

MHP Specification Version 1.0.3 Errata #2

1 Introduction

This document lists solutions for those errors in the MHP 1.0.3 specification (ETSI TS 101 812 V1.3.1) which DVB has considered and where agreement has been reached on a solution. The solutions are separated into 3 categories in order of significance. Changes are identified by their issue number from the DVB project MHP specification issues database which is accessible to members of the DVB project and contains the original problem report which motivated each change. Additionally it lists the more significant open issues which are still under consideration in DVB.

At the time of writing, the DVB project has not decided when or if to publish a version 1.0.4 of the MHP specification. If this happens, the largest factor influencing the timing will be the number and severity of the technical changes found in future versions of this document.

Where this document quotes text from the MHP specification, that text will have been copied from the PDF version of the MHP specification into the MHP specification issues database and then exported from that into this document. This process is known to some errors in quoted text, e.g. the "fi" character pair being lost from words like file or certificate. Where these are omitted in the quoted text, they may also be omitted in the agreed solution. This does not mean they are removed from the specification. There may also be errors introduced due to translation between differing character sets.

2 Statistics

Major technical changes	13
Minor technical changes	51
Editorial changes	110

3 Major Technical Changes

3.1 Section 9

3.1.1 Issue 4052

3) In 9.1.5 ("Persistence of Applications Across Service Boundaries"), the following;

"If temporarily disconnected, the broadcast carousel shall be reconnected upon selection of a service where the carousel is available. This includes, but is not exclusively, the original service the application ran in. To determine carousel availability, the MHP shall use the PMT information obtained for the "home" service of the carousel at the time of mounting, and the PMT of the currently selected service."

shall be considered to be replaced as follows;

"If temporarily disconnected, the broadcast carousel shall be reconnected upon selection of a service where an identical carousel is available. This includes both the original service from which the application was downloaded (assuming the carousel is still present in that service) and other services containing an identical carousel as defined by B.2.12. To determine carousel availability, the MHP shall use the PMT information obtained for the PMT of the currently selected service."

3.2Section 11

3.2.1 Issue 4003

4) Add the following as a item in the bulleted list in section 11.5.1.1 ("Constraints on the java.io.File methods for broadcast carousels");

- if the IOR of the object or one of its parent directories is a Lite Option Profile Body and the referenced carousel is not mounted by the MHP terminal then the access shall fail. Failure behaviour shall be identical to an attempt to reference a non-existent file in an already mounted carousel. If the referenced carousel is mounted by the MHP terminal then access shall follow the reference to the new carousel transparently to the MHP application.

3.3Section 12

3.3.1 Issue 4115

1) In section 12.6, "Security policy for applications", the following new section shall be considered to be present:

12.6.3 Specific issues for telephone based return channels

MHP terminals with a telephone based return channel shall not connect to any phone number other than that of the default isp without the explicit approval, at least once, of the end-user for the exact phone number concerned. This permits both implementations which always ask the end user and implementations which cache approved phone numbers in a "white list". For DVB-J applications, approval shall be requested when the application calls the ConnectionRCInterface.connect() method and failure reported by a ConnectionFailedEvent.

If an MHP terminal is going to identify the source of an MHP application to the end-user, it should present to the end-user at least the organisation specific text from the OrganisationName field within the Subject Distinguished Name from the leaf certificate used by the terminal to authenticate that application.

2) In section 12.12, "Platform minima", the following:

- A minimum of 5 CRLs

shall be considered to be:

- A minimum of 8 CRLs

3) In section 12.12, the following shall be considered to be absent:

NOTE: At the time of writing, the minima described in this section have not been tested in real operations. It is believed possible that these minima may need to be revised upwards in future versions of this specification.

3.3.2 Issue 4195

1) The following additional language shall be considered to be present at the end of section 12.5.6

("subject");

* If the certificate is a "leaf certificate" then the subject may also contain up to 4 organizationalUnitName entries.

* When encoded each organizationalUnitName entry carries a comma separated list of up to 5 original network identifiers each entry of which is a fixed length 5 character hexadecimal string encoded as follows:

The first character is a network type identifier encoded as a single hexadecimal digit with one or more bits set and with the bits having the following meanings;

xxx1	terrestrial network
xx1x	cable network
x1xx	satellite network
1xxx	internet

The following four characters are a hexadecimal representation, including leading zeros where necessary, of the original_network_id as defined in EN 300 468 [4].

Before the application starts executing, the network type and the original_network_id of the service carrying the application shall be matched against the entries in the comma separated lists in the organizationalUnitName entries in each of the leaf certificates used in the authentication of the application's root directory. The original_network_id of the service, shall be found by first looking in the transport_stream_loop of the NIT for the transport stream carrying the service and only if the service is not listed in that loop, looking in the SDT.

Certificates where none of the entries match shall not be used to authenticate applications. If no match is found in any of these leaf certificates then the application is considered to have failed authentication. Applications that fail authentication at this point shall not be started on MHP terminals.

NOTE: Where a particular original_network_id is uniquely used in a particular market, this feature enables certificate authorities to apply market specific policies when deciding which organisations are entitled to have certificates issued to them for that market. The extent to which this provides real additional real security depends on factors outside the scope of this specification.

2) In section 12.4.4, ("Integration"), the following extra item g) shall be considered to be present and the existing g) and later entries adjusted accordingly.

Verify that the attributes of the Subject field include content that matches the signalling information as per the requirements of Section 12.5.6 subject.

3.4Section 16

3.4.1Issue 4119

b) In section 16.2.1 "Public and Protected final static primitive fields from DVB packages", the following additional row shall be considered to be present;

public static final int org.dvb.application.AppProxy.INVALID=8;

3.5Section B

3.5.1Issue 4052

1) Section B.2.12 ("Delivery of Carousel within multiple services") shall be considered to be replaced with the following;

Carousels shall be considered identical if, in the PMTs of the services, all the following hold:

1. Either both services are delivered within the same transport stream and:

- Both services list the boot component of the carousel on the same PID.
- The carousel_id_descriptor for the carousel are identical in both services (so the carousels have the same carousel_Id and boot parameters).
- All association tags used in the carousel map to the same PIDs in both services.

In this case the carousel is transmitted over a single path, but the services are allowed to reference the carousel via a number of routes, including deferral to a second PMT via deferred association tags.

2. Or both services are delivered over multiple transport streams and:

- The carousel_id in the carousel_id_descriptor is in the range of 0x100 - 0xffffffff (containing the broadcaster's OrgID in the most significant 24 msbs of carousel_id).
- The carousel_id_descriptor for the carousel are identical in both services (so the carousels have the same carousel Id and boot parameters).

2) In B.2.10.1 ("carousel_id_descriptor"), the following;

carousel_id: The 32 bit field it identifies the object carousel with the corresponding carouselId.

shall be considered to be replaced by:

carousel_id: The 32 bit field it identifies the object carousel with the corresponding carouselId with the carousel_id_descriptor carrying the broadcaster's OrgID in the most significant 24 msbs if carousel is shareable across multiple transport streams or between 0 - 255 otherwise.

3.5.2Issue 4097

In section B.2.11 ("Unavailability of a carousel"), the second item in the bulleted list - "Any value in the DSI changes" shall be considered to be absent.

3.5.3Issue 4099

In B.2.1.1 "Sections per TS packet", change

Any single TS packet is allowed to contain no more than the payload of two sections (i.e. the end of one section and the beginning of another).

to

Parts of no more than 4 sections shall be delivered in a single TS packet.

3.5.4 Issue 4105

In section B.5 ("Caching"), the following additional section shall be considered to be present;

B.5.6 Dynamic carousel structure

The Object Carousel may change structure over time, i.e. both files and directories may be added or deleted. Also, modules are not guaranteed to carry the same objects over the lifetime of the carousel. Therefore receivers shall not assume that directory structures are static or that a given path will resolve always to the same object. All cached directory information shall be cached according to the signalled cache priority. This means that before using an object that has been cached receivers shall validate the path to it.

NOTE: Validating a path does not necessarily mean downloading all elements in the path every time. For example, simply determining that none of the objects on the path have changed since it was last fully traversed is sufficient to confirm that the path itself has not changed.

3.5.5 Issue 4194

1) The following extra text shall be considered to be present at the end of section B.2.4 ("Stream Events") immediately before the heading B.2.4.1.

NOTE: The NPT mechanism and scheduled stream events that depend on it are known to be vulnerable to disruption in many digital TV distribution networks. Existing deployed network equipment that re-generates the STC is unlikely to be aware of NPT and hence will not make the necessary corresponding modification to STC values inside NPT reference descriptors. This may cause scheduled stream events to fire at the wrong time or to never fire at all. Applications should only use scheduled stream events where they are confident that the network where they are to be used does not have this problem.

3.6 Section E

3.6.1 Issue 4170

In section E.1 "Basic Euro Latin character set", the following extra row shall be considered to be present at the correct location in the table for the numerical value:

066B ARABIC DECIMAL SEPARATOR

3.7 Section G

3.7.1 Issue 3684

In section G.1.1, "Device capabilities", the following extra bullet point shall be considered to be present at the end of the bulleted list;

The default graphics device aspect ratio shall be 14:9. (Applications should note that another

application may already have changed it before they start running or may change it while they are running.)

3.7.2 Issue 4106

In section G.5, "Input events", the following text shall be considered to present at the end of the section;

The `HRcCapabilities.getRepresentation(int)` method shall return an `HEventRepresentation` instance for each input event in the above table. Each such `HEventRepresentation` instance shall return at least one of `ER_TYPE_COLOR`, `ER_TYPE_STRING` or `ER_TYPE_SYMBOL` from calls to its `getType()` method. Where `ER_TYPE_SYMBOL` is returned, the corresponding `java.awt.Image` instance shall have the size of 32 by 32. The representations supported shall match the user input device generating the input events listed above which is shipped with the MHP terminal.

NOTE: Application developers need to be aware that a small proportion of end-users will be using user input devices not shipped with the MHP terminal, e.g. replacements and/or programmable remote controls. There is no requirement for MHP terminals to detect this.

3.8 Section P

3.8.1 Issue 4003

1) In `DSMCCObject.synchronousLoad(..)`, the throws clause for `ServiceXFRException` shall be considered to be changed from;

the IOR of the object or one of its parent directories is a Lite Option Profile Body.

to

the IOR of the object or one of its parent directories is a Lite Option Profile Body and the referenced carousel is not already mounted by the MHP terminal.

2) In the class description of `ServiceXFRException`, the following sentence;

This exception is also thrown even if the Service Domain that actually contains the `DSMCCObject` is already mounted.

shall be considered to be replaced with;

This exception is not thrown if the Service Domain that actually contains the `DSMCCObject` is already mounted.

3) In the class description of `ServiceXFRErrorEvent`, the following sentence;

This event is also sent even if the Service Domain that actually contains the `DSMCCObject` is already mounted.

shall be considered to be replaced with;

This event is not sent if the Service Domain that actually contains the DSMCCObject is already mounted.

3.8.2 Issue 4194

2) The following extra text shall be considered to be present at the end of the class description of `org.dvb.dsmcc.StreamEvent`.

NOTE: The NPT mechanism and scheduled stream events that depend on it are known to be vulnerable to disruption in many digital TV distribution networks. Existing deployed network equipment that re-generates the STC is unlikely to be aware of NPT and hence will not make the necessary corresponding modification to STC values inside NPT reference descriptors. This may cause scheduled stream events to fire at the wrong time or to never fire at all. Applications should only use scheduled stream events where they are confident that the network where they are to be used does not have this problem.

3) The following extra text shall be considered to be present at the end of the class description of `org.dvb.dsmcc.Stream`.

NOTE: The NPT mechanism and scheduled stream events that depend on it are known to be vulnerable to disruption in many digital TV distribution networks. Existing deployed network equipment that re-generates the STC is unlikely to be aware of NPT and hence will not make the necessary corresponding modification to STC values inside NPT reference descriptors. Applications should only use NPT where they are confident that the network where they are to be used does not have this problem.

3.9 Section R

3.9.1 Issue 3785

In section R ("DVB-J Return Channel Connection Management API"), class `ConnectionRCInterface`;

a) The following paragraph in the method description of `connect()`;

The details of the current connection target shall be obtained from the `ConnectionParameters` instance which is the current target during the call to this method. Hence changes to that `ConnectionParameters` instance before a call to this method shall be taken account of during the method call. Changes after the call to this method shall have no effect on that connection.

shall be considered to be moved to the method description of `reserve()` and modified as follows;

The details of the current connection target shall be obtained from the `ConnectionParameters` instance which is the current target during the call to this method. Changes to that instance after the call to this method shall have no effect on the `ConnectionRCInterface` unless/until either `setTarget` is called again for that instance or it is released and then reserved again.

b) The following paragraph in the method description of `setTarget()` ;

The details of the current connection target shall be obtained from the newly set target during the call to the `connect` method. Hence changes to that `ConnectionParameters` instance before a

call to the connect method shall be taken account of during the call to the connect method. Changes after the call to the connect method shall have no effect on that connection.

shall be modified as follows;

The details of the current connection target shall be obtained from the newly set target during the call to this method. Changes to that instance after the call to this method shall have no effect on the ConnectionRCInterface unless/until setTarget is called again for that instance or it is released and reserved again.

3.10Section S

3.10.1Issue 4119

a) In Annex S, "Application Listing and Launching", in class AppProxy, the following additional field shall be considered to be present;

```
public static final int INVALID
```

The application is not signalled in the currently selected service, i.e. not listed in the applications database. Once an AppProxy is in this state, all attempts to cause further state transitions on that AppProxy instance shall fail with an AppStateChangeEvent from INVALID to INVALID, even if a service is selected where that application is signalled.

4 Minor Technical Changes

The following types of technical change are considered to be "minor";

1. Changes which a correctly functioning MHP application would never see. e.g. to the behaviour of an MHP terminal when an application error happens or adding protected constructors to classes currently without them.
2. Changes to a feature or function of the MHP specification which cannot be used by applications as currently described
3. Changes to a feature or function of the MHP specification whose description is sufficiently vague that an MHP application using it would be not be inter-operable between different MHP receiver implementations and where the chosen solution is one which MHP applications would have encountered trying to use the feature or function before the change was applied
4. Adding text to state something which is considered to be "obvious" but which was not stated previously and hence could not be conformance tested

4.1Section 7

4.1.1Issue 3749

In section 7.1.1.2 ("JPEG"), the following text

Specifically, lossless and hierarchical modes need not be supported.

shall be considered to be amended to read as follows;

Specifically, lossless and hierarchical modes and arithmetic coding of DCT coefficients need not be supported.

4.1.2 Issue 3750

Section 7.1.1.2 ("JPEG") shall be considered to be extended with the following sentence at the end of this section;

The thumbnail feature of JFIF[35] need not be supported. MHP terminals not supporting thumbnails shall skip them if present and continue decoding the rest of the image.

4.1.3 Issue 4094

Change the following paragraphs in MHP 1.0.3, section 7.4 "Downloadable Fonts":

The charCode value in the PFR charRecord shall be the ISO 10646-1 [18] code for the glyph encoded using UCS-2.

See also D.2.2, "Downloaded fonts" on page 330.

For fonts in the PFR format, the font name shall be the fontID field in the font file.

to:

The charCode value in the PFR charRecord and bmapCharRecord, and the charCode1 and charCode2 fields of the pairKernData() structure, shall be the ISO 10646-1 [18] code for the glyph. If these fields are 16-bit, they are encoded using UCS-2 and shall not be a high-surrogate or a low-surrogate code value. If these fields are 8-bit, then the one-byte character code shall be the least significant 8 bits of a 16-bit UCS-2 code, where the most significant 8 bits are all zero.

See also D.2.2, "Downloaded fonts" on page 330.

For fonts in the PFR format, the font name shall be the fontID field in the font file. The fontID field in the font file shall be encoded using the Java modified UTF-8 encoding (see section 7.1.5).

4.1.4 Issue 4171

1) The following extra text shall be considered to be present at the end of section 7.1.2 MPEG-2 I-Frames:

MPEG I-frames shall be presented with no DecFC (except for any scaling) i.e. the raster s encoded aspect ratio and any AFD shall be ignored.

2) The following extra text shall be considered to be present at the end of section 7.1.3 MPEG-2 Video "drips":

MPEG video drips shall be presented with no DecFC (except for any scaling) i.e. the raster s encoded aspect ratio and any AFD shall be ignored.

4.2Section 9

4.2.1 Issue 4177

2) In section 9.2.3.2, table 6, after this existing paragraph:

A Paused DVB-J application instance should minimize its usage of resources if it wants to maximize its probability of survival. This does not imply that it cannot be holding any resources, but in such a case, it would have a lower priority as concerns access to resources than it had when it was in the Active state.

the following new paragraphs shall be considered to be present:

When entering the paused state, an application should ensure that any HScene instances it is using are invisible. If an application has visible HScene instances after moving into the paused state, the platform may call `HScene.setVisible(false)` on each such instance. Any such HScene instances shall be set visible by the platform (by calling `HScene.setVisible(true)`) before the platform requests a transition back to the Active state.

While an application is paused, it should not attempt to make any HScene instances visible, and it should not attempt to draw to the screen. Any application that does this while paused may be considered uncooperative, and may be terminated by the application manager.

4.3Section 10

4.3.1 Issue 3798

In section 10.4.8, "Text encoding in AIT", the following text

but shall not include the null character

shall be considered to be added to the end of the following sentence.

Unless otherwise specified, all fields interpreted as text strings in the AIT shall be encoded as UTF8 (see 7.1.5, "Monomedia format for text" on page 54).

4.3.2 Issue 3799

The following additional text shall be considered to be present at the end of section 10.4.2:

Applications removed from the AIT sub-table which was signalling them but where that AIT sub-table remains present in the network, shall be stopped as if they had been signalled with a DESTROY control code.

If the AIT sub-table signalling an application vanishes from the network completely, that application shall continue to run. The MHP terminal shall monitor for the re-appearance of the AIT sub-table as defined for the appearance of new AIT sub-tables above.

4.3.3 Issue 4066

1) In 10.8.3.2 ("pre-fetch descriptor");

1.1) In Table 31 "Syntax of the pre-fetch descriptor", "label_char" shall be considered to be "label_byte".

1.2) The following text;

label_char: These 8-bit fields carry an array of bytes that are a module label. This label matches a label on one or more module carried by Label descriptors in the userInfo fields of the moduleInfo structure of DIIs (see "Label descriptor" on page 298).

shall be considered to read;

label_byte: These 8-bit fields carry an array of bytes that are a module label. This label matches a label on one or more module carried by Label descriptors in the userInfo fields of the moduleInfo structure of DIIs (see "Label descriptor" on page 298). The match shall be done as a byte-by-byte comparison between the two byte arrays.

4.3.4 Issue 4078

In section 10.5.2 "Effects on life cycle", the following extra text shall be considered to be present at the end of the section;

When an application continues running after service change, it shall run as signalled by its AIT entry in the new service and not the former service excluding effects of transport protocol descriptors.

4.3.5 Issue 4174

In section 10.7.4.1 Application name descriptor, the following text:

application_name_char: This field carries a string (not null terminated) of characters encoded in accordance with annex A of ETS 300 468. The string names the application in a manner intended to be informative to the user.

shall be considered to be replaced by:

application_name_char: This field carries a string (not null terminated) of characters encoded in accordance with annex A of ETS 300 468 as profiled by clause 11.2.11.1. The string names the application in a manner intended to be informative to the user.

4.4 Section 11

4.4.1 Issue 3788

In section 11.4.1.1 ("The Core GUI API"), the following additional paragraph shall be considered to be present;

For MHP terminals, the time at which an input event occurs as reported by `java.awt.event.InputEvent.getWhen` does not mean the time at which the event is reported to a listener of a MHP application. In particular, if an MHP application has a backlog in processing events and events are being queued, the time at which the event occurred shall be before the event enters the queue and hence also before when it leaves the queue to be reported to the

MHP application's listener.

4.4.2 Issue 4050

Section 11.11.1 "Transport stream " shall be considered to include the following text at the end of the section.

Additionally, `org.davic.net.tuning.NetworkInterface.getLocator()` shall return a `DvbNetworkBoundLocator` for the network to which the `NetworkInterface` is connected.

4.4.3 Issue 4051

a) In section 11.4.1.1, the paragraph beginning the following;

For MHP terminals, the time at which an input event occurs as reported by `java.awt.event.InputEvent.getWhen`

shall be considered to be extended with the following;

The return value of `getWhen()` shall be the difference, measured in milliseconds, between the time when the event occurred and midnight, January 1, 1970 UTC, i.e. like `System.currentTimeMillis()`.

b) Add the following to 11.3.2.2 ("org.dvb.event");

The return value of `UserEvent.getWhen()` shall be the difference, measured in milliseconds, between the time when the event occurred and midnight, January 1, 1970 UTC, i.e. like `System.currentTimeMillis()`.

4.4.4 Issue 4089

(2) The following paragraph of MHP 1.0.3 section "11.4.2.8.1 Basic Principles":

If the JMF player from which an `HVideoComponent` was obtained is in either the prefetched or started states then the associated `HVideoDevice` shall be the one on which that JMF players video is being displayed. If the JMF player is in another state then there may not be an associated `HVideoDevice`

shall be replaced with:

Component-based Players shall not have an associated `HVideoDevice`. Therefore the `HVideoComponent.getVideoDevice()` method shall always return null.

4.4.5 Issue 4091

In section 11.4.2.6, after the bulleted list ending with "`javax.tv.media.AWTVideoSizeControl`", the following additional text shall be considered to be present:

If multiple applications call the `getVisualComponent()` method on the JMF Player associated with a service, the result is implementation-specific.

If the visual component returned by `Player.getVisualComponent()` is hidden (as returned by

Component.isHidden()), then the video is hidden. It is legal to remove a visual component from an AWT hierarchy and add it back to an AWT hierarchy (perhaps in a different place). The video will be hidden when the component is removed and shown again when the component is painted again.

This specification does not provide a way to convert a component-based JMF Player to a background Player; applications must close the existing Player and create a new background Player.

4.4.6 Issue 4109

In the end of section 11.3.1.1, immediately after

"The call System.currentTimeMillis() shall feature a granularity of the returned time value of not more than 10 ms."

The following additional text shall be considered to be present;

The terminal should attempt to keep an accurate clock, e.g. by initialising it's clock from a TDT. The default TimeZone for java.util.Calendar shall either be as defined by the end-user or as defined in a TOT if the end-user has not defined any TimeZone.

4.4.7 Issue 4123

In 11.4.2.5.5 Clarifications, the following extra text shall be considered to be present at the end of the section:

The following controls shall work on a JMF Player in any state (including Unrealized, Realizing, Realized, Prefetching, Prefetched and Started Players) and changes made via these controls shall be preserved across JMF state transitions:

- * javax.tv.media.AWTVideoSizeControl
- * org.dvb.media.VideoPresentationControl
- * org.dvb.media.BackgroundVideoPresentationControl

It is implementation-specific whether or not the effect of other JMF controls included in this specification survives JMF state transitions.

4.4.8 Issue 4127

In section 11.4.2.5.5 Clarifications, the following extra text shall be considered to be present:

When decoding of the media stream is frozen by org.davic.media.FreezeControl, scaling the video (e.g. by BackgroundVideoPresentationControl) it is recommended that this have immediate effect on the existing frozen video still. MHP terminals that cannot do this shall temporarily resume decoding of the media stream to acquire a new video still that shall be scaled as specified, and shall automatically re-freeze the media after this video still has been acquired.

4.4.9 Issue 4136

In 11.3.1.3, the following text:

The effect of an MHP application calling the `java.util.Timezone.setDefault` method shall be limited to the application calling the method.

shall be considered to be replaced with:

Inter-operable applications shall not call the `java.util.Timezone.setDefault` method. The behaviour if this method is called is implementation dependent.

4.5Section 12

4.5.1Issue 3723

In 12.6.2.6, append onto the end of the following paragraph ..

The grantoridentifier in the persistentfilecredential shall match the organisation_id contained in the Subject organisationName field of the leaf certificate for file access to be granted.

the following;

The grantoridentifier shall match the organisation id of the owner of the file to which access is granted by this persistentfilecredential. If either of these is untrue then access shall not be granted.

4.5.2Issue 4130

In section 12.4.4, in item j), replace "step (c)" by "step(d)".

4.5.3Issue 4173

In section 12.6.2.14.1 "Unsigned applications", the following text:

"Unsigned applications are allowed to communicate with each other through the inter-application communication API. However, an unsigned application is not allowed to communicate with a signed application through the inter-application communication API."

shall be considered to be modified by having "or vice-versa" appended to the last sentence.

4.6Section 13

4.6.1Issue 4089

(3) In MHP 1.0.3 section "13.6.1.1 Implementation of modes" the following paragraph:

HVideoComponents are treated as having an alpha of 1 so whether SRC or SRC_OVER is used when placing the video component the effect is that the video completely replaces anything previously drawn.

Is replaced by:

Components obtained from a JMF Player via the `Player.getVisualComponent()` method are treated as having an alpha of 1 so whether SRC or SRC_OVER is used when placing the video component the effect is that the video completely replaces anything previously drawn.

4.6.2 Issue 4090

In section 13.4.1 Component-based players and background players, the following text:

A component-based JMF player plays video inside an AWT component, and the video inside that component is positioned and scaled by positioning and resizing the component. The video is always scaled to the full size of the component. Support for component-based players is not mandatory in all profiles.

shall be considered to be replaced with:

A component-based JMF player plays video inside an AWT component, and the video inside that component is positioned and scaled by positioning and resizing the component. The video is always scaled to the full size of the component (or, if the terminal is not capable of scaling and positioning video this accurately, the video may extend outside the bounds of the component by up to one pixel in each direction [above, below, left and right]. This approximation shall not affect the position and size of the AWT component itself and hence shall not be visible to applications via the usual AWT methods). Support for component-based players is not mandatory in all profiles.

In section 13.4.4 Video components, the following text shall be considered to be appended to the end of the section:

Graphics drawn over a component-based JMF Player using the SRC or CLEAR rules shall be alpha-blended with the scaled video from the component-based Player, not the background video plane.

4.7 Section A

4.7.1 Issue 3788

In section A.1 ("JAE 1.1.8 API [31]"), the following additional section shall be considered to be present;

A.1.21 `java.awt.event.InputEvent.getWhen`

The description of this method is considered to have the following appended to it;

Returns the time value in milliseconds

4.7.2 Issue 3789

In section A.7.4.29 ("HVideoDevice"), the following new section shall be considered to be present;

A.7.4.29.6 `getVideoSource`

The following text;

`HPermissionDeniedException` - if the application does not currently have the right to get the `VideoSource` object

shall be considered to be replaced by;

HPermissionDeniedException - this exception shall never be thrown

4.7.3 Issue 3992

In section A.6.4.4 ("SectionFilterGroup"), the following additional section shall be considered to be present;

A.6.4.4.6 General

In the methods of this class, all occurrences of "(successful startFiltering)" shall be considered to read "(successful call to the startFiltering method of the newly created instance)".

4.7.4 Issue 3994

In section A.6.6.4, ("LanguageControl"), the following paragraph;

If no content of the appropriate media type for the control is present, a String of length zero is returned.

shall be considered to be preceded by the following (left aligned & not indented);

In the methods getCurrentLanguage and selectDefaultLanguage, the following additional text shall be considered to be present;

In section A.6.6.4, ("LanguageControl"), the following additional text shall be considered to be present;

In the method selectDefaultLanguage, the following shall be considered to be appended to the method description;

If this information is not available, a String of length zero is returned.

4.7.5 Issue 4044

In section A.7.4.22 ("HScene"), the following additional section shall be considered to be present;

A.7.4.22.4 show

The following text shall be considered to be appended to the description of this method;

This method does not cause the HScene to request the input focus.

4.7.6 Issue 4089

(1) The contents of MHP 1.0.3 section "A.7.4.32 HVideoComponent" are replaced by the following text:

In section 8.3.3.6 "Integrating HAVi Video Support into Platforms" the following two sentences shall be removed:

"The class HVideoComponent is intended to be returned by a platform specific controller for video. In platforms based on the Java Media Framework, the Player.getVisualComponent method shall return objects of this class."

Note that the HVideoComponent class must be present, and MHP terminals may choose to use it or not. Interoperable applications should not use HVideoComponent.

4.7.7 Issue 4177

1) In section A.5.4.1 "Xlet state descriptions", the following extra text shall be considered to be present:

In the state table in the package definition of javax.tv.xlet, the following extra text shall be considered to be appended to the description of the paused state:

Screen real estate may be considered to be a "shared" resource on some platforms. Platforms may define policies relating to Xlets that retain shared resources while in the paused state.

4.8 Section B

4.8.1 Issue 3784

In section B.2.4.5.2 ("Timebase stimulated event monitoring"), the following sentence;

If a timebase is deleted (reference to it is removed from the set of NPTReferenceDescriptors) then the receiver shall deactivate any event listeners dependant on that timebase and may free resources associated with those listeners.

shall be considered to be replaced by the following;

The receiver shall deactivate any event listeners dependant on a timebase (and may free resources associated with those listeners) under the following conditions;

- If a timebase is deleted (reference to it is removed from the set of NPTReferenceDescriptors)
- If a discontinuity is detected (i.e. NPTRDiscontinuityEvent generated) in that timebase
- If a service selection operation changes the current service, either through the MHP API or through the service selection feature of the MHP navigator

4.8.2 Issue 4041

Section B.2.11 ("Unavailability of a carousel") shall have the following additional text added at the end;

- Additionally carousels also become permanently unavailable when loss of connection to a temporarily disconnected carousel becomes permanent as defined in 6.2.5.3 Loss of Carousel Behaviour.

4.8.3 Issue 4066

2) In B.2.2.4.1 ("Label descriptor");

2.1) In Table B.8 "Label descriptor syntax", "label_char" shall be considered to be "label_byte".

2.2) The following text;

label_char: .These 8-bit fields carry an array of bytes that are a module label. This label matches a label used in one of the pre-fetch descriptors 10.8.3.2, "Pre-fetch descriptor" on page 96.

shall be considered to read;

label_byte: .These 8-bit fields carry an array of bytes that are a module label. This label matches a label used in one of the pre-fetch descriptors 10.8.3.2, "Pre-fetch descriptor" on page 96. The match shall be done as a byte-by-byte comparison between the two byte arrays.

4.8.4 Issue 4101

1) In section B.2.2.4 ("ModuleInfo"), in Table B.6 : ("Restrictions on the DII moduleInfo field"), the following extra row shall be considered to be present;

moduleTimeOut, blockTimeOut, minBlockTime	These fields are defied in units of μ s. An appropriate value must be explicitly encoded by carousel generation equipment. There is no default value that may be encoded, i.e. 0xFFFFFFFF has no special meaning. Receivers shall not employ an inbuilt default instead of the signalled value as there is no way to define these without knowledge of the construction of a particular carousel.	this spec
---	---	-----------

2) In section B.2.3.7.1 ("BIOPProfileBody"), in Table B.22 : ("Restrictions on the BIOP Profile Body"), the following additional row shall be considered to be present;

DSM::Tap::timeout	This field is defined in units of μ s. An appropriate value must be explicitly encoded by carousel generation equipment. There is no default value that may be encoded, i.e. 0xFFFFFFFF has no special meaning. Receivers shall not employ an in-built default instead of the signalled value as there is no way to define these without knowledge of the construction of a particular carousel.	this spec
-------------------	--	-----------

4.8.5 Issue 4103

In B3.1.2 ("TapUse is BIOP_PROGRAM_USE") , the following text;

If this resolution fails then there is an error in the broadcast.

shall be considered to be replaced with

If this resolution fails then the service from which the object carousel is mounted shall be returned as the referenced service.

4.9 Section D

4.9.1 Issue 3756

In section D.3.5.3.3 ("xOffsetLeft"), the line

$$\text{div} (-x_{\text{Min}} \text{outlineResolution} \times \text{fontSize} \times 45, \text{outlineResolution} \times 56) \times x_{\text{Min}} < 0$$

shall be considered to be replaced by the following;

$$\text{div} (-x_{\text{Min}} \text{outlineResolution} \times \text{fontSize} \times 45, \text{outlineResolution} \times 56) \times x_{\text{Min}} < 0 \text{ and } 14:9$$

graphics device aspect ratio

$$\text{div} (-x_{\text{Min}} \text{outlineResolution} \times \text{fontSize} \times 45, \text{outlineResolution} \times 48) \times x_{\text{Min}} < 0 \text{ and } 4:3$$

graphics device aspect ratio

$$\text{div} (-x_{\text{Min}} \text{outlineResolution} \times \text{fontSize} \times 45, \text{outlineResolution} \times 64) \times x_{\text{Min}} < 0 \text{ and } 16:9$$

graphics device aspect ratio

and the { symbol shall be considered to extend to include all 3 replacement lines and the line remaining unchanged from before.

4.9.2 Issue 3757

In section D.3.11 ("Tabulation"),

a) In figure D.9, the following label

$$\text{tab}(x+45,0)$$

shall be considered to read

$$x + \text{tabsize in pixels}$$

b) In the bulleted list, the following text shall be considered to form an additional item at the end of the list

The tab size of 56 points shall be converted to pixels using table D.3.

4.9.3 Issue 4114

In section D.3.8.3, "Positioning",

a) Sections D.3.8.3.1 and D.3.8.3.2 shall be replaced with the following;

D.3.8.3.1 Vertical alignment setting is VERTICAL_START_ALIGN

When the text is top aligned the baseline of the top most line shall be yOffsetTop below the top of the object.

D.3.8.3.2 Vertical alignment setting is VERTICAL_END_ALIGN

When the text is bottom aligned the baseline of the bottom most line shall be yOffsetBottom

above the bottom of the object.

b) The following sentence shall be moved from D.3.8.3.3. to the end of section D.3.8.3 (before section D.3.8.3.1):

The spacing between the baselines of text shall be linespace.

4.10Section G

4.10.1Issue 4108

In section G.7 ("Other resources"), in Table G.4 : "Minimum requirements for other resources" the following extra row shall be considered to be present;

PSTN/ISDN modem (where present)	Where such a modem is present, the MHP terminal should provide a mechanism to configure a dialling prefix, e.g. '0', to be dialled in front of the number specified by the MHP application. Where such a prefix is supported, this shall be invisible to MHP applications, for example, it shall not need to be included in entries in the permission request file.
---------------------------------	---

4.11Section I

4.11.1Issue 4042

In Annex I ("DVB-J fundamental classes"), in the class DVBCClassLoader, the method

```
public java.lang.Class findClass(java.lang.String name) throws ClassNotFoundException
```

shall be considered to be

```
protected java.lang.Class findClass(java.lang.String name) throws ClassNotFoundException
```

4.12Section L

4.12.1Issue 3821

In Annex L ("User Settings and Preferences API"), class Preference, constructor Preference(String, String[]), the following sentence shall be considered to be appended to the method description;

Each value in the value set must appear only once. The behaviour if a value is duplicated is implementation dependent.

4.12.2Issue 3826

In Annex L, "User Settings and Preferences API", class UserPreferenceManager, the following text;

When end-user preferences are read into a Preference object from the MHP terminal, the ordering of these values shall be as determined by the end-user, from most preferred to least preferred to the extent that this is known.

shall be considered to be moved from the class description into the method description of read

(Preference);

4.12.3 Issue 3827

In Annex L ("User Settings and Preferences API"), class `UserPreferenceManager`, method `addUserPreferenceChangeListener`, the following text;

Adds a listener for changes in user preferences

shall be considered to be modified as follows;

Adds a listener for changes in user preferences as held in the MHP terminal. Specifically this includes changes made by MHP applications succeeding in calling the `write()` method on this class. If the implementation of the MHP terminal allows the end user to change preferences then these changes also includes changes made to preferences by this mechanism. It does not include changes made to a `Preference` instance within the scope of a single MHP application.

4.13 Section M

4.13.1 Issue 3761

In Annex M ("SI Access API") in the description of the `addEventScheduleMonitoringListener` method in the `SIDatabase` class, the following paragraph;

The scope of the monitoring is determined by the original network identifier, transport stream identifier, service identifier, start time and end time of the schedule period. The listener will be notified about the change of the information in any scheduled event within that scope.

shall be considered to have the following sentence added at the end;

The scope of the start time and end time shall be as specified for the parameters of the same name in `SIService.retrieveScheduledSIEvents`.

4.13.2 Issue 3764

In Annex M ("SI Access API"), class `SIService`, method `getShortProviderName`, the following text;

When this information is not available "" is returned

shall be considered to be replaced by

If the descriptor is not present, "" is returned. If the string can be found but does not contain control codes for abbreviating it, the full string shall be returned.

4.13.3 Issue 3765

In Annex M, in each of the following methods

- `SIBouquet.retrieveDescriptors(short, Object, SIRetrievalListener, short[])`
- `SINetwork.retrieveDescriptors(short, Object, SIRetrievalListener, short[])`

a) in the description of the method, the following additional paragraph shall be considered to be

present;

The tag values included in the someDescriptorsTags parameter are used for filtering the information that is returned. Only information related to descriptors whose tag value is included in the someDescriptorTags array is retrieved, unless the someDescriptorTags array contains -1 as its one and only item.

b) the description of the parameter "someDescriptorTags" shall be considered to be replaced by;

someDescriptorTags - Descriptor tag values that are used for filtering descriptors from descriptors included in the SI table item corresponding to this object. If the array contains -1 as its one and only element, all descriptors related to this object are retrieved."

4.14Section P

4.14.1Issue 4039

In Section P ("Broadcast Transport Protocol Access"), class DSMCCObject,

a) In the method getSigners(), the following sentence shall be considered to be absent;

If the DSMCCObject is loaded but not authenticated this method will return an outer array of size zero."

b) In the method getSigners(boolean), after the sentence;

This method shall attempt to validate all certificate chains found for this file in the network.

the following additional sentence shall be considered to be present;

The process of determining validity is the same as the process of authentication except that when known_root is false, checking whether the root certificate is known is not included.

4.15Section R

4.15.1Issue 3777

In Annex R, ("DVB-J Return Channel Connection Management API"), in the class ConnectionRCInterface, in the method setTarget(...), in the throws clause for PermissionDeniedException, the phrase

if this application does not own the resource

shall be considered to be replaced by

this exception shall never be thrown

4.15.2Issue 3819

In Annex R ("DVB-J Return Channel Connection Management API"), in class ConnectionRCInterface, method setTargetToDefault, the throws clause for SecurityException shall be considered to read;

java.lang.SecurityException - if the application is not allowed to connect to the default target

4.16Section S

4.16.1Issue 3779

a) In Annex S, "Application Listing and Launching", class AppsDatabase, the following text

and the visibility of the application is not '00'.

shall be considered to be present on the end of the following sentence from the class description.

An application is "currently available" if and only if one of the following applies in the service context within which the application calling the method is executing.

b) In Annex S, "Application Listing and Launching", class RunningApplicationsFilter, the following text;

"Running applications whose visibility is '00' shall not be returned."

shall be considered to be present immediately after the following sentence in the class description;

"Externally authorized applications in the AIT shall be returned if they are currently running in the same service context as the caller. "

4.16.2Issue 3834

In section S ("Application Listing and Launching"), class AppsDatabase, method getAppIDs (AppsDatabaseFilter), the following text;

No IDs shall be returned for externally authorized applications, unless they are executing.

shall be considered to be absent.

4.16.3Issue 3837

a) The following text shall be considered to be removed from the class description of CurrentServiceFilter:

"If an application signalled as part of the current service has an application instance in the destroyed state then information on that application instance shall not be retrieved. Instead, what shall be retrieved is information on another application instance which would normally be in the not loaded state."

b) The following text shall be considered to be added to the method description of AppsDatabase.getAppProxy(AppId):

"If an application has an application instance in the destroyed state then a proxy for that application instance shall not be retrieved. Instead, what shall be retrieved is a proxy for

another application instance which shall be in the not loaded state unless that application instance has already been started."

4.16.4 Issue 4083

In Annex S, "Application Listing and Launching", in the class AppsDatabase, in the method getAppAttributes(AppId), the following text;

"Returns: the value to which the key is mapped in this dictionary or null if the key is not an application ID, or not mapped to any application currently available."

shall be considered to be replaced with;

"Returns: the value to which the key is mapped in this dictionary if AppId corresponds to an application which is either a currently available application or remote application or both. Null otherwise."

4.16.5 Issue 4175

In Annex S in the description of method AppAttributes.getProfiles():

Only profiles known to this particular MHP terminal shall be returned.

The words "known to" are considered to be replaced with "supported by".

4.17 Section T

4.17.1 Issue 4063

In Annex T, "Permissions", in the TunerPermission class, in the class description, the following text;

A TunerPermission contains no name and no actions list.

shall be replaced with the following;

The name and actions list of a TunerPermission contains no name and no actions list. The return value of the inherited getName() method is implementation dependent.

5 Editorial Changes

5.1 Section 2

5.1.1 Issue 4045

In clause 2 ("References"), the following text:

[7]
Sun Microsystems
MS USCA14-103
Palo Alto
CA 94303
USA

e-mail: docs@java.sun.com
Phone: +1 408 276-7426

Shall be considered to be replaced by:

[7]
Sun Microsystems
Attn: JavaTV Group
Santa Clara, CA 95054
USA
e-mail: mhpspecs@sun.com

5.2Section 3

5.2.1Issue 3997

The following definition;

best effort: an implementation dependent approximation which is as close as reasonable to what has requested in the circumstances concerned.

shall be considered to be changed to

best effort: an implementation dependent approximation which is as close as reasonable in the circumstances concerned to what has been requested.

5.2.2Issue 4053

a) In section 3.1, the following additional definition shall be considered to be present;

running application - an application is considered running if it is in any state other than NOT_LOADED or INVALID

b) In Annex S, "Application Listing and Launching", class AppStateChangeEvent, the following text;

"These events are only generated for running applications or formerly running applications on completion of a state transition into the DESTROYED state."

shall be considered to be replaced with;

"These events are only generated for running applications or for non-running applications where an attempt to control the application fails.

and the following text;

"Attempting to start an application which is already running shall fail and generate an AppStateChangeEvent with hasFailed returning true and both fromstate and tostate being STARTED."

shall be considered to be replaced with;

"Attempting to start an application which is already in the active state shall fail and generate an AppStateChangeEvent with hasFailed returning true and both fromstate and tostate being STARTED."

c) In Annex S, "Application Listing and Launching", all occurrences of "AppStateChangeEvent" shall be considered to be changed to "AppStateChangeEvent."

5.3Section 6

5.3.1Issue 4124

1) The following language shall be considered to be appended onto the end of section 6.2.6;

This specification only defines support for carriage of multicast IP in MPE and not support for carriage of unicast IP.

5.4Section 7

5.4.1Issue 4075

In section 7.1.5, "", the following text;

Java modified UTF-8 as defined in Java Language Spec [32] section 22.2.14 "writeUTF" is the coding of text in MHP.

shall be considered to be replaced with

Unless otherwise specified (e.g. DVB-SI encoding), Java modified UTF-8 as defined in Java Language Spec [32] section 22.2.14 "writeUTF" is the coding of text in MHP.

5.5Section 9

5.5.1Issue 3752

In section 9.1.1 ("Basic lifecycle control"), the following item in a bulleted list

In a DVB-J application,selecting a service corresponds to calling the select() method on such an instance.

shall be considered to be replaced with

In a DVB-J application,selecting a service corresponds to calling the select() method an instance of javax.tv.service.selection.ServiceContext.

5.5.2Issue 3793

In section 9.2.5.2 ("Input Focus management"), the following text shall be considered to be added to the end of this section;

A DVB-J application has input focus if and only if the java.awt.Component having focus belongs to the component tree of that application.

5.5.3 Issue 4185

1) In section 9.3, "DVB-HTML Model", the entire contents of the section and all sub-sections shall be considered to be replaced with the following:

The DVB-HTML application model is not defined in this version of this specification.

5.6 Section 10

5.6.1 Issue 3727

a) In 10.7.1, table 15 : "application signalling descriptor syntax", the following row;

application_type 16 uimsbf

shall be considered to be replaced with the following 2 rows;

reserved_future_use 1
application_type 15 uimsbf

b) In 10.7.1, "Application Signalling Descriptor", the following text;

application_type: This 16 bit field identifies

shall be considered to read

application_type: This 15 bit field identifies

c) In 10.7.2.2, Table 17 "MHP data broadcast id descriptor syntax", the following row;

application_type 16 uimsbf

shall be considered to be replaced with the following 2 rows;

reserved_future_use 1
application_type 15 uimsbf

5.7 Issue 3743

1) In section 10.4 ("Application Information Table"), the following paragraph;

The Application Information Table (AIT) provides full information on the data broadcast, the required activation state of applications carried by it etc.

shall be considered to have the following appended onto the end;

The AIT comprises the set of AIT sub-tables (see 10.4.5) within the selected service which have an application_type that the receiver can decode.

2) In section 10.4.2, ("AIT transmission and monitoring"), the following paragraph;

MHP terminals shall monitor the PMT for changes in the number of AIT elementary streams present. Changes shall be detected within 1 second.

shall be considered to have the following appended onto the end;

MHP terminals shall monitor all AIT elementary streams within the selected service as described in more detail below.

5.7.1 Issue 3791

In section 10.7.2.1 ("Generic descriptor"), the following text;

The data broadcast id descriptor is defined in a generic form by the DVB SI-DAT specification

shall be considered to be replaced by

The data broadcast id descriptor is defined in a generic form by ETSI EN 300 468 [4].

5.7.2 Issue 3796

5) In section 10.2.2 ("Data broadcast streams"), the following paragraph;

There may also be certain protocol specific descriptors in the PMT. For example, the Object Carousel requires the inclusion of the carousel_id_descriptor (see B.2.10, "Mounting an Object Carousel" on page 317).

Shall be considered to be replaced by

There may also be certain protocol specific descriptors in the PMT. For example, the Object Carousel requires the inclusion of the carousel_identifier_descriptor (see B.2.10, "Mounting an Object Carousel" on page 317).

5.7.3 Issue 4068

In 10.7.4.2, "Application icons descriptor", the following text;

"This 8 bit integer specifies the number of characters in the string that prefixes standard icon file name."

shall be considered to be replaced by;

"This 8 bit integer specifies the number of bytes in the string that prefixes standard icon file name."

5.7.4 Issue 4069

In 10.9.2, "DVB-J application location descriptor", the following text;

These bytes contain a string specifying the name of the object in the file system that is the class implementing the Xlet interface.

Shall be considered to be replaced with;

These bytes contain a string specifying the class implementing the Xlet interface.

5.7.5 Issue 4070

In 10.9.1, "DVB-J application descriptor", the following text;

The parameter bytes contain an array of strings that are passed to the application as parameters.

shall be considered to be replaced with

The parameter bytes contain a string that is passed to the application as a parameter.

5.7.6 Issue 4077

In table 39 in section 10.11, in the AIT section of the table, the second occurrence of "reserved to MHP for future use" (with the values 0x60 to 0x7F) shall be considered to be replaced by by

Subject to registration in ETSI TR 101 162 [10]

5.8 Issue 4185

2) In section 10.10, "DVB-HTML Specific descriptors", the entire contents of the section and all sub-sections shall be considered to be replaced with the following:

Not defined in this version of this specification.

5.9 Section 11

5.9.1 Issue 3729

In 11.3.1.1 point g, the following text;

Only the following properties are required to be supported for System.getProperty() and System.getProperties():

shall be considered to read;

Only the following properties are required to be supported for System.getProperty();

5.10 Issue 3732

In 11.5.6, the following text;

EXAMPLE: A filename element such as
org0_id/appA_id/external/B_?/
creates
org0_id/appA_id/external

Shall be considered to read;

EXAMPLE: A filename element such as
org0_id/appA_id/external/-
creates
org0_id/appA_id/external

5.10.1 Issue 3746

b) In section 11.7.2 "Application discovery and launching APIs", the following text shall be considered to be present immediately after table 43 : Application attribute properties;l

NOTE: The three properties defined above are specific to transport via an MHP object carousel. They may not be available if other transport is used in other specifications, e.g. in a GEM terminal specification (see GEM). or a future version of this specification.

5.10.2 Issue 3751

In section 11.9.3, table 46, the entries in the "Examples" column for the rows "mhp.profile.interactive_broadcast" and "mhp.profile.internet_access" shall be considered to be

null

instead of

"NO"

5.10.3 Issue 3767

In section 11.6.2 ("Service Selection API"), the following paragraph;

The following stream types (from javax.tv.service.navigation.StreamType) shall selectable and shall have ServiceContentHandlers defined: AUDIO, VIDEO, SUBTITLES.

shall be considered to be replaced by

The following stream types (from javax.tv.service.navigation.StreamType) shall selectable : AUDIO, VIDEO, SUBTITLES. Service components of these types shall have a ServiceContentHandler which may be shared between multiple service components of the same or different stream types.

5.10.4 Issue 3783

In 11.7.6, in the first bullet point, the following text:

However, the resulting string shall be sufficient to recreate an equivalent locator (e.g. using JavaTV's LocatorFactory) at a later time.

shall be considered to be changed to be:

However, the resulting string shall be sufficient to recreate an equivalent Locator (e.g. using JavaTV's LocatorFactory) or MediaLocator at a later time.

5.10.5 Issue 3792

Add the following at the end of 11.7.1.2 ("Actions for DVB-J applications to perform in their destroy method");

NOTE: Applications must allow for tuning happening in parallel with the execution of their destroyXlet method. Hence implementations of that method should not rely on being able to load classes while executing as the carousel which the application was using may not be available.

5.10.6 Issue 4009

In section 11.6.4 ("Conditional Access API") the following paragraph;

The following methods in this API may throw `java.lang.SecurityException`

shall be modified as follows;

The following methods in this API shall throw `java.lang.SecurityException` if the calling application does not have a `CAPermission` as defined in the description of the `CAPermission` class and shall not throw that exception if the calling application does have such a `CAPermission`.

5.10.7 Issue 4011

In section 11.7.1.1 ("Xlet properties"), the following additional text shall be considered to be present immediately before table 42 ("Property name /type /encoding mapping");

The "dvb.org.id" and "dvb.app.id" Xlet properties shall be initialised from the `application_identifier` of the application.

5.10.8 Issue 4015

In section 11.3.1.3 ("java.util"), the following text

The effect of an MHP application calling the `java.util.Timezone.setDefault` method shall be limited to the application calling the method.

shall be considered to be modified as follows;

The effect of an MHP application calling the `java.util.TimeZone.setDefault` method shall be limited to the application calling the method.

5.10.9 Issue 4065

b) In section 11.4.1.2, "TV user interface", on the end of the paragraph starting "Applications shall only pass in calls to the method `javax.tv.graphics.TVContainer.getRootContainer`", the following additional text shall be considered to be present;

The `javax.tv.graphics.TVContainer.getRootContainer` method shall return the same as would be returned by a call to `HSceneFactory.getDefaultHScene()` under the same circumstances.

5.10.10 Issue 4124

2) In section 11.5.2, "Support for Multicast IP over the Broadcast Channel", the following language;

Where support for IP over the broadcast channel is included,

shall be considered to be replaced with

Where support for carriage of multicast IP over the broadcast channel (see 6.2.6) is included

5.10.11 Issue 4172

1) In section 11.6.2 Service Selection API, the following text (as modified by #3767 above):

The following stream types (from `javax.tv.service.navigation.StreamType`) shall be selectable : AUDIO, VIDEO, SUBTITLES. Service components of these types shall have a `ServiceContentHandler` which may be shared between multiple service components of the same or different stream types.

shall be considered to be replaced by:

The following stream types (from `javax.tv.service.navigation.StreamType`) shall be selectable and shall have `ServiceContentHandlers` defined: AUDIO, VIDEO, SUBTITLES. Service components of these types shall have a `ServiceContentHandler` which may be shared between multiple service components of the same or different stream types. It is implementation-dependent whether other stream types are selectable, but failure when selecting a stream type that is not selectable is handled as defined in this specification. The effect of successfully selecting a stream type that is not in the preceding list is implementation-dependent.

2) In 11.6.2 Service Selection API the following text:

The results of calling the `getServiceContentLocators` method on this `ServiceContentHandler` are implementation dependent.

shall be considered to be replaced with:

The results of calling the `getServiceContentLocators` method on this `ServiceContentHandler` are implementation dependent, and there is no requirement for these Locators to be accepted as input by any method in this specification.

5.10.12 Issue 4179

1) In section 11.5.1.3 "Behavior following loss of a broadcast carousel", the following text:

Attempting to call methods on a `File` object whose data is unavailable shall fail in the same way as if the `File` itself never existed.

shall be considered to be replaced with:

Attempting to call methods on a `File` object where the filesystem information needed for the method call (see 11.5.1.1) is unavailable shall fail in the same way as if the `File` itself never

existed.

5.11 Section 12

5.11.1 Issue 4008

In section 12.11.1.9 ("validity"), the following text;

A non-root certificate validity is limited by the validity period of the signer's certificate.

shall be considered to be replaced by the following;

A subject certificate's validity is limited by the validity period of the issuer's certificate.

5.11.2 Issue 4043

In section 12.9.1.9 ("CRL Processing"), the following text shall be considered to be appended onto the end of point b;

For CRLs which are authenticated by a non-root certificate, the certificate shall be trusted only if the chain from that certificate to the root in its certificate file is verified and the root certificate is one of those resident in the MHP receiver. For CRLs which are authenticated by a root certificate, the certificates which can be trusted shall be the root certificates resident in the MHP receiver.

In section 12.9.1.4 ("CRL file location and naming convention"), the following phrase;

For CRLs that are authenticated by a broadcast certificate"

Shall be considered to be modified to;

For CRLs that are authenticated by a non-root certificate

5.11.3 Issue 4046

In 12.6.2.6, the sentence;

"A credential ... is used to allow the owner of this resource (the grantor) to grant to the permission request file's application to access it."

shall be considered to read

A credential ... is used to allow the owner of this resource (the grantor) to grant to the permission request file's application the right to access it.

5.11.4 Issue 4116

a) In 12.6.2.2, "File integrity", the following text;

If the permission file is not parseable ... it shall be ignored and hence no additional permissions are granted.

shall be considered to be replaced with;

If the permission file is not parseable ... it shall be ignored and hence no additional permissions are granted (or not granted in the case of SelectPermission).

b) In 12.6.2.5.1, "Minimum permissions", the following text;

If the permission file does not contain a valid permissionrequestfile element it shall be ignored and hence no additional permissions are granted.

shall be considered to be replaced with;

If the permission file does not contain a valid permissionrequestfile element it shall be ignored and hence no additional permissions are granted (or not granted in the case of SelectPermission).

5.11.5 Issue 4128

In sections 12.1.1 and 12.3, the term "security messages" shall be considered to be replaced by "authentication messages".

In section 12.3, the term "security files" shall be considered to be replaced by "authentication message files".

5.11.6 Issue 4178

In section 12.6 Security policy for applications", the following text:

"When an application requests to retrieve data from a file that is signalled as being signed, but for which the MHP failed to match the computed hash value and the expected hash value, then the API concerned shall fail in a manner consistent with the defined behavior of that API when the file exists but has no content in it. "

shall be considered to be replaced with:

"When an application requests to retrieve data from a signed file, and the MHP terminal attempts to authenticate that file, and the authentication process fails, then the API concerned shall fail in a manner consistent with the defined behavior of that API when the file exists but has no content in it. "

5.12 Section 13

5.12.1 Issue 4085

In section 13.3.3.2 ("AWT Reference Model in the MHP") , the following text;

Although there are no heavyweight components in the MHP the HScene can be thought of being similar to a heavyweight component.

shall be considered to be changed to;

Although the enhanced and interactive profiles of MHP do not require any heavyweight components to be present, the HScene can be thought of being similar to a heavyweight component.

5.12.2 Issue 4117

In 13.2.1.3, in table 62 : "Typical Resolutions and their pixel aspect ratio", replace the following row;

720x576 | 1150:1053 | 4600:3159

with

720x576 | 48/45 | 64/45

5.12.3 Issue 4122

1) In section 13.4.2, the following;

The JMF players in this version of the MHP specification are "DVB ETR 154 Standard Definition" players and so act as if they are taking the full screen output of the MPEG Video Decoder as their logical input video source, as is illustrated in figure 31.

shall be considered to be replaced with

In this version of the MHP specification, the video decoding process complies with clause 5.1.4 "Luminance resolution" of TR 101 154 [9] and applies up sampling for a defined set of luminance resolutions so that the decoded pictures are displayed at full-screen size. The input video source to JMF shall be the output of this up sampling process as illustrated in figure 31.

2) In section 13.4.2, in Figure 31, "Format control in the presence of a JMF player", the following;

Logical input video source as reported by the ETR 154 SD JMF player

shall be considered to be replaced with

Input video source following TR 101 154 up sampling.

5.12.4 Issue 4138

In section 13.3.7 "14:9 Aspect Ratio Support", the following text shall be considered to be added to the end of the section:

Setting the configuration of an HGraphicsDevice to an HEmulatedGraphicsConfiguration supporting a 14:9 display shall only impact the transformation of outline fonts into display pixels. Display pixels shall remain mapped 1:1 onto the actual pixels of the HGraphicsDevice.

5.13Section 14

5.13.1Issue 3794

In 14.7 ("Files and file names"), the following sentence;

For a DVB-J application 11.5.1, "Broadcast Transport Protocol Access API" on page 121 defines that creating a new instance of `java.io.File(".")` will result in a reference to the base directory of the application.

shall be considered to be have the following extra sentence present immediately afterwards;

This specification does not define the use of "file:" URLs relative to this base directory, only absolute URLs are defined.

5.13.2Issue 4084

In section "14.1 Namespace mapping (DVB Locator)",

a) in table 63 "DVB URL syntax", the following extra line is considered to be present at the end of the table;

`textual_service_identifier = 1*(unreserved | escaped)`

b) The following new section shall be considered to be present

14.1.6 `textual_service_identifier`

The `textual_service_identifier` in a DVB Locator is encoded in UTF-8.

See section 14.9.1 for the syntax of this field, and 14.9.2 for usage.

5.14Section 15

5.14.1Issue 3733

In chapter 15, table 65, under the heading "interaction channel protocols", the row

UDP/IP 6.2.8, "User Datagram Protocol (UDP)" on page 49

shall be considered to be

UDP/IP 6.3.9, "User Datagram Protocol (UDP)" on page 51

5.14.2Issue 3734

In section 15, table 65, under "interaction channel protocols", the following row;

6.2.5, "DSM-CC User-to-User Object Carousel" on page 48

shall be considered to read

6.3.6, "DSM-CC User-to-User Object Carousel" on page 51

5.14.3 Issue 3735

In section 15, table 64, under "broadcast channel protocols," "IP multicast stack based on:", the following additional row shall be considered to be present as the last row of text in that cell;

6.2.10, "IP Signalling" on page 50

5.14.4 Issue 3748

Section 15.1.1 shall be considered to be absent.

5.14.5 Issue 4047

In section 15, table 65, ("Detailed platform profile definitions");

a) In the row "11.4.1, "Graphical User Interface API" on page 111", the two references to "(note 1)" shall be considered to be superscripts of "1".

b) In the last row of the table, the word "NOTE" shall be considered to be absent.

5.14.6 Issue 4065

a) In section 15, table 65 : "Detailed platform profile definitions", Note 1 shall be considered to be absent.

5.14.7 Issue 4124

3) In section 15, "Detailed platform profile definitions", in table 65, "Detailed platform profile definitions";

3.1) The following language shall be considered to be present at the end of the table:

NOTE 1: These capabilities taken together form a single option.

3.2) In the row, "IP Multicast stack based on:", in the columns "Enhanced Broadcast Profile 1" and "Interactive Broadcast Profile 1", "(see note 1)" shall be considered to be present.

3.3) In the row, "11.5.2, "Support for Multicast IP over the Broadcast Channel" on page 124", in the columns "Enhanced Broadcast Profile 1" and "Interactive Broadcast Profile 1", "(see note 1)" shall be considered to be present.

5.15 Section A

5.15.1 Issue 3841

In A.7.4.33 ("HBackgroundConfiguration"), a new section shall be considered to be added as follows;

A.7.4.33.3 Constructor

In the description of the constructor, the following sentence;

It is not intended that applications should directly construct HBackgroundConfiguration objects.

shall be considered to read;

An interoperable application shall not subclass the HBackgroundConfiguration class.

5.15.2 Issue 3935

In A.7.5.1 ("HActionEvent"), the following additional heading shall be considered to be present immediately after that heading.

A.7.5.1.1 getModifiers

5.15.3 Issue 3936

Under A.7.5 ("org.havi.ui.event"), the following additional section shall be considered to be present;

A.7.5.7 HKeyCapabilities

A.7.5.7.1 Constructor

The following sentence

It is not intended that applications should directly construct HKeyCapabilities objects.

shall be considered to be replaced by

An interoperable application shall not subclass the HKeyCapabilities class.

5.15.4 Issue 3937

Under A.7.5 ("org.havi.ui.event"), the following additional section shall be considered to be present;

A.7.5.8 HEventRepresentation

A.7.5.7.1 Constructor

The following sentence

It is not intended that applications should directly construct HEventRepresentation objects.

shall be considered to be replaced by

An interoperable application shall not subclass the HEventRepresentation class.

5.15.5 Issue 3938

Under A.7.5.5 ("HRCapabilities"),

a) The following heading shall be considered to be present between the A.7.5.5 heading and the

paragraph beginning "In the method isRepresentation(";

A.7.5.5.1 getRepresentation

b) the following additional section shall be considered to be present;

A.7.5.5.2 Constructor

The following sentence

It is not intended that applications should directly construct HRcCapabilities objects.

shall be considered to be replaced by

An interoperable application shall not subclass the HRcCapabilities class.

5.15.6 Issue 3939

In A.7.5.5 ("HRcCapabilities"), the following sentence;

In the method isRepresentation(int aCode), all references to the parameter id shall be considered to be replaced with keyCode

shall be considered to be modified as follows;

In the method getRepresentation(int aCode), all references to the parameter id shall be considered to be replaced with keyCode

5.15.7 Issue 3942

In section A.7.4.6 ("HBackgroundDevice"), the following additional section shall be considered to be present;

A.7.4.6.3 Constructor

In the constructor of this class, the following sentence;

It is not intended that applications should directly construct HBackgroundDevice objects.

shall be considered to be replaced with the following;

An interoperable application shall not subclass the HBackgroundDevice class.

5.15.8 Issue 3943

In A.7.4 ("org.havi.ui"), the following additional section shall be considered to be present;

A.7.4.48 HSwitchable

The following sentence;

Actioned states (i.e. those with the ACTIONED_STATE_BIT bit set may persist after any registered HActionListener listeners have been called, until a further HActionEvent is received.

shall be considered to be modified as follows;

Actioned states (i.e. those with the ACTIONED_STATE_BIT bit set) may persist after any registered HActionListener listeners have been called, until a further HActionEvent is received.

5.15.9 Issue 3946

In A.7.4.11.1 "getSupportedCharacterRanges", the following extra text shall be considered to be present at the end of the section;

The following paragraph in the method description;

Support for a character range does not imply that ALL characters within that range are available in the specified font.

shall be considered to be extended with the following extra sentence;

Support does require that at least one character from the range is included in the font.

5.15.10 Issue 3947

In A.7.4.32 ("HVideoComponent"),

a) the following intermediate heading shall be considered to be present immediately after the section heading;

A.7.4.32.1 HAVi Specification

b) the following new section shall be considered to be present;

A.7.4.32.2 removeOnScreenLocationModifiedListener

In this method, the parameters clause shall be changed from

slml - listener to be notified when the on-screen location of the component is modified.`

to

slml - listener to be removed

5.15.11 Issue 3948

In section A.7.4.12 ("HGraphicsDevice"), the following additional section shall be considered to be present;

A.7.4.12.4 Constructor

In the constructor of this class, the following sentence;

It is not intended that applications should directly construct HGraphicsDevice objects.
shall be considered to be replaced with the following;

An interoperable application shall not subclass the HGraphicsDevice class.

5.15.12 Issue 3950

In section A.7.4 ("org.havi.ui"), the following additional section shall be considered to be present;

A.7.4.49 HStillImageBackgroundConfiguration

A.7.4.49.1 Constructor

In the constructor of this class, the following sentence;

It is not intended that applications should directly construct
HStillImageBackgroundConfiguration objects.

shall be considered to be replaced with the following;

An interoperable application shall not subclass the
HStillImageBackgroundConfiguration class.

5.15.13 Issue 3952

In A.7.4 "org.havi.ui", the following extra section shall be considered to be present;

A.7.4.50 HTextValue

A.7.4.50.1 Class description

In the description of this interface, the following text;

HAVi text events are discussed in detail in the HKeyboardInputPreferred interface
description.

shall be considered to be replaced by;

HAVi text events are discussed in detail in the HTextEvent description.

5.15.14 Issue 3955

In A.7.4.15.10 ("setItemSelected"), the following phrase;

If a call to this method causes an non selected item to become selected item then an
HItemEvent

shall be modified to read

If a call to this method causes a non selected item to become a selected item then an HIItemEvent

5.15.15 Issue 3965

In section A.7.4 ("org.havi.ui"), the following new section shall be considered to be present;

A.7.4.51 HDefaultTextLayoutManager

A.7.5.51.1 getMinimumSize

The following parameters and returns clause shall be considered to be present.

Parameters

hvisible - a component within which text will be rendered

Returns

the minimum size of text rendered in that component

A.7.4.51.2 getMaximumSize

The following parameters and returns clause shall be considered to be present.

Parameters

hvisible - a component within which text will be rendered

Returns

the maximum size of text rendered in that component

A.7.4.51.3 getPreferredSize

The following parameters and returns clause shall be considered to be present.

Parameters

hvisible - a component within which text will be rendered

Returns

the preferred size for text rendered in that component

5.15.16 Issue 3966

In section A.7.4.40 ("HVideoConfiguration"), the following additional section shall be considered to be present;

A.7.4.40.2 Constructor

In the constructor of this class, the following sentence;

It is not intended that applications should directly construct HVideoConfiguration objects.

shall be considered to be replaced with the following;

An interoperable application shall not subclass the HVideoConfiguration class.

5.15.17 Issue 3970

In section A.7.4.1 ("HActionable"), the following additional section shall be considered to be present;

A.7.4.1.2 Class description

The following sentence immediately before the heading "Interaction States"

HAVi action events are discussed in detail in the HActionInputPreferred interface description.

shall be modified to read;

HAVi action events are discussed in detail in the HActionEvent interface description.

5.15.18 Issue 3972

In A.7.4.1 ("HActionable"), the following additional section shall be considered to be present;

A.7.4.1.3 setActionCommand

The parameters clause for the "command" parameter shall be considered to be extended with the following sentence.

To remove the sound specify a null command parameter.

5.15.19 Issue 3973

In section A.7.4.39 ("HGraphicsConfiguration"), the following additional section shall be considered to be present;

A.7.4.39.2 Constructor

In the constructor of this class, the following sentence;

It is not intended that applications should directly construct HGraphicsConfiguration objects.

shall be considered to be replaced with the following;

An interoperable application shall not subclass the HGraphicsConfiguration class.

5.15.20 Issue 3977

In section A.7.4.29 ("HVideoDevice"), the following additional section shall be considered to be present;

A.7.4.29.6 Constructor

In the constructor of this class, the following sentence;

It is not intended that applications should directly construct HVideoDevice objects.

shall be considered to be replaced with the following;

An interoperable application shall not subclass the HVideoConfiguration class.

5.15.21 Issue 3983

In section A.6.7.4.2.2 ("isDescramblable(ElementaryStream streams)"), the following text shall be considered to be appended to the end of the section;

Is considered to have the following text added as a parameters clause;

Parameters

streams - the set of elementary streams to be tested for the possibility to descramble

5.15.22 Issue 3984

In section A.6.7.4.2.7 ("Additional methods"), in the method enterApplication, the following text;

Requests the module to enter start the application and enter the main application menu.

shall be considered to be modified as follows;

Requests the module to start the application and enter the main application menu.

5.15.23 Issue 3993

In section A.6.6.3 ("NotAuthorizedMediaException"), the following text;

NotAuthorizedMediaException(ElementaryStream[] e, int[] major_reason,int[] minor_reason)

shall be considered to be modified as follows;

```
public NotAuthorizedMediaException(ElementaryStream[] e, int[] major_reason,int[]
minor_reason)
```

5.15.24 Issue 3995

In section A.7 ("HAVi"), the following new clause shall be considered to be present;

A.7.7 Chapter 8

A.7.7.1 Section 8.2.3.3.2 "Compatibility with Existing java.awt Methods"

In this section, the following sentence

The java.awt.Toolkit.getScreenSize method shall be equivalent to the pixel resolution of the current configuration of the default screen device returned by HScreen.getDefaultGraphicsDevice.

shall be considered to read;

The `java.awt.Toolkit.getScreenSize` method shall be equivalent to the pixel resolution of the current configuration of the default screen device returned by `HScreen.getDefaultHGraphicsDevice`.

5.16 Section B

5.16.1 Issue 3787

In section B.2.4.3.5 ("Encoding of table id extension"), in the column "table_id_extension_bits"/"[13...0]", the two cells containing the following;

XX XXXX XXXX

shall be considered to be replaced by

XX XXXX XXXX XXXX

5.16.2 Issue 3795

In section B.3.1.1 ("TapUse is not BIOP_PROGRAM_USE"), the following sentence;

If the `association_tag_descriptor` is optionally used, a `stream_identifier_descriptor` shall still be present and the tag values shall be set consistently in each descriptor.

shall be considered to be modified as follows;

If the `association_tag_descriptor` is optionally used, a `stream_identifier_descriptor` (as defined in ETSI EN 300 468 [4]) shall still be present and the tag values shall be set consistently in each descriptor.

In section B.3.2 ("DSM-CC association_tags to DVB component_tags"), the following text;

The `component_tag` in a PMT's `stream_identifier_descriptor` is used

shall be considered to be modified as follows;

The `component_tag` in a PMT's `stream_identifier_descriptor` (as defined in ETSI EN 300 468 [4]) is used

5.16.3 Issue 3796

1) The title of section B.2.10.1 shall be considered to be changed from "`carousel_id_descriptor`" to "`carousel_identifier_descriptor`"

2) In section ("B.2.3.7.2 LiteOptionsProfileBody"), Table B.26 ("DVB Carousel NSAP Address"), "Comment" column, the following text;

To resolve this reference a `carousel_id_descriptor`

shall be considered to be modified to be;

To resolve this reference a carousel_identifier_descriptor

3) In section B.2.10 ("Mounting an Object Carousel"), all occurrences of "carousel_id_descriptor" shall be considered to be replaced by "carousel_identifier_descriptor" .

4) In section B.2.12, ("Delivery of Carousel within multiple services"), the following text;

The carousel_id_descriptor for the carousel are identical in both services (so the carousels have the same carousel Id and boot parameters).

shall be considered to be modified to be;

The carousel_identifier_descriptor for the carousel are identical in both services (so the carousels have the same carousel Id and boot parameters).

5) In section 10.2.2 ("Data broadcast streams"), the following paragraph;

There may also be certain protocol specific descriptors in the PMT. For example, the Object Carousel requires the inclusion of the carousel_id_descriptor (see B.2.10, "Mounting an Object Carousel" on page 317).

Shall be considered to be replaced by

There may also be certain protocol specific descriptors in the PMT. For example, the Object Carousel requires the inclusion of the carousel_identifier_descriptor (see B.2.10, "Mounting an Object Carousel" on page 317).

5.16.4 Issue 4071

In section B.2.3.5 "BIOP DirectoryMessage", in table B.18 : Restrictions on the BIOP Directory Message", in the row, "BIOP::Name", change;

The name shall contain exactly one NameComponent.

to

The name shall contain exactly one NameComponent. The id_length shall be 2 or greater. The id_data shall not be replicated for other name components within this directory.

5.16.5 Issue 4073

In B.2.3.2, change

"...using CDR-Lite encoding as specified by DSM-CC."

to

"...using the so-called 'CDR-Lite' encoding as described by ISO/IEC 13818-6 [26], Clause

5.6.3.4."

5.16.6 Issue 4079

In B.2.2 ("Data Carousel"), the following shall be considered to be present as a second paragraph following the section heading preceding heading B.2.2.1.

Usage of data carousel descriptors not listed below in an MHP object carousel is not defined by this specification. They should not be used by broadcasters and receivers should ignore them.

5.16.7 Issue 4092

In section B.2.3.8, ("BIOP StreamMessage"), in table B.28, next to the fields "audio," "video" and "data", the following comment shall be considered to be present;

Flag: 0x00 = false, non-zero = true.

5.16.8 Issue 4093

In section B.2.3.7.1 ("BIOPProfileBody"), in table B.22, ("Restrictions on the BIOP Profile Body"), in the row "DSM::Tap", BIOP_DELIVER_PARA_USE shall be considered to be BIOP_DELIVERY_PARA_USE.

5.16.9 Issue 4098

In section B.2.1 ("DSM-CC Sections"), in Table B.2 "Restrictions on DSM-CC Section format", the following text;

if last section number = 0xFF implementations conforming to this spec are allowed to abort the retrieval and report error condition

shall be considered to be replaced with

if last section number = 0xFF receiver behaviour is undefined

5.16.10 Issue 4100

In Annex B under B.2.2. ("Data Carousel"), the following additional section shall be considered to be present;

B.2.2.x DownloadDataBlock

Field	Restrictions	Source
moduleId	Module ids are unique within the scope of the object carousel. See DSM-CC [26] 11.2.3.	DSM-CC

Table B-x Restrictions on the DDB

5.16.11 Issue 4102

In section B.2.3.2 ("CORBA strings"), in Table B.14 ("Location of CORBA format strings"), in the two rows starting "objectKind_data" where the column "length field size (bits)" contains the value 8, it shall be considered to be replaced with the value 32.

5.16.12 Issue 4104

In section B.3.1.1 ("TapUse is not BIOP_PROGRAM_USE"), in figure B.1 ("Object Carousel ES identification decision tree"), in the top-most decision box, the following text;

association_tag in (any of the) deferred_association_descriptors

shall be considered to be replaced with

association_tag in any deferred_association_tags_descriptor

5.17 Section C

5.17.1 Issue 3746

a) Add the following extra row to the table in Annex C "References";

[J] GEM ETSI TS 102819 "Globally Executable MHP (GEM) Specification"

5.18 Section D

5.18.1 Issue 3755

In D.3.3.1 ("Font bounds"), the following sentence

In "High level rendering" the text layout manager uses this information when managing text flow to guarantee that the extremities of all characters are completely within the object.

shall be considered to be replaced with

In "High level rendering" the text layout manager uses this information when managing text flow to guarantee that the extremities of all characters are completely within the object.

5.18.2 Issue 3758

In section D.3.12 ("Placing runs of characters & words"), the following text;

Thus, whilst the "logical" rules must be used to determine the flow of text, are not required to be observed for individual character placement within this flow

is considered to be modified as follows;

Thus, whilst the "logical" rules must be used to determine the flow of text, they are not required to be observed for individual character placement within this flow

5.18.3 Issue 3759

In section D.4.1, table D.4, row for 0x20, the following text;

When an object has the its text wrapping setting set to "true" lines may be broken at a space.

shall be considered to be replaced by

When an object has its text wrapping setting set to "true", lines may be broken at a space.

5.18.4 Issue 4184

In section D.4.4 "Format Control Mark-up", in table D.7 "Codes defined for use in marked-up text files", the following text;

Applies colour to the text enclosed. 0xrr specifies the red intensity, 0xgg the green, 0xbb the blue and 0xtt the transparency.

shall be considered to have the text below appended to the end of the last sentence:

(where 0x00 is fully opaque and 0xff fully transparent).

5.19 Section G

5.19.1 Issue 3725

The following paragraph shall be considered to be present at the end of section G.5 ("Input events");

NOTE 3: The specification for java.awt.event.KeyEvent, org.havi.ui.event.HRcEvent and org.dvb.event.UserEvent do not define which VK_ codes have "valid" Unicode characters. Hence DVB-J applications cannot rely on the return value of the getKeyChar method for KEY_PRESSED or KEY_RELEASED events. Applications which want to use Unicode characters should use KEY_TYPED events instead.

5.19.2 Issue 3736

In Table G.1 "Palette construction rules", column "alpha", row "30%", "(NOTE 1)" shall be considered to be a superscript of 1 without the word "NOTE".

In Table G.1 "Palette construction rules", in the final row, "NOTE" shall be considered to be absent.

5.19.3 Issue 3737

In section G.4.1 ("The built-in font") table G.2 "Minimum set of sizes", all 4 instances of "NOTE" and "note" shall be considered to be absent.

5.20 Section J

5.20.1 Issue 3832

In Annex J ("DVB-J event API"), class UserEvent, both occurrences (in the parameters clause of the constructors) of the following phrase

specifys the time the event occurs

shall be modified to read

specifies the time the event occurs

5.20.2 Issue 4125

1) In the class `UserEventRepository`, the following extra method shall be considered to be present:

```
public java.lang.String getName()  
Returns the name of the current repository  
as passed to the constructor.
```

Returns:
A String with the name of the repository.

2) In the class `RepositoryDescriptor`, the following extra text shall be considered to be present at the end of the class description.

All instances of `RepositoryDescriptor` are also instances of `UserEventRepository`.
This class is preserved for backwards compatibility with existing applications.

5.21 Section L

5.21.1 Issue 3823

In Annex L ("User Settings and Preferences API"), class `Preference`, method `getMostFavourite()` the following text in the returns clause;

a String representing the favourite values Returns null if no value is defined for this preference.

shall be considered to read;

a String representing the most favourite value for this preference. Returns null if no value is defined for this preference

5.21.2 Issue 4048

In section L ("User Settings and Preferences API"), class `UserPreferenceManager`, method `read(Preference, Facility)`, the parameters clause for the facility parameter shall be considered to be replaced by;

facility - the preferred values of the application for the preference

5.22 Section M

5.22.1 Issue 3760

In all of Annex M ("SI Access API"), all references to "`SIObjectNotInCacheEvent`" shall be considered to be replaced by "`SINotInCacheEvent`".

5.22.2 Issue 3762

In Annex M ("SI Access API"), class `SIDatabase`, method `retrievePMTElementaryStreams`, the each

of the following replacements shall be considered to be done;

"ObjectNotInCacheEvent" by "SINotInCacheEvent",
"ObjectNotInTableEvent" by "SIOBJECTNotInTableEvent"
"TableNotFoundEvent" by "SITableNotFoundEvent".

5.22.3 Issue 3763

In Annex M ("SI Access API"), class SIInformation, method fromActual, the returns clause of the method shall be considered to be;

true if the information comes from an actual table or from a table with no actual/other distinction, otherwise returns false

5.22.4 Issue 3809

In Annex M ("SI Access API"), in the SIDatabase class, the following text;

When the referenced service is carried in the currently tuned transport stream, the terminal shall monitor this EITp/f actual and report the changes to any registered listener(s).

Shall be considered to be moved from the method description of removeEventPresentFollowingMonitoringListener(....) to the method description of addEventPresentFollowingMonitoringListener(...)

5.23 Section O

5.23.1 Issue 3996

In section O.2.2.1, the title of the heading shall be considered to be changed from "getComponentName" to "getName".

5.24 Section P

5.24.1 Issue 3828

In Annex P ("Broadcast Transport Protocol Access"), class DSMCCObject, method asynchronousLoad(AsynchronousLoadingEventListener) , all occurrences of the following phrase;

the ServiceDomain isn't in a attached state.

shall be modified to read;

the ServiceDomain isn't in an attached state.

5.24.2 Issue 3830

In Annex P ("Broadcast Transport Protocol Access"), class DSMCCStreamEvent, the following phrase;

as specified in Monitoring stream eventt in the main body of the specification.

shall be considered to be modified as follows;

as specified in the section "Monitoring stream events" in the main body of the specification.

5.24.3 Issue 4082

In Annex P "Broadcast Transport Protocol Access", in the class description of DSMCCStreamEvent, the following text;

While the event listener is registered the MHP terminal shall filter the stream event descriptors as specified in Monitoring stream eventt in the main body of the specification.

shall be considered to be replaced by

While the event listener is registered the MHP terminal shall filter the stream event descriptors as specified in "Monitoring stream events" in the main body of the specification.

5.24.4 Issue 4180

In DSMCCObject.FROM_STREAM_ONLY, the following extra text shall be considered to be present;

NOTE : This functionality is introduced deliberately to bypass any receiver cache allowing an application to be synchronised with the broadcast carousel. It should not be used simply to ensure up-to-date content is retrieved. It should also be noted here that this feature is provided to fulfil very specific application requirements (where other provided methods may not be suitable) and misuse of this functionality may seriously affect application/receiver performance.

5.25 Section S

5.25.1 Issue 3835

In Annex S ("Application Listing and Launching"), in class AppsDatabase, method getAppProxy (AppID);

a) The following text (the returns clause);

the value to which the key is mapped in this dictionary;

shall be considered to be replaced by

the AppProxy associated with the key parameter or null if the key is not an application ID, or not mapped to any application available.

b) The following text from the parameters clause shall be considered to be absent;

null if the key is not an application ID, or not mapped to any application available.

5.25.2 Issue 3836

In Annex S ("Application Listing and Launching"), class AppsDatabaseEvent, in the class description, the following text;

All former contents of the database shall be discarded except for running externally authorised applications.

shall be considered to be modified as follows;

All former contents of the database shall be discarded except for running externally authorised applications.

5.25.3 Issue 4053

a) In section 3.1, the following additional definition shall be considered to be present;

running application - an application is considered running if it is in any state other than NOT_LOADED or INVALID

b) In Annex S, "Application Listing and Launching", class AppStateChangeEvent, the following text;

"These events are only generated for running applications or formerly running applications on completion of a state transition into the DESTROYED state."

shall be considered to be replaced with;

"These events are only generated for running applications or for non-running applications where an attempt to control the application fails.

and the following text;

"Attempting to start an application which is already running shall fail and generate an AppStateChangeEvent with hasFailed returning true and both fromstate and tostate being STARTED."

shall be considered to be replaced with;

"Attempting to start an application which is already in the active state shall fail and generate an AppStateChangeEvent with hasFailed returning true and both fromstate and tostate being STARTED."

c) In Annex S, "Application Listing and Launching", all occurrences of "AppStateChangedEvent" shall be considered to be changed to "AppStateChangeEvent."

5.25.4 Issue 4120

In Annex S, "Application Listing and Launching", in the class AppProxy, the following extra text shall be considered to be added to the end of the class description of AppProxy;

Having more than one application attempt to control the lifecycle of the same (other)

application at the same time is not recommended. The ordering of AppStateChangeEvents if this is done will be implementation dependent.

5.25.5 Issue 4121

In Annex S, "Application Listing and Launching", in class AppsDatabase, in the method getAppProxy (key), the parameters and returns clauses shall be considered to be the following;

Parameters:

key - an application ID.

Returns:

the value to which the key is mapped in this dictionary; null if the key is not an application ID, or not mapped to any application available.

5.26 Section U

5.26.1 Issue 3813

In Annex U ("Extended graphics APIs"), class DVBBufferedImage, the following phrase

If the dispose method has been called on this instance than

shall be considered to be modified in all 3 places where it is found, to read

If the dispose method has been called on this instance then

5.26.2 Issue 3814

In annex U ("Extended graphics APIs"), in class DVBBufferedImage, method getHeight (ImageObserver), the following text shall be considered to be removed;

If the height is not known yet then the ImageObserver is notified later and -1 is returned

5.26.3 Issue 3816

In Annex U ("Extended graphics APIs"), class DVBAAlphaComposite, field SRC_IN, the following text;

Note that this operation is faster than e.g.SRC_OVER but slower than SRC

shall be considered to be modified as follows;

Note that this operation is faster than e.g.SRC_OVER but slower than SRC

5.26.4 Issue 3817

In Annex U ("Extended graphics APIs"), in the interface TextOverflowListener, in the method notifyTextOverflow, the following phrase in 2 of the parameter clauses;

true if the text overflowed the bounds of the component

shall be considered to be modified as follows;

true if the text overflowed the bounds of the component

5.26.5 Issue 3818

In Annex U ("Extended graphics APIs"), class DVBGraphics, method `getAvailableAlphaCompositeRules`, the following text;

when using a destination which does not has Alpha or the alpha is null

shall be considered to be modified to read

when using a destination which does not have alpha or the alpha is null

6 Significant Open Issues

Below are listed some of the more significant open issues which are not yet resolved in DVB. Solutions to these can be expected to appear in a subsequent version of this document. Users of the MHP specification should be very careful when using features impacted by these open issues. Feedback from the MHP community about existing practice in these areas is strongly encouraged in order to reach a good technical solution which doesn't cause problems for existing applications and equipment. DVB member organisations with strong views on these issues are encouraged to participate in MHP specification maintenance work within the "Technical Aspects of the MHP" group.

6.1 Issue 2559

Where an MHP terminal is a conventional set-top box, the relationship between the MHP APIs and any EN300294 wide screen signalling output by that box should be explained. (This should also cover set-top boxes which use SCART pin 8 instead of WSS.) In particular, if an EPG wishes to lock the screen aspect ratio (as defined by EN 300 294 or SCART pin 8) in 4:3 or 16:9 regardless of the aspect ratio of the video being decoded, this should be possible by reserving the `HGraphicsDevice` and setting the `HGraphicsConfiguration` to either 4:3 or 16:9 as desired by the EPG. This may require additional detail in the specification to require support for particular `HGraphicsConfigurations` and to mandate the behaviour when the application sets one. The applicability of this to MHP receivers integrated in TV sets also needs consideration.