

About This Standard

Mandated

Standard Identifier MIL-STD-188-199(1)

Title of Standard

Vector Quantization Decompression for the National Imagery Transmission Format Standard, 27 June 1994 with Notice 1, 27 June 1996

Standards History

Introduced to Registry	Date Emerging	Date Mandated	Last Status Update	Last Status Review	Inactive/Retired
1999-11-15	n/a	1999-11-15	1999-11-15	2008-07-14	n/a

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 Interest No Secondary Interest

Service Area

GEOINT: Still Imagery

KIPs

No KIP Found

Standard Applicability

2008-07-17

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 standard provides a ?package? containing an image(s), subimages, symbols, labels, and text as well as other information related to the image(s). NITFS supports the dissemination of secondary digital imagery from overhead collection platforms. Guidance on applying the suite of standards composing NITFS can be found in MIL-HDBK-1300A, National Imagery Transmission Format Standard (NITFS), 12 October 1994. The NITFS allows for 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 NITFS suite of standards, SDEs extend NITF functionality with minimal impact on the underlying standard document. 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 SDEs are described in the Compendium of Controlled Extensions (CE). This standard is mandated for imagery product dissemination.

2003-10-03

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Standard Abstract

1999-11-15

This standard establishes the requirements to be met by NITFS compliant systems when image data are decompressed using the VQ compression algorithm. This allows NITFS-compliant systems to accept and decompress data that are compressed using a VQ compression scheme. This standard describes the VQ compression in the general requirements section, but does not fully describe the steps for compression. The steps involved in decompressing images compressed with VQ are fully described by this standard. This standard provides technical detail of the NITFS VQ decompression algorithm, designated by the code C4 or M4 in the image compression field of the image subheader in a NITF file. This standard is applicable to the IC and the DOD. It is mandatory for all Secondary Imagery Dissemination Systems (SIDS) in accordance with the memorandum by the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence ASD(C3I) Subject: National Imagery Transmission Format Standard (NITFS), 12 August 1991. This directive shall be implemented in accordance with the MIL-STD-2500, JIEO Circular 9008 and MIL-HDBK-1300. New digital imagery equipment and systems, those undergoing major modification, or those capable of rehabilitation shall conform to this standard.

Profiling Questions

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

Products Incorporating This Standard

Controlled Image Base (CIB), Compressed Arc Digitized Raster Graphic (CADRG), Digital Point Positioning Data Base (DPPDB)

Relevant Information

This citation authored by the GWG NTB Focus Group.

Implementation Guidance

There are a number of imagery compression standards used in conjunction with the National Imagery Transmission Format Standard (NITFS). Vector Quantization (VQ) imagery compression is only used by NGA in the production of CIB, CADRG and DPPDB product lines. MIL-STD-188-199(1) only addresses the decompression aspect of VQ-compressed imagery. The standard is only applicable to systems with the need to read and use CIB, CADRG, and DPPDB products.

Standard Selection Criteria

Net-Centric Interoperability

MIL-STD-188-199, Vector Quantization (VQ) Decompression is used to decompress all the Controlled Image Base (CIB) and Compressed ARC Digitized Raster Graphics (CADRG) digital raster map holdings provided by the NGA. The Digital Point Positioning Data Base (DPPDB) includes selected CADRG maps as map graphic indexes into the database. Data holdings that implement this standard are widely used through out the DOD/IC for mission planning, theater battle management, terrain analysis, digital moving maps, precision targeting, and weapon engagement.

Technical Maturity

The standard is technically mature and stable, to include established conformance test criteria, tools, services and technical consultation for the implementation profile used by the NITFS. This standard, based on ISO/IEC 12087-5, Basic Image Interchange Format (BIIF), has been part of the NITFS suite of standards since 1994 and part of STANAG 4545, NATO Secondary Imagery Format since 1998. A follow on standard under consideration is ISO/IEC 15444, JPEG 2000; investigations are only in the early stages. The sunset condition is the replacement or inactivation and removal of DPPDB, CIB and CADRG data holdings from NGA data distribution services and consequent use of these data holdings within the DOD/IC. Examples of commercial products conforming to the NITFS profile of this standard are listed in the Products Incorporating this Standard section.

Public Availability

MIL-STD-188-199(1), which profiles the implementation and use of ISO/IEC 12087-5 (BIIF) within the NITFS/NSIF, is available for download at no charge on the DOD's ASSIST database (<http://assist.daps.dla.mil/online/start/>). Both MIL-STD-188-199(1) and ISO/IEC 12087-5 (ISO/IEC authorized NTB version) are available for download at no charge on the NITFS Technical Board (NTB) Public Document Area (<http://www.gwg.nga.mil/ntb/>).

Implementability

Used in Digital Point Positioning Data Base (DPPDB), Controlled Image Base (CIB) and Compressed ARC Digitized Raster Graphic(CADRG) provided by NGA and is widely implemented by a variety of systems (data production, dissemination, library/archive, exploitation work stations,) supporting the NITFS suite of standards. It is also used by non- NITF capable Raster Product Format (RPF) implementations such as Falcon View. Sample data, sample software, technical consultation, and conformance testing services are available to government and commercial implementers of the standard by contacting the NITFS Test Facility operated by the (JITC) on behalf of NGA. Contact information

available at <http://jitic.fhu.disa.mil/nitf/nitf.html>, 1-800-538-5482, x8-5458, and jitcn@disa.mil. A list of government and commercially developed conforming implementations of the NITFS can be found at http://jitic.fhu.disa.mil/nitf/off_reg.html"

Authority

The ISO/IEC 12087-5 standard, which MIL-STD-188-199(1) profiles, was developed by ISO/IEC Joint Technical Committee 1/SubCommittee 24, Computer Graphics and Image Processing. The process for maintaining and developing the standard is an internationally open process by members of national bodies and liaison organizations participating with ISO/IEC. The US implementation profile of the international standard, MIL-STD-188-199(1), was developed, and is maintained, by the NITFS Technical Board (NTB). The NTB has broad participation across the DOD/IC with open participation by commercial industry. The VQ standard is also called out for use within STANAG 4545, NATO Secondary Imagery Format (NSIF).

Standard Type Military

Keywords for Search NITF, RPF, VQ, compression, format, imagery, transmission