

Digital Imaging (Scanned) And Electronic (Born-Digital) Records Process And Formats

Revision:

1.0 GENERAL

1.1 The success of a digitized document conversion operation, receipt or creation of electronic records in native formats, or output of data as electronic records depends upon a strict standardized process. A standardized process that is repeatable and consistently followed will result in authentic and reliable records. It also provides for quality, creation, capture, conversion in the case of scanning, output, processing, indexing, storage, search, retrieval, migration, and reproduction of Defense Health Agency (DHA) records. For more information on additional formats reference [Addendum B, paragraph 3.1.3](#).

1.2 All DHA contractors shall maintain the following inactive records in either Tagged Imaged File Format (TIFF) or searchable Portable Document Format (PDF) files, with metadata. See [Section 2](#), Records Series Subject and Description of Government records:

- DHA Claims.
- Claim Supporting Documentation, including any documentation that either supports or denies payment of a claim.
- Adjustment Records.
- Adjustment Supporting Documentation, including any documentation that either supports or denies payment of the adjustment.
- Checks.
- Explanation of Benefit (EOB) Forms and Summary Payment Vouchers (if scanned to produce images).

2.0 STANDARDS

2.1 Contractors shall adhere to the following Federal Information Processing Standards (FIPS) from the National Institute of Standards and Technology (NIST):

2.1.1 FIPS:

- 186-4, Digital Signature Standard (DSS), July 2013.
- 198-1, The Keyed-Hash Message Authentication Code (HMAC), July 2008.
- 181, Automated Password Generator (APG), October 5, 1993.
- Subject 180-4, Secure Hash Standard (SHS), March 2012 (Supersedes FIPS 180-3 as of March 2012).
- 201-2, Personal Identity Verification for Federal Employees and Contractors, August 2013.
- Date 140-2, Security Requirements for Cryptographic Modules, May 25, 2001.
- 196, Entity Authentication Using Public Key Cryptography, February 18, 1997.
- 191, Guideline for the Analysis of Local Area Network Security, November 9, 1994.
- 190, Guideline for the Use of Advanced Authentication Technology Alternatives, September 28, 1994.
- 188, Standard Security Label for Information Transfer, September 6, 1994.

2.2 DHA records that are imaged shall follow current Association for Information and Image Management (AIIM) standards for imaging. All documents converted into digital format shall be scanned into legible TIFF or searchable PDF. AIIM acts as the voice of the Enterprise Content Management (ECM) industry in key standards organizations, with the media, and with Government decision-makers. AIIM is an American National Standards Institute (ANSI) accredited standards development organization. AIIM also holds the Secretariat for the International Organization for Standardization (ISO) committee focused on Information Management Compliance issues, TC171.

2.2.1 Imaged copies of DHA records must be legible and reproducible. Image capture and storage systems used by the contractor shall reproduce legible copies from the storage medium. Should the contractor produce illegible copies of any record or set of records, the contractor shall recover and re-image the originals ensuring that the newly stored image is a legible, reproducible document.

2.2.2 The contractor shall provide an automated indexing system that can be used independently of the contractor's data system. An automated indexing system **must not** be subject to proprietary hardware or software constraints. The automated indexing system shall be able to identify the retrieval location of the original claim and all related documentation, adjustment claims (including correspondence on which the decision to adjust was based) and all related supporting documentation.

TRICARE Operations Manual 6010.59-M, April 1, 2015

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Example 1: If back-end imaging is done, the back-end document number assigned shall be cross-referenced to the original claim number on the index.

Example 2: If the Internal Control Number (ICN) assigned to the adjustment claim is different than the original claim number, the contractor shall cross reference the adjustment claim ICN to the ICN of the original claim being adjusted on the index. The index shall be available for DHA on-site review.

2.3 The following requirements are applicable to digital images (scanned), electronic records (born-digital), and electronic data or records output in PDF format:

2.3.1 PDF File Specification For All PDF Records

2.3.1.1 Searchable PDF records shall comply with PDF versions 1.0 through 1.7 (i.e., be compatible PDF file formats in existence on the approval date of this guidance), and meet conversion requirements as outlined below.

2.3.1.2 DHA will periodically update the list of acceptable PDF versions provided in this guidance, as appropriate.

2.3.1.3 The automated indexing system requirements identified in DHA records that are imaged will follow the AIIM guidelines, and apply to all PDF records.

2.3.2 General Requirements For All PDF Records

2.3.2.1 Security Requirements

2.3.2.1.1 The media utilized to transfer records to the Government shall be encrypted. However, PDF records shall not contain security settings (e.g., self-sign security, user passwords, and/or permissions) that prevent DHA or National Archives and Records Administration (NARA) from opening, viewing, or printing the record.

2.3.2.1.2 All PDF records shall have all security settings deactivated (e.g., encryption, master passwords, and/or permissions) prior to transfer to DHA, NARA, or for transit reasons. Deactivating security settings from PDFs ensures DHA has the ability to support long term migration and preservation efforts, especially records affected by legal holds. The electronic media device containing PDF records with PII/PHI for transfer shall be encrypted in a manner that is compatible with the DHA environment.

2.3.2.2 Review Of Special Features

Contractors shall present the DHA Records Management (RM) Officer with PDF use functional specification for use authorization prior to enabling any special feature. Examples of special features, include but are not limited to: digital signatures; links to other documents; files or sites; embedded files (including multimedia objects); form data; comments and/or annotations.

2.3.3 Requirements for Scanned Paper or Image Formats Converted To PDF

2.3.3.1 Minimum Image Specifications

Paper records that have been scanned and converted into PDF format shall adhere to the requirements identified with the paragraphs above. Contractors with digitized records that do meet the minimum image quality standard as stated shall contact the DHA RM Officer for further guidance.

2.3.3.2 Optical Character Recognition (OCR)

PDF records can contain embedded searchable text based on OCR. DHA recognizes uncorrected OCR'd text can assist with full text search capabilities; thus, contractors shall be permitted to provide DHA with PDF records that have been OCR'd using processes that do not alter the original bit-mapped image. An example of an output process that accomplishes this requirement is Searchable Image-Exact. Searchable PDF files output as Formatted Text and Graphics, PDF Normal, or Searchable Image-Compact will not be accepted for scanned paper or image formats.

2.3.4 Requirements For Digital To Digital Conversion

Records converted from their native electronic formats (e.g., office automation products) and electronic data output (e.g., electronic information systems) should be converted to searchable PDF files.

2.3.4.1 Embedded Fonts

Electronic records that have been converted to searchable PDF files from their native electronic formats must include embedded fonts to guarantee the visual reproduction of all text as created. All fonts embedded in searchable PDF files must be publicly identified as legally embeddable (i.e., font license permits embedding) in a file for unlimited, universal viewing, and printing.

2.3.4.2 Font Referencing

2.3.4.2.1 PDF records that reference fonts other than the "base 14 fonts" must have those fonts referenced in the record (i.e., as a minimum, subsets of all referenced fonts) embedded within the PDF file.

2.3.4.2.2 PDF records must have all fonts referenced in the record, including the "base 14 fonts," embedded within the PDF file. This requirement is met by having, subsets of all referenced fonts embedded within the PDF file, as a minimum.

2.3.5 Data Output From Electronic Information Systems

Data output from electronic information systems such as DHA records shall be in the format of searchable PDF files. Because the source information is structured or unstructured data, no OCR process is needed. When performing a digital to digital conversion from native formats or data using normal methods (not employing screen scrapes, special tools, etc.) the output will yield a 100% exact searchable PDF file although, technically, it is called a "Formatted Text and Graphics" PDF. Electronic records created from data and native format conversions (digital to digital) shall be accepted by DHA, as a PDF formatted text and graphics format.

3.0 METADATA

3.1 Metadata is a critical element of DHA records in electronic format. All DHA electronic records require metadata to be associated or linked to them throughout their active and inactive life cycle. Metadata enables DHA to meet the federally mandated life cycle and recordkeeping requirements while ensuring electronic records remain accessible and searchable to DHA business owners and authorized users.

3.2 Metadata can be captured or generated throughout or as part of the business process. For metadata requirements reference [Section 2](#).

4.0 PROCEDURES FOR IMAGING

The contractor shall develop and follow a system for imaging two-sided documentation and output to electronic formats required by DHA to include written procedures for Government inspection detailing the entire process. Documentation shall include the following:

4.1 Planning for further technological developments.

4.2 Providing for the ongoing functionality of system components.

4.3 Assuring the imaging system and electronic information systems have inherent flexibility and a non-proprietary design that accepts future hardware and software upgrades.

4.4 Monitoring and limiting the deterioration of records stored on optical disks and digital data disk storage.

4.5 Document preparation.

4.6 Imaging/Conversion Operations (flowchart or other graphical depiction of the imaging process from start to finish).

4.7 Indexing, Retrieval, and Cross-Referencing (method of indexing all portions of the claim; i.e., mother claim, adjustments, related correspondence, any documentation that substantiates the settlement of the claim, EOB, check number, etc.). Ensuring that claims retrieval software is Structured Query Language (SQL) compliant.

4.8 Quality Control (must ensure 100% accuracy of readability of all imaged documents, how each original will be imaged, what will occur if errors are made, equipment failures, skewed margins, loss of data, etc.) as well as comparable quality control processes and procedures for data output as electronic records in PDF format.

4.9 Disaster Recovery (shall be in place to ensure 100% recovery capability, how content and media will be protected, the protection of the vital records, and the location of the duplicate copies of the images, indexes, and PDF records).

4.10 Disposition of Original Records (how, when, where will the original documents be destroyed in accordance with applicable laws and regulations, i.e., DHA Records Retention Schedule (RRS), the Health Insurance Portability and Accountability Act of 1996 (HIPAA), and the Privacy Act of 1974).

4.11 Documentation of Imaging and Output Storage Requirements.

5.0 LEGAL ADMISSABILITY

5.1 The contractor shall be familiar with how the United States (U.S.) Rules of Evidence apply to federal records and ensure that procedural controls that protect records integrity and adhere to life cycle management of all Government records.

5.2 The contractor shall implement current industry standards from [paragraph 2.1](#), using digital-imaging processes and proven technologies for the conversion of paper documents to digital form, their initial creation in digital form, or digital to digital conversion.

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