



Systems Delivery and Project Portfolio Management (SDPPM)

AFIS Renewal

ATTACHMENT 3 TO APPENDIX G: BENCHMARK DATA STRUCTURE

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1. BENCHMARK DATA STRUCTURE

1.1 Ten Print Data Background Data Structure

File Format	ANSI-NIST WSQ Compression ranges from 10:54 to 39:59. Captured at 500 Pixels Per inch (PPI).
File Name Format	10 digits – Same value as the Document Control Number (DCN) tag 2.800.

Each ANSI-NIST file will could contain the following Record Type combinations:

- 1 Type-1 record, 1 Type-2 record, Up to 14 Type-4 Records;
- 1 Type-1 record, 1 Type-2 record, Up to 14 Type-4 Records, up to six (6) Type-15 Records; or
- 1 Type-1 record, 1 Type-2 record, Up to four (4) Type-14 Records.

Note: The Interface Control Documents (ICD) can be referenced for additional information on Type-4, Type-14 and Type-15 Records.

Table 1-1: Ten Print Background: Type-1 Record Definition		
Field	Field Name	Sample Field Values
1.001	Logical Record Length	Varies per size of type-1 record.
1.002	ANSI-NIST Version Number	0300
1.003	File Content	Varies based on number of record types in the packet.
1.004	Type of Transaction	Ten Print Packet (TPP)
1.005	Transaction Date	20160101
1.006	Priority	4
1.007	Destination Agency ID	ON70000
1.008	Originating Agency ID	ON30227
1.009	Transaction Control Number	Unique seven (7) digit number (e.g., 1234567).
1.011	Native Scanning Resolution	19.69
1.012	Nominal Transmitting Resolution	19.69

Table 1-2: Ten Print Background: Type-2 Record Definition		
Field	Field Name	Sample Field Values
2.001	Logical Record Length	Varies per size of type-2 record.
2.002	Image Designation Character	The Image Designation Character contained in this tag is the Image Designation Character of the Type-2 logical record as found in the file content tag of the Type-1 record.
2.800	DCN	Contents are the same as the TPP file name. Ten digit number (e.g., 1000657843).
2.1003	Verification Subsystem	A value of 1 indicates the file is to be available for

Table 1-2: Ten Print Background: Type-2 Record Definition		
Field	Field Name	Sample Field Values
	(VSS) Indicator	processing on Automated Fingerprint Identification System (AFIS) and VSS.

Table 1-3: Ten Print Background: Type-4 Record Definition		
Field	Field Name	Sample Field Values
4.001	Logical Record Length	Varies per size of Type-4 record.
4.002	Image Designation Character	The Image Designation Character contained in this tag is the Image Designation Character of the Type-4 logical record as found in the file content tag of the Type-1 record.
4.003	Impression Type	0 – Livescan Plain; 1 – Livescan Rolled; 2 – Non-Livescan Plain; or 3 – Non-Livescan Rolled.
4.004	Finger Number	Number between 1 and 14.
4.005	Image Scanning Resolution	0 – indicates the minimum scanning resolution was used. 1 – indicates the native scanning resolution was used.
4.006	Horizontal Line Length	The number of pixels on the horizontal line length.
4.007	Vertical Line Length	The number of pixels on the vertical line length.
4.008	Grayscale Compression Algorithm	0 – indicates there is no compression; or 1 – indicates WSQ compression.
4.009	Image Data	

Table 1-4: Ten Print Background: Type-14 Record Definition		
Field	Field Name	Sample Field Values
14.001	Logical Record Length	Varies per size of Type-14 record.
14.002	Image Designation Character	The Image Designation Character contained in this tag is the Image Designation Character of the Type-14 logical record as found in the file content tag of the Type-1 record.
14.003	Impression Type	0 – Livescan Plain; or 2 – Non-Livescan Plain.
14.004	Source Agency Identifier	ON30227
14.005	Capture Date	20160101
14.006	Horizontal Line Length	The number of pixels on the horizontal line length.
14.007	Vertical Line Length	The number of pixels on the vertical line length.
14.008	Scale Units	1 – indicates “Pixels per inch”; or 2 – indicates “Pixels per centimeter”.
14.009	Horizontal Pixel Scale	Round to the nearest whole number.

Table 1-4: Ten Print Background: Type-14 Record Definition		
Field	Field Name	Sample Field Values
14.010	Vertical Pixel Scale	Round to the nearest whole number.
14.011	Compression Algorithm	WSQ
14.012	Bits Per Pixel	Eight (8) is required for normal grayscale values of 0 – 255.
14.013	Finger Number Code	
14.021	Segment Positions:	This tag is used when the record type contains ID Flats.
	• Finger Number	For ID Flats, valid values are 01 to 10.
	• Left	Numeric value up to four (4) in length.
	• Right	Numeric value up to four (4) in length.
	• Top	Numeric value up to four (4) in length.
	• Bottom	Numeric value up to four (4) in length.
14.022	Image Quality Metric:	
	• Finger Number	Valid values are 01 to 15.
	• Quality Score	Numeric value up to two (2) in length.
14.200	Image Type Contained	1 – indicates Rolled and Plain: 14-Print; 2 – indicates Identification Flats: 4-4-2; 3 – indicates Biometric Consent; or 4 – indicates Rolled and Plain: 13-Print.
14.999	Image Data	

Table 1-5: Ten Print Background: Type-15 Record Definition		
Field	Field Name	Sample Field Values
15.001	Logical Record Length	Varies per size of Type-15 record.
15.002	Image Designation Character	The Image Designation Character contained in this tag is the Image Designation Character of the Type-15 logical record as found in the file content tag of the Type-1 record.
15.003	Impression Type	10 – indicates Livescan Palm; or 11 – indicates Non-Livescan Palm.
15.004	Source Agency	ON30227
15.005	Palm Print Capture Date	20160101
15.006	Horizontal Line Length	The number of pixels on the horizontal line length.
15.007	Vertical Line Length	The number of pixels on the vertical line length.
15.008	Scale Units	1 – indicates “Pixels per inch”; or 2 – indicates “Pixels per centimeter”.
15.009	Horizontal Pixel Scale	Round to the nearest whole number.
15.010	Vertical Pixel Scale	Round to the nearest whole number.
15.011	Compression Algorithm	WSQ, WSQ20 or NONE.
15.012	Bits Per Pixel	Eight (8) is required for normal grayscale values of 0 to 255.

Table 1-5: Ten Print Background: Type-15 Record Definition		
Field	Field Name	Sample Field Values
15.013	Palm Print Position	Number between 21 and 28.
15.999	Image Data	

1.2 Latent Background Data Structure

Table 1-6: Latent Background Data Structure	
File Format:	TIFF Image
Captured at:	1000 PPI
File Name:	13 digits long. The File Name is the Royal Canadian Mounted Police (RCMP) unique identifier for the latent.

1.3 Ten Print Test Set Data Structure

File Format

ANSI-NIST
WSQ Compression will vary
Captured at 500 PPI

File Name Format

10 digits – Same value as the DCN tag 2.800

Each ANSI-NIST file will could contain four (4) records types in the following combinations:

- 1 Type-1 record, 1 Type-2 record, Up to 14 Type-4 Records;
- 1 Type-1 record, 1 Type-2 record, Up to 14 Type-4 Records, up to six (6) Type-15 Records; or
- 1 Type-1 record, 1 Type-2 record, Up to four (4) Type-14 Records.

Note: The ICD documents can be referenced for additional information on Type-4, Type-14 and Type-15 Records.

Table 1-7: Ten Print Test Set: Type-1 Record Definition		
Field	Field Name	Sample Field Values
1.001	Logical Record Length	Varies per size of type-1 record.
1.002	ANSI-NIST Version Number	0300
1.003	File Content	Varies based on number of type-4 records.
1.004	Type of Transaction	TPP
1.005	Transaction Date	20160606
1.006	Priority	4
1.007	Destination Agency ID	ON70000
1.008	Originating Agency ID	NK10157
1.009	Transaction Control Number	Unique seven (7) digit number (e.g., 1234567).
1.011	Native Scanning Resolution	19.69
1.012	Nominal Transmitting Resolution	19.69

Table 1-8: Ten Print Test Set: Type-2 Record Definition			
Field	Field Name	Sample Field Values	Used in Benchmark Phase
2.001	Logical Record Length	Varies per size of type-2 record.	1-2-3
2.002	Image Designation Character	The Image Designation Character contained in this tag is the Image Designation Character of the Type-2 logical record as found in the file content tag of the Type-1 record.	1-2-3
2.800	DCN	Contents are the same as the TPP file name. Ten digit number (e.g., 1000657843).	1-2-3
2.1196	File Type	1 – indicates a Criminal file; or	1

Table 1-8: Ten Print Test Set: Type-2 Record Definition			
Field	Field Name	Sample Field Values	Used in Benchmark Phase
		4 – indicates an Immigration file.	
2.8973	File Number to Search	This tag is only included in the packet if a 1:1 search is requested. Contents of this tag will contain the file number to perform the 1:1 search. The file numbers will be provided by the bidder with the Benchmark Plan. File Number format is expected to be 12 digits with a prefix of 88000.	2(VSS)
2.8295	Reverse Search Indicator	This tag is only included in the packet to indicate a reverse search. The value to indicate this is 1.	2-3

Table 1-9: Ten Print Test Set: Type-4 Record Definition		
Field	Field Name	Sample Field Values
4.001	Logical Record Length	Varies per size of Type-4 record.
4.002	Image Designation Character	The Image Designation Character contained in this tag is the Image Designation Character of the Type-4 logical record as found in the file content tag of the Type-1 record.
4.003	Impression Type	0 – Livescan Plain; 1 – Livescan Rolled; 2 – Non-Livescan Plain; or 3 – Non-Livescan Rolled.
4.004	Finger Number	Number between 1 and 14.
4.005	Image Scanning Resolution	0 – indicates the minimum scanning resolution was used; or 1 – indicates the native scanning resolution was used.
4.006	Horizontal Line Length	The number of pixels on the horizontal line length.
4.007	Vertical Line Length	The number of pixels on the vertical line length.
4.008	Grayscale Compression Algorithm	0 – indicates there is no compression; or 1 – indicates WSQ compression.
4.009	Image Data	

Table 1-10: Ten Print Test Set: Type-14 Record Definition		
Field	Field Name	Sample Field Values
14.001	Logical Record Length	Varies per size of Type-14 record.
14.002	Image Designation Character	The Image Designation Character contained in this tag is the Image Designation Character of the Type-14 logical record as found in the file content tag of the Type-1

Table 1-10: Ten Print Test Set: Type-14 Record Definition		
Field	Field Name	Sample Field Values
		record.
14.003	Impression Type	0 – Livescan Plain; or 2 – Non-Livescan Plain.
14.004	Source Agency Identifier	NK10157.
14.005	Capture Date	20160606.
14.006	Horizontal Line Length	The number of pixels on the horizontal line length.
14.007	Vertical Line Length	The number of pixels on the vertical line length.
14.008	Scale Units	1 – indicates “Pixels per inch”; or 2 – indicates “Pixels per centimeter”.
14.009	Horizontal Pixel Scale	Round to the nearest whole number.
14.010	Vertical Pixel Scale	Round to the nearest whole number.
14.011	Compression Algorithm	WSQ.
14.012	Bits Per Pixel	Eight (8) is required for normal grayscale values of 0 to 255.
14.013	Finger Number Code	Number between 01 and 15.
14.021	Segment Positions:	
	• Finger Number	For ID Flats, valid values are 01 to 10.
	• Left	Numeric value up to four (4) in length.
	• Right	Numeric value up to four (4) in length.
	• Top	Numeric value up to four (4) in length.
	• Bottom.	Numeric value up to four (4) in length.
14.022	Image Quality Metric:	
	• Finger Number	Valid values are 01 to 15.
	• Quality Score	Numeric value up to two (2) in length.
14.200	Image Type Contained	1 – indicates Rolled and Plain: 14-Print; 2 – indicates Identification Flats: 4-4-2; 3 – indicates Biometric Consent; or 4 – indicates Rolled and Plain: 13-Print.
14.999	Image Data	

Table 1-11: Ten Print Test Set: Type-15 Record Definition		
Field	Field Name	Sample Field Values
15.001	Logical Record Length	Varies per size of Type-15 record.
15.002	Image Designation Character	The Image Designation Character contained in this tag is the Image Designation Character of the Type-15 logical record as found in the file content tag of the Type-1 record.
15.003	Impression Type	10 – indicates Livescan Palm; or 11 – indicates Non-Livescan Palm.

Table 1-11: Ten Print Test Set: Type-15 Record Definition		
Field	Field Name	Sample Field Values
15.004	Source Agency	NK10157
15.005	Palm Print Capture Date	20160606
15.006	Horizontal Line Length	The number of pixels on the horizontal line length.
15.007	Vertical Line Length	The number of pixels on the vertical line length.
15.008	Scale Units	1 – indicates “Pixels per inch”; or 2 – indicates “Pixels per centimeter”.
15.009	Horizontal Pixel Scale	Round to the nearest whole number.
15.010	Vertical Pixel Scale	Round to the nearest whole number.
15.011	Compression Algorithm	WSQ, WSQ20 or NONE.
15.012	Bits Per Pixel	Eight (8) is required for normal grayscale values of 0 to 255.
15.013	Palm Print Position	Number between 21 and 28.
15.999	Image Data	

1.4 Latent Test Set Data Structure

Table 1-12: Latent Test Set Data Structure	
File Format:	TIFF Image
Captured at:	1000 PPI
File Name:	13 digits long. The File Name is the RCMP unique identifier for the latent.

1.5 C216 Sample

C-216

FINGERPRINT IDENTIFICATION
IDENTIFICATION DACTYLOSCOPIQUE

20000 009160 0

Arrived - Arrivé

Certified - Certifié par

QC - CQ

AFIS - SAID

Year of Birth
Année de naissance

RIGHT / DROIT

LEFT / GAUCHE


Contributing Agency Organisme contributeur CBSA NIAGARA FALLS ENFORCEMENT OPERATIONS "6080 MCLEOD ROAD, UNIT 14-1" SALABERRY-DE-VALLEYFORD QC J6S 2B3 ON66661		Lang=EN		Contributor's No./Reference No. N° du contributeur/N° de référence		Signature of official taking fingerprints Signature du préposé aux empreintes		Date fingerprinted Date de prélèvement des empreintes Y-A M D-J 2010 03 01	
Ind Ref # Réf. Ind:		CBSA/CIC-ASFC/CIC : FOSS-SSOBL:		Signature of person fingerprinted (full name and address) - Signature de la personne dactyloscopiée (nom au complet et adresse)				DOB - Y-A M D-J DDN 1983 03 09	
Surname - Nom de famille BEEF,		Given Name 1 - Prénom 1 ANGUS		Given Name 2 - Prénom 2		Other Given Names - Autres prénoms			
Other names, aliases, nicknames, maiden name, Autres noms, nom d'emprunt, sobriquets, nom de jeune fille		Given Name 1 - Prénom 1		Given Name 2 - Prénom 2		Other Given Names - Autres prénoms			
Apartment / Unit # / Street Address-Adresse (rue, n° d'app. ou d'unité)				City - Ville		Prov. Postal-Code-Postal			
Sex - Sexe <input checked="" type="checkbox"/> M <input type="checkbox"/> X <input type="checkbox"/> F		Hair - Cheveux		Eyes - Yeux Blue		Height - Taille (cm) 200		Weight - Poids (kg) 100	
Race <input type="checkbox"/> White Blanche <input type="checkbox"/> Non white (specify) Autre (préciser)		Complexion - Teint		FPS NO. - N° FPS 009160-0					
Place of birth - Lieu de naissance Country - Pays City - Ville		CAUTION - MISE EN GARDE: <input type="checkbox"/> Violent Violent <input type="checkbox"/> Suicidal Suicidaire <input type="checkbox"/> Escape risk Risque d'évasion		Date arrested - Arrêté le Y-A M D-J		Young Person - Adolescent <input type="checkbox"/>			
If foreign born, port and date of entry in Canada - En cas de naissance à l'étranger, port d'entrée et date d'arrivée au Canada Y-A M D-J		VOLUNTEER SCREENING INITIATIVE (VSI) (CHARGE NO. 1) INITIATIVE DE FILTRAGE DES BÉNÉVOLES (ACCUSATION N° 1) <input type="checkbox"/> Sex related Infraction sexuelle <input type="checkbox"/> Spousal assault Violence conjugale <input type="checkbox"/> Other family violence Autre type de violence familiale		Investigating Agency - Organisme enquêteur					
Peculiarities, marks scars, tattoos, deformities, etc. Traits caractéristiques, marques, cicatrices, tatouages, difformités, etc.		<input type="checkbox"/> Publication ban Interdiction de publication <input type="checkbox"/> Child sex offence Agression sexuelle sur enfant <input type="checkbox"/> M Age <input type="checkbox"/> F Age		Occupation - Employer - Profession - Employeur					
Name and address of NOK - Nom et adresse du plus proche parent						Gang Affiliation - Appartenance à une bande			
Date & place of sentence Date et lieu de la sentence		Disposition - Décision							
		Palms Attached 2016-06-15							

v1.5.0.359 2016-06-15 13:54:58


RCMP GRC C-216 (2006-05) RTD/ITR 001.01

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PALM PRINT FORM
EMPREINTES PALMAIRES
LEFT HAND
MAIN GAUCHE



20000 009160 0


File Number Numéro de dossier 009160-0	Associated / Associé <input checked="" type="checkbox"/>	Official taking fingerprints Préposé aux empreintes	Contributor's no./N° contributeur	Date Fingerprinted/Date de prélèvement des empreintes 2010-03-01
Surname - Nom de famille BEEF, ANGUS				
Given Name 1 - Prénom 1				
Given Name 2 - Prénom 2				
Other Given Names - Autres prénoms				




Left thumb

PHOTO






LEFT WRITER'S PALM/
PAUME GAUCHE -
HYPOTHENAR



LEFT FULL PALM/ PAUME GAUCHE COMPLÈTE


1151840666610003105

(2006-05) RTID/ITR 113.01 v1.5.0.359

2016-06-15 01:54:52

APPENDIX A: ACRONYMS

The following acronyms were used in this document.

Acronyms	Definition
AFIS	Automated Fingerprint Identification System (a major component of the RTID system that performs fingerprint matching.)
ANSI	American National Standards Institute
DCN	Document Control Number (A unique record layout field name or tag identifier for a CAR Y transaction. A DCN is typically generated by the contributor. Note that for a FBI submission, the DCN is generated by the RTID NNS.)
ICD	Interface Control Document
ID	Identifier
NIST	National Institute of Standards and Technology (US)
PPI	Pixels Per Inch
RCMP	Royal Canadian Mounted Police
RDIMS	Records, Documents and Information Management System
SDPPM	Systems Delivery and Project Portfolio Management (as of April 2015, this is the new name for “Major Projects Directory”)
TIFF	Tagged Image File Format (A common format for exchanging raster graphics (bitmap) images.)
TPP	Ten Print Packet
VSS	Verification Subsystem
WSQ	Wavelets Scalar Quantization (a compression algorithm that uses wavelet technology)