

About This Standard

Mandated

Standard Identifier ISO/IEC 15444-1:2004 | ITU-T Rec. T.800

Title of Standard

Information Technology -- JPEG 2000 image coding system: Core coding system

Standards History

Introduced to Registry	Date Emerging	Date Mandated	Last Status Update	Last Status Review	Inactive/Retired
2005-09-06	n/a	2005-09-06	2005-09-06	2007-11-06	n/a

Standards Body [ISO](#)

[Broken Link?](#)

URL to Access or Acquire <http://www.ansi.org>

Working Group

Primary Owner Geospatial Intelligence TWG (GWG)

Secondary Interest No Secondary Interest

Service Area GEOINT: Still Imagery

KIPs KIP Family: TRANSPORT - KIP: Integrated Broadcast System
KIP Family: TRANSPORT - KIP: IBS

Standard Applicability

2007-11-08

Application areas for JPEG 2000 include:- Internet - Digital Photography - Medical Imaging - Wireless imaging - Document imaging - Pre-Press - Remote sensing and GIS - Cultural Heritage - Scientific and Industrial - Digital Cinema - Image archives and databases - Surveillance - Printing and scanning - Facsimile See <http://www.jpeg.org/apps/index.html> for more details on general applicability of JPEG 2000. For remote sensing and imaging applications, the use/application of JPEG 2000 is specified by The National Imagery Transmission Format Standard (NITFS) and related NATO standards documentation. NITFS is the 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 designated format for interchange between systems. NITFS provides the means for containing information about the image (e.g. sensor parameters, geospatial positioning, etc.), the image itself, image compression, overlay graphics, textual reports, elevation data, location grids, and a wide variety of additional imaging and raster map support data. NITFS supports the dissemination of digital imagery from overhead collection platforms. Guidance on applying the suite of standards composing NITFS can be found in NGA Document STDI-0005, Implementation Practices of the NITFS IPON, 29 January 2004. See <http://www.ismc.nima.mil/ntb/>.

2005-09-06

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Standard Abstract

2007-11-08

ISO/IEC 15444-1:2004 | ITU-T Rec. T.800 defines a set of lossless (bit-preserving) and lossy compression methods for coding bi-level, continuous-tone gray-scale, palletized color, or continuous-tone color digital still images. ISO/IEC 15444-1:2004 | ITU-T Rec. T.800- Specifies decoding processes for converting compressed image data to reconstructed image data; - Specifies a code stream syntax containing information for interpreting the compressed image data; - Specifies a file format; - Provides guidance on encoding processes for converting source image data to compressed image data; - Provides guidance on how to implement these processes in practice. Added 2007-08 For systems implementing the National Imagery Transmission Format Standard (NITFS) [or its NATO instantiation, the NATO Secondary Imagery Transmission Format (NSIF)], the ISO/IEC BIIF Profile for JPEG 2000 (BPJ2K) establishes (profiles) the features and functional behavior that must be supported when using the JPEG 2000 image compression algorithms.

2005-09-06

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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: Adelante Technologies, Adobe, Alma Technologies, Amphion, Analog Devices, Aware, BAE, Corel, CSMaP, Digital Signal Processing Group, ER Mapper, Frontier Mapping, Intel,

ITT Industries, Kakadu, Kodak, Leica Geosystems, LizardTech, Luna, LuraTech, MapInfo, MapQuest, Matrox Imaging, NEC, Nikon Instruments, PAR Government Systems, Paragon Imaging, PCI Geomatics, Picture Elements Inc., Power Image, Research Systems, Inc., Ricoh, Sensor Systems, Inc., Sony, TASC, Technology Services Corporation, Texas Instruments, WIS Technologies, Xerox, Yahoo, and many others. Non-native (plug-in) software is also available for Internet Explorer, Netscape and Windows Media 9 Series.

Relevant Information

Added 2007-08 The following are implementation profiles of ISO/IEC 15444-1:2004 | ITU-T Rec. T.800, JPEG 2000, Part 1: BIIF Profile for JPEG 2000 (BPJ2K) [For use with NITFS and NSIF]. This citation authored by the GWG NITFS Technical Board (NTB).

Implementation Guidance

Added 2007-08 For systems implementing the National Imagery Transmission Format Standard (NITFS) [or its NATO instantiation, the NATO Secondary Imagery Transmission Format (NSIF)], the ISO/IEC BIIF Profile for JPEG 2000 (BPJ2K) establishes (profiles) the features and functional behavior that must be supported when using the JPEG 2000 image compression algorithms.

Standard Selection Criteria

Net-Centric Interoperability

ISO/IEC 15444, Part 1, JPEG 2000, is the preferred imagery compression standard for use with the National Imagery Transmission Format Standard (NITFS). The 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. The Future Imagery Architecture (FIA) uses JPEG 2000 in conjunction with NITF version 2.1. JPEG 2000 promotes ease of scalability and interactive image viewing and exploitation within a net-centric environment.

Technical Maturity

The earlier international standard for JPEG, completed in 1994, is the most widely implemented information technology standard in the history of ISO/IEC. This next generation standard, JPEG 2000, is a new image coding system that uses state-of-the-art compression techniques based on wavelet technology. Its architecture lends itself to a wide range of uses from portable digital cameras through to advanced pre-press, medical imaging, remote sensing, and other key sectors. It is in the process of being widely implemented. See 'Products Incorporating This Standard' for a partial list of commercial organizations that have developed implementations of this standard.

Public Availability

Available for purchase from the ISO Store (online), <http://www.iso.org/iso/en/prods-services/ISOstore/store.html>. Added 2007-08 It is also available for purchase from the ANSI eStandards Store, <http://webstore.ansi.org>. Use of this standard with the National Imagery Transmission Format Standard (NITFS) and the NATO Secondary Imagery Format (NSIF) is documented in the BIIF Profile for JPEG 2000 which is freely available via the ISO/IEC JTC 1/SC 24 International Register of Items, http://jitc.fhu.disa.mil/nitf/graph_reg/welcome.html).

Implementability

Initial implementations 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 is underway. A standards compliance and interoperability test program supports implementation of the capabilities specified within this standard. See entry on 'Technical Maturity/Products Incorporating this Standard' for a partial list of commercial organizations that have developed implementations of this standard.

Authority

ISO/IEC JTC 1/SC 29, Coding of audio, picture, multimedia and hypermedia information, developed and maintains this standard. The NITFS Technical Board (NTB) [<http://www.ismc.nga.mil/ntb/>] is the DOD/IC focal point for the open process of maintaining and future development for this standard at ISO/IEC.

Standard Type Non-Military

Keywords for Search None