bmcoforum **Recommendation for Implementation Profile**

OMA BCAST System Adaptation:

IPDC over DVB-H

Approved Version 2.0

30 June 2009

Based on OMA BCAST V1.0 Enabler Specification

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Content:

INTRODUCTION **5**

SCOPE 5
HOW TO READ THIS DOCUMENT 6
TERMINOLOGY 6
REFERENCES 6

6 GENERIC ADAPTATION OVER UNDERLYING DVB-H TRANSPORT NETWORK **7**

6.1 ACCESS TO THE IP LAYER 7
6.2 GENERIC DVB-H ADAPTATION RELATED TO OMA-TS-BCAST_SERVICES 7
6.2.1 Interaction *7*
6.2.2 Service Provisioning *7*
6.2.3 Terminal Provisioning *7*
6.2.4 Notification *7*
6.3 DVB-H ADAPTATION RELATED TO OMA-TS-BCAST_SERVICEGUIDE 7
6.3.1 Service Guide Delivery over Broadcast Channel *7*
6.3.2 Compression of Service Guide Delivery Units *7*
6.3.3 Session Description *7*
6.3.4 Service Guide Data Model *8*
6.3.4.1 CellTargetArea in DVB-H 8
6.3.4.2 Genre Definition 8
6.3.5 Service Guide Discovery *8*
6.3.5.1 Bootstrap descriptors 8
6.4 DVB-H ADAPTATION RELATED TO OMA-TS-BCAST_SVCCNTPROTECTION AND OMA-TS-DRM-XBS 8
6.5 DVB-H ADAPTATION RELATED TO OMA-TS-BCAST_DISTRIBUTION 8
6.5.1 File Delivery *8*
6.5.2 Associated Delivery Procedures *9*
6.5.3 Stream Distribution *9*
6.5.3.1 Buffer control 9
6.5.4 Media codecs *9*

7 BDS SPECIFIC ADAPTATION TO DVB-IPDC FUNCTIONALITY **9**

7.1 ACCESS TO THE IP LAYER 9
7.2 BDS SPECIFIC ADAPTATION RELATED TO OMA-TS-BCAST_SERVICES 9
7.2.1 Interaction *9*
7.2.2 Service Provisioning *9*
7.2.3 Terminal Provisioning *9*
7.2.4 Notification *9*
7.3 DVB-H ADAPTATION RELATED TO OMA-TS-BCAST_SERVICEGUIDE 10
7.3.1 Service Guide Delivery over Broadcast Channel *10*
7.3.2 Compression of Service Guide Delivery Units *10*
7.3.3 Session Description *10*
7.3.3.1 Session Description for broadcast streamed media sessions 10
7.3.3.2 Session Description for broadcast file delivery sessions 10
7.3.4 Service Guide Data Model *10*
7.3.4.1 CellTargetArea in DVB-H 10
7.3.4.2 Genre Definition 10
7.3.5 Service Guide Discovery *10*

Broadcast_Mobile_Convergence

7.4 BDS SPECIFIC ADAPTATION RELATED TO OMA-TS-BCAST_SVCCNTPROTECTION AND OMA-TS-DRM-XBS 10
7.4.1 Encryption protocols *10*
7.4.2 Key Management *11*
7.4.2.1 DRM Profile 11
7.4.2.2 Smartcard Profile 11
7.5 BDS SPECIFIC ADAPTATION RELATED TO OMA-TS-BCAST_DISTRIBUTION 11
7.5.1 File Distribution *11*
7.5.1.1 Signalling of parameters with FLUTE 12
7.5.1.2 FDT Instance Schema Restrictions 12
7.5.2 Associated Delivery Procedures *12*
7.5.3 Stream Distribution *12*
7.5.3.1 Buffer control 12
7.5.4 Media codecs *12*
7.6 BDS SPECIFIC ADAPTATION RELATED TO OPERATION WITHOUT AN INTERACTIVITY CHANNEL 12

CHANGE HISTORY 13

Broadcast_Mobile_Convergence

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 – IPDC over DVB-H 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 – IPDC over DVB-H specification.

The used reference OMA BCAST baseline document has been:

Broadcast Distribution System Adaptation – IPDC over DVB-H, Open Mobile Alliance, [1].

The document contains the following information:

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

Broadcast_Mobile_Convergence

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 – IPDC over DVB-H, Open Mobile Alliance OMA-TS-BCAST_DVB_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 profile 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] ETSI TS 102 005: Digital Video Broadcasting (DVB): Specification for the use of video and audio coding in DVB services delivered directly over IP.

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

6 Generic adaptation over underlying DVB-H transport network

This section is part of the profile.

6.1 Access to the IP layer

This section is part of the profile.

6.2 GENERIC DVB-H adaptation related to OMA-TS-BCAST_Services

6.2.1 Interaction

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

6.2.2 Service Provisioning

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

6.2.3 Terminal Provisioning

Terminal provisioning is not part of the profile but the basic mechanisms, as described in the Services profile [2], will apply.

6.2.4 Notification

Notification is not part of the profile as described in the Services profile [2].

6.3 DVB-H 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 the profile as described in the Service Guide profile [3].

6.3.2 Compression of Service Guide Delivery Units

This section is part of the profile as described in the section 5.4.1.4 of the Service Guide profile [3].

6.3.3 Session Description

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

SessionDescription for broadcast streamed media sessions is part of the profile as described in the Service Guide profile [3] with the additional limitations in section 6.3.3.1 of [1].

SessionDescription for broadcast file delivery sessions is part of the profile as described in the Service Guide profile [3] with the additional limitations in section 6.3.3.2 of [1].

6.3.4 Service Guide Data Model

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

6.3.4.1 CellTargetArea in DVB-H

CellTargetArea in DVB-H is not part of the profile.

6.3.4.2 Genre Definition

Genre Definition is not part of the profile.

6.3.5 Service Guide Discovery

Service Guide Discovery is part of the profile as described in the Service Guide profile [3] with the additional limitations in section 6.3.5 of [1].

6.3.5.1 Bootstrap descriptors

The bootstrap descriptor ESGProviderDiscovery Descriptor is part of the profile as described in section 6.3.5.1.1 of [1].

The bootstrap descriptor ESGAccessDescriptor is part of the profile as described in section 6.3.5.1.2 of [1].

6.4 DVB-H adaptation related to OMA-TS-BCAST_SvcCntProtection and OMA-TS-DRM-XBS

This is part of the profile as described in the DRM profile for connected devices [4], DRM profile for non-connected devices [8] and Smartcard profile [6].

6.5 DVB-H adaptation related to OMA-TS-BCAST_Distribution

Distribution is part of the profile as described in the Distribution profile [5] with the further limitations as described in OMA BCAST adaptation specification (IPDC over DVB-H) section 6.5 of [1].

6.5.1 File Delivery

File Delivery is part of the profile as described in the Distribution profile [5] with the additional limitations in section 6.5.1 of [1].

6.5.2 Associated Delivery Procedures

Associated Delivery Procedures is not part of the profile as described in the Distribution profile [5].

6.5.3 Stream Distribution

Stream Distribution is part of the profile as described in the Distribution profile [5] with the additional limitations in section 6.5.3 of [1].

6.5.3.1 Buffer control

Buffer control is part of the profile.

6.5.4 Media codecs

Media codecs is part of the profile. The codecs H.264/AVC and HE AAC v2 as referenced in section 6.5.4 of [1], i.e. defined in Annex B of [7] are part of the profile.

7 BDS specific adaptation to DVB-IPDC functionality

This section is part of the profile.

7.1 Access to the IP layer

This section is part of the profile.

7.2 BDS specific adaptation related to OMA-TS-BCAST_Services

7.2.1 Interaction

Interaction is part of the profile as described in section 6.2.1

7.2.2 Service Provisioning

Service provisioning is part of the profile as described in section 6.2.2

7.2.3 Terminal Provisioning

Terminal provisioning is not part of the profile as described in section 6.2.3

7.2.4 Notification

Notification is not part of the profile as described in section 6.2.4.

7.3 DVB-H 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 the profile as described in section 6.3.1 with the additional limitation in section 7.3.1 of [1].

7.3.2 Compression of Service Guide Delivery Units

This section is part of the profile as described in section 6.3.2.

7.3.3 Session Description

Session Description is part of the profile as described in section 6.3.3

7.3.3.1 Session Description for broadcast streamed media sessions

SessionDescription for broadcast streamed media sessions is part of the profile as described in section 6.3.3.1

7.3.3.2 Session Description for broadcast file delivery sessions

SessionDescription for broadcast file delivery sessions is part of the profile as described in section 6.3.3.2

7.3.4 Service Guide Data Model

Service Guide Data Model is part of the profile as described in section 6.3.4.

7.3.4.1 CellTargetArea in DVB-H

CellTargetArea in DVB-H is not part of the profile.

7.3.4.2 Genre Definition

Genre Definition is not part of the profile.

7.3.5 Service Guide Discovery

Service Guide Discovery is part of the profile as described in section 6.3.5.

7.4 BDS specific adaptation related to OMA-TS-BCAST_SvcCntProtection and OMA-TS-DRM-XBS

This is part of the profile as described in the DRM profile for connected devices [4], DRM profile for non-connected devices [8] and Smartcard profile [6] with further limitations described in the following sub-sections.

7.4.1 Encryption protocols

Encryption protocols are part of the profile as described in DRM profile for connected devices [4], DRM profile for non-connected devices [8] and Smartcard profile [6].

7.4.2 Key Management

Key management is part of the profile with the following constraints:

7.4.2.1 DRM Profile

- Constraints on OMA DRM Profile STKM for the current version of the profile:
  - protection_after_reception is 0
  - The most significant bit of the traffic_key_lifetime is 0
  - traffic_protection_protocol is TKM_ALGO_IPSEC or TKM_ALGO_ISMACRYP.
  - If traffic_protection_protocol is TKM_ALGO_ISMACRYP, then traffic_authentication_flag is 0.
  - STKM is delivered over Broadcast Channel.
  - In parental_rating Access Criteria Descriptor rating_type 0 is part of this profile.
- Constraints on OMA DRM Profile LTKM for the current version of the profile:
  - BCRO is not signed, but MAC is used
  - When broadcasting BCROs, other addressing modes than the following are not used:
    - Whole Fixed Subscriber Group Addressing (mode 0x0)
    - Subset of Fixed Subscriber Group Addressing (mode 0x1)
    - Unique Device Addressing (mode 0x2)
  - RO are delivered over Interactive Channel
  - BCRO are delivered over Broadcast Channel.

7.4.2.2 Smartcard Profile

This is part of the profile as described in Smartcard profile [6].

7.5 BDS specific adaptation related to OMA-TS-BCAST_Distribution

Distribution is part of the profile as described in the Distribution profile [5] with the further limitations as described in OMA BCAST adaptation specification (IPDC over DVB-H) section 7.5 of [1].

7.5.1 File Distribution

File Distribution is part of the profile.

7.5.1.1 Signalling of parameters with FLUTE

This is part of the profile.

7.5.1.2 FDT Instance Schema Restrictions

This is part of the profile.

7.5.2 Associated Delivery Procedures

Associated Delivery Procedures is not part of the profile as described in section 6.5.2.

7.5.3 Stream Distribution

Stream Distribution is part of the profile as described in section 6.5.3 with the additional limitations in section 7.5.3 of [1].

7.5.3.1 Buffer control

Buffer control is part of the profile as described in section 6.5.3.1.

7.5.4 Media codecs

Media codecs is part of the profile as described in section 6.5.4.

7.6 BDS Specific adaptation related to operation without an interactivity channel

This section is not part of the profile.

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Change history

Version	Date / Status	Description of changes
1.0	20070930-A	Initial version of the Implementation Profile.
1.1	20080513-A	OMA DRM for non-connected devices profile taken into account in the adaptation: - Constraints for LTKM with OMA DRM for non-connected devices added to sect. 7.4.2.1. - Profile referenced to in sect. 6.4 and 7.4. Aligned with bug fixes that have been applied to the referenced versions of the OMA BCAST specifications. No new functionality added.
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. Aligned with bug fixes that have been applied to the referenced version of the OMA BCAST specification. No new functionality added. Alignments: - new section 7.3.4.2 profiled out..
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	