



**MHP Fragment for Legacy Digital Cable Set Top Boxes**

**DVB Document A102  
02/2006**

## Contents

Introduction .....	4
References .....	4
Definitions and Abbreviations .....	4
Conformance .....	5
API .....	6
org.dvb.application .....	6
org.dvb.application.AppAttributes .....	6
Methods .....	6
org.dvb.application.AppID .....	6
Constructors .....	6
Methods .....	6
org.dvb.application.AppProxy .....	6
Fields .....	6
Methods .....	6
org.dvb.application.AppsDatabase .....	7
Methods .....	7
org.dvb.application.AppsDatabaseEvent .....	7
Fields .....	7
Constructors .....	7
Methods .....	7
org.dvb.application.AppsDatabaseEventListener .....	7
Methods .....	7
org.dvb.application.AppsDatabaseFilter .....	7
Constructors .....	7
Methods .....	7
org.dvb.application.AppStateChangeEvent .....	7
Constructors .....	7
Methods .....	8
org.dvb.application.AppStateChangeListener .....	8
Methods .....	8
org.dvb.application.CurrentServiceFilter .....	8
Constructors .....	8
Methods .....	8
org.dvb.application.DVBProxy .....	8
Fields .....	8
Methods .....	8
org.dvb.application.RunningApplicationsFilter .....	8
Constructors .....	8
Methods .....	8
org.dvb.dsmcc .....	8
org.dvb.dsmcc.AsynchronousLoadingEvent .....	8
Constructors .....	8
Methods .....	9
org.dvb.dsmcc.AsynchronousLoadingEventListener .....	9
Methods .....	9
org.dvb.dsmcc.DSMCCException .....	9
Constructors .....	9
org.dvb.dsmcc.DSMCCObject .....	9
Constructors .....	9
Methods .....	9

org.dvb.dsmcc.InsufficientResourcesEvent .....	9
Constructors .....	9
Methods .....	9
org.dvb.dsmcc.InvalidFormatEvent .....	9
Constructors .....	9
Methods .....	9
org.dvb.dsmcc.InvalidPathnameEvent .....	10
Constructors .....	10
Methods .....	10
org.dvb.dsmcc.LoadingAbortedEvent .....	10
Constructors .....	10
Methods .....	10
org.dvb.dsmcc.MPEGDeliveryErrorEvent .....	10
Constructors .....	10
Methods .....	10
org.dvb.dsmcc.ObjectChangeEvent .....	10
Constructors .....	10
Methods .....	10
org.dvb.dsmcc.ObjectChangeListener .....	10
Methods .....	10
org.dvb.dsmcc.ServiceDomain .....	10
Constructors .....	10
Methods .....	10
org.dvb.dsmcc.SuccessEvent .....	11
Constructors .....	11
Methods .....	11
org.dvb.event .....	11
org.dvb.event.EventManager .....	11
Constructors .....	11
Methods .....	11
org.dvb.event.UserEvent .....	11
Fields .....	11
Constructors .....	11
Methods .....	11
org.dvb.event.UserEventAvailableEvent .....	12
Constructors .....	12
Methods .....	12
org.dvb.event.UserEventListener .....	12
Methods .....	12
org.dvb.event.UserEventRepository .....	12
Constructors .....	12
Methods .....	12
org.dvb.event.UserEventUnavailableEvent .....	12
Constructors .....	12
Methods .....	12
org.dvb.io.persistent .....	12
org.dvb.io.persistent .....	12
Constructors .....	13
Methods .....	13
org.dvb.io.persistent.FileAttributes .....	13
Fields .....	13
Methods .....	13

## Introduction

The OpenCable Application Platform (OCAP) [3] defines an interoperable, Java-based middleware specification that developers can use to produce compelling content for a comprehensive range of set top boxes and other devices. Unfortunately, it requires STBs to have greater capabilities (CPU MIPS, DRAM, and Flash) than is available in the bulk of those currently deployed.

Java Specification Request (JSR) 242 provides a solution for these existing STBs. By modeling this API as a strict subset of OCAP, JSR 242 provides a clear migration path to OCAP.

This document defines a subset of the MHP API from the org.dvb namespace for use by JSR 242.

## References

- [1] ETSI TS 102 819: "Digital Video Broadcasting (DVB); Globally Executable MHP (GEM)".
- [2] ETSI TS 201 812 V1.1.1: "Digital Video Broadcasting (DVB); Multimedia Home Platform (MHP) Specification 1.0.3".
- [3] CableLabs OpenCable Application Platform Specification; OCAP 1.0 Profile.
- [4] Java Community Process: Java Specification Request 242.

## Definitions and Abbreviations

API – Application Programming Interface  
DRAM – Dynamic Random Access Memory  
MIPS – Millions of Instructions per Second  
STB – Set Top Box

## Conformance

To be fully conformant with this specification, a STB must be one of the models listed in table 1, or such other STB that is fully interchangeable with one of the models listed in the table and offering the same capabilities. (An STB offering capabilities greater than the models listed in table 1, such as in CPU MIPS, DRAM and Flash, is not compliant with this specification but should be compliant with OCAP.)

Table 1

Manufacturer	Model	Notes
Motorola	DCT-700	
	DCT-1700	
	DCT-1800	
	DCT-2000	
	DCT-2500	
	DCT-5100	1
	DCT-6200	1
	DCT-6208	1
	DCT-6412	1
	Pace	DC-510
DC-550		
DC-550HD		
Pioneer	1000	
	3000	
	3510	
	3510HD	
Scientific-Atlanta	E1850	
	E2000	
	E2010	
	E2100	
	E2200	
	E3100	
	E3100HD	
	E3200	
	E3250	
	E3250HD	
	E4000	
	E4200	
	E4200HD	
	E8000	
E8000HD		

Note 1 – Only models with 64 MB or less of DRAM are included.

## API

The MHP API subset from the org.dvb namespace includes the following packages:

- org.dvb.application
- org.dvb.dsmcc
- org.dvb.event
- org.dvb.persistent

This section specifies the interfaces, classes, methods, fields, and exceptions from the packages above that are included in this document.

### org.dvb.application

#### *org.dvb.application.AppAttributes*

##### Methods

getIdentifier()  
 getName()  
 getPriority()  
 getServiceLocator()

#### *org.dvb.application.AppID*

##### Constructors

AppID(int, int)

##### Methods

getAID()  
 getOID()

#### *org.dvb.application.AppProxy*

##### Fields

DESTROYED  
 NOT\_LOADED  
 PAUSED  
 STARTED

##### Methods

addAppStateChangeListener(AppStateChangeListener)  
 getState()  
 pause()  
 removeAppStateChangeListener(AppStateChangeListener)  
 resume()  
 start()  
 start(String[])  
 stop(boolean)

## ***org.dvb.application.AppsDatabase***

### **Methods**

addListener(AppsDatabaseEventListener)  
getAppAttributes(AppID)  
getAppAttributes(AppsDatabaseFilter)  
getAppIDs(AppsDatabaseFilter)  
getAppProxy(AppID)  
getAppsDatabase()  
removeListener(AppsDatabaseEventListener)

## ***org.dvb.application.AppsDatabaseEvent***

### **Fields**

APP\_ADDED  
APP\_CHANGED  
APP\_DELETED  
NEW\_DATABASE

### **Constructors**

AppsDatabaseEvent(int, AppID, Object)

### **Methods**

getAppID()  
getEventId()

## ***org.dvb.application.AppsDatabaseEventListener***

### **Methods**

entryAdded(AppsDatabaseEvent)  
entryChanged(AppsDatabaseEvent)  
entryRemoved(AppsDatabaseEvent)  
newDatabase(AppsDatabaseEvent)

## ***org.dvb.application.AppsDatabaseFilter***

### **Constructors**

AppsDatabaseFilter()

### **Methods**

accept(AppID)

## ***org.dvb.application.AppStateChangeEvent***

### **Constructors**

AppStateChangeEvent(AppID, int, int, Object, boolean)

### **Methods**

getAppID()  
getFromState()  
getToState()  
hasFailed()

### ***org.dvb.application.AppStateChangeListener***

### **Methods**

stateChange(AppStateChangeEvent)  
org.dvb.application  
CurrentServiceFilter

### ***org.dvb.application.CurrentServiceFilter***

### **Constructors**

CurrentServiceFilter()

### **Methods**

accept(AppID)

### ***org.dvb.application.DVBJProxy***

### **Fields**

LOADED

### **Methods**

init()  
load()

### ***org.dvb.application.RunningApplicationsFilter***

### **Constructors**

RunningApplicationsFilter()

### **Methods**

accept(AppID)

### ***org.dvb.dsmcc***

### ***org.dvb.dsmcc.AsynchronousLoadingEvent***

### **Constructors**

AsynchronousLoadingEvent(DSMCCObject)



### **Methods**

getSource()

### ***org.dvb.dsmcc.AsynchronousLoadingEventListener***

### **Methods**

receiveEvent(AsynchronousLoadingEvent)

### ***org.dvb.dsmcc.DSMCCException***

### **Constructors**

DSMCCException()

DSMCCException(String)

### ***org.dvb.dsmcc.DSMCCObject***

### **Constructors**

DSMCCObject(DSMCCObject, String)

DSMCCObject(String)

### **Methods**

abort()

addObjectChangeListener(ObjectChangeListener)

asynchronousLoad(AsynchronousLoadingEventListener)

isLoading()

removeObjectChangeListener(ObjectChangeListener)

unload()

### ***org.dvb.dsmcc.InsufficientResourcesEvent***

### **Constructors**

InsufficientResourcesEvent(DSMCCObject)

### **Methods**

getSource()

### ***org.dvb.dsmcc.InvalidFormatEvent***

### **Constructors**

InvalidFormatEvent(DSMCCObject)

### **Methods**

getSource()

### ***org.dvb.dsmcc.InvalidPathnameEvent***

#### **Constructors**

InvalidPathnameEvent(DSMCCObject)

#### **Methods**

getSource()

### ***org.dvb.dsmcc.LoadingAbortedEvent***

#### **Constructors**

LoadingAbortedEvent(DSMCCObject)

#### **Methods**

getSource()

### ***org.dvb.dsmcc.MPEGLDeliveryErrorEvent***

#### **Constructors**

MPEGLDeliveryErrorEvent(DSMCCObject)

#### **Methods**

getSource()

### ***org.dvb.dsmcc.ObjectChangeEvent***

#### **Constructors**

ObjectChangeEvent(DSMCCObject, int)

#### **Methods**

getNewVersionNumber()

getSource()

### ***org.dvb.dsmcc.ObjectChangeEventListener***

#### **Methods**

receiveObjectChangeEvent(ObjectChangeEvent)

### ***org.dvb.dsmcc.ServiceDomain***

#### **Constructors**

ServiceDomain()

#### **Methods**

attach(Locator)

detach()

getLocator()  
getMountPoint()  
isAttached()

## ***org.dvb.dsmcc.SuccessEvent***

### **Constructors**

SuccessEvent(DSMCCObject)

### **Methods**

getSource()

## **org.dvb.event**

### ***org.dvb.event.EventManager***

#### **Constructors**

EventManager()

#### **Methods**

addResourceStatusEventListener(ResourceStatusListener)  
addUserEventListener(UserEventListener, ResourceClient, UserEventRepository)  
addUserEventListener(UserEventListener, UserEventRepository)  
getInstance()  
removeResourceStatusEventListener(ResourceStatusListener)  
removeUserEventListener(UserEventListener)

### ***org.dvb.event.UserEvent***

#### **Fields**

code  
keyChar  
modifiers  
UEF\_KEY\_EVENT

#### **Constructors**

UserEvent(Object, int, char, long)  
UserEvent(Object, int, int, int, int, long)

#### **Methods**

getCode()  
getFamily()  
getKeyChar()  
getModifiers()  
getType()  
getWhen()  
isAltDown()  
isControlDown()

isMetaDown()  
isShiftDown()

### ***org.dvb.event.UserEventAvailableEvent***

#### **Constructors**

UserEventAvailableEvent(Object)

#### **Methods**

getSource()

### ***org.dvb.event.UserEventListener***

#### **Methods**

userEventReceived(UserEvent)

### ***org.dvb.event.UserEventRepository***

#### **Constructors**

UserEventRepository(String)

#### **Methods**

addAllArrowKeys()  
addAllNumericKeys()  
addKey(int)  
addUserEvent(UserEvent)  
getClient()  
getUserEvent()  
removeAllArrowKeys()  
removeAllNumericKeys()  
removeKey(int)  
removeUserEvent(UserEvent)

### ***org.dvb.event.UserEventUnavailableEvent***

#### **Constructors**

UserEventUnavailableEvent(Object)

#### **Methods**

getSource()  
Package

### ***org.dvb.io.persistent***

#### ***org.dvb.io.persistent***

FileAccessPermissions

## **Constructors**

FileAccessPermissions(boolean, boolean, boolean, boolean, boolean, boolean)

## **Methods**

hasReadApplicationAccessRight()

hasReadOrganisationAccessRight()

hasReadWorldAccessRight()

hasWriteApplicationAccessRight()

hasWriteOrganisationAccessRight()

hasWriteWorldAccessRight()

setPermissions(boolean, boolean, boolean, boolean, boolean, boolean)

## ***org.dvb.io.persistent.FileAttributes***

### **Fields**

PRIORITY\_HIGH

PRIORITY\_LOW

PRIORITY\_MEDIUM

### **Methods**

getExpirationDate()

getFileAttributes(File)

getPermissions()

getPriority()

setExpirationDate(Date)

setFileAttributes(FileAttributes, File)

setPermissions(FileAccessPermissions)

setPriority(int)