

**RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:**

**Bid Receiving - PWGSC / Réception des
soumissions - TPSGC**

11 Laurier St. / 11, rue Laurier

Place du Portage, Phase III

Core 0A1 / Noyau 0A1

Gatineau

Quebec

K1A 0S5

Bid Fax: (819) 997-9776

**REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION**

**Proposal To: Public Works and Government
Services Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Proposition aux: Travaux Publics et Services
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Title - Sujet ICSS FOR NCR	
Solicitation No. - N° de l'invitation 2B0KB-130262/A	Date 2012-06-08
Client Reference No. - N° de référence du client 20130262	
GETS Reference No. - N° de référence de SEAG PW-\$\$EO-017-24526	
File No. - N° de dossier 017eo.2B0KB-130262	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2012-06-29	Time Zone Fuseau horaire Eastern Daylight Saving Time EDT
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: St-Onge, Josée	Buyer Id - Id de l'acheteur 017eo
Telephone No. - N° de téléphone (819) 956-0576 ()	FAX No. - N° de FAX (819) 934-1411
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: SHARED SERVICES CANADA AIRPORT PARKWAY DATA CENTRE 700 MONTREAL RD., BLDG C, 8TH FL. OTTAWA Ontario K1A0P7 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

Raison sociale et adresse du

fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution

Network and Satellite Services Division / Division des
services de satellite et de réseaux

11 Laurier St. / 11, rue Laurier

Place du Portage, Phase III, 4C2

Gatineau

Quebec

K1A 0S5

Delivery Required - Livraison exigée See Herein	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

BID SOLICITATION **INTEGRATED COMMUNICATIONS AND SUPPORT SERVICES (ICSS)** **FOR** **SHARED SERVICES CANADA**

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List of Annexes to the Resulting Contract:

Annex A Statement of Work

Annex B Pricing Tables:

- Annex B1 - Master Price List
- Annex B2 - Installation Services
- Annex B3 - Moves, Additions and Changes (MAC's)
- Annex B4 - Support Resources
- Annex B5 - Published Price List (PPL) for Accessories and Parts
- Annex B6 - Pricing Workbook Guide

Annex C Security Requirements Check List (SRCL)

Bidders Forms:

- Form 1 - Bid Submission Form
- Form 2 - Substantiation of Technical Compliance Form
- Form 3A - Off-the-Shelf Form
- Form 3B - OEM Certification Form
- Form 4A - Software Publisher Certification Form
- Form 4B - Software Publisher Authorization Form
- Form 5 - Canadian Content Certification
- Form 6A - Customer Reference Contact Information
- Form 7 - Certification for origin of Hardware and Software

Note: Please note that Annexes B and C is on Merx as attachments.

BID SOLICITATION FOR INTEGRATED COMMUNICATIONS AND SUPPORT SERVICES (ICSS) FOR SHARED SERVICES CANADA

PART 1 - GENERAL INFORMATION

1.1 Introduction

The bid solicitation and resulting contract document is divided into seven parts plus annexes as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation and states that the Bidder agrees to be bound by the clauses and conditions contained in all parts of the bid solicitation;
- Part 3 Bid Preparation Instructions: provides bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, if applicable, and the basis of selection;
- Part 5 Certifications: includes the certifications to be provided;
- Part 6 Security and Financial Requirements: includes specific requirements that must be addressed by bidders; and
- Part 7 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The annexes include the Statement of Work and any other annexes.

1.2 Summary

- (a) This bid solicitation is being issued by Public Works & Government Services Canada (PWGSC) for Shared Services Canada (SSC) to satisfy the requirement for voice over Internet protocol (VoIP) PBX products, moves, adds and changes (MAC's), accessories and parts and the following support services: system maintenance and support; support resources, installation services and training.
- (b) It is intended to result in the award of a contract for 1 year, plus 3-1 year irrevocable options allowing Canada to extend the term of the contract.
- (c) This procurement is being conducted by PWGSC for Shared Services Canada. The resulting contract will be used by Shared Services Canada for itself and to provide shared services to its clients.
- (d) There is a security requirement associated with this requirement. For additional information, see Part 6 - Security, Financial and Other Requirements, and Part 7 - Resulting Contract Clauses. Bidders should consult the "Security Requirements on PWGSC Bid Solicitations - Instructions for Bidders" document on the Departmental Standard Procurement Documents (<http://www.pwgsc.gc.ca/acquisitions/text/plain/plain-e.html#top>) Website.

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- (e) On May 28, 2012, PWGSC announced on the Government Electronic Tendering Service that it had invoked the National Security Exception under the trade agreements in respect of procurements related to email, networks and data centres for Shared Services Canada. As a result, this requirement is subject to the National Security Exception and is, therefore, excluded from all of the obligations of the trade agreements.
- (f) The requirement is subject to a preference for Canadian goods and/or services.

1.3 Communications Notification

As a courtesy, the Government of Canada requests that successful bidders notify the Contracting Authority in advance of their intention to make public an announcement related to the award of a contract.

1.4 Debriefings

After contract award, bidders may request a debriefing on the results of the bid solicitation. Bidders should make the request to the Contracting Authority within 15 working days of receipt of notification that their bid was unsuccessful. The debriefing may be provided in writing, by telephone or in person.

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

- (a) All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual issued by Public Works and Government Services Canada (PWGSC).
- (b) Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.
- (c) The 2003 (2012/03/02), Standard Instructions - Goods or Services - Competitive Requirements are incorporated by reference into and form part of the bid solicitation. If there is a conflict between the provisions of 2003 and this document, this document prevails.
- (d) Subsection 4.4 of Standard Instructions - Goods or Services - Competitive Requirements 2003 is amended as follows:
 - (i) Delete: sixty (60) days
 - (ii) Insert: one-hundred and eighty (180) days

2.2 Submission of Bids

- (a) Bids must be submitted only to Public Works and Government Services Canada Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.
- (b) Due to the nature of the bid solicitation, bids transmitted by facsimile or electronic mail to Public Works and Government Services Canada will not be accepted.

2.3 Enquiries - Bid Solicitation

- (a) All enquiries must be submitted in writing to the Contracting Authority no later than 10 calendar days before the bid closing date. Enquiries received after that time may not be answered.
- (b) Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a "proprietary" nature must be clearly marked "proprietary" at each relevant item. Items identified as proprietary will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered with copies to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

2.4 Applicable Laws

- (a) Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.
- (b) A bidder may, at its discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of its bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of its choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidder.

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Note to Bidders: Bidders are requested to indicate the Canadian province or territory they wish to apply to any resulting contract in their Bid Submission Form.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

(a) Canada requests that bidders provide their bid in separately bound sections as follows:

- (i) Section I: Technical Bid (3 hard copies) and 2 copies CD.
- (ii) Section II: Financial Bid (1 hard copy) and 1 copy CD.
- (iii) Section III: Certifications (3 hard copies)

If there is a discrepancy between the wording of the soft copy and the hard copy, the wording of the hard copy will have priority over the wording of the soft copy.

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

(b) Canada requests that bidders follow the format instructions described below in the preparation of their bid:

- (i) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (ii) use a numbering system that corresponds to the bid solicitation;
- (iii) include a title page at the front of each volume of the bid that includes the title, date, bid solicitation number, bidder's name and address and contact information of its representative; and
- (iv) include a table of contents.

(c) The Bidder may submit more than one bid. If an alternate bid is submitted, it must be a physically separate document, clearly marked as an alternate bid. Each bid will be evaluated independently, without regard to the other bids submitted by the Bidder. As a result, every bid must be complete on its own. Even though material submitted in one bid will not be used to supplement another bid submitted by the same bidder, where inconsistencies are noted among multiple bids submitted by the same bidder, Canada may take those inconsistencies into account in evaluating the multiple bids. If the Bidder submits multiple bids and wishes to withdraw one or more of those bids, Canada may require that the Bidder withdraw either all its bids, or none of them.

3.2 Section I: Technical Bid

(a) In their technical bid, bidders must demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders must demonstrate their capability in a thorough, concise and clear manner for carrying out the work. The technical bid must address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient. In order to facilitate the evaluation of the bid, Canada requests that bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

(b) The technical bid consists of the following:

- (i) **Bid Submission Form:** Bidders are requested to include the Bid Submission Form with their bids. It provides a common form in which bidders can provide information necessary for evaluation and contract award, such as a contact name, the Bidder's Procurement Business Number, the Bidder's status under the Federal Contractors Program for Employment Equity, etc. Using the form to provide this information is not

mandatory, but it is recommended. If Canada determines that the information requested by the Bid Submission Form is incomplete or requires correction, Canada will provide the Bidder with an opportunity to do so.

- (ii) **Substantiation of Technical Compliance Form:** The technical bid must substantiate the compliance of the Bidder and its proposed solution and products with the specific articles of Annex A (Statement of Work) identified in the Substantiation of Technical Compliance Form (Form 2), which is the requested format for providing the substantiation. The Substantiation of Technical Compliance Form is not required to address any parts of this bid solicitation not referenced in the form. The substantiation must not simply be a repetition of the requirement(s), but must explain and demonstrate how the Bidder will meet the requirements and carry out the required Work. Simply stating that the Bidder or its proposed solution or product complies is not sufficient. Where Canada determines that the substantiation is not complete, the Bidder will be considered non-responsive and disqualified. The substantiation may refer to additional documentation submitted with the bid - this information can be referenced in the "Reference" column of the Substantiation of Technical Compliance Form, where bidders are requested to indicate where in the bid the reference material can be found, including the title of the document, and the page and paragraph numbers; where the reference is not sufficiently precise, Canada may request that the Bidder direct Canada to the appropriate location in the documentation.

(iii) **Customer Reference:**

1. The Bidder must provide written customer reference(s) using Form 6A that confirm the requirements listed within that form have been executed by the Bidder. Only one confirmation of each requirement listed in Form 6A is required.
2. The Bidder can submit up to four Form 6A. Each Form 6A can only contain the name of the one customer reference. In the event more than 4 customer references are submitted only the first 4 names will be considered in the evaluation.
3. A bid will be declared non-responsive if confirmation of compliance is not received for all elements identified within the Form 6A.

- (iv) **Master Price List Worksheet and Accessories and Parts without pricing information:** The bid should include a copy of a Master Price List worksheet and the published price list for accessories and parts in Annex B1 and B5 identifying all Licensed Software and Hardware components offered by the Bidder without any pricing information.

3.3 Section III: Financial Bid

- (a) **Pricing:** Bidders must submit their financial bid in accordance with the Annex B - Pricing Tables. The total amount of Goods and Services Tax or Harmonized Sales Tax must be shown separately, if applicable. Unless otherwise indicated, bidders must include a single, firm, all-inclusive price quoted in Canadian dollars in each cell requiring an entry in the pricing tables.
- (b) **All Costs to be Included:** The financial bid must include all costs for the requirement described in the bid solicitation for the entire Contract Period, including any option years. The identification of all required equipment, software, peripherals, cabling and components required to meet the requirements of the bid solicitation and the associated costs of these items is the sole responsibility of the Bidder.
- (c) **Blank Prices:** Bidders are requested to insert "\$0.00" for any item for which it does not intend to charge or for items that are already included in other prices set out in the tables. If the Bidder leaves any price blank, Canada will treat the price as "\$0.00" for evaluation purposes and may request that the Bidder confirm that the price is, in fact, \$0.00. No bidder will be permitted to add

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or change a price as part of this confirmation. Any bidder who does not confirm that the price for a blank item is \$0.00 will be declared non-responsive.

(d) Exchange Rate Fluctuation

(i) SACC Manual Clause C3011T (2010/01/11), Exchange Rate Fluctuation.

3.4 Section IV: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of the Client and PWGSC will evaluate the bids on behalf of Canada. Canada may hire any independent consultant, or use any Government resources, to evaluate any bid. Not all members of the evaluation team will necessarily participate in all aspects of the evaluation.

4.2 Bidder's Time for Responding During Evaluation:

- (a) In addition to any other time periods established in the bid solicitation:
 - (i) **Requests for Clarifications:** If Canada seeks clarification or verification from the Bidder about its bid, the Bidder will have 7 working days (or a longer period if specified in writing by the Contracting Authority) to provide the required information to Canada. Failure to meet this deadline will result in the bid being declared non-responsive.
 - (ii) **Extension of Time:** If additional time is required by the Bidder, the Contracting Authority may grant an extension in his or her sole discretion.

4.3 Conduct of Evaluation in Steps

There are several steps in the evaluation process, which are described below. Even though the evaluation and selection will be conducted in steps, the fact that Canada has proceeded to a later step does not mean that Canada has conclusively determined that the Contractor has successfully passed all the previous steps. Canada may conduct steps of the evaluation in parallel.

(a) Step 1 - Canadian Content Certification:

The evaluation team will determine first if there are three (3) or more bids with a valid Canadian Content certification. In that event, the evaluation process will be limited to the bids with the certification; otherwise, all bids will be evaluated. If some of the bids with a valid certification are declared non-responsive, or are withdrawn, and less than three responsive bids with a valid certification remain, the evaluation will continue among those bids with a valid certification. If all bids with a valid certification are subsequently declared non-responsive, or are withdrawn, then all the other bids received will be evaluated.

(b) Step 2 - Technical Evaluation - Mandatory Technical Criteria:

Each bid will be reviewed to determine whether it meets the mandatory requirements of the bid solicitation. All elements of the bid solicitation that are mandatory requirements are identified specifically with the words "must" or "mandatory". Bids that do not comply with each and every mandatory requirement will be considered non-responsive and be disqualified.

- (i) The technical mandatory requirements requiring substantiation by the Bidder are described in Form 2 - Substantiation of Technical Compliance Form; and
- (ii) Claims in a bid that a future upgrade or release of any product included in the bid will meet the mandatory requirements of the bid solicitation, where the upgrade or release is not available at bid closing, will not be considered.

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(c) Step 3 – Evaluation of Financial Bid:

- (i) The financial evaluation will be conducted by calculating the Bid Evaluated Value (BEV) for a period of 4 years using the Annex B -Pricing Tables completed by the bidders.

(ii) Formulae in Pricing Tables

If the pricing tables provided to bidders include any formulae, Canada may re-input the prices provided by bidders into a fresh table, if Canada believes that the formulae may no longer be functioning properly in the version submitted by a bidder.

(d) Step 4 - Demonstration:

Canada may, but will have no obligation, to require that the lowest Bid Evaluated Value (BEV) (identified after the financial evaluation) demonstrate any features, functionality and capabilities described in this bid solicitation or in its bid, in order to verify compliance with the requirements of this bid solicitation. If required, the demonstration must be conducted, at no cost to Canada, at a location in Canada agreed to by the Contracting Authority. Canada will provide no fewer than 10 working days of notice before the scheduled date for the demonstration. Once the demonstration has begun, it must be completed within 5 working days. Canada will pay its own travel and salary costs associated with any demonstration. Despite the written bid, if Canada determines during a demonstration that the Bidder's proposed solution does not meet the mandatory requirements of this bid solicitation, the bid will be declared non-responsive.

(e) Step 5 – Basis of Selection:

A bid must comply with the requirements of the bid solicitation and meet all mandatory evaluation criteria to be declared responsive. The responsive bid with the lowest Bid Evaluated Value (BEV) will be recommended for award of a contract.

4.4 Present Value Analysis

- (i) Present value analysis will be used to determine the Bid Evaluation Value of each bid for evaluation purposes. The present value analysis will convert all proposed rates and prices detailed in Annex B to a present value price, referred to as the Bid Evaluation Value (BEV).
- (ii) The present value analysis will be done using an annual interest rate of 2.53%.
- (iii) For the present value analysis, each option will be considered to take effect at the earliest time that it can be exercised or take effect, whichever is later. For example:
- (A) the present value of an option to purchase additional goods or services that Canada is entitled to exercise at any time during the first 12 months following contract award will be calculated as of the contract date (because this is the earliest time at which the option could be exercised, and it would immediately take effect); and
- (B) the present value of an option to extend the term of the resulting contract for 12 months will be calculated as of the first day of that 12-month period (again because this is the earliest time that the option can take effect, even if exercised earlier).

Note to Bidders: As an example, with an annual interest rate of 2.53% (corresponding to 0.208427347% per month) using the present value analysis described above, 12 equal payments of \$1,000 spread over a year, and paid at the end of each month (using the rate of 0.208427347% per month for this example, will have a present value of \$11,838.99. A single payment of \$5,000 at the end of 12 months will have a present value of \$4,876.62. For a 2nd year, 12 equal payments of \$1,000 at the end of each month will have a present value of \$11,546.85. .

PART 5 - CERTIFICATIONS

Bidders must provide the required certifications to be awarded a contract. Canada will declare a bid non-responsive if the required certifications are not completed and submitted in accordance with the articles below.

Compliance with the certifications bidders provide to Canada is subject to verification by Canada during the bid evaluation period (before award of a contract) and after award of a contract. The Contracting Authority will have the right to ask for additional information to verify bidders' compliance with the certifications before award of a contract. The bid will be declared non-responsive if any certification made by the Bidder is untrue, whether made knowingly or unknowingly. Failure to comply with the certifications or to comply with the request of the Contracting Authority for additional information will also render the bid non-responsive.

PART 5A: CERTIFICATIONS PRECEDENT TO CONTRACT AWARD

The certifications listed below should be completed and submitted with the bid, but may be submitted afterwards. If any of these required certifications is not completed and submitted as requested, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.

5.1 Federal Contractors Program - Certification

- (a) The Federal Contractors Program for Employment Equity (FCP) requires that some suppliers, including a supplier who is a member of a joint venture, bidding for federal government contracts, valued at \$200,000 or more (including all applicable taxes), make a formal commitment to implement employment equity. This is a condition precedent to contract award. If the Bidder is subject to the FCP, evidence of its commitment must be provided before the award of the Contract.
- (b) Suppliers who have been declared ineligible contractors by Human Resources and Skills Development Canada (HRSDC) are no longer eligible to receive government contracts over the threshold for solicitation of bids as set out in the *Government Contract Regulations*. Suppliers may be declared ineligible contractors either as a result of a finding of non-compliance by HRSDC, or following their voluntary withdrawal from the FCP for a reason other than the reduction of their workforce to fewer than 100 employees. Any bids from ineligible contractors will be declared non-responsive.
- (c) If the Bidder does not fall within the exceptions enumerated in (d)(i) or (ii) below, or does not have a valid certificate number confirming its adherence to the FCP, the Bidder must fax (819-953-8768) a copy of the signed form LAB 1168, Certificate of Commitment to Implement Employment Equity, to the Labour Branch of HRSDC.
- (d) Each bidder is requested to indicate in its bid whether it is:
 - (i) not subject to FCP, having a workforce of fewer than 100 permanent full or part-time permanent employees, or temporary employees having worked 12 weeks or more in Canada;
 - (ii) not subject to FCP, being a regulated employer under the *Employment Equity Act*, S.C. 1995, c. 44;
 - (iii) subject to the requirements of FCP, because it has a workforce of 100 or more permanent full or part-time permanent employees, or temporary employees having worked 12 weeks or more in Canada, but it has not previously obtained a certificate number from HRSD (because it has not bid before on requirements of \$200,000 or more), in which case a duly signed certificate of commitment is required from the Bidder; or

- (iv) subject to FCP, and has a valid certification number (i.e., has not been declared an ineligible contractor by HRSDC).
- (e) Further information on the FCP is available on the following HRSDC Website:
<http://www.hrsdc.gc.ca/en/gateways/topics/wzp-gxr.shtml>.

Note to Bidders: Bidders are requested to use the Bid Submission Form to provide information about their status under this program. For a joint venture bidder, this information must be provided for each member of the joint venture.

5.2 Former Public Servant Certification

- (a) Contracts with former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny and reflect fairness in spending public funds. In order to comply with Treasury Board policies and directives on contracts with FPS, bidders must provide the information required below.
- (b) For the purposes of this clause,
 - (i) **"former public servant"** means a former member of a department as defined in the *Financial Administration Act*, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police and includes:
 - (A) an individual;
 - (B) an individual who has incorporated;
 - (C) a partnership made of former public servants; or
 - (D) a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.
 - (ii) **"lump sum payment period"** means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.
 - (iii) **"pension"** means, in the context of the fee abatement formula, a pension or annual allowance paid under the *Public Service Superannuation Act* (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the *Supplementary Retirement Benefits Act*, R.S. 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the *Canadian Forces Superannuation Act*, R.S., 1985, c. C-17, the *Defence Services Pension Continuation Act*, 1970, c. D-3, the *Royal Canadian Mounted Police Pension Continuation Act*, 1970, c. R-10, and the *Royal Canadian Mounted Police Superannuation Act*, R.S., 1985, c. R-11, the *Members of Parliament Retiring Allowances Act*, R.S., 1985, c. M-5, and that portion of pension payable to the *Canadian Pension Plan Act*, R.S., 1985, c. C-8.
- (c) If the Bidder is an FPS in receipt of a pension as defined above, the Bidder must provide the following information:
 - (i) name of former public servant;
 - (ii) date of termination of employment or retirement from the Public Service.
- (d) If the Bidder is an FPS who received a lump sum payment pursuant to the terms of a work force reduction program, the Bidder must provide the following information:
 - (i) name of former public servant;
 - (ii) conditions of the lump sum payment incentive;

- (iii) date of termination of employment;
 - (iv) amount of lump sum payment;
 - (v) rate of pay on which lump sum payment is based;
 - (vi) period of lump sum payment including start date, end date and number of weeks; and
 - (vii) number and amount (professional fees) of other contracts subject to the restrictions of a work force reduction program.
- (e) For all contracts awarded during the lump sum payment period, the total amount of fee that may be paid to a FPS who received a lump sum payment is \$5,000, including the Goods and Services Tax or Harmonized Sales Tax.
- (f) By submitting a bid, the Bidder certifies that the information submitted by the Bidder in response to the above requirements is accurate and complete.

Note to Bidders: Bidders are requested to provide the information required by this clause in their Bid Submission Form.

5.3 Bidder Certifies that System is "Off-the-Shelf"

Any system bid to meet this requirement must be "off-the-shelf" (unless otherwise stated in this bid solicitation), meaning that the equipment and software comprising any system bid must consist of standard equipment and software that are commercially available and require no further research or development. Together, this equipment and software must form part of an existing system with a field-proven operational history (that is, it has not simply been tested in a laboratory or experimental environment). If any of the equipment or software comprising the system bid is a fully compatible extension of a field-proven product line, it must have been publicly announced on or before the bid closing date. By submitting a bid, the Bidder is certifying that any system bid is off-the-shelf.

5.4 OEM Certification

- (a) Any Bidder that is not the Original Equipment Manufacturer (OEM) for every item of hardware proposed as part of its bid is required to submit the OEM's certification regarding the Bidder's authority to provide and maintain the OEM's hardware, which must be signed by the OEM (not the Bidder). No Contract will be awarded to a Bidder who is not the OEM of the hardware it proposes to supply to Canada, unless the OEM certification has been provided to Canada. Bidders are requested to use the OEM Certification Form included with the bid solicitation. Although all the contents of the OEM Certification Form are required, using the form itself to provide this information is not mandatory. For Bidders/OEMs who use an alternate form, it is in Canada's sole discretion to determine whether all the required information has been provided.
- (b) If the hardware proposed by the Bidder originates with multiple OEMs, a separate OEM certification is required from each OEM.
- (c) For the purposes of this bid solicitation, OEM means the manufacturer of the hardware, as evidenced by the name appearing on the hardware, on all accompanying documentation, on mandatory certification reports, and on any support software.

5.5 Software Publisher Certification and Software Publisher Authorization

- (a) If the Bidder is the Software Publisher for any of the proprietary software component(s) it bids, Canada requires that the Bidder confirm in writing that it is the Software Publisher. Bidders are requested to use the Software Publisher Certification Form included with the bid solicitation. Although all the contents of the Software Publisher Certification Form are required, using the form itself to provide this information is not mandatory. For bidders who use an alternate form, it is in Canada's sole discretion to determine whether all the required information has been provided.

- (b) Any Bidder that is not the Software Publisher of all the proprietary software products or components proposed as part of its bid is required to submit proof of the Software Publisher's authorization, which must be signed by the Software Publisher (not the Bidder). No Contract will be awarded to a Bidder who is not the Software Publisher of all of the proprietary software it proposes to supply to Canada, unless proof of this authorization has been provided to Canada. If the proprietary software proposed by the Bidder originates with multiple Software Publishers, authorization is required from each Software Publisher. Bidders are requested to use the Software Publisher Authorization Form included with the bid solicitation. Although all the contents of the Software Publisher Authorization Form are required, using the form itself to provide this information is not mandatory. For Bidders/Software Publishers who use an alternate form, it is in Canada's sole discretion to determine whether all the required information has been provided.
- (c) In this bid solicitation, "Software Publisher" means the owner of the copyright in any software included in the bid, who has the right to license (and authorize others to license/sub-license) its software products.

PART 5B : CERTIFICATIONS REQUIRED WITH THE BID

Bidders must submit, the following duly completed certifications as part of their bid.

5.6 Canadian Content Certification -- Conditionally Limited

- (a) This procurement is conditionally limited to Canadian goods and Canadian services.
- (b) Subject to the evaluation procedures contained in the bid solicitation, bidders acknowledge that only bids with a certification that the goods and services offered are Canadian goods and Canadian services, as defined in clause A3050T, may be considered.
- (c) Failure to provide this certification completed with the bid will result in the goods and services offered being treated as non-Canadian goods and non-Canadian services.
- (d) The Bidder certifies that a minimum of 80 percent of the total bid price consist of Canadian goods and Canadian services as defined in paragraph 5 of clause A3050T.
- (e) For more information on how to determine the Canadian content for a mix of goods, a mix of services or a mix of goods and services, consult Annex 3.6.(9), Example 2, of the Supply Manual.

5.7 Canadian Content Definition

- (a) SACC Manual Clause A3050T (2010/01/11), Canadian Content Definition.

PART 6 - SECURITY AND FINANCIAL REQUIREMENTS

6.1 Security Requirement

- (a) Before award of a contract, the following conditions must be met:
 - (i) the Bidder must hold a valid organization security clearance as indicated in Part 7 - Resulting Contract Clauses;
- (b) Canada will not delay the award of any contract to allow bidders to obtain the required clearance.
- (c) For additional information on security requirements, bidders should consult the "Security Requirements for PWGSC Bid Solicitations - Instructions to Bidders" document on the Departmental Standard Procurement Documents Website.
- (d) In the case of a joint venture bidder, each member of the joint venture must meet the security requirements.

6.2 Financial Capability

- (a) SACC Manual clause A9033T (2011/05/16) Financial Capability; except that subsection 3 is deleted and replaced with the following: "If the Bidder is a subsidiary of another company, then any financial information required by the Contracting Authority in 1(a) to (f) must be provided by each level of parent company, up to and including the ultimate parent company. The financial information of a parent company does not satisfy the requirement for the provision of the financial information of the Bidder; however, if the Bidder is a subsidiary of a company and, in the normal course of business, the required financial information is not generated separately for the subsidiary, the financial information of the parent company must be provided. If Canada determines that the Bidder is not financially capable but the parent company is, or if Canada is unable to perform a separate assessment of the Bidder's financial capability because its financial information has been combined with its parent's, Canada may, in its sole discretion, award the contract to the Bidder on the condition that the parent company grant a performance guarantee to Canada."
- (b) In the case of a joint venture bidder, each member of the joint venture must meet the financial capability requirements.

PART 7 - RESULTING CONTRACT CLAUSES

The following clauses apply to and form part of any contract resulting from the bid solicitation.

7.1 Requirement

- (a) _____ (the "**Contractor**") agrees to supply to the Client the goods and services described in the Contract, including the Statement of Work, in accordance with, and at the prices set out in, the Contract. This includes:
- (i) supplying and delivering the purchased Hardware, providing the Hardware Documentation including training services, as and when requested by Canada;
 - (ii) providing maintenance and support services for the Hardware, as and when requested by Canada;
 - (iii) granting the license to use the Licensed Software, providing the Licensed Software Documentation described in the Contract as and when requested by Canada;
 - (iv) providing maintenance and support for the Licensed Software, as and when requested by Canada;
 - (v) providing moves, additions and changes (MAC's), as and when requested by Canada;
 - (vi) providing special ad-hoc MAC's OPPM, as and when requested by Canada;
 - (vii) providing installation services, as and when requested by Canada;
 - (viii) providing support resources services, as and when requested by Canada; and
 - (ix) supplying and delivering accessories and parts from the published price list (PPL), as and when requested by Canada.
- (b) **Client:** Under the Contract, the "Client" is Shared Services Canada ("SSC") for itself and to provide shared services to its clients. The SSC clients are currently defined within the Order in Council P.C. 2011-1297. Any statutes, regulations or order in councils which may come into force during the contract period and which may affect who are the clients of SSC under this contract will be applied and the SSC clients under this Contract will be changed accordingly.
- (c) **Reorganization of Client:** The Contractor's obligation to perform the Work will not be affected by (and no additional fees will be payable as a result of) the renaming, reorganization, reconfiguration, or restructuring of any Client. The reorganization, reconfiguration and restructuring of the Client includes the privatization of the Client, its merger with another entity, or its dissolution, where that dissolution is followed by the creation of another entity or entities with mandates similar to the original Client.
- (d) **Defined Terms:** Words and expressions defined in the General Conditions or Supplemental General Conditions and used in the Contract have the meanings given to them in the General Conditions or Supplemental General Conditions. Also, the following words and expressions have the following meanings:
- (i) any reference to a "**deliverable**" or "**deliverables**" includes the Hardware, the license to use the Licensed Software (the Licensed Software itself is not a deliverable, because the Licensed Software is only being licensed under the Contract, not sold or transferred).
 - (ii) any words and expressions defined in Appendix A of Annex A - Statement of Work.

7.2 Service Order

- (a) **Purpose of SO:** Goods and Services to be provided under the Contract on an as-and-when-requested basis will be ordered by Canada using an electronic Service Order ("SO") as described below.
- (b) **Contractor's work quotation:** If a requirement for a specific service is identified, the Technical Authority may send an electronic mail (e-mail) to the Contractor, to review and respond to the draft statement work of the SO and where necessary provide additional information to address elements such as but not limited to: quotations, scheduling and/or confirmation of availability. Once it receives the draft SO, the Contractor must submit a response by forwarding the originating e-mail back to the Technical Authority detailing the information, cost and time to complete the work. The Contractor's quotation must be based on the rates set out in the Contract. The Contractor will not be paid for providing the quotation or for providing other information required to prepare and issue the SO. The Contractor must provide any information requested by Canada in relation to the preparation of a SO within 10 working days of the request.
- (c) **Process for Issuing a Valid SO:** If Canada approves the Contractor's work quotation, a Service Order will be issued. Whether or not to approve or issue an SO is entirely within Canada's discretion.

To be validly issued, an SO must include the following signatures:

- (i) For any SO with a value less than or equal to \$10,000.00 (including GST/HST), the SO must be signed by
 - (A) the Technical Authority.
- (ii) For any SO with a value between \$10,000.01 and \$400,000.00 (including GST/HST), the SO must be signed by:
 - (A) the Technical Authority; and
 - (B) a representative of the Procurement Operations of SSC; and
- (iii) For any SO with a value greater than \$400,000.01 (including GST/HST), the SO must be signed by:
 - (A) the Technical Authority;
 - (B) a representative of the Procurement Operations of SSC; and
 - (C) the Contracting Authority.

For purposes of this sub-article (c), the value of the SO means the total value of the Work to be executed during the period of time indicated in the SO. Any SO that does not bear the appropriate signatures is not validly issued by Canada. Any work performed by the Contractor without receiving a validly issued SO is done at the Contractor's own risk. If the Contractor receives a SO that is not appropriately signed, the Contractor must notify the Contracting Authority. By providing written notice to the Contractor, the Contracting Authority may suspend SSC's ability to issue SOs at any time, or reduce the dollar value threshold described in sub-article (i) above.

- (d) **Charges for Work under a SO:** The Contractor must not charge Canada anything more than the price set out in the Service Order unless the Technical Authority has issued an SO revision authorizing the increased expenditure (in order to be valid, the SO revision must bear the signatures required at the time of issuance; if, as a result of the revision, the expenditure results in the value of the SO exceeding the original signature requirements, the signature requirements that apply to the higher dollar value will apply to the revision). Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work unless they have been approved, in writing, by the Contracting Authority before being incorporated into the

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Work. Regardless of when the SO is issued, unless an earlier end date is specified in the SO, all SOs end at the end of the Contract Period.

- (e) **Consolidation of SOs for Administrative Purposes:** The Contract may be amended from time to time to reflect all Service Orders issued to date, to document the Work performed under those SOs for administrative purposes.
- (f) **Service Order Reporting:** The Contractor must provide the report(s) as detailed in section 5 of the Annex A - Statement of Work.
- (g) **Cancellation of SO:** Canada may at any time, upon 30 calendar days notice to the Contractor by way of a Service Order, cancel or suspend the Service described in any SO. Upon the effective cancellation or suspension date, the Contractor must cease providing the Work and no further charges in respect of the Service must apply, unless and until the Service for that is re-activated by way of a further Service Order.

7.3 Minimum Work Guarantee All the Work - Service Orders

1. In this clause,
"Maximum Contract Value" means the amount specified in the "Limitation of Expenditure" clause set out in the Contract; and

"Minimum Contract Value" means \$10,000.00 GST/HST included.
2. Canada's obligation under the Contract is to request Work in the amount of the Minimum Contract Value or, at Canada's option, to pay the Contractor at the end of the Contract in accordance with paragraph 3. In consideration of such obligation, the Contractor agrees to stand in readiness throughout the Contract period to perform the Work described in the Contract. Canada's maximum liability for work performed under the Contract must not exceed the Maximum Contract Value, unless an increase is authorized in writing by the Contracting Authority.
3. In the event that Canada does not request work in the amount of the Minimum Contract Value during the period of the Contract, Canada must pay the Contractor the difference between the Minimum Contract Value and the total cost of the Work requested.
4. Canada will have no obligation to the Contractor under this clause if Canada terminates the Contract in whole or in part for default.

7.4 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual (<http://sacc.pwgsc.gc.ca/sacc/index-e.jsp>) issued by Public Works and Government Services Canada.

(a) General Conditions:

- (i) 2030 (2012/03/02), General Conditions - Higher Complexity - Goods, apply to and form part of the Contract.

(b) Supplemental General Conditions:

The following Supplemental General Conditions:

- (i) 4001 (2010/08/16), Supplemental General Conditions - Hardware Purchase, Lease and Maintenance;
- (ii) 4003 (2010/08/16), Supplemental General Conditions - Licensed Software;
- (iii) 4004 (2010/08/16), Supplemental General Conditions - Maintenance and Support Services for Licensed Software;

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apply to and form part of the Contract.

7.5 Security Requirement

- (a) The Contractor must, at all times during the performance of the Contract, hold a valid Designated Organization Screening (DOS) with approved Document Safeguarding at the level of PROTECTED A, issued by the Canadian Industrial Security Directorate, Public Works and Government Services Canada.
- (b) The Contractor personnel requiring access to PROTECTED information, assets or work site(s) must EACH hold a valid RELIABILITY STATUS, granted or approved by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC). Until the security screening of the Contractor personnel required by this Contract has been completed satisfactorily by the CISD, PWGSC, the Contractor personnel MAY NOT HAVE ACCESS to PROTECTED information or assets, and MAY NOT ENTER sites where such information or assets are kept, without an escort.
- (c) The Contractor MUST NOT utilize its Information Technology systems to electronically process, produce or store PROTECTED information until the CISD/PWGSC has issued written approval. After approval has been granted or approved, these tasks may be performed at the level of PROTECTED A.
- (d) Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of CISD/PWGSC.
- (e) The Contractor must comply with the provisions of the:
 - (a) Security Requirements Check List and security guide (if applicable), attached at Annex C;
 - (b) Industrial Security Manual (Latest Edition).

(f) General Security Measures Surrounding Transmission of Sensitive Data

- a) The Network Products and support services provided under the Contract will be used for the transmission of Government of Canada data of various kinds, and may include secure communications (at various security classification levels), privileged communications (such as Cabinet confidences and solicitor-client communications), and otherwise sensitive communications (including transmissions containing personal information of Canadians and proprietary or confidential information of third parties, such as suppliers);
- b) The Contractor acknowledges that Canada requires, and the Contractor guarantees that, the Network Products and support provided under the Contract are and will be the subject of robust, comprehensive security measures that evolve as security threats and technologies evolve, so that the security measures in use are updated throughout the contract period, in order to achieve the highest possible levels of data integrity, availability, and confidentiality; and
- c) The Contractor must implement any reasonable security or protection measures requested by Canada from time to time, within a reasonable timeframe agreed to with Canada. The parties agree that reasonableness will be determined based on the severity of the threat to the integrity, availability and confidentiality of Canada's data and communications.

(g) Site Access

- a) Upon arriving at Canada's premises, all Contractor and approved subcontractor personnel must be able to provide proof of employment (such as a badge issued by the Contractor or the approved subcontractor) and their security clearance status;

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- b) The Contractor acknowledges that Canada may, at any time, refuse access to its premises to any individual. If that individual meets the security clearance requirements for the type of work being performed, but Canada refuses to provide any necessary access to that individual, any time described in the Contract for completing the portion of the Work to be performed by that individual will not start until Canada has informed the Contractor that access has been granted to that individual. Canada may advise the Contractor of the reason for denying access, but may also choose not to do so if Canada, in its discretion, has determined that there are security reasons for not disclosing the reason; and
- c) The Contractor acknowledges that Canada may revoke an individual's security clearance at any time.

(h) Subcontracting

- a) Despite the General Conditions, none of the Work may be subcontracted (even to an affiliate of the Contractor) unless the Contracting Authority has first consented in writing. In order to seek the Contracting Authority's consent, the Contractor must provide the following information:
 - 1. The name of the subcontractor;
 - 2. The portion of the Work to be performed by the subcontractor;
 - 3. The Designated Organization Screening or the Facility Security Clearance (FSC) level of the subcontractor as required by the Work;
 - 4. If requested, the security clearance status of individuals employed by the subcontractor who will require access to Canada facilities;
 - 5. Completed sub-SRCL signed by the Contractor's Company Security Officer for CISC completion; and
 - 6. Any other information required by the Contracting Authority.
- b) For the purposes of this Article, a "subcontractor" does not include a supplier who deals with the Contractor at arm's length whose only role is to provide telecommunications equipment that will be used by the Contractor to provide services, including if the equipment will be installed in the backbone or infrastructure of the Contractor.

(i) Protection and Security of Data Stored in Databases

- 1. The Contractor must ensure that all the databases containing any information related to the Work are located in Canada or, if the Contracting Authority has first consented in writing, in another country where:
 - a. equivalent protections are given to personal information as in Canada under legislation such as the Privacy Act, R.S. 1985, c. P-21, and the Personal Information Protection and Electronic Documents Act, S.C. 2000, c. 5, and under any applicable policies of the Government of Canada; and
 - b. the laws do not allow the government of that country or any other entity or person to seek or obtain the right to view or copy any information relating to the Contract without first obtaining the Contracting Authority's written consent.

In connection with giving its consent to locating a database in another country, the Contracting Authority may, at its option, require the Contractor to provide a legal opinion (from a lawyer qualified in the foreign country) that the laws in that country meet the above requirements, or may require the Contractor to pay for Canada to obtain such a legal opinion. Canada has the right to reject any request to store Canada's data in a country other than Canada if there is any reason to be concerned about the security, privacy, or integrity of Canada's data. Canada may also require that any data sent or processed outside of Canada be encrypted with Canada-approved cryptography and that the private key required to decrypt the data be kept in Canada in accordance with key management and storage processes approved by Canada.

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2. The Contractor must control access to all databases on which any data relating to the Contract is stored so that only individuals with the appropriate security clearance are able to access the database, either by using a password or other form of access control (such as biometric controls).
3. The Contractor must ensure that all databases on which any data relating to the Contract is stored are physically and logically independent (meaning there is no direct or indirect connection of any kind) from all other databases, unless those databases are located in Canada (or in another country approved by the Contracting authority under subsection 1) and otherwise meet the requirements of this article.
4. The Contractor must ensure that all data relating to the Contract is processed only in Canada or in another country approved by the Contracting Authority under subsection 1.
5. The Contractor must ensure that all domestic network traffic (meaning traffic or transmissions initiated in one part of Canada to a destination or individual located in another part of Canada) is routed exclusively through Canada, unless the Contracting Authority has first consented in writing to an alternate route. The Contracting Authority will only consider requests to route domestic traffic through another country that meets the requirements of subsection 1.
6. Despite any section of the General Conditions relating to subcontracting, the Contractor must not subcontract (including to an affiliate) any function that involves providing a subcontractor with access to any data relating to the Contract unless the Contracting Authority first consents in writing.

(j) Network Connectivity and Access Control to Databases

- a) The Contractor must safeguard the information system and all databases including Canada's data or information about Canada at all times by taking all measures reasonably necessary to secure it and protect its integrity and confidentiality. To do so, at a minimum, the Contractor must:
 1. Control access to all databases on which any data relating to this Contract is stored so that only individuals with the security clearance required by the Contract, and who also require access to the information in order to perform the Contract, are able to access the database;
 2. Ensure that passwords or other access controls are provided only to individuals who require access to perform the Work and who have the security clearance issued by CISC at the level required by the Contract; and
 3. Safeguard any database or computer system on which Canada's data is stored from external access using methods that are generally used, from time to time, by prudent public and private sector organizations in Canada in order to protect highly secure or sensitive information.

(k) Security Audit

- a) Canada may audit the Contractor's compliance with the security requirements included in the Contract at any time. If requested by the Contracting Authority, the Contractor must provide Canada (or Canada's authorized representative) with full access to its premises, its network, and all databases storing Canada's data or data related to the Contract at all reasonable times. Canada identifies any security deficiencies during an audit, the Contractor must immediately correct the deficiencies at its own expense.

7.6 Contract Period

- (a) **Contract Period:** The "Contract Period" is the entire period of time during which the Contractor is obliged to perform the Work, which includes:

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- (i) The “**Initial Contract Period**”, which begins on the date the Contract is awarded and ends 1 year later; and
- (ii) The period during which the Contract is extended, if Canada chooses to exercise any options set out in the Contract.

(b) Option to Extend the Contract:

- (i) The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to 3 additional 1 year period under the same terms and conditions.
- (ii) Optional Year means:
 - “**Year 1**” means the optional twelve (12) month period of this Contract starting at the end of the “Initial Contract Period”, if Canada exercises its option.
 - “**Year 2**” means the optional twelve (12) month period of this Contract starting at the end of the “Year 1”, if Canada exercises its option.
 - “**Year 3**” means the optional twelve (12) month period of this Contract starting at the end of the “Year 2”, if Canada exercises its option.
- (iii) The Contractor agrees that, during the extended period of the Contract, it will be paid in accordance with the applicable provisions set out in the Basis of Payment.
- (iv) Canada may exercise this option at any time by sending a written notice to the Contractor at least 30 calendar days before the expiry date of the Contract. The option may only be exercised by the Contracting Authority, and will be evidenced, for administrative purposes only, through a contract amendment.

7.7 Authorities

(a) Contracting Authority

The Contracting Authority for the Contract is:

Josée St-Onge

Supply Specialist

Public Works and Government Services Canada

Acquisitions Branch

Place du Portage

11 Laurier Street, Phase III, 5C2

Gatineau, Quebec K1A 0S5

Telephone: (819) 956-0576

Facsimile: (819) 956-5078

E-mail address: josee.st-Onge@tpsgc-pwgsc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

The Contracting Authority may, at any time upon providing notice to the Contractor, transfer the administration of this contract to any other department (as defined in the Financial Administration Act) or to a Crown Corporation.

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(b) Technical Authority

The Technical Authority for the Contract is:

TO BE INSERTED UPON CONTRACT AWARD

The Technical Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority; however, the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

(c) Contractor's Representative

TO BE INSERTED UPON CONTRACT AWARD

7.8 Payment

(a) Basis of Payment

(b) One or more of the following types of basis of payment will form part of each Service Order:

- (i) Hardware:** In consideration of the Contractor satisfactorily completing all of its obligations under the authorized Service Order (SO), the Contractor will be paid the firm price as specified in the approved SO (based on the firm price of the Master Price List and discount percentage set out in Annex B1), FOB destination, including all customs duties, GST/HST extra.
- (ii) Maintenance and Support for Hardware:** In consideration of the Contractor satisfactorily completing all of its obligations under the authorized Service Order (SO), Canada will pay the Contractor the firm monthly price (based on the firm price of the Master Price List multiplied by a maintenance factors set out in Annex B1), FOB destination, including all customs duties, GST/HST extra.
- (iii) Licensed Software:** In consideration of the Contractor satisfactorily completing all of its obligations under the authorized Service Order, the Contractor will be paid the firm price as specified in the approved SO (based on the firm price of the Master Price List and discount percentage set out in Annex B1), FOB destination, including all customs duties, GST/HST extra.
- (iv) Maintenance and Support for Licensed Software:** In consideration of the Contractor satisfactorily completing all of its obligations under the authorized Service Order (SO), Canada will pay the Contractor the firm monthly price (based on the firm price of the Master Price List multiplied by a maintenance factors set out in Annex B1), FOB destination, including all customs duties, GST/HST extra.
- (v) Installation Services:** In consideration of the Contractor satisfactorily completing all of its obligations under the authorized Service Order (SO), Canada will pay the Contractor the firm unit price set out in the Service Order upon completion of the installation (which is based on the firm unit price set out in Annex B2), GST/HST extra.
- (vi) Moves, Additions and Changes (MAC's):** In consideration of the Contractor satisfactorily completing all of its obligations under the authorized Service Order (SO), Canada will pay the Contractor the firm unit price as specified in the approved SO (based on the firm unit price of the Master Price List set out in Annex B3), FOB destination, including all customs duties, GST/HST extra.
- (vii) Special Ad-Hoc MAC's (OPPM):** In consideration of the Contractor satisfactorily completing all of its obligations under the authorized Service Order (SO), Canada will pay the

Contractor the firm hourly price set out in the Service Order (which is based on the firm hourly price set out in Annex B3 for the actual time worked), GST/HST extra.

(viii) **Support Resources Services:** In consideration of the Contractor satisfactorily completing all of its obligations under the authorized Service Order (SO), Canada will pay the Contractor the firm hourly price set out in the Service Order (which is based on the firm hourly price set out in Annex B4 for the actual time worked), GST/HST extra.

(ix) **Accessories and Parts:** For providing accessories and parts provided, in accordance with an authorized Service Order, Canada will pay the Contractor the firm price minus the percentage discount set out in Annex B5 - Published Price List, FOB destination, including all customs duties, GST/HST extra

Estimated Cost for paragraphs (i) to (ix): \$ TO BE INSERTED UPON CONTRACT AWARD

(x) **GST/HST:** **Estimated Cost: \$ TO BE INSERTED UPON CONTRACT AWARD**

(xi) **Competitive Award:** The Contractor acknowledges that the Contract has been awarded as a result of a competitive process. No additional charges will be allowed to compensate for errors, oversights, misconceptions or underestimates made by the Contractor when bidding for the Contract.

(xii) **Purpose of Estimates:** All estimated costs contained in the Contract are included solely for the administrative purposes of Canada and do not represent a commitment on the part of Canada to purchase goods or services in these amounts. Any commitment to purchase specific amounts or values of goods or services are described elsewhere in the Contract.

(c) Limitation of Expenditure - Cumulative Total for all Service Orders

1. Canada's total liability to the Contractor under the Contract for all authorized Service Order (SOs), inclusive of any revisions, must not exceed the sum of **\$TO BE INSERTED UPON CONTRACT AWARD**. Customs duties are included, and the Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.
2. No increase in the total liability of Canada will be authorized or paid to the Contractor unless an increase has been approved, in writing, by the Contracting Authority.
3. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:
 - a. when it is 75 percent committed, or
 - b. four (4) months before the contract expiry date, or
 - c. as soon as the Contractor considers that the sum is inadequate for the completion of the Work required in all authorized TAs, inclusive of any revisions, whichever comes first.
4. If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority, a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.

(d) One or more of the following types of method of payment will form part of each Service Order:

(i) **Method of Payment H1000C (2008/05/12) Single Payment and/or Multiple Payment H1001C (2008/05/12) will apply to:**

- Purchased Hardware
- Licensed Software;
- Moves, Additions and Changes (MAC's);

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- Special Ad-Hoc MAC's (OPPM);
- Installation Services;
- Support Resources Services; and
- Accessories and Parts.

(ii) Method of Payment H1008C (2008/05/12), Monthly Payment will apply to:

- Maintenance and Support for Purchased Hardware; and
- Maintenance and Support for Licensed Software.

(e) Payment Credits

(i) Credits for Failure to Meet the Service Level for Service Orders (SL-SO)

If the Contractor does not complete the work detailed in an SL-SLO related SO within the Maximum Delivery Interval (MDI) window, then the Contractor must provide a credit to Canada of:

- 1) \$1,000 per working day of delay in installation services up to a maximum of 25% of the entire SO price or \$10,000.00. (i.e., including costs of all Hardware and Licensed Software).
- 2) 5% per working day of delay in the delivery of a UPS up to a maximum of 25% of the entire SO price or \$10,000.00 (i.e., including costs of all Hardware and Licensed Software).
- 3) 5% per working day of delay in the delivery of a user device up to a maximum of 25% of the entire SO price or \$10,000.00 (i.e., including costs of all Hardware and Licensed Software).

(ii) Credits for Failure to Meet the Service Level for Service Orders (SL-MAC)

- (A) If the Contractor does not complete the work detailed in a MAC SO within the MAC maximum completion time window, then the Contractor must provide a credit to Canada of 5.0% of the total MAC SO value for every working day of delay up to a maximum of 25% of the entire MAC SO price.
- (B) If the Contractor fails to meet the MAC maximum completion time window 5 or more times during any calendar year, this will be considered a chronic failure and a Service Credit of 5.0% of the sum of the firm unit price of all MAC SOs during that calendar year will be applicable.

(iii) Credits for Failure to Meet the Service Level for Maximum Time On-site (SL-MTO)

- (A) If the Contractor fails to meet the SL-MTO for an On-site Maintenance Plan (OMP) Service Level, then the Contractor must provide a credit to Canada as follows:

Type	Unit of Delay	Credit per Unit of Delay	Maximum Credit
OMP-1	30 minutes (within the PPM)	5% of all monthly OMP-1 charges	25% of all monthly OMP-1 charges
OMP-2	1 hour (within the PPM)	5% of all monthly OMP-2 charges	25% of all monthly OMP-2 charges
OMP-3	6 hours (within the PPM)	5% of all monthly OMP-3 charges	25% of all monthly OMP-3 charges
OMP-4	12 hours (within the PPM)	5% of all monthly OMP-4 charges	25% of all monthly OMP-4 charges

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OMP-5	30 minutes	5% of all monthly OMP-5 charges	25% of all monthly OMP-5 charges
OMP-6	1 hour	5% of all monthly OMP-6 charges	25% of all monthly OMP-6 charges
OMP-7	6 hours	5% of all monthly OMP-7 charges	25% of all monthly OMP-7 charges
OMP-8	12 hours	5% of all monthly OMP-8 charges	25% of all monthly OMP-8 charges

(iv) **Service Credits for Failure to Meet the Service Desk Response Service Level (SL-SDR)**

(A) If the Contractor fails to meet the SL-SDR, as defined in the Annex A - Statement of Work subsection Service Levels, the Contractor must provide a credit in the amount of \$500 per calendar day for each individual day the service level was not met within the calendar month.

(v) **Corrective Measures:** If credits are payable under this Article for 2 consecutive months or for 3 months in any 12-month period, the Contractor must submit a written action plan describing measures it will implement or actions it will undertake to eliminate the recurrence of the problem. The Contractor will have 5 working days to deliver the action plan to the Client and the Contracting Authority and 20 working days to rectify the underlying problem.

(vi) **Credits Apply during Entire Contract Period:** The Parties agree that the credits apply throughout the Contract Period.

(vii) **Credits represent Liquidated Damages:** The Parties agree that the credits are liquidated damages and represent their best pre-estimate of the loss to Canada in the event of the applicable failure. No credit is intended to be, nor will it be construed as, a penalty.

(viii) **Canada's Right to Obtain Payment:** The Parties agree that these credits are a liquidated debt. To collect the credits, Canada has the right to hold back, draw back, deduct or set off from and against any money Canada owes to the Contractor from time to time.

(ix) **Canada's Rights & Remedies not Limited:** The Parties agree that nothing in this Article limits any other rights or remedies to which Canada is entitled under the Contract (including the right to terminate the Contract for default) or under the law generally.

(x) **Audit Rights:** The Contractor's calculation of credits under the Contract is subject to verification by government audit, at the Contracting Authority's discretion, before or after payment is made to the Contractor. The Contractor must cooperate fully with Canada during the conduct of any audit by providing Canada with access to any records and systems that Canada considers necessary to ensure that all credits have been accurately credited to Canada in the Contractor's invoices. If an audit demonstrates that past invoices contained errors in the calculation of the credits, the Contractor must pay to Canada the amount the audit reveals was required to be credited to Canada, plus interest, from the date Canada remitted the excess payment until the date of the refund (the interest rate is the Bank of Canada's discount annual rate of interest in effect on the date the credit was first owed to Canada, plus 1.25% per year). If, as a result of conducting an audit, Canada determines that the Contractor's records or systems for identifying, calculating or recording the credits are inadequate, the Contractor must implement any additional measures required by the Contracting Authority.

(f) **Price and Rate Adjustment**

The firm prices stipulated in Annex B1 - Master Price List and Annex B5 - Published Price List (PPL) for accessories and parts are subject to downward revision in accordance with the following subsections:

(i) During the Contract Period if a price or rate decrease is published or publicly announced or the prices or rates must be revised in compliance with the Article entitled

"Price Protection - Most Favoured Customer", the Contractor will provide the benefit of such decrease to Canada.

- (ii) During the Contract Period where in accordance with (i) the Contractor is required to reduce the prices or rates listed in Annex B1 and/or Annex B5, it will immediately send a notification to the Contracting Authority to reflect such a price reduction.
- (iii) The Contractor acknowledges and agrees that Canada reserves the right to accept or reject any proposed price or rate revision under this Article and that no such revision will come into effect until formally authorized in writing by the Contracting Authority.
- (iv) The firm current prices and rates will not exceed the lower of:
 - (A) the unit prices detailed in Annex B1 and/or Annex B5;
 - (B) the lowest price/rate that the Contractor has charged any other customer in accordance with the Article entitled "Price Protection - Most Favoured Customer"; and
 - (C) the unit price after deduction of the published or publicly announced price decrease.

(g) Price Protection - Most Favoured Customer

- (i) To the best of the Contractor's knowledge, the prices it is charging to Canada under the Contract are not higher than the lowest prices/rates that it has charged any other customer (including other Government of Canada entities) for a similar quality and quantity of goods and services in the year before the Contract was awarded.
- (ii) The Contractor also agrees that, if after the date of the Contract it reduces the prices it charges to other customers for a similar quality and quantity of goods and services, it will reduce the prices for all remaining deliveries under the Contract (with notice to the Contracting Authority).
- (iii) At any time during the 6 years after making the final payment under the Contract or until all claims and disputes then outstanding are settled, whichever is later, Canada has the right to audit the Contractor's records to verify that it is receiving (or has received) these prices. Canada will give at least 2 weeks of notice before the audit.
- (iv) During this audit, the Contractor must produce invoices and contracts for similar quality or quantity of goods or services sold to other customers from one year before the Contract was awarded until the end of the Contract Period. If the Contractor is required by law or by contract to keep another customer's information confidential, the Contractor may black out any information on the invoices or contracts that could reasonably reveal the identity of the customer (such as the customer's name and address), as long as the Contractor provides, together with the invoices and contracts, a certification from its Chief Financial Officer describing the profile of the customer (e.g., whether it is a public sector or private sector customer and the customer's size and service locations).
- (v) In determining whether the goods and services sold to another customer were of similar quality, the terms and conditions of the contract under which those goods and services were delivered will be considered, if those terms and conditions are reasonably likely to have had a material effect on pricing.
- (vi) If Canada's audit reveals that the Contractor charged lower prices for a similar quality and quantity of goods and services under any contract where deliveries were made in the year before the Contract was awarded, or that the Contractor delivered additional goods or services under the Contract after reducing its prices for other customers but without reducing the prices under the Contract, then the Contractor must pay to Canada the difference between the amount charged to Canada and the amount charged to the other customer, up to a maximum of 25% of the value of the Contract.

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- (vii) Canada acknowledges that this commitment does not apply to prices charged by any affiliates of the Contractor.

7.9 Published Price Updates

During the Contract Period, the Contractor must provide quarterly copies of the published price list for the products and services identified in Annex B1 and Annex B5. Copies must be distributed as follows:

- (i) One (1) copy must be forwarded to the Technical Authority; and
- (ii) One (1) copy must be forwarded to the Contracting Authority.

7.10 No Responsibility to Pay for Work not performed due to Closure of Government Offices

- (i) Where the Contractor, its employees, subcontractors, or agents are providing services on government premises under the Contract and those premises are inaccessible because of the evacuation or closure of government offices, and as a result no work is performed, Canada is not responsible for paying the Contractor for work that otherwise would have been performed if there had been no evacuation or closure.
- (ii) If, as a result of any strike or lock-out, the Contractor or its employees, subcontractors or agents cannot obtain access to government premises and, as a result, no work is performed, Canada is not responsible for paying the Contractor for work that otherwise would have been performed if the Contractor had been able to gain access to the premises.

7.11 Invoicing Instructions

- (a) The Contractor must submit invoices in accordance with the information required in the General Conditions.
- (b) The Contractor's invoice must include a separate line item for each subparagraph in the Basis of Payment provision.
- (c) By submitting invoices the Contractor is certifying that the goods and services have been delivered and that all charges are in accordance with the Basis of Payment provision of the Contract, including any charges for work performed by subcontractors.
- (d) The Contractor must provide the original of each invoice to Shared Services Canada, Accounts Administrator Place Du Portage, Phase III, 11 Laurier Street, 5A1 Gatineau, QC K1A 0S5 and an electronic copy to the Technical Authority and to the Contracting Authority.

7.12 Certifications

- (a) Compliance with the certifications provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the entire Contract Period. If the Contractor does not comply with any certification or it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, under the default provision of the Contract, to terminate the Contract for default.
- (b) **SACC Manual Clauses**
 - (i) SACC Manual clause A3060C, (2008/05/12), Canadian Content Certification.

Note to Bidders: This Article will be deleted in the Contract if the Bidder did not submit a proposal seeking to rely on the preference for the supply of Canadian content.

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7.13 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in ***TO BE INSERTED UPON CONTRACT AWARD***.

7.14 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the following list, the wording of the document that first appears on the list has priority over the wording of any document that appears later on the list:

- (a) these Articles of Agreement, including any individual SACC clauses incorporated by reference in these Articles of Agreement;
- (b) supplemental general conditions, in the following order:
 - (i) 4001;
 - (ii) 4003;
 - (iii) 4004;
- (c) general conditions 2030 (2012/03/02), General Conditions - Higher Complexity - Goods;
- (d) Annex A, Statement of Work;
- (e) Annex B, Pricing Tables;
- (f) Annex C, Security Requirements Check List;
- (g) the signed Service Orders (including all of their annexes, if any); and
- (h) the Contractor's bid dated ***TO BE INSERTED UPON CONTRACT AWARD*** not including any software publisher license terms and conditions that may be included in the bid, not including any provisions in the bid with respect to limitations on liability, and not including any terms and conditions incorporated by reference (including by way of a web link) in the bid.

7.15 Insurance Requirements

- (a) SACC Manual clause G1005C (2008/05/12), Insurance Requirements.

7.16 Limitation of Liability - Information Management/Information Technology

- (a) This section applies despite any other provision of the Contract and replaces the section of the general conditions entitled "Liability". Any reference in this section to damages caused by the Contractor also includes damages caused by its employees, as well as its subcontractors, agents, and representatives, and any of their employees. This section applies regardless of whether the claim is based in contract, tort, or another cause of action. The Contractor is not liable to Canada with respect to the performance of or failure to perform the Contract, except as described in this section and in any section of the Contract pre-establishing any liquidated damages. The Contractor is only liable for indirect, special or consequential damages to the extent described in this Article, even if it has been made aware of the potential for those damages.
- (b) **First Party Liability:**
 - (i) The Contractor is fully liable for all damages to Canada, including indirect, special or consequential damages, caused by the Contractor's performance or failure to perform the Contract that relate to:
 - (A) any infringement of intellectual property rights to the extent the Contractor breaches the section of the General Conditions entitled "Intellectual Property Infringement and Royalties";

(B) physical injury, including death.

- (ii) The Contractor is liable for all direct damages affecting real or tangible personal property owned, possessed, or occupied by Canada.
- (iii) Each of the Parties is liable for all direct damages resulting from any breach of confidentiality under the Contract. Each of the Parties is also liable for all indirect, special or consequential damages in respect of any unauthorized disclosure of the other Party's trade secrets (or trade secrets of a third party provided by one Party to another under the Contract) relating to information technology.
- (iv) The Contractor is liable for all direct damages relating to any encumbrance or claim relating to any portion of the Work for which Canada has made any payment. This does not apply to encumbrances or claims relating to intellectual property rights, which are addressed under (i)(A) above.
- (v) The Contractor is also liable for any other direct damages to Canada caused by the Contractor in any way relating to the Contract, including:
 - (A) any breach of the warranty obligations under the Contract, up to the total amount paid by Canada (including any applicable taxes) for the goods and services affected by the breach of warranty; and
 - (B) any other direct damages, including all identifiable direct costs to Canada associated with re-procuring the Work from another party if the Contract is terminated either in whole or in part for default, up to an aggregate maximum for this subparagraph (B) of the greater of 0.25 times the total estimated cost (meaning the dollar amount shown on the first page of the Contract in the cell titled "Total Estimated Cost" or shown on each call-up, purchase order or other document used to order goods or services under this instrument), or \$ 2 Million.

In any case, the total liability of the Contractor under subparagraph (v) will not exceed the total estimated cost (as defined above) for the Contract or \$ 2 Million, whichever is more.

- (vi) If Canada's records or data are harmed as a result of the Contractor's negligence or willful act, the Contractor's only liability is, at the Contractor's own expense, to restore Canada's records and data using the most recent back-up kept by Canada. Canada is responsible for maintaining an adequate back-up of its records and data.

(c) Third Party Claims:

- (i) Regardless of whether a third party makes its claim against Canada or the Contractor, each Party agrees that it is liable for any damages that it causes to any third party in connection with the Contract as set out in a settlement agreement or as finally determined by a court of competent jurisdiction, where the court determines that the Parties are jointly and severally liable or that one Party is solely and directly liable to the third party. The amount of the liability will be the amount set out in the settlement agreement or determined by the court to have been the Party's portion of the damages to the third party. No settlement agreement is binding on a Party unless its authorized representative has approved the agreement in writing.
- (ii) If Canada is required, as a result of joint and several liability, to pay a third party in respect of damages caused by the Contractor, the Contractor must reimburse Canada by the amount finally determined by a court of competent jurisdiction to be the Contractor's portion of the damages to the third party. However, despite Sub-article (i), with respect to special, indirect, and consequential damages of third parties covered by this Section, the Contractor is only liable for reimbursing Canada for the Contractor's portion of those damages that Canada is required by a court to pay to a third party as a result of joint and several liability that relate to the infringement of a third party's intellectual property rights; physical injury of a third party, including death; damages affecting a third party's real or tangible personal property; liens or encumbrances on any portion of the Work; or breach of confidentiality.

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- (iii) The Parties are only liable to one another for damages to third parties to the extent described in this Sub-article (c).

7.17 Joint Venture Contractor

- (a) The Contractor confirms that the name of the joint venture is _____ and that it is comprised of the following members: **BIDDERS ARE TO LIST ALL THE JOINT VENTURE MEMBERS NAMED IN THE CONTRACTOR'S ORIGINAL BID.**
- (b) With respect to the relationship among the members of the joint venture Contractor, each member agrees, represents and warrants (as applicable) that:
- (i) _____ has been appointed as the "representative member" of the joint venture Contractor and has fully authority to act as agent for each member regarding all matters relating to the Contract;
 - (ii) by giving notice to the representative member, Canada will be considered to have given notice to all the members of the joint venture Contractor; and
 - (iii) all payments made by Canada to the representative member will act as a release by all the members.
- (c) All the members agree that Canada may terminate the Contract in its discretion if there is a dispute among the members that, in Canada's opinion, affects the performance of the Work in any way.
- (d) All the members are jointly and severally or solidarily liable for the performance of the entire Contract.
- (e) The Contractor acknowledges that any change in the membership of the joint venture (i.e., a change in the number of members or the substitution of another legal entity for an existing member) constitutes an assignment and is subject to the assignment provisions of the General Conditions.
- (f) The Contractor acknowledges that all security and controlled goods requirements in the Contract, if any, apply to each member of the joint venture Contractor.

Note to Bidders: This Article will be deleted if the bidder awarded the contract is not a joint venture. If the contractor is a joint venture, this clause will be completed with information provided in its bid.

7.18 Hardware

- (a) With respect to the provisions of Supplemental General Conditions 4001:

Part III of 4001 applies to the Contract (Additional Conditions: Purchase)	Yes.
Part IV of 4001 applies to the Contract (Additional Conditions: Lease)	No.
Part V of 4001 applies to the Contract (Additional Conditions: Maintenance)	Yes.
Delivery Location	Delivery Location will be specified at the time of issuance of a Service Order.
Installation Site	Installation Site will be specified at the time of issuance of a Service Order.
Delivery Date	Please refer to section 17 - Moves, Additions and Changes (MAC's) and 18.4 - Service Level - Service Order (SL-SO) of Annex A - Statement of work.
Contractor must deliver Hardware Documentation	Please refer to section 17.3 - Technical documentation of Annex A - Statement of work.

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Contractor must update Hardware Documentation throughout Contract Period	No - Section 7(5) of 4001 does not apply to the Contract.
Hardware Documentation must include maintenance documentation	No.
Language of Hardware Documentation	The Hardware Documentation must be delivered in one of English or French. If the documentation is available in the other of the two official languages of Canada, the Contractor must deliver the documentation in both English and French.
Format and Medium on which Hardware Documentation must be Delivered	Please refer to section 17.3 - Technical documentation of Annex A - Statement of work.
Special Delivery Requirements	No.
Special Site Delivery or Installation Requirements	No - 4001, Section 4 does not apply to the Contract.
Contractor must Install Hardware at time of Delivery	No.
Contractor must Integrate and Configure Hardware at time of Installation	Yes.
Hardware is part of a System	Yes.
Availability-level Testing will be performed before Acceptance	No.
Class of Maintenance Service	On-Site Maintenance Service.
Principal Period of Maintenance (PPM)	Refer to section 2 - Administration and Management of Annex A - Statement of Work.
Toll-free Telephone Number for Maintenance Service	BIDDERS TO PROVIDE INFORMATION IN THEIR BID SUBMISSION
Website for Maintenance Service	BIDDERS TO PROVIDE INFORMATION IN THEIR BID SUBMISSION

7.19 Deliverable Substitutions for Network Products

- (a) The Contractor may propose a substitution for an existing Network Product listed in the Master Price List (Annex B1 of the Contract), as long as the proposed substitute meets or exceeds the specification(s) of the existing product being substituted and the price for the substitute product does not exceed:
- (i) the firm price (or ceiling price, if applicable) for the product originally offered in the Contractor's bid that resulted in the award of the Contract;
 - (ii) the current published list price of the substitute product, minus any applicable Government discount; or
 - (iii) the price at which the substitute product is generally available for purchase,
- whichever is the lowest.

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- (b) The proposed substitution may be subject to benchmark evaluation and the Contractor must pay for all costs associated with the benchmark evaluation (e.g., transportation, benchmark fee, etc.).
- (c) The substitute item must not be shipped until formally authorized by the Contracting Authority after the Technical Authority determines the substitution is acceptable. Whether or not to accept or reject a proposed substitution is entirely within the discretion of Canada. If Canada does not accept a proposed substitution, the Contractor must continue to deliver the original product when ordered. If accepted, the substitution will be documented for the administrative purposes of Canada by a contract amendment, by removing the existing product and including the substitution instead.
- (d) The ability to propose a substitution does not relieve the Contractor of its obligation to make delivery by the Delivery Date, regardless of whether or when the proposed substitution is approved.

7.20 Extension of Existing Product Line - New Products

- (a) During the Contract Period, if technological improvements have been made to the products available for purchase under the Contract, the Contractor may propose new products that are an extension of an existing product line or the "next generation" of an existing product line that meet or exceed the specification(s) of existing products under the Contract, if the price for the new product does not exceed:
 - (i) the firm price (or ceiling price, if applicable) for the product originally offered in the Contractor's bid that resulted in the award of the Contract plus 5%;
 - (ii) the current published list price of the substitute product, minus any applicable Government discount; or
 - (iii) the price at which the substitute product is generally available for purchase, whichever is the lowest.
- (b) The proposed new product may be subject to benchmark evaluation and the Contractor must pay for all costs associated with the benchmark evaluation (e.g., transportation, benchmark fee, etc.).
- (c) Whether or not to accept or reject a proposed new product is entirely within the discretion of Canada. If Canada does not accept a proposed new product that is proposed to replace an existing product, the Contractor must continue to deliver the original product. If accepted, the addition of the new product will be documented for the administrative purposes of Canada by a contract amendment, by adding the new product to the Contract.
- (d) No new products will be included in the Contract until one year after the Contract is awarded.

7.21 Termination for Convenience of Hardware Maintenance Services

Regardless of the Contract Period and despite the Termination for Convenience provisions contained in the General Conditions, Canada may terminate for convenience, at no cost to Canada, any Hardware maintenance and support services being provided under the Contract. Canada will provide the Contractor 30 calendar days of advance written notice if it terminates the maintenance and support services for convenience and will be liable to the Contractor to pay only any unpaid maintenance and support charges that have accrued up to and including the date of termination.

7.22 Licensed Software

- (a) With respect to the provisions of Supplemental General Conditions 4003:

Licensed Software	The Licensed Software, which is defined in 4003, includes all the products offered by the Contractor in its bid, and any other software code required for those products to function in accordance with the Software Documentation and the Specifications, including without limitation all of the following products:
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	[This information will be completed at contract award using information in the Contractor's bid submission].
Type of License being Granted	User Licenses.
Number of Users Licensed	The number of Users Licensed will be identified in the Annex B1 - Master Price List.
Language of Licensed Software	The Licensed Software must be delivered in both French and English.
Delivery Location	Delivery Location will be specified at the time of issuance of a Service Order.
Installation Site	Installation site will be specified at the time of issuance of a Service Order.
Media on which Licensed Software must be Delivered	CD-ROM.
Software Warranty Period	12 months.
Source Code Escrow Required	No.

- (b) **On-going Maintenance of Software Code:** The Contractor must continue to maintain the version of the Licensed Software (i.e., the version or "build" originally licensed under the Contract) as a commercial product (i.e., the Contractor or the software publisher must be continuing to develop new code in respect of the Licensed Software to maintain its functionality, enhance it, and deal with Software Errors) for at least 2 years from the date the Contract is awarded. After that time, if the Contractor or the software publisher decides to discontinue or no longer maintain the then-current version or "build" of the Licensed Software and, instead, decides to provide upgrades to the Licensed Software as part of the Software Support, the Contractor must provide written notice to Canada at least 12 months in advance of the discontinuation.

7.23 Licensed Software Maintenance and Support

- (a) With respect to the provisions of Supplemental General Conditions 4004:

Software Support Period	The Period is identified in the Service Order.
Software Support Period when Additional Licenses added during Contract Period	For any additional licenses purchased in accordance with the Contract, the Software Support Period currently underway will apply to the additional licenses purchased, so that the Software Support Period ends on the same date for all licences supported under the Contract.
Hours for Providing Support Services	The Contractor's personnel must be available from 7:00 a.m. until 7:00 p.m., local time, at the site where the Licensed Programs are installed, Monday through Friday, exclusive of statutory holidays observed by Canada at the site where the service is required.
Contractor must provide On-site Support Services	Yes.
Contractor must provide Swift Action Tactical (SWAT) services	No.
Contractor must install Software Error corrections and Maintenance Releases and upgrades	No.

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Contractor must keep track of software releases for the purpose of configuration control	No.
Contact Information for Accessing the Contractor's Support Services	<p>In accordance with Section 5 of 4004, the Contractor will make its Support Services available through the following:</p> <p>Toll-free Telephone Access: _____</p> <p>Toll-free Fax Access: _____</p> <p>Email Access: _____</p> <p>The Contractor must respond to all telephone, fax or email communications (with a live service agent) within 60 minutes of the initial time of the Client or User's initial communication.</p> <p>Note to Bidders: This information will be completed at the time of contract award with information supplied by the Contractor. Bidders are requested to provide this information in their bids.</p>
Website	<p>In accordance with Section 5 of 4004, the Contractor must make Support Services available over the Internet. To do so, the Contractor must include, as a minimum, frequently asked questions and on-line software diagnostic routines and support tools. Despite the Hours for Providing Support Services, the Contractor's website must be available to Canada's users 24 hours a day, 365 days a year, and must be available 99% of the time. The Contractor's website address for web support is _____.</p> <p>Note to Bidders: The website address will be completed at the time of contract award with information supplied by the Contractor. Bidders are requested to provide this information in their bids.</p>
Language of Support Services	The Support Services must be provided in both French and English, based on the choice of the User requesting support.

7.24 Training

- (a) The Contractor must provide training on an as-and-when-requested basis as described in section 13 - Information System Training of Annex A - statement of work during the Contract Period when an approved Service Order for training is issued in accordance with the Contract.

7.25 Support Resources Services - General

- (a) The Contractor must provide, as and when requested by Canada the support resources services described in section 3 - Support Resources of Annex A - Statement of Work.
- (b) Once a requirement for a resource is identified by Canada, the Contractor must make the resource available to Canada within 15 working days. If an individual resource is named in this Contract with respect to any portion of the Work, the Contractor must provide that resource, except to the extent that a replacement is permitted under the General Conditions (in which case the replacement must be provided within the time period described above). This obligation applies despite any changes that Canada may have made to any Hardware, Licensed Software or any other aspect of the Client's operating environment. If the Contractor does not make the resource available to perform the Work during that period, Canada may immediately terminate the Contract for default.
- (c) If there must be a change in a resource performing work under the Contract (which must in any case comply with the requirements in the section of the General Conditions entitled "Replacement of

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Personnel”), the Contractor must make the replacement available for work within 10 working days of the departure of the existing resource (or, if Canada has requested the replacement, within 15 working days of Canada's notice of the requirement for a replacement).

- (d) All resources provided by the Contractor must meet the qualifications described in the Contract (including those relating to previous experience, professional designation, education, and language proficiency) and must be competent to provide the required services by any delivery dates described in the Contract.
- (e) If the Contractor fails to meet any of its obligations under this Article, or fails to deliver any deliverable or complete any task described in the Contract on time, in addition to any other rights or remedies available to Canada under the Contract or the law, Canada may notify the Contractor of the deficiency, in which case the Contractor must submit a written plan to the Technical Authority within 10 working days detailing the actions that the Contractor will undertake to remedy the deficiency. The Contractor must prepare and implement the plan at its own expense.
- (f) All materials and tools required for the performance of the Work including office space, associated supplies, computing devices and telephone equipment are to be provided by the Contractor unless otherwise agreed by the Technical Authority.

7.26 Safeguarding Electronic Media

- (a) Before using them on Canada's equipment or sending them to Canada, the Contractor must use a regularly updated product to scan electronically all electronic media used to perform the Work for computer viruses and other coding intended to cause malfunctions. The Contractor must notify Canada if any electronic media used for the Work are found to contain computer viruses or other coding intended to cause malfunctions.
- (b) If magnetically recorded information or documentation is damaged or lost while in the Contractor's care or at any time before it is delivered to Canada in accordance with the Contract, including accidental erasure, the Contractor must immediately replace it at its own expense.

7.27 Packaging Recycling

All materials in which the Products are packaged and shipped must be recyclable. The Bidder must take back all packaging from the Canada's site at the time of product installation. The Bidder must reuse, recycle or dispose of all packaging materials removed from Products delivered in an environmentally sensitive manner.

7.28 Reporting Requirements

The Contractor must provide reports described in section 5 - Reports and Documentation of Annex A - Statement of Work.

7.29 Representations and Warranties

The Contractor made statements regarding its and its proposed resources experience and expertise in its bid that resulted in the award of the Contract. The Contractor represents and warrants that all those statements are true and acknowledges that Canada relied on those statements in awarding the Contract. The Contractor also represents and warrants that it has, and all its resources and subcontractors that perform the Work have, and at all times during the Contract Period they will have, the skills, qualifications, expertise and experience to perform and manage the Work in accordance with the Contract, and that the Contractor (and any resources or subcontractors it uses) has previously performed similar services for other customers.

7.30 Access to Canada's Property and Facilities

Canada's property, facilities, equipment, documentation, and personnel are not automatically available to the Contractor. If the Contractor would like access to any of these, it is responsible for making a request to the Technical Authority. Unless expressly stated in the Contract, Canada has no obligation to provide any of

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these to the Contractor. If Canada chooses, in its discretion, to make its property, facilities, equipment, documentation or personnel available to the Contractor to perform the Work, Canada may require an adjustment to the Basis of Payment and additional security requirements may apply.

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ANNEX A
STATEMENT OF WORK

(Available with the bid package)

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ANNEX B
PRICING TABLES

(Available on Merx as an attachment)

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ANNEX B6
PRICING WORKBOOK GUIDE

(Available with the bid package)

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ANNEX C
SECURITY REQUIREMENTS CHECK LIST

(Available on Merx as an attachment)

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BIDDERS FORMS

FORM 1: BID SUBMISSION FORM:

BID SUBMISSION FORM	
Bidder's full legal name	
Authorized Representative of Bidder for evaluation purposes (e.g., clarifications)	Name
	Title
	Address
	Telephone #
	Fax #
	Email
Bidder's Procurement Business Number (PBN) [see the Standard Instructions 2003]	
Jurisdiction of Contract: Province in Canada the bidder wishes to be the legal jurisdiction applicable to any resulting contract (if other than as specified in solicitation)	
Former Public Servants See the Article in Part 5 of the bid solicitation entitled Former Public Servant Certification for a definition of "Former Public Servant".	Is the Bidder a FPS in receipt of a pension as defined in the bid solicitation? Yes ____ No ____ If yes, provide the information required by the Article in Part 5 entitled "Former Public Servant Certification"
	Is the Bidder a FPS who received a lump sum payment under the terms of a work force reduction program? Yes ____ No ____ If yes, provide the information required by the Article in Part 5 entitled "Former Public Servant Certification"

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Federal Contractors Program for Employment Equity (FCP EE) Certification: If the bidder is exempt, please indicate the basis for the exemption to the right. If the bidder does not fall within the exceptions enumerated to the right, the Program requirements do apply and the bidder is required either to: (a) submit to the Department of HRSD form LAB 1168, Certificate of Commitment to Implement Employment Equity, DULY SIGNED; or (b) submit a valid Certificate number confirming its adherence to the FCP-EE. Bidders are requested to include their FCP EE Certification or signed LAB 1168 with their bid; if this information is not provided in the bid, it must be provided upon request by the Contracting Authority during evaluation. For joint ventures, be sure to provide this information for each of the members of the joint venture.	On behalf of the bidder, by signing below, I also confirm that the bidder <i>[check the box that applies]</i> :	
	(a) is not subject to Federal Contractors Program for Employment Equity (FCP-EE), because it has a workforce of less than 100 permanent full or part-time employees in Canada;	
	(b) is not subject to FCP-EE, because it is a regulated employer under the <i>Employment Equity Act</i> ;	
	(c) is subject to the requirements of FCP-EE, because it has a workforce of 100 or more permanent full or part-time employees in Canada, but has not previously obtained a certificate number from the Department of Human Resources and Skills Development (HRSD) (having not bid on requirements of \$200,000 or more), in which case a duly signed certificate of commitment is attached; OR	
	(d) is subject to FCP-EE, and has a valid certification number as follows: _____ (and has not been declared an Ineligible Contractor by HRSD).	
Number of FTEs [Bidders are requested to indicate, the total number of full-time-equivalent positions that would be created and maintained by the bidder if it were awarded the Contract. This information is for information purposes only and will not be evaluated.]		
Security Clearance Level of Bidder <i>[include both the level and the date it was granted]</i>		
As per article 7.18 - Hardware of the RFP	Toll-free Telephone Number for Maintenance Services:	
	Website for Maintenance Services:	
As per article 7.22- Licensed Software of the RFP Bidders to list all products		
As per article 7.23- Licensed Software Maintenance and Support of the RFP	Contact Information for Accessing the Contractor's Support Services:	
	■ Toll-free Telephone Access:	
	■ Toll-free Fax Access:	
	■ Email Access:	
	Website:	
	■ Website Address:	

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On behalf of the bidder, by signing below, I confirm that I have read the entire bid solicitation including the documents incorporated by reference into the bid solicitation and I certify that:

1. The bidder considers itself and its products able to meet all the mandatory requirements described in the bid solicitation;
2. This bid is valid for the period requested in the bid solicitation;
3. All the information provided in the bid is complete, true and accurate; and
4. If the bidder is awarded a contract, it will accept all the terms and conditions set out in the resulting contract clauses included in the bid solicitation.

Signature of Authorized Representative of Bidder:	
--	--

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FORM 2: SUBSTANTIATION OF TECHNICAL COMPLIANCE FORM:

Form 2 Substantiation of Technical Compliance Form		
Articles of Statement of Work that requires substantiation by the Bidder are:	Bidder Substantiation	Reference to additional Substantiating Materials included in Bid
Bidders must provide with their bids supporting documentation indicating the laws under which it is registered or incorporated together with the registered or corporate name and place of business.		
The Bidders must submit with their bids the certification found in Form 7 of the Bidders Forms regarding the origin of Hardware and Software.		
Annex A- Statement of Work, Section 7.1.1:		
(73) The Class 1 VoIP Private Branch Exchange (Class 1 PBX) must support up to 500 user devices.		
(75) The Class 1 PBX must be fault tolerant such that the failure of any of the following components does not result in the operational failure of the Class 1 PBX: a) Central processors; b) Memory; c) Hard disk; d) Network interface card(s); and e) Gateways.		
(78) The Class 1 PBX must list all operating system Licensed Software, back-up and restore utility Licensed Software, and licenses for a fully operational and configured system.		
(86) The Class 1 PBX must allow Canada to implement two to seven digits numbering plans.		

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(90) The Class 1 PBX must playback recorded announcements, music, or tones to Calling Parties while on hold and as requested by Canada.		
Annex A- Statement of Work, Section 7.1.2:		
(130) The Class 2 VoIP Private Branch Exchange (Class 2 PBX) must support up to 1500 user devices.		
(132) The Class 2 PBX must be fault tolerant such that the failure of any of the following components does not result in the operational failure of the Class 2 PBX: a) Central processors; b) Memory; c) Hard disk; d) Network interface card(s); and e) Gateways.		
(135) The Class 2 PBX must list all operating system Licensed Software, back-up and restore utility Licensed Software, and licenses for a fully operational and configured system.		
(143) The Class 2 PBX must allow Canada to implement two to seven digits numbering plans.		
(147) The Class 2 PBX must playback recorded announcements, music, or tones to Calling Parties while on hold, and as requested by Canada.		
Annex A- Statement of Work, Section 7.1.3:		
(187) The Class 3 VoIP Private Branch Exchange (Class 3 PBX) must support up to 5000 user devices.		
(189) The Class 3 PBX must be fault tolerant such that the failure of any of the following		

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components does not result in the operational failure of the Class 3 PBX: a) Central processors; b) Memory; c) Hard disk; d) Network interface card(s); and e) Gateways.		
(192) The Class 3 PBX must list all operating system Licensed Software, back-up and restore utility Licensed Software, and licenses for a fully operational and configured system.		
(200) The Class 3 PBX must allow Canada to implement two to seven digits numbering plans.		
(204) The Class 3 PBX must playback recorded announcements, music, or tones to Calling Parties while on hold, and as requested by Canada.		
Annex A- Statement of Work, Section 7.2.2:		
(248) The Network Gateways must support: a) Session initiation protocol (SIP); and b) Assured services session initiation protocol (AS-SIP).		
Annex A- Statement of Work, Appendix B, Section 23.1:		
SA-13 Robustness (trustworthiness): (a) The Contractor must provide FIPS 140-2 Level 1 validation certificate(s) for each module proposed to support the cryptographic requirements and the Contractor's File Transfer Protocol (FTP) site.		

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(b) The Contractor must provide Common Criteria EAL 1+ validation certificate(s) for all IP-enabled Network Products.		

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FORM 3: OFF-THE-SHELF AND OEM CERTIFICATION FORMS:

Form 3A

Off-the-Shelf Certification Form

This confirms that all the equipment listed in our Bid are "Off-the-Shelf".

Date signed

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Name of Bidder

Form 3B

OEM Certification Form

This confirms that the original equipment manufacturer (OEM) identified below has authorized the Bidder named below to provide and maintain its products under any contract resulting from the bid solicitation identified below.

Name of OEM

Signature of authorized signatory of OEM

Print Name of authorized signatory of OEM

Print Title of authorized signatory of OEM

Address for authorized signatory of OEM

Telephone no. for authorized signatory of OEM

Fax no. for authorized signatory of OEM

Date signed

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FORM 4: SOFTWARE PUBLISHER CERTIFICATION & AUTHORIZATION FORMS:

Form 4A

Software Publisher Certification Form

(to be used where the Bidder itself is the Software Publisher)

The Bidder certifies that is the software publisher of all the following software products and components and that it has all the rights necessary to license them (and any non-proprietary sub-components incorporated into the software) on a royalty-free basis to Canada:

[bidders should add or remove lines as needed]

Form 4B

Software Publisher Authorization Form

(to be used where the Bidder is not the Software Publisher)

This confirms that the software publisher identified below has authorized the Bidder named below to license its proprietary software products under any contract resulting from the bid solicitation identified below.

This authorization applies to the following software products:

[bidders should add or remove lines as needed]

Name of Software Publisher (SP)

Signature of authorized signatory of SP

Print Name of authorized signatory of SP

Print Title of authorized signatory of SP

Address for authorized signatory of SP

Telephone no. for authorized signatory of SP

Fax no. for authorized signatory of SP

Date signed

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FORM 5 - CANADIAN CONTENT CERTIFICATION:

Form 5 Canadian Content Certification	
As described in the solicitation, bids with at least 80% Canadian content are being given a preference. For the definition of Canadian goods and services, consult the PWGSC SACC clause A3050T.	
On behalf of the bidder, by signing below, I confirm that <i>[check the box that applies]</i> :	
At least 80 percent of the total bid price consists of Canadian goods and services (as defined in the solicitation)	<input type="checkbox"/>
Less than 80 percent of the total bid price consists of Canadian goods and services (as defined in the solicitation)	<input type="checkbox"/>
Name of the Authorized Representative of Bidder: _____	
Signature of the Authorized Representative of Bidder: _____	
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FORM 6A - CUSTOMER REFERENCE CONTACT INFORMATION:

Name of Bidder:	
------------------------	--

Solicitation number:	2B0KB-130262/A
-----------------------------	-----------------------

Reference Number: (Bidder to assign a unique number to each applicable reference)	
---	--

Name of reference organization	
Contract number(s) of the reference organization with the Bidder (if applicable):	

The reference organization must enter "Yes" or "No" or "UR", where "UR" means Unable to Respond, for each criteria in the table below. If the reference organization does not enter "Yes" or "No" or "UR" for each of the criterias, the response will be deemed to be "No".

By responding "Yes" in the table below , the reference organization agrees that the Bidder named above has delivered the relevant goods and /or services in the duration specified under the contract referenced above.

By responding "No" in the table below, the reference organization agrees that the Bidder named above has not delivered all of the goods and/or services in the duration specified under the contract referenced above.

By responding Unable to Respond (UR) in the table below, the reference organization agrees that it is unwilling or unable to provide any information about whether the Bidder named above has delivered the goods and/or services for duration specified under the contract referenced below. So that Canada can ensure this process is fair to all the Bidders, if the reference organization chooses a response that indicates "Unable to Respond" in the table below, it will be treated as a "No" response.

The Bidder has previously provided the identified goods and/or services to the customer reference:	Yes, No or UR
(A) For supply and installation of Network Products in North America during the last 12 months up to the date of posting of this RFP June 8, 2012, the Bidder has supplied and installed, for the customer reference, a VoIP PBX (Hardware and Licensed Software) supporting a minimum of 1,000 user devices; and	
(B) For PBX on-site maintenance in North America for at least 12 consecutive months during the last 24 months up to the date of posting of this RFP June 8, 2012, the Bidder has provided the customer	

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reference with on-site maintenance of a VoIP PBX (Hardware and Licensed Software) supporting a minimum of 1,000 user devices.	
C) During the last 60 months, up to the date of posting of this RFP June 8, 2012 48 months of experience in North America installing 10 VoIP PBXs each serving more than 250 user devices.	
D) During the last 60 months, up to the date of posting of this RFP June 8, 2012, 48 months of experience in North America installing 5 VoIP PBXs each serving more than 1,000 user devices.	

By signing below, I confirm that I am authorized representative of the reference organization identified above and that I have read and understood the elements in this form.	
Signature of authorized representative of reference organization:	Name: _____
	Title: _____
	Telephone: _____
	Signature: _____
	Date: _____

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FORM 7: CERTIFICATION FOR ORIGIN OF HARDWARE AND SOFTWARE FORM:

<p>Certification for origin of Hardware and Software</p> <p>Failure to provide this certification completed with the bid will render the bid non-responsive.</p> <p>The Bidder certifies that:</p> <ul style="list-style-type: none"> ▪ All Hardware proposed in its bid are manufactured or assembled in Canada or United States of America or Mexico; and ▪ All Software proposed in its bid is integrated with the applicable Hardware in Canada or United States of America or Mexico. 	
<p>Signature of authorized representative of The Bidder:</p>	<p>Name: _____</p> <p>Title: _____</p> <p>Signature: _____</p> <p>Date: _____</p>

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Integrated Communications and Support Services (ICSS)

Annex A: Statement of Work

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1 INTRODUCTION

- (1) Canada has a requirement to purchase and own voice Network Products, maintenance and support services, as and when requested in the National Capital Region (NCR).
- (2) This statement of work will address Canada's technical requirements for the acquisition of:
 - a) Voice over Internet Protocol (VoIP) PBX products; and
 - b) The following support services:
 1. Maintenance;
 2. Support resources;
 3. Installation services;
 4. Training; and
 5. Reporting.
- (3) Network products and services required to support the VoIP products (e.g. cabling, Local Area Network (LAN), routers, security perimeter devices such as firewalls and Intrusion Detection Services (IDS)) are not in scope to this statement of work and will be sourced, designed, installed and tested by Canada.

1.1 System Delivery Points

- (4) A System Delivery Point (SDP) is a physical location in a building (typically a wiring closet or a telecommunications room) where the information system is installed.
- (5) A Building or campus (multiple Buildings within a local cluster) can have one or more SDPs.
- (6) Canada may amend from time to time by adding and removing SDPs within the NCR. This will be documented in a contract amendment.

2 ADMINISTRATION AND MANAGEMENT

- (7) Service Quality Management (SQM) provides a framework for Canada and the Contractor to manage planning, design, delivery and installation, performance, reporting, billing and credits.
- (8) The Contractor must assign functional primes and implement a comprehensive SQM framework to provide excellence in terms of system management and Canada's satisfaction. The primary elements of this framework include account and contract management, engineering and design, installation management, system maintenance and support, and billing and invoicing management.
- (9) The Contractor must designate individuals to each SQM management element, in specific or multi-task capacities, at a functional level that ensures that it meets all of the requirements defined in this Contract.
- (10) With the exception of the Contractor's Service Manager (CSM), the Contractor must ensure that all SQM functions are available, at a minimum during the Principal Period of Maintenance (PPM) Monday to Friday from 7:00 am to 7:00 pm Eastern Time, excluding Government of Canada (GC) statutory holidays. The CSM function must be available on a 24 hours-per-day, 7 days-per-week and 365 days-per-year basis.

2.1 Contractor's Account Manager (CAM)

- (11) Within two business days from contract award, the Contractor must provide the name and business contact details for the Contractor's Account Manager (CAM).

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- (12) The CAM must have sufficient authority to act on behalf of the Contractor on all system issues, including technical, commercial and administrative matters.
- (13) The CAM must have a minimum of three years of national account management experience within the last five years, with a Voice over Internet Protocol (VoIP) system provider.
- (14) The CAM responsibilities will, at a minimum, include:
 - a) Monitoring the progress and status of the Contract;
 - b) Jointly resolving (with the Technical Authority and any involved 3rd parties) outstanding system issues;
 - c) Supporting the development and adherence to defined SQM methodologies; and
 - d) Ensuring adherence to the terms and conditions of the Contract.
- (15) Within ten business days from contract award, the CAM must provide a SQM plan to the Technical Authority which includes:
 - a) Quality assurance plan: management approach to formulating and enforcing quality standards, ensuring compliance with contractual Service Levels, reviewing Work in progress, and providing customer service;
 - b) Communication plan: approach to communicating individual task requirements, resolving technical, management, maintenance and personnel issues and risks between the Contractor's key personnel and Canada, managing communications between the Contractor and Canada, including Contractor points of contact, and processing lessons learned; and
 - c) Issue management plan: approach for identifying and managing program and project issues. This includes isolating the issue, assessing the impact, identifying responsible parties, assessment of a severity-level and determining a resolution.
- (16) The CAM must be available to meet with the Technical Authority in the National Capital Region (NCR), or another location specified by the Technical Authority, within three business days of receipt of such request. At a minimum, the CAM must meet monthly with the Technical Authority unless specified otherwise in writing by the Technical Authority.
- (17) Monthly meetings must, at a minimum:
 - a) Review system management performance, and issues requiring resolution, for the previous period;
 - b) Provides system delivery and installation status, progress and issues for all active service orders;
 - c) Review actions taken by the Contractor and Canada to address issues that have previously occurred;
 - d) Report and track the activities that the Contractor has undertaken to improve system performance levels; and
 - e) Identify procedural issues that could improve the relationship between the Contractor and Canada.
- (18) If, for any reason, the Technical Authority is not satisfied with the CAM, the Contractor must designate a replacement to act in this position within ten business days of receiving written notification from Canada indicating dissatisfaction with the incumbent.

2.2 Contract Due Diligence and Review Session

- (19) Within five business days of contract award, the CAM must coordinate a contract due diligence and review session, in the NCR, to review the Contract in detail with Canada. At a minimum, the following representatives must be in attendance:
 - a) Contracting Authority;

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- b) Technical Authority; and
 - c) The CAM (Chairperson).
- (20) During the Contract due diligence and review session, the CAM must provide Canada with the following information:
 - a) The Contractor's organizational chart;
 - b) Management escalation process that describes the means by which Canada can escalate issues to the appropriate levels in the Contractor's organization; and
 - c) Management escalation contact list.
- (21) The CAM must document and submit the minutes from the Contract due diligence and review session to the Contracting and Technical Authorities within two business days of the meeting.
- (22) The CAM must lead the team to resolve any outstanding issues following the initial Contract due diligence and review session. Outstanding issues must not affect or relieve the Contractor from its obligation to meet the timeframes in this Contract, unless specifically approved by the Contracting Authority and documented in a contract amendment.

2.3 Contractor's Engineering and Design Manager (CEDM)

- (23) Within five business days from contract award, the Contractor must designate an Engineering and Design Manager (CEDM) who will be the single point of authority for the engineering and design in accordance with the requirements of this Contract.
- (24) The CEDM must meet with the Technical Authority and other Canada functional primes within three business days from receipt of a written request from the Technical Authority.

2.4 Contractor's Installation Manager (CIM)

- (25) The Contractor must provide an Installation Manager (CIM) who will provide a single point of accountability for the installation of the Network Products.

2.5 Contractor's Service Manager (CSM)

- (26) Within twenty business days following receipt of the first service order, the Contractor must provide the name and contact details for the Contractor's Service Manager (CSM) who will be responsible for all system performance-related matters and issues associated with the delivery and ongoing performance of the Network Products including:
 - a) Configuration, change and inventory management;
 - b) Incident escalation;
 - c) Service Levels review and improvement;
 - d) Installation, staging, and oversight;
 - e) Maintenance window scheduling;
 - f) Service quality;
 - g) Service reporting; and
 - h) Service processes.
- (27) The CSM must be available to meet in person with Canada's representatives Monday to Friday from 07:00 am to 7:00 pm Eastern Time during business days.
- (28) The CSM must be available via pager or cell phones on a 24 hour per day basis.
- (29) The CSM must meet monthly with the Technical Authority, or when requested in writing by the Technical Authority, to review system management activity for Network Products delivered under this Contract.

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(30) The monthly meeting agendas must, at a minimum, include:

- a) Incident management reports and root cause analysis;
- b) Escalation issues;
- c) Maintenance and release window scheduling;
- d) Installation activities;
- e) Service Level performance;
- f) Quality assurance activities;
- g) Status – progress reporting; and
- h) Reviewing steps being taken to improve system performance.

2.6 Contractor's Billing and Invoicing Manager (CBIM)

- (31) Within twenty business days following receipt of the first service order, the Contractor must provide the name and contact details of a Billing and Invoicing Manager (CBIM) who will serve as the Contractor's single point of contact responsible for all matters and issues related to billing and invoicing.
- (32) The CBIM must meet with the Technical Authority, within three business days from receiving a written request from the Technical Authority, to review billing and invoicing issues and activity.

2.7 Contractor's Service Desk (CSD)

- (33) The Contractor must provide Canada, within ten business days of contract award, with a unique toll free telephone number and email address to contact the CSD from anywhere in Canada.
- (34) During the Contract Period, the CSD must manage the resolution of issues, problems and complaints and must escalate and prioritize issues as requested by Canada.
- (35) When called, the CSD must:
 - a) Answer the caller with a bilingual "Government of Canada / Gouvernement du Canada" voice greeting, in the sequence prescribed in the *Official Languages Act*;
 - b) Allow the caller to choose either English or French;
 - c) Provide a greeting introducing the system in the language chosen by the caller; and
 - d) Ensure that subsequent interaction, including subsequent greeting(s), must be provided by a live operator in Canada's official language, chosen by the caller.
 - e) Answer 80% of the calls in less than 20 seconds (including queue time), measured from the beginning of a recorded welcome announcement until the Contractor CSD picks up the call.

3 SUPPORT RESOURCES

3.1 Technical Integration Support Resource

- (36) The Contractor must provide a technical integration support resource on an as-and-when requested basis with an approved service order to perform the following Work:
 - a) Provide information on the technical aspects of the Network Products;
 - b) Provide guidance on the technical specifications applicable to integration and evolution of technology;
 - c) Provide technical support and guidance for configuration and evolution;
 - d) Provide technical support for technology issues;
 - e) Develop documentation for integration and evolution;

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- f) Develop and document application scripts; and
 - g) Provide guidance on associated security issues.
- (37) The technical integration support resource must have the following minimum qualifications:
- a) Two years experience with Voice over Internet Protocol (VoIP) technology;
 - b) Two years experience with VoIP security; and
 - c) Two years experience providing technical advice, guidance and support for integration and evolution of technology involving multi-disciplinary project / technical / business teams.

3.2 Integration Manager Resource

- (38) The Contractor must provide an integration manager resource for integration support, when requested in a service order, on an as-and-when requested basis to perform the following Work :
- a) Create, update and manage integration and evolution project plans including milestones, deliverables and risks;
 - b) Provide guidance on best practices for integration and evolution initiatives;
 - c) Identify integration and evolution risks and prepare risk mitigation plans;
 - d) Identify and document integration and evolution requirements and feedback;
 - e) Coordinate support teams (Network/Security/Operations/Desktop/ICSS preparation) to prepare for integration and evolution initiatives; and
 - f) Track the progress of the integration and evolution initiatives.
- (39) The integration manager resource must have the following minimum qualifications:
- a) Project Management Professional (PMP) active certification;
 - b) Information Technology Infrastructure Library (ITIL) certified (foundation);
 - c) Two years experience with information technology (IT) security;
 - d) Two years experience with IT system management; and
 - e) Two years experience managing multi-disciplinary project/technical/business teams.

3.3 Technician Resource

- (40) The Contractor must provide a technician resource for support, when requested in a service order, on an as-and-when requested basis to perform the following Work :
- a) Staging, installing, configuring and testing Network Products Hardware and/or Licensed Software;
 - b) Removing Network Products Hardware and/or Licensed Software; and
 - c) Updating PBX configurations and inventory records.
- (41) The technician resource must have the following minimum qualifications:
- a) OEM certified, as applicable; and
 - b) Two years experience with installing or repairing the Network Products Hardware and/or Licensed Software.

4 SECURE FILE TRANSFER PROTOCOL (FTP) SITE REQUIREMENTS

- (42) File Transfer Protocol (FTP) is used to transfer files between computers within or outside a private network. The Contractor must provide a secure FTP site which will allow, among other

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functions, authorized Canada personnel, such as the Technical Authority and Canada's system administrators, to download, at a minimum, the information defined in this Contract.

- (43) Within twenty business days from contract award, the Contractor must provide a secure FTP site that meets the following security requirements:
- a) Only the required IP ports are open;
 - b) Audit trails;
 - c) Secure Shell-2 (SSH-2 Standard);
 - d) Enables AES-128-bit encryption for access and exchange of information;
 - e) Alternatives to AES 128 are described on <http://www.cse-cst.gc.ca/its-sti/publications/itsa-asti/itsa11e-eng.html>.
 - f) All accesses to FTP must be logged and require either:
 - 1. Authentication by user identification and password; or
 - 2. Authentication by SSH Keys or X.509 certificates.
 - g) User identification is issued for a specific length of time and reconfirmed annually; and
 - h) The Contractor must not use protocols that send clear text usernames or passwords. The password must:
 - 1. For Management Information System (MIS) user accounts, be user selectable and requires a minimum of eight digits in length; composed of a mix of alpha and numeric characters and include a minimum of one upper and one lower case letter;
 - 2. For the MIS administrator account, have at least eleven characters in length;
 - 3. Be known only by the authorized user of the account;
 - 4. Not be embedded in an automated logon procedure (sign-on script);
 - 5. Never be displayed on the personal computer monitor;
 - 6. Never be printed or included on computer file or print output;
 - 7. Be changed at least once every ninety calendar days; and
 - 8. Be protected by one-way 128-bit encryption.
- (44) The password history file must be set to remember, at a minimum, the last ten passwords used, in order to prevent users from re-using them.
- (45) Three consecutive failed attempts to enter the correct password must result in the account being locked. The Technical Authority will need to contact the Contractor's secure FTP site administrator and authenticate him/herself in order to have the password reset. Upon re-entering the new password to access the secure FTP site, these users must be prompted to change their password.
- (46) Authentication Option 2: All accesses to the FTP site must be logged and require authentication by SSH Keys or X.509 certificates.

5 REPORTS AND DOCUMENTATION

- (47) The content and format of reports and documentation must be approved by the Technical Authority.

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- (48) The Contractor must provide all reports in English, and in French when requested by the Technical Authority.
- (49) All reports must be posted to the Contractor's secure FTP site within the timelines specified for each report.
- (50) The Contractor must provide user guides and training materials in both English and French.
- (51) The Contractor must manage changes to reports and documentation by tracking versions and change history.
- (52) The Contractor must modify reports when specified by Canada.
- (53) The Contractor must update documentation specified in the Contract within ten business days of:
 - a) A change that affects the information in a document; and
 - b) As requested by Canada for approval purposes.

5.1 Contract Expenditure Report (CER)

- (54) Monthly, and in a format acceptable to Canada, within ten business days from the last calendar day of the monthly billing period, the Contractor must provide a contract expenditure report (CER) to the Contracting Authority and the Technical Authority at the emails identified in the Contract, and to the Shared Services Procurement Operations (PO) at: rcngcsareportage.ncrcmasreporting@tpsgc-pwgsc.gc.ca
- (55) The CER must include the following information:
 - a) The monthly billing period (start and end dates);
 - b) The year-to-date total;
 - c) The % of the total contract value (taxes included) expended;
 - d) For each: the monthly billing period, the calendar year, and since contract award
 - 1. The amount invoiced without taxes;
 - 2. The harmonized sales tax (HST) amount invoiced;
 - 3. The goods and services tax (GST) amount invoiced; and
 - 4. The total amount invoiced with HST and GST.
 - e) For each monthly billing period, the CER must also include;
 - 1. Total billing activity (such as Network Products, support services, and Cost Centre codes) for approved service orders; and
 - 2. Total billed charges for approved service orders.

5.2 Service Order Report

- (56) Monthly; within ten business days from the last calendar day of the monthly billing period, in a format acceptable to Canada, the Contractor must provide to the Technical Authority a service order report which includes, at a minimum
 - a) Reporting period (start and end dates); and
 - b) For all service orders issued within the reporting period;
 - 1. Service order number;
 - 2. Date issued;

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3. Site location (including civic address and postal code);
4. Total service order amount (excluding GST/HST);
5. Applicable GST/ HST;
6. Total service order amount (including GST/HST); and
7. Service order status.

5.3 Security and Privacy Breach Notifications

- (57) During the Contract Period, the Contractor must identify and resolve all security and privacy breaches associated with the information system. A security or privacy breach is the failure of any of the security and privacy measures contained in this Contract.
- (58) The Contractor must report security and privacy breaches to the Technical Authority within the timelines specified in the security and privacy requirements.
- (59) The security notification must include, at a minimum, the following:
 - a) The time and date the breach was detected;
 - b) The nature of the breach;
 - c) An estimate of the impact of the breach;
 - d) The actions taken to correct the breach; and
 - e) A list of actions that will be taken to minimize the chance of a re-occurrence.
- (60) The Contractor must immediately reset passwords and passkeys after becoming aware of a validated security or privacy breach.

5.4 Privacy Management Plan:

- (61) Within 20 days from contract award, the Contractor must provide a privacy management plan that:
 - a) Defines how the privacy requirements of this Contract, including those contained in the *Privacy Act*, will be satisfied;
 - b) Describes the roles and responsibilities of the Contractor's privacy delegates;
 - c) Details how administrative/personal information collected is limited to what is necessary to maintain the Network Products;
 - d) Describes the processes to identify, report, and escalate privacy incidents;
 - e) Describes the processes on how data is accessed, collected, used, disclosed, retained, received, created or disposed;
 - f) Details the procedures for reporting on, and responding to privacy breaches; and
 - g) Describes the processes to ensure incorporation of Canada-specific retention and disposal requirements.

5.5 Resilience of Supply Chain and Business Continuity Plan:

- (62) Within sixty business days from contract award, the Contractor must deliver a business continuity plan to the Technical Authority that, at a minimum, addresses the following:
 - a) The steps the Contractor will take if any of its suppliers go out of business;
 - b) The steps the Contractor will take if any of its suppliers are identified as a supplier who

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no longer supplies "trusted" equipment;

- c) The steps the Contractor will take if any part of the information system is harmed by any cause including natural or malevolent;
 - d) How often the Contractor's databases, which support the Network Products and support services, will be backed up (the minimum requirement is at least once a week); and
 - e) How often the Contractor's business continuity plan will be tested (the minimum requirement is at least once a year).
- (63) The Contractor must address any concerns raised by the Technical Authority about the business continuity plan and update the plan within five business days from receiving Canada's concerns.
- (64) Within thirty days of each anniversary date of the Contract, the Contractor must provide the Technical Authority with an update to its business continuity plan.

6 SERVICES GUIDE

- (65) Within forty business days from contract award, the Contractor must document, in a format acceptable to Canada, the service management processes and procedures in a services guide, in accordance with the requirements of this Contract.
- (66) The Contractor must maintain and update the services guide on a release schedule agreed upon between the Technical Authority and the Contractor.
- (67) The services guide must, at a minimum:
- a) Describe the Contractor's organizational and operational structures;
 - b) Define the roles and responsibilities of the Contractor functional primes and the Canada functional primes;
 - c) Document the processes, procedures and methodologies for incident management, security and privacy management, service billing, service maintenance (for all plans), service reporting, service credit management and service delivery;
 - d) Identify how the Canada functional primes will be provided with information on the management, operation, communication, report and review of the service(s);
 - e) Describe the management and operational support systems and tools;
 - f) Describe the Contractor's Service Level objectives; and
 - g) Describe the procedures and processes to control, manage and report, within ten business days, all configurations and inventory changes as a result of a variety of activities such as service orders, MAC's, incidents, billing and maintenance activities.
- (68) The Contractor must provide an electronic version of the services guide, using common off-the-shelf Licensed Software, to the Technical Authority in English. The Contractor must also provide the services guide in French when requested, in writing, by the Technical Authority.

7 VOIP NETWORK PRODUCTS

- (69) VoIP Network Products (Network Products) include all Hardware, Licensed Software and functional specifications detailed in section 7.

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- (70) The Contractor must resolve interoperability problems between Network Products provided by the Contractor during the term of the Contract, and at the Contractor's cost.
- (71) The Contractor must provide Network Products to Canada as defined in this Contract as and when requested in a service order.
- (72) The Contractor must only activate Network Product features and capabilities that have been requested by the Technical Authority in a service order.

7.1 Telephony Network Products

7.1.1 Class 1 VoIP Private Branch Exchange

- (73) The Class 1 VoIP Private Branch Exchange (Class 1 PBX) must support up to 500 user devices.
- (74) The Class 1 PBX must comply with the following standards (refer to Technical Standards and Codes subsection):
 - a) PSTN Interface; and
 - b) Voice services.
- (75) The Class 1 PBX must be fault tolerant such that the failure of any of the following components does not result in the operational failure of the Class 1 PBX:
 - a) Central processors;
 - b) Memory;
 - c) Hard disk;
 - d) Network interface card(s); and
 - e) Gateways.
- (76) The Class 1 PBX must support Trunk connections that include:
 - a) IP trunking;
 - b) ISDN PRI; and
 - c) Analog loop start and ground start.
- (77) The Class 1 PBX must support Trunk types that include:
 - a) Direct inward dialing (DID);
 - b) Incoming / outgoing trunks; and
 - c) Zone paging systems.
- (78) The Class 1 PBX must include all operating system Licensed Software, back-up and restore utility Licensed Software, and licenses for a fully operational and configured system.
- (79) The Class 1 PBX must allow Canada to implement Dialling Plans that use an access code for local calling (e.g. dial "9") and long distance calling (e.g. "1") as requested by Canada.
- (80) The Class 1 PBX must automatically terminate DID calls on user devices.
- (81) The Class 1 PBX must manipulate digits on dialled telephone numbers as follows:
 - a) Inserting specific digit(s) in front of the first dialed digit;
 - b) Removing specific number of digit(s) starting from the first dialed digit;
 - c) Replacing specific number of digit(s) with pre-programmed ones starting from the first dialed digit;

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- d) Passing digits as dialed digits;
 - e) Source and destination telephone number;
 - f) Permitted Calling Profile;
 - g) Time of day; and
 - h) Day of week.
- (82) Canada defines a Permitted Calling Profile as a means to control receiving calls or making calls from/to selected telephone numbers (e.g. local, long distance PSTN, On-net).
- (83) The Class 1 PBX must include Permitted Calling Profiles that restrict (or allow), as required by Canada, making calls from telephony devices for all of the following On-net and Off-net calling options:
- a) PSTN 211;
 - b) PSTN 311;
 - c) PSTN 411;
 - d) PSTN 511;
 - e) PSTN 611;
 - f) PSTN 711;
 - g) PSTN 811;
 - h) PSTN 911 (refer to Emergency – 911);
 - i) PSTN telephone numbers starting with NPA 900;
 - j) Any PSTN NPA followed by 976 as the NXX;
 - k) PSTN within the Free Calling Area;
 - l) PSTN Toll Free telephone numbers;
 - m) On-net long distance calls;
 - n) PSTN "0" for telephone company operator services;
 - o) PSTN direct dial long distance within Canada;
 - p) PSTN direct dial long distance to the U.S.;
 - q) PSTN 1+NPA+555+1212 LD directory;
 - r) PSTN 011 for automatic overseas telephone numbers;
 - s) PSTN 01 for operator assisted overseas telephone numbers; and
 - t) Receiving PSTN originating calls.
- (84) The Class 1 PBX must generate Simple Network Management Protocol (SNMP) version 3, or later, traps for Hardware and Licensed Software alarms.
- (85) The Class 1 PBX must interconnect to external systems that include:
- a) Zone paging systems; and
 - b) Music sources.
- (86) The Class 1 PBX must allow Canada to implement two to seven digits numbering plans.
- (87) The Class 1 PBX must provide direct access to PSTN lines and dialling an access code for local calling (e.g. dial "9") and long distance calling (e.g. "1").

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(88) The Class 1 PBX must, at a minimum, provide the following system features:

- a) Attendant Answering;
- b) Auto-termination of telephone numbers;
- c) Barge-In;
- d) Call Progress Tones;
- e) Call Waiting Tones;
- f) Call Detail Records (CDR);
- g) Direct Outward Dialing;
- h) Distinctive Ringing;
- i) Do Not Disturb;
- j) Dual Tone Multi-Frequency (DTMF) end-to-end;
- k) Find me Follow-me;
- l) Hunt Groups;
- m) Incoming Only Line;
- n) Message Waiting Indicator;
- o) Same number appearance on multiple telephones;
- p) Music on Hold;
- q) Night Answer;
- r) Single-Line Extension;
- s) Speed Dial;
- t) Direct Inward Dialing;
- u) Message Announcement; and
- v) Outgoing Call Screening by Permitted Calling Profile.

(89) The Class 1 PBX must provide the following Call Features for analog and IP telephones:

- a) Call Back Activation (ring again);
- b) Call Blocking (do not disturb);
- c) Call Conference;
- d) Call Forwarding automatic on all calls;
- e) Call Hold;
- f) Call Park;
- g) Call Trace (for malicious calls);
- h) Call Transfer;
- i) Call Pickup;
- j) Call Waiting;
- k) Caller name identification display;

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- l) Caller number identification display;
- m) Consultation on Hold;
- n) Direct dial using E.164 numbering plan;
- o) Forward on Busy;
- p) Forward on No Answer;
- q) Hot Line;
- r) Intercom;
- s) Mute;
- t) Last Number Redial; and
- u) Voice Mail visual indication.

- (90) The Class 1 PBX must playback recorded announcements, music, or tones to Calling Parties while on hold and as requested by Canada.

7.1.1.1 **Class 1 PBX – Automatic Call Distribution (ACD)**

- (91) The Class 1 PBX must provide the following Automatic Call Distribution (ACD) features:
- a) Queues or applications;
 - b) Skill sets associated to a particular queue or application;
 - c) Recorded announcements based on time in queue;
 - d) Interface to a music source while caller is waiting for an Agent;
 - e) Real time reporting that include:
 - 1. Number of Agents logged in / busy / not ready / waiting by Skill set;
 - 2. Number of calls in queue by application;
 - 3. Average and longest wait time by application;
 - 4. Service levels by application; and
 - 5. Number of calls abandoned.
 - f) Agent and applications (queues) historical reporting that include:
 - 1. Calls received
 - 2. Calls abandoned;
 - 3. Average wait time in queue;
 - 4. Agents login/logout; and
 - 5. Activity reports.
 - g) Overflow calls locally (within the same system), either immediately or after a specific time, to alternate ACD paths (or queues) based on time in queue or number of calls already in queue;
 - h) Routing scripts based on criteria such as time-of-day, queue status, Calling Line Identifier (CLID), Automatic Number Identifier (ANI);
 - i) Routing calls to an alternate queues/applications or telephone number (external or

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internal) when the primary ACD path is closed (no Agents logged in);

- j) Supervisor notification and Barge-In for emergency situation;
- k) Supervisors to monitor a conversation; and
- l) Setting queues/application performance based on average time to answer and service level objectives.

7.1.1.2 **Class 1 PBX – Voice Mail**

- (92) The Class 1 PBX must automatically route calls to Voice Mail when the Called Party:
 - a) Is busy on the user device;
 - b) Does not answer after the number of rings defined by the Voice Mail Subscriber profile; and
 - c) Has Find-me Follow-me rules that require calls be routed to a Voice Mail.
- (93) The Class 1 PBX must provide a minimum of one Voice Mail per telephone line.
- (94) The Voice Mail must provide:
 - a) Subscriber greeting message of up to two minutes in duration;
 - b) Up to thirty Voice Mail Messages per Voice Mail mailbox; and
 - c) Up to two minutes of recording time for a Voice Mail Message.
- (95) The Class 1 PBX must provide the following information to the Voice Mail Subscribers when accessing their Voice Mail:
 - a) A tutorial on how to use the Voice Mail commands and initialize their Voice Mail upon first time access;
 - b) A notification message when the number of Voice Mail messages has reached its maximum limit and that no additional messages will be accepted unless existing messages are deleted;
 - c) A notification message with the option to keep (or not) an extended absence greeting when activated;
 - d) The total number of Voice Mail messages; and
 - e) The total number of new Voice Mail messages.
- (96) The Voice Mail must provide the following greeting messages to Calling Parties:
 - a) A Voice Mail Subscriber's greeting message when recorded by the Voice Mail Subscriber;
 - b) A default greeting message if the Voice Mail Subscriber has not recorded a message;
 - c) An announcement when the Voice Mail is full and cannot accept any additional Voice Mail messages;
 - d) A greeting message not allowing Calling Parties to leave a Voice Mail message; and
 - e) An extended absence greeting as recorded by the Voice Mail Subscriber.
- (97) The Class 1 PBX must allow Voice Mail Subscribers to access their Voice Mail by:
 - a) Calling the Voice Mail telephone number; and

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- b) Pushing a Message Waiting Indicator button or speed-dial to Voice Mail button.
- (98) The Class 1 PBX must allow a Calling Party to:
 - a) By-pass the Voice Mail prompts, by pressing a key on a user device; and
 - b) Transfer to a telephone number by pressing zero on the user device keypad.
- (99) The Class 1 PBX must allow a Voice Mail mailbox to support up to five telephone numbers.
- (100) The Class 1 PBX must allow Canada's system administrators set the language prompts for Voice Mail administration to French or English.
- (101) The Class 1 PBX must allow a Voice Mail Subscriber to change the language to French or English.
- (102) The Class 1 PBX must allow a Voice Mail Subscriber to program the telephone number where calls are transferred when a user enters zero on the keypad.
- (103) The Class 1 PBX must guide Calling Parties through French, English or bilingual voice prompts, as specified by Canada for each Voice Mail.
- (104) The Class 1 PBX must provide secure access to a Voice Mail Subscriber by:
 - a) Providing numeric passwords of up to eight digits;
 - b) Requesting that Voice Mail Subscriber enter a new numeric password on initial access to their Voice Mail;
 - c) Requesting that a Voice Mail Subscriber enter a numeric password to access their Voice Mail;
 - d) Allowing a Voice Mail Subscriber to change their password at any time from any DTMF-enabled device;
 - e) Locking a Voice Mail after three unsuccessful login attempts;
 - f) Recording password changes with time stamp and user identification (e.g. Canada's system administrator and Voice Mail Subscriber);
 - g) Masking the Voice Mail Subscriber user password upon viewing a Voice Mail configuration information; and
 - h) Logging unsuccessful Voice Mail access attempts to a log file.
- (105) The Class 1 PBX must store Voice Mail messages:
 - a) Until deleted by the Voice Mail Subscriber; and
 - b) For a minimum of fourteen calendar days when saved by the Voice Mail Subscriber.
- (106) The Class 1 PBX must allow a Calling Party to mark a Voice Mail message as:
 - a) Private so that it cannot be forwarded; and
 - b) Urgent so that it is heard before all Voice Mail messages stored in a Voice Mail.
- (107) The Class 1 PBX must playback Voice Mail messages:
 - a) Starting with the oldest one (first-in first-out) and indicate the message number; and
 - b) Tagged as urgent prior to other Voice Mail messages.
- (108) The Class 1 PBX must allow a Voice Mail Subscriber to:
 - a) Listen to a Voice Mail message immediately after logging into their Voice Mail and pressing a key on a user device;
 - b) Reply to a Voice Mail message without having to re-key the sender's address;

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- c) Forward a Voice Mail message, at any time during playback, to other Voice Mail with additional comments;
 - d) Skip a Voice Mail message in order to listen to the next Voice Mail message;
 - e) Skip forward and backward within a Voice Mail message, as it is being played;
 - f) Send a Voice Mail message to one or more Voice Mail;
 - g) Broadcast a Voice Mail message to groups of Voice Mail defined by Canada;
 - h) Interrupt the system message, in order to obtain information on available commands;
 - i) Stop playback and save a message for future playback;
 - j) Delete a Voice Mail message during playback; and
 - k) Stop playback and obtain the Voice Mail message information on:
 - 1. Date and time of message arrival;
 - 2. Calling Party telephone number; and
 - 3. Status of the Voice Mail message (urgent, private).
- (109) The Class 1 PBX must provide a confirmation message to the Voice Mail Subscribers when a Voice Mail message is:
- a) Saved;
 - b) Deleted; and
 - c) Forwarded.
- (110) The Class 1 PBX must include the Voice Mail Subscriber recorded name and a message introduction when forwarding a Voice Mail message to another Voice Mail Subscriber.
- (111) The Class 1 PBX must notify a Voice Mail Subscriber that there are new messages in their Voice Mail by activating the Message Waiting Indicator on their user device.
- (112) The Class 1 PBX must notify a Voice Mail Subscriber that there are no new messages in their Voice Mail by deactivating the Message Waiting Indicator light on their user device.
- (113) The Class 1 PBX must allow waiting light indicator audits on user devices following a system restore after failure of:
- a) Voice Mail; or
 - b) Class 1 PBX.
- (114) The Class 1 PBX must allow a Voice Mail to be configured as a Message Information Mailbox.
- (115) The Class 1 PBX must allow recorded messages of up to six minutes in duration for a Message Information Mailbox.
- (116) The Class 1 PBX must allow On-net and Off-net Calling Parties to access a Message Information Mailbox by dialling a telephone number.

7.1.1.3 **Class 1 PBX – Management Information System (MIS)**

- (117) The Class 1 PBX must provide a Management Information System function for Canada's use.
- (118) The Class 1 PBX MIS must provide Canada's system administrator access to and control of all aspects of the system (i.e. super user).
- (119) The Class 1 PBX MIS must allow Canada's system administrators to backup and restore the system configuration.

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- (120) The Class 1 PBX must provide secure access to the MIS via a web browser as follows:
- a) Request unique MIS user identification name and password;
 - 1. The Class 1 PBX MIS password must be user selectable and requires a minimum of eight digits in length; composed of a mix of alpha and numeric characters and include a minimum of one upper and one lower case letter;
 - 2. The Class 1 PBX MIS must force all users and administrators, when accessing the MIS for the first time, to change the default password to a personal password;
 - 3. The Class 1 PBX MIS must never display any password or allow any passwords to be printed in any reports, or included in a computer file, or print output. The password must not be allowed to be embedded in an automated logon procedure; and
 - 4. The Class 1 PBX MIS must allow Canada's system administrator(s) to program a maximum period of time that a password can be used. Prior to password expiration the user must be advised and prompted to enter a new password. The new password cannot be the same as any of the ten previous passwords used by that user.
 - b) De-activate an MIS user account, when the name and/or password is entered incorrectly, after a specific number of failed attempts, as specified by Canada; and
 - c) De-activate an MIS user account after a specific number of calendar days of inactivity.
- (121) The Class 1 PBX MIS must record successful and failed login attempts in an SSC accessible system log file.
- (122) The Class 1 PBX MIS must automatically record:
- a) The date and time that an administrative or maintenance user logs into the Class 1 PBX;
 - b) Any changes made by the administrative or maintenance user; and
 - c) The date and time that an administrative or maintenance user logs out of the Class 1 PBX.
- (123) The Class 1 PBX MIS must allow Canada to create MIS administrator accounts.
- (124) The Class 1 PBX MIS must allow an MIS administrator to:
- a) Create, modify, delete, suspend, and re-activate MIS user accounts;
 - b) Search, sort and view MIS user accounts based on any field in a MIS user account; and
 - c) Define the rights (read/view, write/modify, and delete) a MIS user has to:
 - 1. Viewing reports and system log files;
 - 2. Modifying the Hardware and Licensed Software configuration;
 - 3. Performing administrative changes;
 - 4. Monitoring PBX component utilization and performance (CPU usage, disk I/O, memory use) status; and
 - 5. Backing-up and restoring system configuration and user information.
- (125) The Class 1 PBX MIS user interface (help text/pages, navigation text/controls) must be in the language preference specified by the MIS user (French or English).

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- (126) The Class 1 PBX MIS must create Call Detail Record (CDR) information upon outgoing call completion that includes:
- a) Calling Party telephone number;
 - b) Called Party telephone number;
 - c) Total call duration (in seconds);
 - d) Call routing information (e.g. route or Call Type);
 - e) Start date of call;
 - f) End date of call;
 - g) Start time of call; and
 - h) End time of call.
- (127) The Class 1 PBX MIS must allow the MIS administrator to create ad-hoc reports from any or all CDR records.
- (128) The Class 1 PBX MIS must allow MIS administrator to configure end user incoming call routing preferences for Find-me Follow-me such that incoming calls are routed to:
- a) Multiple On-net and Off-net telephone numbers sequentially;
 - b) Multiple On-net and Off-net telephone numbers simultaneously;
 - c) Alternate On-net and Off-net telephone number after a pre-determined amount of time or number of rings as defined by the user;
 - d) A Voice Mail; and
 - e) A busy signal.
- (129) The Class 1 PBX MIS must allow the MIS administrator to create end user routing rules for Find-me Follow-me such that incoming calls are routed to telephone numbers (e.g. cellular telephone) or service (e.g. Voice Mail), based on:
- a) Time of day;
 - b) Day of week; and
 - c) Calling Party telephone number.

7.1.2 Class 2 VoIP Private Branch Exchange

- (130) The Class 2 VoIP Private Branch Exchange (Class 2 PBX) must support up to 1500 user devices.
- (131) The Class 2 PBX must comply with the following standards (refer to Technical Standards and Codes subsection):
- a) PSTN Interface; and
 - b) Voice services.
- (132) The Class 2 PBX must be fault tolerant such that the failure of any of the following components does not result in the operational failure of the Class 2 PBX:
- a) Central processors;
 - b) Memory;
 - c) Hard disk;
 - d) Network interface card(s); and

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- e) Gateways.
- (133) The Class 2 PBX must support Trunk connections that include:
 - a) IP trunking;
 - b) ISDN PRI; and
 - c) Analog loop start and ground start.
- (134) The Class 2 PBX must support Trunk types that include:
 - a) Direct inward dialing (DID);
 - b) Incoming / outgoing trunks; and
 - c) Zone paging systems.
- (135) The Class 2 PBX must include all operating system Licensed Software, back-up and restore utility Licensed Software, and licenses for a fully operational and configured system.
- (136) The Class 2 PBX must allow Canada to implement Dialling Plans that use an access code for local calling (e.g. dial "9") and long distance calling (e.g. "1") as requested by Canada.
- (137) The Class 2 PBX must automatically terminate DID calls on user devices.
- (138) The Class 2 PBX must manipulate digits on dialed telephone numbers as follows:
 - a) Inserting specific digit(s) in front of the first dialed digit;
 - b) Removing specific number of digit(s) starting from the first dialed digit;
 - c) Replacing specific number of digit(s) with pre-programmed ones starting from the first dialed digit;
 - d) Passing digits as dialed digits;
 - e) Source and destination telephone number;
 - f) Permitted Calling Profile;
 - g) Time of day; and
 - h) Day of week.
- (139) Canada defines a Permitted Calling Profile as a means to control receiving calls or making calls from/to selected telephone numbers (e.g. local, long distance PSTN, On-net).
- (140) The Class 2 PBX must include Permitted Calling Profiles that restrict (or allow), as required by Canada, making calls from telephony devices for all of the following On-net and Off-net calling options:
 - a) PSTN 211;
 - b) PSTN 311;
 - c) PSTN 411;
 - d) PSTN 511;
 - e) PSTN 611;
 - f) PSTN 711;
 - g) PSTN 811;
 - h) PSTN 911 (refer to Emergency – 911);
 - i) PSTN telephone numbers starting with NPA 900;
 - j) Any PSTN NPA followed by 976 as the NXX;

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- k) PSTN within the Free Calling Area;
 - l) PSTN Toll Free telephone numbers;
 - m) On-net long distance calls;
 - n) PSTN "0" for telephone company operator services;
 - o) PSTN direct dial long distance within Canada;
 - p) PSTN direct dial long distance to the U.S.;
 - q) PSTN 1+NPA+555+1212 long distance directory;
 - r) PSTN 011 for automatic overseas telephone numbers;
 - s) PSTN 01 for operator assisted overseas telephone numbers; and
 - t) Receiving PSTN originating calls.
- (141) The Class 2 PBX must generate SNMP, version 3 or later, traps for Hardware and Licensed Software alarms.
- (142) The Class 2 PBX must interconnect to external systems that include:
- a) Zone paging systems; and
 - b) Music sources.
- (143) The Class 2 PBX must allow Canada to implement two to seven digits numbering plans.
- (144) The Class 2 PBX must provide direct access to PSTN lines and dialling an access code for local calling (e.g. dial "9") and long distance calling (e.g. "1").
- (145) The Class 2 PBX must, at a minimum, provide the following system features:
- a) Attendant Answering;
 - b) Auto-termination of telephone numbers;
 - c) Barge-In;
 - d) Call Progress Tones;
 - e) Call Waiting Tones;
 - f) Call Detail Records (CDR);
 - g) Direct Outward Dialing;
 - h) Distinctive Ringing;
 - i) Do Not Disturb;
 - j) Dual Tone Multi-Frequency (DTMF) end-to-end;
 - k) Find me Follow-me;
 - l) Hunt Groups;
 - m) Incoming Only Line;
 - n) Message Waiting Indicator;
 - o) Same number appearance on multiple user devices;
 - p) Music on Hold;
 - q) Night Answer;
 - r) Single-Line Extension;

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- s) Speed Dial;
 - t) Direct Inward Dialing;
 - u) Message Announcement; and
 - v) Outgoing Call Screening by Permitted Calling Profile.
- (146) The Class 2 PBX must provide the following Call Features for analog and IP user devices:
- a) Call Back Activation (ring again);
 - b) Call Blocking (do not disturb);
 - c) Call Conference;
 - d) Call Forwarding automatic on all calls;
 - e) Call Hold;
 - f) Call Park;
 - g) Call Trace (for malicious calls);
 - h) Call Transfer;
 - i) Call Pickup;
 - j) Call Waiting;
 - k) Caller name identification display;
 - l) Caller number identification display;
 - m) Consultation on Hold;
 - n) Direct dial using E.164 numbering plan;
 - o) Forward on Busy;
 - p) Forward on No Answer;
 - q) Hot Line;
 - r) Intercom;
 - s) Mute;
 - t) Last Number Redial; and
 - u) Voice Mail visual indication.
- (147) The Class 2 PBX must playback recorded announcements, music, or tones to Calling Parties while on hold, and as requested by Canada.

7.1.2.1 **Class 2 PBX – Automatic Call Distribution (ACD)**

- (148) The Class 2 PBX must provide the following Automatic Call Distribution (ACD) features:
- a) Queues or applications;
 - b) Skill sets associated to a particular queue or application;
 - c) Recorded announcements based on time in queue;
 - d) Interface to a music source while caller is waiting for an Agent;
 - e) Real time reporting that include:

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1. Number of Agents logged in / busy / not ready / waiting by Skill set;
 2. Number of calls in queue by application;
 3. Average and longest wait time by application;
 4. Service levels by application; and
 5. Number of calls abandoned.
- f) Agent and applications (queues) historical reporting that include:
1. Calls received
 2. Calls abandoned;
 3. Average wait time in queue;
 4. Agents login/logout; and
 5. Activity reports.
- g) Overflow calls locally (within the same system), either immediately or after a specific time, to alternate ACD paths (or queues) based on time in queue or number of calls already in queue;
- h) Routing scripts based on criteria such as time-of-day, queue status, CLID, Automatic Number Identifier;
- i) Routing calls to an alternate queues/applications or telephone number (external or internal) when the primary ACD path is closed (no Agents logged in);
- j) Supervisor notification and Barge-In for emergency situation;
- k) Supervisors to monitor a conversation; and
- l) Setting queues/application performance based on average time to answer and service level objectives.

7.1.2.2 **Class 2 PBX – Voice Mail**

- (149) The Class 2 PBX must automatically route calls to a Voice Mail when the Called Party:
- a) Is busy on the user device;
 - b) Does not answer after the number of rings defined by the Subscriber profile; and
 - c) Has Find-me Follow-me rules that require calls be routed to a Voice Mail.
- (150) The Class 2 PBX must provide a minimum of one Voice Mail per telephone line.
- (151) The Voice Mail must provide:
- a) Subscriber greeting message of up to two minutes in duration;
 - b) Up to thirty Voice Mail Messages per Voice Mail mailbox; and
 - c) Up to two minutes of recording time for a Voice Mail Message.
- (152) The Class 2 PBX must provide the following information to the Voice Mail Subscriber when accessing their Voice Mail:
- a) A tutorial on how to use the Voice Mail commands and initialize their Voice Mail upon first time access;
 - b) A notification message when the number of Voice Mail messages in a Voice Mail

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- has reached its maximum limit and that no additional messages will be accepted unless existing messages are deleted;
- c) A notification message with the option to keep (or not) an extended absence greeting when activated;
 - d) The total number of Voice Mail messages; and
 - e) The total number of new Voice Mail messages.
- (153) The Voice Mail must provide the following greeting messages to Calling Parties:
- a) A Voice Mail Subscriber's greeting message when recorded by the Voice Mail Subscriber;
 - b) A default greeting message if the Voice Mail Subscriber has not recorded a message;
 - c) An announcement when a Voice Mail is full and cannot accept any additional Voice Mail messages;
 - d) A greeting message not allowing Calling Parties to leave a Voice Mail message; and
 - e) An extended absence greeting as recorded by the Voice Mail Subscriber.
- (154) The Class 2 PBX must allow Voice Mail Subscribers to access their Voice Mail by:
- a) Calling the Voice Mail telephone number; and
 - b) Pushing a Message Waiting Indicator button, or speed-dial to Voice Mail button
- (155) The Class 2 PBX must allow a Calling Party to:
- a) By-pass the Voice Mail prompts, by pressing a key on a user device; and
 - b) Transfer to a telephone number by pressing 0 on the user device keypad.
- (156) The Class 2 PBX must allow a Voice Mail mailbox to support up to five telephone numbers.
- (157) The Class 2 PBX must allow Canada's system administrator to set the language prompts for Voice Mail administration to French or English.
- (158) The Class 2 PBX must allow a Voice Mail Subscriber to change the language to French or English.
- (159) The Class 2 PBX must allow a Voice Mail Subscriber to program the telephone number where calls are transferred when a user enters zero on the keypad.
- (160) The Class 2 PBX must guide Calling Parties through French, English or bilingual voice prompts, as specified by Canada for each Voice Mail.
- (161) The Class 2 PBX must provide secure access to a Voice Mail Subscriber by:
- a) Providing numeric passwords of up to eight digits;
 - b) Requesting that Voice Mail Subscriber enter a new numeric password on initial access to their Voice Mail;
 - c) Requesting that a Voice Mail Subscriber enter a numeric password to access their Voice Mail;
 - d) Allowing a Voice Mail Subscriber to change their password at any time from any DTMF-enabled device;
 - e) Locking a Voice Mail after three unsuccessful login attempts;
 - f) Recording password changes with time stamp and user identification (e.g. Canada's system administrator and Voice Mail Subscriber);

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- g) Masking the Voice Mail Subscriber user password upon viewing a Voice Mail configuration information; and
 - h) Logging unsuccessful Voice Mail access attempts to a log file.
- (162) The Class 2 PBX must store Voice Mail messages:
- a) Until deleted by the Voice Mail Subscriber; and
 - b) For a minimum of fourteen calendar days when saved by the Voice Mail Subscriber.
- (163) The Class 2 PBX must allow a Calling Party to mark a Voice Mail message as:
- a) Private so that it cannot be forwarded; and
 - b) Urgent so that it is heard before all Voice Mail messages stored in the Voice Mail.
- (164) The Class 2 PBX must playback Voice Mail messages:
- a) Starting with the oldest one (first-in first-out) and indicate the message number; and
 - b) Tagged as urgent prior to other Voice Mail messages.
- (165) The Class 2 PBX must allow a Voice Mail Subscriber to:
- a) Listen to a Voice Mail message immediately after logging into their Voice Mail and pressing a key on the user device;
 - b) Reply to a Voice Mail message without having to re-key the sender's address;
 - c) Forward a Voice Mail message, at any time during playback, to other Voice Mail with additional comments;
 - d) Skip a Voice Mail message in order to listen to the next Voice Mail message;
 - e) Skip forward and backward within a Voice Mail message, as it is being played;
 - f) Send a Voice Mail message to one or more Voice Mail;
 - g) Broadcast a Voice Mail Message to groups of Voice Mail Subscribers defined by Canada;
 - h) Interrupt the system message, in order to obtain information on available commands;
 - i) Stop playback and save a message for future playback;
 - j) Delete a Voice Mail message during playback; and
 - k) Stop playback and obtain the Voice Mail message information on:
 - 1. Date and time of message arrival;
 - 2. Calling Party telephone number; and
 - 3. Status of the Voice Mail message (urgent, private).
- (166) The Class 2 PBX must provide a confirmation message to the Voice Mail Subscribers when a Voice Mail message is:
- a) Saved;
 - b) Deleted; and
 - c) Forwarded.
- (167) The Class 2 PBX must include the Voice Mail Subscriber recorded name and a message introduction when forwarding a Voice Mail message to another Voice Mail Subscriber.

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- (168) The Class 2 PBX must notify a Voice Mail Subscriber that there are new messages in their Voice Mail by activating the Message Waiting Indicator on their user device.
- (169) The Class 2 PBX must notify a Voice Mail Subscriber that there are no new messages in their Voice Mail by deactivating the Message Waiting Indicator light on their user device.
- (170) The Class 2 PBX must allow waiting light indicator audits on user devices following a system restore after failure of:
 - a) The Voice Mail service; or
 - b) The Class 2 PBX.
- (171) The Class 2 PBX must allow a Voice Mail to be configured as a Message Information Mailbox.
- (172) The Class 2 PBX must allow recorded messages of up to six minutes in duration for a Message Information Mailbox.
- (173) The Class 2 PBX must allow On-net and Off-net Calling Parties to access a Message Information Mailbox by dialling a telephone number.

7.1.2.3 Class 2 PBX – Management Information System (MIS)

- (174) The Class 2 PBX must provide a Management Information System function for Canada's use.
- (175) The Class 2 PBX MIS must provide Canada's system administrator access to and control of all aspects of the system (i.e. super user).
- (176) The Class 2 PBX MIS must allow Canada's system administrator to backup and restore the system configuration.
- (177) The Class 2 PBX must provide secure access to the MIS via a web browser as follows:
 - a) Request unique MIS user identification name and password;
 - 1. The Class 2 PBX MIS password must be user selectable and requires a minimum of eight digits in length; composed of a mix of alpha and numeric characters and include a minimum of one upper and one lower case letter;
 - 2. The Class 2 PBX MIS must force all users and administrators, when accessing, the MIS for the first time, to change the default password to a personal password;
 - 3. The Class 2 PBX MIS must never display any password or allow any passwords to be printed in any reports, or included in a computer file, or print output. The password must not be allowed to be embedded in an automated logon procedure; and
 - 4. The Class 2 PBX MIS must allow Canada's system administrator(s) to program a maximum period of time that a password can be used. Prior to password expiration the user must be advised and prompted to enter a new password. The new password cannot be the same as any of the ten previous passwords used by that user.
 - b) De-activate an MIS user account, when the name and/or password is entered incorrectly, after a specific number of failed attempts, as specified by Canada; and
 - c) De-activate an MIS user account after a specific number of calendar days of inactivity.
- (178) The Class 2 PBX MIS must record successful and failed login attempts in a Canada-accessible system log file.
- (179) The Class 2 PBX MIS must automatically record:
 - a) The date and time that an administrative or maintenance user logs into the Class 2

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PBX;

- b) Any changes made by the administrative or maintenance user; and
 - c) The date and time that an administrative or maintenance user logs out of the Class 2 PBX.
- (180) The Class 2 PBX MIS must allow Canada to create MIS administrator accounts.
- (181) The Class 2 PBX MIS must allow an MIS administrator to:
- a) Create, modify, delete, suspend, and re-activate MIS user accounts;
 - b) Search, sort and view MIS user accounts based on any field in a MIS user account; and
 - c) Define the rights (read/view, write/modify, and delete) an MIS user has to:
 - 1. Viewing reports and system log files;
 - 2. Modifying the Hardware and Licensed Software configuration;
 - 3. Performing administrative changes;
 - 4. Monitoring PBX component utilization and performance (CPU usage, disk I/O, memory use) status; and
 - 5. Backing-up and restoring system configuration and user information.
- (182) The Class 2 PBX MIS user interface (help text/pages, navigation text/controls) must be in the language preference specified by the MIS user (French or English).
- (183) The Class 2 PBX MIS must create Call Detail Record (CDR) information upon outgoing call completion that includes:
- a) Calling Party telephone number;
 - b) Called Party telephone number;
 - c) Total call duration (in seconds);
 - d) Call routing information (e.g. route or Call Type);
 - e) Start date of call;
 - f) End date of call;
 - g) Start time of call; and
 - h) End time of call.
- (184) The Class 2 PBX MIS must allow the MIS administrator to create ad-hoc reports from any or all CDR records.
- (185) The Class 2 PBX MIS must allow the MIS administrator to configure end user incoming call routing preferences for Find-me Follow-me such that incoming calls are routed to:
- a) Multiple On-net and Off-net telephone numbers sequentially;
 - b) Multiple On-net and Off-net telephone numbers simultaneously;
 - c) Alternate On-net and Off-net telephone number after a pre-determined amount of time or number of rings as defined by the user;
 - d) A Voice Mail; and
 - e) A busy signal.

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- (186) The Class 2 PBX MIS must allow the MIS administrator to create end user routing rules for Find-me Follow-me such that incoming calls are routed to telephone numbers (e.g. cellular telephone) or service (e.g. voice mail), as specified by the end user, based on:
- a) Time of day;
 - b) Day of week; and
 - c) Calling Party telephone number.

7.1.3 Class 3 VoIP Private Branch Exchange

- (187) The Class 3 VoIP Private Branch Exchange (Class 3 PBX) must support up to 5000 user devices.
- (188) The Class 3 PBX must comply with the following standards (refer to Technical Standards and Codes subsection):
- a) PSTN Interface; and
 - b) Voice services.
- (189) The Class 3 PBX must be fault tolerant such that the failure of any of the following components does not result in the operational failure of the Class 3 PBX:
- a) Central processors;
 - b) Memory;
 - c) Hard disk;
 - d) Network interface card(s); and
 - e) Gateways
- (190) The Class 3 PBX must support Trunk connections that include:
- a) IP trunking;
 - b) ISDN PRI; and
 - c) Analog loop start and ground start.
- (191) The Class 3 PBX must support Trunk types that include:
- a) Direct inward dialing (DID);
 - b) Incoming / outgoing trunks; and
 - c) Zone paging systems.
- (192) The Class 3 PBX must include all operating system Licensed Software, back-up and restore utility Licensed Software, and licenses for a fully operational and configured system.
- (193) The Class 3 PBX must allow Canada to implement Dialling Plans that use an access code for local calling (e.g. dial "9") and long distance calling (e.g. "1") as requested by Canada.
- (194) The Class 3 PBX must automatically terminate DID calls on user devices.
- (195) The Class 3 PBX must manipulate digits on dialled telephone numbers as follows:
- a) Inserting specific digit(s) in front of the first dialed digit;
 - b) Removing specific number of digit(s) starting from the first dialed digit;
 - c) Replacing specific number of digit(s) with pre-programmed ones starting from the first dialed digit;

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- d) Passing digits as dialed digits;
 - e) Source and destination telephone number;
 - f) Permitted Calling Profile;
 - g) Time of day; and
 - h) Day of week.
- (196) Canada defines a Permitted Calling Profile as a means to control receiving calls or making calls from/to selected telephone numbers (e.g. local, long distance PSTN, On-net).
- (197) The Class 3 PBX must include Permitted Calling Profiles that restrict (or allow), as required by Canada, making calls from telephony devices for all of the following On-net and Off-net calling options:
- a) PSTN 211;
 - b) PSTN 311;
 - c) PSTN 411;
 - d) PSTN 511;
 - e) PSTN 611;
 - f) PSTN 711;
 - g) PSTN 811;
 - h) PSTN 911 (refer to Emergency – 911);
 - i) PSTN telephone numbers starting with NPA 900;
 - j) Any PSTN NPA followed by 976 as the NXX;
 - k) PSTN within the Free Calling Area;
 - l) PSTN Toll Free telephone numbers;
 - m) On-net long distance calls;
 - n) PSTN "0" for telephone company operator services;
 - o) PSTN direct dial long distance within Canada;
 - p) PSTN direct dial long distance to the U.S.;
 - q) PSTN 1+NPA+555+1212 LD directory;
 - r) PSTN 011 for automatic overseas telephone numbers;
 - s) PSTN 01 for operator assisted overseas telephone numbers; and
 - t) Receiving PSTN originating calls.
- (198) The Class 3 PBX must generate SNMP, version 3 or later, traps for Hardware and Licensed Software alarms.
- (199) The Class 3 PBX must interconnect to external systems that include:
- a) Zone paging systems; and
 - b) Music sources.
- (200) The Class 3 PBX must allow Canada to implement two to seven digits numbering plans.
- (201) The Class 3 PBX must provide direct access to PSTN lines and dialling an access code for local calling (e.g. dial "9") and long distance calling (e.g. "1").

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(202) The Class 3 PBX must, at a minimum, provide the following system features:

- a) Attendant Answering;
- b) Auto-termination of telephone numbers;
- c) Barge-in;
- d) Call Progress Tones;
- e) Call Waiting Tones;
- f) Call Detail Records (CDR);
- g) Direct Outward Dialing;
- h) Distinctive Ringing;
- i) Do Not Disturb;
- j) Dual Tone Multi-Frequency (DTMF) end-to-end;
- k) Find me Follow-me;
- l) Hunt Groups;
- m) Incoming Only Line;
- n) Message Waiting Indicator;
- o) Same number appearance on multiple user devices;
- p) Music on Hold;
- q) Night Answer;
- r) Single-Line Extension;
- s) Speed Dial;
- t) Direct Inward Dialing;
- u) Message Announcement; and
- v) Outgoing Call Screening by Permitted Calling Profile.

(203) The Class 3 PBX must provide the following Call Features for analog and IP user devices:

- a) Call Back Activation (ring again);
- b) Call Blocking (do not disturb);
- c) Call Conference;
- d) Call Forwarding automatic on all calls;
- e) Call Hold;
- f) Call Park;
- g) Call Trace (for malicious calls);
- h) Call Transfer;
- i) Call Pickup;
- j) Call Waiting;
- k) Caller name identification display;

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- l) Caller number identification display;
- m) Consultation on Hold;
- n) Direct dial using E.164 numbering plan;
- o) Forward on Busy;
- p) Forward on No Answer;
- q) Hot Line;
- r) Intercom;
- s) Mute;
- t) Last Number Redial; and
- u) Voice mail visual indication.

(204) The Class 3 PBX must playback recorded announcements, music, or tones to Calling Parties while on hold, and as requested by Canada.

7.1.3.1 **Class 3 PBX – Automatic Call Distribution (ACD)**

(205) The Class 3 PBX must provide the following Automatic Call Distribution (ACD) features that include:

- a) Queues or applications;
- b) Skill sets associated to a particular queue or application;
- c) Recorded announcements based on time in queue;
- d) Interface to a music source while caller is waiting for an Agent;
- e) Real time reporting that include:
 - 1. Number of Agents logged in / busy / not ready / waiting by Skill set;
 - 2. Number of calls in queue by application;
 - 3. Average and longest wait time by application;
 - 4. Service levels by application; and
 - 5. Number of calls abandoned.
- f) Agent and applications (queues) historical reporting that include:
 - 1. Calls received;
 - 2. Calls abandoned;
 - 3. Average wait time in queue;
 - 4. Agents login/logout; and
 - 5. Activity reports.
- g) Overflow calls locally (within the same system), either immediately or after a specific time, to alternate ACD paths (or queues) based on time in queue or number of calls already in queue;
- h) Routing scripts based on criteria such as time-of-day, queue status, CLID, Automatic Number Identifier;

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- i) Routing calls to an alternate queues/applications or telephone number (external or internal) when the primary ACD path is closed (no Agents logged in);
- j) Supervisor notification and Barge-In for emergency situation;
- k) Supervisors to monitor a conversation; and
- l) Setting queues/application performance based on average time to answer and service level objectives.

7.1.3.2 Class 3 PBX – Voice Mail

- (206) The Class 3 PBX must automatically route calls to a Voice Mail when the Called Party:
 - a) Is busy on the user device;
 - b) Does not answer after the number of rings as defined by the user profile; and
 - c) Has Find-me Follow-me rules that require calls be routed to a Voice Mail.
- (207) The Class 3 PBX must provide a minimum of one Voice Mail per telephone line.
- (208) The Voice Mail must provide:
 - a) Subscribers' greeting message of up to two minutes in duration;
 - b) Up to thirty Voice Mail Messages per Subscriber Voice Mail; and
 - c) Up to two minutes of recording time for a Voice Mail Message.
- (209) The Class 3 PBX must provide the following information to the Voice Mail Subscriber when accessing their Voice Mail:
 - a) A tutorial on how to use the Voice Mail commands and initialize their Voice Mail upon first time access;
 - b) A notification message when the number of Voice Mail messages in a Voice Mail has reached its maximum limit and that no additional messages will be accepted unless existing messages are deleted;
 - c) A notification message with the option to keep (or not) an extended absence greeting when activated;
 - d) The total number of Voice Mail messages; and
 - e) The total number of new Voice Mail messages.
- (210) The Voice Mail must provide the following greeting messages to Calling Parties:
 - a) A Voice Mail Subscriber's greeting message when recorded by the Voice Mail Subscriber;
 - b) A default greeting message if the Voice Mail Subscriber has not recorded a message;
 - c) An announcement when a Voice Mail is full and cannot accept any additional Voice Mail Messages;
 - d) A greeting message not allowing Calling Parties to leave a Voice Mail message; and
 - e) An extended absence greeting as recorded by the Voice Mail Subscriber.
- (211) The Class 3 PBX must allow Voice Mail Subscribers to access their Voice Mail by:
 - a) Calling the Voice Mail telephone number; and

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- b) Pushing a Message Waiting Indicator button or speed-dial to Voice Mail button.
- (212) The Class 3 PBX must allow a Calling Party to:
 - a) By-pass the Voice Mail prompts, by pressing a key on a user device; and
 - b) Transfer to a telephone number by pressing zero on the user device keypad.
- (213) The Class 3 PBX must allow a Voice Mail to support up to five telephone numbers.
- (214) The Class 3 PBX must allow Canada's system administrator to set the language prompts for Voice Mail administration to French or English.
- (215) The Class 3 PBX must allow a Voice Mail Subscriber to change the language to French or English.
- (216) The Class 3 PBX must allow a Voice Mail Subscriber to program the telephone number where calls are transferred when a user enters zero on the user device keypad.
- (217) The Class 3 PBX must guide Calling Parties through French, English or bilingual voice prompts, as specified by Canada for each Voice Mail.
- (218) The Class 3 PBX must provide secure access to a Voice Mail Subscriber by:
 - a) Providing numeric passwords of up to eight digits;
 - b) Requesting that a Voice Mail Subscriber enter a new numeric password on initial access to their Voice Mail;
 - c) Requesting that a Voice Mail Subscriber enter a numeric password to access their Voice Mail;
 - d) Allowing a Voice Mail Subscriber to change their password at any time from any DTMF-enabled device;
 - e) Locking a Voice Mail after three unsuccessful login attempts;
 - f) Recording password changes with time stamp and user identification (e.g. Canada's system administrator and Voice Mail Subscriber);
 - g) Masking the Voice Mail Subscriber user password upon viewing a Voice Mail configuration information; and
 - h) Logging unsuccessful Voice Mail access attempts to a log file.
- (219) The Class 3 PBX must store Voice Mail messages:
 - a) Until deleted by the Voice Mail Subscriber; and
 - b) For a minimum of fourteen calendar days when saved by the Voice Mail Subscriber.
- (220) The Class 3 PBX must allow a Calling Party to mark a Voice Mail message as:
 - a) Private so that it cannot be forwarded; and
 - b) Urgent so that it is heard before all Voice Mail messages stored in a Voice Mail.
- (221) The Class 3 PBX must playback Voice Mail messages:
 - a) Starting with the oldest one (first-in first-out) and indicate the message number; and
 - b) Tagged as urgent prior to other Voice Mail Messages.
- (222) The Class 3 PBX must allow a Voice Mail Subscriber to:
 - a) Listen to a Voice Mail message immediately after logging into their Voice Mail and pressing a key on a user device;
 - b) Reply to a Voice Mail message without having to re-key the sender's address;

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- c) Forward a Voice Mail message, at any time during playback, to other Voice Mail with additional comments;
 - d) Skip a Voice Mail message in order to listen to the next Voice Mail message;
 - e) Skip forward and backward within a Voice Mail message, as it is being played;
 - f) Send a Voice Mail message to one or more Voice Mail;
 - g) Broadcast a Voice Mail message to groups of Voice Mail Subscribers, defined by Canada;
 - h) Interrupt the system message, in order to obtain information on available commands;
 - i) Stop playback and save a message for future playback;
 - j) Delete a Voice Mail message during playback; and
 - k) Stop playback and obtain the Voice Mail message information on:
 - 1. Date and time of message arrival;
 - 2. Calling Party telephone number; and
 - 3. Status of the Voice Mail message (urgent, private).
- (223) The Class 3 PBX must provide a confirmation message to the Voice Mail Subscribers when a Voice Mail message is:
- a) Saved;
 - b) Deleted; and
 - c) Forwarded.
- (224) The Class 3 PBX must include the Voice Mail Subscriber recorded name and a message introduction when forwarding a Voice Mail message to another Voice Mail Subscriber.
- (225) The Class 3 PBX must notify a Voice Mail Subscriber that there are new messages in their Voice Mail by activating the Message Waiting Indicator on their user device.
- (226) The Class 3 PBX must notify a Voice Mail Subscriber that there are no new messages in their Voice Mail by deactivating the Message Waiting Indicator light on their user device.
- (227) The Class 3 PBX must allow waiting light indicator audits on user devices following a system restore after failure of:
- a) The Voice Mail; or
 - b) The Class 3 PBX.
- (228) The Class 3 PBX must allow a Voice Mail to be configured as a Message Information Mailbox.
- (229) The Class 3 PBX must allow recorded messages of up to six minutes in duration for a Message Information Mailbox.
- (230) The Class 3 PBX must allow On-net and Off-net Calling Parties to access a Message Information Mailbox by dialling a telephone number.

7.1.3.3 Class 3 PBX – Management Information System (MIS)

- (231) The Class 3 PBX must provide a Management Information System function for Canada's use.
- (232) The Class 3 PBX MIS must provide Canada's system administrator access to and control of all aspects of the system (i.e., super user).

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- (233) The Class 3 PBX MIS must allow Canada's system administrator to backup and restore the system configuration.
- (234) The Class 3 PBX must provide secure access to the MIS via a web browser as follows:
- a) Request unique MIS user identification name and password;
 - 1. The Class 3 PBX MIS password must be user selectable and require a minimum of eight digits in length; composed of a mix of alpha and numeric characters and include a minimum of one upper and one lower case letter;
 - 2. The Class 3 PBX MIS must force all users and administrators, when accessing, the MIS for the first time, to change the default password to a personal password;;
 - 3. The Class 3 PBX MIS must never display any password or allow any passwords to be printed in any reports, or included in a computer file, or print output. The password must not be allowed to be embedded in an automated logon procedure; and
 - 4. The Class 3 PBX MIS must allow Canada's system administrator(s) to program a maximum period of time that a password can be used. Prior to password expiration the user must be advised and prompted to enter a new password. The new password cannot be the same as any of the ten previous passwords used by that user.
 - b) De-activate an MIS user account, when the name and/or password is entered incorrectly, after a specific number of failed attempts, as specified by Canada; and
 - c) De-activate an MIS user account after a specific number of calendar days of inactivity.
- (235) The Class 3 PBX MIS must record successful and failed login attempts in a Canada - accessible system log file.
- (236) The Class 3 PBX MIS must automatically record:
- a) The date and time that an administrative or maintenance user logs into the PBX;
 - b) Any changes made by the administrative or maintenance user; and
 - c) The date and time that an administrative or maintenance user logs out of the PBX.
- (237) The Class 3 PBX MIS must allow Canada to create MIS administrator accounts.
- (238) The Class 3 PBX MIS must allow an MIS administrator to:
- a) Create, modify, delete, suspend, and re-activate MIS user accounts;
 - b) Search, sort and view MIS user accounts based on any field in a MIS user account; and
 - c) Define the rights (read/view, write/modify, and delete) a MIS user has to:
 - 1. Viewing reports and system log files;
 - 2. Modifying the Hardware and Licensed Software configuration;
 - 3. Performing administrative changes;
 - 4. Monitoring PBX component utilization and performance (CPU usage, disk I/O, memory use) status; and
 - 5. Backing-up and restoring system configuration and user information.
- (239) The Class 3 PBX MIS user interface (help text/pages, navigation text/controls) must be in the language preference specified by the MIS user (French or English).

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- (240) The Class 3 PBX MIS must create Call Detail Record (CDR) information upon outgoing call completion that includes:
- a) Calling Party telephone number;
 - b) Called Party telephone number;
 - c) Total call duration (in seconds);
 - d) Call routing information (e.g. route or Call Type);
 - e) Start date of call;
 - f) End date of call;
 - g) Start time of call; and
 - h) End time of call.
- (241) The Class 3 PBX MIS must allow the MIS administrator to create ad-hoc reports from any, or all, CDR records.
- (242) The Class 3 PBX MIS must allow the MIS administrator to configure end user incoming call routing preferences for Find-me Follow-me such that incoming calls are routed to:
- a) Multiple On-net and Off-net telephone numbers sequentially;
 - b) Multiple On-net and Off-net telephone numbers simultaneously;
 - c) Alternate On-net and Off-net telephone number after a pre-determined amount of time or number of rings as defined by the user;
 - d) A Voice Mail; and
 - e) A busy signal.
- (243) The Class 3 PBX MIS must allow the MIS administrator to create end user routing rules for Find-me Follow-me such that incoming calls are routed to telephone numbers (e.g. cellular telephone) or service (e.g. voice mail), as specified by the end user, based on:
- a) Time of day;
 - b) Day of week; and
 - c) Calling Party telephone number.

7.2 Gateway Network Products (Gateways)

7.2.1 Gateways - General Requirements

- (244) When Gateway Network Products (Gateways) are required to meet the network or media requirements of this Contract, the Contractor must identify, and if ordered through a service order, provide all Gateway Hardware, Licensed Software, and maintenance support services required.

7.2.2 Network Gateways

- (245) The Network Gateways must support the following network connections:
- a) Ethernet as per IEEE 802.3 at 10 / 100 Mbps;
 - b) Gigabit Ethernet as per IEEE 802.3ab and IEEE 802.3z at 1000 Mbps;
 - c) Full duplex Ethernet flow control as per IEEE 802.3x;

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- d) VLAN tagging as per IEEE 802.1q;
 - e) 10 Base-T transceiver (category 5e UTP, RJ-45 interface);
 - f) 100 Base-TX transceiver (category 5e UTP, two pair, RJ-45 interface);
 - g) 1000 Base-T transceiver (category 5e UTP, balanced four pair);
 - h) 1000 Base SX transceiver (multimode fibre);
 - i) 1000 Base LX transceiver (multi-mode / single fiber); and
- (246) The Network Gateways must support the following network interfaces:
- a) Integrated Services Digital Network (ISDN) Primary Rate Interface (PRI) and Basic Rate Interface (BRI) digital interfaces;
 - b) T1 trunk interfaces utilizing ground start, loop start, E&M (earth & magneto, or ear & mouth) or DID signaling; and
 - c) Analog loop start and ground start trunk interfaces.
- (247) The Network Gateways must support G.711 and G.729a.
- (248) The Network Gateways must support:
- a) Session initiation protocol (SIP); and
 - b) Assured services session initiation protocol (AS-SIP).
- (249) The Network Gateways must route incoming and outgoing calls between the network interfaces and the VoIP PBX (PBX).
- (250) The Network Gateways must support:
- a) Canada's Long Distance service;
 - b) Canada's Toll-Free service;
 - c) All grades of services specified in this Contract;
 - d) End-to-end DTMF tones on established calls;
 - e) Call redirection;
 - f) Call Transfer;
 - g) E.164 numbering plan;
 - h) Calling Line Identifier Display (CLID) when provided on incoming calls;
 - i) Calling Party Name Display (CPND) when provided on incoming calls; and
 - j) CLID and CPND for calls to the networks.
- (251) The Network Gateways must provide failover functionality for multiple SIP Trunks on one PBX peering with multiple PBXs, Gateways, and other SIP Trunk providers.
- (252) The Contractor must advise Canada on the need to configure Canada provided LAN switches and firewalls on QoS prioritization for SIP Trunking.
- (253) Network connections capabilities must comply with all PBX administration and management requirements in this Contract.

7.2.3 Media Gateway

- (254) The Media Gateways must support the following analog device interfaces:
- a) Standard 2500-type (12-button dial) analog user devices;

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- b) Group 3 facsimile (defined in ITU-T recommendations T.4, T.30 and T.38);
 - c) V.150.0 and V.150.1 (Modem over IP Networks);
 - d) V.152 (Procedures for supporting voice-band data over IP networks); and
 - e) Telephone Devices for the Deaf (TDD/TTY).
- (255) The Media Gateways must provide analog devices with:
- a) Battery current;
 - b) Ring voltage; and
 - c) Tones (dial tone, ring back tone, busy tone).
- (256) The Media Gateways must automatically detect off-hook conditions (i.e. that a user device handset is picked up and causing circuit closure) and provide dial tone.
- (257) The Media Gateways must initiate and receive calls from and to the PBX.
- (258) The Media Gateways must support Session Initiation Protocol (SIP).
- (259) The Media Gateways must support the following features:
- a) End-to-end DTMF signalling;
 - b) Calling number display;
 - c) Call Forwarding;
 - d) Audio Conferencing;
 - e) Call Transfer;
 - f) Call Hold; and
 - g) Generating dial tone, busy tone, alert tone, and Call Waiting Tone.

7.2.4 Analog Terminal Adaptors (ATA)

- (260) The Contractor must provide two-port analog terminal adaptors (ATA) that connect a user device or other service requiring analog connectivity to the PBX.

7.3 User Devices

7.3.1 General Requirements

- (261) The Contractor must offer Canada all hard and soft IP user devices (refer to Appendix A - glossary and definitions) that it offers to all its other customers. These user devices must support, at minimum, the devices and functionalities defined in this section.
- (262) Communications between Network Products must not be wireless unless approved by Canada.
- (263) All user devices must operate with the PBX (Class 1, 2, and 3).
- (264) All user devices must be equipped with, at a minimum, the following features and characteristics:
- a) A twelve key numeric keypad to dial directory numbers and PBX feature codes;
 - b) Volume control of the user devices' handset, headset (where applicable), speaker (where applicable) and ring tones;
 - c) A visual ringing indicator;
 - d) Playback of DTMF tones to the user device's receiver when a digit is pressed on the keypad; and
 - e) Headset compatibility.

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- (265) The hard IP user devices must be powered by:
- a) Power over Ethernet (PoE) technologies in accordance with the most current IEEE 802.3af standard, and as provided by the network infrastructure;
 - b) Power over Ethernet (PoE +) technologies in accordance with the most current IEEE 802.3at standard, and as provided by the network infrastructure; and
 - c) Using 110 volt Alternate Current (AC) power adapters at the workstation.
- (266) All hard IP user devices must be equipped with, at a minimum, the following features and characteristics:
- a) An internal two-port Ethernet switch, providing a direct connection to a 10/100/1Gbps Ethernet network for both the user device and a personal computer (PC) connected to the user device via an RJ-45 (eight-contact 8P8C) plug jack located on the user device;
 - b) Auto-negotiation of speed and duplex mode for all data rates as per IEEE 802.3;
 - c) Manual setting for speed and duplex mode for all data rates as per IEEE 802.3;
 - d) Communication interfaces that can operate in full duplex mode with flow control as per IEEE 802.3;
 - e) Centrally configurable in a secure manner via a network server;
 - f) User authentication features for security as per IEEE 802.1x;
 - g) Ethernet prioritization and Virtual Local Area Network (VLAN) tagging as per IEEE 802.1p and IEEE 802.1q;
 - h) 802.1q Quality of Service (QoS) and differentiated services code point (DSCP) marking and classification;
 - i) Support Session Initiation Protocol (SIP);
 - j) Link aggregation as per IEEE 802.3;
 - k) Support X.509v3 digital certificates;
 - l) Capable of performing digital encryption/decryption; and
 - m) Capable of digital signing and verification.
- (267) All hard IP user devices equipped with hands-free speaker phone must have the same features as the hard IP user devices, and also be equipped with, at a minimum, the following features and characteristics:
- a) Hands free speaker / microphone / transmitter operation, without lifting the user device handset;
 - b) Volume control, including muting, of the speaker in the user device and the hands free speaker / microphone / transmitter at any time if desired; and
 - c) Full duplex.

7.3.2 User Device Types

- (268) The Contractor must offer the following user device types:
- a) Type 1: hard - IP attendant console;
 - b) Type 2: soft - IP attendant console;
 - c) Type 3: hard - standard analog user devices;
 - d) Type 4: hard - IP single user devices – basic;
 - e) Type 5: hard - IP single line user devices – general office;
 - f) Type 6: hard - IP multi-line user devices – general office;

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- g) Type 7: hard- enhanced IP multi-line user devices – general office;
- h) Type 8: hard - enhanced IP multi-line – executive device;
- i) Type 9: soft - enhanced IP user device – general office;
- j) Type 10 : hard - IP add-on module; and
- k) Type 11: hard - enhanced IP audio conferencing device.

7.3.3 User Device Type Functionality (Types 1 to Type 9)

(269) The Contractor must provide the following user device type functionality:

Feature	Device Type								
	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7	Type 8	Type 9
Hard user device	✓		✓	✓	✓	✓	✓	✓	
Soft user device		✓							✓
Analog technology			✓						
IP Technology	✓	✓		✓	✓	✓	✓	✓	✓
Support one line			✓	✓	✓				
Supports a minimum of two lines						✓			
Supports a minimum of five lines	✓	✓					✓	✓	✓
Alpha-Numeric display with a minimum four lines of fifteen characters per line	✓	✓							
Alpha-Numeric display with a minimum of fifteen characters					✓	✓	✓		
Minimum five additional line appearances with busy lamp field for each line	✓	✓							
Call waiting indicator	✓	✓							
Trunk group busy indicator	✓	✓							
Incoming call indicator	✓	✓							
Night service indicator	✓	✓							
Alarm indicator	✓	✓							
Position busy indicator	✓	✓							
Minimum five hard and five soft feature keys	✓	✓							
In/Out of service key	✓	✓							
Visual indicator to show idle, ringing, and hold			✓	✓	✓	✓	✓	✓	✓
Message Waiting indicator			✓	✓	✓	✓	✓	✓	✓
Release key	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hold key	✓	✓	✓	✓	✓	✓	✓	✓	✓
Full-duplex hands free(i.e., speaker phone)					✓	✓	✓	✓	
Audio and Video functionality								✓	✓
Colour touch-screen display								✓	✓
Wall and desk mountable				✓	✓	✓	✓	✓	
Access to the user directory	✓								
PoE and optional external universal AC power supply.	✓			✓	✓	✓	✓	✓	

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7.3.4 Additional User Device Functionality (Type 10 and Type 11)

- (270) Type 10 user devices must support, at a minimum, twenty-four telephone lines (DNs), and must be fully compatible to inter-operate with Type 6 and Type 7 user devices.
- (271) Type 11 devices must be equipped with, at a minimum, the following features:
 - a) VoIP technology;
 - b) Audio conference functionality specifically for board room environment including;
 - 1. Acoustic echo cancellation; and
 - 2. Background noise suppression.
 - c) Release button;
 - d) Full-duplex hands-free (i.e. speaker / microphone / transmitter);
 - 1. Microphone input frequency of 300Hz to 12 KHz; and
 - 2. Microphone pick-up range of three meters.
 - e) Power over Ethernet (PoE) and optional external universal Alternate Current (AC) power supply;
 - f) Functional keys (soft or hard) to support the same feature functionality as Type 6 user devices as well as:
 - 1. Keypad;
 - 2. Switch hook flash (Link transfer for additional parties);
 - 3. Speaker-microphone volume control;
 - 4. Last Number Redial;
 - 5. Fifteen character alpha-numeric display;
 - 6. Mute; and
 - 7. Hold.

7.3.5 Soft User Devices

- (272) Soft user devices must support the Session Initiation Protocol (SIP).
- (273) Soft user devices must support the use of the PC sound card and the Universal Serial Bus (USB) port for audio output and input.
- (274) Soft user devices must provide the option for users to specify whether the soft user device delivers the ring tones through the personal computer (PC) speakers or through the headset port on the PC to which it is installed. The soft user device must save the option that was last selected by the user and use the selected option on a continual basis (i.e. whenever the soft user device is launched, even after a PC reboot), until the user decides to change it.
- (275) Soft user devices must allow users to either dial digits on the soft keypad provided by the soft user device, or type the digits using the keys on the PC keyboards.
- (276) Soft user devices must optionally be launched, at the selection of the user, when the Microsoft (MS) Windows, or any other vendor supported environments, is set up following the boot of a personal computer.
- (277) Soft user devices must provide users to choose from multiple ring tones.

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7.3.6 User Device Accessories

- (278) As part of the Network Products, the Contractor must offer a range of optional attachments, components or adapters (or alternately optional user devices) to accommodate the following requirements:
- a) Wall mounting kits;
 - b) Hearing impaired/volume control handsets;
 - c) Noisy location transmitters; and
 - d) Cordless handsets.
- (279) The PBX must support auxiliary signalling devices such as bells, "loud ringing" bells, buzzers, sign boards and other visual indicators.

7.4 Uninterruptible Power Supply (UPS)

- (280) The Contractor must, when requested, include uninterruptible power supply (UPS) power backup to ensure that all Network Products (with the exception of the desktop user devices) will continue to operate in the event of a disruption, or loss of commercial power.
- (281) The UPS must provide uninterrupted power backup for each of the following Canada-specified time periods:
- a) Two hours;
 - b) Four hours; and
 - c) Eight hours.

7.5 Automated Attendant

- (282) The requirements in this section are applicable to all PBX classes (i.e., Class 1, Class 2 and Class 3).
- (283) The PBX must provide an automated attendant feature to automatically answer incoming calls and allow callers to interact with the PBX using the dual-tone multi-frequency (DTMF) functionality on their user devices.
- (284) The PBX must allow the installation of at least one automated attendant per tenant.
- (285) The automated attendant must allow the Technical Authority (or designated user) to customize the greeting and call treatment to meet Canada's business requirements.
- (286) The automated attendant must allow:
- a) The creation of up to nine menus accessible to the caller, by keying digits 0 through 9, when listening to the menu options;
 - b) Up to six or more levels of menus;
 - c) Calls to be transferred to another automated attendant menu, a voice mail, or a telephone line, based on the caller option selected; and
 - d) The Technical Authority (or designated user) to record and edit the menus at any time.
- (287) The automated attendant must allow callers to select their language of choice - either English or French. After selection, the automated attendant must only provide user prompts in the selected language.
- (288) The Technical Authority must have the option to select either English or French as the initial language heard in the first greeting heard by the caller.

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- (289) The Technical Authority must have the option to program the automated attendant to enable "dial 0". Once activated, the PBX must route "dial 0" calls, to a configurable answer point.
- (290) The automated attendant must inform callers if they have entered an invalid telephone line and prompt them to re-enter it.
- (291) If a caller does not, or cannot respond to a prompt, after the Canada-defined timeout, the automated attendant must route the call to a live respondent. The timeout selection must be from five seconds to sixty seconds.
- (292) If a caller encounters a busy destination, or a ring no answer condition, the automated attendant must route the call to a predefined answering point, programmable by the Technical Authority.
- (293) The automated attendant must allow the callers to repeat the playing of the last voice prompt, or to any previous menu or prompt, describing the menu of options available to them.
- (294) The automated attendant must, at a minimum, provide the following options to the callers at the main menu, and route the callers to the appropriate answering point, based on the option they select:
 - a) Connect to a telephone line (either on-site or off-site), which can include a multiple appearance directory number;
 - b) Connect to another main telephone line served by the automated attendant (i.e. auto-attendant chaining);
 - c) Access the telephone directory and connect to a telephone line by name;
 - d) Connect to a voice mail box (and record a message);
 - e) Connect to a live operator; and
 - f) Connect to a pre-recorded announcement.
- (295) The automated attendant must allow playing of an optional message before routing the caller using any of the options described above.
- (296) The automated attendant must serve all user devices on the PBX.
- (297) The automated attendant must allow routing of calls to all dialable destinations.
- (298) The automated attendant must provide a minimum of ten minutes of voice storage for the greetings and prompts applicable to each telephone line. The PBX must back-up and restore all greetings and prompts.
- (299) The automated attendant must allow greetings to be recorded, by the Technical Authority, from an on-site or a remote user device.
- (300) The automated attendant must allow the Technical Authority to quickly change the manner calls are handled based upon the selection of predetermined options; e.g. change greeting in case of office closure. The Technical Authority must be allowed to effect such changes either locally or remotely via DTMF keypad, and these changes must take effect immediately.
- (301) The automated attendant must allow automatic changes to the greeting provided to callers based upon predetermined time, such as time-of-day, day-of-week, and holidays.
- (302) In the event of a PBX disruption, the automated attendant must ensure that, under no circumstances, stored greetings are lost. In the event that it is required to reload an image from the PBX's database, this image must be no more than twenty-four hours old.
- (303) The automated attendant must allow callers to input commands prior to the completion of greetings and prompts and must action the command immediately upon input of the caller.
- (304) If voice recognition is requested by Canada to be installed with the automated attendant, the automated attendant must:
 - a) Allow the callers to speak commands (such as the name of a person, department, PBX feature, or location) and be automatically transferred to the requested answering point, without having to speak to a live respondent; and

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- b) Recognize these spoken commands in locations with a background noise of up to forty decibels (dB).
- (305) The automated attendant must synchronize with the PBX telephone directory and Canada's Lightweight Directory Access Protocol (LDAP) directories:
 - a) Supporting ASN.1 (ISO/IEC X.680) data structure standards for representing, encoding, transmitting, and decoding data; and
 - b) Transmitting using basic encoding rules (BER) formats.
- (306) The automated attendant must allow the Technical Authority to backup and restore configuration data, greetings and prompts.
- (307) The automated attendant must offer the caller the option to route the call by spelling the surname of the person they are calling. In this scenario:
 - a) The caller would enter the first letters of the surname of the person they are calling;
 - b) The automated attendant would then provide the caller with their options based upon the entries for that spelling in the PBX's telephone directory;
 - c) Allow the caller to select the desired person from the users provided; and
 - d) Route the caller to the selected user.

8 MULTIPLE TENANTS AND TENANT GROUPS

- (308) The requirements in this section are applicable to all PBX classes (i.e., Class 1, Class 2 and Class 3).
- (309) The PBX must support multiple tenants. A tenant refers to a single instance of software serving multiple Government of Canada (GC) departments, agencies and organisations (tenants). Each tenant or customer has a virtual partition of its extensions, configurations, administrators, and system applications such as ACD, automated attendant and Voice Mail.
- (310) The PBX must support a minimum of thirty-two tenant groups.
- (311) Each user device must belong to a tenant group. The tenant group parameters must define the user device features, dial plan and call classification codes.
- (312) The PBX must allow four, five, six, seven or ten digit dialling, as selected by Canada, between tenant groups.
- (313) The PBX must provide a method for user devices, within a tenant group, to be divided into subgroups with their own attendant consoles without affecting user-to-user dialling.
- (314) The PBX must allow Canada's system administrator, as the super user, to manage the administrative and operational functions for all tenants and tenant groups.

9 AUTHENTICATION AND ENCRYPTION

- (315) The requirements in this section and subsections are applicable to all IP-enabled Network products.
- (316) The Contractor must ensure that all cryptographic processes (such as symmetric and asymmetric key establishment/management, digital signatures, encryption, and hashing functions) enforce the use of CSEC-approved algorithms. Should this requirement not be met, proper justification or alternate compensating security safeguards must be documented and approved by the Technical Authority. For further information, please refer to CSEC document ITSA-11E, March 2011 available at <http://www.cse-cst.gc.ca/its-sti/publications/itsa-asti/itsa11e-eng.html>
- (317) All IP-enabled Network Products must be capable of using X.509v3 digital certificates.

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9.1 Authentication

- (318) The PBX must authenticate both the originating and terminating user devices using, at a minimum, the user identifier or the media access control address.

9.2 Encryption of Signalling and Media

- (319) All signalling and media streams must be encrypted, end-to-end, from the user device to;
- a) The Network Gateway;
 - b) The Media Gateway; and
 - c) Other user devices.
- (320) When applicable, the information system must use:
- d) Digital Signature Algorithms approved by CSEC for protected A and Protected B, as specified in CSEC document ITSA-11E, March 2011, available at <http://www.cse-cst.gc.ca/its-sti/publications/itsa-asti/itsa11e-eng.html>;
 - e) Key Establishment Algorithms approved by CSEC for protected A and Protected B, as specified in CSEC document ITSA-11E, March 2011, available at <http://www.cse-cst.gc.ca/its-sti/publications/itsa-asti/itsa11e-eng.html>; and
 - f) IEEE 802.11i or WPA2 - Wi-Fi Protected Access® 2 using AES-CCMP (Advanced Encryption Standard-Cipher Block Chaining Message Authentication Code) with a minimum key length of 128 bits.
- (321) When requested by the Technical Authority, all IP-enabled Network Products must use Secure Real-time Transport Protocol (SRTP) to encrypt all voice data streams from the user devices to the PSTN and to Network and Media Gateways.

9.2.1 Stored Data

- (322) The information system must encrypt, using CSEC approved algorithms, all stored GC data.
- (323) The information system must ensure that stored and encrypted Voice Mail messages are not allowed to be heard, in their original audio format, by anyone other than the intended user.

10 PEERING

10.1 General Requirements

- (324) The requirements in this section are applicable to all PBX classes (i.e., Class 1, Class 2 and Class 3).
- (325) The PBX, irrelevant of class type (the PBX), must support peering with other IP telephony and collaboration systems and services using:
- a) SIP, H.323, and QSIG signalling as specified by Canada;
 - b) RTP that supports G.711 or G.729 or G.729a as specified by Canada;
 - c) SRTP that supports G.711 or G.729 or G.729a as specified by Canada; and
- (326) The PBX must provide address destination resolution using E.164 telephone numbers and Session Initiation Protocol uniform resource identifiers (SIP URIs) as required from any other IP telephony and collaboration systems and services as specified in writing by Canada.
- (327) The PBX must automatically route calls between the IP telephony service and IP telephony and collaboration systems and services as specified by Canada without using analog or Time Division Multiplexing (TDM) conversion and, provide at least the following functionalities:
- a) Calling Party Name Display (CPND);

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- b) Calling Line Identification (CLID);
 - c) Call Progress Tones;
 - d) Direct Inward Dialling;
 - e) End-to-end DTMF;
 - f) On-net Call transfer over the WAN service;
 - g) Audio conference over the WAN Service; and
 - h) Consultation on Hold.
- (328) The PBX must automatically provide the following user status to Canada's collaboration systems and services, including any other systems and services as required by Canada:
- a) Connected and available to be contacted;
 - b) Active and on the user device indicating connected and talking; and
 - c) Unavailable indicating they cannot be contacted at this time.

11 EMERGENCY – 911

- (329) The requirements in this section are applicable to all PBX classes (i.e., Class 1, Class 2 and Class 3).
- (330) The PBX must route all emergency calls (i.e. calls placed by dialling the digits 9-1-1 or 9 + 9-1-1) to the Public Safety Answering Point (PSAP) that is closest to the location of the user device being used to place the emergency call, without any resource blockage.
- (331) The PBX must deliver the “registered location” of the caller, which includes information that would identify the caller as a VoIP service user to the PSAP.
- (332) The Emergency - 911 features must operate 24 hours-per-day, 7 days-per-week and 365 days-per year.
- (333) The PBX must allow, in the event of call disconnect, the PSAP to call back the user device from where the 911 call originated.

12 MAINTENANCE SERVICES

12.1 General Concept of Operations

- (334) After the installation of the Network Products, the Contractor will not be given access or retain administrative/super user accounts to the SDP unless approved by Technical Authority.
- (335) Any access requiring administrative/super user privileges by the Contractor must occur on-site of the system delivery point and under the supervision of Canada.
- (336) The Contractor will be allowed to remotely collect telemetry from the SDP through a secure solution and subject to the approval of Canada (Components of the secure solution, such as a GC secure virtual private network devices, may be provided by Canada).
- (337) The information system will allow the collection of monitored information without providing the Contractor with administrative/super user privileges.
- (338) The Contractor must develop a shared concept of operations document that clearly defines the roles and responsibilities of the Contractor, Canada personnel and, if applicable, Canada clients.

12.2 General Requirements – Maintenance Services

- (339) The Contractor must provide maintenance and support services in support of the following Maintenance Plans:

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- a) Licensed Software Support Plan (LSSP); and
- b) Hardware On-Site Maintenance Plan.

12.3 Licensed Software Support Plan

- (340) For a Licensed Software Support Plan (LSSP), the Contractor must provide Licensed Software releases to maintain the Licensed Software in good working order and at an up-to-date revision level according to the Software Publisher's specifications. This includes:
 - a) Software bug fixes;
 - b) Preventative maintenance software updates;
 - c) Version upgrades/updates; and
 - d) Feature set upgrades/updates/releases.

12.4 Hardware On-Site Maintenance Plan

- (341) For the Hardware On-Site Maintenance Plan (OMP), throughout the Hardware Maintenance Period, the Contractor must restore on-site Hardware to Fully Functional Operation (which includes replacement of any affected Hardware) to meet, at a minimum, the Service Level – Maximum Time On-Site service levels.
- (342) After starting the maintenance activity, the Contractor must work on-site continuously until it returns the Hardware to Fully Functional Operation.
- (343) The Contractor's representative must arrive at a site with all Hardware components required to complete the required Hardware Maintenance Services.
- (344) Each time the Contractor provides OMP services; the Contractor's service technician must prepare a Hardware Maintenance Service report and provide one copy of this report to the representative of Canada at the site when the Work is completed. Each Hardware Maintenance Service report must include the following:
 - a) The date and time the Contractor received the maintenance call;
 - b) The service location that received or responded to the maintenance call;
 - c) The serial number for the item(s) of Hardware;
 - d) The time the service technician arrived at the site, and all the time spent working at the site, including the number of hours and date for each day worked at the site;
 - e) A description of the symptoms;
 - f) The diagnosis of the incident;
 - g) A list of all parts replaced or installed;
 - h) The identification number of each major assembly removed or exchanged, if any;
 - i) The name of the Contractor's service technician; and
 - j) The name and signature of Canada's representative at the site.

12.5 Maintenance Service Coverage Report

- (345) Within ten business days from contract award, the Contractor must provide a Maintenance Service coverage report to Canada that documents:
 - a) The Maintenance Service depot locations for all Canada's SDPs;
 - b) The Network Products Hardware inventory at all Maintenance Service depot

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locations; and

- c) A Maintenance Service coverage plan that describes how Maintenance Services will be provided to SDPs.

12.6 Incident Management

- (346) During the warranty period, and as applicable to the ordered Maintenance plan, the Contractor must provide incident management services.
- (347) An incident is defined as an event which is not part of standard operation of the PBX and which causes, or may cause, an interruption to, or a reduction in the quality of service.
- (348) The Contractor must classify and assign a severity level and priority code to each incident.
- (349) All incidents must be reported to the Technical Authority within fifteen minutes of an incident occurrence and then in accordance with the escalation and reporting matrix.
- (350) The Contractor must revise the severity level and priority of an incident when requested to do so by Canada within fifteen minutes of the request.
- (351) The Contractor must escalate and report incidents based on the incident classification, severity, impact, importance to Canada, and the time that an incident has remained open.
- (352) The Contractor must provide Canada their operational and management escalation and reporting matrix that defines the Contractor's personnel (with alternates of equal authority) for each level of escalation and clear contact instructions.
- (353) The Contractor must provide Canada with notification of incidents according to the operational and management escalation and reporting matrix.
- (354) The Contractor must escalate incidents in accordance with the escalation and reporting matrix, or when requested by Canada.
- (355) The Contractor must create at least one incident ticket for each incident.
- (356) The Contractor's incident tickets must include, at a minimum, the following dedicated information fields for all incidents:
 - a) Ticket number;
 - b) Incident description;
 - c) Related incident tickets;
 - d) Date and time stamp when ticket initiated;
 - e) Date and time stamp when ticket closed;
 - f) Incident type;
 - g) Incident severity level;
 - h) Incident priority;
 - i) Incident status (e.g. open, closed, in progress, suspended, cancelled);
 - j) Canada's ticket number (if available);
 - k) Affected SDPs;
 - l) Contractor contact (name, telephone number and email address);
 - m) Client identifier (if available);
 - n) Canada's contact information (name, telephone number and email address);
 - o) Activity log;

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- p) Resolution description and cause;
 - q) Outage time (for closed tickets only);
 - r) Make, model and serial number of affected Network Products;
 - s) Service technician identifier; and
 - t) Resolution description and cause.
- (357) The Contractor must include additional incident ticket information fields when requested by Canada.
- (358) The Contractor must document all escalations for incident in the incident ticket information log.
- (359) The Contractor must open an incident ticket within five minutes for both Contractor-determined and Canada-reported incidents.
- (360) The Contractor must update the incident ticket within fifteen minutes of a change in status of the incident as evidenced by the incident ticket timestamp.
- (361) The Contractor must update the incident ticket information log for an incident within five minutes of a request by Canada.
- (362) The Contractor must track and report the outage time of each incident in the associated incident tickets.
- (363) The outage time for an incident must start at the time (start time) that the incident is detected by the Contractor, or reported to the Contractor by Canada.
- (364) The outage time for an incident must stop at the time that Canada has approved the closure of the incident ticket.
- (365) The Contractor must request access to a SDP when such access is necessary for an incident.
- (366) The Contractor must suspend outage time for an incident at Canada's request or where the Contractor has requested:
- a) Access to a SDP necessary to resolving an incident and Canada is unable to provide access; or
 - b) Closure of an incident ticket pending Canada's approval, and Canada is not available to consider the request.
- (367) The Contractor must restart the outage time for an incident where the outage time has been suspended, when requested by Canada or when:
- a) SDP access was requested by the Contractor and Canada grants access to the SDP; or
 - b) Canada is available to review the request to close an incident and has determined that the incident must remain open.
- (368) The Contractor must obtain the Technical Authority's approval before closing an incident ticket.

12.7 Incident Report

- (369) When requested by the Technical Authority, the Contractor must provide an incident report for all incidents that occurred during a specified time period (not to exceed the previous 12 months).
- (370) The incident report must include the following information for each incident:
- a) The specified reporting period (start and end dates);
 - b) The incident ticket number(s);
 - c) The date/time when each incident was reported;
 - d) The incident start date/time (date/month/year/hours:min);
 - e) The incident end date/time (date/month/year/hours:min);

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- f) The incident duration in minutes;
- g) The name of the person(s) reporting the incident(s) and their phone number(s);
- h) The nature and scope of the incident(s) including an estimate of the number of users and locations affected;
- i) The root cause of each major incident (affecting 20 users or more); and
- j) The actions taken to resolve the incident(s), including escalation.

13 INFORMATION SYSTEM TRAINING

13.1 General Requirements

- (371) The Contractor must deliver training programs for the Network Products being installed in the information system. The training must consist of class-room training and reference documentation, e.g. post-training reference guides, in both English and French.
- (372) The Contractor's cost for Network Products training must be included in the price of the Network Products.
- (373) The Contractor must provide the following training programs:
 - a) System Administrator (minimum seven and a half hours);
 - b) System attendant (minimum four hours); and
 - c) System user (minimum thirty minutes).
- (374) All class-room and reference documentation must be approved, in writing, by the Technical Authority prior to the start of any training programs(s).
- (375) Ten business days prior to the projected start of training, the Contractor must provide a training plan and detailed schedule to the Technical Authority. The training plan and schedule must be accepted, in writing, by the Technical Authority before any training begins.
- (376) The Contractor must provide, for each program, five copies of the training materials in English and five copies of the training material in French to the Technical Authority, at least ten business days prior to the start of any training programs(s).
- (377) The Contractor must deliver training to the system administrator(s), attendant(s) (if applicable) and user(s) using actual operating equipment.
- (378) For the subsequent installation of new Network Product(s) (not included in any previous installation(s)), the Contractor must also deliver training to the system administrator(s), attendant(s) (if applicable) and user(s) using actual operating equipment.
- (379) The Contractor must complete all training within ten business days prior to the scheduled installation date of the Network Product(s).
- (380) The Contractor must provide all training on Canada's premises, or at different location(s) when specified, in writing, by the Technical Authority.
- (381) Following this initial training, Canada will own all rights to the training packages and will be free to train Canada staff without any limitations or further cost.

13.2 System Administrator Training

- (382) The system administrator training must include:
 - a) User device moves;
 - b) Directory number changes;

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- c) Addition of a new user device;
- d) Feature changes and additions;
- e) Addition of a new Voice Mail mailbox;
- f) Deletion of a Voice Mail mailbox;
- g) Password reset on a Voice Mail mailbox;
- h) Attendant console set-up and changes;
- i) Automated attendant setup and changes;
- j) Call Detail Reporting set-up and changes(s);
- k) Network services reporting set-up and changes e.g. traffic studies for TDM trunks;
- l) Recorded announcements/Music on Hold set-up and changes;
- m) Moves, Add's Changes (MACs);
- n) System security features; and
- o) System backups and restores.

(383) Class sizes for system administrator training will not exceed five participants per session.

13.3 System Attendant Training

- (384) System attendant training must be delivered, at the Canada site, or another location specified in writing by the Technical Authority, on fully operational console(s) identical to that which they will be using once the system is installed.
- (385) The system attendant training must allow each trainee to practice using all features of the system.
- (386) Class sizes for system attendant training will not exceed five participants per session.

13.4 User Training

- (387) The Contractor must ensure that user training, using actual operating equipment, is available at least one month before the proposed release date and for up to three months following formal approval by the Technical Authority.
- (388) The Contractor must provide each user with a user guide and quick reference guide, in the official language of their choice, at least five business days before the start of the user training program(s).
- (389) For user training, the Contractor must provide user devices so that each user has the use of a working user device similar to the one that they will use following written acceptance of the successful installation, and testing, of the Network Products identified in the Canada-approved installation plan.
- (390) The Contractor must train users according to functional groups, with emphasis on relevant features such as, call pick-up, call-forwarding, conferencing.
- (391) Training is to be provided to give all users hands-on experience, together with written instructions, for their particular user device and the features, including Voice Mail, likely to be required by their work function.
- (392) Class sizes for user training will not exceed ten participants per session and a minimum of thirty minutes will be allowed per session.

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14 AUTOMATIC CALL DISTRIBUTION (ACD) TRAINING

14.1 General ACD Training Requirements

- (393) The Contractor must develop and deliver training programs for the ACD function. The training must consist of classroom training and reference documentation, e.g. post-training reference guides, in both English and French.
- (394) The Contractor's cost for ACD training must be included in the price of the ACD Network Products
- (395) Ten business days prior to the projected start of ACD training, the Contractor must provide an ACD training plan and schedule to the Technical Authority. The training plan and schedule must be accepted, in writing, by the Technical Authority before any training begins.
- (396) The Contractor must provide up to five copies of all ACD training materials in English and five copies of all training material in French to the Technical Authority within five business days from receiving approval.
- (397) The Contractor must deliver training for each ACD installation to all ACD administrators, supervisors and Agents at the Canada site using actual operating equipment.
- (398) The Contractor must complete all training within ten business days prior to the scheduled site installation completion date.
- (399) Following this initial training, Canada will own all rights to the ACD training packages and will be free to train Canada staff without any limitations or further cost.
- (400) The Contractor must provide the following training programs:
 - a) ACD administrator (minimum 7.5 hours);
 - b) ACD supervisor (minimum 4.0 hours); and
 - c) ACD Agent (minimum 2 hours).

14.2 ACD Administrator Training

- (401) The ACD administrator training provided by the Contractor must include all functionality of the ACD Network Product including, at a minimum:
 - a) Attaching alpha-numeric labels or identifiers to ACD queues, Agents, and supervisors;
 - b) Mapping Agents to supervisors;
 - c) Activating overflow and emergency routing;
 - d) Recording and loading in-queue messages;
 - e) Assigning/reassigning specific in-queue messages to individual ACD queues;
 - f) Assigning or moving Agents between ACD queues;
 - g) Activating Night Service;
 - h) Defining ACD MIS access privileges on an administrator by administrator basis;
 - i) Generating reports;
 - j) Establishing call classification codes; and
 - k) Backup and restore procedures.
- (402) Class sizes for ACD administrator training must not exceed ten participants per session.

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14.3 ACD Supervisor Training

- (403) The ACD supervisor training provided by the Contractor must include all supervisor functionality of the ACD Network Product including, at a minimum:
 - a) Mapping Agents to supervisors;
 - b) Activating Night Service;
 - c) Generating reports; and
 - d) Monitoring ACD calls.
- (404) Class sizes for supervisor training must not exceed ten (10) participants per session.

14.4 ACD Agent Training

- (405) Training is to be provided to give all Agents hands-on experience, together with written instructions, for the particular user device type they will use and the features and functions required by their work function.
- (406) Class sizes for Agent training must not exceed ten participants per session.

15 INSTALLATION PLANNING AND QUOTE

15.1 General Requirements

- (407) Installation planning and quote delivery governance must support the Service Quality Management framework.
- (408) The installation planning and delivery governance processes will include the following:
 - a) Request for quote;
 - b) Contractor's site survey (optional);
 - c) Service quote;
 - d) Service quote evaluation;
 - e) Service order issuance;
 - f) Installation services (includes at a minimum: design, procure, deploy, training and Contractor testing);
 - g) Canada acceptance; and
 - h) Maintenance and management (following Canada's formal acceptance).

15.2 Request for Quote (RFQ)

- (409) The RFQ process involves the following major activities:
 - a) The Technical Authority qualifying the requests from Canada;
 - b) Documenting the requirements in an RFQ which will include, at a minimum;
 1. The name and contact details of the requestor;
 2. A Canada unique RFQ number;
 3. Canada site details, such as civic address, floor, rooms numbers;
 4. Number of user devices and telephone lines;
 5. Site Contact and details (if available); and
 6. An estimate of the Network Products required.

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- c) Issuing the RFQ to the Contractor; and
- d) The Contractor's written acknowledgement within thirty minutes from receipt of the RFQ.

15.3 Contractor's Site Survey Request (CSSR)

- (410) The Contractor must submit a Contractor's site survey request (CSSR), within two business days from the receipt of an RFQ to the Technical Authority, if a site survey is required to advance the installation process.
- (411) Within ten business days from contract award, the Contractor must submit the content and format for the CSSR template to the Technical Authority for review, modifications (if required) and ultimate acceptance. At a minimum, the CSSR must contain:
 - a) The Canada unique RFQ number;
 - b) The site details;
 - c) At least three timeslots in which the Contractor will be available to conduct the site survey(s), by site;
 - d) The names and contact details for each Contractor participant, by site; and
 - e) The estimated time to complete each site survey, once site access has been granted (must not exceed six continuous business hours, by site, unless a longer period is requested in writing by the Contractor and authorized in writing by the Technical Authority).
- (412) The Technical Authority will, if possible, select date(s) and time(s) from the available timeslots submitted by the Contractor and confirm the selection(s), in writing, to the Contractor. It is Canada's intent to submit its selections(s) within two business days from receipt of a CSSR.

15.4 Service Quote (SQ)

- (413) The Contractor must provide a service quote (SQ) for the installation of the Network Products within ten business days of its receipt of an RFQ unless the Contractor issues, and the Technical Authority accepts, a CSSR. Please refer to the contract section entitled "Service Order - sub section b) Contractor's work quotation" for additional details and procedures.
- (414) When the Technical Authority accepts a CSSR from the Contractor, the SQ must be submitted within ten business days from the date(s) and time(s) selected for the site survey by the Technical Authority.
- (415) The service quote must be presented in a format acceptable to Canada and must, at a minimum, include:
 - a) The Canada RFQ unique number;
 - b) Detailed list of Network Products and associated costs;
 - c) Applicable taxes, identified as separate line items;
 - d) Site diagrams/plans identifying the location of the Network Products; and
 - e) Real property requirement, including:
 - 1. Cabling requirements (user devices, network and backbone);
 - 2. Commercial power and heating, ventilation and air conditioning (HVAC) requirements;
 - 3. Real estate/property requirements, such as structural changes;
 - 4. LAN and WAN requirements ;
 - 5. Security perimeter requirements;
 - 6. Building access requirements; and

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7. Security and privacy requirements.

15.5 Service Quote Evaluation

- (416) Canada does not commit any specific timelines to the service quote evaluation process and/or subsequent initiation of the service order process.

15.6 Service Order Issuance

- (417) Once Canada decides to proceed with the installation of the information system, Canada (by its authorized representative will issue a service order (SO) by forwarding a signed copy of the final SO form to the Contractor, as detailed in section 7.2 of the Contract. Throughout the Contract Period, the Contractor must meet, at a minimum, the Maximum Delivery Intervals (MDI) for Service Levels-Service Orders (SL-SO)

16 INSTALLATION SERVICES

- (418) Installation services include, at a minimum, the Contractor procuring, staging, installing, configuring and testing Network Products Hardware and/or Licensed Software purchased from the Contractor by Canada.
- (419) Canada is responsible for the physical environment at a SDP; including space, power, and environment (e.g. heating, ventilation and air conditioning).
- (420) The Contractor must ensure that all installations adhere to OEM requirements.
- (421) The Contractor must provide to Canada the physical environmental requirements at a Canada SDP within ten business days of a request by Canada.
- (422) The Contractor must not perform any installation work which changes or alters a building's structure (i.e., core drilling, installation of backbone or horizontal conduit, penetration of structural or fire-rated walls) without Canada's approval in writing.
- (423) The Contractor must keep the installation work area clean and tidy at all times, cleaning as the Work is performed. At the completion of the Work, the Contractor is responsible for cleaning, to the satisfaction of Canada, any areas soiled while completing the Work. Unless otherwise stated, clean must mean free of dust, dirt, mud, grease or other residues, packaging, cabling parts, and in broom condition.
- (424) The Contractor must perform acceptance testing using an Acceptance Test Plan (ATP) provided by the Contractor, and approved by Canada.
- (425) The Contractor must provide the results of acceptance testing to Canada within five business days following the testing of an installation.

16.1 Installation Management

- (426) The Contractor must assign an Installation Manager (CIM) to manage the installation services requested by Canada.
- (427) The CIM must co-ordinate all activities required to install the Network Products, including interfacing with the Canada functional primes.
- (428) The CIM will be, at a minimum, responsible for:
- Developing the installation plan;
 - Executing the plan, once approved by the Technical Authority; and
 - Addressing all issues relating to the installation.

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- (429) Within five business days of receiving a service order the CIM must host a project kick-off (PKO) at a location acceptable to the Technical Authority, to initiate the installation processes.
- (430) At the PKO session, at a minimum, the following representatives must be in attendance:
 - a) The CAM;
 - b) The Technical Authority; and
 - c) The Contractor's Installation Manager (chairperson).
- (431) The CIM must record and submit to the Technical Authority, within two business days after each meeting or one business day before the next meeting, whichever are earlier, the minutes of meetings, records of decisions, actions, issues and risks.
- (432) Subsequent meetings must be held on a regular basis until the installation has been successfully completed and accepted by Canada. These meetings must be chaired by the CIM and must address installation issues and provide progress reports. Contractor functional primes must become active participants of the Installation team if requested by the Technical Authority.

16.2 Installation Planning

- (433) Within five business days from the PKO, the CIM must provide an installation plan that addresses all of Canada's requirements, including, at a minimum, those specified in the service order.
- (434) The installation plan must contain, at a minimum:
 - a) An ISO 9002 compliant installation and project governance framework including project management tools;
 - b) A list of all installation deliverables which contains at a minimum:
 - 1. Establishing the installation governance team;
 - 2. Canada's acceptance of the installation plan;
 - 3. Network Products inventory by OEM or Software Publisher, release version, and part identifier;
 - 4. User database creation;
 - 5. Canada site requirements;
 - 6. Upload user database;
 - 7. Unit and integration testing;
 - 8. Training; and
 - 9. Acceptance testing.
 - c) A generic floor plan and Network Products layout for the site;
 - d) The system architecture taking into account the existing LAN infrastructure and security requirements;
 - e) Design and configuration specifications;
 - f) An integration plan for the integration of the new equipment into the LAN infrastructure;
 - g) Installation constraints and dependencies such as; Real estate, HVAC, power, building access and security requirements;
 - h) Installation and transition approaches;

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- i) Training; and
 - j) An acceptance plan, including testing processes that, at a minimum:
 1. Identifies the tasks, activities, test equipment and procedures that the Contractor will use to test the Network Products' functional and operational integrity;
 2. Defines what is being tested and what tests will be performed by the Contractor, such as; telephony features; user devices, network performance for trunking, automated attendant functionality, service maintenance;
 3. Evaluates the impact on the current environment;
 4. Describes the acceptance criteria and the expected results for each test;
 5. Includes templates, or forms, to record the actual results for each test and signature blocks for the Contractor's authority; and
 6. Reports results to the Technical Authority in a format acceptable to Canada.
 - k) The delivery timelines and format for each report;
 - l) A methodology to maintain current service level performance;
 - m) Documented operational processes (incident, change, escalation, etc.) required following the installation phase;
 - n) A detailed installation schedule, using common off-the-shelf project management software, which identifies Contractor and Canada individuals and summary tasks as well as milestones;
 - o) A detailed resource plan, including the Contractor's and Canada's functional primes' accountabilities and responsibilities (responsible, accountable, consult, inform - RACI);
 - p) A detailed communications plan; and
 - q) Project close-out activities, including the installation acceptance report and lessons learned session(s).
- (435) The Contractor is responsible for the integration and management of Canada's tasks and deliverables into the installation plan.
- (436) It is Canada's intention to approve the installation plan within five business days of receiving it. The CIM must wait for the Technical Authority's approval of the installation plan, before starting the installation.
- (437) Within five business days following the Technical Authority's written acceptance of the installation plan, the CIM must hold an installation kick-off meeting with Canada functional primes, in a location acceptable to Canada, to initiate the installation process.
- (438) Once the Technical Authority has approved the installation plan, the Contractor must use ISO 9002 project change management procedures, and obtain necessary approvals, before modifying the installation plan.
- (439) The CIM must update and resubmit the installation plan, including the installation schedule, to the Technical Authority within three business days after a change has been approved.

17 MOVES, ADDITIONS AND CHANGES (MACs)

- (440) Moves, adds, and changes (MACs) encompass the day-to-day activities in support of relocating users, adding users, or changing parameters.

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- (441) The Contractor must perform MACs as and when requested in accordance with section 7.3 of the Contract. Unless specifically requested otherwise by Canada, all MACs must be performed during the Principal Period of Maintenance.
- (442) The Contractor must perform the necessary testing to verify that the MAC was successfully installed.
- (443) MACs are defined as follows:
- a) **Move** – refers to the relocation of an existing user device connected to the PBX. The Contractor must perform the following tasks, as required, if a move is requested by Canada:
 1. Perform any required programming and configuration changes;
 2. Relocate the user device; and
 3. Update any configuration and inventory records.
 - b) **Add** – refers to the installation of a new features or functionality e.g., new user device, network interface. The Contractor must perform tasks required to complete an add requested by Canada including the following tasks:
 1. Perform any required programming and configuration changes;
 2. Provide, install, and configure any required Hardware and Licensed Software; and
 3. Update any PBX configuration and inventory records.
 - c) **Change** – Refers to the modification of the parameters or configuration of the PBX. The Contractor must perform the following tasks, as required, if a change is requested by Canada:
 1. Perform any required programming and configuration changes;
 2. Provide, install, and configure any required Hardware and Licensed Software; and
 3. Update any PBX configuration and inventory records.
 - d) A soft MAC can be achieved through Licensed Software and/or configuration changes and does not involve relocation of physical Network Products;
 - e) A hard MAC is a PBX support and maintenance service that adds, changes, deletes or relocates physical Network Products; and
 - f) For special or ad hoc MACs that don't fit into the normal maintenance and support definitions, the Contractor must supply an hourly rate in the pricing tables for MAC's done outside the Principal Period of Maintenance (OPPM).

17.1 Installation Services - Inventory Management

- (444) Within ten business days of the formal acceptance of the installation by the Technical Authority the Contractor must deliver a complete inventory report of all Network Products (Hardware and Licensed Software), deployed with the PBX. The report must include, at a minimum, the following:
- a) The OEM or Software Publisher of the Network Product(s) and country of origin;
 - b) The make, model, serial number, warranty period, software version, licensing keys numbers (if applicable) for each component for the Network Products;

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- c) A list of all Licensed Software, and firmware; by version, serial numbers, license, product keys and release date;
 - d) Detailed layout for each Network Product that was installed, and accepted by Canada i.e. ("as built" diagrams);
 - e) The date that the Network Product(s) were installed; and
 - f) The date the installation was accepted by the Technical Authority.
- (445) The PBX's inventory must be integrated with the "as built" diagrams stated above, so that, by reviewing the inventory, Canada can immediately locate where an individual item (Hardware and Licensed Software) has been deployed.
- (446) The inventory report will be the property of Canada, once submitted by the Contractor.

17.2 Ongoing Configuration and Inventory Management

- (447) Following the successful completion of an installation, and Canada's formal acceptance, the Contractor must record, update and report all configuration and inventory changes.
- (448) The Contractor must maintain and update information on PBX and associated Network Products for the duration of the Contract Period.
- (449) The Contractor must implement processes and procedures to manage and report the configuration and inventory of the Network Products which include, at a minimum, the following:
- a) Identification – identification of all Hardware and Licensed Software elements of the Network Products;
 - b) Control – management of change, including the change authorization process;
 - c) Status – maintenance of the configuration and inventory records for all Network Products; and
 - d) Verification – review and audit the accuracy of the configuration information.
- (450) The Contractor must update the configuration and inventory report within ten business days after defective Network Products are replaced, or new Network Products are installed.
- (451) The Contractor must provide Canada with the original copy of all Licensed Software and product keys installed during the initial installation and subsequent changes made during the Contract Period.
- (452) The Contractor must post all configuration and inventory reports to the secure FTP site.

17.3 Technical Documentation

- (453) The Contractor must provide the Technical Authority with three copies in English, and in French if requested by the Technical Authority, of all applicable manuals and schematics necessary for the operation and maintenance of all Network Products purchased by Canada under this Contract.
- (454) The documentation must be provided in electronic format on CD ROM, DVD or any other medium acceptable to Canada.
- (455) Each technical document, presented in electronic format, must contain the same master password for all technical documents.
- (456) When Hardware or Licensed Software is replaced for maintenance purposes, the Contractor must supply three full sets of Network Product specific technical documentation for the new Hardware and/or Licensed Software.

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17.4 Disposal of Telecommunications Equipment

- (457) The Contractor must remove all existing telecommunications equipment (switches, user devices etc.) that is being replaced. The Contractor must return the removed equipment to Canada or dispose of it, if requested by the Technical Authority in writing.
- (458) The Contractor must dispose of the equipment in accordance with all local and federal regulations. The Contractor must provide documentation indicating the location of equipment disposal.

18 SERVICE LEVELS

- (459) The Contractor must meet or exceed the Service Levels.
- (460) The Contractor must monitor measure and calculate Service Levels 24 hours per day, 7 days per week, and 365 days per year.
- (461) The Contractor must provide the Hardware and Licensed Software for monitoring and measuring Service Levels.
- (462) The Contractor must count omitted Service Level performance measurements as failed measurements.
- (463) The Contractor must calculate and report Service Levels rounded to two decimal points, unless otherwise indicated for a Service Level.

18.1 Service Level Exception and Credit Report (SLECR)

- (464) The Contractor must provide a monthly Service Level exception and credit report (SLECR) to Canada for each instance where a Service Level was not met. The SLECR must include, at a minimum, the following:
 - a) Description of the failure to meet Service Level;
 - a) Calculated Service Level;
 - b) Contracted Service Level; and
 - c) Applicable Service Credits.
- (465) All SLECR reports must be posted to the secure File Transfer Protocol (FTP) site within ten business days from the last business day of the billing period.

18.2 Service Level Service Desk Response (SL-SDR)

- (466) The SL-SDR must meet or exceed 80.00% of all telephone calls received by the CSD in a calendar month.
- (467) The SL-SDR must be calculated as follows: (number of calls answered within twenty seconds + number of calls abandoned within twenty seconds) / (total number of calls answered + total number of abandoned calls) * 100.
- (468) The calculation of the time to answer a call starts from the time the telephone call is connected to the Contractor's service desk (CSD's) telephone system and ends when the CSD agent answers the call.
- (469) An abandoned call is a telephone call that is connected to the CSD's telephone system and the Calling Party terminates the call before a CSD agent answers the call.

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18.3 Service Level Maximum Time On-site (SL-MTO)

- (470) The SL-MTO represents the maximum allowable time between the times Canada or the Contractor identifies an incident, and its closure by Canada, for Maintenance Services for which a Hardware On-Site Maintenance Plan (OMP) is in effect.
- (471) The OMPs by Period of Maintenance and Maximum Time On-Site (SL-MTO) are as follows:

On-Site Maintenance Plans

OMP		SL-MTO			
Name	Period of Maintenance	2.0 Hrs	4.0 Hrs	24.0 Hrs	48.0 Hrs
OMP-1	8 hours, five days (PPM)	X			
OMP-2	8 hours, five days (PPM)		X		
OMP-3	8 hours, five days (PPM)			X	
OMP-4	8 hours, five days (PPM)				X
OMP-5	24 hours, 7 days	X			
OMP-6	24 hours, 7 days		X		
OMP-7	24 hours, 7 days			X	
OMP-8	24 hours, 7 days				X

- (472) The SL-MTO is calculated as the total elapsed time from when an incident identified for an OMP until the incident for the OMP is closed by Canada.
- (473) The SL-MTO calculation does not apply when the fault is not determined to be with the Network Products.

18.4 Service Level – Service Orders (SL-SO)

- (474) The SL-SO for service orders must be less than or equal to the Maximum Delivery Interval (MDI) timeframes (in business days) by service order category as defined in the SL-SO.

Table 2 – Service Level – Service Order Response

SERVICE ORDER CATEGORY	MAXIMUM DELIVERY INTERVAL(MDI)
Installation services (all PBX Classes including all required Network Products) – initial 500 user devices.	35 business days
Installation services – per additional 500 user devices.	5 business days
Delivery of UPS to SDP	20 business days
Delivery of user device (all types) to SDP	5 business days

- (475) In the application of the MDI for installation services – initial 500 user devices, the Contractor must meet the 35 business day MDI, no matter the number of user devices to be ultimately installed. For example, if installing a PBX with 1250 user devices, the PBX (and all required Network Products) and 500 user devices must be installed within 35 business days. An additional 500 user devices must be installed by business day 40 and the remaining 250 user devices must be installed by business day 45.

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- (476) The Contractor must calculate the SL-SO as the number of business days from the date of issuance of the service order by Canada to the Contractor until formal submission of acceptance test results for acceptance of the Work by Canada.
- (477) Maximum delivery intervals may be modified to the extent delays in Canada's deliverables impact the critical path of the accepted installation schedule.
- (478) The Contractor must have sufficient resources to manage the concurrent installation of two PBXs with 2500 user devices each.

18.5 Service Level – MAC Completion (SL-MAC)

- (479) The SL-MAC for MAC-related service orders must be less than or equal to the MAC maximum completion time (in business days) by MAC service order category.

MAC S.O. category	MAC maximum completion time
<= 10 soft MACs	Two business days from receipt of a service order.
<= 10 hard MACs	Four business days from receipt of a service order.
10 to 20 soft MACs	Three business days from receipt of a service order.
10 to 20 hard MACs	Six business days from receipt of a service order.
> 20 MACs	To be negotiated with Canada within two business days from service order submission.

19 TECHNICAL STANDARDS AND CODES

- (480) All Work performed by the Contractor as part of a requirement must conform to the applicable standards and codes listed in this document, as well as future updates. In cases where a conflict or discrepancy exists between standards and codes, the most stringent standard or code will apply.
- (481) The Contractor must comply with standards for persons with disabilities, and will at all times meet these standards or any revision of these standards, as defined at following URL: http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/TB_852/ppaed_e.asp.

19.1 Ethernet

- (482) Network Products that specify conformance to Ethernet must support the following standards and functionality:
- a) Ethernet as per IEEE 802.3 at 10/100 Mbps;
 - b) VLAN Tagging as per IEEE 802.3ac;
 - c) Virtual bridged LANs as per IEEE 802.1Q;
 - d) MAC-level QoS as per IEEE 802.1p (802.1D);
 - e) Link aggregation as per IEEE 802.3ad;
 - f) 10Base-T and 100Base-TX cabling;
 - g) 100Base-FX cabling;
 - h) 100Base-SX cabling;
 - i) 8P8C modular connectors, as applicable to Ethernet, and as commonly referred to as RJ-45;
 - j) Subscriber connector (SC) connector as per FOCIS 3 (fibre optic Connector

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intermateability standards) in EIA/TIA-604-03;

- k) Lucent connector (LC) connector as per FOCIS 10 in EIA/TIA-604-10; and
- l) Mechanical transfer – registered jack (MT-RJ) connector, as per FOCIS 12 in EIA/TIA-604-12.

19.2 Gigabit Ethernet

(483) Network Products that specify conformance to Gigabit Ethernet (GigE) must support the following standards and functionality:

- a) Gigabit Ethernet as per IEEE 802.3ab and IEEE 802.3z at 1,000 Mbps;
- b) VLAN tagging as per IEEE 802.3ac;
- c) Virtual bridged LANs as per IEEE 802.1Q;
- d) MAC-level QoS as per IEEE 802.1p (802.1D);
- e) Link Aggregation as per IEEE 802.3ad;
- f) 1000Base-T cabling;
- g) 1000Base-SX cabling;
- h) 8P8C modular connectors, as applicable to Ethernet, and as commonly referred to as RJ-45;
- i) SC connector as per FOCIS 3 in EIA/TIA-604-03;
- j) LC connector as per FOCIS 10 in EIA/TIA-604-10; and
- k) MT-RJ connector, as per FOCIS 12 in EIA/TIA-604-12.

19.3 10 Gigabit Ethernet

(484) Network Products that specify conformance to 10 Gigabit Ethernet (10GigE) must support the following standards and functionality:

- a) 10 Gigabit Ethernet as per IEEE 802.3ae and IEEE 802.3z at 10,000 Mbps;
- b) VLAN tagging as per IEEE 802.3ac;
- c) Virtual bridged LANs as per IEEE 802.1Q;
- d) MAC-level QoS as per IEEE 802.1p (802.1D);
- e) Link aggregation as per IEEE 802.3ad;
- f) 10GBase-T cabling;
- g) 10GBase-R cabling;
- h) 10GBase-CX4 cabling;
- i) 8P8C modular connectors, as applicable to Ethernet, and as commonly referred to as RJ-45;
- j) Subscriber connector (SC) connector as per FOCIS 3 in EIA/TIA-604-03;
- k) Lucent connector (LC) as per FOCIS 10 in EIA/TIA-604-10; and
- l) Mechanical transfer – registered jack (MT-RJ) connector, as per FOCIS 12 in EIA/TIA-604-12.

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19.4 Wireless LAN

- (485) Network Products that specify conformance to Wireless Local Area Network (WLAN) must support the following standards and functionality:
- a) WLAN as per the IEEE 802.11 family of standards, including the following modulation techniques in either legacy mode (one of 802.11a, b, or g), or in mixed mode (auto adaptation to one of 802.11a, b, g, or n):
 - 1. 802.11a;
 - 2. 802.11b;
 - 3. 802.11g; and
 - 4. 802.11n.
 - b) Bridge operation procedures; included in the IEEE 802.1D standard (2001), as specified in IEEE 802.11c;
 - c) Extensible Authentication Protocol (EAP) for Authentication, as specified in IEEE 802.1x;
 - d) Quality of Service (QoS) enhancements, as specified in IEEE 802.11e;
 - e) Enhanced security, as specified in IEEE 802.11i, or WPA2 certified; and
 - f) X.509v3 digital certificate support for all wireless Network Products.
- (486) The Contractor must ensure that all WLAN network solution cryptographic processes, such as symmetric and asymmetric key establishment/management, digital signatures, encryption, and hashing functions, enforce the use of CSEC-approved algorithms.
- (487) Communications between any Network Products must not be wireless unless approved by Canada

19.5 Power over Ethernet (PoE)

- (488) Network Products that specifies conformance to Power over Ethernet (PoE) must support the following standards and functionality:
- a) 48 Volts Direct Current (VDC) with a maximum current of 400 milliamperes (mA) over Cat5 cable, as specified in IEEE 802.3-2005 (802.3af);
 - b) Powered pairs on 10Base-T and 100Base-TX cabling systems;
 - c) Power mode A, where pair #2 (pins 1-2) form one side of the 48 VDC supply, and pair #3 (pins 3-6) provide the 48 VDC return;
 - d) Power classifications 0, 1, 2, and 3; and
 - e) Power-mode B, where pair #2 (pins 4-5) form one side of the 48 VDC supply and pair #4 (pins 7-8) provide the 48 VDC return.
- (489) Network Products that specify conformance to Power over Ethernet+ (PoE+) must support the IEEE 802.3at standards and functionality.

19.6 Bridging

- (490) Network Products that specifies conformance to bridging must support the following standards and functionality:
- a) IEEE 802.1ad (Provider Bridge);
 - b) Rapid Spanning Tree Protocol, as per IEEE 802.1D-2004; and

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c) IEEE Std. 802.1Q-2005, Virtual Bridged Local Area Network.

19.7 Internet Protocol (IP)

(491) Network Products that specify conformance to Internet Protocol (IP) must support the following standards and functionality:

- a) IPv4 [RFC 791]; and
- b) IPv6 [RFC 2460] where:
 - 1. All layer 2 (of the OSI model) protocols used by Network Products must operate transparently with IPv6;
 - 2. All layer 2 protocols used by Network Products must allow IPv6 to be tunneled over IPv4;
 - 3. Network Products must route Canada's IPv6 traffic once IPv6 is commercially available from the Contractor; and
- c) RFC 3050, RFC 3435, RFC 3660, RFC 3661 – RFCs related to Media Gateway.

19.8 Differentiated Services

(492) Network Products that specify conformance to Differentiated Services must support the following standards and functionality:

- a) Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 headers [RFC 2474];
- b) An architecture for Differentiated Services [RFC 2475];
- c) Assured Forwarding Per-Hop Behaviour (PHB) Group [RFC 2597];
- d) Differentiated Services and Tunnels [RFC 2983];
- e) Definition of Differentiated Services Per Domain Behaviours and Rules for their Specification [RFC 3086];
- f) Per Hop Behaviour Identification Codes [RFC 3140];
- g) An Expedited Forwarding PHB [RFC 3246];
- h) Management Information Base for the Differentiated Services Architecture [RFC 3289];
- i) Differentiated Services Quality of Service Policy Information Base [RFC 3317]; and
- j) The Differentiated Services Configuration MIB [RFC 3747].

19.9 IP Services

(493) Network Products that specify conformance to IP Services must support the following standards and functionality:

- a) Internet Control Message Protocol (ICMP) [RFC 792];
- b) RFC 3711 - Secure Real-time Transport Protocol;
- c) RFC 5346 - Operational Requirements for ENUM-based Softswitch;
- d) RFC 5347 - Media Gateway Control Protocol Fax Package;
- e) RFC 6080 - A Framework for Session Initiation Protocol User Agent Profile Delivery;
- f) RFC 6140 - Registration for Multiple Phone Numbers in the Session Initiation Protocol;

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- g) RFC 793/768 for Transport Control Protocol/ User Datagram Protocol (TCP/UDP) transport protocols;
- h) RFC 2821 for SMTP email notifications and instant messaging;
- i) RFC 854 for Telnet;
- j) RFC 2616 for HTTP;
- k) RFC 5246 - Transport Layer Security(TLS) 1.2;
- l) RFC 4251 – SSH; and
- m) ENUM: RFC 6116, RFC 6117, RFC 6118 and RFC 3764.

19.10 Public Switched Telephone Network (PSTN) Interface

- (494) Network Products that specify conformance to a PSTN interface must support the following standards and functionality:
- a) DIN 41652 D Subminiature Connector type DA15, commonly referred to as DB15;
 - b) 8P8C modular connectors for Cat5 cable, as applicable to Ethernet, and as commonly referred to as RJ-45;
 - c) 8P8C modular connectors for four-wire data line (DSX-1), commonly referred to as RJ48C;
 - d) 50-pin modular connector, commonly referred to as RJ21; and
 - e) 6P4C modular connector commonly referred to as RJ11.

19.11 Voice Services

- (495) Network Products that specify conformance to voice services must support the following standards and functionality:
- a) The international public telecommunication numbering plan;
 - b) G.711 μ -law pulse code modulation (PCM) of voice frequencies; and
 - c) G.729 Annex A: Reduced complexity 8 kbit/s Conjugate Structure Algebraic Code-Excited Linear Production (CS-ACELP) speech Codec.

19.12 Signalling and Media

- (496) Network Products that specify conformance to signalling and media must support the following standards and functionality:
- a) Session Initiation Protocol (SIP) [RFC 3261];
 - b) RTP: A Transport Protocol for Real-Time Applications [RFC 3550]; and
 - c) RTP Control Protocol Extended Reports (RTCP XR) [RFC 3611].

19.13 Accessibility Standards

- (497) Network Products that specify conformance to accessibility must support the standards and functionality defined in section 508-1194.23 Accessibility Standards for Telecommunications Product. Please refer to:
<http://www.section508.gov/index.cfm?FuseAction=Content&ID=12#Telecommunications>.

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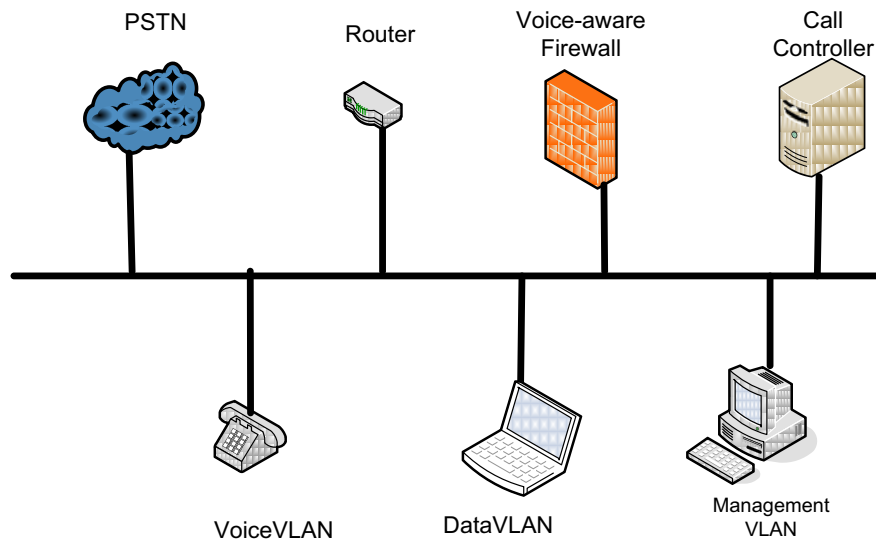
20 GENERIC LAN ARCHITECTURE

20.1 General Information

- (498) A data VLAN, also referred to as user VLAN, is configured to primarily carry user-generated data traffic.
- (499) A voice VLAN is configured to carry voice traffic. Voice VLANs are given transmission priority over other types of network traffic.

20.2 General LAN Architecture Diagram

- (500) The following provides a graphical representation of the major components that must be considered to support VoIP traffic using VLANs



Generic Physical LAN

20.3 Voice and Data Traversal Architectural Requirements

- (501) System administration traffic for the Network Products must be separated from all other traffic on the information system.
- (502) Canada's voice and data traversal architecture requires mandatory separation of voice and data traffic. The importance of separating voice traffic from other types of traffic is driven by proper information system management, service quality, and security controls, including considerations applicable to softphones.
- (503) Unless approved otherwise by the Technical Authority, the Contractor must use the "Voice-Aware Firewall" methodology for handling traffic traversal between a data VLAN and a voice VLAN.
- (504) When using the "Voice-Aware Firewall" methodology, the softphones in the data VLAN must authenticate with the Canada provided Voice-Aware Firewall by exchanging certificates. After successful authentication, the signalling with the Call Controller must traverse through the voice-aware firewall in Transport Layer Security (TLS) mode, and the media stream must traverse through the voice-aware firewall in Secure Real-time Transport Protocol (SRTP) mode.

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- (505) In addition to the aforementioned, the Contractor may use another methodology for handling traffic between a data VLAN and a voice VLAN, if approved by the Technical Authority

21 SECURITY AND PRIVACY REQUIREMENTS

- (506) Within twenty business days from contract award, the Contractor must provide to the Technical Authority, in a format acceptable to Canada, written evidence of compliance to each of the security and privacy requirements contained in Appendices B and C of Annex A.
- (507) Within five business days following the completion of a service order, maintenance activity or MAC, the Contractor must provide written demonstration of compliance to the security and privacy requirements. This demonstration of compliance must be submitted to the Technical Authority, in a format acceptable to Canada, as part of the service acceptance process.

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22 APPENDIX A – GLOSSARY AND DEFINITIONS

#	Term	Definition
1	Acceptance Test Plan (ATP)	Plan for acceptance of installation of Network Products.
2	Address	Civic address where a Service Delivery Point (SDP) is located.
3	Agent	Individual that works in a contact centre and provides services to clients using a user device, email and/or any other client facing service.
4	Analog	A method to store information as continuously variable signals instead of electronic codes.
5	Analog Telephone	A telephone that operates using an analog telephone line.
6	Alternating Current (AC)	An electric current that reverses direction in a circuit at regular intervals.
7	Attendant Answering	Client user whose responsibility is to answer and transfer telephone calls from a Calling Party to the extension or telephone number of a Called Party.
8	Authentication	Process to verify the digital identity of the sender of a network communication.
9	Automatic Call Distribution (ACD)	A function that distributes incoming calls to a specific group of user devices.
10	Automatic Number Identification (ANI)	Telephone numbers associated with the access line from which a telephone call originates.
11	Auto-termination	Telephony feature that allows a Calling Party to place a call directly from the PSTN to a telephone number terminating on one or more user devices without going through an automated attendant or Attendant Answering.
12	Barge-In	Telephony feature that allows a user to break into an established telephone conversation.
13	Building	Name of a building where a Service Delivery Point (SDP) is located.
14	Business day	A business day consists of any weekday that is not a Saturday, a Sunday or a statutory holiday observed by GC in a given province or territory.
15	Business hours	Business hours start at 07:00 am and end at 7:00 pm local time, during any business day.
16	Call Back Activation	Telephony feature that notifies a Calling Party when the Called Party becomes available for a telephone call.
17	Call Blocking (do not disturb)	Telephony feature that allows a user to block calls from specific telephone number(s).
18	Call Conferencing	Telephony feature that allows a user to establish a telephone call that joins multiple telephone numbers at one time.
19	Call Detail Records (CDR)	Records that includes information on telephone calls (i.e. Calling Party, Called Party, duration, timestamp etc.).

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#	Term	Definition
20	Call Feature	Telephony feature that is accessible from a user device
21	Call Forwarding	Telephony feature that allows incoming calls to be re-directed automatically to another telephone number.
22	Call Hold	Telephony feature that allows users to place a call on hold, and retrieve the call at a later time.
23	Call Park	Telephony feature that allows a user to place a call on hold and for anyone that operates on the same system to retrieve the call by dialling an access code.
24	Call Pickup	Telephony feature that allows a user to connect to a ringing call from another user device by dialling an access code or pressing a programmed call pickup button.
25	Call Progress Tone	Tone heard by a Calling Party that provides call progress information (e.g. busy, re-order, ring-back, call waiting, etc.).
26	Call Trace (for malicious calls)	Telephony feature that marks a call in system logs such that it can later be examined to determine its origin and destination.
27	Call Transfer	Telephony feature that allows a user to redirect a call to a different telephone number.
28	Call Type	Type of telephone call (i.e. DID, outward to PSTN, Toll Free, Long Distance).
29	Call Waiting	Telephony feature that sends a tone to an established telephone call to indicate to the Called Party that another call is waiting for attention.
30	Call Waiting Tone	Tone heard by the Called Party to indicate that another call is waiting for attention.
31	Called Party(ies)	Person or device that receives a telephone call.
32	Calling Line Identifier (CLID)	Calling Party's telephone number.
33	Calling Party(ies)	Person or device that initiates a telephone call.
34	Calling Party Name Display (CPND)	A telephony feature that enables the calling party's name to be displayed to the called party.
35	Category	Category of the part: Hardware or Licensed Software.
36	Cryptographic Module Validation Program (CMVP)	The Cryptographic Module Validation Program (CMVP) is a joint American and Canadian security accreditation program for cryptographic modules.
37	Commercial off-the-shelf (COTS)	Item that is commercially available, leased, licensed, or sold to the general public.
38	Communications Security Establishment Canada (CSEC)	The Communications Security Establishment Canada (CSEC or CSE) is the Canadian government's national cryptologic agency.
39	Consultation on Hold	Telephony feature that allows a call with another party while another call is on Call Hold.
40	Contractor's Account Manager (CAM)	Contractor functional role which will be the primary contact for the Contracting and the Technical Authorities during the entire Contract Period – refer to the administration and management section of the statement of work for details.

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#	Term	Definition
41	Contractor's Engineering & Design Manager (CEDM)	Functional role which will be the Contractor's single point of accountability for the engineering and design during the entire Contract Period – refer to the administration and management section of the statement of work for details.
42	Contractor's Service Manager (CEM)	Contractor functional role which will be responsible for all service performance-related matters and issues associated with the delivery and ongoing performance of the Network Products during the entire Contract Period – refer to the administration and management section of the statement of work for details.
43	Contractor's Installation Manager (CIM)	Contractor functional role responsible for all aspects relating to the installation of Network products ordered by Canada during the entire Contract Period – refer to the installation management section of the statement of work for details.
44	Contractor's Billing and Invoicing Manager (CBIM)	Contractor functional role which will be the Contractor's single point of contact for matters relating to billing and invoicing during the entire Contract Period – refer to the administration and management section of the statement of work for details.
45	Cost Centre	Logical grouping of expenditures.
46	Central processing unit (CPU)	It is the portion of a computer system that carries out the instructions of a computer program, to perform the basic arithmetical, logical, and input/output operations of the system.
47	Day	Means "business day", unless specifically stated otherwise.
48	Demilitarized Zone (DMZ)	A physical or logical sub network that contains and exposes an organization's external services to a larger un-trusted network, usually the Internet.
49	Dialling Plan	Combination of digits and additional information that defines the method by which the Numbering Plan is used and includes prefixes, suffixes and additional information supplemental to the Numbering Plan required to complete the call (e.g., dialling the prefixes "0", "1" and "011" for operator assistance, direct dialling within a Country Code, and direct dialling between Country Codes).
50	Discretionary Access Control (DAC)	Access control defined by the Trusted Computer System Evaluation Criteria as a means of restricting access to objects based on the identity of subjects and/or groups to which they belong.
51	Differentiated Services (DS)	A computer networking architecture that specifies a simple, scalable and coarse-grained mechanism for classifying and managing network traffic and providing Quality of Service (QoS) on modern IP networks.

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#	Term	Definition
52	Direct Inward Dialling (DID)	Telephony feature that allows a Calling Party on the PSTN to call an On-net Called Party directly without the assistance of an automated attendant or Attendant Answering.
53	Direct Outward Dialling (DOD)	Telephony feature that allows a Calling Party to place a call to a Called Party on the PSTN without the assistance of an automated attendant or Attendant Answering.
54	Directory	Products and services that allow Lightweight Directory Access Protocol (LDAP) access to directory information.
55	Distinctive Ringing	Telephony feature that allows a distinct ring tone to be assigned to a user device.
56	Do Not Disturb (DND)	Telephony feature that prevents a user device from ringing and provides a busy signal to Calling Parties.
57	Domain Name	An identification string that defines a realm of administrative autonomy, authority, or control in the Internet.
58	Domain Name System (DNS)	A hierarchical distributed naming system for computers, services, or any resource connected to the Internet or a private network.
59	Dual Tone Multi-Frequency (DTMF)	Telephony signalling that is used in the voice-frequency band between user device handsets and other communications devices and telephone systems.
60	Dynamic Host Configuration Protocol (DHCP)	An auto configuration protocol used on IP networks. Computers that are connected to IP networks must be configured before they can communicate with other computers on the network.
61	E&M tie trunk	An E&M tie trunk is used to connect two PBX's or a PBX to a tandem switch. An E&M tie line permits a user in one location to directly call those in another location without using the public switched network.
62	Eastern Daylight Savings Time (EDST)	The practice of temporarily advancing clocks during the summertime so that afternoons have more daylight and mornings have less.
63	Eastern Standard Time (EST)	A time zone that falls mostly along the east coast of North America.
64	Extensible Authentication Protocol (EAP)	An authentication framework frequently used in wireless networks and Point-to-Point connections. It is defined in RFC 3748
65	Federal Information Processing Standards (FIPS)	A publicly announced standardization developed by the United States federal government for use in computer systems by all non-military government agencies and by government contractors, when properly invoked and tailored on a Contract.

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#	Term	Definition
66	FIPS 140-2	Federal Information Processing Standard 140-2 (FIPS 140-2) is a standard that describes the requirements that IT products must meet for unclassified use. This standard is jointly administered by the United States National Institute of Standards and Technology (NIST), and Communication Security Establishment Canada (CSEC), under the umbrella of the Cryptographic Module Validation Programme (CMVP)
67	Find-me Follow-me	Telephony feature that enables a user to configure their call routing preferences such that incoming calls are routed in a specified manner (e.g. ring office user device first, then cellular telephone, etc.).
68	Forward on Busy	Telephony feature that automatically redirects a Calling Party to an alternate telephone number if the user device is busy.
69	Forward on No Answer	Telephony feature that automatically redirects a Calling Party to an alternate telephone number if the user device remains unanswered after a fixed number of rings.
70	Free Calling Area	Group of telephone exchanges and area codes within a geographic location that can be called and from which calls can originate without incurring long distance charges (e.g. charge per minute) by the Calling and Called Parties.
71	File Transfer Protocol (FTP)	A standard network protocol used to transfer files from one host to another host over a TCP-based network, such as the Internet.
72	Fully Functional Operation	Refer to the Supplemental General Conditions 4001 (2010-08-16) - Hardware Purchase, Lease and Maintenance.
73	Gateways	A Gateway is a network node equipped for interfacing with another network that uses different protocols or interfaces.
74	Harden (ing)	The removal of all non-essential software programs and utilities from the information system.
75	Hot Line	Telephony feature that allows a user to initiate a call to a pre-determined telephone number by pressing a (hot line) programmed button on the user, or in some cases, by simply lifting the handset.
76	Hunt Group	Telephony feature that redirects calls to a set of telephone numbers based on an algorithm (e.g. round robin, linear etc).

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#	Term	Definition
77	in a format acceptable to Canada	This statement means that the Contractor has the flexibility to establish its preferred communications format (reports, file type, etc.) to meet the contractual, technical, financial and/or operational requirements. The Technical Authority will assess the format and, when acceptable, will provide formal acceptance. Further changes to the accepted format must follow change management procedures throughout the life of the Contract.
78	Incident	An event which is not part of standard operation of the PBX and which causes, or may cause, an interruption to, or a reduction in the quality of service.
79	Incoming Only Line	Telephone line that only accepts incoming calls and is prevented from making outgoing calls.
80	Information system	Any combination of information technology and people's activities that support operations, management and decision making. The term information system is used to refer to the interaction between people, processes, data and technology to support ICSS.
81	Information Technology (IT)	Information technology (IT) is concerned with technology to treat information. The acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a microelectronics-based combination of computing and telecommunications are its main fields.
82	Information Technology Infrastructure Library (ITIL)	A set of good practices for Information Technology (IT) service management that focuses on aligning IT services with the needs of business.
83	Input/Output (I/O)	The communication between an information processing system (such as a computer), and the outside world, possibly a human, or another information processing system.
84	Integrate	Combine (parts) with another so that they become a whole.
85	Integrated Communications and Support Services (ICSS)	The ICSS is a Shared Services Canada (SSC) initiative which will facilitate the procurement of VoIP based telecommunications equipment and maintenance support services for Canada.
86	Integrated Services Digital Network Primary Rate Interface (ISDN PRI)	A telecommunication standard used in digital telephone networks for carrying multiple voice and data transmissions between two physical locations.
87	Intercom	A Call Feature that allows telephone calls between two or more IP and analog user devices and/or paging system, that are all connected to the same information system, by pressing a button on the user device and dialling an abbreviated telephone number (i.e. less than 7-digits).

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#	Term	Definition
88	Internet Control Message Protocol (ICMP)	One of several core protocols of the Internet Protocol Suite. It is chiefly used by the operating systems of networked computers to send error messages.
89	Internet Protocol (IP) trunking	Converts voices to a digital signal so that they can be transmitted via the internet.
90	ISO 9002	Standards which relate to quality management systems and are designed to help organizations ensure they meet the needs of customers and other stakeholders
91	Last Number Redial	Call Feature that allows dialling the telephone number that was last dialled by simply pressing a button instead of dialling the telephone number again.
92	Lightweight Directory Access Protocol (LDAP)	An application protocol for accessing and maintaining distributed directory information services over an Internet Protocol (IP) network.
93	Licensed Software	Refer to Supplemental General Conditions 4003 (2010-08-16), Licensed Software.
94	Local Area Network (LAN)	A computer network that interconnects computers in a limited area.
95	Long Distance	Telephone call that is established outside a Free Calling Area and for which the Calling Party incurs a charge.
96	Maintenance Plan	Plan defining requirements for maintenance of Hardware or Licensed Software.
97	Media Gateway	A Media gateway is a translation device or service that performs the conversion between TDM (Time Division Multiplex) voice to a media streaming protocol such as RTP (Real-time Transport Protocol) or SRTP (Secure RTP), as well as a signalling protocol used in the VoIP system
98	Incident ticket	Means to record an incident event.
99	Maximum Delivery Interval (MDI)	Means the maximum number of business days allocated to the Contractor to deliver the Network Products and support services indicated in a service order.
100	Maximum Time On-site	Maximum amount of time to operationally restore the Network Product at a SDP for which an On-Site Maintenance Plan (OMP) is in effect.
101	Message Information Mailbox	Voice Mailbox used for playback of messages to Calling Parties.
102	Message Waiting Indicator	Visual indicator on a user device that informs a user of a message in their Voice Mail box.
103	Management Information System (MIS)	A management information system that provides information which is needed to manage an organization efficiently and effectively.
104	Music on Hold	Feature that allows the playback of a music source to a Calling Party when placed on hold.
105	Mute	A Call Feature on a user device that allows listening without being heard.
106	Network Product Category	Grouping of Network Product by class.

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#	Term	Definition
107	Night Answer	Telephony feature that routes Calling Parties to an alternate location or telephone number based on time of day or through the use of a pre-programmed key on a user device.
108	Numbering Plan	Plan that specifies the format and structure of telephone numbers including any segments used for identification, routing, and charging capabilities (e.g., Country Codes, Area Codes and CO Codes used for geographic routing and distance sensitive charges).
109	Numbering Plan Area (NPA)	Area code as defined in the North American Numbering Plan.
110	NXX	First three digits that follows the area code in a telephone number.
111	Off-net	Network not provided by a service.
112	Off-net telephone number	Telephone number not provided by a service.
113	On-net	Network provided by a service
114	Original Equipment Manufacturer (OEM)	Original manufacturer of the Network Product Hardware.
115	Outgoing Call Screening by Permitted Calling Profile.	An information system feature that allows or prevents a user making outgoing calls based on the Permitted Calling Profile assigned to the user device.
116	Permitted Calling Profile	Telephony feature that controls analog or IP user devices from receiving/placing calls from/to selected telephone numbers.
117	<i>Personal Information Protection and Electronic Documents Act (PIPEDA)</i>	A Canadian law relating to data privacy. It governs how private sector organizations collect, use and disclose personal information in the course of commercial business.
118	Principal Period of Maintenance (PPM)	Refer to the supplemental general conditions 4001 (2010/08/16), section 25 (4).
119	Postal Code	Means the postal code associated with a civic address.
120	Power Over Ethernet (PoE)	A technology system that is able to pass electrical power safely, along with data, on Ethernet cabling.
121	Private Branch Exchange (PBX)	Private branch exchange; an information system that handles the internal and external calls of a building, firm, etc.
122	VoIP Private Branch Exchange (IP PBX)	An IP PBX is a PBX that handles the internal and external calls of a building, firm, etc using Voice over IP technology.
123	Project Management Institute (PMI)	The Project Management Institute (PMI) is a not-for-profit professional organization for the project management profession with the purpose of advancing project management.
124	Project Management Professional (PMP)	Project Management Professional (PMP) is a credential offered by the Project Management Institute (PMI).
125	Protocols	A protocol is a set of rules which is used by computers to communicate with each other across a network.

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#	Term	Definition
126	Public Switched Telephone Network (PSTN)	The network of the world's public circuit-switched telephone networks which allows any telephone in the world to communicate with any other.
127	Public Safety Answering Point (PSAP)	A call center responsible for answering calls to an emergency telephone number for police, firefighting, and emergency medical services.
128	Quality of Service (QoS)	Ability to provide different priority to different applications, users, or traffic flows and to guarantee certain level of performance attributes (e.g. latency, jitter and loss) to a traffic flow.
129	Real-time Transport Protocol (RTP)	A standardized packet format for delivering audio and video over IP networks.
130	Reference	A written testimonial regarding one's character or capabilities.
131	Service Order Response	Number of federal government business days from the date of issuance of a service order by Canada to the Contractor until formal submission of acceptance test results for acceptance of the Work by Canada.
132	Shared Services Procurement Office (PO)	The SSC contract management division responsible for administrative process and day-to-day management of contracts for SSC.
133	Royal Canadian Mounted Police (RCMP)	The RCMP is the national police force of Canada.
134	Service Delivery Point (SDP) Name	Name of the Service Delivery Point (SDP).
135	Service Delivery Point (SDP)	A Service Delivery Point (SDP) is a physical location in a Building (typically a wiring closet) where the PBX is installed. A Building or campus (multiple Buildings within a local cluster) can have one or more SDPs.
136	Service Delivery Point (SDP) Area	A SDP Area is defined as a geographical area consisting of one or more municipalities situated around an urban core.
137	Service Desk Response	Time required for the Contractor's service desk agent to answer a call.
138	Service Level	Value that is used to assess the performance, availability or quality of service, product or system.
139	Service Level – Service Order (SL-SO)	Means the Service Level for service orders as described in SOW subsection Service Levels.
140	Service Level Maximum Time On-Site (SL-MTO)	Means the Service Level for Maximum Time On-Site as described in SOW subsection Service Levels.
141	Service Level Service Desk Response (SL-RTDR)	Means the Service Level for Service Desk Response as described in SOW subsection Service Levels.
142	Session Initiation Protocol (SIP)	Signalling protocol defined by the IETF that is used for controlling multimedia communication sessions such as voice and video calls over Internet Protocol (IP).
143	Service Quality Management (SQM)	Provides a framework for Canada and the Contractor to manage planning, design, delivery and installation, performance, reporting, billing and credits.
144	Single-Line Extension	User device that is assigned a single telephone number.

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#	Term	Definition
145	Skill set	Grouping of skills or area of specialization for a group of Agents.
146	Simple Network Management Protocol (SNMP)	An Internet-standard protocol for managing devices on IP networks.
147	Licensed Software Support Maintenance Plan	Means the software support services provided and managed by the Contractor including documentation as described in Supplemental General Conditions 4004 (2010-08-16). The Maintenance Services for Licensed Software Support Maintenance Plan are described in SOW General section Maintenance Services and elsewhere in the Contract.
148	Shared Services Canada	A Government of Canada organization which has the responsibility for providing email, data centre and network services to a large number of organizations across the federal government.
149	Software Publisher	Refers to the original publisher of the Licensed Software
150	Speed Dial	Pre-defined telephone numbers that are accessible by dialling a two digit access code, or by using a pre-programmed key (i.e. speed dial key).
151	Support Services	Contractor services including the positions, processes and tools to support production applications.
152	TDD/TTY	A telecommunications device for the deaf (TDD) is a tele-printer, an electronic device for text communication over a telephone line, that is designed for use by persons with hearing or speech difficulties. Other names for the device include teletypewriter, TTY, text phone (common in Europe), and minicom (United Kingdom).
153	Technical Authority	Refer to General Conditions 2030 (2011-05-16), Higher Complexity – Goods.
154	Telephony Network Product	Network Product Category that includes: Class (1 to 3) Private Branch Exchange and User Devices.
155	Telecommunications Security Group (TSG) standards	The TSG standards contain guidance involving telephone systems located in areas where sensitive government information is discussed, processed, and stored.
156	Time Division Multiplexing (TDM)	Time-division multiplexing (TDM) is a type of digital (or rarely analog) multiplexing in which two or more bit streams or signals are transferred apparently simultaneously as sub-channels in one communication channel, but are physically taking turns on the channel.
157	Toll Free	Telephone service that allows dialling a telephone number, defined as a Toll Free number, and for which the Calling Party does not incur charges for the call. Applicable charges are typically billed by the Toll Free service provider to the Called Party.

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#	Term	Definition
158	Treasury Board Secretariat (TBS)	The Treasury Board of Canada Secretariat (TBS) is the administrative branch of the Treasury Board of Canada. The role of the secretariat is to support the Treasury Board as a committee of ministers, and to fulfill the statutory responsibilities of a central government agency. TBS provides advice to Treasury Board ministers in the management and administration of government.
159	Trunk	Communication path connecting two switching systems and used in the establishment of an end-to-end connection.
160	Type	Drop-down menu description of the part in Hardware or Licensed Software terms.
161	Uninterruptable Power Supply (UPS)	An electrical apparatus that provides emergency power to a load when the input power source, typically the main utility, fails.
162	Universal Serial Bus (USB)	Universal Serial Bus (USB) is an industry standard developed in the mid-1990s that defines the cables, connectors and communications protocols used in a bus for connection, communication and power supply between computers and electronic devices.
163	(Un)Trusted equipment	Network technologies equipment, products or services who are produced by a (un) trusted vendor
164	(Un)Trusted vendor	Provider of network technologies, products or services where the vendor or its principal has no known links to hostile intelligence agencies. Untrusted is when the provider has known links to hostile intelligence agencies
165	Virtual Local Area Network (VLAN)	A group of hosts with a common set of requirements that communicate as if they were attached to the same broadcast domain, regardless of their physical location. A VLAN has the same attributes as a physical local area network (LAN), but it allows for end stations to be grouped together even if they are not located on the same network switch.
166	Virtual Private Network (VPN)	A network functionality that uses primarily public telecommunication infrastructure, such as the Internet, to provide remote offices or users access to a central organizational network.
167	Voice-Aware Firewalls	Voice-aware firewalls have the ability to inspect the packets coming into the firewall and distinguish voice traffic from regular data and allow voice traffic to pass through without having to open non-voice ports; a feature which enhances security.
168	Voice Mail	Message left by a Calling Party in a Voice Mailbox.
169	Voice Mail messages	Voice messages left and stored in a Voice Mailbox.
170	Voice Mail Subscriber	Means a Voice Mail user.

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#	Term	Definition
171	Voice Mail visual indication	A Visual Voice Mail Message Waiting Indicator (MWI), indicates that there are new Visual Voice Mail messages waiting, and it will remain on the user device until the new messages has been played.
172	Voice Mailbox	Assigned workspace within Network Product for storage and retrieval of Voice Mail messages.
173	Voice over Internet Protocol (VoIP)	A family of internet technologies, communication protocols, and transmission technologies for delivery of voice communications and multimedia sessions over Internet Protocol (IP) networks.
174	Voice Over Internet Protocol (VoIP)	A family of internet technologies, communication protocols, and transmission technologies for delivery of voice communications and multimedia sessions over Internet Protocol (IP) networks.

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23 APPENDIX B – SECURITY AND PRIVACY

23.1 Security and Privacy Requirements

- (508) The following table contains security and privacy requirements required for all Network Products and support services outlined in the statement of work.
- (509) The term “Call Controller (PBX)” is synonymous with VoIP PBX.
- (510) The term “Media Gateway” encompasses both Network Gateway and Media Gateway functionalities.

Item #	Identifier	Name	Definition
1	AC-2 .2	Account management	The Contractor must ensure the information system automatically terminates temporary and emergency accounts after 72 hours
2	AC-2 .3	Account management	The Contractor must ensure the information system automatically disables inactive accounts after 30 calendar days of inactivity.
3	AC-2 .4	Account management	The Contractor must ensure the information system automatically audits account creation, modification, disabling, and termination actions and must provide a monthly report to the Technical Authority in a format acceptable to Canada.
4	AC-02 VOIP-(01)	Account management	The Contractor must ensure the information system only registers authorized IP user devices using a manual individual or bulk registration process. Using an automated registration process is not allowed.
5	AC-02 VOIP-(03)	Account management	Each IP user device must be allocated an account and phone number on the Call Controller (PBX).
6	AC-02 VOIP-(05)	Account management	The Contractor must ensure that unused default accounts are removed from the information system.
7	AC-02 VOIP-(06)	Account management	System administrator accounts created by the Contractor on the information system must be limited to Canada's and the Contractor's system administrators, unless specified otherwise by Canada.
8	AC-02 VOIP-(07)	Account management	User accounts must only be assigned the privileges necessary for the user to complete the required tasks on the information system. Only Canada's system administrators can be permitted to make changes to the information system configuration and programming, unless specified otherwise by Canada. Users must be restricted to changing the preferences (e.g., ring tones, speed dial lists) on the user devices
9	AC-02 VOIP-(08)	Account management	The Contractor must ensure that an account management process is implemented to ensure that only authorized users can gain access to the Network Products and that individual accounts designated as inactive, suspended or terminated are promptly deactivated.

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Item #	Identifier	Name	Definition
10	AC-3	Access enforcement	The Contractor must ensure the information system enforces approved authorizations, including dual authorizations, for logical access to the system.
11	AC-3 .4	Access enforcement	The Contractor must ensure the information system enforces a Discretionary Access Control (DAC) policy that: (a) allows users to specify and control sharing by named individuals or groups of individuals, or by both; (b) limits propagation of access rights; and (c) includes or excludes access to the granularity of a single user.
12	AC-03 VOIP-(01)	Access enforcement	The Contractor must enable access control mechanisms to ensure that signaling and media data is accessed and changed only by authorized personnel.
13	AC-03 VOIP-(03)	Access enforcement	When applicable, the Contractor must implement Router ACLs at the perimeter of the information system.
14	AC-03 VOIP-(04)	Access enforcement	The Contractor must enable Password protection of Basic Input Output System (BIOS) settings in the information system.
15	AC-03 VOIP-(05)	Access enforcement	The Contractor must ensure that booting from removable media is disabled for all devices in the information system.
16	AC-03 VOIP-(06)	Access enforcement	The Contractor must ensure that password caching functionality is disabled in the information system, unless the passwords are encrypted.
17	AC-03 VOIP-(07)	Access enforcement	The Contractor must implement Data flow Access Control Lists to protect and control network access to the Media Gateway. All system administrators must be challenged to authenticate to the Media Gateway when they connect to it.
18	AC-03 VOIP-(08)	Access enforcement	The signaling traffic between the Call Controller (PBX) and the Media Gateway must be managed and protected as follows: a) If the path that the signaling traffic takes is a trusted secure part of the network, an ACL can be implemented to control this traffic; or b) If the network is not trusted or secure, IPsec and ACLs must be implemented to tunnel, manage and protect the signaling traffic.

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19	AC-03 VOIP-(10)	Access enforcement	When applicable, the Contractor must implement Link layer authentication (e.g. IEEE 802.1x) prior to allowing IP user devices to connect to the information system. The IP user devices and the access switches must support 802.1x to mitigate the threat of having unauthorized devices connect to the information system at Open Standard Interconnection (OSI) Layer 2. Users of the user devices must not be aware of the secrets used to authenticate the device to the switch.
20	AC-03 VOIP-(12)	Access enforcement	The Contractor must ensure that port security is enabled on all OSI Layer 2 data link (physical addressing) accesses to the information system. Limits must be placed on the number of MAC addresses allowed per port to prevent MAC table overflow or Content Addressable Memory (CAM) attacks. The limits must be as follows: a) When a port is connected to a workstation, the limit of learned MAC addresses must be set to 1. b) When the port is connected to an IP user device, the limit of learned MAC addresses must be set to no more than 3.
21	AC-03 VOIP-(15)	Access enforcement	For publicly-accessible user devices, the Contractor must ensure a single VLAN is used and Network Discovery protocols are disabled on the switch port to which the user device is connected. The publicly-accessible user device must be provisioned with a label or an information message that is relayed to local security when an emergency number is dialed.
22	AC-03 VOIP-(16)	Access enforcement	To block inconsistent ARP and Gratuitous ARP replies that do not have the correct MAC to IP address mapping, the Contractor must configure the information system to utilize dynamic ARP Inspection that intercepts all ARP requests and replies that traverse untrusted ports.
23	AC-04 VOIP-(07)	Information flow enforcement	The Contractor must ensure that VLAN Access control is implemented for the data port on the IP user device (when applicable) to prevent any access to the voice VLAN from this port.

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24	AC-04 VOIP-(08)	Information flow enforcement	a) The Contractor must ensure IP user devices containing a multi-port switch for connecting external devices, such as a workstation, separate voice and data traffic, or else, have the multi-port data switch disabled. b) The Contractor must ensure IP user devices that do not contain a multi-port switch and servers providing voice services are connected to switch ports that are members of the voice VLAN(s) only.
25	AC-04 VOIP-(15)	Information flow enforcement	The Contractor must ensure IP user devices do not accept gratuitous ARP messages, where Gratuitous means a request/reply that is not normally needed according to the ARP specification (RFC 826), but could be used in some cases.
26	AC-04 VOIP-(23)	Information flow enforcement	The Contractor must incorporate an information system defense-in-depth architecture that includes VoIP aware firewalls and other perimeter defence products provided by Canada.
27	AC-04 VOIP-(30)	Information flow enforcement	The Contractor must ensure all Internet access are proxied through Internet access points that are under the management and control of Canada's system administrators and are isolated from other information systems by physical or technical means.
28	AC-04 VOIP-(31)	Information flow enforcement	When applicable, the Contractor must use SNMP v3 to manage user device settings.
29	AC-04 VOIP-(32)	Information flow enforcement	The Contractor must ensure that, when softphones are used in the information system, the following conditions are met: 1) The host computer must contain a Network Interface Card (NIC) that is 802.1Q and 802.1p capable to support VLAN tagging and QoS respectively; and 2) IP softphone agent software must be configured to use the 802.1Q VLAN tag for voice.
30	AC-04 VOIP-(35)	Information flow enforcement	When approved PC-based softphones are used on Canada's LAN, the host PC must be connected to separate voice and data VLANs that have been created expressly for the softphones.
31	AC-04 VOIP-(36)	Information flow enforcement	When applicable, the Contractor must restrict access to (Trivial File Transfer Protocol) TFTP servers by using OSI Layer 3 ACL firewall rules that only allow certain IP address ranges to contact the TFTP server.
32	AC-05 VOIP-(01)	Separation of duties	The Contractor must ensure the information system separates user functionality (including user interface services) from information system management functionality.

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Item #	Identifier	Name	Definition
33	AC-05 VOIP-(02)	Separation of duties	The Contractor must configure the information system to only allow access to privileged accounts by privileged users.
34	AC-05 VOIP-(04)	Separation of duties	The Contractor must ensure all privileged user accounts are established and administered in accordance with a role-based access scheme that organizes all system and network privileges into roles (e.g. key management, network, system administration, database administration). The Contractor's Vulnerability Assessment tests, when requested by Canada, must specifically verify the separation of user functionality within the information system.
35	AC-05 VOIP-(05)	Separation of duties	The Contractor must configure the information system to support the separation of privileges based on administrative functional roles (e.g. maintenance administration, system configuration, the Contractor's security administration). Access to information and information system functions by users and support personnel must be restricted in accordance with the access control policy defined by the Contractor and accepted by Canada.
36	AC-05 VOIP-(06)	Separation of duties	The Contractor must ensure the information system physically or logically separates databases accessed by administrative roles from those accessed by other roles.
37	AC-6 .2	Least privilege	The Contractor must ensure that their administrators of information system accounts, or roles, use non-privileged accounts, or roles, when accessing other system functions, and if applicable, audits any use of privileged accounts, or roles, for such functions.
38	AC-6 .5	Least privilege	The Contractor must limit authorization to super user accounts on the information system to Canada's system administrators or, when authorized by Canada to designated Contractor personnel.
39	AC-06 VOIP-(02)	Least privilege	The Contractor must limit user accounts on the information system devices to only the authorized information system users and must only assign the privileges necessary for the user to complete the required tasks.
40	AC-7	Unsuccessful login attempts	(a) The Contractor must ensure the information system enforces a limit of 3 consecutive invalid login attempts by a user during a 1 hour period (b) The information system must automatically lock the account/node until released by Canada's system administrator, when the maximum number of unsuccessful attempts is exceeded.

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Item #	Identifier	Name	Definition
41	AC-8	System use notification	<p>(a) For user devices equipped with display capabilities, the Contractor must ensure the information system displays a Canada approved system use notification message, or banner, that provides privacy and security notices in accordance with the Treasury Board Secretariat (TBS) Policy on the Use of Electronic Networks before granting access to the information system.</p> <p>(b) The Contractor must ensure the information system retains the notification message or banner on the screen until users take explicit actions to log on to or further access the information system.</p> <p>(c) The Contractor must ensure the information system, for publicly accessible systems: (i) displays the system use information when applicable, before granting further access; (ii) displays references, if applicable, to monitoring, recording, or auditing activities; and (iii) includes in the notice given to public users of the information system, a description of the authorized uses of the information system.</p>
42	AC-08 VOIP-(01)	System use notification	<p>At a minimum, the Contractor must configure the Canada approved system use notification to display the following:</p> <ol style="list-style-type: none"> 1) That the user is accessing a government information system; 2) That information system usage is monitored, recorded and subject to audit; 3) That unauthorized use of the information system is prohibited and subject to criminal and civil penalties; and 4) That use of the information system indicates consent to monitoring and recording.
43	AC-9	Previous logon(access) notification	The Contractor must ensure the information system notifies the user, upon successful logon (access), of the date and time of the last logon (access).
44	AC-9 .1	Previous logon(access) notification	The Contractor must ensure the information system notifies the user, upon successful logon/access, of the number of unsuccessful logon/access attempts since the last successful logon/access.
45	AC-9 .3	Previous logon(access) notification	The Contractor must ensure the information system notifies the user, upon successful logon/access, of all security-related changes to the user's account since the last successful logon/access.

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Item #	Identifier	Name	Definition
46	AC-11	Session lock	(a) The Contractor must ensure the information system prevents further access to the information system by initiating a session lock after 15 minutes of inactivity or upon receiving a request from a user. (b) The Contractor must ensure the information system must retain the session lock until the user re-establishes access using established identification and authentication procedures.
47	AC-14	Permitted actions without identification or authentication	(a) The Contractor must identify specific user actions that can be performed on the information system without identification or authentication. (b) The Contractor must document and provide supporting rationale in the operations security procedures for the information system, user actions not requiring identification and authentication.
48	AC-17 VOIP-(03)	Remote access	The Contractor's remote access to the information system must be authorized, monitored and controlled by the Contractor and authorized by Canada.
49	AC-17 VOIP-(07)	Remote access	When Canada-approved PC-based softphones are used in remote connectivity situations such as by teleworkers, the Contractor must ensure the following conditions are met: 1) The PC host must connect to the LAN through a Canada-approved VPN connection; 2) The VPN connection must be terminated at the Internet Edge Enclave boundary; 3) The voice and data traffic must be routed appropriately to separate voice and data VLANs in the LAN; and 4) The IP softphone agent must connect to the Call Controller (PBX) through the VPN using Canada-approved IP addressing.
50	AC-17 VOIP-(11)	Remote access	The Contractor must ensure all IP softphones connecting from a remote location use encryption for confidentiality and digital signatures for authentication.
51	AU-01 VOIP-(02)	Audit and Accountability Policy and Procedures	At a minimum, the Contractor must include a security audit log function in the information system.
52	AU-01 VOIP-(03)	Audit and Accountability Policy and Procedures	The Contractor must ensure detailed Information system audit logs, recorded user activities, exceptions and information security events are produced and kept for the contract period by the Contractor to allow, and assist in, future investigations and access control monitoring.

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Item #	Identifier	Name	Definition
53	AU-2	Auditable events	<p>(a) The Contractor must ensure that the information system is capable of auditing, at a minimum, the following auditable events:</p> <ol style="list-style-type: none"> 1) The execution of privileged functions; 2) Remote access connections; 3) Start-up and shutdown of the audit functions; 4) Access to, and change of, security functions on the information system; 5) Configuration modifications to the Network Products; 6) Failed authentication events; and 7) Activation of telephony features (including conferencing features and microphones on user devices). <p>(b) The Contractor must coordinate the security audit function with other Contractor-managed entities requiring audit-related information to enhance mutual support and to help guide the selection of auditable events.</p> <p>(c) The Contractor must provide a rationale for why the list of auditable events is deemed to be adequate to support after-the-fact investigations of security incidents.</p>
54	AU-2 .3	Auditable events	The Contractor must review and update the list of auditable events annually and when requested by Canada.
55	AU-02 VOIP-(01)	Auditable events	Monthly, the Contractor must provide a detailed list for all remote access completed over the last monthly period. Each of the Contractor's remote sessions must be recorded, and the Contractor's Service Manager must review with, and provide the log to, the Technical Authority during their monthly meeting.
56	AU-02 VOIP-(02)	Auditable events	The Contractor must ensure the information system produces audit records that contain sufficient information to establish what events occurred, when the events occurred, the sources of the events, and the outcomes of the events.
57	AU-02 VOIP-(04)	Auditable events	The Contractor must ensure system administrator and system user activities are logged in the information system.
58	AU-02 VOIP-(05)	Auditable events	Any maintenance activities performed by the Contractor locally or remotely must be monitored, logged and reported monthly by the Contractor.
59	AU-02 VOIP-(06)	Auditable events	Information system faults must be logged, analyzed and corrective action taken by the Contractor.
60	AU-02 VOIP-(08)	Auditable events	The Contractor must ensure all default configuration settings are audited prior to connecting the information system to the network.

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Item #	Identifieur	Name	Definition
61	AU-02 VOIP-(09)	Auditable events	The Contractor must ensure information system logging of Call Detail Records (CDR) and Station Messaging Detail Records (SMDR) are enabled.
62	AU-5	Response to Audit processing failures	The Contractor must configure the information system to immediately alert designated Contractor officials, and Canada's system administrators, in the event of an audit processing failure.
63	AU-5 .1	Response to Audit processing failures	The Contractor must configure the information system to provide a warning to Canada's system administrator and the Technical Authority when allocated audit record storage volume reaches 75% of maximum audit record storage capacity.
64	AU-6	Audit, review, analysis and reporting	(a) The Contractor must, at a minimum, review and analyze the information system audit records weekly for indications of inappropriate or unusual activity, and report findings to designated Contractor's officials and Canada's system administrator. (b) The Contractor must adjust the level of audit review, analysis, and reporting within the information system when there is a change in risk to the Contractor's operations, assets, individuals, other organizations, or Canada, based on law enforcement information, intelligence information, or other credible sources of information.
65	AU-6 .1	Audit, review, analysis and reporting	The Contractor must integrate audit review, analysis, and reporting processes to support the Contractor's and Canada's processes for investigation and response to suspicious activities.
66	AU-6 .4	Audit, review, analysis and reporting	The Contractor must ensure the information system centralizes the review and analysis of audit records from multiple components within the information system.
67	AU-7 .1	Audit reduction and report generation	The Contractor must ensure the information system provides the capability to automatically process audit records for events of interest based on Canada-selectable event criteria.
68	AU-07 VOIP-(01)	Audit reduction and report generation	The Contractor must ensure the information system provides audit reduction and report generation capabilities.
69	AU-08 VOIP-(01)	Time stamps	The clocks of all information systems installed by the Contractor in Canada's sites or security domains must be synchronized with an accurate time source, agreed to by Canada.
70	AU-08 VOIP-(02)	Time stamps	The Contractor must configure the information system to generate time stamps for all audit records.

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Item #	Identifiant	Name	Definition
71	AU-08 VOIP-(03)	Time stamps	The Contractor must ensure the information system uses the Canada-agreed accurate time source to generate time stamps for audit records.
72	AU-9 .2	Protection of audit information	The Contractor must back-up and centralize the information system's audit records daily onto a different and hardened log system than the system being audited.
73	AU-09 VOIP-(02)	Protection of audit information	The Contractor's log system must only accept log messages from authorized information system users and administrators.
74	AU-09 VOIP-(03)	Protection of audit information	The Contractor must ensure the information system is protected against tampering, unauthorized access and deletion to ensure data integrity of the audit information.
75	AU-10	Non-repudiation	The Contractor must ensure the information system protects against an individual falsely denying having performed a particular action.
76	AU-10 .5	Non-repudiation	The Contractor must employ cryptography compliant with the requirements of this contract to implement digital signatures.
77	AU-12	Audit generation	(a) The Contractor must ensure the information system provides audit record generation capability for the list of auditable events defined in AU-2 on the Call Controller and Media Gateways (b) The Contractor must ensure the information system allows designated Contractor personnel to select which auditable events are to be audited by specific components of the information system.
78	CA-01 VOIP-(03)	Security Assessment and Authorization Policies and Procedures	The Contractor must ensure softphones that have advertising integrated into the application are banned from deployment in the information system.
79	CA-01 VOIP-(04)	Security Assessment and Authorization Policies and Procedures	The Contractor must ensure any softphones not approved by Canada are banned from registering with the Call Controller. This includes softphone clients or softphone clients running on unapproved platforms.
80	CA-01 VOIP-(05)	Security Assessment and Authorization Policies and Procedures	The Contractor must test all softphones before deploying in a production environment and ensure that the user credentials have been encrypted.

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Item #	Identifiant	Name	Definition
81	CA-5	Safeguards implementation plan (plan of action and milestones)	(a) Within 20 days from receipt of the first service order, the Contractor must develop a plan of action and milestones that documents the Contractor's planned remedial actions to correct weaknesses or deficiencies noted during the assessment of the security controls and to reduce or eliminate known vulnerabilities in the information system. (b) Within 12 months from receipt of the first order, and annually afterwards, the Contractor must update the existing plan of action and milestones, based on the findings from security controls assessments, security impact analyses, and continuous monitoring activities.
82	CM-01 VOIP-(01)	Configuration Management Policy and Procedure	The Contractor must develop, document and implement procedures to control the installation of software on operational information system (change management).
83	CM-01 VOIP-(02)	Configuration Management Policy and Procedure	The Contractor must ensure the implementation of changes is controlled by the use of Canada-approved formal change control procedures.
84	CM-2	Baseline configuration	The Contractor must develop, document, and maintain under configuration control, a current baseline configuration of the information system.
85	CM-2 .1	Baseline configuration	The Contractor must review and update the baseline configuration of the information system: (a) As an integral part of information system component installations and upgrades; and (b) When required due to maintenance activities (i.e. changes, incidents or corrective actions).
86	CM-2 .5	Baseline configuration	The Contractor must: (a) Develop and maintain a list of all Licensed Software programs authorized to execute on the information system; and (b) Employ a deny-all, permit-by-exception authorization policy to identify all Licensed Software allowed to execute on the information system.
87	CM-02 VOIP-(01)	Baseline configuration	The Contractor must maintain and include, as part of the security assessment and authorization documentation, a current and comprehensive inventory of all Licensed software (including Software Publisher, type and version, and installation manuals and procedures) supporting information system operations. .
88	CM-02 VOIP-(02)	Baseline configuration	The Contractor must ensure a backup copy of the inventory is either; a) Stored in a fire-rated container; or b) Not collocated with the original.

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Item #	Identifier	Name	Definition
89	CM-3	Configuration change control	<p>(a) The Contractor must identify the types of changes to the information system that are configuration controlled.</p> <p>(b) The Contractor must only perform Canada-approved configuration-controlled changes to the information system.</p> <p>(c) The Contractor must document Canada-approved configuration-controlled changes to the information system.</p> <p>(d) The Contractor must retain and review records of configuration-controlled changes to the information system.</p> <p>(e) The Contractor must audit activities associated with configuration-controlled changes to the information system.</p> <p>(f) The Contractor must coordinate and provide oversight for configuration change control activities through defined configuration change control element e.g., Change committee and change advisory board that convenes weekly, or at a different frequency specified by the Technical Authority</p>
90	CM-03 VOIP-(01)	Configuration change control	The Contractor must manage and maintain information system Licensed Software loads, through the change management procedures to prevent or minimize the introduction of unauthorized code.
91	CM-03 VOIP-(03)	Configuration change control	The Contractor must establish a testing process to verify proposed configuration changes prior to installing them in the operational environment.
92	CM-03 VOIP-(04)	Configuration change control	The Contractor must establish a verification process to provide additional assurance that the Configuration Management (CM) process is working effectively, and that changes outside the CM process are technically or procedurally not facilitated or supported.
93	CM-4	Security impact analysis	The Contractor must analyze changes to the information system to determine potential security impacts prior to change implementation.
94	CM-4 .1	Security impact analysis	The Contractor must analyze new Licensed Software in a separate test environment before installation in an operational environment.
95	CM-4 .2	Security impact analysis	The Contractor, after the information system is changed, must check the security functions to verify that the functions are implemented correctly, operating as intended, and producing the desired outcome with regard to meeting the security control requirements for the information system.

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Item #	Identifier	Name	Definition
96	CM-6	Configuration settings	(a) The Contractor must establish and document, in the Security Plan, mandatory configuration settings, for Network Products employed within the information system, that reflect the most restrictive mode consistent with operational requirements. (b) The Contractor must implement the configuration settings. (c) When applicable, the Contractor must identify, document, and approve exceptions from the mandatory configuration settings for individual components within the information system based on explicit operational requirements. (d) The Contractor must monitor and control changes to the configuration settings in accordance with the policies and procedures described in the Security Operations Procedures.
97	CM-6 .1	Configuration settings	The Contractor must employ automated mechanisms to centrally manage, apply, and verify configuration settings.
98	CM-6 .2	Configuration settings	The Contractor must employ automated mechanisms to respond to unauthorized changes.
99	CM-6 .4	Configuration settings	The Contractor must ensure the information system (including modifications to the baseline configuration) demonstrates conformance to security configuration guidance (i.e., security checklists), prior to being introduced into a production environment.
100	CM-06 VOIP-(01)	Configuration settings	The Contractor must ensure features and applications, not requested or approved by Canada, are disabled on the IP user device.
101	CM-06 VOIP-(02)	Configuration settings	The Contractor must ensure Telnet is disabled on the IP user device.
102	CM-06 VOIP-(03)	Configuration settings	The Contractor must ensure the IrDA/Bluetooth port is disabled on the IP user device.
103	CM-06 VOIP-(05)	Configuration settings	The Contractor must ensure the data port on publicly-accessible IP user devices is disabled.
104	CM-06 VOIP-(06)	Configuration settings	The Contractor must ensure IP user devices do not display network/user device configuration information on their display without the use of a password.
105	CM-06 VOIP-(07)	Configuration settings	The Contractor must ensure that: a) Voice Mail subscribers are only allowed to change their voice mail settings using the user device interface. b) HTTP and Telnet services are disabled on the Voice Mail services for all classes of PBX.

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106	CM-06 VOIP-(08)	Configuration settings	The Contractor must ensure management workstation Web browser password caching is disabled on management workstations unless passwords are encrypted.
107	CM-06 VOIP-(09)	Configuration settings	The Contractor must disable Simple Network Management Protocol (SNMP) on the information system, unless approved otherwise by the Technical Authority.
108	CM-06 VOIP-(10)	Configuration settings	The Contractor must: a) Disable remote access to the IP user device's web interface and ensure that all IP user device configurations are performed on a central server from which the IP user devices will download approved configurations; or b) Enable TLS and enforce password usage on the user device's web interface.
109	CM-06 VOIP-(12)	Configuration settings	The Contractor must harden all information system components (i.e. Call Controllers (PBX), Media Gateways, user devices (if applicable) in accordance with all Canada-approved hardening procedures defined in the Services Guide.
110	CM-06 VOIP-(13)	Configuration settings	The Contractor must ensure that all host systems on which softphones are installed must be hardened in accordance with Canada-approved hardening procedures defined in the Services Guide.
111	CM-06 VOIP-(15)	Configuration settings	The Contractor must disable the management workstation password caching unless the passwords are encrypted.
112	CM-7	Least functionality	The Contractor must configure the information system to provide only essential capabilities and specifically prohibit or restrict the use of the functions, ports, protocols, and/or services described in the Services Guide.
113	CM-7 .1	Least functionality	The Contractor must review the information system annually, and at Canada's request, to identify and eliminate unnecessary functions, ports, protocols, and/or services.
114	CM-8	Information system component inventory	The Contractor must develop, document, and maintain an inventory of information system components that: (a) Accurately reflects the current information system configuration; (b) Includes all Network Products; and (c) Is available for review and audit by designated Contractor officials and the Technical Authority.

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115	CM-8 .1	Information system component inventory	The Contractor must update the inventory of information system components as an integral part of component installations, removals, and information system updates.
116	CM-8 .3	Information system component inventory	The Contractor must: (a) Employ automated mechanisms to detect the addition of unauthorized components/devices into the information system; and (b) Disable network access by such components/devices and notify designated Contractor officials and the Technical Authority.
117	CM-9	Configuration management plan	The Contractor must develop, document, and implement a configuration management plan for the information system that: (a) Addresses roles, responsibilities, and configuration management processes and procedures. (b) Defines the configuration items for the information system (c) Defines when, in the system development life cycle, the configuration items are placed under configuration management; and (d) Establishes the means for identifying configuration items throughout the system development life cycle and a process for managing the configuration of the configuration items.
118	CP-02 VOIP-(01)	Contingency Plan	The Contractor must develop, document in the Security Operations Procedures and, once accepted by Canada, implement a backup and recovery process for the information system, including system configuration files.
119	CP-02 VOIP-(04)	Contingency Plan	The Contractor must develop, document in the Security Operations Procedures, and, once accepted by Canada, employ mechanisms, with supporting procedures, to allow the information system to be recovered and reconstituted to a known secure state after a disruption or failure.
120	CP-02 VOIP-(05)	Contingency Plan	The Contractor must ensure, when applicable, System Fail Transfer (SFT) user devices are deployed and clearly marked. SFT must provide a direct connection between an analog telephone and the PSTN for emergency services in the event of an information system, or power, failure.
121	CP-02 VOIP-(06)	Contingency Plan	The Contractor must develop, document in the Security Procedures and implement an IP user device tracking function in the information system that is compatible with emergency 911 response requirements.

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Item #	Identifier	Name	Definition
122	IA-01 VOIP-(01)	Identification and Authentication Policy and Procedure	(a) The Contractor must establish and enforce a policy that requires all Network Product component configurations and display passwords are managed in accordance with password policies (e.g. password complexity, expiration, reuse, protection and storage). (b) The Contractor must ensure that all default passwords are changed on the information system components before allowing access to the information system services.
123	IA-02 VOIP-(01)	Identification and authentication	The Contractor must develop, document in the Security Operations Procedures and, once accepted by Canada, incorporate identification and authentication safeguards for Contractor personnel accessing the information system.
124	IA-02 VOIP-(05)	Identification and authentication	The Contractor must, develop, document and, once approved by Cnada, implement procedures to ensure that all IP user devices authenticate themselves to the Call Controller (PBX) before obtaining access to the information system services.
125	IA-03 VOIP-(04)	Device identification and authentication	The Contractor must ensure two-way authentication, such as certificate based authentication, are enabled between IP user devices and the Call Controllers (PBX).
126	IA-03 VOIP-(05)	Device identification and authentication	The Contractor must ensure static IP addresses are assigned to all publicly-accessible IP user devices.
127	IA-03 VOIP-(08)	Device identification and authentication	The Contractor must ensure mutual authentication using the applicable network protocol, such as RTP, SRTP, SIP and MGCP, is enabled between the IP-enabled Network Products.
128	IA-03 VOIP-(10)	Device identification and authentication	The Contractor must ensure that device authentication enforces the use of static IP addresses rather than using Dynamic Host Configuration Protocol (DHCP).
129	IA-03 VOIP-(11)	Device identification and authentication	The Contractor must ensure the information system components are deployed using a separate private address space in accordance with RFC 1918.

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130	IA-5	Authenticator management -	The Contractor must manage information system authenticators for users and devices by: (a) Verifying, as part of the initial authenticator distribution, the identity of the individual and/or device receiving the authenticator; (b) Establishing initial authenticator content for authenticators defined by the Contractor; (c) Ensuring that authenticators have sufficient strength of mechanism for their intended use; (d) Establishing and implementing administrative procedures for initial authenticator distribution, for lost/compromised or damaged authenticators, and for revoking authenticators; (e) Changing default content of authenticators upon information system installation; (f) Establishing minimum and maximum lifetime restrictions and reuse conditions for authenticators (if applicable); (g) Changing and refreshing authenticators every six months or on a frequency defined by Canada; (h) Protecting authenticator content from unauthorized disclosure and modification; and (i) Requiring users to take, and having devices implement, specific measures to safeguard authenticators.
131	IA-5 .1	Authenticator management	The Contractor must ensure the information system, for password-based authentication encrypts passwords in storage and in transmission.
132	IA-5 .2	Authenticator management	The Contractor must ensure the information system, for PKI-based authentication: (a) Validates certificates by constructing a certification path with status information to an accepted trust anchor; (b) Enforces authorized access to the corresponding private key; and (c) Maps the authenticated identity to the user account.
133	IA-5 .7	Authenticator management	The Contractor must ensure that unencrypted static authenticators are not embedded in applications or access scripts or stored on function keys.
134	IA-6	Authenticator feedback	The Contractor must ensure that the information system obscures feedback of authentication information during the authentication process.
135	IA-7	Cryptographic module authentication	The Contractor must ensure that the information system uses mechanisms for authentication to a cryptographic module that meet the requirements of applicable Communications Security Establishment Canada (CSEC) guidance for such authentication.

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136	IA-8	Identification and authentication	The Contractor must ensure that the information system must uniquely identify and authenticate non-Contractor personnel (or processes acting on behalf of non-Contractor personnel).
137	IR-2	Incident response training	(a) The Contractor must train their personnel in their incident response roles and responsibilities with respect to the information system. (b) The Contractor must provide their personnel refresher training at a minimum annually
138	IR-5	Incident monitoring	The Contractor must track and document information system security incidents.
139	IR-6	Incident reporting	The Contractor must report suspected security incidents to the Contractor's Service Desk (CSD), the Contractor's Service Manager (CSM) and the Technical Authority within 15 minutes of their automatic detection or identification through other means.
140	IR-6.2	Incident reporting	The Contractor must report information system weaknesses, deficiencies, and/or vulnerabilities associated with reported security incidents to the CSD, CSM and the Technical Authority.

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141	IR-8	Incident Response plan	<p>(a) Within 40 days from contract award, the Contractor must develop an incident response plan that:</p> <ul style="list-style-type: none"> (i) Provides the Contractor with a roadmap for implementing its incident response capability; (ii) Describes the structure and organization of the incident response capability; (iii) Provides a high-level approach for how the incident response capability fits into the Contractor's organization; (iv) Meets the Contractor's unique requirements which relate to mission, size, structure, and functions; (v) Defines reportable incidents; (vi) Provides metrics for measuring the incident response capability within the Contractor's organization; (vii) Defines the resources and management support needed to effectively maintain and mature an incident response capability; and (viii) Is reviewed and approved by designated officials within the Contractor. <p>(b) The Contractor must distribute copies of the incident response plan, at a minimum, to: all CSD personnel, the CAM, CSM, CIM and the Technical Authority;</p> <p>(c) The Contractor must review the incident response plan with the Technical Authority, at a minimum, annually and upon request by Canada;</p> <p>(d) The Contractor must revise the incident response plan to address system/organizational changes or problems encountered during plan implementation, execution, or testing; and</p> <p>(e) The Contractor must submit to, and receive formal approval from, the Technical Authority prior to implementing any changes to the incident response plan.</p>
142	MA-3 .2	Maintenance tools	The Contractor must check all media containing diagnostic and test programs for malicious code before the media are used in the information system.
143	MP-2 .2	Media access	The Contractor must ensure that the information system uses cryptographic mechanisms to protect and restrict access to information on portable digital media.
144	MP-3	Media marking	The Contractor must mark removable information system media and information system output indicating the distribution limitations, handling caveats, and applicable security markings (if any) of the information.

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145	MP-4	Media storage	(a) The Contractor must describe, in the Security Operations Procedures, how it will physically control and securely store all digital and non-digital media containing Canada's data and, in accordance with the Royal Canadian Mounted Police (RCMP) G1-001, Security Equipment Guide. (b) The Contractor must physically protect and securely store all digital and non-digital media, containing Canada's data, awaiting destruction (either on- or off-site).
146	MP-4 .1	Media storage	The Contractor must employ cryptographic mechanisms to protect information in storage in the information system or in the Contractor's databases.
147	PE-03 VOIP-(02)	Physical Access Control	The Contractor must ensure that all information system components (excluding user devices) are located in physically secured areas.
148	PL-6	Security-related activity planning	The Contractor must plan and coordinate security-related activities affecting the information system before conducting such activities.
149	PS-4	Personnel termination	(a) The Contractor, upon termination of individual employment must terminate access to the information system. (b) The Contractor, upon termination of individual employment must retrieve all information system security-related information and property. (c) The Contractor, upon termination of individual employment must retain access to Contractor information and the information system in accordance with the Treasury Board Secretariat (TBS) Personnel Security Standard.
150	PS-6 .1	Access agreements	The Contractor must ensure that access to the information system is granted only to individuals who: (a) Have a valid access authorization that is demonstrated by assigned official government duties; and (b) Satisfy associated personnel security criteria.
151	SA-03 VOIP-(01)	Life cycle support	The Contractor must implement an information system control program that includes, at a minimum; (a) Instructions for restart and recovery procedures; (b) Restrictions on source code access, system utility access and system documentation; and (c) Protection from deletion of information system and application files.

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152	SA-5	Information system documentation	<p>Within 10 days from receipt of a Service Order, the Contractor must provide the OEM and the Software Publisher's documentation (as applicable) to the Technical Authority that describes;</p> <p>(a) The functional properties of the security controls employed within the information system with sufficient detail to permit analysis and testing.</p> <p>(b) The high-level design of the information system in terms of sub-systems and implementation details of the security controls employed within the information system with sufficient detail to permit analysis and testing.</p> <p>(c) The low-level design of the information system in terms of modules and implementation details of the security controls employed within the system with sufficient detail to permit analysis and testing.</p>
153	SA-06 VOIP-(01)	Software Usage Restrictions	The Contractor must thoroughly evaluate, test and receive Canada's written approval, for binary or machine executable public domain software products, and other software products with limited or no warranty (commonly known as freeware or shareware), before they installing them in the information system.
154	SA-07 VOIP-(01)	User-Installed Software	The Contractor must develop and document measures and procedures in the Security Operations Procedures to ensure that users are not allowed to install software on their IP user devices and softphone workstations.
155	SA-08 VOIP-(01)	Security engineering principles	The Contractor must develop and document in the Security Operations Procedures, measures and procedures to ensure the information system is protected from threats using such measures as QoS and bandwidth management, and prioritization of VoIP communications.
156	SA-11	Developer security testing	<p>The Contractor must develop and document in the Security Operations Procedures, procedures that ensure that the Contractor's information system developers/integrators:</p> <p>(a) Create and implement a security test and evaluation plan;</p> <p>(b) Implement a verifiable flaw remediation process to correct weaknesses and deficiencies identified during the security testing and evaluation process; and</p> <p>(c) Document the results of the security testing/evaluation and flaw remediation processes.</p>

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157	SA-13	Robustness (trustworthiness)	(a) The Contractor must provide FIPS 140-2 Level 1 validation certificate(s) for each module required to support the cryptographic requirements and the Contractor's File Transfer Protocol (FTP) site. (b) The Contractor must provide Common Criteria EAL 1+ validation certificate(s) for all IP-enabled Network Products.
158	SC-2	Application partitioning	The Contractor must ensure that the information system separates user functionality (including user interface services) from information system management functionality.
159	SC-2 .1	Application partitioning	The Contractor must ensure that the information system prevents the presentation of information system management-related functionality at a user interface.
160	SC-02 VOIP-(02)	Application partitioning	The Contractor must ensure that Call Controller (PBX) applications are partitioned in different network segments from the Media Gateway application i.e. allowing them to be in different network zones.
161	SC-02 VOIP-(03)	Application partitioning	Unless authorized otherwise by Canada, the Contractor must ensure that the Call Controller functions are installed on dedicated servers.
162	SC-02 VOIP-(04)	Application partitioning	The Contractor must ensure that the information system's maintenance and administration interfaces services (web services) are physically or logically separated from data storage and management services (e.g. database management systems).
163	SC-02 VOIP-(05)	Application partitioning	The Contractor must ensure that the voice network and the data network have separate servers for common network services, such as Domain Name Services (DNS), DHCP and Network Time Protocol (NTP).
164	SC-05 VOIP-(02)	Denial of service protection	The Contractor must ensure that, during the design phase of the installation, information system engineering and bandwidth management is conducted to estimate the number of internal and external calls that the information system will need to handle.
165	SC-06 VOIP-(10)	Resource priority	The Contractor must ensure that Call Quality Monitoring tools are implemented in various places within the information system to measure and monitor the QoS state of the information system.

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166	SC-7 .7	Boundary protection	The Contractor must ensure that the information system prevents remote devices, which have established a non-remote connection with the information system, from communicating outside of that communications path with resources in external networks.
167	SC-08 VOIP-(01)	Transmission integrity	The Contractor must ensure that all VoIP signaling and media communications over public IP networks are secured to ensure the integrity of the data using the digital signing capabilities of: 1) SRTP - for media encryption and integrity; 2) TLS - for signaling encryption and integrity; and 3) VPN with IPSec – for media and signaling encryption and integrity.
168	SC-08 VOIP-(02)	Transmission integrity	The Contractor must ensure that VoIP media communications are secured to ensure the integrity of the data using the digital signing capabilities of: 1) SRTP for media encryption and integrity; or 2) VPN with IPSec for media encryption and integrity.
169	SC-08 VOIP-(03)	Transmission integrity	The Contractor must ensure that VoIP signaling communications are secured to ensure the integrity of the data using the digital signing capabilities of: 1) TLS for signaling encryption and integrity; or 2) VPN with IPSec for signaling encryption and integrity.
170	SC-08 VOIP-(04)	Transmission integrity	The Contractor must ensure that VoIP signaling and media communications are secured to ensure strong mutual authentication of each component using the digital signing capabilities of: 1) SRTP for media encryption and authentication. 2) TLS for signaling authentication; and 3) VPN with IPSec – for media and signaling authentication.
171	SC-08 VOIP-(06)	Transmission integrity	The Contractor must ensure that VoIP signaling and media communications are digitally signed for the entire communication session tunnel end-to-end using the digital signing capabilities of: 1) SRTP – for media encryption and authentication; 2) TLS – for signaling authentication; and 3) VPN with IPSec – for signaling and media authentication.
172	SC-08 VOIP-(08)	Transmission integrity	The Contractor must ensure that all softphones use digital signatures with SRTP for media, and TLS or IPSec for signaling.

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173	SC-09 VOIP-(01)	Transmission confidentiality	The Contractor must ensure that all VoIP signaling and media communications over public IP networks are secured to ensure the confidentiality of the data using the encryption capabilities of: 1) SRTP – for media encryption; 2) TLS – for signaling encryption; and 3) VPN with IPsec – for media and signaling encryption.
174	SC-09 VOIP-(02)	Transmission confidentiality	The Contractor must ensure that VoIP media communications are encrypted to ensure the confidentiality of the data using the encryption capabilities of: 1) SRTP – for media encryption; and 2) VPN with IPsec – for media encryption from source router to destination router.
175	SC-09 VOIP-(03)	Transmission confidentiality	The Contractor must ensure that VoIP signaling communications is secured to ensure the confidentiality of the data using the encryption capabilities of: 1) TLS – for signaling encryption; and 2) VPN with IPsec – for signaling encryption.
176	SC-09 VOIP-(04)	Transmission confidentiality	The Contractor must ensure that VoIP signaling, and media communications, are secured to allow protocol filtering of the encrypted media or signaling streams before they reach their final destinations.
177	SC-09 VOIP-(05)	Transmission confidentiality	The Contractor must ensure that the HTTP web management feature on IP user devices and network devices is disabled by default, unless requested otherwise by Canada. When enabled, the Contractor must implement SSL session encryption.
178	SC-09 VOIP-(07)	Transmission confidentiality	The Contractor must ensure that the information system supports application layer authentication and encryption of signaling traffic.
179	SC-09 VOIP-(08)	Transmission confidentiality	The Contractor must ensure that the information system supports application layer authentication and encryption of media traffic using SRTP.
180	SC-09 VOIP-(11)	Transmission confidentiality	The Contractor must ensure that all softphones encrypt media using SRTP and signaling using TLS or IPsec.
181	SC-10 VOIP-(01)	Network disconnect	The Contractor must ensure that all unused VoIP connections are terminated after a Canada-acceptable period of time. This functionality must be implemented using network device settings or specific application level settings of the components in the information system

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182	SC-13 .1	Use of cryptography	The Contractor must employ, at a minimum, Cryptographic Module Validation Program (CMVP)-validated cryptography to protect Unclassified data.
183	SC-13 .3	Use of cryptography	The Contractor must employ, at a minimum, CMVP-validated cryptography to protect data when such data must be separated from individuals who have the necessary clearances yet lack the necessary access approvals.
184	SC-13 .4	Use of cryptography	The Contractor must employ CMVP cryptography to implement digital signatures.
185	SC-13 .100	Use of cryptography	The Contractor must employ CMVP-validated cryptography to protect Protected A data in transmission.
186	SC-13 .101	Use of cryptography	The Contractor must employ CMVP-validated cryptography to protect Protected B data in transmission.
187	SC-13 VOIP-(03)	Use of cryptography	The Contractor must use a CSEC-approved hash function (refer to CSEC ITSA-11E for specific details).
188	SC-13 VOIP-(05)	Use of cryptography	The Contractor must ensure that all encryption safeguards used in the information system use encryption algorithms and key lengths approved by CSEC.
189	SC-13 VOIP-(06)	Use of cryptography	The Contractor must ensure that all private cryptographic keys are password protected.
190	SC-15	Collaborative computing devices	The Contractor must ensure that: (a) The information system prohibits activation of collaborative computing devices unless authorized by the Technical Authority; and (b) If collaborative computing is installed, the information system provides an explicit indication of use to the device users.
191	SC-15 VOIP-(01)	Collaborative computing devices	The Contractor must ensure that a visual indication that the microphone or camera, on the IP user device, is active.
192	SC-24 VOIP-(02)	System shutdown	The Contractor must ensure that information system initialization, shutdown and aborts are configured to ensure that the information system remains in a secure state.
193	SI-2	Flaw remediation	(a) Within a day of an occurrence, the Contractor must identify, report, and correct information system flaws. (b) Immediately following the identification and reporting of the occurrence, the Contractor must test software updates related to flaw remediation. (d) The Contractor must incorporate flaw remediation into the Contractor's configuration management process.

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194	SI-02 VOIP-(01)	Flaw remediation	The Contractor must ensure that, following receipt of the Technical Authority's approval, patches and security updates are installed on the information system in the next Canada-approved maintenance window.
195	SI-02 VOIP-(03)	Flaw remediation	The Contractor must ensure that updating of the information system's operating system and virus definition signatures are completed in the next Canada-approved maintenance window, once the authorization has been received from the Technical Authority.
196	SI-02 VOIP-(04)	Flaw remediation	Since softphone security depends principally on the state of the underlying operating system, the Contractor must advise Canada when the host computer supporting softphones must be patched to meet the information system's requirements.
197	SI-02 VOIP-(05)	Flaw remediation	The Contractor must ensure that the platform on which the softphone resides has activated and up-to-date anti-malware software.
198	SI-4	Information system monitoring	(a) The Contractor must monitor, record and report events on the information system in accordance with the management policies and procedures described in the Security Operations Procedures. (b) The Contractor must identify unauthorized use of the information system.
199	SI-4 .7	Information system monitoring	The Contractor must ensure the information system notifies the Contractor's security personnel, and the Technical Authority, of suspicious events and takes the least-disruptive actions to terminate suspicious events.
200	SI-05 VOIP-(01)	Security Alerts, Advisories, and Directives	The Contractor must perform regular checking for software updates and patches to reduce information system vulnerabilities by; (a) Ensuring that software patches for all information system components originate from the OEM or Software Publisher and are applied in accordance with their instructions; and (b) Subscribe to the OEM or Software Publisher's security advisory notification services.
201	SI-7 .1	Software and information integrity	The Contractor must reassess the integrity of software and information by performing integrity scans of the information system at a minimum every 30 days.
202	SI-7 .4	Software and information integrity	The Contractor must use tamper-resistant packaging for all Licensed Software and Hardware during the transportation from the vendor to Canada's site.

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Item #	Identifier	Name	Definition
203	SI-07 VOIP-(01)	Software and information integrity	The Contractor must ensure that applications on information system components are limited to those tested in a laboratory environment, cryptographically signed by the Contractor, and are available through an internal server.
204	SI-07 VOIP-(02)	Software and information integrity	The Contractor must ensure that; (a) Authenticated and encrypted connections such as TLS or IPsec, replace or encapsulate TFTP for downloading any information system files; or (b) The file integrity is protected with a digital signature; and (c) Information system components can download and verify signed binary files.
205	SI-07 VOIP-(03)	Software and information integrity	The Contractor must ensure that Licensed Software patches and updates are cryptographically signed by the Software Publisher.
206	SI-07 VOIP-(04)	Software and information integrity	The Contractor must ensure that configuration files and information system firmware are cryptographically signed and obtained from hardened servers.
207	SI-08 VOIP-(01)	Spam protection	The Contractor must ensure that a caller blacklist is maintained and available to the Media Gateway to identify originators of unwanted voice traffic.
208	SI-11	Error handling	The Contractor must ensure that the information system: (a) Identifies all security-relevant error conditions. (b) Generates error messages that provide information necessary for corrective actions without revealing information in error logs and administrative messages that could be exploited by adversaries. (c) Reveals error messages only to authorized personnel.
209	SI-12	Information output handling and retention	The Contractor must handle and retain both information within and output from the information system in accordance with applicable GC legislation and Treasury Board Secretariat (TBS) policies, directives and standards, and operational requirements.

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APPENDIX C – SECURITY CERTIFICATION AND ACCREDITATION REQUIREMENTS

- (511) The Contractor must perform the Work in this subsection as part of Canada's security certification and accreditation process.
- (512) All reports and/or plans must be submitted to the Technical Authority, in a format acceptable to Canada.

23.2 Security Management Plan (SMP)

- (513) Within twenty business days from contract award, the Contractor must provide a security management plan (SMP) to Canada that includes:
 - a) Describing how the Contractor will ensure secure operations including;
 - 1. How the security controls will be implemented, monitored and reported;
 - 2. How the support, operations, management, and maintenance will be controlled and managed;
 - 3. How the scope and methodology of the security risk analysis will be deployed;
 - 4. The approach for improving the detection of fraud and security breaches;
 - 5. How the latest modern methods and technologies to keep protected against the latest threats;
 - 6. The minimum requirements to ensure the physical security of Network Products at Canada locations;
 - 7. Deviations requiring correction identified in security verification testing;
 - 8. Corrective measures identified in Canada's vulnerability assessment report;
 - 9. How the Contractor's employees, suppliers and vendors as well as Canada's administrators, agents and supervisors will be educated on the information system's security policies, processes, practices, and procedures;
 - 10. How third parties will be securely controlled; and
 - 11. The process to identify, report, and escalate security incidents.
 - b) How security risks will be reported (to whom and at what frequency);
 - c) Roles and responsibilities toward security management; and
 - d) How security incidents will be tracked and addressed.

23.3 Security Operational Procedures

- (514) Within twenty business days from contract award, the Contractor must provide the Contractor's security operational procedures to Canada that describes the:
 - a) System hardening requirements applied to system servers, data warehouse, network devices, applications and the procedures used to verify the hardening;
 - b) Functions of the operating environment that include:
 - 1. Power up/power down sequence;
 - 2. Use of privileged system accounts;
 - 3. Start up/shut down of systems (including operating system and applications);

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4. Start and stop communications;
 5. Backup and restore;
 6. Over-riding of security controls (if applicable); and
 7. Recovery/restart.
- c) Incident response priorities and processes to mitigate damage, contain the cause of the incidents and restore services including notification to Canada;
 - d) Types of event or activities that constitute a security Incident, descriptions of the IT security Incidents that can occur, their potential impact, the technical and operational environment, and service delivery priorities;
 - e) Privacy breach protocol including breach notification processes; and
 - f) Processes to monitor for system security vulnerabilities and to apply security patches accordingly.
 - g) All other procedures specified in the requirements identified in Section 23.2 of this contract.

23.4 Vulnerability Assessment and Mitigation

- (515) At anytime during the Contract Period, subject to one day's notice from the Technical Authority, the Contractor must allow Canada to conduct a vulnerability assessment that includes:
 - a) The Contractor's access(es) to the Network Products; and
 - b) Assistance for the duration of any on-site portion of the vulnerability assessment of at least one technical resource that is familiar with the technical aspects (e.g., the Hardware, Licensed Software and their configurations).
- (516) Canada may conduct a vulnerability assessment and provide a vulnerability assessment report to the Contractor that will identify the vulnerabilities that were detected. Canada will limit its vulnerability assessment to discovery and scanning activities and will not engage in disruptive or destructive activities.
- (517) Alternatively, Canada, at its discretion may request that the Contractor perform the vulnerability assessment testing, within ten days from receiving the request, using a plan approved by Canada and provide the result of the testing to Canada.
- (518) Within five days following completion of the vulnerability assessment testing, the Contractor must provide Canada with a vulnerability mitigation report that includes:
 - a) Corrective measures for all vulnerabilities identified;
 - b) The expected timeframes for each corrective measure; and
 - c) Service documentation referenced in the SMP that must be updated as a result of the implementation of the corrective measures.

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Integrated Communications and Support Services (ICSS)

Annex B6 – Pricing Workbook Guide

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1 OVERVIEW

- (1) This document provides instructions that the Bidder should follow to input its pricing information into Annex B - Pricing Tables (Annex B1 to Annex B5 (the "Pricing Workbook")). To use this workbook, the Bidder should first read and be familiar with the requirements provided in the Statement of Work (SOW) of this solicitation.
- (2) The Pricing Workbook uses a 4-year pricing period: a 1-year Initial Contract Period plus three 1-year option periods.
- (3) The worksheets have been developed to allow Bidders, in a simple and direct manner, to provide pricing and quantity information in order to provide the solution proposed. The Pricing Workbook includes OEM and Software Publishers Published Price Lists (MPL), component definitions, PPL discounts, and maintenance factors (percentage of discounted MPL prices) that must be provided by the Bidder which will form the Master Price List. The component pricing and maintenance pricing will then be used in the Network Product Evaluation worksheets. The Contractor also must provide pricing for installation services, moves, adds and changes (MACs), and support services in the designated worksheets. All worksheets will be totalled and included in the Bid Price worksheet, which will determine the Evaluation Bid Price. The worksheets provide the Bidder with the capability to manually input all-inclusive prices according to the Bidder's determination of all cost factors to meet all the requirements of the bid solicitation.

1.1 Master Price Lists (MPL)

- (4) The Master Price List may be used by Canada to purchase products in accordance with the formula stated herein during the period of any resulting contract.
- (5) All Master Price List prices must:
 - a) Be in Canadian dollars
 - b) Include all shipping and handling charges to destination (FOB destination anywhere in National Capital Region);
 - c) Include a one year warranty and shipping costs.
 - d) Include Canadian Customs duties and excise taxes if applicable; and
 - e) Exclude Goods and Services Tax (GST) and Harmonized Sales Tax (HST).

1.2 Pricing Workbook Structure

- (6) The Pricing Workbook is organized into 6 Worksheet Categories as summarized in Table 1.

Table 1. Worksheet Categories

Worksheet Category	Description
Information	Information worksheets: Home and Bid Price worksheets. No pricing to be entered by Bidders.
Pricing	Input worksheets to calculate pricing for components and Maintenance Plans.
Network Products Evaluation	Scenario worksheets for components and maintenance of various PBX configurations.
Installation	Pricing input and evaluation worksheet for Installation Services

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MACs	Pricing input and evaluation worksheet for Moves, Adds, and Changes	
Support Resources	Pricing input and evaluation worksheet for Support Resources	

1.3 Worksheets

(7) The Pricing worksheets are summarized in Table 2 by Category.

Table 2. Worksheets

Category	Worksheet	Description
Information	Home	Provides links to all worksheets
	Bid Price	Summarizes and totals all pricing from worksheets to determine the Total Bid Price
Pricing	Pricing Factors	Factor input sheets used to derive parts and maintenance unit prices: <ul style="list-style-type: none"> • % MPL factors by OEM to be applied to the OEM's Master Price Lists to determine pricing (discounted parts price). • % factor to be applied to the discounted parts price to determine Maintenance Plans (SSMP, OMP) unit prices
	Master Price List	Components price input sheet. Pricing factors are automatically applied to develop parts and Maintenance Plans (SSMP, OMP) unit prices.
Network Products Evaluation	PBX-C1.1	Input worksheet for evaluation of Class 1 PBX related parts and Maintenance Plans (SSMP, OMP) pricing for: <ul style="list-style-type: none"> • Telephony Network Products • Gateway Network Products • UPS Network Products • Tenant Groups • Automated Attendant
	PBX-C1.2	
	PBX-C2.1	Input worksheet for evaluation of Class 2 PBX related parts and Maintenance Plans (SSMP, OMP) pricing for: <ul style="list-style-type: none"> • Telephony Network Products • Gateway Network Products • UPS Network Products • Tenant Groups • Automated Attendant
	PBX-C2.2	

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Category	Worksheet	Description
	PBX-C3.1	Input worksheet for evaluation of Class 3 PBX related parts and Maintenance Plans (SSMP, OMP) pricing for: <ul style="list-style-type: none"> • Telephony Network Products • Gateway Network Products • UPS Network Products • Tenant Groups • Automated Attendant
	PBX-C3.2	
	UD-T1	Input worksheet for evaluation of User Device Type 1 parts and Maintenance Plans (SSMP, OMP) pricing
	UD-T2	Input worksheet for evaluation of User Device Type 2 parts and Maintenance Plans (SSMP, OMP) pricing
	UD-T3	Input worksheet for evaluation of User Device Type 3 parts and Maintenance Plans (SSMP, OMP) pricing
	UD-T4	Input worksheet for evaluation of User Device Type 4 parts and Maintenance Plans (SSMP, OMP) pricing
	UD-T5	Input worksheet for evaluation of User Device Type 5 parts and Maintenance Plans (SSMP, OMP) pricing
	UD-T6	Input worksheet for evaluation of User Device Type 6 parts and Maintenance Plans (SSMP, OMP) pricing
	UD-T7	Input worksheet for evaluation of User Device Type 7 parts and Maintenance Plans (SSMP, OMP) pricing
	UD-T8	Input worksheet for evaluation of User Device Type 8 parts and Maintenance Plans (SSMP, OMP) pricing
	UD-T9	Input worksheet for evaluation of User Device Type 9 parts and Maintenance Plans (SSMP, OMP) pricing
	UD-T10	Input worksheet for evaluation of User Device Type 10 parts and Maintenance Plans (SSMP, OMP) pricing
	UD-T11	Input worksheet for evaluation of User Device Type 11 parts and Maintenance Plans (SSMP, OMP) pricing

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Category	Worksheet	Description
Installation Services	Installation	Pricing input and evaluation worksheet for Installation Services
MACs	MACs	Pricing input and evaluation worksheet for Moves, Adds, and Changes
Support Resources	Support Resources	Pricing input and evaluation worksheet for Support Resources

- (8) Yellow colour cell shading is used within the worksheets to identify the cells that require Bidder input. These cells must be completed by the Bidder. The Bidder is fully responsible to ensure the validity and integrity of its input.
- (9) Blue and green colour cell shading is used within the worksheets to identify the cells used in the calculation of pricing. These cells are automatically calculated and do not require to be input by the Bidder.
- (10) Certain cells have been protected to ensure the integrity of the data that they contain. The protection also ensures that Bidders are only able to provide input to the worksheet cells that they must complete.
- (11) The Microsoft Excel application is used to do the summation (Total Bid Price). All totals, prices and percentages are rounded off to the second decimal digit.

1.4 Bidder Requirements to complete the Pricing Workbook

- (12) The Bidder should follow all instructions in the Pricing Workbook.
- (13) The Bidder must input price discounts in the Pricing Workbook for all of the components and services as indicated in the yellow coloured shaded cells. All OEM and Software Publisher PPL discounts and maintenance factors must be specified in the *Pricing Factors* worksheet.
- (14) The Bidder must input components and prices in the Pricing Workbook for all of the components and services of the solution proposed as indicated in the yellow coloured shaded cells, for all years of the Contract Period. All Bidder pricing must be specified on the following worksheets:
- Master Price List;*
 - Installation Services;*
 - MACs; and*
 - Support Resources*
- (15) The Bidder must input components and quantities in the yellow coloured shaded cells in Network Products Evaluation category worksheets, as identified in Table 2, according to the configuration definitions provided in each worksheet and all bid solicitation requirements.
- (16) Bidder must input percentage of discount applicable to the PPL for Accessories and Parts.

1.5 Definitions

- (17) The Bidder should refer to the Glossary and Definitions of Terms defined in the bid solicitation.
- (18) The Bidder should refer to the definitions of the pricing terms in the Pricing Workbook as follows:

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- a) PV: Present Value analysis will be done using an annual interest rate of 2.53%.
 - b) Component: An orderable item or element consisting of either Hardware or Software;
 - c) Monthly: Monthly (i.e. Monthly Price) refers to the firm monthly price for a particular service provided during a one month time period; and
 - d) Master Price List (MPL): the OEM or Software Publisher published price list of Components offered by the OEM or Software Publisher.
- (19) Italicized terms in this document (e.g. *Master Price List*) refer to specific worksheet names, column headings, or row headings used in the Pricing Workbook.

1.6 Suggested Order of Completion

- (20) It is recommended that Bidders complete the Pricing Workbook in the following order:
- a) *Home* (to input *Bidder Name*);
 - b) *Pricing Factors*;
 - c) *Master Price List*;
 - d) *All Network Products Evaluation category worksheets as identified in Table 2*;
 - e) *Installation Services*;
 - f) *MACs*;
 - g) *Support Resources*; and
 - h) *Pricing for Accessories and Parts*

2 WORKSHEET INSTRUCTIONS

2.1 Home Worksheet

- (21) The Bidder should input data into the *Bidder Name* cell. The inputted name will be automatically copied to all other worksheets. The *Home* worksheet provides links to all worksheets in the Pricing Workbook.

2.2 Bid Price Worksheet

- (22) The *Bid Price* worksheet is informational. It calculates the *Evaluation Bid Price* based on the PV pricing totals from the other worksheets.

2.3 Pricing Factors Worksheet

- (23) The Bidder must input MPL discount and maintenance factors for every OEM and Software Publisher associated with Hardware and Software components identified in the *Master Price List* worksheet. The Bidder must not input more than one line of data per OEM and Software Publisher, i.e., a unique name must not appear more than once in the column.
- (24) The Bidder must input for each OEM and Software Publisher:
- a) *OEM/Software Publisher*: a unique identifier for the Original Equipment

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Manufacturer or Software Publisher;

- b) *% MPL Discount*: the discount that will be applied to all Hardware and Software component prices identified in the OEM's or Software Publisher's master price list;
- c) *% of MPL Unit Price Used to Calculate SSMP Total Firm Unit Monthly Price*: the factor that will be applied to the OEM's or Software Publisher's component prices (before application of the *% MPL Discount*) to calculate the monthly Software Support Maintenance Plan price that will be charged, after the end of the component's warranty period, for each Software component procured under the Contract. The Bidder must input a factor for each option year, i.e., *Option Year 1*, *Option Year 2*, and *Option Year 3*. There is no input for the Initial Contract Period as all components will have a warranty of 1 year;
- d) *% of MPL Unit Price Used to Calculate OMP-1 Total Firm Unit Monthly Price*: the factor that will be applied to the OEM's or Software Publisher's component prices (before application of the *% MPL Discount*) to calculate the applicable monthly On-Site Maintenance Plan price that will be charged, after the end of the component's warranty period, for each Software component procured under the Contract. The Bidder must input a factor for each option year, i.e., *Option Year 1*, *Option Year 2*, and *Option Year 3*. There is no input for the Initial Contract Period as all components will have a warranty of 1 year;
- e) *% of MPL Unit Price Used to Calculate OMP-2 Total Firm Unit Monthly Price*: please see description for OMP-1 input above;
- f) *% of MPL Unit Price Used to Calculate OMP-3 Total Firm Unit Monthly Price*: please see description for OMP-1 input above;
- g) *% of MPL Unit Price Used to Calculate OMP-4 Total Firm Unit Monthly Price*: please see description for OMP-1 input above;
- h) *% of MPL Unit Price Used to Calculate OMP-5 Total Firm Unit Monthly Price*: please see description for OMP-1 input above;
- i) *% of MPL Unit Price Used to Calculate OMP-6 Total Firm Unit Monthly Price*: please see description for OMP-1 input above;
- j) *% of MPL Unit Price Used to Calculate OMP-7 Total Firm Unit Monthly Price*: please see description for OMP-1 input above; and
- k) *% of MPL Unit Price Used to Calculate OMP-8 Total Firm Unit Monthly Price*: please see description for OMP-1 input above.

2.4 Master Price List Worksheet

- (25) The Bidder must identify all Hardware and Software components that are required by to meet the requirements identified in each of the Network Product Evaluation category worksheets. The Bidder must not input more than one line of data per component. Also, the Bidders must not include any component in the Master Price List Worksheet that are not needed for at least one of the Network Product Evaluation category worksheets
- (26) The Bidder must input for each component:
 - a) *Part Number*: a unique identify for the component;
 - b) *Software or Hardware*: identify for whether the component is Hardware or Software;

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- c) *Software Unit of Issue*: identify for whether the Software component is applicable to a single unit of demand ("Unit") or multiple units of demand ("Lot"). For example, "Unit" applies if an additional component is required for an additional unit of demand, e.g. the component is a Software license applicable to a single user device. "Lot" applies if a single Software component is applicable to multiple units of demand, e.g. 1 license per 100 voice mailboxes.
 - d) *Lot Quantity*: identify of the number of units covered by the Software component designated with a *Software Unit of Issue* as "Lot". For example, if the component is a Software license applicable to 100 voice mailboxes, enter "100". Enter "unlimited" if there is no limit.
 - e) *OEM/Software Publisher*: identify of the component's OEM or Software Publisher. Note that the drop down information in this column is sourced from Bidder inputs in the *Pricing Factors* worksheet;
 - f) *Description*: a description of the component;
 - g) *MPL Unit Price*: The unit price of the component obtained from the EOM's or Software Publisher's published price list.
- (27) The worksheet will calculate for each component:
- a) *Unit Price*: The unit price of the component is calculated by applying the applicable OEM or Software Publisher % *MPL Discount* factor, sourced from the Bidder's inputs in the *Pricing Factors* worksheet, to the *MPL Unit Price*;
 - b) The SSMP (if a Software component) and OMP (if a Hardware component) monthly prices for each option year. The unit monthly prices are calculated by applying the applicable factor, sourced from the Bidder's inputs in the *Pricing Factors* worksheet to the *Unit Price*.

2.5 Network Product Evaluation Category Worksheets

- (28) The Bidder must identify the components in the *Master Price List* worksheet and the quantity of components that are needed to meet the requirements identified in each of the Network Product Evaluation category worksheets. To input the *Required Parts* in each worksheet, the Bidder must begin by selecting a *Part Number* from the drop-down list provided. The drop-down list of part numbers is populated from Bidder provided information in the *Master Price List* worksheet. Once a part number is selected, other relevant information from the *Master Price List* worksheet is transferred automatically. If the desired *Part Number* does not appear in the drop-down list, Bidders should try scrolling up using the scrolling arrows in the drop-down box and also confirm that appropriate Bidder information has been entered in the *Master Price List* worksheet. The worksheet evaluates the prices by applying weightings to the inputs and net present valuing the yearly totals in the *Price Summary* section.
- (29) The Bidder must use the configuration/requirements descriptions provided in the instructions in each worksheet, as well as all bid solicitation requirements, in specifying the components and quantities.
- (30) The PBX evaluation worksheets capture pricing for:
- a) PBX (Classes 1 to 3)
 - b) Users (Users describes the number of User Devices that will be installed; however, the actual cost of the User Devices will be evaluated in the User Device worksheets);
 - c) Voice Mail

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- d) SSC MIS
- e) ACD and associated agents and supervisors
- f) Gateways
- g) UPS
- h) Tenants; and
- i) Automated attendants

- (31) The user device worksheets capture pricing for a single (quantity 1) user device. If any of the user device components are priced at the PBX level, e.g. one price no matter the number of user devices, then the component should be identified in each of the PBX evaluation worksheets, e.g. *PBX-C1.1*.

2.6 Installation Worksheet

- (32) The Bidder must identify the prices associated with installation services based on the following units:
- a) *Per User* (Users describes the number of User Devices that will be installed);
 - b) *Per ACD Agent*;
 - c) *Per ACD Supervisor*; and
 - d) *Per Automated Attendant*.
- (33) The Per ACD Agent and Per ACD Supervisor rates are in addition to the Per User rates, i.e., ACD Agents and ACD Supervisors are also deemed to be Users.

2.7 MACs Worksheets

- (34) The Bidder must identify a per MAC price based on the number of MACs, to be performed during the PPM, requested with a single service order with:
- a) *1 soft MAC*;
 - b) *2-4 soft MACs*;
 - c) *5-9 soft MACs*;
 - d) *10-20 soft MACs*;
 - e) *21 or more soft MACs*;
 - f) *1 hard MAC*;
 - g) *2-4 hard MACs*;
 - h) *5-9 hard MACs*;
 - i) *10-20 hard MACs*; and
 - j) *21 or more hard MACs*.
- (35) The Bidder must propose a Firm Hourly Rate for special and ad-hoc MACs done outside the PPM (OPPM).

2.8 Support Resources Worksheet

- (36) The Bidder must propose a Firm Hourly Rate for each of the types of Support Resources described in the Statement of Work:
- a) *Technical Integration Support Resource*;
 - b) *Integration Manager Resource*; and
 - c) *Technician Resource*.

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20130262

File No. - N° du dossier
017eo. 2B0KB-130262

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2.9 Pricing for Accessories and Parts not listed in the Master Price List

- (37) The Bidder must propose a unique discount (0 to 99%) that will be applied to the price identified in Annex B5 for additional accessories and parts **these are not to be listed in the Master Price List in Annex B.**