

About This Standard

Mandated

Standard Identifier MIL-STD-2500C

Title of Standard

National Imagery Transmission Format (Version 2.1) for the National Imagery Transmission Format Standard, 01 May 2006

Standards History

Introduced to Registry	Date Emerging	Date Mandated	Last Status Update	Last Status Review	Inactive/Retired
2006-10-25	n/a	2006-10-25	2006-10-25	2006-10-25	n/a

Replaced [MIL-STD-2500B\(2\)](#)

Standards Body [DoD](#) [Broken Link?](#)
URL to Access or Acquire <http://assist.daps.dla.mil/quicksearch>

Working Group

Primary Owner Geospatial Intelligence TWG (GWG)
Secondary Interests Information Transfer TWG
Application / Messaging TWG

Service Area GEOINT: Still Imagery

KIPs No KIP Found

Standard Applicability

2006-10-25

The National Imagery Transmission Format Standard (NITFS) is a DoD and Federal Intelligence Community suite of standards for the exchange, storage, and transmission of digital-imagery products and image-related products. Other image formats can be used internally within a single system; however, NITFS is the default format for interchange between systems. NITFS provides a package containing information about the image, the image itself, and optional overlay graphics. The format provides a data structure for containing one or more images, subimages, symbols, labels, and text as well as other information (metadata) related to the image(s). NITFS supports the dissemination of digital imagery from overhead collection platforms and post-processed imagery-derived products. Guidance on applying the suite of standards composing NITFS can be found in STDI-0005, Implementation Practices of the NITFS. The NITFS allows for Tagged Record Extensions (TREs), sometimes known as Support Data Extensions (SDEs), which are a collection of data fields that provide space within the NITFS file structure for adding functionality. Documented and controlled separately from the format standards, TREs/SDEs extend NITF functionality with minimal impact on the underlying standard document. TREs/SDEs may be incorporated into an NITF file while maintaining backward compatibility because the identifier and byte count mechanisms allow applications developed prior to the addition of newly defined data to skip over extension fields they are not designed to interpret. These TREs/SDEs are described in the STDI-0001 and

STDI-0002 Compendiums of Controlled Extensions (CE). This standard is mandated for imagery product dissemination. NITF version 2.1 is the US documentation equivalent of STANAG 4545, NATO Secondary Imagery Format (NSIF), version 1.0; NITF/NSIF is applicable to the exchange of still imagery among NATO nations.

Standard Abstract

2006-10-25

This standard describes the NITFS file format, called the National Imagery Transmission Format (NITF). The document establishes NITF requirements, provides a detailed description of the NITF file structure, and specifies the valid data content and format for the fields defined within a NITF file. The appendix addresses NITF implementation issues. NITF version 2.1 is the US documentation equivalent of STANAG 4545, NATO Secondary Imagery Format (NSIF), version 1.0. The NATO Air Forces Armaments Group (NAFAG), Joint Intelligence, Surveillance and Reconnaissance Capabilities Working Group (JISRCWG) sponsors a Custodial Support Team (CST) for STANAG 4545; the CST and the NITFS Technical Board (NTB) closely coordinate standardization activities related to Mil-Std-2500B and STANAG 4545. These standards are both profiles of ISO/IEC 12087-5, Basic Image Interchange Format (BIIF).

Profiling Questions

GEOINT: Still Imagery • Does your system exchange Still Imagery data with external systems?

Products Incorporating This Standard

Companies with commercially available implementations/products include: BAE Systems, DigitalGlobe, GeoEye, Research Systems, Inc. (RSI), Eastman Kodak, ERDAS Inc., Technology Services Corporation (TSC), Harris Corporation, ITT, Paragon Imaging, PCI Geomatics, PhotoTelesis, Recon Optical, & Sensor Systems.

Relevant Information

None

Implementation Guidance

See STDI-0005, Implementation Practices of the NITFS, available at: <http://www.gwg.nga.mil/ntb/baseline/docs/ipon/index.html> The STDI-0005 document is a compilation of common practices, conventions, and guidelines for implementing the National Imagery Transmission Format Standard (NITFS). The objective is to help promote common specification and application of the NITFS suite of standards by all fielded and developmental digital imagery-related systems. It describes common conventions for implementing the suite of NITFS standards that promote and sustain NITFS compliance and interoperability for the production, storage, cataloging, discovery, selection, exploitation, and dissemination of digital imagery, raster map, and other related raster products.

Standard Selection Criteria

Net-Centric Interoperability

The NITF Standard (NITFS) is the common thread of interoperability for the formatting, imagery library storage and cataloging, dissemination, and exploitation of National Technical Means (NTM), Tactical Airborne, and

Commercial imaging sources. NITF2.1 is the format upon which the Future Imagery Architecture (FIA) is based. Adoption of ISO/IEC 15444, JPEG 2000 for imagery compression within NITFS postures the standard to support interactive net-centric access to extremely large holdings of imagery coverage in a timely and efficient manner.

Technical Maturity

NITF has been implemented & fielded since the early 90's. It's content evolved over the years to embrace new technology in support of emerging operational requirements. NITF has adopted the ISO/IEC 15444-1 standard for imagery compression, JPEG 2000. Commercial implementations of the standard are largely driven by marketability to the DoD and IC. Companies with commercially available implementations/products include: BAE Systems, DigitalGlobe, GeoEye, Research Systems, Inc. (RSI), Eastman Kodak, ERDAS Inc., Technology Services Corporation (TSC), Harris Corporation, ITT, Paragon Imaging, PCI Geomatics, PhotoTelesis, Recon Optical, & Sensor Systems.

Public Availability

Freely downloadable via the following URLs:
<http://www.gwg.nga.mil/ntb/baseline/docs/2500c/index.html>
<http://assist.daps.dla.mil/quicksearch/>

Implementability

Widely implemented within the DoD and Intelligence Community by National Technical Means (NTM), tactical airborne, commercial satellite imaging systems, imagery library and dissemination systems, and a variety of commercial exploitation workstations. A standards compliance and interoperability program supports implementation of the capabilities specified within this standard.

Authority

NITF2.1 is a military standard prepared by the National Geospatial-Intelligence Agency (NGA) as an implementation profile of International Standard 12087-5, Basic Image Interchange Format (BIIF). It is the US documentation equivalent of STANAG 4545, NATO Secondary Imagery Format (NSIF). The Geospatial Intelligence Standards Working Group (GWG) and its NITFS Technical Board (NTB) provide an open process for maintaining and developing this standard.

Standard Type Military

Keywords for Search None