

This refers to NGI copying data from its repositories to removable media.



Department of Justice

Federal Bureau of Investigation

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**NEXT GENERATION IDENTIFICATION**

**(NGI)**

**SYSTEM REQUIREMENTS DOCUMENT**

**VERSION 4.4**

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NGI-1010

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## CHANGE HISTORY SECTION

| Version/<br>Revision | Revision<br>Date | Description of Change  | QA<br>Approved | Date |
|----------------------|------------------|--|----------------|------|
| 1                    | 11/3/2006        | Release for internal FBI review of legacy requirements.  |                |      |
| 1.0b                 | 11/9/2006        | Baseline for IntelliDyne SRD DCN of legacy requirements.   |                |      |
| 1.0d                 | 12/20/2006       | Updated to incorporate NGI Initiative Functional Requirement Documents (FRD).  |                |      |
| 2                    | 2/9/2007         | Updated to incorporate NGI FRDs, Biometric Interoperability Program Office FRD Version 2.0, and International Terrorist File FRD.  |                |      |
| 2.1                  | 3/2/2007         | Updated to incorporate SRD Version 2.0 formal comments.  |                |      |
| 4                    | 5/4/2007         | Incorporated SRR changes (Version 3.0) with Biometric Interoperability Program Office FRD Version 3.1.   |                |      |
| 4.1                  | 2/13/2008        | Updated to incorporate:<br>NPPR 6a - Requirements changes based on Due Diligence preparation and IV&V comments<br>NNPR 6b – IAFIS Build 8.2 SPCRS 26510z and 27815.<br><br>NPPR6d – Updates to NGI resulting from IAFIS SRD Updates for IAFIS Sys Spec Revision. |                |      |
| 4.2                  | 7/7/2008         | Updated to incorporate:<br>NPPR 38 – “Update NGI SRD with consistent verb usage”<br><br>NPPR 41 – “Update NGI SRD with findings from the RTIE team’s use case creation”<br><br>NPPR 42 – “Additonal requirements for Verification Service in NGI SRD”            |                |      |

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|     |  | <p>NPPR 43 – “NGI SRD – Add new QuickWin requirements for Build 9.0 Expanded ULF Serach Phase 1”</p> <p>NPPR 45 – “ NGI SRD – Add new QuickWin requirements for additional biometrics storage”</p> <p>NPPR 50 – “Update NGI SRD with “As Is” iDSM requirements.”</p> <p>NPPR 56 – “Update NGI SRD to change all “IAFIS shall” statements to “NGI shall”</p> <p>NPPR 57 – “Update NGI SRD with “tenprint” and “palmprint”</p> <p>NPPR 66 – “Update “IAFIS” to “NGI” in the NGI SRD supporting Text”</p>   |  |
| 4.3 |  | <p>NPPR 86c – “NGI QuickWin - Receive and Store 1000ppi Tenprint Transactions”</p> <p>NPPR 86d – “Verb Appendix F”</p> <p>NPPR 86g – “NGI SRD Rqmt Updates/Changes per SCN (NGI-SCN-INC10001)”</p> <p>NPPR 86h – “NGI SRD Text Updates/Changes per SCN (NGI-SCN-INC10001)”</p> <p>NPPR 86j – “Update Bibliography Appendix C”</p> <p>NPPR 86k – “Workload Tables Updates”</p> <p>NPPR 86m – “Map Legacy Rqmts to NGI SRD”</p> <p>NPPR 86v – “Change 3 security requirements from Functional (SFR) to Non-Functional (SNFR) based on Security Clarification reqmt review”</p> <p>NPPR 86w – “New iDSM NGI SRD subsections need to follow standardized naming conventions”</p> <p>NPPR 86ab – “Update SRD PalmPrint and Supplemental Fingerprint and Palmprint Workload Assumptions regarding biometric updates”</p> |  |

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|     |  | NPPR 86ae – “NBRP Revised Workload Estimates”   |  |  |
| 4.4 |  | <p>NPPR 101c – “NGI SFR1586 &amp; SFR461 Text” Correction”</p> <p>NPPR 101e – “Remove palmprint to palmprint search services from SRD 4.4 baseline - Text Updates/Deletes/Changes”</p> <p>NPPR 101f – “Remove palmprint to palmprint search services from SRD 4.4 baseline - Requirement Updates/Deletes/Changes”</p> <p>NPPR 101g – “Interoperability ICA Final with Signatures to be added to Interoperability Joint CIL - Requirement/Updates/Deletes/Changes”</p> <p>NPPR 101i – “Modification to the NGI SRD for Fingerprint Image Replacement request - Text Updates/Deletes/Changes”</p> <p>NPPR 101j – “Modification to the NGI SRD for Fingerprint Image Replacement request - Requirement Updates/Deletes/Changes”</p> <p>NPPR 101k – “CPI Message Processing Functionality - Requirement Updates/Deletes/Changes”</p> <p>NPPR 101l – “CPI Message Processing Functionality - Text Updates/Deletes/Changes”</p> <p>NPPR 101m- “New Business Requirements - Notifications to U.S. Immigration and Customs Enforcement (ICE) Law Enforcement Support Center (LESC) Requirement Updates/Deletes/Changes”</p> <p>NPPR 101n – “New Business Requirements - Notifications to U.S. Immigration and Customs Enforcement (ICE) Law Enforcement Support Center (LESC) Text/Deletes/Changes”</p> |  |  |

NPPR101o – “[LMCO PR 1044] IDFP RISC Response Time requirement not attainable, Requirement needs to be modified (IDFP 049 in MT SOW)”

NPPR101p – “Add IAFIS External Subject Search new capability to NGI requirements - Text Updates/Deletes/Changes”

NPPR101q – “Add IAFIS External Subject Search new capability to NGI requirements - Requirement Updates/Deletes/Changes”

NPPR101u – “Change Title of LFIS and LFFS to use Friction Ridge instead of Fingerprint”

NPPR101v – “Add cascaded searches and advise for the Supplementals in the Identification Threads”

NPPR101w – “Remove palmprint composite requirements related to the storage of palmprint composite images SRD”

NPPR101x – “Remove Palmprint and Supplemental Fingerprint and Palmprint Decisions from SRD 4.4 Baseline - Text Updates 4.4 baseline”

NPPR101y – “Remove Palmprint and Supplemental Fingerprint and Palmprint Decisions from SRD 4.4 Baseline - Requirement Updates”

NPPR101z – “Delete the Biometric Delete Notification Requirements – SRD”

NPPR101ab – “Add cascaded searches to the Verification Service thread”

NPPR101ac – “ Update to SRD Workload Tables” NPPR101ad – “ Interoperability 10 Second Search of the CMF”

NPPR101ae – “ Interoperability 10 Second Search of the CMF - Text Updates/Deletes/Changes”

NPPR101af – “TCN to FNU Conversion for Interoperability”

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|  | <p>NPPR101ag – “Update/delete all requirements related to returning a composite for either palmprints or supplemental fingerprints and palmprints. NGI will return the most recent as the default.”</p> <p>NPPR101ai – “Add EIHR requirements to the NGI SRD – review IAFIS SRD Functional Requirement FR667”</p> <p>NPPR101aj – “Updates to the NGI SRD as a result of the Latent Fingerprint / Palmprint Trade Study”</p> <p>NPPR101ak – “Remove cascaded searching of the ULF from the Latent threads”</p> |  |
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# 1 INTRODUCTION

The FBI has a family of automated systems that support the capability to provide identification, verification, information, investigation, notification, and data management services to criminal justice and authorized non-criminal justice users. The Criminal Justice Information Services (CJIS) Division System of Services (SoS), located in Clarksburg, West Virginia, includes the National Crime Information Center (NCIC), the National Instant Criminal Background Check System (NICS), and the Integrated Automated Fingerprint Identification System (IAFIS). Together, these systems form an integrated approach to providing customer information and services that support the detection and reduction of domestic and international terrorist, and criminal related activities.

The NCIC system maintains a national index to document theft reports, warrants, and other criminal justice information submitted by law enforcement agencies from across the country. It provides law enforcement with access to criminal justice data pertaining to crimes and criminals of national interest.

The NICS system is a national system that provides authorized users with information about persons who may be prohibited by federal or state laws from owning or receiving a firearm. NICS ensures national security and public safety by providing the timely determination of a person's eligibility to possess firearms or explosives in accordance with federal law.

The IAFIS provides an up-to-date, integrated system to respond to the needs of the local, state, tribal, federal, and international criminal and authorized non-criminal justice agencies. It houses the largest collection of digital representations of fingerprint images, features from the digital fingerprint images, and associated criminal history information in the world. Collectively, this data comprises the biometrics, content, format, and units of measurement for the electronic exchange of information that may be used for the fingerprint identification of a subject. The current IAFIS, implemented in July 1999, allows the standard electronic submission of fingerprint identification data to the FBI.

The IAFIS provides automated fingerprint search capabilities, latent search capability, electronic image storage, and electronic exchange of fingerprints and responses 24 hours a day, 365 days a year, in support of thousands of law enforcement organizations and background checks for hundreds of civil agencies. The system, which contains more than 51 million criminal subjects, provides an "open-set" identification of submitted fingerprints, which are checked against all known criminals in relevant portions of the database, normally within two hours of an electronic criminal request and within 24 hours of an electronic civil fingerprint submission. Each day, approximately 7,000 new records are added to the database.

The mission of government in today's global society demands more robust identification solutions that can be deployed on an increasingly large scale. Systems such as the IAFIS are crucial for national security and homeland security in addition to supporting law enforcement agencies. The defense and intelligence communities require automated methods capable of rapidly determining an individual's true identity, as well as previously used identities and past activities. Fusion and distribution of MultiModal biometrics and other contextual information can augment human interaction when a confrontation

occurs with an unknown individual in a hostile or controlled setting. Depth of knowledge and real-time access to these data sets make biometrics a significant force multiplier and precision weapon in U.S. national security operations. The defense and intelligence communities recognize the need to enable matching and searching capabilities for multiple biometric modalities. The use of multiple biometrics requires increases in capacity and throughput while maintaining data integrity and improvements in recognition algorithms.

Homeland security and law enforcement communities require technologies to secure the U.S. borders and to identify criminals in the civilian law enforcement environment. At the same time, any solution must also seek to maintain international relations, ensure smooth passage of legitimate visitors and commerce, and provide confidence in the identity and credentials of those given local or national trust.

The FBI continues to improve existing technology in order to provide the most reliable and accurate information possible. To remain responsive to law enforcement and other customer needs, and given the advances in fingerprint identification technology, it is essential that enhancements be made to the IAFIS.

The Next Generation Identification (NGI) Program introduces new capabilities to reduce terrorist and criminal activities by improving and expanding biometric services to its users, provides the infrastructure to support interoperability with authorized external agencies for external searches, and provides additional repositories for external searches.

The NGI Program incorporates into IAFIS the six core initiatives listed below:

- Advanced Fingerprint Identification Technology (AFIT)
- Quality Check Automation (QCA) Phase III
- Interstate Photo System (IPS) Enhancements
- Disposition Reporting Improvements (DRI)
- Enhanced IAFIS Repository (EIR)
- National Palmprint System (NPPS)

These six core initiatives in addition to the legacy IAFIS functionality will comprise the NGI System. Based on the long term vision of DOJ/FBI to make NGI fully interoperable with other biometric systems, the Biometric Interoperability Program incorporates enhancements to enable interoperability with the Department of Homeland Security (DHS).

Within DHS, the United States Visitor and Immigrant Status Indicator Technology (US-VISIT) program supports key immigration and border management processes across agencies. These processes include creating new capabilities to biometrically verify the identities and monitor border crossings of foreign visitors and immigrants. The Automated Biometric Identification System (IDENT) system, operated by US-VISIT, is the core technical component of this biometric capability.

Interoperability is being managed as two projects and deployed in three phases. The projects are Shared Services, which is fully described within this document, and Shared Data, which encompasses the first phase of interoperability. Phase one of deployment is the interim Data Sharing Model (iDSM), which was deployed on September 3, 2006 and provides a short-term interoperability solution with a reciprocal exchange of biometric data subsets between IDENT and IAFIS. Phase two is the Initial Operating

Capability (IOC), which provides incremental enhancements for both projects. The third phase is the Full Operating Capability (FOC), which will deploy after IOC is completed (tentatively projected for FY 2010) and represents the final information sharing enhancements necessary to support interoperability.

Full information sharing between these two systems (and among other relevant systems) will offer a multitude of benefits to DHS, DOJ, and other stakeholder agencies. DHS access to criminal history files would facilitate improved decisions regarding an individual's admissibility, eligibility of immigration benefits, and deportability from the United States. Expanded DOJ access to DHS data will enhance the ability to develop comprehensive histories and threat profiles of individuals and to share immigration information with stakeholders. Access to systems will be governed by applicable laws and policy. Additionally, improved interoperability will enhance the mutual effort to identify and apprehend high-risk terrorist and wanted individuals.

Additionally, the CJIS Global Initiatives Unit (GIU) provided the vision for new NGI capabilities to support an International Terrorist File Shared Services and Data Exchange initiative that supports identification searches with multi-tiered responses.

## **1.1 Purpose of Document**

This document, the NGI System Requirements Document (SRD), defines the user, functional, and operational requirements for the system identified as the Integrated Automated Fingerprint Identification System. These requirements will provide the core NGI User Services to the communities served by the FBI.

The requirements contained within this document are intended to be free from design considerations unless there are compelling reasons to constrain the design. Also included are workload and performance requirements for the overall system through the year 2012.

## **1.2 Background**

The CJIS IAFIS, one of the largest fingerprint identification systems in the world, has been instrumental in meeting the fingerprint identification needs of the law enforcement and non-criminal justice communities. Since IAFIS FOC in July 1999, it has provided automated Tenprint and latent identification and criminal history data for both civil and criminal needs. Continuous improvements and upgrades since then have provided unprecedented increases in system performance, search reliability, throughput and response times.

The tragic events of September 11, 2001 transformed the direction of the FBI and the law enforcement community, and highlighted the need for reliable and rapid identification of individuals and the capability to provide and share criminal information across agencies. The adoption of Homeland Security legislation and other national security legislation has spawned the implementation of additional IAFIS services to improve homeland and border security, enhance transportation safety and security, and increase information sharing.

