Enabler Release Definition for Mobile Broadcast Services

Approved Version 1.2 – 31 Jan 2017

Open Mobile Alliance

OMA-ERELD-BCAST-V1_2-20170131-A

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1. Scope

The scope of this document is limited to the Enabler Release Definition of Mobile Broadcast Services (BCAST) according to OMA Release process and the Enabler Release specification baseline listed in section 5.

2. References

2.1 Normative References

[BCAST11-Requirements] "Mobile Broadcast Services Requirements", Open Mobile Alliance™, OMA-RD-BCAST-V1_1, URL: http://www.openmobilealliance.org/

[BCAST12-BCMCS-Adaptation] "BCAST Distribution System Adaptation – 3GPP2/BCMCS", Open Mobile Alliance™, OMA-TS-BCAST_BCMCS_Adaptation-V1_2, URL: http://www.openmobilealliance.org/

[BCAST12-Distribution] "File and Stream Distribution for Mobile Broadcast Services", Open Mobile Alliance™, OMA-TS-BCAST_Distribution-V1_2, URL: http://www.openmobilealliance.org/

[BCAST12-DVBH-IPDC-Adaptation] "BCAST Distribution System Adaptation – IPDC over DVB-H", Open Mobile Alliance™, OMA-TS-BCAST_DVB_Adaptation-V1_2, URL: http://www.openmobilealliance.org/

[BCAST12-DVBNGH-Adaptation] "BCAST Distribution System Adaptation – DVB Next Generation Handheld", Open Mobile Alliance™, OMA-TS-BCAST_DVBNGH_Adaptation-V1_2, URL: http://www.openmobilealliance.org/

[BCAST12-DVBSH-IPDC-Adaptation] "BCAST Distribution System Adaptation – IPDC over DVB-SH", Open Mobile Alliance™, OMA-TS-BCAST_DVBSH_Adaptation-V1_2, URL: http://www.openmobilealliance.org/

[BCAST12-ETR] "Enabler Test Requirements for Mobile Broadcast Services", Open Mobile Alliance™, OMA-ETR-BCAST-V1_2, URL: http://www.openmobilealliance.org/

[BCAST12-FLO-Adaptation] "BCAST Distribution System Adaptation – Forward Link Only", Open Mobile Alliance™, OMA-TS-BCAST_FLO_Adaptation-V1_2, URL: http://www.openmobilealliance.org/

[BCAST12-MBMS-Adaptation] "BCAST Distribution System Adaptation – 3GPP/MBMS", Open Mobile Alliance™, OMA-TS-BCAST_MBMS_Adaptation-V1_2, URL: http://www.openmobilealliance.org/

[BCAST12-ServContProt] "Service and Content Protection for Mobile Broadcast Services", Open Mobile Alliance™, OMA-TS-BCAST_SvcCntProtection-V1_2, URL: http://www.openmobilealliance.org/

[BCAST12-Services] "Mobile Broadcast Services", Open Mobile Alliance™, OMA-TS-BCAST_Services-V1_2, URL: http://www.openmobilealliance.org/

[BCAST12-SG] "Service Guide for Mobile Broadcast Services", Open Mobile Alliance™, OMA-TS-BCAST_ServiceGuide-V1_2, URL: http://www.openmobilealliance.org/

[BCAST12-WiMAX-Adaptation] "BCAST Distribution System Adaptation – WiMAX", Open Mobile Alliance™, OMA-TS-BCAST_WiMAX_Adaptation-V1_2, URL: http://www.openmobilealliance.org/

[DRM20-Broadcast-Extensions] "OMA DRM v2.0 Extensions for Broadcast Support", Open Mobile Alliance™, OMA-TS-DRM-XBS-V1_2, URL: http://www.openmobilealliance.org/

[RFC2119] "Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997, URL: http://www.ietf.org/rfc/rfc2119.txt

[SCRRULES] "SCR Rules and Procedures", Open Mobile Alliance™, OMA-ORG-SCR_Rules_and_Procedures, URL: http://www.openmobilealliance.org/

2.2 Informative References

[BCAST11-Architecure] "Mobile Broadcast Services Architecture", Open Mobile Alliance™, OMA-AD- BCAST-V1_1, URL: http://www.openmobilealliance.org/

[OMADICT] "Dictionary for OMA Specifications", Version x.y, Open Mobile Alliance™, OMA-ORG-Dictionary-Vx_y, URL:http://www.openmobilealliance.org/

3. Terminology and Conventions

3.1 Conventions

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in [RFC2119].

All sections and appendixes, except “Scope”, "Release Version Overview" and “Conformance Requirements Notation Details”, are normative, unless they are explicitly indicated to be informative.

The formal notation convention used in sections 8 and 9 to formally express the structure and internal dependencies between specifications in the Enabler Release specification baseline is detailed in [SCRRULES].

3.2 Definitions

(U)SIM	A SIM or a USIM application residing in the memory of the UICC.
Audience Measurement Function	The global function ensuring the Audience Measurement includes the BCAST enabler entities that participate to the Audience Measurement collect/processing. The foreseen BCAST enablers related entities are the BCAST Audience Measurement functions on the Client side and the BCAST Audience Measurement function on the Network side.
BCAST Distribution System	A system typically but not necessarily containing the ability to transmit the same IP flow to multiple Terminal devices simultaneously. A BCAST Distribution System (BDS) typically uses techniques that achieve efficient use of radio resources. A BDS consists of Network functionality up to the IP layer and optional Service Distribution/Adaptation functionality above the IP layer. Most BDSs support broadcast/multicast distribution in the network. Some BCAST Distribution Systems have the capability to deliver the IP flows in the network via unicast.
BCAST Service Application	Represents the service application of the BCAST Service, such as streaming audio/video or movie download.
BCAST Service Distribution/Adaptation	Responsible for the aggregation and delivery of BCAST Services, and performs the adaptation of the BCAST Enabler to underlying BCAST Distribution Systems.
BCAST Subscription Management	Responsible for service provisioning such as subscription and payment related functions, the provision of information used for BCAST Service reception, and BCAST device management.
BDS Service Distribution	Responsible for the coordination and delivery of broadcast services to the BDS for delivery to the terminal, including file and streaming distribution, and Service Guide distribution.
Broadcast Channel	The logical channel (usually uni-directional) that provides Broadcast Transport which the Broadcast Enabler uses for broadcast distribution of data to Mobile Terminals. Typically, the Broadcast Channel supports high bitrates. It is inherently used for downlink purposes and is particularly useful for conveying information that is targeted to all or many Mobile Terminals. The Broadcast Channel is implemented by a BCAST Distribution System that can efficiently distribute IP-based services to Mobile Terminals. Typically, this means that a broadcast-capable bearer is used as the underlying network technology. Broadcast transport mechanisms allow simultaneous distribution of content to many recipients. This requires that all receivers can “receive” the same physical resource (link or radio frequency) and can simultaneously connect to the same transport protocol. Broadcast transport can be accomplished using both broadcast and multicast mechanisms in the underlying BCAST Distribution System.
Broadcast Roaming	Broadcast Roaming is the ability of a user to receive broadcast services from a Mobile Broadcast Service Provider different from the Home Mobile Broadcast Service Provider with which the user has a contractual relationship.

Broadcast Service	A Broadcast Service is a "content package" suitable for simultaneous distribution to many recipients (potentially) without knowing the recipient. Either each receiver has similar receiving devices or the content package includes information, which allows the client to process the content according to his current conditions. Examples of Broadcast Services are: pure Broadcast Services: - mobile TV - mobile newspaper - mobile file downloading (clips, games, SW upgrades, other applications, applications) combined broadcast/interactive Broadcast Services: - mobile TV for file downloading with voting - betting Broadcast Services - auction Broadcast Services - trading Broadcast Services
Content Protection	This involves the protection of content (files or streams) during the complete lifetime of the content i.e. it is NOT an access control mechanism only as it involves post-acquisition rules. Content protection is enabled for encrypted content through the use of appropriate rules or rights, e.g. using OMA DRM v2.0 for files and OMA DRM Broadcast extensions for streamed content. Content remains protected in the Terminal. Usage rules are enforced at "consumption time" (typically, based on DRM). In addition to subscription and pay-per-view, typically associate with Service Protection, Content Protection enables also more fine-grained usage rules, such as for displaying, saving in unencrypted form, printing, processing, re-distributing, etc. [DRM v2.0].
Device Management	Management of the Device configuration and other managed objects of Devices from the point of view of the various Management Authorities.
Digital Rights Management	The means to control the usage of media object once it has been downloaded. DRM enables content providers to define rights for media objects. It is possible to associate different rights with a single media object. The rights are required in order to use the media object.
DRM Profile	The DRM profile uses the Service & Content Protection solution for BCAST receivers in which the long term key management and registration of devices is based on OMA DRM and the broadcast extensions [XBS DRM extensions-v1.0]. For further details, see [BCAST12-ServContProt].
Enabler Release	Collection of specifications that combined together form an enabler for a service area, e.g. a download enabler, a browsing enabler, a messaging enabler, a location enabler, etc. The specifications that are forming an enabler should combined fulfil a number of related market requirements.
File Distribution Function	The File Distribution Function distributes a file or a bundle of files having any type or any encoding scheme to Terminals.
Interaction network	A system containing the ability to transmit, for example IP flow, SMS, MMS, through Interaction Channel to a Terminal device and transmitting user's responses through Interaction Channel to a BCAST Service Application. A system containing the ability to transmit IP flow through Interaction Channel to a Terminal device
Minimum Functionality Description	Description of the guaranteed features and functionality that will be enabled by implementing the minimum mandatory part of the Enabler Release.
Notification Function	The Notification Function is responsible for informing a terminal or a group of terminals of the upcoming event about Broadcast Service.
Panel (of users)	Group of users targeted for an Audience Measurement Campaign according to some specific criteria

Rich-Media Solution	A rich media solution is usually composed of a Rich Media Format, Rich Media Packaging, and Rich Media Delivery components to ensure an end-to-end RMS framework for consumption of Rich Media Content by the end-user. - Rich Media Content is a static or animated media consumed and displayed in a time interval. The media may take advantage but is not constraint to and not limited to enhanced features such as audio, video, data, text, images, and interaction and are composed together in regards to the terminal capabilities to give to the end-user a rich multimedia experience - Rich Media Format is a language describing the presentation composition and timing model of rich media content - Rich Media Packaging is a packaging schema used to represent Rich Media Content in a single packaging format (e.g. 3gp file) - Rich Media Delivery refers to a delivery mechanism used for Rich Media Content including file (e.g. Unicast or Broadcast download) and stream (e.g. Unicast or Broadcast streaming) delivery
Service Guide Function	The Service Guide Function provides the broadcast users with information on the various broadcast contents available in their region
Service Interaction Function	The Service Interaction Function provides the point-to-point communication between a BCAST Service Application in the network and the terminal.
Service Protection	This involves protection of content (files or streams) during its delivery, i.e., it is an access control mechanism only. Content is freely available (thus unencrypted) once securely delivered. For the benefit of allowing Content Protection to be provided for the same service, Service Protection may be limited to immediate consumption / rendering only, allowing recording of encrypted content for future acquisition of post-acquisition rights (see Content Protection).
Service Protection and Content Protection Function	The Service and Content Protection function provides a BDS-agnostic way of protecting both content and services delivered within Mobile Broadcast services.
Service Provisioning Function	The Service Provisioning Function is responsible for a User subscription to a BCAST service and the payment for a User about his or her subscribed service.
Smartcard	A non-UICC secure function platform which may contain the SIM or R-UIM module, or a UICC-based secure function platform which may contain one or more of the following applications: a 3GPP USIM, 3GPP2 CSIM or 3GPP/3GPP2 ISIM. Note that the set of applications/modules residing on the Smartcard are typically governed by the affiliation of the Smartcard to 3GPP or 3GPP2 specifications, as indicated by the definition for “Smartcard Profile”.
Smartcard Broadcast Provisioning Function	The Smartcard Broadcast Provisioning Function manages Smartcard configuration parameters, e.g. data, parameters and applications and distributes them to many Smartcards over Broadcast Channel.
Smartcard Profile	Alias for a set of Smartcard-based technologies and mechanisms, which provides key establishment and key management, as well as permission and token handling for the Service and Content Protection solution for BCAST Terminals. In particular, Subscriber Key establishment and both Short and Long Term Key Management may be based either (i) on GBA mechanisms and a Smartcard with (U)SIM/ ISIM as defined by 3GPP, or (ii) on a pre-provisioned shared secret key and a Smartcard with R-UIM/CSIM/ ISIM or a UIM as defined by 3GPP2.
Smartcard-Centric Audience Measurement	The Smartcard-Centric Audience Measurement implements the Audience Measurement Client part on the Smartcard
Stream Distribution Function	The Stream Distribution Function distributes streams to Terminals.
Terminal	The mobile device with which an End-User receives and consumes a Broadcast Service.
Terminal Provisioning Function	The Terminal Provisioning Function manages terminal configuration parameters, e.g. data, parameters and applications with the help of OMA DM and distributes them to many terminals over Broadcast Channel.

Terminal-Centric Audience Measurement	The Terminal-Centric Audience Measurement implements the Audience Measurement Client part on the Terminal

3.3 Abbreviations

BCAST	Mobile Broadcast Services
BDS	BCAST Distribution System
BSA	BCAST Service Application
BSD/A	BCAST service distribution/adaptation
BSDA	BCAST Service Distribution and Adaptation
BSM	BCAST Subscription Management
BSM	BCAST Subscription Management
BSP-C	Broadcast service provisioning Client Function
BSP-M	Broadcast service provisioning Management Function
DM	Device Management
DRM	Digital Rights Management
DVB-H	Digital Video Broadcasting – Handheld
DVB-NGH	Digital Video Broadcast – Next Generation Handheld
DVB-SH	Digital Video Broadcast – Satellite to Handheld
DVB-T2	Digital Video Broadcast- 2nd Generation Terrestrorial
ERDEF	Enabler Requirement Definition
ERELD	Enabler Release Definition
IPSEC	Internet Protocol – Secure
ISMACryp	Internet Streaming Media Alliance encrypted
MBMS	Multimedia Broadcast / Multicast Service
MO	Management Object
OMA	Open Mobile Alliance
ROAP	Rights Object Acquisition Protocl
SRTP	Secure Real-Time Transport Protocol
WiMAX	Worldwide Interoperability for Microwave Access
XBS	Extensions for Broadcast Systems
XML	Extensible Markup Language

4. Release Version Overview

4.1 Version 1.0 Functionality

This document outlines the Enabler Release Definition for Mobile Broadcast Services 1.0 (BCAST 1.0) and the respective conformance requirements for clients and servers implementing claiming compliance to it as defined by Open Mobile Alliance across the specification baseline.

4.2 Version 1.1 Functionality

In addition to BCAST 1.0, this document outlines the Enabler Release Definition of Mobile Broadcast Services 1.1 (BCAST 1.1), which provides 3 new BDSs (DVB-SH, Forward Link Only-IP, and WiMAX), the enhancement of existing functions and the new functions such as Audience Measurement, Rich Media Solution and Smartcard/Terminal Provisioning over Broadcast. This document also shows the respective conformance requirements for clients and servers implementing claiming compliance to it as defined by Open Mobile Alliance across the specification base line.

4.3 Version 1.2 Functionality

BCAST 1.2 aims to provide BDS adaptation for the IP profile of the Digital Video Broadcasting – Next Generation Handheld (DVB-NGH) distribution system, Digital Video Broadcasting – Second Generation Terrestrial (DVB-T2) and its T2-Lite profile tailored for mobile reception. No new functions are defined for BCAST 1.2 and only some of specifications such as Ts-Service, TS-SG, TS-Distribution and TS-SPCP are updated and one new BDS adaptation specification (DVB-NGH and DVB-T2) is generated.

5. Document Listing for BCAST V1.2

This section is normative.

Doc Ref	Permanent Document Reference	Description
Requirement Document		
[BCAST1_1-Requirements]	OMA-RD-BCAST-V1_1-20131029-A	Requirement Document for Mobile Broadcast Services
Architecture Document		
[BCAST11-Architecture]	OMA-AD-BCAST-V1_1-20131029-A	Architecture Document for Mobile Broadcast Services
Technical Specifications		
[BCAST12-Services]	OMA-TS-BCAST_Services-V1_2-20170131-A	Specification that defines audience measurement, service provisioning, terminal/smartcard provisioning, interaction, personalization, rich media solution, charging, mobility, and roaming for Mobile Broadcast Services
[BCAST12-SG]	OMA-TS-BCAST_Service_Guide-V1_2-20170131-A	Specification that defines the format, contents, encapsulation, and transport of the Electronic Service Guide for Mobile Broadcast Services.
[BCAST12-Distribution]	OMA-TS-BCAST_Distribution-V1_2-20170131-A	Specification that defines the protocols and procedures for file and real-time stream distribution for Mobile Broadcast Services.
[BCAST12-ServContProt]	OMA-TS-BCAST_SvcCntProtection-V1_2-20170131-A	Specification that describes the protocols and procedures for service and content protection for Mobile Broadcast Services.
[DRM20-Broadcast-Extensions]	OMA-TS-DRM_XBS-V1_2-20170131-A	Specification that describes extensions of OMA DRM 2.0 for support of broadcasting services
[BCAST12-MBMS-Adaptation]	OMA-TS-BCAST_MBMS_Adaptation-V1_2-20170131-A	Specification that describes how the Mobile Broadcast Services enabler is used and profiled in conjunction with the use of 3GPP MBMS as the underlying broadcast distribution system.
[BCAST12-BCMCS-Adaptation]	OMA-TS-BCAST_BCMCS_Adaptation-V1_2-20170131-A	Specification that describes how the Mobile Broadcast Services enabler is used and profiled in conjunction with the use of 3GPP2 BCMCS as the underlying broadcast distribution system.
[BCAST12-DVBH-IPDC-Adaptation]	OMA-TS-BCAST_DVB_Adaptation-V1_2-20170131-A	Specification that describes how the Mobile Broadcast Services enabler is used and profiled in conjunction with the use of IPDC over DVB-H as the underlying broadcast distribution system.
[BCAST12-DVBSH-IPDC-Adaptation]	OMA-TS-BCAST_DVBSH_Adaptation-V1_2-20170131-A	Specification that describes how the Mobile Broadcast Services enabler is used and profiled in conjunction with the use of IPDC over DVB-SH as the underlying broadcast distribution system.
[BCAST12-FLO-Adaptation]	OMA-TS-BCAST_FLO_Adaptation-V1_2-20170131-A	Specification that describes how the Mobile Broadcast Services enabler is used and profiled in conjunction with the use of Forward Link Only IP as the underlying broadcast distribution system.
[BCAST12-WiMAX-Adaptation]	OMA-TS-BCAST_WiMAX_Adaptation-V1_2-20170131-A	Specification that describes how the Mobile Broadcast Services enabler is used and profiled in conjunction with the use of WiMAX as the underlying broadcast distribution system.
[BCAST12-DVBNGH-Adaptation]	OMA-TS-BCAST_DVB_NGH_Adaptation-V1_2-20170131-A	Specification that describes how the Mobile Broadcast Services enabler is used and profiled in conjunction with the use of DVB-NGH or DVB-T2 as the underlying broadcast distribution system.
Supporting Files		

[BCAST10-Schema-fd-ap]	OMA-SUP-XSD_bcast_fd_associatedprocedure-V1_0-20090212-A	XML schema for Associated Delivery Procedures – File Distribution Working file in Schema directory: file: bcast_fd_associatedprocedure-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10-Schema-fd-be]	OMA-SUP-XSD_bcast_fd_backend-V1_0-20090212-A	XML schema for File Distribution Backend Interfaces Working file in Schema directory: file: bcast_fd_backend-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10-Schema-fd-fdt]	OMA-SUP-XSD_bcast_fd_fdt-V1_0-20090212-A	XML schema for File Description Table Working file in Schema directory: file: bcast_fd_fdt-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10-Schema-fd-rr]	OMA-SUP-XSD_bcast_fd_receptionreport-V1_0_1-20130109-A	XML schema for Reception Reporting – File Distributiuon Working file in Schema directory: file: bcast_fd_receptionreport-v1_0_1.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST12-Schema-nt-be]	OMA-SUP-XSD_bcast_nt_backend-V1_2-20170131-A	XML schema for Notification Backend Messages Working file in Schema directory: file: bcast_nt_backend-v1_2.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST12-Schema-nt-m]	OMA-SUP-XSD_bcast_nt_message-V1_2-20170131-A	XML schema schema for Notification Message Working file in Schema directory: file: bcast_nt_message-v1_2.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST12-Schema-pr-oq]	OMA-SUP-XSD_bcast_pr_orderqueries-V1_2-20170131-A	XML schema for Service Provisioning Order Queries Working file in Schema directory: file: bcast_pr_orderqueries-v1_2.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10-Schema-pr-up]	OMA-SUP-XSD_bcast_pr_userpreference-V1_0-20090212-A	XML schema for User Preferences Working file in Schema directory: file: bcast_pr_userpreference-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST12-Schema-ro-be]	OMA-SUP-XSD_bcast_roaming_backend-V1_2-20170131-A	XML schema for Roaming Backend Messages Working file in Schema directory: file: bcast_roaming_backend-v1_2.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST12-Schema-ro-fe]	OMA-SUP-XSD_bcast_roaming_frontend-V1_2-20170131-A	XML schema for Roaming Frontend Messages Working file in Schema directory: file: bcast_roaming_frontend-v1_2.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10-Schema-sd-ap]	OMA-SUP-XSD_bcast_sd_associatedprocedure-V1_0-20090212-A	XML schema for Associated Delivery Procedures – Stream Distribution Working file in Schema directory: file: bcast_sd_associatedprocedure-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10-Schema-sd-be]	OMA-SUP-XSD_bcast_sd_backend-V1_0-20090212-A	XML schema for Stream Distribution Backend Interfaces Working file in Schema directory: file: bcast_sd_backend-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/

[BCAST10-Schema-sd-rr]	OMA-SUP-XSD_bcast_sd_receptionreport-V1_0-20090212-A	XML schema for Reception Reporting – Stream Distribution Working file in Schema directory: file: bcast_sd_receptionreport-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST12-Schema-sg-be]	OMA-SUP-XSD_bcast_sg_backend-V1_2-20170131-A	XML schema for Service Guide Backend Messages Working file in Schema directory: file: bcast_sg_backend-v1_2.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST12-Schema-sg-sgdd]	OMA-SUP-XSD_bcast_sg_sgdd-V1_2-20170131-A	XML schema for Service Guide Delivery Descriptor Working file in Schema directory: file: bcast_sg_sgdd-v1_2.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST12-Schema-sg-f]	OMA-SUP-XSD_bcast_sg_fragments-V1_2-20170131-A	XML schema for Service Guide Fragments Working file in Schema directory: file: bcast_sg_fragments-v1_2.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST12-Schema-si-im]	OMA-SUP-XSD_bcast_si_interactivitymedia-V1_2-20170131-A	XML schema for Interactivity Media Document Working file in Schema directory: file: bcast_si_interactivitymedia-v1_2.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10-Schema-spcp-be]	OMA-SUP-XSD_bcast_spcp_backend-V1_0_1-20130109-A	XML schema for Service Protection / Content Protection Backend Messages Working file in Schema directory: file: bcast_spcp_backend-v1_0_1.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST12-DDF-bcast-mo]	OMA-SUP-MO_oma_bcast-V1_2-20170131-A	MO DDF defining the structure of the BCAST Management Object for the OMA Mobile Broadcast Enabler. Working file in OMNA MO directory: file: oma_bcast-v1_2.ddf path: http://member.openmobilealliance.org/ftp/Public_documents/BCAST/
[BCAST12-Schema-am]	OMA-SUP-XSD_bcast_am-V1_2-20170131-A	XML Schema of Audience Measurement for the OMA Mobile Broadcast Enabler. Working file in Schema directory: file: bcast_am-v1_2.xsd path: http://www.openmobilealliance.org/tech/profiles/
[DRM20-Schema-xbs-roap]	OMA-SUP-XSD_drm_roap_xbs-V2_1_1-20170131-A	XML schema for OMA DRM 2.0 Extensions for BCAST (XBS) - ROAP Working file in Schema directory: file: drm_roap_xbs-v2_1_1.xsd path: http://www.openmobilealliance.org/tech/profiles/
[DRM20-Schema-xbs-dd]	OMA-SUP-XSD_drm_dd_xbs-V2_0_1-20170131-A	XML schema for OMA DRM 2.0 Extensions for BCAST (XBS) - Data Dictionary Working file in Schema directory: file: drm_dd_xbs-v2_0_1.xsd path: http://www.openmobilealliance.org/tech/profiles/
[DRM20-Schema-xbs-risd]	OMA-SUP-XSD_drm_risd-V1_0-20090212-A	XML schema for OMA DRM 2.0 Extensions for BCAST (XBS) - Rights Issuer Service Data Working file in Schema directory: file: drm_risd-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/

[DRM20-DTD-xbs-rel]	OMA-SUP-DTD_drm_rel_xbs-V2_1-20131029-A	Document Type Definition for OMA DRM Rights Expression Language V2.0 with Extensions for BCAST (XBS) Working file in Schema directory: file: drm_rel_xbs-v2_1.dtd path: http://www.openmobilealliance.org/tech/dtd

Table 1: Listing of Documents in Mobile Broadcast Services Enabler

6. OMNA Considerations

The OMNA portal needs to add and maintain the following URNs into its Schema-based Namespace Registry:

Description	URN	Schema Links
Notification Backend Messages	urn:oma:xml:bcast:nt:backend:1.2	bcast_nt_backend-v1_2.xsd
Notification Message	urn:oma:xml:bcast:nt:message:1.2	bcast_nt_message-v1_2.xsd
Service Provisioning Order Queries	urn:oma:xml:bcast:pr:orderqueries:1.2	bcast_pr_orderqueries-v1_2.xsd
Roaming Backend Messages	urn:oma:xml:bcast:roaming:backend1.2	bcast_roaming_backend-v1_2.xsd
Roaming Frontend Messages	urn:oma:xml:bcast:roaming:frontend1.2	bcast_roaming_frontend-v1_2.xsd
Service Guide Back End Messages	urn:oma:xml:bcast:sg:backend:1.2	bcast_sg_backend-v1_2.xsd
Service Guide Fragments	urn:oma:xml:bcast:sg:fragments:1.2	bcast_sg_fragments-v1_2.xsd
Service Guide Delivery Descriptor	urn:oma:xml:bcast:sg:sgdd:1.2	bcast_sg_sgdd-v1_2.xsd
Interactivity Media Document	urn:oma:xml:bcast:si:interactivitymedia:1.2	bcast_si_interactivitymedia-v1_2.xsd
Audience Measurement	urn:oma:xml:bcast:am:1.2	bcast_am-v1_2.xsd
DRM Extension ROAP	urn:oma:xml:bcast:xbs:roap:2.1	drm_roap_xbs-v2_1_1.xsd

The OMNA portal needs to add and maintain the following MO into its MO registry:

MO Identifier	Description	Owner	Version	MO DDF	MO Spec
urn:oma:mo:oma-BCAST:1.2	BCAST 1.2 MO	BCAST WG	1.2	oma_bcast-v1_2.ddf	OMA-TS-BCAST_Services-V1_2-20170131-A

The OMNA portal needs to add and maintain the following service type into ServiceType Assignment Registry:

ServiceType value assignment registry for OMA Broadcast Service Guide		
ServiceType value	**Purpose**	**Reference Information**
Assigned as part of the BCAST Specifications		
0	unspecified	OMA-TS-BCAST_Service_Guide-V1_0, OMA-TS-BCAST_Service_Guide-V1_1 OMA-TS-BCAST_Service_Guide-V1_2
1	Basic TV	OMA-TS-BCAST_Service_Guide-V1_0, OMA-TS-BCAST_Service_Guide-V1_1 OMA-TS-BCAST_Service_Guide-V1_2
2	Basic Radio	OMA-TS-BCAST_Service_Guide-V1_0, OMA-TS-BCAST_Service_Guide-V1_1 OMA-TS-BCAST_Service_Guide-V1_2
3	RI services	OMA-TS-BCAST_Service_Guide-V1_0, OMA-TS-BCAST_Service_Guide-V1_1 OMA-TS-BCAST_Service_Guide-V1_2
4	Cachecast	OMA-TS-BCAST_Service_Guide-V1_0, OMA-TS-BCAST_Service_Guide-V1_1 OMA-TS-BCAST_Service_Guide-V1_2
5	File download services	OMA-TS-BCAST_Service_Guide-V1_0, OMA-TS-BCAST_Service_Guide-V1_1 OMA-TS-BCAST_Service_Guide-V1_2
6	Software management services	OMA-TS-BCAST_Service_Guide-V1_0, OMA-TS-BCAST_Service_Guide-V1_1 OMA-TS-BCAST_Service_Guide-V1_2

7	Notification	OMA-TS-BCAST_Service_Guide-V1_0, OMA-TS-BCAST_Service_Guide-V1_1 OMA-TS-BCAST_Service_Guide-V1_2
8	Service Guide	OMA-TS-BCAST_Service_Guide-V1_0, OMA-TS-BCAST_Service_Guide-V1_1 OMA-TS-BCAST_Service_Guide-V1_2
9	Terminal Provisioning services	OMA-TS-BCAST_Service_Guide-V1_0, OMA-TS-BCAST_Service_Guide-V1_1 OMA-TS-BCAST_Service_Guide-V1_2
10	Auxiliary Data	OMA-TS-BCAST_Service_Guide-V1_0, OMA-TS-BCAST_Service_Guide-V1_1 OMA-TS-BCAST_Service_Guide-V1_2
11	Streaming on demand	OMA-TS-BCAST_Service_Guide-V1_1 OMA-TS-BCAST_Service_Guide-V1_2
12	File download on demand	OMA-TS-BCAST_Service_Guide-V1_1 OMA-TS-BCAST_Service_Guide-V1_2
13	Smartcard Provisioning services	OMA-TS-BCAST_Service_Guide-V1_1 OMA-TS-BCAST_Service_Guide-V1_2
14 - 127	reserved for future use	
Assigned values associated with other OMA Enablers		
128 -223	reserved for other OMA Enablers	
Unregistered Values		
224 - 255	reserved for proprietary use	

The OMNA portal needs to add and maintain the following service class types:

- urn:oma:bcast:oma_bsc:sg:1.0
  Services of this service class deliver metadata fragments using a broadcast channel or the interactive channel. The discovery of Service Guide is defined in section 6.

- urn:oma:bcast:oma_bsc:fc:1.0
  Services of this service class offer a file carousel service, using the File Delivery function of OMA BCAST. Files are transmitted and locally stored in a file cache. Files are uniquely identified by the URI. Files in the file carousel are periodically re-transmitted. It may happen that already received files are replaced by a new file in a later repetition. An example of a file carousel is a teletext service.

- urn:oma:bcast:oma_bsc:tp:1.0
  Services of this service class of offer a Terminal Provisioning service either using the broadcast channel over TP-5 or interaction channel over TP-7. The management objects delivered over sdo.oma.tp SHALL be of MIME type “application/vnd.syncml.dm+wbxml". [BCAST12-Services] defines Terminal Provisioning in section 5.2.

- urn:oma:bcast:oma_bsc:nt:1.0
  Services of this service class deliver Notification Messages over NT-5 or NT-6. Both over the broadcast channel as well as over the interactive channel, the delivered messages SHALL follow the format as specified in section 5.14 of [BCAST12-Services]. The discovery and signaling of Notification Messages SHALL follow the specification in section 5.14.1 of [BCAST12-Services].

- urn:oma:bcast:oma_bsc:csg:1.0
  Services of this service class deliver a complementary Service Guide. The discovery of Service Guide is defined in section 6.

- urn:oma:bcast:oma_bsc:st:1.0
  Services of this service class offer a streaming service, using the Stream Delivery function of OMA BCAST. Streams are transmitted as specified in section 6 of [BCAST12-Distribution]. Examples of this service are live TV and live Radio, realized as streaming audiovisual or audio-only services.

- urn:oma:bcast:oma_bsc:rifc:1.0
  Services of this class offer a file carousel service for transmission of Registration Layer and Rights Management Layer objects and messages. RI Services are specified in section 12 of [DRM20-Broadcast-Extensions].

- urn:oma:bcast:oma_bsc:fd:1.1
  Services of this service class offer a file download service over the Interaction channel, using the File Delivery function of OMA BCAST. Files are transmitted and locally stored in a file cache. Files are uniquely identified by the URI. An example of such service is an AV content downloading.

- urn:oma:bcast:oma_bsc:sp:1.1
  Services of this service class offer a Smartcard Provisioning service using the broadcast channel over FD-5. Files are transmitted and locally stored in a file cache and then transmitted to the Smartcard.

7. Conformance Requirements Notation Details

This section is informative

The tables in following chapters use the following notation:

Item: Entry in this column MUST be a valid ScrItem according to [SCRRULES].

Feature/Application: Entry in this column SHOULD be a short descriptive label to the **Item** in question.

Requirement: Expression in the column MUST be a valid TerminalExpression according to [SCRRULES] and it MUST accurately reflect the architectural requirement of the **Item** in question.

8. ERDEF for Mobile Broadcast Services - Client Requirements

This section is normative.

Item	Feature / Application	Requirement
OMA-ERDEF-BCAST-C-001-O	BCAST-Client-Terminal with support for interaction channel	OMA-ERDEF-BCAST-C-008-O AND OMA-ERDEF-BCAST-C-009-O
OMA-ERDEF-BCAST-C-002-M	BCAST-Client- Service Guide	
OMA-ERDEF-BCAST-C-003-M	BCAST-Client-File Distribution	
OMA-ERDEF-BCAST-C-004-M	BCAST-Client-Stream Distribution	
OMA-ERDEF-BCAST-C-005-O	BCAST-Client-Notification	
OMA-ERDEF-BCAST-C-006-O	BCAST-Client-Service Protection	
OMA-ERDEF-BCAST-C-007-O	BCAST-Client-Content Protection	
OMA-ERDEF-BCAST-C-008-O	BCAST-Client-support for BCAST Service Interaction and for Interactivity Media Document	
OMA-ERDEF-BCAST-C-009-O	BCAST-Client-Service Provisioning	
OMA-ERDEF-BCAST-C-010-O	BCAST-Client-Terminal Provisioning	
OMA-ERDEF-BCAST-C-011-O	BCAST-Client-Roaming and Mobility Support	
OMA-ERDEF-BCAST-C-012-O	BCAST-Client-Audience-Measurement	OMA-ERDEF-BCAST-C-013-O OR OMA-ERDEF-BCAST-C-014-O
OMA-ERDEF-BCAST-C-013-O	BCAST-Client-Terminal_Centric-Audience-Measurement	
OMA-ERDEF-BCAST-C-014-O	BCAST-Client-Smartcard_Centric-Audience-Measurement	
OMA-ERDEF-BCAST-C-015-O	BCAST-Client-Rich-Media-Solution	OMA-ERDEF-BCAST-C-016-O AND (OMA-ERDEF-BCAST-C-017-O, OMA-ERDEF-BCAST-C-018-O, OMA-ERDEF-BCAST-C-019-O OR OMA-ERDEF-BCAST-C-020-O OR OMA-ERDEF-BCAST-C-021-O)
OMA-ERDEF-BCAST-C-016-O	BCAST-Client-Rich-Media-Solution-Signalling Reception	

OMA-ERDEF-BCAST-C-017-O	BCAST-Client-Rich-Media-SVGT1.2	
OMA-ERDEF-BCAST-C-018-O	BCAST-Client-Rich-Media-3GPPDIMS	
OMA-ERDEF-BCAST-C-019-O	BCAST-Client-Rich-Media-MPEGLASeR	
OMA-ERDEF-BCAST-C-020-O	BCAST-Client-Rich-Media-OMARME	
OMA-ERDEF-BCAST-C-021-O	BCAST-Client-Rich-Media-other solutions identified by MIMEType	
OMA-ERDEF-BCAST-C-022-O	BCAST-Client-Terminal-Provisioning-over-Broadcast	
OMA-ERDEF-BCAST-C-023-O	BCAST-Client-Smartcard-Provisioning-over-Broadcast	
OMA-ERDEF-BCAST-C-024-O	BCAST-Client-Support for 3GPP/MBMS	OMA-ERDEF-BCAST-C-030-O
OMA-ERDEF-BCAST-C-025-O	BCAST-Client-Support for 3GPP2/BCMCS	OMA-ERDEF-BCAST-C-031-O
OMA-ERDEF-BCAST-C-026-O	BCAST-Client- Support for “IP Datacast over DVB-H”	OMA-ERDEF-BCAST-C-032-O
OMA-ERDEF-BCAST-C-027-O	BCAST-Client-Support for “IP Datacast over DVB-SH”	OMA-ERDEF-BCAST-C-033-O
OMA-ERDEF-BCAST-C-028-O	BCAST-Client-Support for Forward Link Only IP	OMA-ERDEF-BCAST-C-034-O
OMA-ERDEF-BCAST-C-029-O	BCAST-Client- Support for WiMAX	OMA-ERDEF-BCAST-C-035-O
OMA-ERDEF-BCAST-C-030-O	BCAST-Client-Support for Adaptation Specification for 3GPP/MBMS	
OMA-ERDEF-BCAST-C-031-O	BCAST-Client-Support for Adaptation Specification for 3GPP2/BCMCS	
OMA-ERDEF-BCAST-C-032-O	BCAST-Client-Support for Adaptation Specification for “IP Datacast over DVB-H”	
OMA-ERDEF-BCAST-C-033-O	BCAST-Client-Support for Adaptation Specification for “IP Datacast over DVB-SH”	

OMA-ERDEF-BCAST-C-034-O	BCAST-Client-Support for Adaptation Specification for Forward Link Only	
OMA-ERDEF-BCAST-C-035-O	BCAST-Client-Support for Adaptation Specification for WiMAX	
OMA-ERDEF-BCAST-C-036-O	XBS Client	
OMA-ERDEF-BCAST-C-037-O	SRM Extension for BCAST	
OMA-ERDEF-BCAST-C-038-O	BCAST-Client-Support for Adaptation Specification for NGH	
OMA-ERDEF-BCAST-C-039-O	BCAST-Client-Support for Adaptation Specification for T2	

Table 2: ERDEF for Mobile Broadcast Services Client-side Requirements

9. ERDEF for Mobile Broadcast Services - Server Requirements

This section is normative.

Item	Feature / Application	Requirement
OMA-ERDEF-BCAST-S-001-O	BCAST-Server-System configurations that has the interaction channel present	OMA-ERDEF-BCAST-S-008-O AND OMA-ERDEF-BCAST-S-010-O
OMA-ERDEF-BCAST-S-002-M	BCAST-Server-Service Guide	
OMA-ERDEF-BCAST-S-003-M	BCAST-Server-File Distribution	
OMA-ERDEF-BCAST-S-004-M	BCAST-Server-Stream Distribution	
OMA-ERDEF-BCAST-S-005-O	BCAST-Server-Notification	
OMA-ERDEF-BCAST-S-006-O	BCAST-Server-Service Protection	
OMA-ERDEF-BCAST-S-007-O	BCAST-Server-Content Protection	
OMA-ERDEF-BCAST-S-008-O	BCAST-Server-support for BCAST Service Interaction and for Interactivity Media Document	
OMA-ERDEF-BCAST-S-009-O	BCAST-Server-Service Provisioning	
OMA-ERDEF-BCAST-S-010-O	BCAST-Server-Terminal Provisioning	
OMA-ERDEF-BCAST-S-011-O	BCAST-Server-Roaming and Mobility Support	
OMA-ERDEF-BCAST-S-012-O	BCAST-Server-Support for Adaptation Specification for 3GPP/MBMS	
OMA-ERDEF-BCAST-S-013-O	BCAST-Server-Support for Adaptation Specification for 3GPP2/BCMCS	
OMA-ERDEF-BCAST-S-014-O	BCAST-Server-Support for Adaptation Specification for “IP Datacast over DVB-H”	
OMA-ERDEF-BCAST-S-015-O	BCAST-Server-Configurations that expose Back-end Interfaces to third party use	OMA-ERDEF-BCAST-S-016-O

OMA-ERDEF-BCAST-S-016-O	BCAST-Server-Support for BCAST Back-end Interfaces	
OMA-ERDEF-BCAST-S-017-O	XBS Server	
OMA-ERDEF-BCAST-S-018-O	BCAST-Server-Support for Adaptation Specification for Forward Link Only	
OMA-ERDEF-BCAST-S-019-O	BCAST-Server-Support for Adaptation Specification for WiMax	
OMA-ERDEF-BCAST-S-020-O	BCAST-Server-Support for Adaptation Specification for “IP Datacast over DVB-SH”	
OMA-ERDEF-BCAST-S-021-O	BCAST-Server-Support for Rich Media Solutions (RMS)	OMA-ERDEF-BCAST-S-022-O AND (OMA-ERDEF-BCAST-S-023-O OR OMA-ERDEF-BCAST-S-024-O OR OMA-ERDEF-BCAST-S-025-O OR OMA-ERDEF-BCAST-S-026-O OR OMA-ERDEF-BCAST-S-027-O)
OMA-ERDEF-BCAST-S-022-O	BCAST-Server-Rich-Media-Solution-Signalling Support	
OMA-ERDEF-BCAST-S-023-O	BCAST-Server-Rich-Media-SVGT1.2	
OMA-ERDEF-BCAST-S-024-O	BCAST-Server-Rich-Media-3GPPDIMS	
OMA-ERDEF-BCAST-S-025-O	BCAST-Server-Rich-Media-MPEGLASeR	
OMA-ERDEF-BCAST-S-026-O	BCAST-Server-Rich-Media-OMARME	
OMA-ERDEF-BCAST-S-027-O	BCAST-Server-Rich-Media-other solutions identified by Mimetype	
OMA-ERDEF-BCAST-S-028-O	BCAST-Server-BCAST Audience Measurement	OMA-ERDEF-BCAST-S-029-O OR OMA-ERDEF-BCAST-S-030-O
OMA-ERDEF-BCAST-S-029-O	BCAST-Server-Terminal-Centric-Audience Measurement	
OMA-ERDEF-BCAST-S-030-O	BCAST-Server-Smartcard-Centric-Audience Measurement	
OMA-ERDEF-BCAST-S-031-O	BCAST-Server-SRM-Extension-for-BCAST	
OMA-ERDEF-BCAST-C-032-O	BCAST-Server-Support for Adaptation Specification for NGH	

OMA-ERDEF-BCAST-C-033-O	BCAST-Server-Support for Adaptation Specification for T2	

Table 3: ERDEF for Mobile Broadcast Services Server-side Requirements

Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description
OMA-ERELD-BCAST-V1_0-20090212-A	12 Feb 2009	Status changed to Approved by TP TP Ref # OMA-TP-2009-0071-INP_BCAST_V1_0_ERP_for_Notification_and_Final_Approval
OMA-ERELD-BCAST-V1_0_1-20130109-A	09 Jan 2013	Status changed to Approved by TP TP Ref # OMA-TP-2013-0001-INP_BCAST_V1_0_1_ERP_for_notification
OMA-ERELD-BCAST-V1_1-20131029-A	29 Oct 2013	Status changed to Approved by TP TP Ref # OMA-TP-2013-0332-INP_BCAST_V1_1_ERP_for_final_Approval
OMA-ERELD-BCAST-V1_2-20170131-A	31 Jan 2017	Status changed to Approved by TP TP Ref # OMA-TP-2017-0002-INP_BCAST-V1_2_ERP_for_Final_Approval