
**Information technology — Coding of
audio-visual objects**

Part 5:

Reference software

**AMENDMENT 11: MPEG-J GFX Reference
software**

Technologies de l'information — Codage des objets audiovisuels

Partie 5: Logiciel de référence

AMENDEMENT 11: Logiciel de référence MPEG-J GFX

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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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Information technology — Coding of audio-visual objects

Part 5: Reference software

AMENDMENT 11: MPEG-J GFX Reference software

Add the following new Clause 6:

6 MPEG-J GFX reference software

6.1 Notes regarding the reference software

Two separate reference software packages are provided as detailed below. One works with IM1 and MPEG-4 Systems, the other is independent of MPEG-4 Systems. The MPEG-4 Systems independent package contains two reference implementations, one for Java 2 Standard Edition (J2SE) and one for Java 2 Mobile Edition (J2ME).

6.2 MPEG-4 Systems Independent MPEG-J GFX Player

You are strongly urged to read the file README_first.txt before unzipping the zip packages contained within this package.

Location	Content
.classpath and .project	Eclipse project files
build.properties and build.xml	ANT makefiles. build.properties contains user-configurable settings.
README_first.txt	Notes about software to install and various settings needed in Visual Studio before compiling the native code.
README_j2se	Notes about additional software to install and various settings needed for compiling the J2SE version of this reference software with Eclipse or ANT. Instructions on how to run the reference software.
README_j2me	Instructions for setting up the J2ME environment for running the J2ME version of the reference software. Instructions for building and running the J2ME emulator and reference software.
conformance/	Conformance test source
conformance/j2me	Conformance tests for J2ME environment
conformance/j2se	Conformance tests for J2SE environment
data/	Audio-visual resources for user interface and samples.
docs/	Documentation and specification

lib/vc7/ and lib/vc8/

src/

src/org/iso/mpeg/mpegj/

j2se

j2se/native/

j2se/native/GLRenderer

j2se/native/RenderEngine

j2se/native/Utils

j2se/src/

j2se/src/com/mindego/player

j2se/src/com/mindego/player/util

j2se/src/javax/microedition/m3g

j2se/src/javax/microedition/media

j2se/src/javax/microedition/opengles

j2se/src/javax/microedition/rms

j2se/src/javax/nio

j2se/test/

j2se/test/com/mindego/player

j2se/test/com/mindego/test

j2me/j2me_cldc

j2me/midp2.0fcs

j2me/midp2.0fcs/build

j2me/midp2.0fcs/build/share/makefiles

j2me/midp2.0fcs/build/share/config

j2me/midp2.0fcs/build/win32/kvm

j2me/midp2.0fcs/build/win32/kvm/makefiles

j2me/midp2.0fcs/src/classes

j2me/midp2.0fcs/src/classes/com/mascotcapsule/mmedia

j2me/midp2.0fcs/src/classes/com/sun/cldc/io

j2me/midp2.0fcs/src/classes/com/sun/mmedia

j2me/midp2.0fcs/src/classes/javax/microedition/m3g

Precompiled 3rd party libraries for Visual Studio .NET 2003 and 2005. For each compiler the release/ subdirectory contains the native player libraries after being compiled.

Java code

MPEG-J GFX java source

Implementation for J2 Standard Edition

Native (C/C++) code

OpenGL ES renderer wrapping OpenGL. This is a DLL generated in lib/vc7/ or lib/vc8/

Multimedia engine wrapping DirectShow. This is a DLL generate in lib/vc7/ or lib/vc8/.

Utility library for GLRenderer and RenderEngine DLLs.

Java code

Player, MPEGlet management.

Various utilities

Placeholder for JSR-184

JSR-135 interfaces

JSR-239 interfaces and implementation

J2ME Record Management System

JSR-239 NIO package (should be java.nio but this would conflict with J2SE 1.4+)

Java test code, mainly of sample MPEGlets

Internal tests

Sample MPEGlets

Changes to Sun CLDC 1.1 RI to work with MIDP 2.0 RI & to include M3G.

Changes to MIDP 2.0 RI to work with CLDC 1.1 and to include M3G. MPEG-J GFX reference software for J2ME

Makefiles

Makefiles for building platform independent portions of CLDC 1.1, MIDP 2.0, M3G & GFX.

Config files specifying properties of the MIDP-2 environment.

Folder for building and running CLDC 1.1/MIDP-2 environment for Windows.

Makefiles for building Windows specific parts of the CLDC 1.1 & MIDP 2.0.

Java source code

MPEG-J player

Additional file needed for MIDP 2.0 to work with CLDC 1.1

Modification to Standard JSR-135 Player implementation to enable use for a video player.

M3G Implementation. This is not part of the GFX reference software and is provided only to make an environment in which the reference software can run.

j2me/midp2.0fcs/src/classes/javax/microedition/media
J2me/midp2.0fcs/src/classes/javax/microedition/nio

j2me/midp2.0fcs/src/native
j2me/midp2.0fcs/src/native/kvm

j2me/midp2.0fcs/src/native/micro3d

j2me/midp2.0fcs/src/native/dshow
j2me/midp2.0fcs/src/native/dshow/dxinclude

j2me/midp2.0fcs/src/example
J2me/midp2.0fcs/src/example/mpegletcontroller
J2me/midp2.0fcs/src/example/capabilitiestest

JSR-135 Interfaces.

JSR-239 NIO package (should be java.nio but this would conflict with J2SE 1.4+)

Native C/C++ code

Modification needed for MIDP 2.0 to work with CLDC 1.1. These files are not part of the MPEG-J GFX Reference Software. They are provided only to make an environment in which the reference software can run.

Native parts of M3G implementation. Provided in binary only. These files are not part of the MPEG-J GFX Reference Software. They are provided only to make an environment in which the reference software can run.

Native parts of the MPEG-J & MIDP video players.

DirectShow header files containing modifications needed to build the DirectShow BaseClasses when using Visual Studio 2005 and the Windows Server 2003 Platform SDK. These files are not part of the MPEG-J GFX Reference Software. They are provided only to make an environment in which the reference software can run.

Examples

MPEGlet Controller and sample MPEGlets

Test of ResourceManager capabilities API.

MPEG-4 Systems Dependent - MPEG-J GFX Updates to IM1 Player3D Player

Location	Content
Readme.txt	Readme file which gives content, installaion and configuration information.
/IM1/MpegjDec/	Modified files: MPEGJDec.cpp, MPEGJDec.h for MPEG-J GFX functionality
/IM1/mpegj/java/org/iso/mpeg/mpegj	Modified Files : MPEGlet.java for new states and API changes. Added Files : MPEGletContext.java, TerminalContext.java, MPEGletStateChangeException.java, UnavailableContainerException.java for MPEG-J GFX changes
/IM1/mpegj/java/org/iso/mpeg/mpegj/decoder	Added Files : DecoderControl.java, DecoderBase.java for new interfaces
/IM1/mpegj/java/org/iso/mpeg/mpegj/media	Added Files : AudioBuffer.java, BufferDataInfo.java, BufferInfo.java, BufferNotAvailableException.java, Decoder.java, SceneBufferInfo.java, VideoBuffer.java
/IM1/mpegj/java/org/iso/mpeg/mpegj/media/control	Added Files : StreamControl.java, VideoRendererControl.java
/IM1/mpegj/java/org/iso/mpeg/mpegj/media/protocol	Added Files : ElementaryStream.java
/IM1/mpegj/java/org/iso/mpeg/mpegj/renderer	Added Files : GFXRenderer.java, GFXRendererException.java, GLRenderer.java, ListRenderers.java

/IM1/mpegj/java/org/iso/mpeg/mpegj/resource

Modified Files : DynamicCapabilityObserver.java,
ResourceManager.java

Added Files : DynamicCapabilityManager.java,
ResourceManagerBase.java, UserDataListener.java,
MediaManager.java, CapabilityManager.java_solaris

/IM1/mpegj/java/org/iso/mpeg/mpegj/systems

Added Files : DecoderConfigDescriptor.java,
MPEG4Context.java

/IM1/mpegj/java/org/iso/mpeg/mpegjRefImpl

Modified Files : MPEGJClassLoader.java,
MPEGControl.java for JAD and new Control
functionality.

Added Files : UserDataProcessor.java, UserData.java,
DescriptorsProcessor.java for User data functionality.

/IM1/mpegj/java/org/iso/mpeg/mpegjRefImpl/resource

Added Files : StaticCapabilitiesList.java

For static capabilities functionality

/IM1/mpegj/java/

Modified Files : make.bat, cleanup.bat