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Enabler Test Requirements for MobAd

Candidate Version 1.0 – 26 Jan 2010

Open Mobile Alliance

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1. Scope

The Enabler Test Requirements (ETR) document for the Enabler under consideration is created and maintained by the Technical Working Group (TWG) responsible for the technical specifications for the corresponding Enabler.

The ETR document is intended to cover at least those requirements collected in the Requirements Document (RD) and the Architecture Document (AD) in addition to any other items the TWG has identified as important enough to warrant attention from interoperability perspective and identify any technical functionalities that should be covered by testing.

2. References

2.1 Normative References

[MobAd-RD]	"Mobile Advertising Requirement Document", Open Mobile Alliance™, OMA-RD-MobAd-V1_0, URL:http://www.openmobilealliance.org/
[MobAd-AD]	"Mobile Advertising Architecture Document", Open Mobile Alliance™, OMA-AD-MobAd-V1_0, URL:http://www.openmobilealliance.org/
[MobAd-Core-TS]	"Mobile Advertising Technical Specification – Core Specification", Open Mobile Alliance™, OMA-TS-MobAd_Core-V1_0, URL:http://www.openmobilealliance.org/
[MobAd-BCAST-TS]	"Mobile Advertising Technical Specification – BCAST Adaptation", Open Mobile Alliance™, OMA-TS-MobAd_BCAST_Adaptation-V1_0, URL:http://www.openmobilealliance.org/
[MobAd-DCD-TS]	"Mobile Advertising Technical Specification –DCD Adaptation", Open Mobile Alliance™, OMA-TS-MobAd_DCD_Adaptation-V1_0, URL:http://www.openmobilealliance.org/
[MobAd-XSD]	"OMA MobAd XML Schema", Version 1.0, Open Mobile Alliance™, OMA-SUP-XSD_MobAd-V1_0, URL:http://www.openmobilealliance.org/
[SCRRULES]	"SCR Rules and Procedures", Open Mobile Alliance™, OMA-ORG-SCR_Rules_and_Procedures, URL:http://www.openmobilealliance.org/

2.2 Informative References

[OMADICT]	"Dictionary for OMA Specifications", Version 2.7, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_7, 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.

3.2 Definitions

Ad App	See definition in [MobAd-Core-TS]
Advertisement	See definition in [MobAd-Core-TS]
Ad Engine	See definition in [MobAd-Core-TS]
Ad Metadata	See definition in [MobAd-Core-TS]
Ad Server	See definition in [MobAd-Core-TS]
SP App	See definition in [MobAd-Core-TS]

3.3 Abbreviations

Ad	Advertisement
Ad App	Ad Application.
MobAd	Mobile Advertising
OMA	Open Mobile Alliance
OMA BCAST	OMA Mobile Broadcast enabler
DCD	Dynamic Content Delivery
SP	Service Provider
SP App	Service Provider Application

4. Introduction

The purpose of this Enabler Test Requirements document is to help guide the testing effort for the Enabler MobAd V1_0, documenting those areas where testing is most important to ensure interoperability of implementations.

The Enabler under consideration comprises the following specifications:

- OMA-TS-MobAd_Core-V1_0: defines the MobAd messages, MobAd entity functionalities and transport bindings.

- OMA-SUP-XSD_MobAd-V1_0: defines the XML Schema for the MobAd messages.

- OMA-TS-MobAd_BCAST_Adaptation-V1_0: defines the BCAST adaptation.

- OMA-TS-MobAd_DCD_Adaptation-V1_0: defines the DCD adaptation.

Generally, the testing activity should aim at validating the normal working behaviour of the client/server interactions, as well as testing the error conditions whenever it is possible to set up the appropriate scenarios. The following sections provide a more detailed description of the testing requirements for MobAd V1_0.

This document also intends to provide some guidance on the prioritization of the specifications and features to be tested within Enabler MobAd V1_0.

5. Test Requirements

The MobAd Enabler Version 1.0 provides the following main functionalities:

- **Enable the contextualisation and personalisation of advertisements**, which is one of the key performance indicators for the effectiveness of mobile advertising.

- **Enable interactivity mechanisms with advertisements**, which improves user mobile advertising experience and enables various charging models for mobile advertising.

- **Collect and report Ad Metrics data**, which enables recording and collecting users' behaviour and impact of mobile advertising on them.

5.1 Enabler Test Requirements

The test requirements collected in this section are related to the Enabler MobAd V1_0.

In this section, it should be defined what specific functionalities of this Enabler shall or should be tested to ensure adequate operational of the implementations, including any security requirements and constraints on usage if specified (e.g. user can forward a media object but can not visualize it). That means that devices (clients/serves) shall do what they have to do and they shall not do what they are not allowed to do. Both types of test requirements (positive and negative testing) should be included here if so required.

Besides this information, OMA Architecture specifies a "Framework Architecture", consisting of a set of common functions that need to be invoked in most use cases involving the different Service Enablers. The functionality requirements defined in the OMA Framework Architecture, i.e. authentication, authorization, charging, billing, common directory, etc. should also be listed in this table.Use cases are the main input to identify test requirements.

The following test requirements should cover both Conformance test requirements (i.e. functionality to be tested to verify wheter it is implemented either in the client side or in the server side) and Interoperability test requirements (i.e. client/server interactions one with another)

The following sections (Mandatory and Optional test requirements) could also be separated for client and server test requirements.

The tables for the mandatory and optional test requirements include the following columns:

FEATURE KEY:	A set of characters uniquely identifying the enabler test requirement to be tested. It is suggested that the Feature Key is no longer than 4 to 5 characters. The purpose of the Feature Key is that when used, it distinctly refers to only one feature to be tested.
FEATURE DESCRIPTION:	A description of a technical specification feature to be tested.
FEATURE TEST REQUIREMENTS:	A description of what shall be tested for the feature,

5.1.1 Mandatory Test Requirements

Mandatory test requirements are covering mandatory features/functions of an Enabler which shall always be implemented in the client/server.

NOTE: This table needs to be filled out at a level where ambiguity is not present but details are not overwhelming.

Ambiguity means that the details do not have several meanings nor have more than one possible implementation path following.

The testing has been Split across the three different Interfaces.

5.1.1.1 MobAd-1 Interface

MobAd-1 is an interface exposed by the Ad Engine to the Ad App. The Ad App uses this interface to request and obtain Ads and their associated Ads identifiers from the Ad Engine, as well as to report Ad Metrics data to the Ad Engine, accompanied by the associated Ads identifiers.

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	MobAd-1-001-M	Ad App Ad Request The "*AdAppAdRequest*" message is used by the Ad App to request Ads from Ad Engine.	See [MobAd-Core-TS] Section 5.2.1.1
	MobAd-1-002-M	Ad App Ad Response The "*AdAppAdResponse*" message is used by the Ad Engine to return Ads to the Ad App.	See [MobAd-Core-TS] Section 5.2.1.2
	MobAd-1-003-M	Ad App Metrics Report The "*AdAppMetricsReport*" message is used by the Ad App to report Ad Metrics data to the Ad Engine.	See [MobAd-Core-TS] Section 5.2.2.1
Error Flow	N/A		

Table 1: Applicability Table for MobAd-1 Interface Mandatory Test Requirements

5.1.1.2 MobAd-2 Interface

MobAd-2 is an interface exposed by the Ad Server to the SP App. The SP App uses this interface to request and obtain Ad(s), reference(s) to Ad(s), associated Ad(s) identifiers and possibly additional information, as well as to report Ad Metrics data, accompanied by the associated Ad(s) ID(s).

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	MobAd-2-001-M	SP App Ad Request The "*SPAppAdRequest*" message is used by the SP App to request Ads from Ad Server.	See [MobAd-Core-TS] Section 5.3.1.1
	MobAd-2-002-M	SP App Ad Response The "*SPAppAdResponse*" message is used by the Ad Server to return Ads to the SP App.	See [MobAd-Core-TS] Section 5.3.1.2
	MobAd-2-003-M	SP App Metrics Report The "*SPAppMetricsReport*" message is used by the SP App to report Ad Metrics data to the Ad Server.	See [MobAd-Core-TS] Section 5.3.2.1
Error Flow	N/A		

Table 2: Applicability Table for MobAd-2 Interface Mandatory Test Requirements

5.1.1.3 MobAd-3 Interface

MobAd-3 is an interface exposed by the Ad Server to the Ad Engine. The Ad Engine uses this interface to request and obtain Ad(s), reference(s) to Ad(s), their associated Ad(s) ID(s) and Ad Metadata from the Ad Server, as well as to report Ad Metrics data to the Ad Server, accompanied by the associated Ad(s) ID(s).

Feature Key	Feature Description	Feature Test Requirements

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	MobAd-3-001-M	Ad Engine Ad Request The "*AdEngineAdRequest*" message is used by the Ad Engine to request Ads from Ad Server.	See [MobAd-Core-TS] Section 5.4.1.1
	MobAd-3-002-M	Ad Engine Ad Response The "*AdEngineAdResponse*" message is used by the Ad Server to return Ads to the Ad Engine.	See [MobAd-Core-TS] Section 5.4.1.2
	MobAd-3-003-O	Ad Engine Rules Request The "*AdEngineRulesRequest*" message is used by the Ad Engine to request MobAd Rules from Ad Server.	See [MobAd-Core-TS] Section 5.4.3.1
	MobAd-3-004-O	Ad Engine Rules Response The "*AdEngineRulesResponse*" message is used by the Ad Server to return MobAd Rules to the Ad Engine.	See [MobAd-Core-TS] Section 5.4.3.2
	MobAd-3-005-M	Ad Engine Metrics Report The "*AdEngineMetricsReport*" message is used by the Ad Engine to report Ad Metrics data to the Ad Server.	See [MobAd-Core-TS] Section 5.4.2.1
Error Flow	N/A		

Table 3: Applicability Table for MobAd-3 Interface Mandatory Test Requirements

5.1.2   Optional Test Requirements

Optional test requirements are covering optional features/functions of an Enabler.

If an optional requirement of the Enabler is implemented in the client/server, this requirement SHALL be tested.

NOTE: This table needs to be filled out at a level where ambiguity is not present but details are not overwhelming.

Ambiguity means that the details do not have several meanings nor have more than one possible implementation path following.

5.1.2.1   Delv-1 Interface

Delv-1 is an optional interface exposed by the Ad Engine. The Ad Engine receives Ad(s) and/or Ad Metadata over this interface from the Ad Server via underlying push and/or broadcast delivery mechanisms. The Ad Server uses this interface to push either Ad(s) or notification that Ad(s) are available for retrieval.

The Ad Server may also use this interface to provide service notification to the Ad Engine (e.g. information that SP caching and pre-fetching policies have been dynamically updated; An Ad or campaign needs to be cancelled immediately, MobAd Rules have changed, request for Ad Metrics data reporting, etc).

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	MobAd-Delv-001-O	Ad Server Push Ads The "*AdServerPushAds*" message is used by the Ad Server to push Ads to the Ad Engine.	See [MobAd-Core-TS] Section 5.5.1.1
	MobAd-Delv-002-O	Ad Server Push MobAd Rules The "*AdServerPushRules*" message is used by the Ad Server to push MobAd Rules to the Ad Engine.	See [MobAd-Core-TS] Section 5.5.2.1
	MobAd-Delv-003-O	Ad Server Push Notification The "*AdServerPushNotif*" message is used by the Ad Server to push notification to the Ad Engine.	See [MobAd-Core-TS] Section 5.5.3.1

Feature Key	Feature Description	Feature Test Requirements
Error Flow	N/A	

Table 4: Applicability Table for Delv-1 Interface Optional Test Requirements

5.1.2.2   DCD Adaptation

DCD Adaptation related features provide functions, behaviors and data (e.g.: metadata) necessary to enable MobAd V1.0 operations using and leveraging OMA DCD V1.0.

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	MobAd-DCD-001-O	Ad Engine Registration Ad Engine registers with the DCD Enabler.	See [MobAd-DCD-TS] Section 6.1.1
	MobAd-DCD-002-O	Ad Engine De-registration Ad Engine deregisters with the DCD Enabler.	See [MobAd-DCD-TS] Section 6.1.2
	MobAd-DCD-003-O	Ad Server Channel Registration Ad Server registers Ad Channels with the DCD Enabler.	See [MobAd-DCD-TS] Section 6.1.3
	MobAd-DCD-004-O	Ad Server Channel Deregistration Ad Server deregisters Ad Channels with the DCD Enabler.	See [MobAd-DCD-TS] Section 6.1.4
	MobAd-DCD-005-O	Ad Server Initiated Channel Subscription Ad Server initiates Ad Engine subscription to the registered Ad Channel.	See [MobAd-DCD-TS] Section 6.2.1
	MobAd-DCD-006-O	Ad Engine Initiated Channel Subscription Ad Engine subscribes the selected Ad Channel.	See [MobAd-DCD-TS] Section 6.2.2
	MobAd-DCD-007-O	Ad Server Initiated Channel Deregistration Ad Server deregisters the Ad Channel which was subscribed by Ad Engines.	See [MobAd-DCD-TS] Section 6.2.3
	MobAd-DCD-008-O	Ad Engine Initiated Channel Unsubscription Ad Engine unsubscribes the subscribed Ad Channel.	See [MobAd-DCD-TS] Section 6.2.4
	MobAd-DCD-009-O	Ad Server Initiated Channel Update Ad Server updates the Channel Metadata for the registered Ad Channel.	See [MobAd-DCD-TS] Section 6.2.5
	MobAd-DCD-010-O	Ad Engine Initiated Subscription Personalization Ad Engine customizes its subscriptions using DCD subscription personalization mechanism.	See [MobAd-DCD-TS] Section 6.2.6
	MobAd-DCD-011-O	Ad Publication from Ad Server Ad Server supplies the Ads to the DCD Server.	See [MobAd-DCD-TS] Section 6.3.1.1
	MobAd-DCD-012-O	Ad Request from the Ad Engine Ad Engine requestsAds from Ad Server.	See [MobAd-DCD-TS] Section 6.3.1.2
	MobAd-DCD-013-O	Ad Response to the Ad Engine Ad Server delivers Ads to the Ad Engine.	See [MobAd-DCD-TS] Section 6.3.1.2
	MobAd-DCD-014-O	Suspend and Resume initated by the Ad Server Ad Server initiates Ad Channel suspend and resume.	See [MobAd-DCD-TS] Section 6.3.2.1
	MobAd-DCD-015-O	Suspend and Resume initated by the Ad Engine Ad Engine initiates Ad Channel suspend and resume.	See [MobAd-DCD-TS] Section 6.3.2.2
	MobAd-DCD-016-O	Metrics Report Ad Engine reports Ad Metrics data to the Ad Server.	See [MobAd-DCD-TS] Section 6.3.3
	MobAd-DCD-017-O	MobAd Rule Delivery Ad Server delivers MobAd Rules to the Ad Engine.	See [MobAd-DCD-TS] Section 6.3.3
Error Flow	N/A		

Table 5: Applicability Table for DCD Adaptation Optional Test Requirements

5.1.2.3   BCAST Adaptation

BCAST Adaptation related features provide functions, behaviors and data (e.g.: metadata) necessary to enable MobAd V1.0 operations using and leveraging OMA BCAST V1.1.

	Feature Key	Feature Description	Feature Test Requirements
Normal Flow	MobAd-BCAST-001-O	Ad Server Establishing the BCAST File Delivery session	See [MobAd-BCAST-TS] Section 6.1
	MobAd-BCAST-002-O	Ad Server Terminating the BCAST File Delivery session	See [MobAd-BCAST-TS] Section 6.2
	MobAd-BCAST-003-O	Ad Server Delivery of Ad Metadata and Contexual Data (for filtering purpose)	See [MobAd-BCAST-TS] Section 6.3
	MobAd-BCAST-004-O	Ad Engine registers with BCAST Client.	See [MobAd-BCAST-TS] Section 7.1
	MobAd-BCAST-005-O	Ad Engine transmits Ad filtering data to BCAST Client.	See [MobAd-BCAST-TS] Section 7.2
	MobAd-BCAST-006-O	BCAST Client delivers Ads to the Ad Engine.	See [MobAd-BCAST-TS] Section 7.3
	MobAd-BCAST-007-O	Ad Engine deregisters with BCAST Client.	See [MobAd-BCAST-TS] Section 7.4
Error Flow	N/A		

Table 6: Applicability Table for BCAST Adaptation Optional Test Requirements

5.2   Backwards Compatibility

No backward compatibility requirements are defined since this is the first version of this enabler.

5.3   Enabler Dependencies

MobAd Core TS is dependant on the HTTP 1.1.

MobAd Core TS is optionally dependant on the WAP Push.

DCD Adaptation related features have dependencies on OMA DCD V1.0 Enabler.

BCAST Adaptation related features have dependencies on OMA BCAST V1.1 Enabler.

Appendix A.   Change History   (Informative)

A.1   Approved Version History

Reference	Date	Description
n/a	n/a	No prior version –or- No previous version within OMA

A.2   Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Version OMA-ETR-MobAd-V1_0	21 Oct 2009	All	First draft according to the agreed contribution: OMA-CD-MobAd-2009-0320R01-INP_ETR_Baseline
	08 Dec 2009	5.1.1.3	Incorporate changes indicated in the consistency review report
	08 Jan 2010	All	Updated to 2010 template
Candidate Version OMA-ETR-MobAd-V1_0	26 Jan 2010	All	Status changed to Candidate by TP: OMA-TP-2010-0007- INP_MobAd_V1_0_ERP_for_Candidate_Approval