

Enabler Release Definition for Mobile Broadcast Services

Candidate Version 1.0 – 09 Jun 2008

Open Mobile Alliance OMA-ERELD-BCAST-V1_0-20080609-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-

"Broadcast Distribution System Adaptation – 3GPP2/BCMCS", Open Mobile AllianceTM,

Adaptation]

OMA-TS-BCAST_BCMCS_Adaptation-V1_0, URL: http://www.openmobilealliance.org/

[BCAST10-Distribution]

"File and Stream Distribution for Mobile Broadcast Services", Open Mobile AllianceTM,

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-

"Broadcast Distribution System Adaptation − 3GPP/MBMS", Open Mobile AllianceTM,

Adaptation] 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 AllianceTM, 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 AllianceTM, 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-Architecure] "Mobile Broadcast Services Architecture", Open Mobile AllianceTM, 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

ISMACryp

Description of the guaranteed features and functionality that will be enabled by implementing the

minimum mandatory part of the Enabler Release.

3.3 **Abbreviations**

3GPP2 Broadcast Multicast Services **BCMCS**

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

MBMS 3GPP Multimedia Broadcast Multicast Services

Internet Streaming Media Alliance enCrypted

MO Management Object

OMA Open Mobile Alliance

ROAP Rights Object Acquisition Protocl

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 Doc	ument			
[BCAST10- Architecture]	OMA-AD-BCAST-V1_0-20080226-C	Architecture Document for Mobile Broadcast Services		
Technical Specific	cations			
[BCAST10- Services]	OMA-TS-BCAST_Services-V1_0-20080529-D	Specification that defines service provisioning, terminal provisioning, interaction, personalization, charging, mobility, and roaming for Mobile Broadcast Services		
[BCAST10- SG]	OMA-TS-BCAST_ServiceGuide-V1_0-20080522-D	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_0-20080424-D	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_0-20080509-D	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_0-20080306-D	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_0-20080306-D	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- 20080425-D	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_020080522-D.	Specification that describes extensions of OMA DRM 2.0 for support of broadcasting services		
Supporting Files	Supporting Files			
[BCAST10- Schema-fd-ap]	OMA-SUP-XSD_bcast_fd_associatedprocedure-V1_0-20070529-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-	OMA-SUP-XSD_bcast_fd_backend-V1_0-20070529-C	XML schema for File Distribution Backend Interfaces		
Schema-fd-be]		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_0-20070529-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_0-20070529-C	XML schema for Reception Reporting – File Distributiuon
		Working file in Schema directory: file: bcast_fd_receptionreport-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10-	OMA-SUP-XSD_bcast_nt_backend-V1_0-20070529-C	XML schema for Notification Backend Messages
Schema-nt-be]		Working file in Schema directory: file: bcast_nt_backend-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10-	OMA-SUP-XSD_bcast_nt_message-V1_0-20080522-D	XML schema schema for Notification Message
Schema-nt-m]		Working file in Schema directory: file: bcast_nt_message-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10-	OMA-SUP-XSD_bcast_pr_orderqueries-V1_0-20080522-	XML schema for Service Provisioning Order Queries
Schema-pr-oq]	D	Working file in Schema directory: file: bcast_pr_orderqueries-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10-	OMA-SUP-XSD_bcast_pr_userpreference-V1_0-	XML schema for User Preferences
Schema-pr-up]	20070529-C	Working file in Schema directory: file: bcast_pr_userpreference-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10-	OMA-SUP-XSD_bcast_roaming_backend-V1_0-	XML schema for Roaming Backend Messages
Schema-ro-be]	20080522-D	Working file in Schema directory: file: bcast_roaming_backend-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10-	OMA-SUP-XSD_bcast_roaming_frontend-V1_0-	XML schema for Roaming Frontend Messages
Schema-ro-fe]	20080522-D	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_0-20070529-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_0-20070529-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_0-20070529-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-	OMA-SUP-XSD_bcast_sg_backend-V1_0-20080226-C	XML schema for Service Guide Backend Messages
Schema-sg-be]		Working file in Schema directory: file: bcast_sg_backend-v1_0.xsd path: http://www.openmobilealliance.org/tech/profiles/
[BCAST10-	OMA-SUP-XSD_bcast_sg_sgdd-V1_0-20080522-D	XML schema for Service Guide Delivery Descriptor
Schema-sg-		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_0-20080522-D	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_0-20080226-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_0-20070529-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:

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

• File and Stream Distribution:

- o Method for delivering real-time Audio/Video streams over Broadcast Channel,
- o Method for delivering real-time Audio/Video streams over Interactive Channel,
- Method for delivering files over Broadcast Channel,
- o Method for delivering files over Interactive Channel,
- o Associated Delivery Procedures for file distribution.

Notifications:

- o Generic Notification message format,
- User and Terminal oriented Notifications,
- Notification delivery over Broadcast Channel,
- o Notification delivery over Interaction Channel,
- Subscribing to Notifications.
- o 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.
- o 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

o 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 ScrItem 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.

• 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 TerminalExpression 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		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	М	
OMA-ERDEF-BCAST-C- 006	BCAST Service Protection Client	0	
OMA-ERDEF-BCAST-C- 007	BCAST Content Protection Client	0	
OMA-ERDEF-BCAST-C- 008	Client support for BCAST Service Interaction and for Interactivity Media Document	0	
OMA-ERDEF-BCAST-C- 009	BCAST Service Provisioning Client	0	
OMA-ERDEF-BCAST-C- 010	BCAST Terminal Provisioning Client	0	
OMA-ERDEF-BCAST-C- 011	Roaming and Mobility Support in BCAST Client	M	
OMA-ERDEF-BCAST-C- 012	Client Support for 3GPP/MBMS	0	OMA-ERDEF-BCAST-C- 015
OMA-ERDEF-BCAST-C-013	Client Support for 3GPP2/BCMCS	0	OMA-ERDEF-BCAST-C- 016
OMA-ERDEF-BCAST-C- 014	Client Support for "IP Datacast over DVB-H"	0	OMA-ERDEF-BCAST-C- 017
OMA-ERDEF-BCAST-C- 015	Client Support for Adaptation Specification for 3GPP/MBMS	0	
OMA-ERDEF-BCAST-C- 016	Client Support for Adaptation Specification for 3GPP2/BCMCS	0	
OMA-ERDEF-BCAST-C- 017	Client Support for Adaptation Specification for "IP Datacast over DVB-	0	

	H"		
OMA-ERDEF-BCAST-C-	XBS Client	0	
018			

Table 2: ERDEF for Mobile Broadcast Services Terminal Requirements

9. ERDEF for Mobile Broadcast Services - Server Requirements

This section is normative.

Item	Item Feature / Application Status		Requirement	
OMA-ERDEF-BCAST-S- 001	System configurations that has the interaction channel present		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	М		
OMA-ERDEF-BCAST-S- 004	BCAST Stream Distribution Server	М		
OMA-ERDEF-BCAST-S- 005	BCAST Notification Server	М		
OMA-ERDEF-BCAST-S- 006	BCAST Service Protection Server	0		
OMA-ERDEF-BCAST-S- 007	BCAST Content Protection Server	0		
OMA-ERDEF-BCAST-S- 008	Server support for BCAST Service Interaction and for Interactivity Media Document	0		
OMA-ERDEF-BCAST-S- 009	BCAST Service Provisioning Server	0		
OMA-ERDEF-BCAST-S- 010	BCAST Terminal Provisioning Server			
OMA-ERDEF-BCAST-S- 011	Roaming and Mobility Support in BCAST Server			
OMA-ERDEF-BCAST-S- 012	Server Support for Adaptation Specification for 3GPP/MBMS	0		
OMA-ERDEF-BCAST-S- 013	Server Support for Adaptation Specification for 3GPP2/BCMCS	0		
OMA-ERDEF-BCAST-S- 014	Server Support for Adaptation Specification for "IP Datacast over DVB- H"	0		
OMA-ERDEF-BCAST-S- 015	System configurations that expose Back-end Interfaces to third party use		OMA-ERDEF-BCAST-S- 016	
OMA-ERDEF-BCAST-S- 016	Server Support for BCAST Back-end Interfaces	0		
OMA-ERDEF-BCAST-S- 017	XBS Server	0		

T	able 3: ERDEF for Mobile Broadcast Services Serv	er-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	15 Mar 2006	all	First draft (agreed in Seoul interim meeting)	
OMA-ERELD-BCAST-V1_0	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	29 May 2007	n/a	Status changed to Candidate by TP	
OMA-ERELD-BCAST-V1_0			TP ref# OMA-TP-2007-0129R01-	
		_	INP_BCAST_V1_0_ERP_for_Candidate_approval	
Draft Versions:	20 Dec 2007	6	Permanent document references were updated according to TSs update.	
OMA-ERELD-BCAST-V1_0	03 Jan 2008	All	Permanent document references were updated according to TSs update	
	28 Jan 2008	6	Document list updated	
Candidate Version	26 Feb 2008	n/a	Status changed to Candidate by TP	
OMA-ERELD-BCAST-V1_0			TP ref# OMA-TP-2008-0042-	
D. O.V.	01.4.2000		INP_BCAST_V1_0_ERP_for_Candidate_Re_approval	
Draft Version	01 Apr 2008	6	Document list updated	
OMA-ERELD-BCAST-V1_0	22 May 2008	6	Document list updated	
	29 May 2008	6	Document list updated	
Candidate Version	09 Jun 2008	n/a	Status changed to Candidate by TP	
OMA-ERELD-BCAST-V1_0			TP ref# OMA-TP-2008-0236R01- INP_BCAST_ERP_V1_0_For_Notification	