FIPS 201 Evaluation Program - Fingerprint Capture Station Approval Procedure

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GSA

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1 Introduction

1.1 Overview

The FIPS 201 Evaluation Program (EP) is a U.S. Government entity administered by the Office of Government-wide Policy (OGP), within the General Services Administration (GSA) agency. The goal of the FIPS 201 Evaluation Program (EP) is to evaluate products and services against the requirements outlined in FIPS 201 and its supporting documents. In addition to derived test requirements developed to test conformance to the National Institute of Standards and Technology (NIST) Standard, GSA has also established interoperability and performance metrics to further determine product suitability. A set of approval and test procedures have been developed which outline the evaluation criteria, approval mechanisms and test process employed by the Laboratory during their evaluation of a Supplier's product or service against the requirements for that category.

A Supplier desiring to submit a Fingerprint Capture Station (hereafter referred to as the Product) for evaluation must follow the Suppliers Policies and Procedures Handbook. In addition to this handbook, Supplier also need to refer to this Approval Procedure which provides the necessary category-specific details in order to have a Supplier's Product evaluated by the EP and placed on the Approved Products List (APL).

1.2 Category Description

The *Fingerprint Capture Station* consists of the hardware and software equipment used to electronically capture and transmit a full set of fingerprints for use in the background checks as part of the identity proofing and registration process. There are two alternatives: first, that the ten fingerprints may be directly captured via electronic means and transmitted, and second, that the ten fingerprints are captured on a card, whose image is then electronically scanned and transmitted. Either way, the fingerprint capture station must be certified by the FBI as meeting the IAFIS image quality specifications.

1.3 Purpose

The purpose of this document is to provide the following information:

(i)   Provide a list of the artifacts and/or documentation that needs to be submitted to the Evaluation Lab as part of the application package submission.
(ii)   Document the list of the requirements that apply to this category
(iii)   Specify the evaluation criteria along with their approval mechanisms that will be used by Evaluation Labs to verify compliance of the Product against the requirements that apply to this category.

2 Application Package Contents

The Application Package Contents include the artifacts, documentation and in some cases the product itself that needs to be submitted to the Evaluation Lab so that evaluation can be performed. The Application Package Contents for this category include the following:

- Completed Application Form, provided on the Evaluation Program website. (This form will be available through the web interface once users have been assigned a login credential);

- Completed and signed Attestation Form (found in the application submission package ZIP file). The Attestation Form should be completed and scanned into a document to be uploaded to Evaluation Program website;

- Completed and signed Non-Disclosure Agreement (found in the application submission package ZIP file) The Non-Disclosure Agreement should be completed and scanned into a document to be uploaded to Evaluation Program website;

  Note: This NDA can be substituted with a Supplier-provided document, however, for this will slow the evaluation process as the NDA submitted will need to be reviewed by the Lab.

- Completed Supplier VDR-VTDR justification worksheet provided as part of the application submission package ZIP file;

- Official Certification documentation from the appropriate entity (e.g., NIST) showing conformance of the Product to the tested requirements of FIPS 201. Specific reference to the exact type of certification necessary can be found in Section 3.3;

- All necessary Supplier documentation providing proof that the Product complies with the subset of requirements (as outlined in Section 3.1) for this category which has Supplier documentation review as its approval mechanism. Examples of specific documentation would include: user guides, technical specifications, white papers, line cards, etc. If the Product is capable of generating fingerprint minutiae templates, the Supplier documentation shall specify the Template Generator name and version being used within the Product.

- Two samples of the same INCITS 381 profile generated as a result of enrolment scanning. One profile must be in binary form. The other in textual form which clearly shows each field and its corresponding value (wherever possible) present in Table 4 of SP 800-76; and

- If available, a screenshot which shows the software version of the product and the NFIQ integer value reported as the result of a fingerprint scan. Otherwise submit documentation which serves as proof that the NIST NFIQ value is employed by the Product.

2.1 Compatibility Acknowledgement

For a Product to be submitted under this category, it needs to meet all requirements as stated in Section 4.1. However, in the event that the Supplier provides only the software component, the Supplier needs to perform the following activities:

- Submit the Product in conjunction with a specific hardware product from another supplier
- Optionally, obtain a letter from the hardware vendor stating that the Supplier's software is known to work with the hardware product being submitted with. If this letter is being submitted by the Supplier, they need to submit this along with their application package. In the event that this letter isn't submitted, compatibility testing shall be performed by the Lab in accordance with Section 4.3.5.

3 Evaluation Procedure for a Fingerprint Capture Station

3.1 Requirements

In order to approve the Product as conformant to the requirements of PIV, it at a minimum, must comply with all the requirements listed below. The approval mechanism column describes the technique utilized by the Lab to evaluate compliance to that particular requirement.

Identifier #	Requirement Description	Source	Reqt. #	Approval Mechanism
FPCS.1	If the product is a Live Scan System (used for capturing fingerprints using option 1 and/or option 2), the product shall have been certified by the FBI to conform to Appendix F of the FBI's Electronic Fingerprint Transmission Specification.	SP 800-76-1, Section 3.2	2.1-5	Certification
FPCS.2	If the product is a Fingerprint Card Scan System (used for capturing fingerprints using option 3), the product shall be certified by the FBI as being compliant with Appendix F of the FBI's Electronic Fingerprint Transmission Specification.	SP 800-76-1, Section 3.2	2.1-6	Certification
FPCS.3	If the product is a Live Scan or the product is a Fingerprint Card Scan System, both shall be capable of generating NFIQ values for each of the ten fingers in the prints collected through options 1, 2 or 3 where applicable.	SP 800-76-1, Section 3.3	2.1-9	Vendor Documentation Review
FPCS.4	Scanning at the time of enrollment shall produce fingerprints in the digital format for images retained by agencies. The format shall be consistent with the profile defined by Table 4 of SP 800-76 (i.e. INCITS 381 Profile for Agency Retention of Fingerprint Images).	SP 800-76-1, Section 3.5	2.1-28	Vendor Test Data Report
FPCS.5	If the scanning produces minutiae fingerprint templates at the time of enrollment, it shall use a template generator which has been approved	Derived	N/A	Vendor Documentation Review Certification

	by GSA under the FIPS 201 Evaluation Program[1] and placed on the Approved Products List.			

Table 1 - Applicable Requirements

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[1] Although certification of Template Generators by NIST as compliant to SP 800-76 might be considered as sufficient, the GSA FIPS 201 Evaluation Program performs additional electronic tests to determine compliance with the INCITS 378 profile requirements. NIST certified Template Generators undergo this additional test by the Evaluation Lab in order to be placed on GSA's FIPS 201 Approved Products List. In this regard, GSA approved Template Generators need to be included within the Product, if it claims to support this functionality.

3.2 Approval Mechanism Matrix

The table below provides an indication of the total number of requirements applicable for the Product and provides a breakup of how the evaluation will be conducted based on the different approval mechanisms available to the Lab.

Total Requirements	Approval Mechanisms					
	SV	**VTDR**	**LTDR**	**VDR**	**C**	**A**
5	N/A	1	N/A	2	3	1
Legend: SV – Site Visit; VTDR – Vendor Test Data Report; LTDR – Lab Test Data Report; VDR – Vendor Doc. Review; C – Certification; A – Attestation						

Table 2 - Approval Mechanism Matrix

3.3 Evaluation Criteria

This section provides details on the process employed by the Lab for evaluating the Product against the requirements enumerated above.

3.3.1 Vendor Documentation Review

Reference(s):	FPCS.3
Evaluation Procedure:	1. The Lab will update the status in the Web-Enabled Tool to "VDR Begun" as instructed in the Web-enabled Tool Laboratory User Guide. 2. The Lab will review the documentation submitted by the Supplier to ascertain the following: ▪ *Fingerprint Quality (FPCS.3)* 　• Examine the screenshot submitted by the Supplier to determine that the Product incorporates and uses the NIST Fingerprint Image Quality (NFIQ) algorithm to generate NFIQ values for each fingerprint. Verify that the software version of the Product is included in the screenshot. ▪ *Embedded Template Generator (FPCS.5)* 　• If generation of fingerprint minutiae templates is supported by the Product, review the documentation provided by the Supplier to identify the name and version of the embedded Template Generator. 3. The Lab will update the status to "VDR Complete" as instructed in the Web-enabled Tool Laboratory User Guide.
Expected Results:	1. The Product is capable of segmenting images into single fingerprints, calculating coordinate information and uses the NIST Fingerprint Image Quality (NFIQ) algorithm to initiate any needed reacquisition of the images.

3.3.2 Vendor Test Data Report

The Lab will update the status in the Web-Enabled Tool to "VTDR Begun" as instructed in the Web-enabled Tool Laboratory User Guide.

3.3.2.1 **FPCS.4**

Evaluation Procedure:	The Lab will review the documentation submitted by the Supplier to ascertain the following: • *INCITS 381 Profile Generation*: The product generates INCITS 381 profiles in accordance with Table 4 of SP 800-76. At a minimum, the following test scenario must be performed to confirm compliance: a. Convert the binary representation of the INCITS 381 to textual form. b. In the textual form, ensure that the fields that are present in the submitted profile correspond to the values found in Table 4. All mandatory data values must be present and cross references to data values must be made explicit.
Expected Results:	The textual representation of the profile adheres to SP 800-76, Table 4 – *Profile for Agency Retention of Fingerprint Images*.

The Lab will update the status in the Web-Enabled Tool to "VTDR Complete" as instructed in the Web-enabled Tool Laboratory User Guide.

3.3.3 Certification

Reference(s):	FPCS.1, FPCS.2, FPCS.5
Evaluation Procedure:	1. The Lab will update the status in the Web-Enabled Tool to "C Begun" as instructed in the Web-enabled Tool Laboratory User Guide. 2. The Lab will perform the following activities for fingerprint capture devices (option 1 and 2) and scanners (option 3) in order to determine certification status of the Product with Appendix F of the FBI's Electronic Fingerprint Transmission Specification: ▪ Review the list of certified capture devices and scanner to determine inclusion of the Product on the FBI's Integrated Automated Fingerprint Identification System (AIFIS) Image Quality Specifications website located at : - http://www.fbi.gov/hq/cjisd/iafis/cert.htm ▪ Optionally, if provided, examine the certification statement to see if it provided by the FBI and that it is still current i.e. valid. 3. The Lab will perform the following activities for the embedded Template Generator (if supported by the Product) in order to determine approval status of the Template Generator with SP 800-76 requirements: ▪ Review the list of approved Template Generators by the GSA FIPS 201 Evaluation Program to determine inclusion of the Product. The list is available on the website located at:

	http://fips201ep.cio.gov/apl.php 4. The Lab will update the status to "C Complete" as instructed in the Web-enabled Tool Laboratory User Guide.
Expected Results:	1. The fingerprint capture device and/or scanner have been certified by the FBI as meeting the requirements of Appendix F of the FBI's Electronic Fingerprint Transmission Specification. 2. The Template Generator used within the Product has been approved by the GSA FIPS 201 Evaluation Program as conforming to the requirements for Template Generators as specified in SP 800-76.

3.3.4 Attestation

Reference(s):	N/A
Evaluation Procedure:	1. The Lab will update the status in the Web-Enabled Tool to "A Begun" as instructed in the Web-enabled Tool Laboratory User Guide. 2. Review the Attestation Form provided by the Supplier, confirming that the Product to the best of their knowledge, conforms to all the necessary requirements of the category under which the Product applies. Verify that person signing this Attestation Form has the authority to do so (a minimum "C" level [e.g. CSO, CEO, CIO, CFO, Vice-President, President, Business Partner or Owner]). 3. The Lab will update the status in the Web-Enabled Tool to "A Complete" as instructed in the Web-enabled Tool Laboratory User Guide.
Expected Results:	1. The Attestation Form has been signed by an authorized individual (e.g. CSO, CEO, CIO, CFO, Vice-President, President, Business Partner or Owner).

3.3.5 Compatibility Testing

In the event that the Supplier provides only the software component, the Supplier will have to demonstrate to the Lab, the compatibility and proper functioning of the Supplier's software component along with the hardware device. In this respect, the Supplier has the following options:

1. Setup a time to visit the Lab with the Product; or
2. Make appropriate arrangements (air, travel, accommodation etc.) after consultation with the Lab for a Lab Technician to visit the Supplier's facility and review the Product.
3. The above two options need not be exercised, if the Supplier submits a letter from the fingerprint capture station hardware vendor stating the compatibility of the Supplier's software with the hardware as specified in Section 2.4.1.

If found to be compliant, the Supplier's Product will be placed on the Approved List with a restriction requiring implementation with the specific hardware device.