bmcoforum **Recommendation for Implementation Profile**

OMA BCAST System Adaptation:

3GPP/MBMS

Approved Version 2.0

30 June 2009

Based on OMA BCAST V1.0 Enabler Specification

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Introduction

Scope

The "Broadcast Mobile Convergence Forum" (**bmco**forum) 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 **bmco**forum 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 **bmco**forum are profiling will evolve, the profiles are reviewed and enhanced. Still, the profiles may not include the entire specifications, since **bmco**forum 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 **bmco**forum profile implementers.

This document includes **bmco**forum's implementation profile recommendation for the OMA BCAST 1.0 Broadcast Distribution System Adaptation – 3GPP/MBMS 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 Broadcast Distribution System Adaptation – 3GPP/MBMS specification.

The used reference OMA BCAST baseline document has been:

Broadcast Distribution System Adaptation – 3GPP/MBMS, Open Mobile Alliance, [1].

The document contains the following information:

- A list of the OMA BCAST 1.0 3GPP/MBMS Adaptation features which are required by **bmco**forum members who wish to launch mobile TV services.
- Implementation guidelines related to those features (where appropriate).

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How to read this document

The chapter numbering of the original OMA specification is reflected in the numbering of this document. Therefore after this Introduction the numbering jumps to '6'. 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 **bmco**forum 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".

Terminology

Please refer to [1] for definitions and abbreviations.

References

[1] Broadcast Distribution System Adaptation – 3GPP/MBMS, Open Mobile Alliance, OMA-TS-BCAST_MBMS_Adaptation-V1_0, available from http://www.openmobilealliance.org

[2] OMA BCAST Services, **bmco**forum Recommendation for Implementation Profile V2.0 20090630-A

[3] OMA BCAST Service Guide, **bmco**forum Recommendation for Implementation Profile V2.0 20090630-A

[4] OMA BCAST Service and Content Protection: DRM for connected devices, **bmco**forum Recommendation for Implementation Profile V2.0 20090630-A

[5] OMA BCAST Distribution, **bmco**forum Recommendation for Implementation Profile V2.0 20090630-A

[6] OMA BCAST Service and Content Protection: Smartcard profile, **bmco**forum Recommendation for Implementation Profile V2.0 20090630-A

[7] 3rd Generation Partnership Project; TS 26.346, Technical Specification Group Services and System Aspects; Multimedia Broadcast/Multicast Service (MBMS); Protocols and codecs (Release 7).

[8] Service Guide for Mobile Broadcast Services, Open Mobile Alliance, OMA-TS-BCAST_ServiceGuide-V1_0, available from http://www.openmobilealliance.org

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6 Generic Adaptation over MBMS' IP transmission network

6.1 Access to the MBMS IP layer

Is part of this profile.

6.2 MBMS adaptation related to OMA-TS-BCAST_Services

6.2.1 Interaction

Interaction is part of this profile as described in the Service Guide [3] and Services profile [2].

6.2.2 Service Provisioning

Service provisioning is part of this profile as described in the Services profile [2].

6.2.3 Terminal Provisioning

Terminal provisioning is not part of this profile.

Note: the statement "However, terminals should be able to bootstrap themselves by scanning available frequencies" in [2] section 5.2 refers to DVB-H and is not applicable for MBMS adaptation.

6.2.4 Notification

The notification function is not part of this profile.

6.3 MBMS adaptation related to OMA-TS-BCAST_ServiceGuide

6.3.1 Service Guide Delivery over Broadcast Channel

Service Guide Delivery over Broadcast Channel is part of this profile as described in the Service Guide profile [3].

6.3.2 Service Guide Delivery over Interaction Channel

Service Guide Delivery over Interaction Channel is part of this profile as described in the Service Guide profile [3].

6.3.3 Service Guide Encoding

Service Guide Encoding is part of this profile as described in the Service Guide profile [3].

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6.3.4 Session Description

Session Description is part of this profile as described by the Service Guide profile [3].

6.3.5 Service Guide Data Model

Service Guide Data Model is part of this profile as described in the Service Guide profile [3].

6.3.5.1 CellTargetArea in MBMS

CelltargetArea is not part of this profile.

6.3.6 Service Guide Bootstrap for SG Delivery over Broadcast Channel

Service Guide Bootstrap for SG Delivery over Broadcast Channel as specified in [1] section 6.3.6. is not part of this profile. The required parameters that the client needs to access the SG and the services (entry point information according to [8] section 6.1.1) need to be pre-provisioned, but the method of pre-provisioning is out of scope of this profile.

6.3.7 Service Guide Bootstrap for SG Delivery over Unicast Channel

Service Guide Bootstrap for SG Delivery over Unicast Channel as specified in [1] section 6.3.7. is not part of this profile. The required parameters that the client needs to access the SG and the services (entry point information, i.e. the BSDA URL) need to be pre-provisioned, but the method of pre-provisioning is out of scope of this profile.

6.4 MBMS adaptation related to OMA-TS-BCAST_SvcCntProtection and OMA-TS-DRM_XBS

6.4.1 DRM Profile

DRM profile is part of this profile as described in [4] with the MBMS adaptation specific aspects as described in section 6.4.1 of [1].

Note: this means DRM profile is optional in this profile.

6.4.2 OMA BCAST Smartcard Profile

Smartcard profile is part of this profile as described in [6] with the MBMS adaptation specific aspects as described in section 6.4.2 of [1].

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6.5 MBMS adaptation related to OMA-TS-BCAST_Distribution

6.5.1 File Distribution

File Distribution is part of this profile as described in the Distribution profile [5], with the addition specified in the second sentence of section 6.5.1 of [1] (support for FEC).

6.5.1.1 Signalling of parameters with FLUTE

This is part of this profile as described in the Distribution profile [5] and with the restrictions described in section 6.5.1.1. of [1] (signaling of FLUTE FDT instances).

6.5.1.2 FDT Instance schema

This is part of this profile as described in the Distribution profile [5] and with the restrictions described in section 6.5.1.2. of [1] (FLUTE FDT instance schema formatting).

6.5.2 Associated Delivery Procedures

This is not part of this profile as described in the Distribution profile [5].

6.5.3 Stream Distribution

Stream Distribution is part of this profile as described in the Distribution profile [5] with the additions specified in the second sentence of section 6.5.3. of [1] (support for PSS), and the third sentence of section 6.5.3 of [1] (support for FEC).

6.5.4 Media codecs

Media codecs as defined in [1] section 7.5.4. (which refers to [7]) are part of the Profile.

Note: [7] does not unconditionally mandate any codecs. It uses formulations like "If video is supported, H.264 (AVC) Baseline Profile Level 1.2 decoder […] should be supported". Please refer to [7] for details. Among others, [7]:

- Conditionally recommends Enhanced aacPlus and Extended AMR-WB for audio
- Conditionally recommends H.264 (AVC) Baseline Profile Level 1.2 decoder for video

7 BCAST enabler adapting to MBMS functionality

7.1 Access to the MBMS IP layer

See 6.1

7.2 MBMS adaptation related to OMA-TS-BCAST_Services

7.2.1 Interaction

See 6.2.1

7.2.2 Service Provisioning

See 6.2.2

7.2.3 Terminal Provisioning

See 6.2.3

7.2.4 Notification

See 6.2.4

7.3 MBMS adaptation related to OMA-TS-BCAST_ServiceGuide

7.3.1 Service Guide Delivery over Broadcast Channel

Service Guide Delivery over Broadcast Channel is part of this profile as described in the Service Guide profile [3] and Services profile [2] and with the additional constraints defined in section 7.3.1. of [1].

7.3.2 Service Guide Delivery over Interaction Channel

See 6.3.2.

7.3.3 Service Guide Encoding

See 6.3.3.

7.3.4 Session Description

Session Description is part of this profile as described by the Service Guide profile [3] with the additional constraints specified in section 7.3.4. of [1].

7.3.5 Service Guide Data Model

See 6.3.5.

7.3.5.1 CellTargetArea in MBMS

See 6.3.5.1.

7.3.6 Service Guide Bootstrap

See 6.3.6. and 6.3.7.

7.4 MBMS adaptation related to OMA-TS-BCAST_SvcCntProtection and OMA-TS-DRM_XBS

DRM profile is part of this profile as described in [4] with the MBMS adaptation specific aspects as described in section 7.4 of [1].

Smartcard profile is part of this profile as described in [6] with the MBMS adaptation specific aspects as described in section 7.4 of [1].

7.4.1 Content Encryption

Content encryption is part of this profile as described in section 7.4.1 of [1].

7.4.1.1 Constraints on content encryption

Constraints on content encryption are part of this profile as described in section 7.4.1.1. of [1].

7.4.1.2 SRTP encryption: Sharing between BCAST and 3GPP- MBMS terminals

SRTP encryption is part of this profile as described in section 7.4.1.2. of [1].

7.4.1.2.1 A single SRTP stream shared by three broadcast service providers using the Smartcard Profile

Not part of this profile

7.4.1.2.2 Two SRTP streams, provided by two different BSDA providers (BSDA) and shared by three broadcast service providers using the Smartcard Profile

Not part of this profile

7.4.1.2.3 A single SRTP stream shared by broadcast service providers using DRM profile and Smartcard profile

Not part of this profile

7.4.2 Key Management

Is part of this profile as described in [6] for Smartcard profile and in [4] for DRM profile, with the MBMS adaptation specific aspects as described in [1].

7.4.2.1 SDP Signaling of Key Management Information

Is part of this profile as described in Service Guide profile [3], and in [6] for Smartcard profile and in [4] for DRM profile..

7.4.2.2 DRM Profile

See 6.4.1.

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7.4.2.3 OMA BCAST Smartcard Profile

See 6.4.2.

7.4.3 File Protection

Is not part of this profile

7.5 MBMS adaptation related to OMA-TS-BCAST_Distribution

7.5.1 File Distribution

See 6.5.1.

7.5.1.1 Signalling of parameters with FLUTE

See 6.5.1.1.

7.5.1.2 FDT Instance schema

See 6.5.1.2.

7.5.2 Associated Delivery Procedures

File repair for file delivery and reception reporting for file delivery as specified in [1] section 7.5.2 are part of this profile.

Reception reporting for stream delivery is not part of this profile.

7.5.3 Stream Distribution

See 6.5.3

7.5.4 Media codecs

See 6.5.4.

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8 Change history

Version	Date / Status	Description of changes
1.0	20080513-A	Initial version of the Implementation Profile.
1.1	20080709-D	Alignment of references to latest OMA BCAST specifications. No functional changes
1.1	20080721-A	
1.2	20081111-D	Editorial changes. Updated reference to Final Draft of OMA BCAST spec.
1.2	20081128-D	Editorial changes. Updated references to Final Draft OMA BCAST specs and to latest **bmco**forum profile docs.
1.2	20081209-D	Updated references to latest **bmco**forum profile docs.
1.2	20081211-V	
1.2	20090107-A	
2.0	20090622-V	Reference update to the **bmco**forum profile documents V2.0
2.0	20090630-A	