Palm database access/view, xxiii. Latent Palm database update, xxiv. Sensitive access/view (i.e. allowed to view sensitive subject data), xxv. Trainee, xxvi. Supervisor, xxvii. TP to Latent verification, xxviii. TP to Latent 1st certification, xxix. TP to Latent 2nd certification, xxx. Manual consolidation, xxxi. Work queue delete, xxxii. Work In Progress verification, xxxiii. View match score in UI, xxxiv. LCMC contributor data update, xxxv. Assign transactions,					

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	xxxvi. Post response, and xxxvii. Reverse search re-sort by score; b. Verification Subsystem Related: i. VSS monitoring, ii. VSS audit log access, iii. VSS post-match analysis, iv. VSS operations table configuration/access/update, and v. VSS system table configuration/access/update; c. Direct File/Scan Related: i. Process transactions, ii. Delete transactions, and iii. Transaction reset; d. Query transactions; e. User Management Related: i. User management view, ii. User management access (add, change, delete, enable, disable), and iii. Group management access (add, change, delete); f. Table configuration access (add, change, delete); and g. Operational reporting and statistics – each level of reporting must be separately controlled based on the report grouping identified in 3.5 Operational Reporting and Statistics (i.e., hourly statistics reporting, daily statistics reporting, TP transaction logging).					

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
8.2.2 Roles, Groups and Objects	<p>4. The above role functions must be used to select from to create specific roles. The following are examples of existing roles that must continue to be available in the AFIS renewal solution that have one or more role functions (privileges) assigned to them. It is understood and expected that some vendors may represent these functions in a more granular manner. It would still satisfy the requirements if multiple role functions had to be selected to achieve the higher level granularity identified herein. The Contractor must explain how the AFIS renewal solution supports these requirements.</p> <ul style="list-style-type: none"> <li>a. Employee File Analyst</li> <li>b. Employee Fingerprint Manager</li> <li>c. Production Administrator</li> <li>d. AFIS Program Analyst</li> <li>e. TP/IMM Verification Technician</li> <li>f. TP/IMM Certification Technician</li> <li>g. TP/IMM Verification Technician Trainee</li> <li>h. TP Manager;</li> <li>i. TP/IMM Supervisor</li> <li>j. Latent Analyst</li> <li>k. Latent Checker</li> <li>l. Latent supervisor</li> <li>m. Direct file/scan user</li> <li>n. RNS Coordinator</li> <li>o. Report Manager</li> <li>p. User Manager</li> </ul>	(M)				

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	q. CPSIC User r. Central Help Desk Agent; s. NCO/IC Latents; t. SACSS Security Admin; u. Training Coordinator; and v. IMM Full Access					
8.2.2 Roles, Groups and Objects	5. The roles created from the above function must be able to be organized into groups that allow a specific user to be in a group where access to multiple roles is granted through that group. For example, a user can be assigned to the senior analyst group which includes the following roles: fingerprint technician (including all fingerprint functions), supervisor, report manager (including access to all operational reporting and statistics).	(M)				
8.2.2 Roles, Groups and Objects	6. The final roles, groups and objects will be finalized in consultation with RCMP prior to implementation.	(M)				
<b>8.2.3 User Management Data Conversion</b>						
8.2.3 User Management Data Conversion	1. The existing user management data must be converted to the AFIS renewal solution in a form usable by the AFIS renewal solution. The existing AFIS supports the RBAC model identified herein. Since it is a requirement to support this model, it is expected that this required conversion would be able to use virtually all of the data from the existing AFIS. Any data that cannot be converted automatically must be converted by the Contractor manually in a manner that ensures all the access controls required throughout this SOW and its accompanying documents are satisfied. The Contractor's proposal must explain	(M)				

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	how the RBAC data will be converted to the proposed AFIS renewal solution and satisfy the requirements stated in this SOW and its accompanying documents. Refer to the AFIS renewal SOW, section 13, for more detailed database conversion requirements.					
8.3 Subject with Multiple Files and Composites						
8.3 Subject with Multiple Files and Composites	1. The AFIS renewal solution must support the structure of a unique identifier for a subject; where the subject can have multiple files associated with the same subject. As indicated in the AFIS ICD, the AFIS renewal solution must initially support six (6) different file types for any subject. Refer to the AFIS ICD for the list of initial file types or subsection 8.1.6.	(M)				
8.3 Subject with Multiple Files and Composites	2. The AFIS renewal solution must be able to support at least twelve (12) different file types without affecting the overall performance requirements stated in this SOW and its accompanying documents.	(M)				
8.3 Subject with Multiple Files and Composites	3. The AFIS renewal solution must support a set of composite fingerprints for each type of file associated with a subject, if the AFIS renewal solution includes composites. This set of composite prints must be the best quality prints from all the prints recorded under each type of file. For example, for three (3) file types, there would be three sets of composites. If composites are not used, all prints must be searched.	(M)				
8.3 Subject with Multiple Files and Composites	4. When a subject has many sets of prints (e.g.: fifty (50)) under a specific file type and a TP search request requires all files to be searched, the AFIS renewal solution should only search the top best sets of prints (e.g.: thirty (30)) for the specific file type based on a configurable parameter. The precise number will be	(R)				

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	determined in consultation with the RCMP prior to implementation. Refer to subsection 8.1.11 for details concerning this configurable parameter.					
<b>8.4 NIST Packet Viewer</b>						
8.4 NIST Packet Viewer	1. The AFIS renewal solution must provide a NIST packet viewer which can be used at any time during the processing of TP or Latent transactions. This NIST viewer must allow all NIST packet data to be viewed, printed and downloaded.	(M)				
<b>8.5 Availability / Reliability</b>						
8.5 Availability / Reliability	1. Availability, as outlined in this document, will be measured once Site Acceptance has taken place and the AFIS is deemed to be Ready for Production. It is included herein as part of the performance criteria that the AFIS renewal solution will be designed to fulfill. The performance of the AFIS renewal solution will be tested as part of the benchmark testing and again as part of the site acceptance.	(M)				
8.5 Availability / Reliability	2. Availability, in the context of the AFIS, is defined as both user and system-driven functions (versus user-initiated) having the ability to perform add, change, delete and enquire functions on AFIS data. If any of the core equipment, system software, database software, COTS software or application software necessary for the user to perform these functions fails, then the AFIS renewal solution is deemed to be unavailable until such time as these functions are fully restored.	(I)				
8.5 Availability / Reliability	3. Planned service outages agreed upon between the Contractor and RCMP do not constitute unavailability of the AFIS renewal solution.	(I)				

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8.5 Availability / Reliability	4. Network security and data communications services will be furnished by RCMP, and any failure in these security and/or communications components directly causing the AFIS to be "Unavailable" or "Operate in Reduced Capacity" will not be the responsibility of the Contractor, nor will it be considered in calculating incident based or monthly totals.	(I)				
8.5 Availability / Reliability	5. Failure of individual workstations, printers, scanners and like peripheral devices will not be considered as required for availability, as there is more than one such peripheral device in the configuration of the AFIS renewal solution. In the event that there is only one such device, then the device will be considered as core equipment.	(I)				
8.5 Availability / Reliability	6. The AFIS renewal solution shall be a high availability system that operates on a twenty-four hours per day, seven days per week, 365 days per year basis (24 x 7 x 365). The AFIS renewal solution shall meet, at a minimum, 99.5% availability on a monthly basis. That is, for a 30-day month, it will not be unavailable on an unplanned basis for more than a cumulative maximum of 3.6 hours in the month. On a daily basis, the AFIS renewal solution unavailability shall not exceed two (2) hours. Within a given month, the maximum number of periods of unavailability permitted is two (2), with a total cumulative duration between them not to exceed 3.6 hours (for a 30-day month).	(M)				
8.5 Availability / Reliability	7. Mathematically, availability is calculated as: Availability = Available Time in Month – Total Downtime in Month Available Time in Month Where:	(I)				

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	Available time in month = Number of days in month * 24 hours, less any periods of planned downtime. Total Downtime in Month = Total amount of hours system was unavailable during the month.					
8.5 Availability / Reliability	8. System availability is measured on a monthly basis, starting at 00:00 Eastern Standard Time (EST) on the first day of each month. Note that allowable downtime does not accumulate from month to month, but is reset at the beginning of each month. The AFIS renewal solution must satisfy these system availability requirements.	(M)				
8.5 Availability / Reliability	9. The AFIS renewal solution might occasionally operate in a reduced capacity mode on an unplanned basis. Reduced Capacity is defined as: a slower performing system whose functions and data are still available to the users. An example of Reduced Capacity is when one of several processors in a server fails, no data is lost or corrupted, the users can perform all system functions but response times may be slower.	(I)				
8.5 Availability / Reliability	10. In a Reduced Capacity mode, at a minimum, 50% of the total volume of transactions, including 100% of the Priority 1 and Priority 2 transactions, shall be processed within their normal response time. If the AFIS renewal solution fails to meet these minimum requirements, it shall be deemed Unavailable.	(M)				
8.5 Availability / Reliability	11. At a minimum, the AFIS renewal solution shall only function in a Reduced Capacity mode for a cumulative maximum of 43.8 hours per year, for a duration not to exceed 12 hours in peak operating hours or 24 hours in off-peak, within one month. Peak operating hours for the AFIS are from 07:00 – 23:00 EST (Ottawa Time).	(M)				

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	Off-peak hours are from 23:00 – 07:00 EST. This is summarized in Table 8-2 below.					
8.5 Availability / Reliability	12. The AFIS renewal solution must support the supply of statistics to RCMP's reporting service. At a minimum, the following must be supported: a. Transaction number b. File number c. DCN d. Transaction start date/time e. Transaction end date/time f. Note: other fields to be included will be identified during implementation	(M)				
8.5 Availability / Reliability	13. Availability and Reduced Capacity times are mutually exclusive. That is, time that the AFIS renewal solution is unavailable is not included in the calculation of time in Reduced Capacity mode, and vice-versa. Further, Reduced Capacity or complete Unavailability will be recorded independently and associated only with the actual system status. For example, a problem causing two (2) hours of Reduced Capacity leading to a system failure resulting in a subsequent one (1) hour of unavailability would be recorded as two (2) hours of reduced capacity and one (1) hour of unavailability.	(I)				
8.5 Availability / Reliability	14. The AFIS renewal solution must be fully operational within at least one (1) hour period after a power restoration. From an operational view, the time from when power was lost (at no fault of the Contractor) to when it is fully restored will not be counted in determining system availability. The RCMP will inform the	(M)				

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	Contractor when power has been restored. The restoration start time will be measured based on the Contractor being on-site at RCMP HQ and being informed of the power restoration. Any time the AFIS renewal solution is not fully operational beyond this period shall count as the system being unavailable.					
8.5 Availability / Reliability	15. The Contractor's on-call support resource must be able to arrive at RCMP HQ within at least thirty (30) minutes after being notified of a requirement for support after a planned outage. Consequently, if the Contractor on-call support resource is contacted thirty (30) minutes before the power is restored, then the restoration time is expected to be one (1) hour.	(M)				
<b>8.6 System Response Times for Local Workstations</b>						
8.6 System Response Times for Local Workstations	1. This section deals with response time specifications for workstations operating at RCMP HQ. Refer to Annex A for a description of the existing environment within which the AFIS renewal solution must operate.	(M)				
8.6 System Response Times for Local Workstations	2. Response times will be measured from the instant of the request to the moment the data is displayed, or the instant the cursor moves to the next field, whichever is applicable.	(I)				
8.6 System Response Times for Local Workstations	3. The fingerprint-related functions listed in Table 5.3 below identify graphical user interface (GUI) required response time in displaying data that must be supported.	(M)				
8.6 System Response	4. All GUI fingerprint and palm related functions must be, at a minimum, as fast in the AFIS renewal solution. These apply to both Ten Print and latent functions.	(M)				

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Times for Local Workstations						
8.6 System Response Times for Local Workstations	5. The response times in this section are response times that include the Local Area Network (LAN) response time. In case of dispute, the Contractor shall be required to demonstrate user response times matching the requirements, less 0.1 seconds (100 milliseconds) exclusive of the LAN response time. For example, the Contractor would demonstrate 2.9 seconds (2900 milliseconds) response time or less, instead of 3.0 seconds.	(M)				
8.6 System Response Times for Local Workstations	6. Response times in this section will be measured with an one-day (16 hours) maximum peak load sample based on the Peak Hourly Load as found in subsection 3.6 Volumetrics and Service Delivery. This testing will be done during benchmark testing and again during Site Acceptance Testing.	(I)				
<b>8.7 NPSNet Network Architectural Constraints</b>						
8.7 NPSNet Network Architectural Constraints	1. This subsection details a number of specific constraints for the Contractor to adhere to.	(I)				
8.7 NPSNet Network Architectural Constraints	2. The Contractor's System shall conform to the following NPSNet Network Architecture constraints for all data communications: <ul style="list-style-type: none"> <li>a. The System shall use the Transmission Control Protocol/Internet Protocol (TCP/IP) suite of protocols for data communications.</li> <li>b. The System must use static destination TCP/UDP ports, which must be well defined. For example, dynamic port allocation such as is done by Remote Procedure Calls (RPC)</li> </ul>	(M)				

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	<p>is difficult to filter on firewalls, thus RPC-based solutions are not permitted.</p> <p>c. Note: In some cases RCMP will require the Contractor to use specific port numbers not typically used for certain protocols for security reasons. These port numbers will be provided upon request.</p> <p>d. The use of IP Multicast protocols such as Internet Group Management Protocol (IGMP) or Multicast OSPF (MOSPF) is only permitted between servers that are located on the same physical LAN segment. The use of these protocols outside of the LAN segment assigned to the AFIS renewal solution is not permitted.</p> <p>e. IP addresses shall not be hard-coded in any applications or scripts, either client or server.</p>					
8.7 NPSNet Network Architectural Constraints	<p>3. Additionally, the Contractor's System should conform to the following network architecture constraints:</p> <p>a. The System should use Domain Name Services (DNS) to identify system components on the network infrastructure. Should the IP address of any system component need to be changed, only the Domain Name Server should require updating. If the Contractor uses the RCMP DNS, the Contractor is still responsible for satisfying all the requirements in this SOW and its accompanying documents.</p> <p>b. Interactive and batch traffic should be assigned different port numbers to ensure the impact of batch activity does not affect interactive performance. It is the Contractor's responsibility to ensure the performance requirements in this SOW and its</p>	(R)				

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	accompanying documents regardless of whether there is batch processing occurring.					
8.7 NPSNet Network Architectural Constraints	4. The NPSNet Technical Authority maintains a list of port numbers in use and assigns new ports as required.	(I)				
8.7 NPSNet Network Architectural Constraints	5. The assignment of IP addresses for all network elements connected to the NPSNet is controlled by the NPSNet Technical Authority within the RCMP.	(I)				
8.7 NPSNet Network Architectural Constraints	6. All data communications destined to traverse the NPSNet/NSP/SCNet shall function seamlessly within secure MPLS or an IPsec tunnel.	(M)				
8.7 NPSNet Network Architectural Constraints	7. The AFIS renewal solution shall not rely on an Internet Control Message Protocol (ICMP) message, because of the possibility of a firewall or other security device blocking the ICMP message.	(M)				
8.7 NPSNet Network Architectural Constraints	8. Current RCMP security policy does not allow for connection(s) between the Contractor's data network and any network either owned or managed by the RCMP, including, but not limited to the NPSNet, RCMP Campus or in-building networks. Refer to the SOW for a description of a potential ability to temporarily connect to the RCMP network from the Contractor's site for very restrictive access for urgent support reasons. The Contractor may be required to make changes to their networking infrastructure and/or practices to meet RCMP's security requirements that enable this temporary connection. If approved, any costs	(I)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	associated with either changes to the Contractor's network or connection to RCMP-owned or managed network(s) will be at the expense of the Contractor.					
8.7 NPSNet Network Architectural Constraints	9. The Contractor's solution shall not employ any wireless communications devices for workstation-to-server, server-to-server, or any other communication between devices.	(M)				
<b>8.7.1 Local Area Network Connectivity</b>						
8.7.1 Local Area Network Connectivity	1. The AFIS renewal solution servers, workstations, scanners and printers will be implemented in three separate buildings, two buildings at the primary site and at the DR site. Refer to Annex A for additional details.	(M)				
8.7.1 Local Area Network Connectivity	2. The AFIS workstation LAN connections are industry standard 10/100/1000 Mbps, capable of Full Duplex and Half Duplex Ethernet, and compatible with the Institute for Electrical and Electronic Engineering (IEEE) 802.3 Ethernet standard. a. 10/100/1000 Mbps LAN connections provided by the RCMP utilize unshielded twisted pair (UTP) Category 5e cabling as physical media. b. Workstations connectivity to the LAN is via an RJ45 outlet at the workspace with 1,000 Mbps (Gigabit) Ethernet connections.	(I)				
8.7.1 Local Area Network Connectivity	3. The AFIS renewal solution server connections to the LAN shall employ 1,000 Mbps (Gigabit) Ethernet connections. Any new server provided in the Contractor's proposed solution must include Gbps NICs capable of auto-sensing redundantly	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	configured to support the HA requirements stated in this SOW and its accompanying documents.					
8.7.1 Local Area Network Connectivity	4. The physical media for Gigabit Ethernet (1,000 Mbps) connections are unshielded twisted pair (UTP) Category 5e cabling.	(I)				
<b>8.8 Confidentiality and Integrity</b>						
8.8 Confidentiality and Integrity	1. The AFIS renewal solution must ensure the confidentiality and integrity of the RCMP fingerprints and fingerprint related data. Confidentiality and integrity are key elements of RCMP operations.	(M)				
8.8 Confidentiality and Integrity	2. Through a combination of RCMP provided security architecture and security processes combined with authorization and authentication requirements that must be provided by the AFIS renewal solution, the confidentiality is expected to be effective. The Contractor is encouraged to identify any aspects of their solution which could improve the confidentiality of the solution.	(M)				
8.8 Confidentiality and Integrity	3. The Contractor must explain all aspects of their AFIS renewal solution that ensures the integrity of the RCMP fingerprint and fingerprint related data to justify that the integrity of the data will be maintained. This must include at least the following: a. Transaction processing with units of work and phased commits; b. Managing concurrent processing; c. Error recovery;	(M)				

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	<p>d. Any aspects of the database design that ensures data integrity. For example, to ensure no duplicates are recorded for a field, the database field would be defined as unique;</p> <p>e. Any aspects of the design that ensure referential integrity. For example, if minutia is recorded separately from fingerprint images, how both are maintained to ensure searches are against all valid sets of fingerprints must be explained;</p> <p>f. Discrepancy reporting frequency and use; and</p> <p>g. Tools, utilities and/or monitoring used to ensure any data integrity issues are identified and resolved as soon as possible with at least the following:</p> <ul style="list-style-type: none"> <li>i. Daily completed searches run against the AFIS renewal solution to identify potential misses (reviewed by a program analyst),</li> <li>ii. Daily report to identify any duplicate DCNs. The AFIS renewal solution must include design and/or processing that ensure duplicate DCNs are not created; however, since the DCN is so critical the RCMP want to ensure there is a regular check for duplicate DCNs,</li> <li>iii. Daily report to identify if the same file number is filed under more than one Subject ID,</li> <li>iv. Daily report to identify invalid or missing file numbers, and</li> <li>v. Monthly report to verify file number prefixes correctly match the file record type (e.g.: all criminal record file types have a prefix of 20000).</li> </ul>					

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 8. AFIS Technical Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>8.9 Auditing</b>						
8.9 Auditing	1. The AFIS renewal solution shall record when, where and why, whatever happened and by whom, related to any request processed on the AFIS renewal solution.	(M)				
8.9 Auditing	2. The AFIS renewal solution shall implement audit trails for all successful and unsuccessful access logins.	(M)				
8.9 Auditing	3. The AFIS renewal solution shall have the capability of auditing the following resources: a. Application; b. File; c. Database; d. Field within a database; e. Table within a database; f. System accessed; and g. System interfaces.	(M)				
8.9 Auditing	4. The AFIS renewal solution shall have user authorization for controlling access to the following resources: a. Programs; b. Data; c. Functions; d. Options; and e. Parameters.	(M)				
8.9 Auditing	5. The AFIS renewal solution shall have configurable auditing capabilities, whereby the accesses, resources, and users that will	(M)				

<b>Annex B to Appendix A: AFIS Detailed Requirements: Chapter 8. AFIS Technical Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	be included in the audit trail can be specified by the RCMP. Refer to subsection 3.5 Operational Reporting and Statistics for examples of reporting that is used for audit purposes.					
8.9 Auditing	6. The AFIS renewal solution shall have an audit trail, for each user, that identifies the following: a. User; b. Resource that was accessed by the user; c. Date, time and type of access to the resource; and d. Whether the access to the resource was successful or unsuccessful.	(M)				
8.9 Auditing	7. The AFIS renewal solution shall have an audit trail, for each resource, that identifies the following: a. Resource ID; b. User or role that accessed the resource; c. Date, time and type of access requested; and d. Whether the access was successful or unsuccessful.	(M)				
8.9 Auditing	8. The AFIS renewal solution shall have an audit trail, for each subsystem accessed, that identifies the following: a. Subsystem; b. User, role or resource that accessed the subsystem; c. Date, time and type of access requested; and d. Whether the access was successful or unsuccessful.	(M)				
8.9 Auditing	9. The Contractor shall describe how it plans to implement security measures on all audit trails generated by the AFIS renewal solution in accordance with the Protected B designation.	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
8.9 Auditing	10. The AFIS renewal solution shall implement security measures on all audit trails generated by the System in accordance with the Protected B designation. The audit trail logs shall be tamperproof.	(M)				
8.9 Auditing	11. The audit trail is considered tamperproof if the System includes the following three key elements: a. The System has the application writing to the audit log(s) in a verifiable manner. b. The System has access to the audit log(s) restricted to an authorized trusted person (i.e. Administrator or Security Officer). Access to audit logs will be configured at the operating system level for the following policy: Access by an Administrator operating under super user rights, limited to read only for the audit. c. The System includes protection of the electronic log file by storing it in a secure repository on the source server.	(I)				

### 1.4 Annex C to Appendix A: Transcoder Detailed Requirements – v12b

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 1. Introduction						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>1.1 General</b>						
1.1 General	1. This Annex C to the Appendix A Statement of Work (SOW) describes the detailed requirements to renew the Transcoders, which are in addition to the high-level requirements stated throughout the SOW and its accompanying documents.	(I)				
1.1 General	2. This document identifies what the Contractor's Transcoder must provide in order to satisfy the Royal Canadian Mounted Police's (RCMP) requirements that will enable remote Automated Fingerprint Identification System (AFIS) users to search the RCMP national Ten Print File (TPF) and Unsolved Latent File (ULF) directly through National Institute of Standards and Technology (NIST) transactions, verify their search results, add entries to the RCMP ULF, disposition their Latent searches, fetch Ten Prints or Latents, perform ULF to ULF searches; and delete their ULF entries previously added to the RCMP ULF.	(M)				
1.1 General	3. The primary purpose of the Transcoder is to provide the ability for police agencies across Canada to perform their own fingerprint/palm print crime scene investigation using their own fingerprint technicians.	(I)				
1.1 General	4. As well, this document describes the functional and technical requirements that must be provided by the Contractor's Transcoder renewal solution to support the business, interfaces, capacity, security and quality requirements of the RCMP.	(M)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 1. Introduction						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>1.2 Transcoder Renewal Concept</b>						
1.2 Transcoder Renewal Concept	1. From a high-level architecture perspective, the Transcoder is a National Police Service – National Institute of Standards and Technology (NPS-NIST) Interface Control Document (ICD) compliant input device. It is a replaceable input device for Real Time Identification (RTID). The Transcoder interfaces with the NPS-NIST Server (NNS). NNS controls the overall flow and processing of NPS-NIST submissions. The AFIS ICD defines the interface between NNS and AFIS. Any Transcoder that fully supports the NPS-NIST ICDs for the Types Of Transactions (TOT) that are supported by the Transcoder and the Transcoder User Interface (UI) requirements is expected to be able to replace the existing Transcoder.	(I)				
1.2 Transcoder Renewal Concept	2. The NNS mostly considers the Transcoder TOTs as pass through to the AFIS, meaning the AFIS renewal solution must know how to interpret the data provided by the Transcoder.	(M)				
1.2 Transcoder Renewal Concept	3. The Transcoder renewal solution must support the NPS-NIST ICDs for all communications between the Transcoder and NNS as well as the sequence of activities for Transcoder workflow. The Transcoder renewal solution must also support the UI and all other requirements stated throughout this SOW and its accompanying documents.	(M)				
<b>1.3 Document Organization</b>						
1.3 Document Organization	1. The detailed architecture within which the Transcoder renewal solution operates, is described in Section 2.	(I)				

<b>Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 1. Introduction</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
1.3 Document Organization	2. The detailed functional requirements that are to be supported by the Transcoder renewal solution are presented under various headings such as General, Ten Print (TP) and Latent.	(I)				
1.3 Document Organization	3. There are technical requirements included with the functional requirements to ensure clarity concerning the requirements. However, most of the detailed technical and implementation requirements that are to be supported by the Transcoder renewal solution are presented following the functional requirements.	(I)				
1.3 Document Organization	4. The overall detailed architecture within which the Transcoder renewal solution must operate is explained in Annex A, Current Architecture.	(M)	✓			
1.3 Document Organization	5. Annex B shows the workflow sequence of Latent Fingerprint Feature Search (LFFS) processing that the AFIS renewal solution must support. This workflow is initiated by the Transcoder; therefore, the Transcoder must support the workflow required for the LFFS related sequence of activities described in the AFIS renewal solution as well as all the activities/transactions necessary to support the Transcoder requirements stated throughout this SOW and its accompanying documents. All other workflow examples are included in Annex G. It is expected that the Contractor can use the examples and the NPS-NIST ICDs, AFIS ICD and the requirements stated throughout this SOW and its accompanying documents to understand all the other workflows applicable to the Transcoder renewal solution.	(M)				
<b>1.4 Definitions</b>						
1.4 Definitions	1. A “remote operator” is a fingerprint technician located at a remote site who is performing latent and ten print searches against the	(I)				

<b>Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 1. Introduction</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	RCMP TPF and ULF. This operator has been trained on the Transcoder and is regularly monitored by the RCMP.					
1.4 Definitions	2. An “uncertified remote operator” is an individual who is going through the training period allowing the Remote Network Search Coordinator (RNSC) to monitor their work. An uncertified operator shall not be authorized to enrol latents into the ULF.	(I)				
1.4 Definitions	3. The RNSC is located at the RCMP and is an office that has senior Latent technicians who are responsible for coaching and monitoring remote operators.	(I)				
1.4 Definitions	4. The terms “Operator” and “User” are used interchangeably in these requirements and, within this Annex, refer to Transcoder users, unless otherwise stated.	(I)				
1.4 Definitions	5. For the purpose of this Annex, the term “RCMP HQ” shall mean a designated location within RCMP Headquarters where AFIS operations are conducted, currently situated at the Vanier Parkway campus in Ottawa.	(I)				

<b>Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 2. Transcoder Renewal Architecture</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>2.1 Transcoder Renewal High-Level Architecture</b>						
2.1 Transcoder Renewal High-	1. The Transcoder must support operating in several different configurations within RCMP / Shared Services Canada (SSC) and contributing agency architecture. These different configurations	(M)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 2. Transcoder Renewal Architecture						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
Level Architecture	within this architecture are described in the following subsections. Figure 2-1: Transcoder Renewal High-Level Architecture depicts the high-level Transcoder architecture that must be supported by the Transcoder renewal solution. The Contractor's Transcoder renewal solution must operate within this architecture and support the various configurations, interfaces, functional and technical requirements that provide a secure, efficient and effective solution.					
2.1 Transcoder Renewal High-Level Architecture	2. The most frequently utilized configuration that the Transcoder renewal solution must support is depicted on the middle to right side of the high-level architecture. Most remote Transcoder sites have one (1) Transcoder that uses a bi-directional Simple Mail Transfer Protocol (SMTP) interface to exchange NPS-NIST compliant packets with NNS. All Transcoder renewal solution configurations use the bi-directional SMTP interface.	(M)				
2.1 Transcoder Renewal High-Level Architecture	3. For large remote sites that have their own AFIS, the Transcoder renewal solution must support receiving Integrated Automated Fingerprint Identification System (IAFIS) Type-9 NIST packets from the remote site through a local network connection. This is referred to as receiving Latents through the back-end interface of the Transcoder. These large remote sites perform Latent searches on their own AFIS and then, as required, submit to RTID. The Transcoder renewal solution must automatically receive, process, and transform the LFFS transaction with the IAFIS Type-9 compliant data into an NPS-NIST compliant LFFS transaction with encoding expected by the AFIS renewal solution and send it to the RCMP NNS. This allows different remote site vendor solutions to be able to automatically submit their Latents to RTID using an international standard.	(M)				

<b>Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 2. Transcoder Renewal Architecture</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
2.1 Transcoder Renewal High-Level Architecture	4. The Transcoder renewal solution must validate the remote site LFFS to ensure it has been submitted by the agency for which the Transcoder has been configured.	(M)				
2.1 Transcoder Renewal High-Level Architecture	5. Once the transformed LFFS has been sent to NNS, all remaining communication is between the Transcoder and the NNS. Any subsequent processing of the Latent must allow all Transcoder renewal solution functionality to be used on the Latent to add/remove any encoding or use any other features in the same manner as if the Latent was submitted directly from the Transcoder renewal solution.	(M)				
2.1 Transcoder Renewal High-Level Architecture	6. The only communication that must be provided back to the remote site back-end interface is a SMTP acknowledgement that the email was received or, in case of an email failure, an appropriate error based on the SMTP protocol.	(M)				
2.1 Transcoder Renewal High-Level Architecture	7. Any interaction with the Federal Bureau of Investigation (FBI) Next Generation Identification (NGI) required for Transcoder renewal solution NPS-NIST transactions is supported through the NNS to FBI interface.	(I)				
2.1 Transcoder Renewal High-Level Architecture	8. The Transcoder renewal solution shall also provide functionality to support CAR N, MAP, CAR Y and IRQ ten print transactions using this same Transcoder architecture. Refer to the NPS-NIST ICDs for details concerning these ten print transactions.	(M)				
2.1 Transcoder Renewal High-Level Architecture	9. The Transcoder renewal solution must support all aspects of the interface with the NNS, including receiving FBI search results when FBI searches are requested from the Transcoder.	(M)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 2. Transcoder Renewal Architecture						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>2.2 Transcoder Renewal Configurations</b>						
2.2 Transcoder Renewal Configurations	1. The following are three (3) example configurations that must be supported by the Transcoder renewal solution. These example configurations depict all possible configurations that have architectural implications. That is, there are several other combinations and permutations of number of Transcoders and their physical location at a remote site; however, they all can be supported in the following architectures.	(M)				
2.2 Transcoder Renewal Configurations	2. The base Transcoder renewal solution architecture is a single Transcoder that communicates with the RTID mail server using bi-directional SMTP. The Transcoder is connected to the RCMP-managed Local Area Network (LAN) located at the remote site. The Transcoder in this configuration is controlled and managed by the RCMP.	(I)				
2.2 Transcoder Renewal Configurations	3. Like other devices on the RCMP-managed LAN, the Transcoder renewal solution must support receiving anti-virus updates from RCMP's McAfee ePolicy Orchestrator (ePo) services and windows workstation updates from RCMP's Windows Server Update Services (WSUS).	(M)				
2.2 Transcoder Renewal Configurations	4. The Transcoder renewal solution must also support access through PC Duo, which is used by the RNSC to provide support and training for the Transcoder renewal solution users.	(M)				
2.2 Transcoder Renewal Configurations	5. Note: These remote sites also have other devices, physically located within their own agency network, that also submit to RTID. This SMTP interface is separate from the Transcoder renewal solution; however, all communication from the remote site flows through the same encrypted connection.	(I)				

<b>Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 2. Transcoder Renewal Architecture</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
2.2 Transcoder Renewal Configurations	6. The Transcoder renewal solution must support a configuration with multiple Transcoders at a remote site, where all communication with RTID is only through the site's primary Transcoder.	(M)				
2.2 Transcoder Renewal Configurations	7. The RCMP-managed LAN multi-Transcoder renewal solution configuration must support the concept of mapped drives / shared database that allow all Transcoder users at the remote site to send, receive and process the NPS-NIST transactions supported by the Transcoder. This support must allow each user to work on the transaction they are processing through the series of Transcoder transactions that constitute the complete workflow for the transactions.	(M)				
2.2 Transcoder Renewal Configurations	8. This multi-Transcoder renewal solution configuration must support all the capabilities identified in the base Transcoder architecture including ePo, WSUS updates and PC Duo access.	(M)				
2.2 Transcoder Renewal Configurations	9. The Agency Network LAN multi-Transcoder renewal solution configuration must support the concept of mapped drives / shared database that allow all Transcoder users at the site to send, receive and process the NPS-NIST Latent transactions supported by the Transcoder. This support must allow each user to work on the transaction they are processing through the series of Transcoder Latent transactions that constitute the complete workflow for remote Latents.	(M)				
2.2 Transcoder Renewal Configurations	10. The Agency Network multi-Transcoder renewal solution configuration must support all the capabilities identified in the base Transcoder architecture including PC Duo access. Agencies with Transcoders on their own network accept responsibility to	(M)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 2. Transcoder Renewal Architecture						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	maintain anti-virus and windows workstation updates on the Transcoders.					
2.2.1 Transcoder/NNS Interface						
2.2.1 Transcoder/NN S Interface	<p>1. Transcoder sites communicate with RTID through a Network Security Posture (NSP) site Internet Protocol Security (IPSec) connection. Refer to Annex A, current architecture, for additional information concerning secure NSP connections. The Transcoder/NNS interface is an asynchronous bi-directional SMTP interface through the NSP connections. The Contractor's Transcoder renewal solution must support this interface. The following describes the interaction between the Transcoder and NNS that must be supported by the Contractor's Transcoder renewal solution:</p> <ul style="list-style-type: none"> <li>a. NIST packets are sent to the NNS email component by the Transcoder renewal solution;</li> <li>b. The NNS will validate the NIST packets to ensure compliancy with the NPS-NIST ICDs. Refer to the NPS-NIST ICDs for details regarding error conditions, error responses and other aspects of this interaction;</li> <li>c. The NNS will transform the NIST packet submitted by the Transcoder into the associated internal NIST packet based on the AFIS ICD and submit the internal packet to AFIS;</li> <li>d. The AFIS renewal solution must complete the required processing based on the internal NIST packet and respond back to the NNS;</li> <li>e. The NNS will transform the AFIS renewal solution response NIST into the associated NPS-NIST ICD NIST packet and send an email, with the NIST packet attached, to the address</li> </ul>	(M)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 2. Transcoder Renewal Architecture						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<p>associated with the Transcoder's Originating Agency Identifier (ORI) that submitted the packet;</p> <p>f. The Transcoder renewal solution must process the response NIST packet and, as required, provide the results to the Transcoder user(s); and</p> <p>g. The Transcoder renewal solution must include a database that is used to manage transactions submitted by the Transcoder, user access, transaction status and all other information required to enable the Transcoder renewal solution to function in a manner the same as, or similar to, the AFIS renewal solution workstation.</p>					
<b>2.2.2 Multi-Transcoder Configuration</b>						
2.2.2 Multi-Transcoder Configuration	1. Most Transcoder sites only have one (1) Transcoder; however, several sites have multiple Transcoders to support larger requirements for crime scene investigation. The Transcoder renewal solution must support the Departmental Security Branch (DSB) approved multi-Transcoder configuration.	(M)				
2.2.2 Multi-Transcoder Configuration	2. The multi-Transcoder configuration includes one (1) primary (i.e., master) Transcoder which is the only Transcoder that communicates with NNS. From an NNS perspective each site only appears as a single Transcoder site.	(I)				
2.2.2 Multi-Transcoder Configuration	<p>3. The Transcoder renewal solution must support a mapped drives / shared database capability where the following requirements must be satisfied:</p> <p>a. Each Transcoder must be able to view the transactions they are processing which includes:</p> <p>i. Monitoring the transactions they have submitted;</p>	(M)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 2. Transcoder Renewal Architecture						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	ii. Receiving the responses from submitted transactions; and iii. Taking action on the transaction based on the requirements that must be supported by the Transcoder renewal solution.  b. Transactions processed on one (1) Transcoder cannot affect a transaction on any other Transcoder;  c. The same Transcoder is used by multiple users; therefore, the UI must be the same for each Transcoder; that is, the users at a site must not notice any difference between each Transcoder UI; and  d. The Transcoder must support local site two-factor authentication for access to the Transcoder using a biometric and password authentication method.					

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 3. General Transcoder Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>3.1 Transcoder COTS Compliance</b>						
3.1 Transcoder COTS Compliance	1. The Transcoder renewal solution must be a Commercial Off-the-Shelf (COTS) software product and be based on the AFIS renewal workstation UI and functionality.	(M)				
3.1 Transcoder COTS Compliance	2. The Transcoder renewal solution, to the greatest extent possible, should satisfy the Transcoder renewal solution requirements through the COTS product.	(R)				

<b>Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 3. General Transcoder Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
3.1 Transcoder COTS Compliance	3. This COTS product must be customizable to modify, extend, expand and/or introduce new functionality to the COTS product to support the Transcoder renewal solution.	(M)				
3.1 Transcoder COTS Compliance	4. This COTS product must be configurable to support changes or additions made to the base set of data values of the COTS product to reflect the requirements of the RCMP.	(M)				
3.1 Transcoder COTS Compliance	5. These application configuration changes should not include modifying existing or adding new programming code, or changing the application architecture or data structure.	(R)				
3.1 Transcoder COTS Compliance	6. The Contractor should describe in detail its strategy for providing the Transcoder specific functionality based on the AFIS workstation UI functionality as the AFIS COTS baseline evolves over the life of the contract, addressing the extent to which it will include custom features into its COTS product; and to what extent that the Contractor's strategy minimizes disruption in terms of availability if RCMP chooses to implement an upgrade.	(R)				
<b>3.2 Logging of Transaction Activities</b>						
3.2 Logging of Transaction Activities	1. The Transcoder renewal solution shall, in an automated fashion, log all activity performed as a result of the sending, processing and receiving transactions through the communication with the NNS as well as any activities initiated by the user on the Transcoder.	(M)				
3.2 Logging of Transaction Activities	2. The purpose of this Transcoder log is to retain an administrative record of the complete processing history of a request for service, including each wait state, each activity, who performed the activity, and which actions were taken. This is meant to complement the comprehensive audit log available on NNS and	(I)				

<b>Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 3. General Transcoder Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	the AFIS renewal solution to ensure an accurate history of events is recorded.					
3.2 Logging of Transaction Activities	3. For fingerprints/palms that are processed, the Transcoder renewal solution shall retain Transaction Log entries for a period of time, as indicated in a configurable parameter, after the transaction has been serviced (currently indefinitely).	(M)				
3.2 Logging of Transaction Activities	4. The Transcoder renewal solution shall not allow modification of the information recorded in the Transaction Log, as it provides a true representation of activities that occurred at a specific point in time.	(M)				
3.2 Logging of Transaction Activities	5. The Transcoder renewal solution shall make any Transaction Log data viewable as required by RCMP audit resources.	(M)				

<b>Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 4. Transcoder Functional Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>4.1 General</b>						
4.1 General	1. The Transcoder renewal solution must be based on the AFIS renewal solution workstation. The Transcoder renewal solution is essentially a remote AFIS workstation primarily used for Latent processing with limitations because of the connection speed; therefore, it has to be designed according to the NPS-NIST ICD to support the existing connection speed.	(M)				

<b>Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 4. Transcoder Functional Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
4.1 General	2. The Contractor's Transcoder UI and functionality should have almost all AFIS renewal solution workstation capabilities.	(R)				
4.1 General	3. The most significant difference is that the Contractor's Transcoder does not have direct access to the RTID AFIS database or the Latent Case Management Capability (LCMC). All other functionality required for a remote operator to effectively and efficiently perform their role must be available.	(M)				
4.1 General	4. Remote sites have their own Transcoder database (refer to requirements earlier herein) and Remote sites manage their own cases; therefore, the LCMC UI capabilities are not expected to be part of the Transcoder renewal solution. However, as described in the AFIS renewal solution requirements and throughout this SOW and its accompanying documents; the remote site processing activities and results on the AFIS renewal solution must be recorded in the LCMC (e.g., An identification by a Transcoder user that was processed on the AFIS renewal solution would be recorded in the AFIS renewal solution log files and database; therefore, available in the AFIS renewal solution reporting capabilities and LCMC in the same manner as any other identification).	(M)				
4.1 General	5. Since the Contractor's Transcoder must be based on the AFIS renewal solution workstation, there has been no attempt herein to repeat all the AFIS workstation UI and functionality and requirements that must be supported, as these are already identified in Annex B – AFIS Detailed Requirements. It is the Contractor's responsibility to identify what functionality will not be available and justify why it is not available on the Transcoder and ensure all the requirements stated herein as well as throughout	(M)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 4. Transcoder Functional Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	this SOW and its accompanying documents are met. The requirements stated herein are meant to identify Transcoder specific requirements; however, some requirements from the AFIS renewal solution workstation have been repeated herein to show how those requirements fit in the flow of Transcoder operations and identify the minimum requirements that must be available on the Contractor's Transcoder.					
4.1 General	<p>6. The Transcoder renewal solution shall support the following NPS-NIST ICD transactions as well as all their possible responses:</p> <ul style="list-style-type: none"> <li>a. LFFS;</li> <li>b. LFSRD;</li> <li>c. ULD;</li> <li>d. ULR;</li> <li>e. ULE;</li> <li>f. LCLO;</li> <li>g. CAR N;</li> <li>h. CAR Y;</li> <li>i. MAP; and</li> <li>j. IRQ.</li> </ul> <p>Note: Refer to the NPS-NIST ICDs for all the possible responses that can be received for any of the above transactions.</p>	(M)				
4.1 General	7. The Transcoder renewal solution must support indicating that a Latent search is destined for the FBI (e.g., using a button or right mouse click and select type method).	(M)				
4.1 General	8. The Transcoder renewal solution must support the use of the GFE scanner and selection of a Latent from a memory card (e.g.,	(M)				

<b>Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 4. Transcoder Functional Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	USB with Latent images) as part of the processing required for the Transcoder renewal solution capabilities.					
4.1 General	9. The Transcoder renewal solution must support all scanner capabilities necessary to support all paper scanning requirements for TP and Latent transactions processed on the Transcoder renewal solution.	(M)				
4.1 General	10. The Transcoder renewal solution must be able to select images from a DVD/USB for inclusion in a submission. These images may have been captured by the remote site camera or some other method. These images are normally formatted as TIFF images. The Transcoder must support TIFF, JPEG and bitmap images for inclusion in a submission.	(M)				
4.1 General	11. In an automated fashion, the Transcoder renewal solution shall log all activities performed as a result of the sending, processing and receiving transactions through the communication with the NNS as well as any activities initiated by the user on the Transcoder.	(M)				
4.1 General	12. The Transcoder renewal solution submissions, except as noted herein (e.g., uncertified remote operator), will be processed by RTID in an automated manner to effectively support the remote agency user.	(M)				
4.1 General	13. The Transcoder renewal solution shall perform the following functions as a minimum: a. Create an LFFS submission using the Latent image identified by the Transcoder renewal solution user through the methods described herein.	(M)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 4. Transcoder Functional Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>b. Receive a request to search a Latent (LFFS) from the remote site local AFIS or local Latent workstation and translate the IAFIS Type-9 record to an NPS-NIST ICD LFFS transaction with the FBI Type-9 record included in the LFFS submission.</li> <li>c. Enable setting of search parameters in the same or similar manner to an RCMP HQ AFIS technician.</li> <li>d. Enable a remote site technician to augment or alter the remote site minutiae to support a fully encoded Latent image transaction for the AFIS renewal solution after the initial search has been completed automatically.</li> <li>e. Enable a remote site technician to verify the results of their LFFS transactions in a single verification packet (Search Response Latent (SRL)).</li> <li>f. Prepare and transmit to the NNS a disposition packet that contains the outcome of the verification for the Latent transactions (LFSRD).</li> <li>g. Enable a remote site technician to fetch, save in the Transcoder database and view an unsolved Latent or a Ten Print (ULR, IRQ) and then use the Transcoder renewal solution functions to process the images (e.g., perform a side-by-side view of the fetched images, re-edit and search the Latent).</li> <li>h. Enable a remote site technician to delete (ULD) an entry on the ULF that has been added by his/her own agency.</li> <li>i. Manage transactions, including requests, acknowledgements, replies, and error transactions.</li> </ul>					

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 4. Transcoder Functional Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<p>j. Provide Latent workstation features the same as, or equivalent to, those available on the RCMP HQ AFIS renewal solution.</p> <p>k. Provide the capability to share and process the transaction processing, in various common logical queues, to accommodate fingerprint/palm print processing where several remote agency technicians are configured in a multi-Transcoder configuration.</p> <p>l. Create a unique identifier (Latent Image Identifier) for each clip of a Latent image committed for search by concatenating the following attributes in the same order as defined below:</p> <ul style="list-style-type: none"> <li>i. The seven (7) character ORI of the Latent contributor;</li> <li>ii. The Ident Section File Number submitted by the remote site local AFIS or entered by the user;</li> <li>iii. An identifier of up to three (3) characters that uniquely identifies the original Latent image submitted to RTID for search, which should default to "001" and allow the user to modify after the default has been applied before the image is sent for search; and</li> <li>iv. A two (2) digit suffix that is incremented by one every time a clip of the same image is committed, starting at "01" (Example: ON12345-IdentFileNo-202-01).</li> </ul> <p>m. For ease of use, prefill the Latent Image Identifier field with the seven (7) digit ORI on the transcoder user interface when a remote technician is performing a remote Latent fetch or a remote Latent delete. The user shall have the ability to edit the ORI portion of the Latent Image Identifier in case they want to fetch a Latent created by another agency.</p>					

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 4. Transcoder Functional Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<p>n. The Latent Image ID is the unique identifier that will be used in the Unsolved Latent Amend (ULA), ULR and ULD transactions or any other transaction that searches against the ULF.</p> <p>o. Enable a remote site technician to prepare and submit a Criminal Non-Retain inquiry (CAR N) or a Criminal Retain enrolment (CAR Y) transaction, including palms when available.</p> <p>p. Enable a remote site technician to prepare and submit a MAP transaction.</p> <p>q. Receive and enable a remote site technician to view any or all response transactions – Ten Print Acknowledgement (ACKT), Ten Print Search Results (SRE) or Ten Print Error (ERRT) for any submission (CAR N, CAR Y or MAP) sent to RTID.</p> <p>r. Enable a remote site technician to submit a LFFS transaction to the FBI (US Electronic Biometric Transmission Specification (EBTS) LFFS).</p> <p>s. Enable a remote site technician to augment or alter the Type 9 record to support a fully encoded Latent image transaction to include in the FBI EBTS LFFS.</p> <p>t. Receive the results of the FBI search, US EBTS SRL and US EBTS Error Latent (ERRL).</p> <p>u. Enable a remote site technician to verify the results of the FBI search, US EBTS SRL and US EBTS ERRL.</p> <p>v. Prepare and transmit a US EBTS LFFS transaction to the FBI via the NPS-NIST Server.</p> <p>w. Enable a remote site technician to indicate whether a Latent image will be saved to the ULF or not, prior to concluding the</p>					

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	remote site Latent workflow of each Latent Image ID (ULE, Unsolved Latent Enrolment Retrieval (ULER)). x. Forward a Latent Closure (LCLO) transaction to the NNS when a remote site technician cancels or concludes a Latent search.					
4.1 General	14. The Transcoder renewal solution shall meet, at a minimum, Image Quality Specification (IQS) of Appendix F in the Electronic Biometric Transmission Specification (EBTS) Version 10 or later, for Ten Print and Latent display stations.	(M)				
4.1 General	15. At a minimum, the Transcoder renewal solution shall support 1280 x 1024 resolution.	(M)				
4.1 General	16. The Transcoder renewal solution shall: a. Accept requests received from the NNS; b. Manage requests through the Transcoder renewal solution; c. Process search results received from NNS; d. Encode and verify the search requests; and e. Enable a technician to certify proposed identifications.	(M)				
4.1 General	17. The Transcoder renewal solution must provide a user friendly UI to populate all the fields (automatically or manually) required for all TOTs that must be supported by the Transcoder renewal solution as stated herein and throughout this SOW and its accompanying documents.	(M)				
4.1 General	18. In the case of Latent transactions, the Transcoder renewal solution shall submit and process at 1000 pixels per inch (ppi).	(M)				
4.1 General	19. In the case of Ten Print transactions, the Transcoder renewal solution shall submit and process at 500 ppi.	(M)				

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4.1 General	20. Each Transcoder renewal solution station shall control the following with configurable parameters: a. Time to screen saver initiation; and b. Time to automatic log out.	(M)				
4.1 General	21. The Transcoder renewal solution application shall operate in a multi-tasking environment in such a way that will enable the remote site technician to access other Windows functions within two (2) seconds.	(M)				
<b>4.2 Transcoder Renewal Solution Site Requirements</b>						
4.2 Transcoder Renewal Solution Site Requirements	1. The Contractor shall supply all software, utilities, any necessary hardware and anything else required to provide fully operational Transcoders on the GFE Transcoder hardware at each site according to the requirements stated in this SOW and its accompanying documents. Table 4-1: AFIS Remote Location Table identifies the sites and number of Transcoders per site that must be configured, made fully operational and supported by the Contractor.	(M)				
4.2 Transcoder Renewal Solution Site Requirements	2. Some Agencies may choose to purchase additional Transcoders at their expense to support increased volumes or RCMP may provide sites with additional Transcoders. To accommodate this, the Transcoder renewal solution design must support multiple units at the same site sharing a common database.	(M)				
4.2 Transcoder Renewal Solution Site Requirements	3. The Transcoder renewal solution must create unique identifiers according to NPS-NIST ICDs (e.g., Document Control Number (DCN)) across all devices at each site using the site ORI as required by the ICD, for each transaction.	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>4.3 Transcoder Renewal Solution Work Queue</b>						
4.3 Transcoder Renewal Solution Work Queue	1. The Transcoder renewal solution work queue must be functionally the same as, or similar to the AFIS renewal solution work queue. The Contractor must identify any nuances that are different with the work queue functionality of the Transcoder renewal solution Transcoders compared to the AFIS renewal solution work queue.	(M)				
4.3 Transcoder Renewal Solution Work Queue	2. The Transcoder renewal solution work queue and UI must provide an efficient and effective method for the Transcoder user to work with both the Ten Print (TP) and Latent work queue to allow side-by-side comparisons of TP and Latent images. Comparing a TP and Latent is a common activity by the Transcoder user. For clarification purposes, this is similar to a RCMP HQ AFIS user performing a database search to compare two (2) prints; however, since the Transcoder user does not have direct access to the RCMP HQ AFIS database, the prints have to first be retrieved by the Transcoder before they can be used in a side-by-side comparison. The following are two (2) options that the RCMP will consider acceptable: a. Provide both the Ten Print (TP) and Latent work queue at the same time on the UI to allow the user to select a transaction in the queue and then perform a side-by-side view of the print in the selected transaction against another selected print; or b. While the user is viewing only one (1) queue (i.e., TP or Latent queue), the user can select a transaction and then be able to select from a list of images/transactions, through a drop-down list (or equivalent), to identify the other image required in the side-by-side view. Additionally, the user must	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	be able to switch between the TP and Latent queue without needing to login again.					
4.3 Transcoder Renewal Solution Work Queue	3. If both the TP and Latent queue solution are used, then the Transcoder must support the following: a. The Transcoder renewal solution Latent work queue is normally displayed in approximately 50% of the screen display used for the work queue. The UI must allow the user to change the display size of the TP and Latent work queues to satisfy their activities and have the changes retained for the next time the user logs in. The initial default settings for the screen areas used for displaying the work queues shall be allocated as 50% for the Latent queue and 50% for the TP queue.	(M)				
4.3 Transcoder Renewal Solution Work Queue	4. For a multi-Transcoder configuration, the TP and Latent work queues must be presented to all Transcoder users at a specific site. This shared work queue must function in the same or similar manner to the AFIS renewal solution work queue where the normal operation includes multiple users working on the same queue.	(M)				
4.4 Transcoder Renewal Solution Ten Print Requirements						
4.4 Transcoder Renewal Solution Ten Print Requirements	1. The Transcoder renewal solution shall enable a technician to scan a C216 and capture the data required from the C216 to submit a Criminal Ten Print Submission (CAR N or CAR Y) and process the possible responses.	(M)				
4.4 Transcoder Renewal	2. The Transcoder renewal solution shall enable a technician to scan a C216C and capture the data required from the C216C to	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
Solution Ten Print Requirements	submit a Miscellaneous Applicant (MAP) Civil and process the possible responses.					
4.4 Transcoder Renewal Solution Ten Print Requirements	3. To further explain the above two (2) requirements, the functionality required is similar to a CardScan device where the fingerprints from the C216 form must be captured; and then the biographical data required for a CAR N, CAR Y or MAP are entered through the UI. Once completely entered, the CAR N, CAR Y or MAP must be submitted through a submit button, or equivalent single mouse click action, and then the results are displayed, after receiving the results from the NNS in a one line summary display. The Transcoder renewal solution UI must allow all the NIST packet details, using the same NIST packet viewer available in the AFIS renewal solution. As well, there must be a one line summary displayed or an easy method to display a one line summary through one (1) or two (2) mouse clicks.	(M)				
4.4 Transcoder Renewal Solution Ten Print Requirements	4. The Transcoder renewal solution shall enable a remote user to scan and/or enter all data required to support the submission of TP transactions to the NNS according to the NPS-NIST 1.7.8 ICD. Refer to the NPS-NIST ICD for details concerning the submission of TP transactions. As a minimum, the Transcoder renewal solution must be able to scan rolled, plain and palm images for CAR transactions; or rolled and plains for MAP transactions.	(M)				
4.4 Transcoder Renewal Solution Ten	5. The use of a "Biometric Endorsement" in lieu of a signature, for a MAP transaction, will be used as an electronic means of capturing an applicant's approval for such things as releasing criminal record search results to a 3rd party (3rd Party Waiver) and consent to disclose pardoned offences for applicants to positions	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
Print Requirements	in the vulnerable sector. In order to provide automatic verification of the consent, the Transcoder renewal solution must compare the endorsement fingerprint to the fingerprints provided before submitting the MAP transaction. If the endorsement fingerprint does not match, the remote user must be able to cancel the transaction.					
4.4 Transcoder Renewal Solution Ten Print Requirements	6. The Transcoder renewal solution must support submitting an IRQ and processing the possible responses from an IRQ.	(M)				
4.4 Transcoder Renewal Solution Ten Print Requirements	7. If the FPS of the DCN requested does not match the FPS on the RCMP AFIS renewal solution, then an error message will be displayed on the Transcoder UI to alert the Operator the FPS and DCN do not match. Subsequently, the user shall be allowed to re-enter the request.	(M)				
4.4 Transcoder Renewal Solution Ten Print Requirements	8. The Transcoder renewal solution shall support sending, and storing locally the TP transactions with an image resolution of 500 ppi. The original transactions and the received transaction shall be retained and made available for viewing.	(M)				
4.4 Transcoder Renewal Solution Ten Print Requirements	9. The Transcoder renewal solution UI should allow personalized settings to be configured by each user and have those personalized settings saved and used every time the user logs in to use the Contractor's Transcoder. These personalized settings should include as many UI features as possible from AFIS renewal solution workstation UI.	(R)				

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4.4 Transcoder Renewal Solution Ten Print Requirements	10. Additionally, the remote operator should be able to temporarily toggle between these personal setting and the default setting through a single mouse click method (e.g., button).	(R)				
<b>4.4.1 Fingerprint Image Request (IRQ)</b>						
4.4.1 Fingerprint Image Request (IRQ)	1. The Transcoder renewal solution must support the input of the data required to submit an IRQ.	(M)				
4.4.1 Fingerprint Image Request (IRQ)	2. The Transcoder renewal solution must support submitting an IRQ and processing the response Image Retrieval Response (IRR) allowing the user to view the rolled and plain fingers, Identification Flats (ID Flats) and palm images. The Transcoder user must also be able to display all minutiae returned in IRR for fingers and palms without limitation.	(M)				
4.4.1 Fingerprint Image Request (IRQ)	3. The Transcoder renewal solution must be designed to work in the same manner as the AFIS renewal solution workstation allowing the Transcoder renewal solution user to view minutiae in the same manner and position as the AFIS renewal solution user.	(M)				
4.4.1 Fingerprint Image Request (IRQ)	4. The images requested might include rolled, plain, palm or ID Flat images. As well, the minutiae shall be returned for all finger, palm and ID Flat images included in the IRR response. The Transcoder renewal solution must support the processing and display of the data received in the IRR response to the IRQ request.	(M)				
4.4.1 Fingerprint Image Request (IRQ)	5. In the case of an image fetch, if only a File Number is specified, then the composite set of requested images corresponding to that	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	File Number shall be fetched and returned along with the file descriptors if the Contractor's solution includes composites.					
4.4.1 Fingerprint Image Request (IRQ)	6. In the case of an image fetch, if a DCN is specified, then the Fingerprint Image Request shall return the specific set of images requested along with the file descriptors associated with that DCN.	(M)				
4.4.1 Fingerprint Image Request (IRQ)	7. The Transcoder renewal solution must allow the user to print the images received in the IRR to an FBI certified printer, through the NIST Viewer. Figure 4-1, Figure 4-2, Figure 4-3 and Figure 4-4 depict examples of the forms that must be printed.	(M)				
4.4.1 Fingerprint Image Request (IRQ)	8. Refer to the NPS-NIST ICD 1.7.8 for details concerning the IRQ and the possible responses that must be processed by the Transcoder renewal solution.	(M)				
<b>4.4.2 CAR Y Charge Table</b>						
4.4.2 CAR Y Charge Table	1. The Transcoder renewal solution must support the CAR Y charge table managed and distributed by the RCMP.	(M)				
4.4.2 CAR Y Charge Table	2. It is expected that the Contractor's on-site support staff will copy the updated charge table to the Transcoders as required or use an automated method, developed by the Contractor, to ensure the most up-to-date charge table is being used by each Transcoder.	(M)				
4.4.2 CAR Y Charge Table	3. Typically, the CAR Y charge table changes 2 or 3 times per year; however, not all changes require the charge table to be re-distributed. This frequency is to be determined by the RCMP.	(I)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>4.5 Transcoder Renewal Solution Scanning Requirements</b>						
4.5 Transcoder Renewal Solution Scanning Requirements	1. The Transcoder renewal solution shall enable a remote user to scan from the Transcoder scanner and/or import Latent images from the local Transcoder hard drive or removable USB memory card and enter all data required to submit valid Latent transactions to the NNS according to the NPS-NIST ICDs. Refer to the NPS-NIST ICD 1.7.7 for Latent TOTs and 1.7.8 for TP TOTs for details concerning the remote Transcoder transactions.	(M)				
4.5 Transcoder Renewal Solution Scanning Requirements	2. The Transcoder renewal solution shall enable the remote user to scan a Latent image at 1000 ppi or import 1000 ppi images for Latent processing.	(M)				
4.5 Transcoder Renewal Solution Scanning Requirements	3. The Transcoder renewal solution must allow the remote user to resize the box, or equivalent, to indicate what portion of the Latent the remote user wants to scan.	(M)				
4.5 Transcoder Renewal Solution Scanning Requirements	4. The Transcoder renewal solution shall enable the remote user to process Latent images received at 1000 ppi from the NNS for Latent processing.	(M)				
4.5 Transcoder Renewal Solution	5. The Transcoder renewal solution must provide software for the Transcoder to support the scanning requirements of the Contractor's Transcoder for scanning C216s for CAR N, CAR Y	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
Scanning Requirements	and MAP transactions as well as scanning Latents. For CAR Y and MAP transactions this includes a photo.					
4.5 Transcoder Renewal Solution Scanning Requirements	6. These scanning services must be an integrated solution with the Contractor's Transcoder as part of processing various transactions that must be supported by the Transcoder renewal solution.	(M)				
4.5 Transcoder Renewal Solution Scanning Requirements	7. One (1) GFE flatbed image scanner per site is available for use with the Transcoder renewal solution. If the Contractor chooses to provide a separate scanning solution, at the Contractor's expense, then the scanner must be FBI certified and support the scanning requirements identified herein.	(M)				
<b>4.5.1 Formats and Scanning</b>						
4.5.1 Formats and Scanning	1. The scanning services shall be capable of converting the C216 or C216C fingerprint form images into an electronic NIST packet.	(M)				
4.5.1 Formats and Scanning	2. The scanning equipment shall be designed and configured in such a way that documents are protected from damage, loss or marking.	(M)				
4.5.1 Formats and Scanning	3. The scanning services shall capture the fingerprint images and, if available, palm images.	(M)				
4.5.1 Formats and Scanning	4. The fingerprint areas of fingerprint forms are particularly sensitive to damage or unnecessary marking. The Contractor's solution must ensure there is no damage to the forms.	(M)				
4.5.1 Formats and Scanning	5. The scanning process and equipment shall be designed such that there is no loss of document integrity (e.g., scanning part of one document to another).	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
4.5.1 Formats and Scanning	6. The scanning equipment shall not alter the information provided on the original submission.	(M)				
4.5.1 Formats and Scanning	7. The scanning services and its processes shall not damage or obscure information on the fingerprint form, in particular fingerprint impressions, with any marking/label affixed or printed on the fingerprint forms.	(M)				
4.5.1 Formats and Scanning	8. The scanning services shall provide whatever features are provided to adjust images on the front side of the document for the back side of the document as well.	(M)				
4.5.1 Formats and Scanning	9. The scanned fingerprint images and palm images shall conform to the scanned fingerprint form and not exceed the ANSI NIST-ITL-1-2011 maximum size dimensions.	(M)				
4.5.1 Formats and Scanning	10. The scanners should support operator adjustment of brightness and contrast and be able to display the scanner settings.	(R)				
<b>4.5.2 Resolution</b>						
4.5.2 Resolution	1. The scanning services shall apply the standard compression for fingerprint images Wavelets Scalar Quantization (WSQ) nominal 15:1 for Ten Print images.	(M)				
4.5.2 Resolution	2. The Ten Print scanning services shall capture (i.e., scan) rolled and plain fingerprint impressions as well as palm impressions at 256 levels of greyscale (eight (8) bits/pixel) and at a minimum of 500 +/- five pixels/inch, and record the resultant images at 500 +/- five pixels/inch as defined for Type-4 or Type-14 records in the NPS-NIST External ICD and ANSI/NIST standard ANSI/NIST-ITL-1-2011, Data Format for the Interchange of Fingerprint Information. If a scanning resolution greater than 500	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	pixels/inch is used, it shall have a tolerance of +/- one (1) percent of the scanning resolution.					
4.5.2 Resolution	3. The Transcoder renewal solution must support capturing (i.e., scan) Ten Print rolled and plain fingerprint impressions as well as palm impressions at 1000 ppi; however, for the initial implementation only 500 ppi will be supported by NNS and the AFIS renewal solution.	(M)				
4.5.2 Resolution	4. The Transcoder renewal solution must support capturing (i.e., scan) Latent images at 1000 ppi.	(M)				
4.5.3 Segmentation						
4.5.3 Segmentation	1. For rolled/plain impressions, the scanning services shall capture and segment up to 14 fingerprint impressions from each fingerprint Submission, including, as a minimum, all ten (10) rolled impressions, both thumbs from the plain impressions and the two (2) four-finger plain impressions.	(M)				
4.5.3 Segmentation	2. When a fingerprint form is prepared in the field, the correct fingerprint will be inked in each of 14 designated fingerprint blocks. Alternatively the Transcoder may be used to process a set of images printed from a Livescan due to technical issues with the Livescan processing. The primary exception to this rule is a subject who is missing one or more fingers, or is unable to support the fingerprinting of one or more fingers for another appropriate reason (e.g., bandaged). In this case, the fingerprint form blocks corresponding to the missing finger(s) are marked ("Amp" for amputation, or other reason) by the preparer. In the rare event that a subject has more than 10 fingers, then the technician will select 10 fingers to be used in the NIST blocks and	(I)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	the entire form will be scanned at 500 ppi for preservation of the complete set.					
4.5.3 Segmentation	3. The scanning services shall capture images of all the fingerprint blocks present on the fingerprint form. This includes those that contain an impression, those that do not but are marked by the preparer accordingly as missing, with an appropriate reason (e.g., as "Amp" or "Bandaged"). The Transcoder renewal solution shall report the missing digit(s), (amputated, bandaged or otherwise missing impressions) appropriately in the corresponding electronic Type-2 record, in accordance with the NPS-NIST External ICD.	(M)				
4.5.3 Segmentation	4. The scanning services shall provide for the capture of fingerprint blocks on the front of the form as well as the back.	(M)				
4.5.3 Segmentation	5. Based on the Ten Print fingerprint form dimensions from the C216 and C216C sample fingerprint forms, the scanning services shall provide default positions for each of the fingerprint segmentation blocks as follows: a. Rolled blocks shall coincide with the pre-printed fingerprint form blocks; b. The left and lower margins of the left plain four-finger block shall coincide with the left and lower margins of the pre-printed block; c. The right and lower margins of the right plain four-finger block shall coincide with the right and lower margins of the pre-printed block; d. The lower margin of each plain thumb impression block shall coincide with the lower margin of each pre-printed block;	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>e. Each block shall be centred horizontally over its corresponding pre-printed block;</li> <li>f. The same default block positioning approach shall apply to fingerprint form types that are not covered by the referenced specification;</li> <li>g. File number barcode; and</li> <li>h. DCN / Doc ID.</li> </ul>					
4.5.3 Segmentation	6. The scanning services shall provide a means of shifting images that are partially out of the pre-printed block to place the segments within the image of the fingerprint area of the fingerprint form to capture as much fingerprint data as possible, even if some overlap with other blocks occurs.	(M)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 5. Latent Fingerprint Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>5.1 General</b>						
5.1 General	1. The Transcoder renewal solution shall: <ul style="list-style-type: none"> <li>a. Manage all processing through the work queue and any other functionality required to fully support effective and efficient Latent processing capabilities for the remote user;</li> <li>b. Enable a remote user to certify or deny proposed identifications through a single user action (e.g., mouse click on certify button);</li> </ul>	(M)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 5. Latent Fingerprint Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	c. Enable the RNSC to review a remote user's submission (e.g., provide assistance through PC Duo); d. Receive search results from the NNS and log activity included in the processing; e. Enable a user to edit the encoding of a Latent after the initial search; f. Create another LFFS transaction when the remote user modifies the original image. A Latent image may be duplicated on Transcoder so that the rotation, lasso or size can be adjusted OR so that a new minutiae set can be searched (i.e., This is typically referred to as creating another child Latent to submit based on the original Latent); and g. Notify the NNS when a Latent image has been cancelled (TOT Remote Latent Closure (LCLO)).					
5.2 Encoding and Latent Searching						
5.2 Encoding and Latent Searching	1. The Transcoder renewal solution shall allow for automatic and manual extraction of fingerprint features (minutiae).	(M)				
5.2 Encoding and Latent Searching	2. The Transcoder renewal solution shall enable a user to filter the work queue by Latent File Number, by Latent Identifier, by Latent Image ID, user and operator number. The AFIS renewal solution shall enable the user to perform the encoding and certification of the same image on the Transcoder.	(M)				
5.2 Encoding and Latent Searching	3. The Transcoder renewal solution shall enable a technician to change the encoding of an image, the search criteria for an image (i.e., set-up of a search), add a new Search for a specific image, cancel a specific Search and delete a specific image.	(M)				

<b>Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 5. Latent Fingerprint Processing</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
5.2 Encoding and Latent Searching	4. The Transcoder renewal solution shall provide a single entry screen to support modification of descriptors, data fields from set-up and parameters for search.	(M)				
5.2 Encoding and Latent Searching	5. The Transcoder renewal solution shall enable a user to edit and delete automatically extracted features from Latent images.	(M)				
5.2 Encoding and Latent Searching	6. The Transcoder renewal solution shall enable a technician to delete all minutiae inside or outside a selected area, after identifying the area with a lasso like action.	(M)				
5.2 Encoding and Latent Searching	7. The Transcoder renewal solution must support a maximum size for a Latent image of at least 5.5" (inches) x 5.5" (inches) and this size must be configurable. This size of 5.5" (inches) x 5.5" (inches) is configured to support a current email size limit of 35 MB.	(M)				
<b>5.3 General Latent User Interface Features</b>						
5.3 General Latent User Interface Features	1. The Transcoder must support a Latent Search List with the following features: <ul style="list-style-type: none"> <li>a. The Transcoder Work Queue is a list of work that must be performed by a remote user. The remote user shall be able to filter the contents of the work queue so that it includes only outstanding searches and completed searches do not appear on the list.</li> <li>b. Complete transactions must be removed from the queue after a configurable period of time to ensure the queue is not filled with old transactions.</li> </ul>	(M)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 5. Latent Fingerprint Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>c. The Transcoder renewal solution UI shall provide a work queue that can be sorted ascending/descending.</li> <li>d. By default, the Transcoder renewal solution UI shall list the searches for certification in the order specified by the sequential search numbering, such that all searches pertaining to the same image are grouped together on the work queue.</li> <li>e. The UI shall enable a technician to loop forward and backward through the list of outstanding searches.</li> <li>f. The Transcoder renewal solution UI shall automatically refresh the search list at timed intervals.</li> </ul>					
5.3 General Latent User Interface Features	<ul style="list-style-type: none"> <li>2. The AFIS renewal solution shall display at least the following data during the certification process:                             <ul style="list-style-type: none"> <li>a. The Transcoder renewal solution UI shall at all times display the Latent Image Identifier (unique identifier associated to an image instance) of the clip currently being worked on.</li> <li>b. The Transcoder renewal solution UI shall, as a minimum, display the following fields in addition to the Latent and fingerprint images while certifying the results of a Latent search:                                     <ul style="list-style-type: none"> <li>i. Transaction number of both prints being viewed;</li> <li>ii. Latent Image Identifier;</li> <li>iii. Candidate File Number;</li> <li>iv. Candidate DCN;</li> <li>v. Candidate agency ORI;</li> <li>vi. External Transaction Control Number (TCN);</li> <li>vii. Offence Date;</li> </ul> </li> </ul> </li> </ul>	(M)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 5. Latent Fingerprint Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>viii. Finger number of candidate (including an indication of rolled versus plain);</li> <li>ix. Fingerprint quality of both prints being viewed; and</li> <li>x. Number of minutiae of both prints being viewed.</li> </ul>					
5.3 General Latent User Interface Features	<p>3. The Transcoder renewal solution shall enable a technician to adjust the images during the certification process with at least the following capabilities using a variable sizing capability with a mouse controlled method such as slider to finely tune the adjustments:</p> <ul style="list-style-type: none"> <li>a. Zoom in / zoom out an image;</li> <li>b. Adjust brightness;</li> <li>c. Adjust background brightness;</li> <li>d. Rotate; and</li> <li>e. Histogram equalization to adjust image intensities to enhance contrast.</li> </ul>	(M)				
5.3 General Latent User Interface Features	<p>4. The Transcoder renewal solution shall enable a technician to adjust the images during the certification process with at least the following capabilities using a single click mouse method (e.g., button):</p> <ul style="list-style-type: none"> <li>a. Select "best fit" so the AFIS renewal solution determines how to display the prints;</li> <li>b. Select "actual size" to display the prints in their actual size;</li> <li>c. Size to 50% through a single mouse click;</li> <li>d. Size to 200% through a single mouse click;</li> <li>e. Full list (controlled by a configurable parameter is mandatory);</li> <li>f. Minutiae with tail;</li> </ul>	(M)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 5. Latent Fingerprint Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>g. Minutiae without tail;</li> <li>h. Hide minutiae / show matching minutiae;</li> <li>i. Ridge count off/on;</li> <li>j. Match orientation off/on;</li> <li>k. While in side-by-side view have the ability to move an individual image freely in any direction within its window and beyond the border of the window. This is to allow the technician to move either or both images to have the portion of the print under analysis to be as close as possible to each other to reduce the distance the fingerprint technician's eyes need to move to compare the prints (e.g., move each image so the core of each image is displayed as close as possible).;</li> <li>l. White background;</li> <li>m. Black background;</li> <li>n. Colour background;</li> <li>o. Change to Black and white reversal view. This view shows white pixels as black and black as white; and</li> <li>p. Highlight a portion of the print to analyze more closely through actions the same or similar to the following:               <ul style="list-style-type: none"> <li>i. Isolate (e.g., box, lasso) a portion of a fingerprint on the search print and the candidate print; where lasso means allowing a user to select a region of interest (i.e., a circle or line to select an area inside or outside the area selected)</li> <li>ii. Change the portion of the print isolated (e.g., move around a box);</li> </ul> </li> </ul>					

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 5. Latent Fingerprint Processing						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	iii. Have the isolated portion of each print magnified (Controlled by a configurable parameter is rated) for more detailed analysis; iv. Be able to identify specific points in one (1) print and move the focal point of the magnified portion of the print (i.e., move around in the magnified portion to better analyze whether the print is a match).					
5.3 General Latent User Interface Features	5. The Transcoder renewal solution UI should allow personalized settings to be configured by each user and have those personalized settings saved and used every time the user logs in to use the Latent UI. These personalized settings should include as many UI features as possible from the above two (2) requirements (3, 4).	(R)				
5.3 General Latent User Interface Features	6. Additionally, the Latent technician should be able to temporarily toggle between these personal setting and the default setting through a single click mouse method (e.g., button).	(R)				
5.3 General Latent User Interface Features	7. The AFIS renewal solution shall provide a means for the technician to indicate “certify” or “fail to certify” / “decline” by an explicit single user interface action (e.g., Certify button, Decline button) with confirmation (e.g., Are you sure?). The Certify button must be highlighted in green and the Decline button must be highlighted in red using Alpha Blending or Alpha Compositing method.	(M)				

<b>Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 5. Latent Fingerprint Processing</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>5.4 Latent Certification</b>						
5.4 Latent Certification	1. The Transcoder renewal solution shall rank the candidates list in the order of most likely to least likely match and enable a remote user to view the candidate list.	(M)				
5.4 Latent Certification	2. For finger/palm Latent, the Transcoder renewal solution shall include on the candidate list, as a minimum: a. All File Numbers pertaining to the subject or Latent (e.g., Fingerprint Section (FPS) Number, Refugee File Number, Immigration Number, Latent Image ID); and b. Matching Finger Number and/or Palm description/code.	(M)				
5.4 Latent Certification	3. The Transcoder renewal solution shall not display the AFIS score on the Certification UI, unless the user is configured to view the score.	(M)				
5.4 Latent Certification	4. The Transcoder renewal solution shall enable a remote user to loop forward and backward through the list of candidates and to select a specific candidate for display from the candidate list.	(M)				
5.4 Latent Certification	5. The Transcoder renewal solution shall provide a side-by-side view of the Latent fingerprint or palm image along with the corresponding single finger or palm in the matching Ten Print or Latent print to support certification.	(M)				
5.4 Latent Certification	6. The Transcoder renewal solution shall display the unsolved Latent beside the candidate Ten Print / Latent print at the same size and scale, even if the resolutions differ.	(M)				
5.4 Latent Certification	7. The Transcoder renewal solution shall enable a remote user to view complete images of any of the fingers, plain impressions, ID Flat impressions or palm impressions of the candidate (including	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	images from any sets on file for the candidate) sized and rotated accordingly beside the Latent image.					
5.4 Latent Certification	8. Remote users generally move through the candidate list from top to bottom. The Transcoder renewal solution shall provide a visual indication in the Candidate List of which candidates have already been dispositioned.	(M)				
5.4 Latent Certification	9. The Transcoder renewal solution shall enable a technician to disposition with confirmation each Latent Search as either ident to a candidate or non-ident for each candidate in the list.	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>6.1 Transcoder Virtual Local Area Network (VLAN)</b>						
6.1 Transcoder Virtual Local Area Network (VLAN)	1. The production Transcoders located at RCMP HQ and on the RCMP/SSC managed LAN are all in the same VLAN. This limits access to/from these devices to only what is required for the remote agency users. Communication into and out of this VLAN is limited to the minimum required for Transcoder interaction. The Transcoder renewal solution must satisfy all requirements in the SOW and its accompanying documents while operating in this environment. This minimum communication includes: a. From the Transcoder to NNS through the RTID email service; b. From the NNS to the Transcoder email service;	(M)				

<b>Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 6. Transcoder Renewal Solution Technical Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	c. From WSUS updates; d. From ePo updates; and e. From PC Duo master workstations at RCMP HQ to remote Transcoders.					
6.1 Transcoder Virtual Local Area Network (VLAN)	2. The Transcoder renewal solution must be designed with an emphasis on configurable parameters to maximize the flexibility to change the solution without requiring a code change.	(M)				
6.1 Transcoder Virtual Local Area Network (VLAN)	3. The configurable parameters should provide flexibility for the Transcoder in support of satisfying the Transcoder requirements.	(R)				
6.1 Transcoder Virtual Local Area Network (VLAN)	4. The Transcoder renewal solution must effectively support all the functionality associated with the configurable parameters. For example, the time for UI inactivity before screen is locked configurable parameter requires the Transcoder renewal solution to be monitoring the user activity and when the time threshold has been met, the Transcoder renewal solution must lock the user's Transcoder. Once locked, the user must login again to access the Transcoder.	(M)				
<b>6.2 User Management Access Controls</b>						
6.2 User Management Access Controls	1. The Transcoder renewal solution must support local user management using the same user management software as the AFIS renewal solution. Each Transcoder site shall have its own separate user management installation and users shall be managed separately at each remote site on a Transcoder device at that remote site. That is, there is no connection between the	(M)				

<b>Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 6. Transcoder Renewal Solution Technical Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	AFIS renewal solution user management database and no connection with any other Transcoder site database. Each remote site has at least one (1) user management administrator with privileges to add/change/delete Transcoder renewal solution users.					
6.2 User Management Access Controls	2. The Contractor will be responsible for complete setup of the Transcoder including conversion of each local Transcoder user management database to the Contractor's Transcoder renewal solution local user management database.	(M)				
6.2 User Management Access Controls	3. The Transcoder renewal solution shall include two-factor authentication with a biometric and user ID/password.	(M)				
6.2 User Management Access Controls	4. The passwords shall not be hard-coded and must be stored in an encrypted form that satisfies Government of Canada requirements (i.e., Communications Security Establishment (CSE) standards ISA-11(b) or later).	(M)				
6.2 User Management Access Controls	5. The Transcoder renewal solution shall not store or cache Identification and Authentication (I&A) information on platforms other than those explicitly sanctioned by RCMP Security Infrastructure Services.	(M)				
6.2 User Management Access Controls	6. The Transcoder renewal solution shall not cache sensitive information after use.	(M)				
6.2 User Management Access Controls	7. The Transcoder renewal solution must allow a trainee (i.e., uncertified remote user) to be identified.	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
6.2 User Management Access Controls	8. The Contractor shall use the existing remote agency users defined on each Transcoder to determine which user profile items are configurable at the user level or at the group level in collaboration with RCMP and each site.	(M)				
<b>6.2.1 Role-based Access Controls</b>						
6.2.1 Role-based Access Controls	1. For the purpose of explaining the access control requirements stated herein and throughout the Transcoder renewal SOW and its accompanying documents, the following definition for access control is used: Access Control is any mechanism by which a system grants or revokes the right to access some data or perform some action.	(I)				
6.2.1 Role-based Access Controls	2. The approach to providing Transcoder renewal solution access control requirements that the Transcoder renewal solution must provide are in accordance with the NIST Role-Based Access Control (RBAC) Standard. Central to this standard is the concept of assigning a role to a user. This is a fundamental mechanism that must be employed by the Transcoder renewal solution to ensure that the relevant policies, operating procedures and overall transaction security are enforced.	(M)				
6.2.1 Role-based Access Controls	3. These requirements that must be satisfied by the Transcoder renewal solution have been developed with reference to the NIST Core RBAC Model as shown in Figure 6-1. This model provides the key semantic concepts on the subject of access control, is the conceptual basis for the NIST standard, and has been largely adopted and implemented by many different vendor communities. These reasons illustrate why the Core RBAC model is considered to be an excellent starting point for developing a concise set of	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	access control requirements to serve the present business requirements.					
6.2.1 Role-based Access Controls	<p>4. The following is a description of the key elements and relationships within the model:</p> <ul style="list-style-type: none"> <li>a. USER – a user (in the majority of cases) is an individual who is an employee of the remote site. However, in certain cases, where automated processes transact across several systems, a user may also be an automated system agent that has been granted a user account.</li> <li>b. ROLE – a role is a job function within the context of an organization where authorities and responsibilities have been conferred to the user assigned to the role. Groups are expected to exist for larger systems where multiple roles will be contained within a group. This concept of a group is simply a mechanism to organize multiple roles to ease the overall user management.</li> <li>c. SESSION – the active system context in which the user is requesting and executing transactions.</li> <li>d. OBJECT – an object is anything that must be protected by the system. A protected object may be any system resource, personal and sensitive information (e.g., file, attribute, image) or parts thereof. Objects may vary in granularity; an object may range from being considered as an entire system component, an entire record, or a specific attribute or flag within a record.</li> <li>e. OPERATION – an operation is any function that may be performed upon an object (e.g., read, write, delete, append).</li> </ul>	(I)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	f. PERMISSION – can be viewed as a composite of operation and object. An assignment of permissions to a role implies the approval of this role to perform this operation on an object.					
6.2.2 Roles, Groups and Objects						
6.2.2 Roles, Groups and Objects	1. The following identifies the roles, groups and objects that must be supported by the Transcoder renewal solution within the RBAC model. Most of the objects are identified within the context of a role function whereby the function is controlling access to the object.	(M)				
6.2.2 Roles, Groups and Objects	2. The user ID must be definable by the User Management user. Typically this will be a remote site assigned alphanumeric for the user.	(M)				
6.2.2 Roles, Groups and Objects	3. The following are the minimum role functions (privileges) that must be available in the Transcoder renewal solution. This list implicitly identifies the objects and the level of granularity that must be managed/controlled by the AFIS renewal solution: a. Transcoder Related: i. Work queue access (queue view only); ii. Work queue management (transaction processing); iii. Queue transaction reset; iv. Latent certification; v. Latent data entry; vi. Latent edit; vii. Latent insert; viii. Latent delete;	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>ix. Latent retrieval;</li> <li>x. Database access/view;</li> <li>xi. Latent database update;</li> <li>xii. Trainee;</li> <li>xiii. Work queue delete; and</li> <li>xiv. Work In Progress certification.</li> <li>b. TP Transaction Processing:                             <ul style="list-style-type: none"> <li>i. Maintain queue;</li> <li>ii. Maintaining printing queue;</li> <li>iii. Process a CAR Y TP transaction;</li> <li>iv. Process a CAR N TP transaction;</li> <li>v. Process a MAP TP transaction;</li> <li>vi. View TP transaction results;</li> <li>vii. Delete Transactions;</li> <li>viii. Process transactions;</li> <li>ix. Transaction reset; and</li> <li>x. Query transactions.</li> </ul> </li> <li>c. User Management Related:                             <ul style="list-style-type: none"> <li>i. User management view;</li> <li>ii. User management access (add, change, delete, enable, disable); and</li> <li>iii. Group management access (add, change, delete).</li> </ul> </li> </ul>					
6.2.2 Roles, Groups and Objects	4. The above role functions must be used to create specific roles. The following are examples of existing roles that must continue to be available in the Transcoder renewal solution that have one or	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	<p>more role functions (privileges) assigned to them. It is understood and expected that some vendors may represent these functions in a more granular manner. It would still satisfy the requirements if multiple role functions had to be selected to achieve the higher level granularity identified herein. The Contractor must explain how the AFIS renewal solution supports these requirements.</p> <ul style="list-style-type: none"> <li>a. System administrator;</li> <li>b. Certified Latent Operator;</li> <li>c. Uncertified Latent operator (trainee);</li> <li>d. TP Operator;</li> <li>e. CAR operator;</li> <li>f. MAP operator;</li> <li>g. User Manager; and</li> <li>h. IRQ user.</li> </ul>					
6.2.2 Roles, Groups and Objects	5. The roles created from the above function must be able to be organized into groups that allow a specific user to be in a group where access to multiple roles is granted through that group. For example, a User can be assigned to the Certified Latent Operator and TP operator.	(M)				
6.2.2 Roles, Groups and Objects	6. Note: There are over 20 Transcoder sites. There has been no attempt to identify every role at every site. Each site is independent; however, all sites use the same user management software.	(I)				
<b>6.2.3 Transcoder User Management Data Conversion</b>						
6.2.3 Transcoder	1. The existing user management data must be converted to the Transcoder renewal solution in a form usable by the Transcoder	(M)				

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User Management Data Conversion	renewal solution. The existing Transcoder supports the RBAC model identified herein. Since it is a requirement to support this model, it is expected that this required conversion would be able to use virtually all of the data from the existing Transcoder. Any data that cannot be converted automatically must be converted by the Contractor manually in a manner that ensures all the access controls required throughout this SOW and its accompanying documents are satisfied. The Contractor's proposal must explain how the RBAC data will be converted to the proposed Transcoder renewal solution and satisfy the requirements stated in this SOW and its accompanying documents. Refer to the AFIS Renewal SOW for more detailed database conversion requirements.					
<b>6.2.4 Transcoder Data Conversion</b>						
6.2.4 Transcoder Data Conversion	1. The existing Transcoder data, for every site, must be converted to the Transcoder renewal solution in a form usable by the Transcoder renewal solution. The existing Transcoders use an Oracle DB as well as NIST packets and log files to operate. All of this data must be converted to a form usable by the Transcoder renewal solution. Refer to the AFIS Renewal SOW for more detailed database conversion requirements.	(M)				
<b>6.3 NIST Packet Viewer</b>						
6.3 NIST Packet Viewer	1. The Transcoder renewal solution must provide the same NIST packet viewer, used in the AFIS renewal solution, which can be used at any time during the processing of TP or Latent transactions. This NIST viewer must allow all NIST packet data to be viewed, printed (refer to form in Figure 4-1) and downloaded.	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>6.4 Availability/Reliability</b>						
6.4 Availability/Reliability	1. The Transcoder renewal solution must continuously operate as is expected from any other application on a workstation. That is, except for rare occurrences where a workstation restart is required, the Transcoder must operate with the performance and functionality as stated herein and as stated throughout this SOW and its accompanying documents.	(M)				
6.4 Availability/Reliability	2. Availability, in the context of the Transcoder, is defined as both user and system-driven functions (versus user-initiated) having the ability to perform add, change, delete and enquire functions on Transcoder data. If any of the, database software, COTS software or application software necessary for the user to perform these functions fails, then the Transcoder is deemed to be unavailable until such time as these functions are fully restored.	(I)				
6.4 Availability/Reliability	3. Planned service outages agreed upon between the Contractor and RCMP do not constitute unavailability of the system.	(I)				
6.4 Availability/Reliability	4. Network security and data communications services will be furnished by RCMP, and any failure in these security and/or communications components directly causing the Transcoder to be "Unavailable" or "Operate in Reduced Capacity" will not be the responsibility of the Contractor.	(I)				
6.4 Availability/Reliability	5. Failure of individual GFE Transcoders and scanners will not be considered an outage.	(I)				

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6.4 Availability/Reliability	6. Failure of any non-GFE device provided by the Contractor will be considered an outage and the device must be replaced within 48 hours.	(I)				
6.4 Availability/Reliability	7. The Contractor's on-call support resource must be able to arrive at RCMP HQ within two (2) hours after being notified of a requirement for Transcoders support, within the defined support hours. Refer to the main SOW for specific details concerning on-call support requirements.	(M)				
<b>6.5 System Response Times for Local Transcoder Activity</b>						
6.5 System Response Times for Local Transcoder Activity	1. This section deals with response time specifications for Transcoders operating at remote sites and at RCMP HQ. Refer to Annex A for a description of the existing environment within which the Transcoder renewal solution operates.	(I)				
6.5 System Response Times for Local Transcoder Activity	2. Response times will be measured from the instant of the request to the moment the data is displayed, or the instant the cursor moves to the next field, whichever is applicable.	(I)				
6.5 System Response Times for Local Transcoder Activity	3. All Graphical User Interface (GUI) fingerprint and palm related functions must be, at a minimum, as fast in the AFIS Solution. These apply to both Ten Print and Latent functions.	(M)				
6.5 System Response Times for Local	4. Refer to the AFIS renewal solution, Annex B, for additional details concerning Transcoder renewal solution performance requirements.	(I)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
Transcoder Activity						
6.5 System Response Times for Local Transcoder Activity	5. The response times in this section are response times that include the LAN response time. In case of dispute, the Contractor shall be required to demonstrate user response times matching the requirements, less 0.1 seconds (100 milliseconds) exclusive of the LAN response time. For example, the Contractor would demonstrate 2.9 seconds (2900 milliseconds) response time or less instead of 3.0 seconds.	(M)				
<b>6.6 Network Security Posture Architectural Constraints</b>						
6.6 Network Security Posture Architectural Constraints	1. All remote Transcoder sites have at least T1 links (1.5Mbps).	(I)				
6.6 Network Security Posture Architectural Constraints	2. Refer to the current architecture, Annex A, for details concerning the RCMP/SSC Network Security Posture (NSP).	(I)				
6.6 Network Security Posture Architectural Constraints	3. The Transcoder renewal solution must continue to operate with the existing domain names already established for each remote site Transcoder. That is, each existing Transcoder site already has a Domain Name Service (DNS) entry for the domain name used for the email domain of each specific Transcoder that must continue to be used by the Transcoder renewal solution.	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
6.6 Network Security Posture Architectural Constraints	4. The Transcoder renewal solution must use DNS to identify system components on the network infrastructure. If the Internet Protocol (IP) address of any system component needs to be changed; only the RCMP's corporate DNS should require updating. The existing Transcoders are defined with a domain name addressable as SMTP servers on RCMP's DNS. The Contractor is responsible for satisfying all the requirements in this SOW and its accompanying documents within the RCMP infrastructure.	(M)				
6.6 Network Security Posture Architectural Constraints	5. The NPSNet/NSP Technical Authority maintains a list of port numbers in use and assigns new ports as required.	(I)				
6.6 Network Security Posture Architectural Constraints	6. The assignment of IP addresses for all network elements connected to the National Police Services Network (NPSNet) / NSP is controlled by the NPSNet/NSP Technical Authority within the RCMP.	(I)				
6.6 Network Security Posture Architectural Constraints	7. All data communications destined to traverse the NPSNet/NSP shall function seamlessly within secure Multiprotocol Label Switching (MPLS) or an IPSec tunnel.	(M)				
6.6 Network Security Posture	8. The Transcoder renewal solution cannot rely on an Internet Control Message Protocol (ICMP) message, because of the possibility of a firewall or other security device blocking the ICMP message.	(I)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 6. Transcoder Renewal Solution Technical Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
Architectural Constraints						
6.6 Network Security Posture Architectural Constraints	9. Current RCMP security policy does not allow for connection(s) between the Contractor's data network and any network either owned or managed by the RCMP, including, but not limited to the NPSNet, NSP, RCMP Campus or in-building networks to support the Transcoders. Transcoders must be supported by the Contractor's onsite staff.	(M)				
6.6 Network Security Posture Architectural Constraints	10. The Contractor's Transcoder renewal solution shall not employ any wireless communications devices for workstation-to-server, server-to-server, or any other communication between devices.	(M)				
<b>6.6.1 Local Area Network Connectivity</b>						
6.6.1 Local Area Network Connectivity	1. The Transcoder renewal solution Transcoders will be implemented in all sites identified herein.	(M)				
6.6.1 Local Area Network Connectivity	2. The Transcoder LAN connections are industry standard 10/100/1000 Mbps, capable of Full Duplex and Half Duplex Ethernet, and compatible with the IEEE 802.3 Ethernet standard. a. 10/100/1000 Mbps LAN connections provided by the RCMP utilize Unshielded Twisted Pair (UTP) Category 5e cabling as physical media. b. Transcoder connectivity to the LAN is via an RJ45 outlet at the workspace with 100 Mbps Ethernet connections.	(I)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 6. Transcoder Renewal Solution Technical Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
6.6.1 Local Area Network Connectivity	3. The physical media for connections are UTP Category 5e cabling or patch cables for workstations closely located to the RCMP router at the remote Transcoder site.	(I)				
6.7 Confidentiality and Integrity						
6.7 Confidentiality and Integrity	1. The Transcoder renewal solution must ensure the confidentiality and integrity of the RCMP fingerprint and fingerprint related data. Confidentiality and integrity are key elements of RCMP operations.	(M)				
6.7 Confidentiality and Integrity	2. Through a combination of RCMP provided security architecture and security processes combined with authorization and authentication requirements that must be provided by the Transcoder renewal solution, the confidentiality is expected to be effective. The Contractor is encouraged to identify any aspects of their solution which could improve the confidentiality of the solution.	(M)				
6.7 Confidentiality and Integrity	3. The Contractor must explain all aspects of their Transcoder renewal solution that ensures the integrity of the RCMP fingerprint and fingerprint related data to justify that the integrity of the data will be maintained. This must include at least the following: <ul style="list-style-type: none"> <li>a. Transaction processing with units of work and phased commits;</li> <li>b. Managing concurrent processing;</li> <li>c. Error recovery;</li> <li>d. Any aspects of the database design that ensures data integrity;</li> <li>e. Any aspects of the design that ensure referential integrity;</li> </ul>	(M)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 6. Transcoder Renewal Solution Technical Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	f. Discrepancy reporting frequency and use; and g. Tools, utilities and/or monitoring used to ensure any data integrity issues are identified and resolved as soon as possible.					
<b>6.8 Auditing</b>						
6.8 Auditing	1. The Transcoder renewal solution shall record when, where and why, whatever happened and by whom, related to any request processed on the Transcoder renewal solution and retain this audit log indefinitely. Note: This Transcoder renewal solution audit log is meant to compliment the comprehensive audit log available on NNS and the AFIS renewal solution to ensure an accurate history of events is recorded. (I)	(M)				
6.8 Auditing	2. The Transcoder renewal solution shall implement audit log for all successful and unsuccessful access logins.	(M)				
6.8 Auditing	3. The Transcoder renewal solution audit logs must be available to a system administrator to allow all the events/activities to be reviewed as required.	(M)				
6.8 Auditing	4. The Contractor shall describe how it plans to implement security measures on all audit trails generated by the Transcoder renewal solution.	(M)				
6.8 Auditing	5. The Transcoder renewal solution shall ensure the audit logs are tamperproof.	(M)				
6.8 Auditing	6. The Transcoder audit log is considered tamperproof if the System includes the following three (3) key elements:	(I)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 6. Transcoder Renewal Solution Technical Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	a. The System has the application writing to the audit log(s) in a verifiable manner; and b. The System has access to the audit log(s) restricted to an authorized trusted person (i.e., Administrator or Security Officer). c. Access to audit logs will be configured at the operating system level for the following policy: Access by an Administrator operating under super user rights, is limited to read only for the audit.					
6.9 Hardware and Software						
6.9 Hardware and Software	1. All non-GFE hardware (workstations and scanners) proposed by the Contractor must satisfy the requirements stated in this subsection, its subsections and all the other requirements stated throughout this SOW and its accompanying documents.	(M)				
6.9 Hardware and Software	2. To substantiate the hardware and software requirements below, the Contractor shall provide in its solution a description of the hardware and software and their interrelationship within each environment (production and test environments) including, as a minimum, for each COTS hardware and software component included as part of the technical design: <ul style="list-style-type: none"> <li>a. Item make, model and version number;</li> <li>b. The ANSI/NIST compliance and other standards met;</li> <li>c. Certifications and ratings achieved;</li> <li>d. Number of each required;</li> <li>e. Customization required;</li> </ul>	(M)				

<b>Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 6. Transcoder Renewal Solution Technical Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	f. Recommended and minimum performance criteria and capacities; g. The internal/external electronic interfaces; and h. The security services implemented.					
6.9 Hardware and Software	3. All Contractor proposed hardware must satisfy RCMP electrical specifications, including the voltage, amperage, electrical receptacle, and Underwriters' Laboratories (UL) or Canadian Standards Association (CSA) certification.	(M)				
6.9 Hardware and Software	4. Scanners provided with the Transcoder renewal solution shall meet, at a minimum, the Image Quality Specification (IQS) of Appendix F in the Electronic Biometric Transmission Specification (EBTS) Version 10 or later (for Latent / Ten Print printers, Latent / Ten Print display stations and Latent and Ten Print scanners).	(M)				
6.9 Hardware and Software	5. The Transcoder renewal solution scanners must support all the scanning related requirements stated throughout this SOW and its accompanying documents.	(M)				
6.9 Hardware and Software	6. Remote Transcoder sites provide their own FBI certified printers. The Transcoder must be able to print to an FBI certified printer.	(M)				
<b>6.10 Software</b>						
6.10 Software	1. The RCMP has a comprehensive suite of software products for which it has negotiated licences and support agreements which have been identified as GFE. However, RCMP understands that the Transcoder renewal solution may include additional software products for which licences and support agreements will be required. The Contractor is responsible for providing licenses and support for all non-GFE software products. The Contractor's proposal must explain how each software product is used by the	(M)				

Annex C to Appendix A: Transcoder Detailed Requirements: Chapter 6. Transcoder Renewal Solution Technical Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	Transcoder renewal solution to satisfy the requirements stated throughout this SOW and its accompanying documents.					
6.10 Software	2. COTS software provided as part of the Transcoder renewal solution is expected to be specific to the solution. In other words, the Contractor is not expected to provide any standard Office Automation (OA) products (e.g., e-mail, word processing, and spreadsheet) as the RCMP currently have negotiated licences for its standard suite of OA products.	(I)				
6.10 Software	3. Additionally, the RCMP has license to other software used as part of the current solution which has been identified throughout this SOW and its accompanying documents.	(I)				

## 1.5 Annex D to Appendix A: Verification Subsystem Detailed Requirements – v10b

Annex D to Appendix A: Verification Subsystem Detailed Requirements: Chapter 1. Introduction						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>1.1 General</b>						
1.1 General	1. This Annex D to the Appendix A SOW describes the detailed requirements to renew the Verification Subsystem (VSS), which are in addition to the high-level requirements stated throughout the SOW and its accompanying documents.	(I)				
1.1 General	2. This document identifies what the Contractor's VSS renewal solution must provide to support a dedicated real-time one-to-one (1:1) matching capability in support of biometric verification of a foreign national's fingerprints received from a Canada Border Services Agency's (CBSA) Port of Entry (POE). The VSS renewal solution will validate the individual's identity based on fingerprints previously submitted and retained through RCMP's Real-Time Identification (RTID) / AFIS renewal solution. It describes the functional and technical requirements that must be provided by the Contractor's VSS renewal solution to support the business, interface, capacity, security, and quality requirements of the RCMP.	(M)	✓			
<b>1.2 VSS Renewal Concept</b>						
1.2 VSS Renewal Concept	1. From a high-level architecture perspective, VSS is like a replaceable black box for the RTID Temporary Resident Biometric (TRB) initiative.	(I)				
1.2 VSS Renewal Concept	2. CBSA interfaces with VSS through the RCMP/SSC layer three (3) switch with Load Balancing / Secure Sockets Layer (LB/SSL) module. This SOW and its accompanying documents, the TRB	(M)				

<b>Annex D to Appendix A: Verification Subsystem Detailed Requirements: Chapter 1. Introduction</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	Verification Interface Specification document and the ICD for IEC define the interface between CBSA and VSS that must be supported by the VSS renewal solution.					
1.2 VSS Renewal Concept	3. Any VSS that fully supports the TRB Verification Interface Specification document, the ICD for IEC and receives updates from the AFIS renewal solution should be able to replace the existing VSS for submissions processing. There are more VSS requirements than submission processing; however, this explains the black box concept for the VSS within the RTID/AFIS architecture.	(I)				
1.2 VSS Renewal Concept	4. The VSS User Interface (UI) must be supported through the same AFIS renewal workstation used for AFIS processing. The VSS UI must be a separately controlled interface (e.g. separate application) based on the RBAC requirements stated throughout this SOW and its accompanying documents.	(M)				
1.2 VSS Renewal Concept	5. The following diagram (Figure 1-1) depicts the RTID / AFIS / VSS / IRCC / CBSA Conceptual Architecture. This diagram is also included in Annex A, current architecture. It is repeated herein to provide clarity to the VSS requirements.	(I)				
1.2 VSS Renewal Concept	6. Refer to Annex A for a more detailed description of the architecture that must be supported by the VSS renewal solution.	(M)				
1.2 VSS Renewal Concept	7. The most common Immigration enrolment involves foreign applicants from select countries being enrolled outside of Canada and their fingerprints along with biographic data being sent electronically to the Immigration Refugee and Citizenship Canada – IRCC (formerly Citizenship and Immigration Canada (CIC))	(M)				

<b>Annex D to Appendix A: Verification Subsystem Detailed Requirements: Chapter 1. Introduction</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	Biometric Process Solution for onward transmission to the RCMP. CBSA also sends Refugee submissions which are processed as immigration enrolments. The AFIS renewal solution must support processing both types of immigration enrolment.					
1.2 VSS Renewal Concept	8. All Immigration enrolment transactions received by the RCMP from the IRCC Biometric Process Solution will be compliant to the RCMP NPS-NIST ICD for Immigration External Contributors 2.1.1 (ICD for IEC). All Immigration enrolment transactions received by the RCMP from the CBSA will be compliant to the RCMP NPS-NIST 1.7.8 ICD.	(I)				
1.2 VSS Renewal Concept	9. The fingerprints will be searched against the AFIS renewal solution and dependent on the search results, the fingerprints will either be allocated a new Immigration File number if no match is found, or certified to an existing set of fingerprint images and added to the Immigration repository on the AFIS renewal solution.	(M)				
1.2 VSS Renewal Concept	10. The RCMP system will then prepare and release a Search Response (SRE) to IRCC's Biometric Process Solution or CBSA.	(I)				
1.2 VSS Renewal Concept	11. The Immigration File number with fingerprints and fingerprint features associated to an enrolment will be replicated to the VSS database. Refer to Annex B for additional requirements concerning the enrolment processing related to VSS.	(M)				
1.2 VSS Renewal Concept	12. Canada Border Services Agency (CBSA) is responsible for controlling access to Canada at Ports of Entry. The Immigration enrolment program will provide CBSA with the ability to verify the identity of an individual seeking entry to Canada by acquiring their fingerprints in a verification process. This process will capture	(I)				

<b>Annex D to Appendix A: Verification Subsystem Detailed Requirements: Chapter 1. Introduction</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	fingerprints from the individual at the Canadian POE and send the fingerprints as well as the associated Immigration File Number to the RCMP Verification Service.					
1.2 VSS Renewal Concept	13. The VSS renewal solution must perform 1:1 verification against all the fingerprints on file associated to the Immigration File Number provided with the fingerprint images. A VSS Search Response (SRV) must be returned to CBSA by the VSS renewal solution within thirty (30) seconds of receipt. This thirty (30) second response time limit represents a failure to process and results in a timeout error (ERRV) to end the synchronous request. It does not represent the required performance requirements. The performance requirements are stated in subsection 3.1.3 Performance, and throughout this SOW and its accompanying documents.	(M)				
1.2 VSS Renewal Concept	14. Enrolled Immigration Subject records will be subject to data retention rules. When Immigration Subjects are enrolled a Retention End Date is assigned based on a configurable parameter. When the Retention End Date comes due the Immigration Subject must be purged from the AFIS renewal solution and VSS renewal solution. IRCC can also submit a request to purge a specific Immigration File or specific set of fingerprints and biographical data within an Immigration file.	(M)				
1.2 VSS Renewal Concept	15. Enrolled Immigration Subject records can also be amended by IRCC. The amendment process does not directly impact VSS since it is not required for 1:1 matching. The amendment transaction allows IRCC to alter biographic data associated with an Immigration Subject file maintained on NNS. Any amendment	(I)				

<b>Annex D to Appendix A: Verification Subsystem Detailed Requirements: Chapter 1. Introduction</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	changes affecting the AFIS renewal solution would be supported through the AFIS ICD.					

<b>Annex D to Appendix A: Verification Subsystem Detailed Requirements: Chapter 2. VSS Workflow and Functional Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>2.1 VSS Workflow</b>						
2.1 VSS Workflow	1. VSS (VER) submissions will be submitted to the RCMP from the CBSA Hub to verify the identity of an Immigration Subject at Canadian POE. The VSS renewal solution must first validate the VER submission to ensure compliance with the ICD for IEC. If the submission fails validation an error (ERRV) is created and returned to the CBSA Hub. Refer to Figure 2-1: Verification Workflow Diagram for a depiction of the VSS workflow.	(M)				
2.1 VSS Workflow	2. The Immigration File Number must be used to retrieve the Immigration Subject fingerprint features from the VSS data repository to perform a 1:1 match against the fingerprints in the VER submission.	(M)				
2.1 VSS Workflow	3. A response (SRV) to the 1:1 comparison; "Match", "No Match", or "Unable to Auto Certify" must be returned to the CBSA Hub.	(M)				

<b>Annex D to Appendix A: Verification Subsystem Detailed Requirements: Chapter 2. VSS Workflow and Functional Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
2.1 VSS Workflow	4. A "File Number Not Found" response must be returned to the CBSA Hub if the immigration file number provided with the incoming VER submission does not exist in VSS.	(M)				
<b>2.2 VSS Functional Requirements</b>						
<b>2.2.1 General</b>						
2.2.1 General	1. The VSS renewal solution shall be capable of supporting through one CBSA Hub site, input from 350 Electronic Fingerprint Capture Devices (EFCD) located at different sites across Canada.	(M)				
2.2.1 General	2. The VSS renewal solution shall be capable of supporting at least one hundred (100) additional agency sites to support VSS being used for other purposes throughout Canada. The volumes identified in Annex B include these potential additional sites.	(M)				
2.2.1 General	3. CBSA shall be identified by unique identifiers. An Originating Agency Identifier (ORI), similar to that used by RTID, will be used as the unique identifiers. The VSS renewal solution must support multiple agency ORIs to allow flexibility for CBSA. <ul style="list-style-type: none"> <li>a. The VSS renewal solution shall support at least fifty (50) ORIs per agency. The initial configuration must include:                             <ul style="list-style-type: none"> <li>i. One (1) ORI, which identifies the RCMP; and</li> <li>ii. One (1) ORI, which identifies CBSA's Hub.</li> </ul> </li> <li>b. The VSS renewal solution shall support the maintenance of the ORIs within the VSS through a User Interface (UI) through the AFIS workstation.</li> <li>c. The VSS's ORI format shall comply with the format and rules defined in the ICD for IEC.</li> </ul>	(M)				

<b>Annex D to Appendix A: Verification Subsystem Detailed Requirements: Chapter 2. VSS Workflow and Functional Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
2.2.1 General	4. The VSS renewal solution shall process VER submissions in a fully automated electronic manner, without the need for paper or human intervention.	(M)				
2.2.1 General	5. The VSS renewal solution shall support receipt of VER submissions and generation of responses that are formatted as per the ICD for IEC and the TRB Verification Interface Specification document. The VSS renewal solution is a fully operational interface with CBSA with no requirement to change the interface; therefore, no changes are allowed to this interface unless specifically stated in this SOW or its accompanying documents. Additionally, the ICD for IEC will not be changed unless specifically stated in this SOW or its accompanying documents.	(M)				
<b>2.2.2 Process Ver Submission</b>						
<b>2.2.2.1 Receipt and Validation</b>						
2.2.2.1 Receipt and Validation	1. The VSS renewal solution shall process VER submissions as they are received. In particular, the VSS renewal solution shall process VER submissions during peak hours within the SLA (refer to Section 3.3 for peak hour transaction volumes).	(M)				
2.2.2.1 Receipt and Validation	2. The VSS renewal solution shall receive the VER submission and save it in its original state (received data and images) in the Audit Log.	(M)				
2.2.2.1 Receipt and Validation	3. The VSS renewal solution shall have the ability to open, read and parse a VER submission.	(M)				

Annex D to Appendix A: Verification Subsystem Detailed Requirements: Chapter 2. VSS Workflow and Functional Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
2.2.2.1 Receipt and Validation	4. If the VSS renewal solution receives a VER NIST packet that cannot be parsed (e.g. the NIST packet is corrupted): a. The VSS renewal solution shall, if sufficient Type-1 data can be extracted, create an error transaction (ERRV) containing a generic message indicating the received packet is corrupt, log the ERRV in the Audit Log, and send the ERRV back as a response to the VER submission. b. If an ERRV cannot be created (e.g. insufficient Type-1 data to meet NIST compliancy) then the VSS renewal solution must provide a response to the contributor with an appropriate standard HTTP error (e.g. 400 - bad request). Refer to the TRB Verification Interface Specification document for all possible error responses that must be generated by the VSS renewal solution.	(M)				
2.2.2.1 Receipt and Validation	5. The VSS renewal solution shall validate each VER submission to ensure compliance with the ICD for IEC.	(M)				
2.2.2.1 Receipt and Validation	6. The VSS renewal solution shall, if a VER submission does not comply with the ICD for IEC, create and return an error transaction (ERRV) to the CBSA Verification client.	(M)				
2.2.2.1 Receipt and Validation	7. The VSS renewal solution shall validate that the ORI received from the VER transaction (tag 1.008) is defined in the VSS renewal solution ORI table.	(M)				
2.2.2.1 Receipt and Validation	8. The VSS renewal solution shall, upon detecting validation errors, create an error transaction (ERRV), and populate the error code(s) and error message(s) relating to the validation error(s). The validation shall have two (2) levels:	(M)				

Annex D to Appendix A: Verification Subsystem Detailed Requirements: Chapter 2. VSS Workflow and Functional Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>a. All errors resulting from non-fingerprint related validations will be returned in the ERRV; and</li> <li>b. Fingerprint validation processing will only be attempted if the non-fingerprint validation is successful and fingerprint related errors will be returned in the ERRV immediately upon detection.</li> </ul>					
2.2.2.1 Receipt and Validation	<p>9. The detailed error messages used by VSS renewal solution shall at a minimum include the Error description, tag number, tag name, subfield and occurrence that are applicable to the tag that is found to be in error. If a specific tag cannot be referenced, the tag number, tag name, subfield and occurrence can be omitted from the message.</p> <ul style="list-style-type: none"> <li>a. Refer to Section 3.5, Error Messaging, and the TRB Verification Interface Specification document for more detailed requirements; and</li> <li>b. A sample list of possible error messages and minimum requirements for error messages can also be found in Table D-1 herein.</li> </ul>	(M)				
2.2.2.1 Receipt and Validation	<p>10. If the error situation cannot reference a specific tag, but an ERRV can be created (based on the fact that the incoming Type-1 record can be read), the VSS renewal solution shall return a generic error message in the ERRV.</p>	(M)				
2.2.2.1 Receipt and Validation	<p>11. The VSS renewal solution shall, (based on a configurable parameter), optionally segment the Type-14 images received with the VER submission, thereby disregarding the segmentation coordinates provided with the incoming VER Type-14 images.</p>	(M)				

Annex D to Appendix A: Verification Subsystem Detailed Requirements: Chapter 2. VSS Workflow and Functional Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	a. The configuration shall apply to all subsequent VER transactions after being set; b. The VSS renewal solution shall identify any system impacts should the VSS renewal solution perform the segmentation instead of using the coordinates provided in the Type-14 record in the Contractor's proposal and detailed design documents; and c. The performance requirements and SLA that must be satisfied by the VSS renewal solution are based on segmentation coordinates being provided with the incoming VER Type-14 images.					
2.2.2.1 Receipt and Validation	12. The VSS renewal solution shall assess the quality of the fingerprint images provided in the VER submission and: a. Assign a NIST Fingerprint Image Quality (NFIQ-2) metric to the submission; and b. Assign VSS renewal solution's internal fingerprint image quality metric to the submission which shall be the same as the image quality metric used in AFIS renewal solution. This will allow more effective analysis of any quality related differences between IMM and VER submissions.	(M)				
2.2.2.1 Receipt and Validation	13. The VSS renewal solution shall validate that the Image Quality of the Type-14 images in the VER submission is adequate for the purposes of a 1:1 comparison based on a system configurable parameter.	(M)				
2.2.2.1 Receipt and Validation	14. The VSS renewal solution shall, if there are not enough segmented images (based on configurable parameter) that	(M)				

<b>Annex D to Appendix A: Verification Subsystem Detailed Requirements: Chapter 2. VSS Workflow and Functional Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	exceed a Minimum Quality Threshold (based on configurable parameter), return an ERRV.					
2.2.2.1 Receipt and Validation	15. The VSS renewal solution shall ensure that the segmented images included in the VER are unique.	(M)				
2.2.2.1 Receipt and Validation	16. The VSS renewal solution shall, if any segmented images are duplicated, return an ERRV.	(M)				
<b>2.2.2.2 Verification</b>						
2.2.2.2 Verification	1. The VSS renewal solution shall encode the Type-14 fingerprint images provided in the VER submission.	(M)				
2.2.2.2 Verification	2. The VSS renewal solution shall perform a 1:1 comparison of the fingerprints feature set retrieved from the Verification database file (identified by the Immigration File Number (AFN tag) provided in the VER), with the fingerprints provided in the VER submission.	(M)				
2.2.2.2 Verification	3. The VSS renewal solution shall, based on the results of the 1:1 comparison indicate in the Verification Search Result (SRV) tag 2.8955: a. <I: Match>, when the result is above Auto Hit threshold; b. <U: Unable to Auto-Certify>, when the result is between Auto Hit threshold and No Hit threshold (grey area); c. <N: No Match>, when the result is below the No Hit threshold; d. <X: File Number not found>, when the Immigration File Number provided in the VER submission is not found in the Verification database.	(M)				

<b>Annex D to Appendix A: Verification Subsystem Detailed Requirements: Chapter 2. VSS Workflow and Functional Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
2.2.2.2 Verification	4. The VSS renewal solution shall return the results of the verification to the Contributor by using a Verification Search Response (SRV).	(M)				
<b>2.2.2.3 Overall Verification Processing</b>						
2.2.2.3 Overall Verification Processing	1. The VSS renewal solution must support end-to-end synchronous processing. a. Specifically between system components CBSA to RCMP, and RCMP to VSS renewal solution web servers. Refer to the TRB Verification Interface Specification document for details concerning this synchronous processing the VSS renewal solution must support.	(M)				
<b>2.2.3 Administration of the VSS</b>						
<b>2.2.3.1 General</b>						
2.2.3.1 General	1. As this is a real-time system, no provision is required for monitoring transactions that are "in progress". That is, the VER transaction has been received, but the corresponding SRV or ERRV transaction has not yet been issued. The VSS renewal solution must support this processing. a. All monitoring and query functions shall access only those transactions that have been completed. b. An exception to this condition will be when an error has occurred such that a VER transaction has been received, yet no SRV or ERRV transaction has been issued after a configurable period of time.	(M)				

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2.2.3.1 General	2. The Authorized User (e.g. Production Administrator) shall access all the VSS renewal solution operational viewing and system configuration maintenance functions through the use of a Graphical UI. a. The proposed UI shall have the same "look and feel" as the AFIS renewal solution UI.	(M)				
2.2.3.1 General	3. The VSS renewal solution shall provide the option of changing the language presented, by the UI, to one of the official Canadian languages (i.e. English and French). a. The Authorized user shall have the ability to select the UI language at log-in time. The default language must be based on the user's preference defined in AFIS renewal solution user management configuration for the user.	(M)				
<b>2.2.3.2 Access Control</b>						
2.2.3.2 Access Control	1. The Authorized User shall require the proper credentials to view the VSS renewal solution submissions, operational UI, maintain configuration function and any logs. a. Access shall be provided with a two-factor authentication (2FA) approach; b. User roles with different permission levels are required; and c. The VSS renewal solution must provide Role Based Access Control (RBAC) that satisfies the VSS renewal solution roles through the AFIS renewal solution. Refer to Annex B RBAC subsection for details concerning the required Role to UI Mapping necessary to support the VSS renewal solution.	(M)				

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2.2.3.2 Access Control	2. The RBAC must be the same as the AFIS renewal solution such that only one (1) profile can be maintained for users of the AFIS renewal solution and those of the VSS renewal solution. The VSS renewal solution shall document the following in the Contractor's proposal and System Design documents: <ul style="list-style-type: none"> <li>a. The VSS renewal solution shall explain under what conditions the User roles for the VSS will be synchronized with that of the AFIS renewal solution; and</li> <li>b. The VSS renewal solution shall explain how the access control re-synchronization between the AFIS renewal solution and the VSS renewal solution will occur after an outage on the AFIS renewal solution or an outage on the VSS renewal solution.</li> </ul>	(M)				
2.2.3.2 Access Control	3. The access control for the VSS renewal solution shall be functional even if the AFIS renewal solution is not available. That is, a copy of the user management data must be available on the VSS renewal solution in case the AFIS renewal solution is not available.	(M)				
<b>2.2.3.3 Viewing of Completed VER submissions</b>						
2.2.3.3 Viewing of Completed VER submissions	1. The Authorized User shall be presented with a VER submission query screen. The default search criteria must include all transactions within the last five (5) days. The user must be able to modify the date/time range before executing a query. The user must be able to query on at least the following information: <ul style="list-style-type: none"> <li>a. Submissions received within a date/time range;</li> <li>b. VER Transaction Unique Identifier;</li> </ul>	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	c. TCN; d. Image Capture Equipment; e. Official Taking Fingerprints; f. Fingerprints Capture Location; g. Immigration File Number; h. Verification Search Results: i. Match; ii. No Match; iii. Unable to Auto-Certify; and iv. File Number Not Found. i. Errors: i. Any errors; or ii. Specific error code. j. Fingerprint quality for each fingerprint provided in the VER submission.					
2.2.3.3 Viewing of Completed VER submissions	2. The VSS renewal solution shall allow the use of "wildcard" characters or codes (e.g. *, %, etc.) in place of a specific search criterion.	(M)				
2.2.3.3 Viewing of Completed VER submissions	3. The VSS renewal solution shall return all the submissions that meet the search criteria and provide a list of records containing the following information: a. The incoming VER transaction data (Type-1, Type-2 and 1 to 3 Type-14 records), and one (1) of the following transaction responses:	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	i. The ERRV response transaction data (Type-1 and Type-2 records); ii. The SRV response transaction data (Type-1 and Type-2 records); or iii. No data, which indicates that the VSS renewal solution did not send a response to the contributor; or b. Return an empty list of submissions if the search criteria entered by the Authorised User do not match any logged VER submissions within the configurable retention period (180 days).					
2.2.3.3 Viewing of Completed VER submissions	4. In addition to the above VER/SRV/ERRV records, for each returned submission, the VSS renewal solution shall allow drill down to obtain detailed information on a submission, if applicable: a. The date/time the incoming VER transaction was received; b. The date/time the outgoing SRV or ERRV transaction was sent; c. The VER Transaction Unique Identifier; d. For each finger used in the Verification: i. The finger number (01 to 10); ii. The VSS renewal solution generated quality metrics; iii. The VSS renewal solution generated NFIQ2; iv. The DCN used for matching (if available); and v. The Match Score.	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
2.2.3.3 Viewing of Completed VER submissions	5. The VSS renewal solution shall allow the Authorized User to sort on selected columns. For each selected column, the VSS renewal solution shall support sorting in: <ul style="list-style-type: none"> <li>a. Descending order;</li> <li>b. Ascending order; or</li> <li>c. No sort (by default).</li> </ul>	(M)				
2.2.3.3 Viewing of Completed VER submissions	6. The VSS renewal solution shall ensure that the VSS renewal solution UI activity does not adversely affect the performance of the VSS renewal solution. The VSS renewal solution shall document the following in the Contractor's proposal and the System Design document: <ul style="list-style-type: none"> <li>a. The VSS renewal solution shall describe how VSS will prioritize/control tasks such that User Viewing functions do not negatively impact processing of transactions.                                     <ul style="list-style-type: none"> <li>i. The method proposed by VSS renewal solution to avoid an inadvertent query of a very large number of transactions must be specifically addressed (e.g. limiting the return list on a *.* type query);</li> <li>ii. The provided explanation shall explain any trade-offs between User Viewing functions and the processing of transactions; and</li> <li>iii. The VSS renewal solution must document the methods as part of explaining the design in the Contractor's proposal.</li> </ul> </li> </ul>	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>2.2.4 Maintain System Configuration</b>						
2.2.4 Maintain System Configuration	1. The VSS renewal solution shall provide a UI, accessible by an Authorized user, to manage the user configurable settings and data used by VSS. Section 3.1.7 presents a list of system configurable parameters.	(M)				
2.2.4 Maintain System Configuration	2. The Audit Log must be retained by the RCMP for an indefinite time. However it is not required to be stored on the VSS renewal solution indefinitely. The VSS renewal solution shall document the following in the Contractor's proposal and the System Design documents: a. The proposed systemic method for moving sections of the Audit Log from the operational data as well as off of the VSS renewal solution to long-term storage. i. This method must assure that the audit log is not inadvertently deleted through the use of configurable parameters as defined previously in this section. b. The time period that the Audit Log is retained on the VSS renewal solution must be configurable. i. Access to the configuration parameter that determines the time period that the Audit Log is retained on the VSS renewal solution shall be restricted according to the Role to UI Mapping.	(M)				
2.2.4 Maintain System Configuration	3. The VSS renewal solution shall allow an Authorized User to configure a list of ORIs that represent the allowable ORIs to be used by the VSS renewal solution. a. Each authorized contributor can employ multiple ORIs;	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	b. The initial requirement is for one (1) Agency (CBSA) only; and c. An agency name must be associated with the ORI and be configurable.					
<b>2.2.5 Verification Match Reports</b>						
2.2.5 Verification Match Reports	1. The VSS renewal solution shall provide Authorized Users (e.g. AFIS/VSS Program Analyst) with the ability to generate, view and print Verification Match Reports on an "as required" basis.	(M)				
2.2.5 Verification Match Reports	2. Verification Match Reports shall only be provided for verification transactions that were successfully validated and processed to the point of a verification search being performed; and resulting in a Match, No Match or Unable to Auto Certify result.	(M)				
2.2.5 Verification Match Reports	3. The Verification Match Report shall contain the following information in Table 2-1 below:	(M)				
<b>2.2.6 Post – Match Analysis of Fingerprints</b>						
<b>2.2.6.1 General</b>						
2.2.6.1 General	1. The VSS renewal solution shall provide to an Authorized User (e.g. AFIS/VSS Program Analysts) the ability to select any VER transaction that has successfully completed, resulting in a Match, No Match or Unable to Auto Certify result, and compare the fingerprint images received in the VER transaction with those on file that were used by the VSS renewal solution in processing the match.	(M)				

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2.2.6.1 General	2. The UI shall be available in both official Canadian languages (English and French).	(M)				
<b>2.2.6.2 User Interface</b>						
2.2.6.2 User Interface	1. The VSS renewal solution shall provide a UI to an Authorized User. This UI will allow the user to view VER submissions including original and segmented Type-14 images, Type-1 and Type-2 data entries. The user will also be able to investigate and analyze the outcome of the Verification by viewing side-by-side displays of matched fingerprint images.	(M)				
2.2.6.2 User Interface	2. The VSS renewal solution will provide a means of searching for VER submissions using the same criteria and boundaries defined in Section 2.2.3.3, Viewing of Completed VER submissions.	(M)				
2.2.6.2 User Interface	3. The VSS renewal solution shall provide Authorized Users with the ability to select a specific Verification transaction and display all of the information received in the VER transaction (including images) as well as all related transactions (SRV or ERRV) or log entries. a. The VSS renewal solution will include a UI that provides viewing capability of: i. The Type-1 and Type-2 Data; ii. The Type-14 data and fingerprint images received (with zoom, brightness, contrast capabilities the same as, or similar to the AFIS renewal solution UI); iii. The Segmented Type-14 fingerprint images (with zoom, brightness, contrast, hide/display minutiae the same as, or	(M)				

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	similar to the AFIS renewal solution UI) including minutiae and quality metric; iv. A side-by-side view of Segmented Type-14 fingerprint search images and current fingerprint images (segmented Type-14) in the AFIS renewal solution with image adjustment features (zoom, brightness, contrast, hide/display minutiae); and v. If, due to a purge, the Immigration Subject fingerprint images on the AFIS renewal solution has been purged since the VER transaction that is being viewed took place, the images that have been purged shall be displayed in the side-by-side view with an indication that the image has been purged.					
2.2.6.2 User Interface	4. The NIST packet viewer available for the AFIS renewal solution user must also be available for VSS renewal solution user to view NIST packets and support the same capabilities with the VSS renewal solution type packets.	(M)				
<b>2.2.6.3 Printing</b>						
2.2.6.3 Printing	1. The VSS renewal solution shall provide the ability to print: <ul style="list-style-type: none"> <li>a. The Type-1 and Type-2 Data;</li> <li>b. The Type-14 images received (with zoom, brightness, contrast the same as, or similar to the AFIS renewal solution UI);</li> <li>c. The Segmented Type-14 images (with zoom, brightness, contrast, hide/display minutiae the same as, or similar to the AFIS renewal solution UI); and</li> </ul>	(M)				

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	d. The Match Report.					
<b>2.2.6.4 Data Retention</b>						
2.2.6.4 Data Retention	1. Most users shall only be authorized to view transactions that have not been cleared from the VSS renewal solution operational data.	(M)				
2.2.6.4 Data Retention	2. VER data shall be cleared from operational environment after it has reached its retention date based on the configurable parameter (e.g. 180 days).	(M)				
2.2.6.4 Data Retention	3. Only certain users (e.g. audit user) will be authorized to access the data that has been cleared from the operational environment.	(M)				
<b>2.2.7 Verification Data Extraction for Reporting</b>						
2.2.7 Verification Data Extraction for Reporting	1. The VSS renewal solution shall make data available for Extract, Transform and Load (ETL) to the RCMP's Cognos Reporting process.	(M)				
2.2.7 Verification Data Extraction for Reporting	2. The data elements listed in Table 2-2 below must be available to an ETL process for all Types of Transactions (TOT).	(M)				
2.2.7 Verification Data Extraction for Reporting	3. The VSS renewal solution process that prepares the data for extraction must assure that only data for transactions which have been completed are prepared for extraction.	(M)				
2.2.7 Verification	4. The VSS renewal solution must identify VER transactions for which no outgoing transaction is issued (SRV or ERRV).	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
Data Extraction for Reporting	a. Any transaction in this category shall also be included in the data for extraction to the RCMP's Cognos reporting system.					
2.2.7 Verification Data Extraction for Reporting	5. VSS renewal solution shall "push" a text file extract of the required data elements to a predetermined RCMP network area directory (location of directory shall be configurable). The text file extract must be a Comma-Separated Values (CSV) file. The reporting system is already designed to support a CSV file. The Secure File Transfer method identified by the RCMP (refer to compliancy documents) or equivalent secure method approved by DSB must be used.	(M)				
2.2.7 Verification Data Extraction for Reporting	6. The VSS renewal solution must support at least one (1) extract per day without affecting the performance and SLA requirements. The extract time period must be configurable.	(M)				
2.2.7 Verification Data Extraction for Reporting	7. The ETL filename must support the following to feed the RCMP's Reporting infrastructure. a. The VSS renewal solution must ensure the ETL files are uniquely named and ordered to ensure each file can be retrieved in order. This is to ensure files are retrievable, in order, in case they are not retrieved before the next file is created. b. The VSS renewal solution must provide the filename structure that supports the requirement, which will be approved during detailed design.	(M)				

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2.2.7 Verification Data Extraction for Reporting	8. The VSS renewal solution shall explain how this ETL requirement will be satisfied in the Contractor's proposal including at least the following: a. Any negative impact to the Contractor's proposal solution by the use of an ETL strategy; and b. Any impact to data retention on the VSS renewal solution.	(M)				
2.2.7 Verification Data Extraction for Reporting	9. A process running remotely (within the RCMP/VSS renewal solution infrastructure) will access the data source (extract) to feed the RCMP's Reporting infrastructure.	(I)				
<b>2.2.8 Audit Logging</b>						
<b>2.2.8.1 General</b>						
2.2.8.1 General	1. The VSS renewal solution shall have an Audit Log.	(M)				
2.2.8.1 General	2. The VSS renewal solution must ensure all events associated with the Verification process are recorded; and that sufficient data is recorded with each event such that it is verifiable that the recorded events resulted in whatever action was taken concerning a Verification transaction.	(M)				
2.2.8.1 General	3. The VSS renewal solution must record when, where and why, what was done and by whom, related to any request processed on the VSS renewal solution.	(M)				
2.2.8.1 General	4. The Audit Log shall be protected from actions that would overwrite existing Audit Log entries and must be accessible to Authorized Users only.	(M)				

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2.2.8.1 General	5. The Audit Log must support write/insert only entries.	(M)				
2.2.8.1 General	6. Once written, Audit Log records shall be available in read-only mode.	(M)				
2.2.8.1 General	7. The Audit Log data shall be retained indefinitely by the RCMP. a. Data older than a configurable period of time required for operational purposes (e.g. 180 days) must be available only to authorized users; b. Data older than a configurable period of time (e.g. two (2) years for aged audit log data) can be offloaded to an alternate storage system; c. The Contractor's proposal shall include a description of how data older than what is required for operational purposes will be available to the VSS Audit user with a UI the same or similar to the UI used for viewing operational data; and d. The Contractor's proposal shall provide at least one (1) method for offloading the aged Audit Log from the VSS renewal solution.	(M)				
2.2.8.1 General	8. The following list identifies events/activities that must be recorded as a minimum in the audit log; however, whatever events/activities that must be recorded to create an effective audit trail as described herein must be recorded with the data necessary to have verifiable proof of the action taken: a. Upon receipt of a VER transaction: i. Transaction receipt system date and time stamp; ii. All Type-1 and Type-2 data received with the VER transaction; and	(M)				

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Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>iii. The 1 to 3 Type-14 images received, along with the Type-14 data associated with each image.</li> <li>b. Upon issuance of an SRV transaction:                             <ul style="list-style-type: none"> <li>i. Transaction response system date and time stamp; and</li> <li>ii. All Type-1 and Type-2 data with the SRV response.</li> </ul> </li> <li>c. Upon issuance of an ERRV transaction:                             <ul style="list-style-type: none"> <li>i. Transaction response system date and time stamp; and</li> <li>ii. All Type-1 and Type-2 data associated with the ERRV response.</li> </ul> </li> <li>d. Upon generation of a match report:                             <ul style="list-style-type: none"> <li>i. System date and time stamp;</li> <li>ii. User ID; and</li> <li>iii. Copy of match report.</li> </ul> </li> <li>e. VSS renewal solution configuration changes:                             <ul style="list-style-type: none"> <li>i. Add/change/delete an ORI;</li> <li>ii. Change to time when ETL is completed and copied to RCMP reporting service;</li> <li>iii. Add/change/delete user related data will be recorded through the AFIS renewal solution user management capability;</li> <li>iv. System date and time stamp of the system configuration change;</li> <li>v. Configuration Old Value(s); and</li> <li>vi. Configuration New Value(s).</li> </ul> </li> </ul>					

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	f. VSS renewal solution system configurable parameter changes as identified herein: <ul style="list-style-type: none"> <li>i. User Id;</li> <li>ii. System date and time stamp of the system configuration change;</li> <li>iii. System Configuration Old Value(s); and</li> <li>iv. System Configuration New Value(s).</li> </ul> g. User Login and Logout: <ul style="list-style-type: none"> <li>i. User Id; and</li> <li>ii. System date and time stamp of the login and logout.</li> </ul> h. All errors, except system errors that are sent as alerts through SNMP to operations.					
2.2.8.1 General	9. The final list of events to be logged will be determined at detail design.	(I)				
<b>2.2.9 Discrepancy Report</b>						
2.2.9 Discrepancy Report	1. VSS renewal solution shall provide a discrepancy report(s) that runs automatically based on a configurable parameter and includes at least: <ul style="list-style-type: none"> <li>a. Differences between the contents of the AFIS renewal solution Immigration Repository and the VSS repository, including at least the following:                             <ul style="list-style-type: none"> <li>i. Differences between the AFIS renewal solution primary (PR) site and the VSS renewal solution PR site;</li> </ul> </li> </ul>	(M)				

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	ii. Differences between the AFIS renewal solution PR site and the VSS renewal solution Disaster Recovery (DR) site; and iii. Implicitly the above two (2) reports will also identify what is different between the VSS renewal solution PR and DR sites. b. Differences between AFIS renewal solution user roles and authorizations and the VSS renewal solution user roles and authorizations.					
2.2.9 Discrepancy Report	2. VSS renewal solution shall automatically generate discrepancy reports periodically based on a configurable parameter and store the reports in a configurable storage location.	(M)				
2.2.9 Discrepancy Report	3. VSS renewal solution shall describe how to rectify any discrepancies in the Contractor's proposal and the System Design documents.	(M)				

<b>Annex D to Appendix A: Verification Subsystem Detailed Requirements: Chapter 3. Verification System and Technical Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>3.1 General Requirements</b>						
<b>3.1.1 CBSA / RCMP / VSS Interface</b>						
3.1.1 CBSA / RCMP / VSS Interface	1. VER transactions are received via a secure network link that implicitly authenticates that the VER is being received from an authorized agency. a. This network link will be provided by the RCMP; and b. The RCMP/SSC LB/SSL will transfer an unencrypted payload to one of the load balanced VSS renewal solution servers.	(I)				
3.1.1 CBSA / RCMP / VSS Interface	2. The VSS renewal solution shall process each VER submission and subsequent response (SRV or ERRV) in a synchronous manner within the same secure session.	(M)				
3.1.1 CBSA / RCMP / VSS Interface	3. Refer to TRB Verification Interface Specification document for all the details concerning this interface that must be supported by the VSS renewal solution.	(M)				
<b>3.1.2 System Requirements</b>						
3.1.2 System Requirements	1. The VSS renewal solution shall be a Commercial Off-The-Shelf software (COTS) product.	(M)				
3.1.2 System Requirements	2. The VSS renewal solution, to the greatest extent possible, should satisfy the VSS renewal solution requirements through the COTS product.	(R)				
3.1.2 System Requirements	3. The VSS renewal solution must use configurable parameters whenever and wherever possible and limit special purpose coding.	(M)				

Annex D to Appendix A: Verification Subsystem Detailed Requirements: Chapter 3. Verification System and Technical Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	a. The Contractor must explain where their proposed design deviates from their COTS solution in the Contractor's proposal and the System Design documents; and b. VSS servers must also satisfy the requirements in the AFIS Renewal SOW, Section 3.3 Hardware and Software.					
3.1.2 System Requirements	4. The Contractor should describe in detail its strategy for migrating RTID-specific functionality as the VSS COTS baseline evolves over the life of the contract addressing the extent to which it will include custom features into its COTS product and to what extent that the Contractor's strategy will minimize disruption in terms of availability if RCMP chooses to implement an upgrade.	(R)				
3.1.3 Performance						
3.1.3 Performance	1. The VSS renewal solution must meet or exceed the following performance measurement requirements: a. Process Verification transactions and deliver a search response to the RCMP/SSCLB/SSL device: i. In three (3) seconds or less for a single transaction during low volume periods where no more than one (1) transaction per minute is processed. Essentially, a 1:1 search by the VSS renewal solution must be able to process the VER NIST packet, perform the 1:1 search and respond with an SRV with the results of the search in less than three (3) seconds. This will be confirmed at benchmark testing. ii. In less than ten (10) seconds at least 95% of the time, exclusive of scheduled downtime. The VSS renewal solution must be designed to meet this ten (10) seconds or	(M)				

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	<p>less requirement, which is considered normal processing even in peak hour volumes 95% of the time. Refer to Annex B for peak hourly volumes.</p> <p>iii. In less than thirty (30) seconds, 100% of the time during peak hour Verification volumes (i.e. a thirty (30) second response time is considered a failure).</p> <p>iv. Note: The processing time is measured from the time that the Verification transaction is received by the VSS renewal solution Web Server until the time that the VSS renewal solution Web Server sends the response. Timeout errors can only occur because of a failed process or lost connectivity. A timeout because of processing volume is not an acceptable VSS renewal solution design. Timeout errors are considered VSS renewal solution outages.</p>					
3.1.3 Performance	2. These performance requirements must be met while all other VSS requirements are satisfied. That is, the performance requirements must be met while backup operations are in progress, Extract Transform Load activities are executing, updates are received from the AFIS renewal solution, users are accessing the VSS or any other operations necessary to support the requirements stated throughout this SOW and its accompanying documents.	(M)				
3.1.3 Performance	3. The overall distribution of the response time budget is illustrated in Figure 3-1: Response Time Budget for Verification below.	(I)				
3.1.3 Performance	4. Response times shall be measured from the instant of the request to the moment the data is displayed, or the instant the cursor moves to the next field, whichever is applicable.	(I)				

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3.1.3 Performance	5. Response times shall be defined in the Contractor's proposal and the System Design documents for a representative set of User Interface actions based on the following criteria: <ul style="list-style-type: none"> <li>a. UI functions or actions defined as Simple shall respond in two (2) second or less;</li> <li>b. UI functions or actions defined as Moderate shall respond in five (5) seconds or less; and</li> <li>c. UI functions or actions defined as Complex shall respond in ten (10) seconds or less.</li> <li>d. The design of UI functions or actions that cannot be completely processed within ten (10) seconds shall be explained in the Contractor's proposal. If the explanation is not considered acceptable by the RCMP, the proposal may be deemed non-compliant. The Contractor is encouraged to seek approval from the RCMP in writing, prior to submitting the proposal, to avoid submitting a non-compliant proposal.</li> </ul>	(M)				
<b>Figure 3-1: Response Time Budget for Verification</b>						
<b>3.1.4 Maintainability</b>						
3.1.4 Maintainability	1. The VSS renewal solution scheduled maintenance activities shall adhere to the RCMP CIO sector's current change management policy. Please refer to AFIS Renewal SOW for link to change management policy.	(M)				
3.1.4 Maintainability	2. The RCMP will provide the Contractor with a printed copy of the material found in the link, upon request.	(I)				

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<b>3.1.5 Scalability</b>						
3.1.5 Scalability	1. The VSS must be scalable in a manner that does not require a replacement of the technology used to support: a. The 2019 expected volumes as stated in Section 3.3, Verification Volumetrics of this SOW, and b. Capacity for expandability (scalability) and ability to absorb future enhancements and upgrades to software and hardware components with minimal impact to the user community.	(M)				
3.1.5 Scalability	2. The RCMP has implemented OSI layers 4–7 content switching with load balancing and Network Address Translation (NAT). This load balancing enables application and/or service request's to be directed to a virtual server. The IP addresses of the real servers are concealed and transparent to the requester. NAT is used to translate the IP address used in the request to the IP address of the real servers. This load balancing process allows requests to be sent to multiple servers to greatly improve performance and create a scalable environment. This capability is also used to direct requests, based on content to the appropriate server.	(I)				
3.1.5 Scalability	3. The VSS renewal solution must support the ability to receive requests from the RCMP/SSCLB/SSL load balancer distributed evenly to multiple VSS renewal solution web servers (i.e. normally expected configuration); and respond back through the synchronous request to the contributing agency (e.g. CBSA).	(M)				
3.1.5 Scalability	4. The VSS renewal solution must support the ability to receive requests from the RCMP/SSCLB/SSL load balancer according to any distribution load desired by the RCMP and respond back	(M)				

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	through the synchronous request to the contributing agency (e.g. CBSA).					
<b>3.1.6 Manageability</b>						
3.1.6 Manageability	1. The VSS renewal solution must include automated system level monitoring capabilities at the hardware and software application level, capable of producing SNMP traps/alerts when software or hardware faults are detected. These SNMP traps/alerts must be forwarded to the RCMP's Spectrum Enterprise system monitoring solution.	(M)				
3.1.6 Manageability	2. The VSS renewal solution must provide for Backup and Recovery capability: a. The VSS renewal solution shall provide the following: i. An automated Backup and Recovery strategy; ii. A Backup and Recovery plan; iii. An implementation and test plan; and iv. Operational procedures. v. Note: Refer to RCMP backup/restore/recovery facilities, in this SOW and its accompanying documents that must be used by the VSS renewal solution.	(M)				
<b>3.1.7 Configurability</b>						
3.1.7 Configurability	1. The VSS renewal solution must be designed to support maximum flexibility to allow VSS configuration parameters to be modified to allow the effective operation of the VSS renewal solution to be adjusted without code changes.	(M)				

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3.1.7 Configurability	2. The VSS renewal solution must allow only users with the appropriate authorization to modify the configurable parameters.	(M)				
3.1.7 Configurability	3. The VSS renewal solution must allow system parameters to be configurable. It includes, but is not limited to, the following parameters (parameters will be finalized as part of detailed design reviews): <ul style="list-style-type: none"> <li>a. A list of ORIs that represent the allowable ORIs to be used by the VSS renewal solution;</li> <li>b. Generation frequency of Discrepancy Reports;</li> <li>c. Storage location of Discrepancy Reports;</li> <li>d. Error message text (ERRV related);</li> <li>e. Error message text for errors that cannot be sent via an ERRV (e.g. corrupted NIST packets);</li> <li>f. Retention period for Administrative data and transactions (initial value = 180 days);</li> <li>g. Retention period for files (initial value = 180 days);</li> <li>h. Retention period for Images;</li> <li>i. Retention period for NIST packets;</li> <li>j. Retention period for maintaining the Audit Log within the Operational data space (initial value = 2 years);</li> <li>k. Thresholds for Auto Hit and No-Hit;</li> <li>l. Threshold for determining Work In Progress buffer period (time after which a transaction is considered not to have been responded to; initial value = thirty (30) seconds);</li> </ul>	(M)				

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	m. Threshold for Minimum Number of Images above Minimum Quality; n. Threshold for Minimum Quality Threshold; o. Threshold for Service Level Agreement reporting; p. Threshold for UI inactivity time before screen is locked; q. Threshold of when a user is locked out after unsuccessful login attempts; r. Threshold of when a user is logged off after being locked out; s. Threshold of when service delivery monitoring should provide a warning; t. Toggle for Auto Certification; u. Toggle for Auto Reject; and v. Toggle for Auto Segmentation.					
<b>3.2 Security Requirements</b>						
<b>3.2.1 General</b>						
3.2.1 General	1. Treasury Board and RCMP IT Security policy dictates the use of certain security controls, depending on the sensitivity rating of the data. VSS is considered Protected B data; therefore, the VSS renewal solution must provide the security measures and services commensurate with this Protected B rating.	(M)				
<b>3.2.2 Confidentiality</b>						
3.2.2 Confidentiality	1. The VSS renewal solution processes Protected B data. The VSS renewal solution design must ensure the safeguards required to process Protected B data are employed to ensure the	(M)				

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	confidentiality of the Immigration data and VSS renewal solution are maintained.					
3.2.2 Confidentiality	2. The VSS renewal solution must operate in the same Protected B security zone as the AFIS renewal solution. The safeguards employed for the AFIS renewal solution will be used as the basis for the confidentiality requirements that the VSS renewal solution must support. If requested, the Contractor can review these confidentiality requirements with the RCMP.	(M)				
3.2.2 Confidentiality	3. Data communications links between AFIS renewal solution users, the RCMP Datacentres and External Agencies are currently in place, together with a series of security policy enforcement devices to assure the confidentiality, integrity and availability of communications over both wide-area and local data links.	(I)				
3.2.2 Confidentiality	4. The existing AFIS user workstation connectivity to access the existing AFIS security zone is an approved connection that supports the RCMP confidentiality requirements. The VSS renewal solution users must use the same workstation used for the AFIS renewal solution with access to the VSS capabilities limited to only authorized users. Refer to the User Roles and Responsibilities section of Annex B for additional user role details.	(M)				
3.2.2 Confidentiality	5. The VSS renewal solution shall not cache any Identification and Authentication information on any platform other than those explicitly sanctioned by the RCMP.	(M)				
<b>3.2.3 Integrity</b>						
3.2.3 Integrity	1. The VSS renewal solution processing and configuration must ensure the integrity of the Immigration data.	(M)				

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3.2.3 Integrity	2. The VSS renewal solution must employ development and implementation methods that ensure the Immigration data integrity such as using Logical Units of Work concepts or similar methods with strategic commit points that ensure the integrity of the data associated with a transaction, across all database tables and file systems. As well, the VSS renewal solution must ensure this data integrity includes a verifiable record of events written to the Audit Log that reflects the changes made to the operational data.	(M)				
3.2.3 Integrity	3. The VSS renewal solution must ensure the integrity of the AFIS renewal solution Immigration data, required for accurate VSS processing, is accurately recorded in the VSS renewal solution and vice versa: <ul style="list-style-type: none"> <li>a. Changes to the AFIS renewal solution that affect the VSS renewal solution data must be reflected in the VSS renewal solution within one (1) minute of that associated change, except during system outages.</li> <li>b. The VSS renewal solution must provide a detailed description, in the Contractor's proposal and the System Design documents, of the automated manner in which the VSS renewal solution will ensure the data integrity including at minimum of the following:                             <ul style="list-style-type: none"> <li>i. How the Immigration data recorded in the AFIS renewal solution updates (add, change, delete) the VSS renewal solution with the data required for the VSS to operate as described in this SOW and its accompanying documents;</li> <li>ii. How the re-synchronization between the AFIS renewal solution and the VSS renewal solution will occur after an</li> </ul> </li> </ul>	(M)				

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	outage on the AFIS renewal solution or an outage on the VSS renewal solution; iii. How regular synchronization checks will be performed and how any discrepancies will be corrected; iv. The communication protocols used for synchronization; v. The speed of the updates under normal conditions as well as during re-synchronization after an outage; vi. The frequency of the updates from the AFIS renewal solution to the VSS renewal solution; vii. Any constraints must be explicitly identified; and viii. Ensuring the data integrity between the AFIS renewal solution and the VSS renewal solution must be automated. That is, any AFIS renewal solution changes that affect the VSS renewal solution data, regardless of whether there was an AFIS renewal solution or VSS renewal solution outage, must be automated.					
<b>3.2.4 Availability</b>						
3.2.4 Availability	1. The VSS renewal solution shall meet continuous service requirements with a 99.7% availability based on 24/7/365 operational requirement, exclusive of scheduled downtime.	(M)				
3.2.4 Availability	2. Availability shall be measured on a monthly basis, equating to a maximum 2.2 hours of unplanned outage(s) in a month.	(M)				
3.2.4 Availability	3. The VSS renewal solution shall be capable of operating independent of the state of the AFIS renewal solution. If the AFIS renewal solution is unavailable, Verifications shall still be performed with no impact to processing; other than temporarily	(M)				

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	not receiving updates from the AFIS renewal solution, and temporarily not performing post-match analysis.					
3.2.4 Availability	4. The AFIS renewal solution shall be capable of operating independent of the state of the VSS renewal solution. If the VSS renewal solution is unavailable, the AFIS renewal solution operations will still be performed with no impact to processing; other than temporarily not sending updates to the VSS renewal solution.	(M)				
3.2.4 Availability	5. These availability requirements must be met, regardless of system load, while all other VSS renewal solution requirements are satisfied; and still continuously meet or exceed the performance requirements. That is, the availability requirements must be met while backup operations are in progress, Extract Transform Load activities are executing, updates are received from AFIS renewal solution, users are accessing the VSS renewal solution or any other operations necessary to support the requirements stated throughout this SOW and its accompanying documents.	(M)				
<b>3.2.5 Identification and Authentication (I&amp;A)</b>						
3.2.5 Identification and Authentication (I&A)	1. All client applications are required to uniquely identify and authenticate users. The two-factor authentication method is the required method for authenticating users of client applications that access Protected B data.	(I)				
3.2.5 Identification and	2. CBSA Biometric Services will establish an HTTPS session with the RCMP/SSC ACE. The CBSA Biometric Services will establish the HTTPS session using a PWGSC Secure Applications and	(I)				

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Authentication (I&A)	Key Management Service (SAKMS) certificate or the SAKMS replacement. A PWGSC SAKMS certificate will also be used to digitally sign the NIST packet transmitted as part of the payload in the HTTP POST transaction. This HTTPS connection is through an Internet Protocol Security (IPSec) tunnel which supports the non-repudiation requirements. The certificate is also verified by the RCMP/SSCLB/SSL to confirm it is allowed to submit to VSS.					
3.2.5 Identification and Authentication (I&A)	3. User interface I&A, by RCMP users that access the VSS renewal solution must be provided through two-factor authentication using the same biometric and password method used for AFIS renewal solution users.	(M)				
<b>3.2.6 Authorization</b>						
3.2.6 Authorization	1. A Contributing agency access to the VSS will be controlled by the I&A methods described in the I&A subsection together with the VSS renewal solution validating that the Contributing agency's ORI is authorized to submit a VER submissions.	(M)				
3.2.6 Authorization	2. The VSS renewal solution must be implemented with the RBAC capabilities of the AFIS renewal solution where access to Immigration data elements and functionality are controlled through defined roles.	(M)				
3.2.6 Authorization	3. Roles are assigned to each user of the VSS renewal solution. These roles control the authorization of a user (what he/she can see and do) within the application. The VSS renewal solution must support the roles required to support VSS capabilities. Refer to Annex B (AFIS detailed requirements) for additional information	(M)				

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	concerning RBAC and roles that must be provided to support VSS renewal solution authorization requirements.					
3.2.6 Authorization	4. The VSS renewal solution must lock out a user after three (3) unsuccessful login attempts. The number of unsuccessful login attempts shall be configurable.	(M)				
3.2.6 Authorization	5. The VSS renewal solution must lock the UI after a period of inactivity, as defined in a configurable parameter.	(M)				
3.2.6 Authorization	6. The VSS renewal solution must logoff a user after being locked out for a configurable period of time.	(M)				
3.2.6 Authorization	7. The UI must present only resources and options for which the user is authorized based on their role.	(M)				
3.2.6 Authorization	8. All unauthorized access attempts must be logged.	(M)				
3.2.6 Authorization	9. All unauthorized access attempts to Operating System Administration roles under a root password must be auto-alarmed.	(M)				
<b>3.2.7 Firewall</b>						
3.2.7 Firewall	1. There are no Firewall considerations required by VSS renewal solution regarding the operation of the VSS.	(I)				
<b>3.2.8 Virus Scanning</b>						
3.2.8 Virus Scanning	1. All transmissions destined to the VSS Web servers from the RCMP/SSCLB/SSL will be scanned for viruses through the RCMP/SSC anti-virus scanning appliances.	(I)				

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3.2.8 Virus Scanning	2. The VSS renewal solution shall install, RCMP provided anti-virus software and ensure it is operational, on all VSS renewal solution provided servers and workstations.	(M)				
3.2.8 Virus Scanning	3. The VSS renewal solution must operate with the RCMP provided anti-virus software and fully support all the requirements in this SOW and its accompanying documents. Refer to the SOW for additional details concerning anti-virus capabilities that must be supported by the VSS renewal solution.	(M)				
<b>3.2.9 Encryption</b>						
3.2.9 Encryption	1. Communication between the RCMP and CBSA will be encrypted and the payload will be digitally signed. The RCMP IMM Interface Device (SSL/LB) will manage the decryption and certificate processing; and provide the payload to the VSS Web Servers in clear text. There are no known encryption requirements for the VSS renewal solution.	(I)				
3.2.9 Encryption	2. Any data transmitted outside the designated security zones must be encrypted. The VSS renewal solution must identify any aspect of the VSS that would require data transmission outside the current zones already defined for the RTID AFIS in the Contractor's proposal and the System Design documents; and receive approval to allow this transmission from the RCMP prior to submission of the proposal or the proposal may be considered non-compliant.	(M)				

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<b>3.2.10 Quality and Matching Algorithms</b>						
3.2.10 Quality and Matching Algorithms	1. The VSS renewal solution shall ensure that the algorithms used to determine fingerprint image quality and perform the 1:1 matching are identical in both AFIS renewal solution and in the VSS renewal solution.	(M)				
3.2.10 Quality and Matching Algorithms	2. The VSS renewal solution shall comply with strict Configuration Management policies to ensure applicable baseline changes to the AFIS renewal solution are also applied to the VSS renewal solution.	(M)				
<b>3.3 Verification Volumetrics</b>						
3.3 Verification Volumetrics	1. The VSS shall be designed to support the forecasted 2019 volumes of transactions as stated in Annex B.	(M)				
<b>3.4 VSS Production Environments</b>						
<b>3.4.1 General</b>						
3.4.1 General	1. The proposed VSS Production environments: <ul style="list-style-type: none"> <li>a. Must support a load balanced workload across both the Primary site (PR) and the Disaster Recovery (DR) site; and</li> <li>b. Must have the capacity to process 100% of the transaction volumes for 2019 according to the performance identified in Annex B.</li> </ul>	(M)				
<b>3.4.2 Primary (PR) Site</b>						
3.4.2 Primary (PR) Site	1. The proposed VSS PR site: <ul style="list-style-type: none"> <li>a. Will support a load balanced workload.</li> </ul>	(M)				

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	b. Must have the capacity to process 75% of the transaction volumes for 2019 at one site. That is, in case of a site failure at least 75% of the 2019 transaction volumes must continue to be processed according to the performance identified in Annex B. c. Must support no single point of failure within a single site within its design. d. Must support system synchronization with the PR and DR sites. In the event that configured environment(s) is/are not available, the proposed solution must be able to store all updates and then apply them automatically to the environment(s) once the environment(s) become available.					
<b>3.4.3 Disaster Recovery (DR) Site</b>						
3.4.3 Disaster Recovery (DR) Site	1. In the case of Immigration Verification, the DR site will be classed as a live secondary Production site and will share evenly in the processing of the Production Verification workload. The VSS renewal solution must support this live secondary Production capability as an active-active dual data center model utilizing all available capacity.	(M)				
3.4.3 Disaster Recovery (DR) Site	2. The proposed DR environment VSS: a. Will support a load balanced workload; b. Must have the capacity to process 75% of the transaction volumes for 2019 according to the performance identified in Annex B; c. Must support no single point of failure within a single site within its design; and	(M)				

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	d. Will automatically receive its database updates from the AFIS renewal solution PR when the PR site is recovered.					
3.4.3 Disaster Recovery (DR) Site	3. The VSS renewal solution shall provide a fully operational Disaster Recovery (DR) solution for the VSS. That is, the VSS is to remain operational at the DR site.	(M)				
3.4.3 Disaster Recovery (DR) Site	4. The solution shall include at a minimum: a. Recovery strategy and plan; and b. Operational procedures.	(M)				
3.4.3 Disaster Recovery (DR) Site	5. The VSS DR site must be isolated from the primary site so it is fully testable and updatable without affecting the primary site operations. This will enable upgrades/changes at the DR site to be completed and verified while VSS remains operational at the PR site and then the DR site can remain operational while the PR site is upgraded/changed; therefore, minimizes actual VSS outages. a. RCMP will provide load balancing to both the PR and DR site; b. RCMP will provide automatic network failover to the DR site in case of a PR site failure; and c. RCMP will provide test stubs to simulate CBSA submissions for test purposes that fully support the ICD for IEC and the TRB Verification Interface Specification document.	(M)				
<b>3.5 Error Messaging</b>						
<b>3.5.1 General</b>						
3.5.1 General	1. The VSS renewal solution shall develop and document all the errors messages to be returned during VSS operations as part of	(M)				

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	the Contractor's proposal and the System Design documents. The minimum error messages that must be supported are identified in the SOW and its accompanying documents. Refer to TRB Verification Interface Specification Document and Attachment D-1 herein for additional details.					
3.5.1 General	2. All application errors shall be logged in the Audit Log.	(M)				
<b>3.5.2 Types of Error Returned by ERRV</b>						
3.5.2 Types of Error Returned by ERRV	1. The VSS renewal solution shall support a list of Error Codes and associated Error Message text, in English and French, for errors that can be returned in an ERRV transaction.	(M)				
3.5.2 Types of Error Returned by ERRV	2. Error Code and Text shall comply with the Error tag defined in the ICD for IEC under the ERRV transaction type. The text shall include both English and French text.	(M)				
3.5.2 Types of Error Returned by ERRV	3. Sample error conditions and associated messages can be found in Attachment D-1.	(I)				
<b>3.5.3 Error Not Carried by an ERRV Transaction</b>						
3.5.3 Error Not Carried by an ERRV Transaction	1. There will be instances where the payload is so badly corrupted, or entirely missing, that there will not be enough information to return an error in the form of an ERRV. The VSS renewal solution shall capture that event and reply with a commonly used HTTP error appropriate for the type of error situation.	(M)				
3.5.3 Error Not Carried by an	2. The VSS renewal solution must also record the event and raise an alert for communication failures, for example HTTP protocol errors such as:	(M)				

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<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
ERRV Transaction	a. 4xx – Client Error; b. 5xx – Server Error (RCMP web server is down, is unreachable, etc.); and c. Non ERRV error messages.					
<b>3.6 Verification Data Retention and Lifecycle</b>						
3.6 Verification Data Retention and Lifecycle	1. The VSS renewal solution shall retain processing data and associated NIST packets for a minimum configurable time period: a. This period will initially be set to 180 days; and b. The data retention period will be configurable by an Authorized User at a minimum by units of days.	(M)				
3.6 Verification Data Retention and Lifecycle	2. Upon expiry of the Verification data retention period, the VSS shall remove the processing data from the operational environment and any other associated data. All event/activities including this data removal from the operational environment are auditable events that must be recorded in the Audit Log.	(M)				
3.6 Verification Data Retention and Lifecycle	3. The retention of fingerprint images from incoming VER transactions shall be configurable, with an initial default retention of 180 days.	(M)				
3.6 Verification Data Retention and Lifecycle	4. All received VER transactions in their original NIST packet form must be recorded in the Audit Log.	(M)				
3.6 Verification Data Retention and Lifecycle	5. The Audit Log shall be retained indefinitely.	(M)				

Annex D to Appendix A: Verification Subsystem Detailed Requirements: Chapter 3. Verification System and Technical Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>3.7 Sizing and Capacity</b>						
3.7 Sizing and Capacity	1. The Contractor's proposal shall provide, as part of its design proposal, an analysis of the following requirements, based on the functional and technical requirements stated throughout this SOW and its accompanying documents. <ul style="list-style-type: none"> <li>a. Database sizing analysis for the VSS;</li> <li>b. SAN sizing analysis for the VSS;</li> <li>c. AFIS renewal solution workstation sizing analysis for the VSS;</li> <li>d. VSS renewal solution fingerprint processing sizing analysis to satisfy the requirements stated throughout this SOW and its accompanying documents; and</li> <li>e. VSS renewal solution server sizing analysis.</li> </ul>	(M)				

## 1.6 Annex E to Appendix A: Latent Case Management Capability Detailed Requirements – v9b

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 1. Introduction						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>1.1 General</b>						
1.1 General	1. This Annex E to the Appendix A SOW describes the detailed requirements to replace the existing Electronic Latent Management Operations (ELMO) with a Latent Case Management Capability (LCMC) that is integrated with the AFIS renewal solution. These requirements are in addition to the high-level requirements stated throughout the SOW and its accompanying documents.	(I)				
1.1 General	2. This document identifies what the Contractor's LCMC must provide in order to satisfy the RCMP's requirements for managing all latent cases processed on the AFIS renewal solution. It describes the functional and technical requirements that must be provided by the Contractor's LCMC to support the business, interface, capacity, quality and security requirements of the RCMP.	(M)				
<b>1.2 LCMC Replacement Concept</b>						
1.2 LCMC Replacement Concept	1. The LCMC must be a replacement of the existing ELMO and must be an integrated solution with the Contractor's AFIS renewal solution. That is, the LCMC/AFIS users must be able to seamlessly interface between the LCMC and AFIS to send fingerprints for search from the LCMC and perform all other required capabilities stated in this SOW and its accompanying documents.	(M)				

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 1. Introduction</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
1.2 LCMC Replacement Concept	2. The LCMC and AFIS users are the same users that must use the same AFIS windows workstation to perform either LCMC or AFIS activities. Performing latent case management activities are part of the daily activities for an AFIS Latent Fingerprint Analyst.	(M)				
1.2 LCMC Replacement Concept	3. The preferred LCMC solution is an integrated capability within the AFIS renewal solution. This would provide a consistent User Interface (UI) for the LCMC/AFIS users and ensure there is no duplication of capabilities available in the LCMC and AFIS. That is, this integrated LCMC capability would be part of the AFIS renewal solution UI, where additional buttons or UI icons on the AFIS renewal solution UI would be clicked by the user to perform case management activities.	(R)				
1.2 LCMC Replacement Concept	4. If the Contractor chooses to use a third-party LCMC or the Contractor's separate LCMC product, the Contractor must provide an integrated LCMC solution. That is, it is the Contractor's responsibility to seamlessly integrate the Contractor's proposed LCMC with the AFIS renewal solution. For example, if there is an ident by an AFIS fingerprint technician, the ident result must be immediately available in the LCMC where another user views the results following the ident.	(M)				
1.2 LCMC Replacement Concept	5. ELMO currently records in its database a significant portion of data that is also recorded in AFIS. The LCMC should eliminate all of this duplication.	(R)				
1.2 LCMC Replacement Concept	6. The LCMC must eliminate all this duplication from an AFIS/LCMC user perspective. That is, with an integrated LCMC solution, this duplication would be inherently eliminated. If the Contractor chooses a third-party or separate LCMC, the Contractor must	(M)				

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 1. Introduction</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	ensure any duplication between the LCMC and the AFIS renewal solution is seamless to the user.					
1.2 LCMC Replacement Concept	7. The Contractor's solution must include the database conversion from the existing ELMO Structured Query Language (SQL) database to the Contractor's LCMC/AFIS database.	(M)				
<b>1.3 Document Organization</b>						
1.3 Document Organization	1. The AFIS ICD changes, defined in AFIS ICD 2.1, required to support the LCMC are explained herein along with a description of the AFIS/LCMC workflow applicable to the LCMC requirements.	(I)				
1.3 Document Organization	2. The workflow shows the sequence of AFIS processing that will be altered to provide the AFIS renewal solution with the additional data that must be managed by LCMC. That is, the existing AFIS ICD 2.0 transaction sent from NNS and the AFIS renewal solution processing required to support the AFIS ICD 2.0 includes most of the data required for LCMC. The altered workflow highlights the additional transactions required to provide AFIS with additional data that must be managed by LCMC.	(M)				
1.3 Document Organization	3. The detailed functional requirements to be supported by the LCMC are presented following the workflow.	(I)				
1.3 Document Organization	4. There are technical requirements included with the functional requirements to ensure clarity concerning the requirements. However, most of the detailed technical and implementation requirements that must be supported by the LCMC are included within the Annex B AFIS renewal solution detailed requirements.	(M)				

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 1. Introduction</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
1.3 Document Organization	5. This annex is intended to be read after reviewing the AFIS detailed requirements in Annex B.	(I)				
<b>1.4 Definitions</b>						
1.4 Definitions	1. A “production administrator” (prod admin) is a non-technical AFIS user who monitors the system, sets up new users, produces reports, sets configurable parameters and performs a variety of AFIS support functions. An operational production administrator is not a technical support person and as such uses a UI to carry out tasks on the system.	(I)				
1.4 Definitions	2. A “technician” is a fingerprint technician using the AFIS to perform specific AFIS production functions such as Ten Print Quality Control, Verification, Certification, and so on.	(I)				
1.4 Definitions	3. A “latent technician” (aka Central Latent analyst) is an experienced fingerprint technician specializing in the identification of crime scene prints. The term “technician” is sometimes used within the context of the specific function they are performing (e.g., Quality Control (QC) technician). The Central Latent Analysts at RCMP Headquarters will use LCMC to manage the processing of Central Latent cases.	(I)				
1.4 Definitions	4. A “supervisor” is an AFIS user who supervises a group of fingerprint technicians. Ten Print and Latent supervisors also deal with high priority searches and difficult transactions. Latent supervisors also perform all other latent functions.	(I)				
1.4 Definitions	5. A “remote operator” is a fingerprint technician located at a remote AFIS site who is performing latent and ten print searches against	(I)				

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 1. Introduction</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	the RCMP TPF and ULF. This operator has been trained and is regularly monitored by the RCMP.					
1.4 Definitions	6. An “uncertified remote operator” is an individual who is going through the training period allowing the Remote Network Search Coordinator (RNSC) to monitor their work.	(I)				
1.4 Definitions	7. The “Remote Network Search Coordinators (RNSCs)” are senior latent technicians located at the RCMP who are responsible for coaching and monitoring remote operators.	(I)				
1.4 Definitions	8. “Operator” and “user” are used interchangeably in these requirements and always refer to production users. The Role Based Access Controls (RBAC) defined in Annex B apply to LCMC. LCMC user activities simply reflect the access privileges allowed for the role.	(I)				
1.4 Definitions	9. “Operational Support” (OPS) is a 24/7/365 user in the RCMP / Shared Services Canada (SSC) data center responsible for monitoring server alarms and taking action based on predefined guidelines to recover from whatever failure might occur. Since the Contractor is responsible for AFIS support, typically OPS will simply contact the AFIS Contractor resources to alert them of any failures and the AFIS Contractor resources will resolve the issue.	(I)				
1.4 Definitions	10. “Assignment user” is an AFIS/LCMC user responsible for assigning incoming work to individual latent technicians. Other roles related to case management are included in Annex B.	(I)				
1.4 Definitions	11. “LCMC user” is an AFIS user, managed through the same user management capability as described in the AFIS renewal solution. The LCMC roles are used to distinguish normal AFIS	(I)				

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 1. Introduction						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	processing from case management; however, this does not mean that the AFIS processing and LCMC activities need to be separate. The LCMC portion of the requirements is primarily a different view of the data used and created in the AFIS renewal solution processing which includes more data than typically viewed during AFIS fingerprint processing.					
1.4 Definitions	12. "Latent Case" or "Case" refers to the latent case that the Contributor maintains on their premises. A latent submission refers to the search request that they submit for search as part of their latent case. Each latent case will be made up of one (1) or more latent submissions. Latent submissions are currently restricted as to how many images may be included. If there are more images available for the latent case than is allowed in an individual latent submission then multiple latent submissions will be submitted.	(I)				
1.4 Definitions	13. "Central Latent Client (CLC) user" refers to a user supported through NNS to submit latent images for cases that must be managed by LCMC. The average CLC user is an RCMP detachment user or a user at an agency that is supported by central latent processing. There is also a concept of a CLC internal user (i.e. central latent user), where this internal CLC user submits latent images for cases on-behalf-of other detachments or agencies. From an AFIS ICD perspective there is no difference between an on-behalf-of submission and an average CLC user submission.	(I)				

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 2. LCMC ICD Changes and Workflow						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>2.1 LCMC ICD Changes</b>						
2.1 LCMC ICD Changes	1. The AFIS ICD 2.1 identifies the specific transaction details that must be supported by the LCMC/AFIS renewal solution; however, there are many other transactions that contain data and processing which also must be used by LCMC.	(M)				
2.1 LCMC ICD Changes	2. The following are brief descriptions of each key workflow change required for LCMC that must be used by LCMC. a. Latent Fingerprint Submission (LFSNSI) – This Type of Transaction (TOT) includes all data related to a submission that is available from the initial submission by the CLC user. It includes case file information and up to 10 images (i.e., object shots and/or latent impressions). The LCMC/AFIS must manage all of the latent related data included in the LFSNSI and make this data available as required as stated throughout this SOW and its accompanying documents; b. Subject File Fetch Response (SFFRI) – This TOT is used by NNS to provide the LCMC/AFIS renewal solution with identification related data associated with the processing of the submission, typically referred to as Criminal Record Information Fetch Internal (CRIFI) data. For example, this data includes last name, first name, Date of Birth (DOB), etc. and identifies whether the transaction has hit to a young offender, restricted/sensitive file, pardon file, etc. Refer to the AFIS ICD for details concerning this SFFRI TOT. This data must be available to the LCMC/AFIS user and be maintained by AFIS as part of the LCMC/AFIS data associated with the	(M)				

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 2. LCMC ICD Changes and Workflow						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<p>latent image ID. This data is used to make a decision on the content and release-ability of a search response message;</p> <p>c. Latent Submission Result Internal (LSRI) – When a re-launch (e.g., cold case research) is performed by an LCMC/AFIS user, LCMC/AFIS must send an LSRI to NNS indicating that a new search has been initiated from AFIS. The LCMC/AFIS must generate the next available Latent Image ID (related to the Latent Submission) for the image that is being re-launched from LCMC/AFIS; and</p> <p>d. Search Response Message (SRMI) – The SRMI is used by AFIS/LCMC to inform NNS that an email notification must be sent to the Contributor via CLC alerting them that there has been an update to the latent file number associated with their case. This email notification is a clear text Internet email; therefore, there is no protected data included in the email. The actual response message content indicates the result of the search (e.g. Negative, Negative – not retained, Unsuitable, Positive, Cancellation) without including any information about individuals. The Contributor, using CLC, will view the result through NNS which will obtain the result recorded in the LCMC/AFIS renewal solution. Refer to details concerning the LCMC read-only database view and Annex B information on how NNS uses the view to present the response message content to the contributor through a secure connection.</p>					

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 2. LCMC ICD Changes and Workflow						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>2.2 AFIS Renewal Workflow</b>						
2.2 AFIS Renewal Workflow	1. This subsection presents an example workflow that shows the AFIS ICD 2.1 changes within an existing workflow. This Latent Fingerprint Submission (LFSNS) workflow example includes an ident in order to show how the AFIS ICD 2.1 transactions fit into the workflow.	(I)				
2.2 AFIS Renewal Workflow	2. The LSRI is an existing AFIS ICD 2.0 transaction; therefore, it is only highlighted in the modified workflow for LCMC related changes. For a latent re-launch the LSRI will be used in virtually the same manner as it is with the existing workflow; however, NNS processing will be slightly different to support receiving an LSRI without an associated Latent Fingerprint (image) Submission Internal (LFSI). The existing RTID system uses ELMO to re-launch a latent search, which creates an LFSI which is sent to AFIS and after latent processing AFIS sends an LSRI to NNS for the LFSI initiated through ELMO/NNS.	(I)				
2.2 AFIS Renewal Workflow	3. With ELMO replaced by LCMC, the alternative method presented herein shall re-launch a latent from AFIS and ensure all processing and data necessary to support all the requirements stated throughout this SOW and its accompanying documents are satisfied.	(M)				
2.2 AFIS Renewal Workflow	4. Depending on the Contractor's processing around re-launches, it is possible other workflow changes not identified herein will be necessary to support the AFIS ICD 2.1 changes. It is the Contractor's responsibility to understand how each workflow will be impacted by the AFIS ICD 2.1 changes within the context of the Contractor's LCMC/AFIS renewal solution. The AFIS ICDs	(M)				

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 2. LCMC ICD Changes and Workflow</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	identify every transaction that must be received and processed by the AFIS renewal solution as well as every transaction that must be created by the AFIS renewal solution while processing any workflow. The sequence of activities, the ICDs and the requirements stated throughout this SOW and its accompanying documents must be used by the Contractor to understand the requirements.					
2.2 AFIS Renewal Workflow	5. If necessary and only for the modified portion of the workflows in support of the new requirements, the RCMP may allow adjustments to the workflow. It is at the sole discretion of the RCMP whether to allow any adjustment to the modified portion of the workflows required to support the new requirements. The Contractor is encouraged to get written approval from the RCMP prior to identifying any changes to avoid a potentially non-compliant bid submission.	(I)				
2.2 AFIS Renewal Workflow	6. There will be no changes allowed to the existing workflows, unless specifically stated in this SOW or its accompanying documents. The NNS is fully operational and already supports the workflows with a specific sequence of activities. The NNS will not be changed to adjust to the AFIS renewal solution unless specifically indicated herein or agreed to in writing by the RCMP.	(I)				
<b>2.2.1 Central Latent Workflow</b>						
2.2.1 Central Latent Workflow	1. Table 2-1: Central Latent Workflow shows the sequence of activities for an existing central latent submission. The AFIS renewal solution must receive and correctly process each AFIS ICD NIST transaction sent to the AFIS renewal solution as well as respond back to NNS with the required AFIS ICD NIST	(M)				

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 2. LCMC ICD Changes and Workflow</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	transaction correctly populated with the data required by the NNS in the sequence required for each workflow.					
2.2.1 Central Latent Workflow	2. Note: The following example is an existing flow which has been modified; therefore, this flow may not precisely reflect the resulting workflow for this central latent transaction.	(I)				
2.2.1 Central Latent Workflow	3. Table 2-1 shows all activities for an LFSNS submission to reflect the other non-AFIS activities that also occur throughout this process. These non-AFIS activities allow a better understanding of the overall processing, shows how the data that will be sent to the AFIS renewal solution is derived and how the data received from the AFIS renewal solution would be used. The specific details concerning this LFSNS transaction can be viewed in Annex B where almost every step in the LFSNS transaction is explained.	(I)				
2.2.1 Central Latent Workflow	4. The purpose of showing the above workflow is to demonstrate where in the workflow that the new AFIS ICD 2.1 TOTs used for LCMC fit into the processing as well as previous ELMO activities which must be supported by LCMC/AFIS.	(M)				

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>3.1 LCMC COTS Compliance</b>						
3.1 LCMC COTS Compliance	1. The LCMC should be a Commercial Off-the-Shelf (COTS) software product to the greatest extent possible.	(R)				
3.1 LCMC COTS Compliance	2. This COTS product should be customizable to modify, extend, expand and/or introduce new functionality to the COTS product to support the LCMC requirements stated in this SOW and its accompanying documents.	(R)				
3.1 LCMC COTS Compliance	3. This COTS product must be configurable to support changes or additions made to the base set of data values of the COTS product to reflect the requirements of the RCMP.	(M)				
3.1 LCMC COTS Compliance	4. These application configuration changes should not include modifying existing or adding new programming code, or changing the application architecture or data structure.	(R)				
3.1 LCMC COTS Compliance	5. The Contractor shall migrate RCMP-specific functionality as the LCMC COTS baseline evolves over the life of the contract. RCMP must have the ability to upgrade the COTS as upgrades become available.	(M)				
3.1 LCMC COTS Compliance	6. The Contractor should describe in detail its strategy for migrating RTID-specific functionality as the LCMC COTS baseline evolves over the life of the contract addressing the extent to which it will include custom features into its COTS product and to what extent that the Contractor's strategy will minimize disruption in terms of availability if RCMP chooses to implement an upgrade.	(R)				

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>3.2 General</b>						
3.2 General	1. The Contractor must provide a fully operational LCMC that satisfies all the requirements stated in this SOW and its accompanying documents.	(M)				
3.2 General	2. The Contractor's solution must include the database conversion from the existing ELMO SQL database to the Contractor's LCMC database with full consideration to the AFIS database requiring conversion as identified in this SOW and its accompanying documents. That is, the ELMO database conversion into the Contractor's LCMC/AFIS database must link the ELMO data related to the AFIS data to create a fully operational LCMC / AFIS renewal solution with the ELMO and AFIS related data combined. This will ensure the historical record of data in ELMO is retained within the new LCMC / AFIS renewal solution system.	(M)				
3.2 General	3. The LCMC/AFIS must have the ability to record all actions that the user performs on an image such as rotate, centre, recalibrate, black/white reversal, edit minutia. The user actions must be recorded automatically based on the user's activity. Like all other auditable events/activities this record of actions must be retained as a historical record of activities and cannot be modified.	(M)				
3.2 General	4. This record of user actions must be available through a button or right mouse click and select type method, to view actions that were taken on the image (e.g. right mouse click on the Latent image to view recorded user actions).	(M)				
3.2 General	5. The LCMC must interface with RTID's NNS using the AFIS ICDs. The AFIS ICD 2.1 includes new transactions and existing	(M)				

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	transactions that were modified for this SOW to enable the communication of latent case management information to be exchanged between NNS and LCMC/AFIS.					
3.2 General	6. All AFIS renewal solution technical, transaction logging, auditing, reporting, workflow, and UI requirements must be extended to include the LCMC requirements. That is, the LCMC must be an integrated solution within the AFIS renewal solution; therefore, all of technical, processing and logging requirements that apply to the AFIS renewal solution also apply to LCMC. Consequently, these requirements have not been restated herein unless to specifically explain a requirement within LCMC.	(M)				
3.2 General	7. This document also contains a section describing the ELMO database primarily for database conversion purposes; however, also to ensure the requirements are understood.	(I)				
3.2 General	8. Although it is understood that the data may be stored differently in the LCMC solution, the intent and use of the data must be retained.	(M)				
3.2 General	9. The LCMC must support the performance requirements as stated in the performance requirements for AFIS.	(M)				
3.2 General	10. The AFIS/LCMC must enable the RCMP to manage and organize the latent fingerprint searching and case management data portion of the latent case on behalf of the contributor.	(M)				
<b>3.3 LCMC UI View</b>						
3.3 LCMC UI View	1. The LCMC/AFIS UI must allow the case related data to be queried and viewed, regardless of whether it is central or remote	(M)				

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	latent data. This UI view must be a combination of all data related to a case regardless of whether the data is part of the AFIS renewal solution work queue or data resulting from the completed processing of images related to the case.					
3.3 LCMC UI View	2. This LCMC UI view must allow all of the capabilities available through the work queue to be available in the LCMC UI view. That is, since the LCMC is intended to be a view of any available data related to a case, then work queue data would be included. Since work queue data includes data in various states of processing, the LCMC user must be able to take action on the transaction in the same manner as the work queue either directly or indirectly (e.g., through a right mouse click and pick an action). As well, all functionality available in the AFIS renewal solution UI must also be available in the LCMC UI based on the applicable state of the transaction. For example, configurable parameters for screen refresh rate, right mouse click or similar method to perform side-by-side, or perform database query, as well as appropriate buttons and icons for transaction processing.	(M)				
3.3 LCMC UI View	3. The LCMC must have a capability to allow an authorized user to assign work to a latent technician. This assignment user will assign incoming transactions to a specific technician based on the technician's user id, selected from a list of latent technicians.	(M)				
3.4 Logging of Activities						
3.4 Logging of Activities	1. The LCMC must be an integrated solution within the AFIS renewal solution; therefore, all the logging requirements stated in the AFIS renewal solution and throughout this SOW and its accompanying documents apply to the LCMC activities. Refer to	(M)				

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
	Annex B for additional information concerning logging that must record when, where and why, whatever happened and by whom, related to any request processed on the AFIS renewal solution. Consequently, all LCMC activities identified herein must be recorded as per the requirements in the AFIS renewal solution.					
<b>3.5 Workflow Management and Related Services</b>						
<b>3.5.1 LCMC Integrated in AFIS</b>						
3.5.1 LCMC Integrated in AFIS	1. The LCMC integrated into the AFIS renewal solution must create a seamless relationship between the AFIS functionality and the additional functionality required to satisfy the LCMC requirements.	(M)				
3.5.1 LCMC Integrated in AFIS	2. CLC users submit LFSNS transactions. The NNS creates one (1) LFSI transaction for each latent image in the LFSNS submission. Each LFSI transaction is sent to the AFIS renewal solution.	(I)				
3.5.1 LCMC Integrated in AFIS	3. Based on the AFIS renewal solution requirements, the Contractor's solution must be able to filter on any field in the work queue. The same requirements apply to the LCMC portion of the AFIS renewal solution; therefore, the LCMC/AFIS user can filter and organize, the work queue data or the non-work queue data that must be displayed, in the LCMC UI view to suit their processing requirements.	(M)				
3.5.1 LCMC Integrated in AFIS	4. In addition to the filters available in the AFIS renewal solution, the LCMC must allow an authorized user to filter the work queue based on transactions that are currently unassigned. This assignment user will assign submissions to individual latent technicians.	(M)				

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
3.5.1 LCMC Integrated in AFIS	5. Alternatively, if a user starts processing a currently unassigned transaction for a submission (e.g., submitted through an LFSI), then the LCMC/AFIS must automatically assign the submission to that user. As described in Annex B regarding WIP transactions, this assignment of a transaction to a user does not prohibit another user from taking responsibility for the transaction and continuing with whatever was saved by the previous user (e.g. if the user that saved and set aside the transaction was off sick).	(M)				
3.5.1 LCMC Integrated in AFIS	6. Typically the latent user is expected to filter the work queue for transactions assigned to them. While processing the transactions assigned to them, the AFIS renewal solution capabilities such as next transaction, previous transaction, etc. apply to the filtered queue of the user; therefore, allowing the user to focus on the work assigned to them.	(I)				
3.5.1 LCMC Integrated in AFIS	7. All of the activities and processing results (e.g., idents, non-idents) of the transactions by the user must be recorded for the transaction as per the AFIS renewal solution. The LCMC must allow the data for completed and in progress transactions to be viewed and actioned in an efficient and effective manner. The next subsection depicts mock up screens and describes the type of access to this data required by the LCMC/AFIS user. It is understood that every Contractor solution is likely different. These mock ups are created to explain the requirement and do not necessarily reflect a specific UI design. The Contractor must work with the RCMP to ensure the UI design effectively supports the LCMC/AFIS requirements.	(M)				

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>3.5.2 LCMC Mock Up</b>						
3.5.2 LCMC Mock Up	1. The LCMC user must be able to view LCMC/AFIS data in a manner effective for case management. The first mock up screen for LCMC (Figure 3-1: LCMC Search Criteria) is the search criteria screen which will be used to populate the LCMC UI main view screen (Figure 3-2: LCMC UI Main View).	(M)				
3.5.2 LCMC Mock Up	2. Figure 3-2: LCMC UI Main View depicts a summary view of a user viewing a list of cases for a contributor as well as the list of submissions for the selected case and the list of latent images with identifications for the selected submission. These three (3) windows on the same screen represent the manner in which RCMP latent technicians manage cases. The LCMC UI must present the case data in manner similar to what is depicted in the mock up screens herein.	(M)				
3.5.2 LCMC Mock Up	3. All searches to Federal Bureau of Investigation (FBI) initiated by the LCMC/AFIS renewal solution user must be automatically recorded under the latent file # with all other searches, with an indication that it was an FBI search (e.g., flag). This allows all activity to be associated with a case and allows the user to view all case related data.	(M)				
3.5.2 LCMC Mock Up	4. The following is a brief description of the three (3) windows of LCMC related data that the Contractor's solution must support. The implementation of the Contractor's LCMC solution will be completed in consultation with the RCMP to ensure the most effective and efficient use of the Contractor's LCMC solution is realized while fully supporting the LCMC requirements stated in this SOW and its accompanying documents.	(M)				

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<p>a. The first window in Figure 3-2: LCMC UI Main View must be populated based on the search criteria entered by the LCMC/AFIS user. The user must be able to use any field displayed within the first and/or second window as part of the search criteria, with wild cards for fields that are applicable for wild card searches. For any date fields, the user must be able to enter a date range;</p> <p>b. Figure 3-2: LCMC UI Main View shows a query on all cases (i.e., latent file #) for a contributor (e.g., Originating Agency Identifier (ORI): ON10306);</p> <p>c. The second window must be generated based on the selection in the first window. That is, all the submissions received for the case selected by the user must be displayed (e.g., ON10306-TESTCASE3);</p> <p>d. The third window must be generated based on the selection in the second window. That is, all latent images that resulted in an identification received under the submission must be displayed (e.g., submission Id 32132132); and</p> <p>e. All three (3) windows must have scroll bars to allow additional data to be viewed that does not fit in the window.</p>					
3.5.2 LCMC Mock Up	<p>5. All the data depicted in Figure 3-1: LCMC Search Criteria and Figure 3-2: LCMC UI Main View is data that must be presented and maintained by the LCMC/AFIS. Table 3-1: LCMC Field (Data) Descriptions describes the data depicted in the screen mock ups. All data must be automatically recorded or generated by the AFIS/LCMC, unless specifically stated. For example, a significant portion of the data is provided by NNS to AFIS through the LFSNSI and when an identification is made on AFIS, everything</p>	(M)				

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	related to the identification must be recorded automatically such as, result type, ident date, file #, ident finger/palm, minutia, position, etc.					
3.5.2 LCMC Mock Up	6. The LCMC/AFIS must allow any case data to be printed in a manner that is user friendly (e.g. print button, right mouse click and print) with the printed data including a heading wherever applicable. Potentially large fields such as internal notes must be effectively included with the other case data and must also be able to be printed on their own with enough case data associated with the note that ensures the user knows which case the notes are associated with.	(M)				
3.5.2 LCMC Mock Up	7. The LCMC/AFIS must allow associated identifications to be recorded and presented in the LCMC/AFIS UI like any other identification. The following explains the requirement that must be supported: a. As part of RCMP Latent processing, there are situations where no search is required to determine an identification. For example, if an identification is made on a latent in a case to a TP file number, the latent technician may want to compare the other latents in the case to the same TP file number. Since, multiple latents may be included in the case for the same individual, this associated identification method allows identifications to be made without requiring a search (Note: that there could be multiple subjects (i.e. file numbers) in the same case as other latent images could hit to different individuals); b. When this situation occurs, the LCMC must provide a method to allow the latent technician to analyze each latent in the	(M)				

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<p>case (if desired), using the normal side-by-side view and indicate whether the latent is verified (1st certified) to prints in the same file number. Essentially this is following the normal process as if a search would have been completed (i.e. verification of the ident is performed), except no search is required and the only candidates are the fingerprint cards of the file number that was identified to another latent in the case;</p> <p>c. The LCMC must have a user friendly method to allow additional latents in a case to be compared and analyzed against the TP file number of an existing latent in a case without searching (e.g. right mouse click on an existing latent and select associate; which would allow the Latent technician to analyze each latent in the case against any print in the TP file number of the existing latent identification);</p> <p>d. The LCMC must identify that the identification is resulting from an associated identification and ensure the type of identification is displayed in the UI (e.g. Search Type might be "associated");</p> <p>e. The LCMC must allow all applicable data in the searched identification to be included with the associated identification. That is, the automated search result data, such as number of minutia and position, would not be applicable for the associated identification; however, all other data recorded in the searched identification would be applicable (e.g. Ident Flags, DCN, Primary G1, Surname, etc.). The Ident Date would be the date of the association;</p>					

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	f. Only the data applicable for an associated identification will be retained and then later displayed in the UI; g. The LCMC must provide a method to allow a senior latent technician (e.g. supervisor) the ability to analyze each associated latent that has been verified (1st certified) and confirm the ident with a certification (2nd certify); and h. Like any other auditable events/activities, the LCMC must record these events/activities in the Transaction log / Audit log.					
3.5.3 LCMC Case Management Activity						
3.5.3 LCMC Case Management Activity	1. Since LCMC is an integrated solution within the AFIS renewal solution, all appropriate (i.e., valid with the context of the state of the transaction) AFIS renewal solution capabilities must be available while viewing the LCMC/AFIS data within the LCMC UI. Some of these AFIS renewal solution capabilities are referred to within the LCMC requirements to explain how the latent technicians perform case management; however, that does not mean the available AFIS renewal solution capabilities are limited within the LCMC. For example, if a user in the LCMC UI wants to process a transaction in a Work In Progress (WIP) state in the queue from the LCMC UI, they must be able to. That is, whether the LCMC/AFIS user is viewing a transaction in the latent work queue or in the LCMC UI, they must be able to process the transaction.	(M)				
3.5.3 LCMC Case	2. The following list explains the typical case management activities that the LCMC UI user will perform. The requirements are not limited to these activities. The full functionality that must be	(M)				

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
Management Activity	<p>provided by the LCMC is described throughout the SOW and its accompanying documents.</p> <ol style="list-style-type: none"> <li>a. The LCMC/AFIS user will enter query data to create a list of cases upon which they want to manage. Refer to previous subsection for search criteria details ;</li> <li>b. The LCMC/AFIS user must be able to re-query at any time, by clicking a query button or right mouse click within the first window and select query or some similar user friendly method. This re-query must refresh the data in all three (3) windows;</li> <li>c. The LCMC/AFIS user must be able to view transaction log data of all activities/actions on the latent file number using a right mouse click or similar method. This must be the same or similar to the data displayed under the Transaction Log reports in the AFIS renewal solution (Annex B). This view must use the events/activities identified in the AFIS renewal solution requirements. That is, the presentation for the LCMC/AFIS user may be different than the reporting requirements; however, the data and event/activity names used by this view and the reporting requirements must be the same;</li> <li>d. The LCMC/AFIS user will select a specific case from the query generated in the first window, which will populate the fields in the second window ("Submissions") which must include at least the data identified in Figure 3-2: LCMC UI Main View;</li> <li>e. The LCMC/AFIS must be able to perform any available AFIS renewal solution capabilities on a submission through a</li> </ol>					

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<p>button, a right mouse click and select, or similar method. The following are examples of what must be supported:</p> <ul style="list-style-type: none"> <li>i. View NIST packet to see all data in the NIST packet using the AFIS renewal solution NIST packet viewer,</li> <li>ii. View images, including object shots and latent impressions. Figure 3-3: View Case Images depicts an example of what is expected from this view images display, which includes image details presented in the AFIS renewal solution as well as thumbnail images. If the LCMC/AFIS user selects view images from the Latent Cases window then they would see thumbnail images of all images for the case. If the user selects view images from the Submissions window then they would see thumbnail images of all images for the submission,</li> <li>iii. If an image is selected by the user, while viewing these images, the image selected must be displayed in the same manner as if it was selected in the AFIS renewal solution. All capabilities, features and image adjustments available in the AFIS renewal solution while viewing an image must be available for the LCMC/AFIS user using the view images capability (e.g., rotate, zoom, crop, minutia on/off, compare to, etc.). Refer to Annex B for all capabilities that must be available when working on an image,; and</li> <li>iv. The image name of the thumbnail image must be displayed as well as an indication whether a Latent impression was added to the ULF (e.g. attribute showing it was added beside the image name, right mouse click on thumbnail image to see image attributes),</li> </ul>					

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>v. Post a response message to the contributor for a particular submission. A response is associated with a submission, and</li> <li>vi. Right mouse click or similar method to view internal notes or other fields that cannot be completely viewed in the LCMC UI views.</li> <li>f. The LCMC/AFIS user will select a specific submission from the second window, which will populate the fields in the third window ("Identification") which must include at least the data identified in Figure 3-2: LCMC UI Main View.</li> <li>g. The LCMC/AFIS must be able to perform any available AFIS renewal solution capabilities on a latent image through a button or a right mouse click and select or similar method. The following are a few examples of what must be supported:                             <ul style="list-style-type: none"> <li>i. View image, which must use the AFIS renewal solution view image UI which allows the user to perform all image capabilities. All capabilities, features and image adjustments available in the AFIS renewal solution while viewing an image must be available for the LCMC/AFIS user using the view images capability (e.g., rotate, zoom, crop, minutia on/off, etc.);</li> <li>ii. Select side-by-side comparison, which must use the AFIS renewal solution search feature to find the image that the LCMC/AFIS user wants to compare against;</li> <li>iii. View type-16 ident screen captured when the user indicates yes to the ident;</li> </ul> </li> </ul>					

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>iv. View "Ident to File number" data, which must allow all the data available on the file to be viewed (e.g., for a TP file ident data such as name, date of birth, sex, DCN);</li> <li>v. View transaction log of all activities/actions on the latent image. This must be the same or similar to the data displayed under the Transaction Log reports in the AFIS renewal solution (Annex B). This view must use the events/activities identified in the AFIS renewal solution requirements. That is, the presentation for the LCMC/AFIS user may be different than the reporting requirements; however, the data and event/activity names used by this view and the reporting requirements must be the same; and</li> <li>vi. Note: The LCMC/AFIS user must also be able to post a response message after a latent technician finishes processing a transaction selected through the work queue using processing available in the AFIS renewal solution. That is, this post a response function must be available to the user wherever applicable during LCMC or AFIS renewal solution processing.</li> </ul>					
3.5.3 LCMC Case Management Activity	3. The LCMC/AFIS user must be able to post a response message to the contributor at any time.	(M)				
3.5.3 LCMC Case Management Activity	4. LCMC/AFIS will store the Latent Search Response details so that it is available for Contributors to view using CLC. This will be part of the database view which will be used by NNS to display the data to the CLC user; and	(M)				

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
3.5.3 LCMC Case Management Activity	5. LCMC/AFIS will send a SRMI to NNS, which NNS will use to send a Notification Email to the Latent Search Request Contributing Member and the Contributors prime Email address (i.e., normally the members' supervisor). This will be an alert email indicating that the Contributor should use CLC to view the latest results of the latent search request. The results can only be viewed through a secure connection which CLC provides.	(M)				
<b>3.5.4 LCMC Additional Case Information</b>						
3.5.4 LCMC Additional Case Information	1. The LCMC must allow additional information to be viewed and maintained (i.e., normally expected Change, Read, Update and Delete (CRUD) functions) which is not on the LCMC UI Main View. This information must include all other data available related to the case. Refer to Figure 3-4: Additional Case Information for a screen mock-up of the minimum data that must be available. This information must be available through a right mouse click and select or button user friendly method. Table 3-2: Additional Information UI and Table 3-3: Additional Case Data Field Descriptions provides a description of each field.	(M)				
3.5.4 LCMC Additional Case Information	2. The LCMC must provide a UI to maintain the additional case data associated with a latent contributor. Any fields that can be modified from the data converted from ELMO into LCMC or specific fields received through LFSNSI must be modifiable by the LCMC/AFIS user. The specific fields that can be modified will be determined through consultation between the Contractor and the RCMP.	(M)				

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>3.5.5 2540 Form</b>						
3.5.5 2540 Form	1. The LCMC must be able to print a 2540 form (Figure 3-5: RCMP 2540 Form). The 2540 is currently used to assign work to individual latent technicians or respond to an agency that does not have electronic response capabilities. The forms are printed and stored in a basket for unassigned work. The latent technician will retrieve a 2540 from this basket and then select the transaction to work on under this case. This is the current method which will be examined as part of the analysis portion of the LCMC implementation to ensure requirements of the latent group are satisfied. There may be a transition period before moving to a fully electronic method of assigning work to latent technicians.	(M)				
<b>3.5.6 Contributor Address Book</b>						
3.5.6 Contributor Address Book	1. The LCMC must allow the contributor address book to be maintained through a UI (i.e., CRUD). The Contractor's LCMC solution must allow the LCMC/AFIS user to query and filter on any field in the contributor address book to easily find entries that require an update. Figure 3-6: Contributor Address Book identifies the fields that must be manageable through this UI. Table 3-4: Contributor Address Book Field Descriptions and Table 3-5: Contributor Address Book – Contributor Information Tab List provides a description of each field.	(M)				
3.5.6 Contributor Address Book	2. This contributor address book information must be easily accessible by the user with a button or right mouse click method.	(M)				

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 3. General LCMC Requirements</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
3.5.6 Contributor Address Book	3. Any fields that can be modified from the data converted from ELMO into LCMC, or specific fields received through LFSNSI that are allowed to be modified, must be modifiable by the LCMC/AFIS user. The specific fields that can be modified will be determined through consultation between the Contractor and the RCMP.	(M)				
3.5.6 Contributor Address Book	4. The LCMC must allow the contributor address book member information to be maintained (i.e., CRUD). Figure 3-7: Contributor Address Book Member Information identifies the fields that must be manageable through this UI. Table 3-6: Contributor Address Book – Member Information Tab Details and Table 3-7: Member Information Field Descriptions provides a description of each field.	(M)				

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 4. LCMC Database View</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>4.1 LCMC/AFIS CLC Database View Details</b>						
4.1 LCMC/AFIS CLC Database View Details	1. The LCMC/AFIS must provide a database view that allows the NNS to support the CLC user with the timely display of a limited set of data. These views, Table 4-1: LCMC/AFIS CLC Database View, are documented to the current ELMO database table and fields. The LCMC solution must provide database views that	(M)				

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 4. LCMC Database View						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	enable access to the equivalent data in the LCMC/AFIS database. Refer to Section 5 for details concerning these fields.					

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 5. ELMO Database Conversion						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
<b>5.1 ELMO Database Background</b>						
5.1 ELMO Database Background	1. This section provides a complete description of the current ELMO database as of May, 2016. ELMO was developed by the RCMP in 2002. At that time all Latent Search Requests were manually entered into ELMO. In 2009 RTID became part of the overall Central Latent Process. The NNS received Latent Submissions (LFS) from RAFIAS workstations, transformed them into an internal Latent packet (LFSNS) and directly populated the ELMO database with the received data. In 2015, the RCMP replaced the RAFIAS functionality with the Central Latent Client (CLC) application on the NNS. The NNS generates an Internal Packet (LFSNS) from the Latent Search Request data entered into CLC and directly populates the ELMO database with it.	(I)				
5.1 ELMO Database Background	2. Wherever possible, the RCMP will attempt to cleanse the data within the ELMO database before it is provided for conversion to the winning Contractor.	(I)				

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 5. ELMO Database Conversion</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>5.2 ELMO Database Conversion Details</b>						
5.2 ELMO Database Conversion Details	1. Figure 5-1: ELMO Database Tables diagrams the high-level relationships between the ELMO database tables (i.e., ELMO schema).	(I)				
5.2 ELMO Database Conversion Details	2. Table 5-1: ELMO Database Tables identifies the current ELMO database tables and provides a brief description of what they are used for. Tables not requiring migration to the LCMC solution are identified here.	(I)				
5.2 ELMO Database Conversion Details	3. Additionally each individual ELMO database table that is required to be migrated is described. Each individual table column documents its data type, data source, associated ELMO code table and whether the field is required to be migrated to the LCMC solution.	(I)				
5.2 ELMO Database Conversion Details	4. ELMO data has been identified herein as being required in LCMC. This conversion of ELMO data into a form usable in LCMC/AFIS will be completed by the Contractor in consultation with the RCMP.	(M)				
5.2 ELMO Database Conversion Details	5. The Contractor must produce reports for any discrepancies found in the ELMO data during the conversion process. These reports will include but not be limited to the following: a. Database field data that does not match the expected data type in type. b. Database field data that does not match the expected data type in size.	(M)				

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 5. ELMO Database Conversion						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>c. Database field data that does not match the mandatory requirement.</li> <li>d. Database field data that does not align to code table entry.</li> <li>e. Tables with Foreign Keys that do not align to Primary Keys in the associated tables.</li> </ul>					
<b>5.2.1 Elmo Schema</b>						
<b>5.2.2 ELMO Database –Tables Overview</b>						
5.2.2 ELMO Database – Tables Overview	<ol style="list-style-type: none"> <li>1. Each ELMO database table which contains data requiring migration to the LCMC database is described in this section. The column headers in this section include:                             <ul style="list-style-type: none"> <li>a. Column Name: the name of the database field</li> <li>b. Key: Indication whether the database field is a Primary Key (PK) or Foreign Key (FK)</li> <li>c. DB Type: Describes the database data type of the database field. The database types include:                                     <ul style="list-style-type: none"> <li>i. Tinyint: Tiny Integer (Allows whole numbers from 0 to 255)</li> <li>ii. Smallint: Small Integer (Allows whole numbers between - 32,768 and 32,767)</li> <li>iii. Int: Integer (Allows whole numbers between - 2,147,483,648 and 2,147,483,647)</li> <li>iv. Char(n): Fixed width character string. (Maximum of 8000 Characters)</li> <li>v. Text: Variable width character string. (Maximum 2GB of text data)</li> </ul> </li> </ul> </li> </ol>	(I)				

Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 5. ELMO Database Conversion						
Section	Submission Requirements	Mandatory / Rated	Compliant Y/N	COTS Y/N	Bidder's Response	Bidder Referenced Info.
	<ul style="list-style-type: none"> <li>vi. Varchar: Variable width character string. (Maximum 8,000 characters)</li> <li>vii. Nvarchar: Variable width Unicode string. (Maximum 4,000 characters)</li> <li>viii. Bit: (0 = False, 1 = True, NULL)</li> <li>ix. Datetime: From January 1, 1753 to December 31, 9999 with an accuracy of 3.33 milliseconds</li> <li>x. Smalldatetime: From January 1, 1900 to June 6, 2079 with an accuracy of one (1) minute. Default value 1900-01-01 00:00:00.</li> <li>xi. Timestamp: Stores a database-wide unique number that gets updated every time a row gets updated.</li> <li>d. Field Size per Occurrence (Min Max): The minimum and maximum allowable lengths where available.</li> <li>e. Field Source: The system responsible for the database field data (NNS and/or ELMO). Also provided is the source TOT and TAG where available.</li> <li>f. Code Table: The name of the ELMO table the value in the database field is associated to.</li> <li>g. Required in LCMC: Indicates whether the data in the database field is required to be available in LCMC. Depending on the solution this data may be represented in a different way or using a different vehicle.</li> <li>h. Notes: Contains any specific information that may be useful in describing the data held in the database field.</li> </ul>					

<b>Annex E to Appendix A: Latent Case Management Capability Detailed Requirements: Chapter 5. ELMO Database Conversion</b>						
<b>Section</b>	<b>Submission Requirements</b>	<b>Mandatory / Rated</b>	<b>Compliant Y/N</b>	<b>COTS Y/N</b>	<b>Bidder's Response</b>	<b>Bidder Referenced Info.</b>
<b>5.2.3 ELMO Requests Table</b>						
5.2.3 ELMO Requests Table	1. The ELMO Requests table stores information describing the overall latent case. There is one (1) Requests table record for every latent case. The Requests table contains information about the contributing Agency and Member, the offence and the current work queue (folder) of the latent case. Typically the Requests record is created from a CLC submission LFSNS that is received by the NNS. ELMO Users could also manually create new Latent Search Requests in order to record Remote Latent Idents from reverse searches, Foreign Search Idents and Reverse Search Ident information.	(I)				
<b>5.2.4 ELMO Submissions Table</b>						
5.2.4 ELMO Submissions Table	1. The ELMO Submissions Table is used to record individual Submission information pertaining to a Latent Search Request. There will be one (1) or more Submissions for every latent case (Requests record). The ELMO Submission Table stores information related to the individual Submission including the Member who initiated the Submission, Submission search results and the current status of the Submission.	(I)				
<b>5.2.5 ELMO Images Table</b>						
5.2.5 ELMO Images Table	1. The ELMO Images Table is used to record information about latent images received from Contributors. There will be one (1) to ten (10) images, which can include latent finger/palm images and object shots, for every Latent Submission. This Table records information about each latent image including the Image Name	(I)				

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	(R1), the file directory where the Image is stored and the probable digits / palm areas that the image may be identified to.					
<b>5.2.6 ELMO Idents Table</b>						
5.2.6 ELMO Idents Table	1. The ELMO Idents table is used to record any confirmed central latent to ten print, ten print to latent and foreign latent identifications. Typically this table is populated by the NNS upon receipt of the LSRI TOT from AFIS. ELMO is also used to record remote reverse search identifications as well as foreign identifications. This table records information about the subject hit to including Name, Year of Birth, Young Offender indicator and Criminal Record related information.	(I)				
<b>5.2.7 ELMO LatentSearch Table</b>						
5.2.7 ELMO LatentSearch Table	1. The ELMO LatentSearch table is used to store information regarding Latent Image processing in AFIS. The NNS will create a LatentSearch record for an Image upon receipt of a Latent Commit (LTCL) packet from AFIS. The NNS will update the record upon receipt of a Status (STI) packet from AFIS. For a STI with a Time Stamp Counter (TSC) = 12 (Wait Lasso), the NNS will check if the Latent Image ID already exists in the LatentSearch table. If it does not exist, the NNS will insert a new record into the LatentSearch table.	(I)				
<b>5.2.8 ELMO LatentSearchResponse Table</b>						
5.2.8 ELMO LatentSearchResponse Table	1. The ELMO LatentSearchResponse table is used to store Latent Search Results. Contributors will use the Central Latent Client on	(I)				

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	the NNS to access their Latent Search Responses. This table was developed to support Central Latent Client functionality.					
<b>5.2.9 ELMO LatentSearchResult Table</b>						
5.2.9 ELMO LatentSearchResult Table	1. The ELMO LatentSearchResult table is used to store the results of Latent Image searches performed using AFIS. The NNS populates this table using Latent Search Result (LSRI) and Internal Latent Cancel (LCANI) packets from AFIS.	(I)				
<b>5.2.10 ELMO LatentCertificationScreen Table</b>						
5.2.10 ELMO LatentCertificationScreen Table	1. The ELMO LatentCertificationScreen table is used to record information about the Latent Certification screen capture. Certification Screen captures are available for viewing using ELMO.	(I)				
<b>5.2.11 ELMO Folders Table</b>						
5.2.11 ELMO Folders Table	1. The ELMO Folders table stores information about the various folders that Latent Search Requests can be associated to. Latent Search Requests are associated through different Folders as they are processed through NNS, AFIS and ELMO. This concept of folders can be generally related to a status in AFIS. The requirements described herein explain the correlation between the ELMO folder system and the AFIS status. This folder system is required with ELMO because ELMO and AFIS are two (2) separate applications recording a lot of the same data.	(I)				

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<b>5.2.12 ELMO Contributors Table</b>						
5.2.12 ELMO Contributors Table	1. The ELMO Contributors table is used to store information describing the Central Latent contributors. Current and previous Contributors are identified here.	(I)				
<b>5.2.13 ELMO ContributorRegions Table</b>						
5.2.13 ELMO ContributorRegions Table	1. The ELMO ContributorRegions table is used to associate the RCMP Region that the Contributor is part of. This table is no longer of value to the RCMP and is not required for the conversion.	(I)				
<b>5.2.14 ELMO ContributorMembers Table</b>						
5.2.14 ELMO ContributorMembers Table	1. The ELMO ContributorMembers table stores information about members that contribute Central Latent Search Request information to the RCMP. This information is used when a contributing member needs to be contacted. When a Latent Submission is received and the submitting Member does not exist in the ELMO ContributorMembers table, the NNS will create a new ContributorMembers record and use information from the RCMPs Lightweight Directory Access Protocol (LDAP) Directory to populate the record. With the LCMC implementation this data will be provided to the LCMC/AFIS through the LFSNSI TOT.	(I)				
<b>5.2.15 ELMO Users Table</b>						
5.2.15 ELMO Users Table	1. The ELMO Users table stores information about any users that are required to access ELMO. The table contains the users ELMO user name and password, real name, user access rights (read only, supervisor, administrator). All ELMO User records are	(M)				

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	created and maintained using the ELMO UI. Note that many ELMO tables store the "username" to track the user who created or updated individual records in the table. The ELMO Users table also contains the HRMIS ID that corresponds to those usernames. The AFIS renewal solution user management capabilities replace the user access and RBAC; therefore, the Contractor must determine how this data can be effectively converted to the LCMC/AFIS renewal user management data in the LCMC/AFIS user management. The HRMIS ID is available in the AFIS user management database that must be converted; therefore, it is possible that this will provide a possible link between this data.					
<b>5.2.16 ELMO Messages Table</b>						
5.2.16 ELMO Messages Table	1. The ELMO Messages table stores the canned messages that will be used to populate the ELMO "CLC Message" text block on the Submissions Pane when a Result Type is entered. The "CLC/Message" text block becomes part of the Search Response that is presented to the Contributor. Today the NNS stores these messages and this table is used for the generation of reports in ELMO only.	(I)				
<b>5.2.17 ELMO ActivityLog Table</b>						
5.2.17 ELMO ActivityLog Table	1. The ELMO ActivityLog table is used to store activities related to the processing of Central Latent Search Requests. Logged events include when a submission is received, when a submission is modified, when the 2540 is printed, when a submission latent image is committed, when a certification/verification happens, when an Identification occurs,	(M)				

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	etc. It must be determined between the Contractor and the RCMP if this activity log can be converted since most of the data retained in this table would be expected to be part of the logging included in the AFIS renewal solution.					
<b>5.2.18 ELMO Offences Table</b>						
5.2.18 ELMO Offences Table	1. The ELMO Offences Table contains the Operating Statistics and Reporting Code (OSR) that is used to describe the crime type the Latent Submission is for. This table stores the Retention Period that the Latent Image should be stored for, if there is not an Identification.	(I)				
<b>5.2.19 ELMO Lookups Table</b>						
5.2.19 ELMO Lookups Table	1. The ELMO Lookups table stores the drop-down codes and values that are used by ELMO.	(I)				
<b>5.2.20 ELMO Stats Table</b>						
5.2.20 ELMO Stats Table	1. The ELMO Stats table is used to maintain statistics on Latent Identifications. It is used to display to the ELMO user the current number of Identifications for the month and year. It is populated by the NNS upon receipt of the LSR transaction with "Idents" from AFIS. The stats table is not expected to be converted since most of the data retained in this table would be expected to be part of the data recorded in the AFIS renewal solution.	(I)				

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<b>5.2.21 ELMO StatesSearchs Table</b>						
5.2.21 ELMO StatesSearchs Table	1. The ELMO StateSearchs table is used to store information on requests for Latent Searches to American states. These requests are normally received by email and are carried out manually. The information is expected to be manually entered using the Additional Information UI menu option on the LCMC Management UI.	(I)				
<b>5.2.22 ELMO InterpolSearchs Table</b>						
5.2.22 ELMO InterpolSearchs Table	1. The ELMO InterpolSearchs table is used to store information on requests for Latent Searches to foreign countries other than the United States. These requests are normally received by email and are carried out manually. The information is expected to be manually entered using the Additional Information UI menu option on the LCMC Management UI.	(I)				