bmcoforum Recommendation for Implementation Profile

OMA BCAST Services

Approved Version 2.0
30 June 2009

Based on OMA BCAST V1.0 Enabler Specification

This document is solely for information and has no binding status for any party, not even the bmcoforum members.
Note:

This document is provided for information purposes only. Unless permitted by law, the document or any part of it may not be reproduced, published, adapted or distributed, in any form and by any means without prior written consent of bmcoforum.

This document is provided on an “as is” basis. bmcoforum does not represent or warrant that the information provided in the document is accurate, complete, current or suitable for a specific use. bmcoforum has not conducted an intellectual property rights review of this document and the information contained herein and makes no representations or warranties regarding third party intellectual property rights or other rights that might be claimed to pertain to the document and the information contained herein. In particular, bmcoforum disclaims any responsibility for identifying the existence of or for evaluating the applicability of any copyrights, patents, patent applications, trade secrets or other intellectual property rights, licenses and respective restrictions, the extent to which any license under such rights might or might not be available and takes no position on the validity or scope of any such rights. bmcoforum is not liable for and hereby disclaims any damages or losses arising out of or in connection with the use of this document or the information contained herein.
Content:

INTRODUCTION .............................................................................................................................. 4

SCOPE ........................................................................................................................................... 4

HOW TO READ THIS DOCUMENT ............................................................................................. 5

TERMINOLOGY ................................................................................................................................ 5

REFERENCES .................................................................................................................................... 5

5 MOBILE BROADCAST SERVICES.................................................................................................. 6

5.1 SERVICE PROVISIONING ........................................................................................................... 6

5.1.1 Transport Protocol for Service Provisioning Messages .......................................................... 7

5.1.2 HTTP Binding ......................................................................................................................... 7

5.1.3 Message Authentication ........................................................................................................ 8

5.1.4 Use of Global Status Codes for Service Provisioning Messages ............................................... 8

5.1.5 General Service Provisioning Messages .................................................................................. 8

5.1.6 Smartcard Profile Service Provisioning Messages ................................................................... 8

5.1.6.1 Pricing Information Messages ............................................................................................... 8

5.1.6.2 Service Request Messages .................................................................................................... 8

5.1.6.3 Unsubscription Messages ...................................................................................................... 8

5.1.7 Message Compression ............................................................................................................ 8

5.1.8 Provisioning Trigger Message ................................................................................................ 8

5.1.9 Web-based Service Provisioning ............................................................................................. 9

5.2 TERMINAL PROVISIONING ....................................................................................................... 9

5.3 INTERACTION ............................................................................................................................. 9

5.3.1 Protocols and media codecs for Service Interaction function .................................................. 9

5.3.2 Interactive retrieval of Service Guide ......................................................................................... 9

5.3.3 Interactive retrieval of Service related information ................................................................. 9

5.3.4 Interactive Service Ordering .................................................................................................. 9

5.3.5 Interaction for service and content protection .......................................................................... 10

5.3.6 Service related interaction and feedback ............................................................................... 10

5.3.6.1 Format of Interactivity Media Document ............................................................................. 10

5.3.6.2 MediaObjectSet parsing for interactivity technology selection .......................................... 10

5.3.6.3 On the rendering .................................................................................................................. 11

5.3.6.4 MediaObjectSet definition for some interactivity technologies ......................................... 11

5.3.6.5 InteractivityMediaDocument generation and parsing for language selection ..................... 12

5.3.6.6 Using URI scheme “sms:” .................................................................................................... 12

5.3.6.7 Broadcast delivery of InteractivityMediaDocuments ............................................................ 13

5.3.6.8 Interactive delivery of InteractivityMediaDocuments .......................................................... 13

5.4 PERSONALIZATION/SUPPORT FOR USER-BASED PROFILES AND PREFERENCES .......... 13

5.5 CHARGING .................................................................................................................................. 13

5.6 MOBILITY ..................................................................................................................................... 13

5.7 BROADCAST ROAMING ............................................................................................................ 13

5.8 AVAILABILITY OF LOCATION INFORMATION ......................................................................... 13

5.9 XML FOR SIGNALLING ............................................................................................................... 14

5.10 SERVICE PROVISIONING OF UNICAST SERVICES ................................................................. 14

5.11 GLOBAL STATUS CODES ......................................................................................................... 14

5.12 AUXILIARY DATA INSERTION AND SUPPORT FOR ADVERTISEMENTS ......................... 14

5.13 SUBTITLING AND CLOSED CAPTIONS ............................................................................... 14

5.14 NOTIFICATION FUNCTION ...................................................................................................... 14

APPENDIX A: EXAMPLES OF INTERACTIVITYMEDIA DOCUMENTS ............................................. 15

CHANGE HISTORY ............................................................................................................................ 17
Introduction

Scope
The “Broadcast Mobile Convergence Forum” (bmcoforum) is an international organisation targeting to shape an open market environment (eco-system) for mobile broadcast services. This ranges from support of the various bearer technologies over application architecture to regulatory and business issues.

The Interoperability Work item (WI2) targets on enabling interoperability between back end systems and terminals of different vendors, even before standards are available or complete.

For this purposes and based on commercial requirements from our membership profiles of the standard specifications are developed. The profiles serve as a prioritization for implementers so that interoperability of the profile features can be maximised. The profiles are prepared as valid subsets of the standard.

The main objective of the recent activity is to facilitate and accelerate the development of OMA BCAST implementations by focussing implementations of bmcoforum members who wish to launch mobile TV services to a subset of features which has been agreed between operators, system and handset vendors.

As the specifications bmcoforum are profiling will evolve, the profiles are reviewed and enhanced. Still, the profiles may not include the entire specifications, since bmcoforum works on the superset of commercial requirements of its members.

Implementers of the profiles may use other features of OMA BCAST, however with the caveat that they may not be supported by other bmcoforum profile implementers.

This document includes bmcoforum’s implementation profile recommendation for the OMA BCAST 1.0 Services specification. It is intended to support industry players in developing interoperable OMA BCAST 1.0 standards-based solutions.

This document is intended to be used as a support and clarification when implementing OMA BCAST Services specification.

The used reference OMA BCAST baseline document has been:

Mobile Broadcast Services, Open Mobile Alliance, [1].

The document contains the following information:

- A list of the OMA BCAST 1.0 Services features which are required by bmcoforum members who wish to launch mobile TV.
- Implementation guidelines related to those features (where appropriate).
How to read this document

The chapter numbering in this document matches that of the original OMA BCAST Services specification [1].

Therefore after this introduction the numbering jumps to ‘5’. This makes it easier to cross-reference against the original OMA items.

This document profiles a baseline of OMA BCAST features intended to promote interoperability between the service providers, mobile and broadcast operators and terminal vendors involved in a BCAST deployment. The phrases “part of this profile”/“not part of this profile” are used instead of “supported/not supported”. This is because implementers may use other features of OMA BCAST, however with the caveat that they may not be supported by other bmcoforum profile implementers. If a particular feature described in the referred BCAST specification(s) is not explicitly mentioned in this profile, it means that the feature is implicitly “not part of this profile”.

The following is the legend used in this specification before the XML item name:
Type: (E)=Element, (A)=Attribute, (E1)=sub-element, (E2)=sub-element’s sub-element, (E[n])=sub-element of element[n-1]

Terminology

Please refer to [1] for definitions and abbreviations.

References

[3] OMA BCAST Service and Content Protection: Smartcard profile, bmcoforum Recommendation for Implementation Profile, V2.0 20090630-A
5 Mobile Broadcast Services

5.1 Service Provisioning

The following table specifies which of the general Service Provisioning messages are part of this profile. Note that the messages below are relevant for the DRM profile but not for the Smartcard profile.

<table>
<thead>
<tr>
<th>Message</th>
<th>Section as defined in [1]</th>
<th>Part of the profile?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pricing Information Request</td>
<td>5.1.5.1.1</td>
<td>Yes</td>
</tr>
<tr>
<td>Pricing Information Response</td>
<td>5.1.5.1.2</td>
<td>Yes</td>
</tr>
<tr>
<td>Service Request</td>
<td>5.1.5.2.1</td>
<td>Yes</td>
</tr>
<tr>
<td>Service Response</td>
<td>5.1.5.2.2</td>
<td>Yes</td>
</tr>
<tr>
<td>Service Completion</td>
<td>5.1.5.2.3</td>
<td>Yes</td>
</tr>
<tr>
<td>LTKM Renewal Request</td>
<td>5.1.5.3.1</td>
<td>Yes</td>
</tr>
<tr>
<td>LTKM Renewal Response</td>
<td>5.1.5.3.2</td>
<td>Yes</td>
</tr>
<tr>
<td>LTKM Renewal Completion</td>
<td>5.1.5.3.3</td>
<td>Yes</td>
</tr>
<tr>
<td>Unsubscribe Request</td>
<td>5.1.5.4.1</td>
<td>Yes</td>
</tr>
<tr>
<td>Unsubscribe Response</td>
<td>5.1.5.4.2</td>
<td>Yes</td>
</tr>
<tr>
<td>Token Purchase Request</td>
<td>5.1.5.5.1</td>
<td>No</td>
</tr>
<tr>
<td>Token Purchase Response</td>
<td>5.1.5.5.2</td>
<td>No</td>
</tr>
<tr>
<td>Token Purchase Completion</td>
<td>5.1.5.5.3</td>
<td>No</td>
</tr>
<tr>
<td>Account Inquiry Request</td>
<td>5.1.5.6.1</td>
<td>No</td>
</tr>
<tr>
<td>Account Inquiry Response</td>
<td>5.1.5.6.2</td>
<td>No</td>
</tr>
</tbody>
</table>

Table 1: Summary General Service Provisioning messages
The following table specifies which of the (U)SIM Smartcard Service Provisioning messages are part of this profile. Note that the messages below are relevant for the Smartcard profile but not for the DRM profile.

<table>
<thead>
<tr>
<th>Message</th>
<th>Section as defined in [1]</th>
<th>Included in the profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pricing Information Request</td>
<td>5.1.6.1.1</td>
<td>Yes</td>
</tr>
<tr>
<td>Pricing Information Response</td>
<td>5.1.6.1.2</td>
<td>Yes</td>
</tr>
<tr>
<td>Service Request</td>
<td>5.1.6.2.1</td>
<td>Yes</td>
</tr>
<tr>
<td>Service Response</td>
<td>5.1.6.2.1</td>
<td>Yes</td>
</tr>
<tr>
<td>LTKM Renewal Request</td>
<td>5.1.6.3</td>
<td>Yes</td>
</tr>
<tr>
<td>LTKM Renewal Response</td>
<td>5.1.6.3</td>
<td>Yes</td>
</tr>
<tr>
<td>Unsubscribe Request</td>
<td>5.1.6.4.1</td>
<td>Yes</td>
</tr>
<tr>
<td>Unsubscribe Response</td>
<td>5.1.6.4.1</td>
<td>Yes</td>
</tr>
<tr>
<td>Token Purchase Request</td>
<td>5.1.6.5.1</td>
<td>No</td>
</tr>
<tr>
<td>Token Purchase Response</td>
<td>5.1.6.5.1</td>
<td>No</td>
</tr>
<tr>
<td>Account Inquiry Request</td>
<td>5.1.6.6</td>
<td>No</td>
</tr>
<tr>
<td>Account Inquiry Response</td>
<td>5.1.6.6</td>
<td>No</td>
</tr>
<tr>
<td>Registration Procedure</td>
<td>5.1.6.7</td>
<td>Yes</td>
</tr>
<tr>
<td>LTKM Request Procedure</td>
<td>5.1.6.8</td>
<td>Yes</td>
</tr>
<tr>
<td>Deregistration Procedure</td>
<td>5.1.6.9</td>
<td>Yes</td>
</tr>
<tr>
<td>LTKM delivery mechanisms</td>
<td>5.1.6.10</td>
<td>Yes</td>
</tr>
<tr>
<td>Parental Control messages delivery mechanisms</td>
<td>5.1.6.11</td>
<td>Yes</td>
</tr>
<tr>
<td>PDP context handling</td>
<td>5.1.6.12</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table2: Summary (U)SIM Smartcard Service Provisioning messages.

5.1.1 Transport Protocol for Service Provisioning Messages
This is part of this profile as specified by 5.1.1 of [1]

5.1.2 HTTP Binding
This is part of this profile as specified by 5.1.2 of [1].
5.1.3 Message Authentication
This is part of this profile as specified by 5.1.3 of [1]

5.1.4 Use of Global Status Codes for Service Provisioning Messages
This is part of this profile as specified by 5.1.4 of [1]

5.1.5 General Service Provisioning Messages
Messages that are part of this profile are defined in table 1, see above, with the exception of the 'BroadcastRoamingSpecificPart' element which is not part of this profile.
Note that this section is relevant for the DRM profile but not for the Smartcard profile.

5.1.6 Smartcard Profile Service Provisioning Messages
Messages that are part of this profile are defined in table 2, see above.
Note that this section is relevant for the Smartcard profile but not for the DRM profile. Further note that this document only lists those higher-level messages that are not directly involved into registration/deregistration and LTKM/Parental control messages delivery. Recommendations for registration/deregistration and LTKM/Parental control messages delivery related messages are given in [3].

5.1.6.1 Pricing Information Messages
This is part of this profile as specified in 5.1.6.1 of [1], with the exception of the 'BroadcastRoamingSpecificPart' element which is not part of this profile.

5.1.6.2 Service Request Messages
This is part of this profile as specified in 5.1.6.2 of [1], with the exception of the 'BroadcastRoamingSpecificPart' element which is not part of this profile.

5.1.6.4 Unsubscription Messages
This is part of this profile as specified in section 5.1.6.4 of [1]

5.1.7 Message Compression
This is part of this profile as specified by 5.1.7 of [1]

5.1.8 Provisioning Trigger Message
This is not part of this profile.
5.1.9 Web-based Service Provisioning

For use with the smartcard profile, this is part of this profile as specified in 5.1.9 of [1], through use of registration request and not service request.

For use with the DRM profile, this is not part of this profile.

5.2 Terminal Provisioning

Terminal provisioning is not part of this profile.

However, terminals should be able to bootstrap themselves by scanning available frequencies.

The expected behavior is that user should have a choice between the different Service Guides which are available at their current location. Terminals may choose a default SG based on whatever criteria (e.g. the network code in the ESGProviderDiscovery Descriptor) but a general choice should be possible.

5.3 Interaction

The following interaction types are part of this profile:

- Interactive retrieval of the service guide
- Service interaction
- Interactive delivery of BCAST services

Interactive retrieval of additional information related to the Service Guide through the ‘Extension’ element is part of this profile.

5.3.1 Protocols and media codecs for Service Interaction function

This is part of this profile as per section 5.3.1 of [1]. The protocols used for interaction are: IP, TCP, HTTP, SMS, IPSEC, UDP, MMS, HTTPS, Voice call, email.

5.3.2 Interactive retrieval of Service Guide

This is part of this profile as per section 5.3.2 of [1].

5.3.3 Interactive retrieval of Service related information

Interactive retrieval of service related information should be supported for those fragments for which support of the extension URL is specified in the SG profile.

5.3.4 Interactive Service Ordering

This is part of this profile as defined in table 1 and 2, see above
5.3.5 Interaction for service and content protection

This is part of this profile as defined in table 1 and 2, see above.

5.3.6 Service related interaction and feedback

5.3.6.1 Interactivity Media Document

For terminals not supporting the ActionDescriptor element, the terminal is assumed to render documents with a GroupPosition 0x000000 as part of this profile.

Legend: (E) denotes a root element, (E1) a sub-element, (E2) a sub-sub-element, E(n) a sub-element of (En-1). (A) denotes an attribute.

5.3.6.1.2 Format of Interactivity Media Document

The elements and attributes in InteractivityMediaDocument that are part of this profile are:

- (E) InteractivityMediaDocument
  - (A) groupID
  - (A) groupPosition. The value 0x000000 is used for static documents which do not contain ActionDescriptor elements as part of this profile.
  - (A) id
  - (A) version
  - (A) validFrom
  - (A) validTo

- (E1) MediaObjectGroup
  - (A) id
  - (A) startMediaFlag
  - (E2) ActionDescriptor
    - (A) inputAllowedTime
    - (A) onTimeOutPointer
    - (A) updateFlag
    - (A) onActionPointer
  - (E2) BackOffTiming
    - (A) offsetXTime
    - (A) randomTime
  - (E2) MediaObjectSet
    - (A) relativePreference
    - (A) Content-Type
    - (A) Content-Location
- (E3) Description
- (E3) Object
  - (A) Content-Location
  - (A) Content-Type
  - (A) start
- (E2) SMSTemplate
  - (A) relativePreference
  - (E3) Description
    - (A) text
  - (E3) SelectChoice
    - (A) smsURI
    - (E4) ChoiceText
- (E2) EmailTemplate
  - (A) relativePreference
  - (A) toHeader
  - (A) subjectHeader
  - (E3) Description
  - (E3) MessageBody
- (E2) VoiceCall
  - (A) relativePreference
  - (E3) Description
  - (E3) PhoneNumber
- (E2) Weblink
  - (A) relativePreference
  - (A) webURL
  - Note: The following behaviour is part of this profile: browsing to a Web page, further browsing and subsequent return to the TV application as desired by the user. Once the browsing session has ended focus is returned to the TV application. Cardinality is 0...1
  - (E3) Description
- (E1) PrivateExt
  - (E2) <proprietary elements>

5.3.6.1.3 On the rendering

Section 5.3.6.1.3 of [1] is part of the profile with the following clarification:

The regular broadcast stream may be suspended when the user is interacting with the media objects associated with the InteractivityMediaDocument.
5.3.6.1.4 MediaObjectSet parsing for interactivity technology selection

MediaObjectSet parsing for interactivity technology selection is part of this profile as defined in section 5.3.6.1.4 of [1].

5.3.6.1.5 InteractivityMediaDocument generation and parsing for language selection

InteractivityMediaDocument generation and parsing for language selection is part of this profile as defined in section 5.3.6.1.5 of [1].

5.3.6.1.6 MediaObjectSet definition for some interactivity technologies

MediaObjectSet definition for some interactivity technologies is part of this profile as defined in section 5.3.6.1.6 of [1].

5.3.6.1.7 Using URI scheme “sms:“

The URI scheme for SMS is part of this profile as defined in section 5.3.6.1.7 of [1].

5.3.6.1.8 Service Interaction using MMS Message Template

The usage of the MMS template is part of this profile as defined in 5.3.6.1.8 of [1].

Examples of the document usage are given in Appendix A.

Table 3: Content types/protocols supported by the interactivity function

Table 3 shows which content types and protocols of the interactivity function are parts of the profile.

<table>
<thead>
<tr>
<th>Content type/protocol</th>
<th>Part of this profile?</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMS template</td>
<td>Yes</td>
</tr>
<tr>
<td>MMS template</td>
<td>Yes if available on terminal</td>
</tr>
<tr>
<td>Phonenumber via Tel-URI (RFC 3966)</td>
<td>Yes (at least one required)</td>
</tr>
<tr>
<td>Phonenumber via SIP URI (RFC 3261)</td>
<td>Yes (at least one required)</td>
</tr>
<tr>
<td>HTML/XHTML/XHTML-MP</td>
<td>Yes (at least one required)</td>
</tr>
<tr>
<td>SMS-URI in (X)HTML files</td>
<td>Yes if available on terminal</td>
</tr>
<tr>
<td>Tel-URI in (X)HTML files</td>
<td>Yes if available on terminal</td>
</tr>
<tr>
<td>JPEG</td>
<td>Yes</td>
</tr>
</tbody>
</table>
## 5.3.6.2 Broadcast delivery of InteractivityMediaDocuments

Broadcast delivery of InteractivityMediaDocuments is part of the profile as defined in 5.3.6.2 of [1].

## 5.3.6.3 Interactive delivery of InteractivityMediaDocuments

Interactive delivery of InteractivityMediaDocuments over HTTP is part of the profile, as defined in 5.3.6.3 of [1].

## 5.4 Personalization/Support for User-based Profiles and Preferences

Not part of this profile.

## 5.5 Charging

Not part of this profile.

## 5.6 Mobility

This is part of this profile as specified in 5.6 of [1] with the exception of section 5.6.2 [1], ‘Global identification of services and content’.

## 5.7 Broadcast Roaming

Not part of this profile.

## 5.8 Availability of Location Information

Not part of this profile.

---

Table 3: Profile of content types and protocols for interactivity function

<table>
<thead>
<tr>
<th>Format</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIF</td>
<td>Yes</td>
</tr>
<tr>
<td>PNG</td>
<td>Yes</td>
</tr>
<tr>
<td>Email template</td>
<td>Yes if available on terminal</td>
</tr>
<tr>
<td>Other image formats</td>
<td>No</td>
</tr>
<tr>
<td>Video codecs</td>
<td>No</td>
</tr>
<tr>
<td>Audio codecs</td>
<td>No</td>
</tr>
<tr>
<td>Vector graphics formats</td>
<td>No</td>
</tr>
</tbody>
</table>

---
5.9 XML for Signalling
This is part of this profile as specified in 5.9 of [1].

5.10 Service Provisioning of Unicast Services
This is part of this profile as specified in section 5.10 of [1].

5.11 Global Status Codes
This is part of this profile as specified in section 5.11 of [1].

5.12 Auxiliary data insertion and support for advertisements
Not part of this profile.

5.13 Subtitling and Closed Captions
This is part of the profile as specified in section 5.13 of [1].

5.14 Notification Function
Notification Function is not part of this profile.
Appendix A: Examples of InteractivityMedia Documents

Example of SMS Interactivity

```xml
<?xml version="1.0" encoding="UTF-8"?>
<InteractivityMediaDocument
groupID="www.example.com/bar/documentGroup1234"
groupPosition="0"
id="www.example.com/bar/document1234"
version="56">
<MediaObjectGroup id="www.example.com/bar/group1234"
startMedia_Flag="true">
<SMSTemplate>
  <SelectChoice smsURI="sms:+410000000?body=Vote A">
    <ChoiceText xml:lang="en">Vote for song A</ChoiceText>
  </SelectChoice>
  <SelectChoice smsURI="sms:+410000000?body=Vote B">
    <ChoiceText xml:lang="en">Vote for song B</ChoiceText>
  </SelectChoice>
</SMSTemplate>
</MediaObjectGroup>
</InteractivityMediaDocument>
```

Example of Interactivity Application

```xml
<?xml version="1.0" encoding="UTF-8"?>
<InteractivityMediaDocument
groupID="www.example.com/bar/documentGroup1235"
groupPosition="0"
id="www.example.com/bar/document1235"
version="56">
```
version="56">  
<MediaObjectGroup id="www.example.com/bar/group1235"    
  startMediaFlag="true">  
<MediaObjectSet    
  relativePreference="1"    
  Content-Type="application/x-gzip"    
  Content-URI="www.example.com/bar/entryPoint.gz">  
<Description>More Information</Description>  
<Object    
  Content-Type="application/xhtml+xml"    
  Content-Location="page.xhtml"    
  start="true"/>  
<Object    
  Content-Type="xxx"    
  Content-Location="associatedFile1.xxx"    
  start="false"/>  
<Object    
  Content-Type="xxx"    
  Content-URI="associatedFile2.xxx"    
  Start="false"/>  
...  
<Object    
  Content-Type="xxx"    
  Content-URI="associatedFileN.xxx"    
  start="false"/>  
</MediaObjectSet>  
</MediaObjectGroup>  
</InteractivityMediaDocument>
## Change history

<table>
<thead>
<tr>
<th>Version</th>
<th>Date / Status</th>
<th>Description of changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>20070930-A</td>
<td>Initial version of the Implementation Profile.</td>
</tr>
<tr>
<td>1.1</td>
<td>20080708-D</td>
<td>Aligned with bug fixes that have been applied to the referenced versions of the OMA BCAST specifications. No new functionality added. Alignments include:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Updates to Table 1 and Table 2 in sect. 5.1.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Editorial restructuring to sections 5.1.6.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Clarification to the use of procedures and methods in sections 5.1.7, 5.1.8, 5.1.9, 5.1.10.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Note added to sect. 5.1.8.</td>
</tr>
<tr>
<td>1.1</td>
<td>20080709-V</td>
<td>Editorial changes.</td>
</tr>
<tr>
<td>1.1</td>
<td>20080721-A</td>
<td>Updated reference to Final Draft of OMA BCAST spec.</td>
</tr>
<tr>
<td>1.2</td>
<td>20081111-D</td>
<td>Moved the low-level Registration and LTKM delivery related sections into Smartcard profile document.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aligned with bug fixes that have been applied to the referenced version of the OMA BCAST specification. No new functionality added.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Alignments include:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Changes in tables 1 and 2 as some messages were removed. Added scoping for DRM and Smartcard profiles for Service provisioning messages.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Profiled out from Service provisioning messages the new “BroadcastRoamingSpecificPart” that was added to BCAST.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Profiled out Provisioning Trigger for DRM.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Clarified that web shop is part of the profile only for Smartcard profile.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Removed SmartcardProfile Trigger message from the profile as it was removed from OMA BCAST.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Multi-language supprt in InteractivityMediaDocument.</td>
</tr>
<tr>
<td>1.2</td>
<td>20081128-D</td>
<td>Editorial changes. Updated references to Final Draft OMA BCAST specs and to latest bmcoforum profile docs.</td>
</tr>
<tr>
<td>-----</td>
<td>------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1.2</td>
<td>20081209-D</td>
<td>Updated references to latest bmcoforum profile docs.</td>
</tr>
<tr>
<td>1.2</td>
<td>20081211-V</td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>20090107-A</td>
<td></td>
</tr>
<tr>
<td>2.0</td>
<td>20090618-D</td>
<td>Added the following features:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- No more limitations in the support of Registration/Deregistration/LTKM request procedures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- LTKM delivery mechanisms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Parental Control messages delivery mechanisms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- PDP context handling</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Support of subtitling and closed captions</td>
</tr>
<tr>
<td>2.0</td>
<td>20090622-V</td>
<td>Reference update to the bmcoforum profile documents V2.0</td>
</tr>
<tr>
<td>2.0</td>
<td>20090630-A</td>
<td></td>
</tr>
</tbody>
</table>