



Enabler Release Definition for Mobile Broadcast Services

Candidate Version 1.0 – 07 Aug 2008

Open Mobile Alliance
OMA-ERELED-BCAST-V1_0-20080807-C

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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

- [BCAST10-BCMCS-Adaptation] "Broadcast Distribution System Adaptation – 3GPP2/BCMCS", Open Mobile Alliance™, OMA-TS-BCAST_BCMCS_Adaptation-V1_0, URL: <http://www.openmobilealliance.org/>
- [BCAST10-Distribution] "File and Stream Distribution for Mobile Broadcast Services", Open Mobile Alliance™, OMA-TS-BCAST_Distribution-V1_0, URL: <http://www.openmobilealliance.org/>
- [BCAST10-DVBH-IPDC-Adaptation] "Broadcast Distribution System Adaptation – IPDC over DVB-H", Open Mobile Alliance™, OMA-TS-BCAST_DVB_Adaptation-V1_0, URL: <http://www.openmobilealliance.org/>
- [BCAST10-ERELD] "Enabler Release Definition for Mobile Broadcast Services", Open Mobile Alliance™, OMA-ERELD-BCAST-V1_0, URL: <http://www.openmobilealliance.org/>
- [BCAST10-ETR] "Enabler Test Requirements for Mobile Broadcast Services", Open Mobile Alliance™, OMA-ETR-BCAST-V1_0, URL: <http://www.openmobilealliance.org/>
- [BCAST10-MBMS-Adaptation] "Broadcast Distribution System Adaptation – 3GPP/MBMS", Open Mobile Alliance™, OMA-TS-BCAST_MBMS_Adaptation-V1_0, URL: <http://www.openmobilealliance.org/>
- [BCAST10-Requirements] "Mobile Broadcast Services Requirements", Open Mobile Alliance™, OMA-RD-BCAST-V1_0, URL: <http://www.openmobilealliance.org/>
- [BCAST10-ServContProt] "Service and Content Protection for Mobile Broadcast Services", Open Mobile Alliance™, OMA-TS-BCAST_SvcCntProtection-V1_0, URL: <http://www.openmobilealliance.org/>
- [BCAST10-Services] "Mobile Broadcast Services", Open Mobile Alliance™, OMA-TS-BCAST_Services-V1_0, URL: <http://www.openmobilealliance.org/>
- [BCAST10-SG] "Service Guide for Mobile Broadcast Services", Open Mobile Alliance™, OMA-TS-BCAST_ServiceGuide-V1_0, URL: <http://www.openmobilealliance.org/>
- [DRM20-Broadcast-Extensions] "OMA DRM v2.0 Extensions for Broadcast Support", Open Mobile Alliance™, OMA-TS-DRM-XBS-V1_0, URL: <http://www.openmobilealliance.org/> □
- [IOPPROC] "OMA Interoperability Policy and Process", Version 1.1, Open Mobile Alliance™, OMA-IOP-Process-V1_1, 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>

2.2 Informative References

- [BCAST10-Architecture] "Mobile Broadcast Services Architecture", Open Mobile Alliance™, OMA-AD-BCAST-V1_0, 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” and “Introduction”, 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 [IOPPROC].

3.2 Definitions

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.
Minimum Functionality Description	Description of the guaranteed features and functionality that will be enabled by implementing the minimum mandatory part of the Enabler Release.

3.3 Abbreviations

BCMCS	3GPP2 Broadcast Multicast Services
DM	Device Management
DRM	Digital Rights Management
DVB-H	Digital Video Broadcast - Handheld
ERDEF	Enabler Requirement Definition
ERELD	Enabler Release Definition
IPSEC	Internet Protocol – Secure
ISMACryp	Internet Streaming Media Alliance enCrypted
MBMS	3GPP Multimedia Broadcast Multicast Services
MO	Management Object
OMA	Open Mobile Alliance
ROAP	Rights Object Acquisition Protocol
SRTP	Secure Real-Time Transport Protocol
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.

5. Document Listing for Mobile Broadcast Services

This section is normative.

Doc Ref	Permanent Document Reference	Description
Requirement Document		
[BCAST10-Requirements]	OMA-RD-BCAST-V1_0-20080226-C	Requirement Document for Mobile Broadcast Services
Architecture Document		
[BCAST10-Architecture]	OMA-AD-BCAST-V1_0-20080609-C	Architecture Document for Mobile Broadcast Services
Technical Specifications		
[BCAST10-Services]	OMA-TS-BCAST_Services-V1_0-20080807-C	Specification that defines service provisioning, terminal provisioning, interaction, personalization, charging, mobility, and roaming for Mobile Broadcast Services
[BCAST10-SG]	OMA-TS-BCAST_ServiceGuide-V1_0-20080807-C	Specification that defines the format, contents, encapsulation, and transport of the Electronic Service Guide for Mobile Broadcast Services.
[BCAST10-Distribution]	OMA-TS-BCAST_Distribution-V1_0-20080807-C	Specification that defines the protocols and procedures for file and real-time stream distribution for Mobile Broadcast Services.
[BCAST10-ServContProt]	OMA-TS-BCAST_SvcCntProtection-V1_0-20080807-C	Specification that describes the protocols and procedures for service and content protection for Mobile Broadcast Services.
[BCAST10-MBMS-Adaptation]	OMA-TS-BCAST_MBMS_Adaptation-V1_0-20080609-C	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.
[BCAST10-BCMCS-Adaptation]	OMA-TS-BCAST_BCMCS_Adaptation-V1_0-20080609-C	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.
[BCAST10-DVBH-IPDC-Adaptation]	OMA-TS-BCAST_DVB_Adaptation-V1_0-20080807-C	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.
[DRM20-Broadcast-Extensions]	OMA-TS-DRM-XBS-V1_0-20080807-C	Specification that describes extensions of OMA DRM 2.0 for support of broadcasting services
Supporting Files		
[BCAST10-Schema-fd-ap]	OMA-SUP-XSD_bcast_fd_associatedprocedure-V1_0-20080226-C	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_0-20080226-C	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-	OMA-SUP-XSD_bcast_fd_fdt-V1_0-20080226-C	XML schema for File Description Table

[Schema-fd-fdt]		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_0-20080226-C	XML schema for Reception Reporting – File Distributioun Working file in Schema directory: file: bcast_fd_receptionreport-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10- Schema-nt-be]	OMA-SUP-XSD_bcast_nt_backend-V1_0-20080226-C	XML schema for Notification Backend Messages Working file in Schema directory: file: bcast_nt_backend-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10- Schema-nt-m]	OMA-SUP-XSD_bcast_nt_message-V1_0-20080609-C	XML schema schema for Notification Message Working file in Schema directory: file: bcast_nt_message-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10- Schema-pr-oq]	OMA-SUP-XSD_bcast_pr_orderqueries-V1_0-20080609-C	XML schema for Service Provisioning Order Queries Working file in Schema directory: file: bcast_pr_orderqueries-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10- Schema-pr-up]	OMA-SUP-XSD_bcast_pr_userpreference-V1_0-20080226-C	XML schema for User Preferences Working file in Schema directory: file: bcast_pr_userpreference-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10- Schema-ro-be]	OMA-SUP-XSD_bcast_roaming_backend-V1_0-20080609-C	XML schema for Roaming Backend Messages Working file in Schema directory: file: bcast_roaming_backend-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10- Schema-ro-fe]	OMA-SUP-XSD_bcast_roaming_frontend-V1_0-20080609-C	XML schema for Roaming Frontend Messages Working file in Schema directory: file: bcast_roaming_frontend-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10- Schema-sd-ap]	OMA-SUP-XSD_bcast_sd_associatedprocedure-V1_0-20080226-C	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_0-20080226-C	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_0-20080226-C	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/
[BCAST10- Schema-sg-be]	OMA-SUP-XSD_bcast_sg_backend-V1_0-20080226-C	XML schema for Service Guide Backend Messages Working file in Schema directory: file: bcast_sg_backend-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10- Schema-sg-]	OMA-SUP-XSD_bcast_sg_sgdd-V1_0-20080807-C	XML schema for Service Guide Delivery Descriptor Working file in Schema directory:

sgdd]		file: bcast_sg_sgdd-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10- Schema-sg-f]	OMA-SUP-XSD_bcast_sg_fragments-V1_0-20080807-C	XML schema for Service Guide Fragments Working file in Schema directory: file: bcast_sg_fragments-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10- Schema-si-im]	OMA-SUP-XSD_bcast_si_interactivitymedia-V1_0-20080807-C	XML schema for Interactivity Media Document Working file in Schema directory: file: bcast_si_interactivitymedia-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10- Schema-spcp- be]	OMA-SUP-XSD_bcast_spcp_backend-V1_0-20080226-C	XML schema for Service Protection / Content Protection Backend Messages Working file in Schema directory: file: bcast_spcp_backend-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[DRM20- Schema-xbs- roap]	OMA-SUP-XSD_drm_roap_xbs-V2_0-20080807-C	XML schema for OMA DRM 2.0 Extensions for BCAST (XBS) - ROAP Working file in Schema directory: file: drm_roap_xbs-v2_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[DRM20- Schema-xbs-dd]	OMA-SUP-XSD_drm_dd_xbs-V2_0-20070529-C	XML schema for OMA DRM 2.0 Extensions for BCAST (XBS) - Data Dictionary Working file in Schema directory: file: drm_dd_xbs-v2_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[DRM20- Schema-xbs- risd]	OMA-SUP-XSD_drm_risd-V1_0-20070529-C	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_0-20070529-C	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_0.dtd path: http://www.openmobilealliance.org/tech/dtd

Table 1: Listing of Documents in Mobile Broadcast Services Enabler

6. Minimum Functionality Description for Mobile Broadcast Services

The BCAST 1.0 supports the following top-level functions:

- **Service Guide:**
 - Data model,
 - Encapsulation,
 - Delivery over Broadcast Channel,
 - Delivery over Interactive Channel,
 - Service Guide Update & Management

- **File and Stream Distribution:**
 - Method for delivering real-time Audio/Video streams over Broadcast Channel,
 - Method for delivering real-time Audio/Video streams over Interactive Channel ,
 - Method for delivering files over Broadcast Channel,
 - Method for delivering files over Interactive Channel ,
 - Associated Delivery Procedures for file distribution.

- **Notifications:**
 - Generic Notification message format,
 - User and Terminal oriented Notifications,
 - Notification delivery over Broadcast Channel,
 - Notification delivery over Interaction Channel,
 - Subscribing to Notifications.
 - Support for auxiliary data (adverts, intro, outro and barker).

- **Service & Content Protection:**
 - Two profiles: **Smartcard profile** utilizing 3GPP MBMS (U)SIM/ISIM / 3GPP2 BCMCS (R-UIM/CSIM/ISIM key management and **DRM profile** utilizing DRM 2.0 and broadcast extensions.
 - Four layer key model hierarchy fully specified for both profiles:
 - Registration Layer
 - Long Term (Service/Program) Key Management
 - Short Term (Traffic) Key Management
 - Encryption layer with SRTP; IPSEC; and ISMACryp with media codec agnostic enhancements.

- **Service Interactivity**
 - Service related interaction and feedback methods

- Specification of Interactivity Media Document
- **Service Provisioning:**
 - Message exchanges to subscribe to services; renew subscriptions; cancel subscriptions; and acquire subscription status.
- **Terminal Provisioning:**
 - Management of BCAST MOs using OMA DM 1.2
- **Roaming and Mobility Support**
- **Specification on back-end interfaces for each function.**
- **Broadcast Distribution System Adaptations for 3GPP MBMS, 3GPP2 BCMCS and “IP Datacast over DVB-H”**

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 <code>ScrItem</code> according to [IOPPROC].
Feature/Application:	Entry in this column SHOULD be a short descriptive label to the Item in question.
Status:	Entry in this column MUST accurately reflect the architectural status of the Item in question. <ul style="list-style-type: none">• M means the Item is mandatory for the class• O means the Item is optional for the class• NA means the Item is not applicable for the class
Requirement:	Expression in the column MUST be a valid <code>TerminalExpression</code> according to [IOPPROC] and it MUST accurately reflect the architectural requirement of the Item in question.

8. ERDEF for Mobile Broadcast Services - Terminal Requirements

This section is normative.

Item	Feature / Application	Status	Requirement
OMA-ERDEF-BCAST-C-001	Terminal with support for interaction channel	O	OMA-ERDEF-BCAST-C-008 AND OMA-ERDEF-BCAST-C-009 AND OMA-ERDEF-BCAST-C-010
OMA-ERDEF-BCAST-C-002	BCAST Service Guide Client	M	
OMA-ERDEF-BCAST-C-003	BCAST File Distribution Client	M	
OMA-ERDEF-BCAST-C-004	BCAST Stream Distribution Client	M	
OMA-ERDEF-BCAST-C-005	BCAST Notification Client	M	
OMA-ERDEF-BCAST-C-006	BCAST Service Protection Client	O	
OMA-ERDEF-BCAST-C-007	BCAST Content Protection Client	O	
OMA-ERDEF-BCAST-C-008	Client support for BCAST Service Interaction and for Interactivity Media Document	O	
OMA-ERDEF-BCAST-C-009	BCAST Service Provisioning Client	O	
OMA-ERDEF-BCAST-C-010	BCAST Terminal Provisioning Client	O	
OMA-ERDEF-BCAST-C-011	Roaming and Mobility Support in BCAST Client	M	
OMA-ERDEF-BCAST-C-012	Client Support for 3GPP/MBMS	O	OMA-ERDEF-BCAST-C-015
OMA-ERDEF-BCAST-C-013	Client Support for 3GPP2/BCMCS	O	OMA-ERDEF-BCAST-C-016
OMA-ERDEF-BCAST-C-014	Client Support for "IP Datacast over DVB-H"	O	OMA-ERDEF-BCAST-C-017
OMA-ERDEF-BCAST-C-015	Client Support for Adaptation Specification for 3GPP/MBMS	O	
OMA-ERDEF-BCAST-C-016	Client Support for Adaptation Specification for 3GPP2/BCMCS	O	
OMA-ERDEF-BCAST-C-017	Client Support for Adaptation Specification for "IP Datacast over DVB-	O	

	H''		
OMA-ERDEF-BCAST-C-018	XBS Client	○	

Table 2: ERDEF for Mobile Broadcast Services Terminal Requirements

9. ERDEF for Mobile Broadcast Services - Server Requirements

This section is normative.

Item	Feature / Application	Status	Requirement
OMA-ERDEF-BCAST-S-001	System configurations that has the interaction channel present	O	OMA-ERDEF-BCAST-S-008 AND OMA-ERDEF-BCAST-S-010
OMA-ERDEF-BCAST-S-002	BCAST Service Guide Server	M	
OMA-ERDEF-BCAST-S-003	BCAST File Distribution Server	M	
OMA-ERDEF-BCAST-S-004	BCAST Stream Distribution Server	M	
OMA-ERDEF-BCAST-S-005	BCAST Notification Server	M	
OMA-ERDEF-BCAST-S-006	BCAST Service Protection Server	O	
OMA-ERDEF-BCAST-S-007	BCAST Content Protection Server	O	
OMA-ERDEF-BCAST-S-008	Server support for BCAST Service Interaction and for Interactivity Media Document	O	
OMA-ERDEF-BCAST-S-009	BCAST Service Provisioning Server	O	
OMA-ERDEF-BCAST-S-010	BCAST Terminal Provisioning Server	O	
OMA-ERDEF-BCAST-S-011	Roaming and Mobility Support in BCAST Server	M	
OMA-ERDEF-BCAST-S-012	Server Support for Adaptation Specification for 3GPP/MBMS	O	
OMA-ERDEF-BCAST-S-013	Server Support for Adaptation Specification for 3GPP2/BCMCS	O	
OMA-ERDEF-BCAST-S-014	Server Support for Adaptation Specification for "IP Datacast over DVB-H"	O	
OMA-ERDEF-BCAST-S-015	System configurations that expose Back-end Interfaces to third party use	O	OMA-ERDEF-BCAST-S-016
OMA-ERDEF-BCAST-S-016	Server Support for BCAST Back-end Interfaces	O	
OMA-ERDEF-BCAST-S-017	XBS Server	O	

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

Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description
n/a	n/a	No prior version

A.2 Draft/Candidate Version 1_0 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-ERELED-BCAST-V1_0	15 Mar 2006	all	First draft (agreed in Seoul interim meeting)
	20 Mar 2006	7, 9, 10	Included agreed Change request: OMA-BCAST-2006-0261R01 Editorial clean-up/changes
	26 Mar 2006		Included agreed Change request: OMA-BCAST-2006-0266 Editorial cleanup
	19 Apr 2006	6	Section updated with Candidate RD and specs full names
	02 Jan 2007	3,6,7,9,10	Included changes agreed during consistency review
	09 Jan 2007	6	Updated the permanent document references
	06 Apr 2007	6	Included agreed Change request: OMA-BCAST-2007-0379- Editorial clean-up/changes
	27 Apr 2007	6, 9, 10	Included agreed Change request: OMA-BCAST-2007-0524R01- Editorial clean-up/changes
	04 May 2007	All	Cleanup in preparation for Approval as Candidate Permanent document references updated.
Candidate Version OMA-ERELED-BCAST-V1_0	29 May 2007	n/a	Status changed to Candidate by TP TP ref# OMA-TP-2007-0129R01- INP_BCAST_V1_0_ERP_for_Candidate_approval
Draft Versions: OMA-ERELED-BCAST-V1_0	20 Dec 2007	6	Permanent document references were updated according to TSs update.
	03 Jan 2008	All	Permanent document references were updated according to TSs update
	28 Jan 2008	6	Document list updated
Candidate Version OMA-ERELED-BCAST-V1_0	26 Feb 2008	n/a	Status changed to Candidate by TP TP ref# OMA-TP-2008-0042- INP_BCAST_V1_0_ERP_for_Candidate_Re_approval
Draft Version OMA-ERELED-BCAST-V1_0	01 Apr 2008	6	Document list updated
	22 May 2008	6	Document list updated
	29 May 2008	6	Document list updated
Candidate Version OMA-ERELED-BCAST-V1_0	09 Jun 2008	n/a	Status changed to Candidate by TP TP ref# OMA-TP-2008-0236R01- INP_BCAST_ERP_V1_0_For_Notification
Draft Version OMA-ERELED-BCAST-V1_0	25 Jun 2008	5	Document list updated
Draft Version OMA-ERELED-BCAST-V1_0	01 Aug 2008	5	Document list updated
Draft Version OMA-ERELED-BCAST-V1_0	04 Aug 2008	5	Document list updated
Draft Version OMA-ERELED-BCAST-V1_0	05 Aug 2008	5	Document list updated
Candidate Version OMA-ERELED-BCAST-V1_0	06 Aug 2008	n/a	Status changed to Candidate by TP TP ref# OMA-TP-2008-0294R03- INP_BCAST_ERP_V1_0_for_Notification