



Enabler Test Report

Digital Rights Management v2.0

OMA Test Fest (June 2006)
Version 07-Jul-2006

Open Mobile Alliance
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1. Scope

This report describes the results from the testing carried out at OMA TestFest-15 June 2006 concerning Digital Rights Management version 2.0.

2. References

2.1 Normative References

[OMAIOPPROC]	OMA Interoperability Policy and Process, http://www.openmobilealliance.org/
[DRMEICS]	Enabler Implementation Conformance Statement, OMA DRM 2.0 Client Enabler Release, 15-December-2005, http://www.openmobilealliance.org/
	Enabler Implementation Conformance Statement, OMA DRM 2.0 Server Enabler Release, 15-December-2005, http://www.openmobilealliance.org/
[ERELED]	“Enabler Release Definition for DRM Version 2.0” Open Mobile Alliance™. OMA-ERELED-DRM-v2_0. URL:http://www.openmobilealliance.org/
[DRM]	“DRM Rights Management”. Open Mobile Alliance™. OMA-Download-DRM-v1_0. URL:http://www.openmobilealliance.com/ .
[DRM-v2.0]	“DRM Rights Management”. Open Mobile Alliance™. OMA-DRM-DRM-v2_0. URL:http://www.openmobilealliance.com/ .
[DRMCF-v2.0]	“DRM Content Format”. Open Mobile Alliance™. OMA-DRM-DCF-v2_0. URL:http://www.openmobilealliance.com/ .
[DRMREL-v2.0]	“DRM Rights Expression Language”. Open Mobile Alliance™. OMA-DRM-REL-v2_0. URL:http://www.openmobilealliance.com/ .
[EPTR]	Enabler Product Test Report
[ETP]	Enabler Test Plan
[ETS]	OMA-ETS-DRM-Interoperability-V2_0-20060124-C.doc Enabler Test Specification [ETS]

2.2 Informative References

[OMADICT]	Dictionary for OMA Specification, OMA-Dictionary http://www.openmobilealliance.org/
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3. Terminology and Conventions

3.1 Conventions

This is an informative document, i.e. the document does not intend to contain normative statements.

3.2 Definitions

Asset	Content governed by rights. See DRM content.
Combined delivery	Delivery of the rights object and content together in a single message. See DRM message.
Composite object	A DCF that contains one or more DCFs by means of inclusion e.g. DRM messages, zip files.
Content	A DCF
DRM Agent	A mobile device consuming DRM content.
DRM agent	A user agent in the device that enforces the rights and controls the consumption of DRM content on the device.
DRM content	Content that is consumed according to a set of rights. DRM content may be in encrypted DRM Content Format or in plaintext delivered inside a DRM message
DRM message	A message containing a DCF and an optional rights object. DCFs received inside a DRM message must not leave the device. The optional rights object defines additional consumption rules for the DCF.
Forward-lock	A special case of combined delivery method where the DRM message includes only the DCF and not a rights object at all. A set of default rights applies for the DCF.
DCF	A digital resource e.g. a ringing tone, a screen saver, a Java game or a composite object.
Media type	A MIME media type.
Rights	Permissions and constraints defining under which circumstances access is granted to DRM content.
Rights issuer	An entity who issues rights objects.
Rights object	An instance of rights
Separate delivery	Delivery of the rights object and content via separate transports.
Superdistribution	A mechanism that (1) allows the end user to redistribute the encrypted DRM content to other end users through potentially insecure channels and (2) enables the recipients to obtain initial rights for the superdistributed DRM content.

3.3 Abbreviations

CEK	Content Encryption Key
DCF	DRM Content Format
DRM	Digital Rights Management
HTTP	Hypertext Transfer Protocol
MIME	Multipurpose Internet Mail Extensions
OMA	Open Mobile Alliance
REL	Rights Expression Language
RI	Rights Issuer
RO	Rights Object
ROAP	Rights Object Acquisition Protocol
SCR	Static Conformance Requirement
WAP	Wireless Application Protocol
WSP	Wireless Session Protocol

4. Summary

This report gives details of the testing carried out during the OMA TestFest-15 (June 2006) for Digital Rights Management v2.0.

The report is compiled on behalf of OMA by the OMA Trusted Zone.

The work and reporting has followed the OMA IOP processes and policies [OMAIOPPROC].

5. Test Details

5.1 Documentation

This chapter lists the details of the enabler and any documentation, tools or test suites used to prove the enabler.

Date:	26th – 30th June 2006
Location:	Belfast, Northern Ireland, UK
Enabler:	DRM v2.0
Process:	OMA Interoperability Policy and Process [OMAIOPPROC]
Type of Testing	Interoperability Testing
Products tested:	Client-to-server, Client-to-Client
Test Plan:	DRM Enabler Test Plan [ETP]
Test Specification:	DRM Enabler Test Specification [ETS]
Test Tool:	None
Test Code:	None
Type of Test event:	TestFest
Participants:	Broadcom Corp, CoreMedia, Discretix, Ericsson AB, Philips Software, Sony Ericsson Mobile Communications, CoreMedia, Viaccess <i>Plus one other participant tcompany</i>
Number of Client Products:	6
Participating Technology Providers for clients:	Broadcom Corp, CoreMedia, Discretix, Ericsson AB, Philips Software, Sony Ericsson, Mobile Communications
Number of Server Products:	3
Participating Technology Providers for servers:	CoreMedia, Viaccess <i>Plus one other Server company</i>
Number of test sessions completed:	17

Table 1. Test Information

5.2 Test Case Statistics

5.2.1 Test Case Summary

This chapter gives an overview of the result for all test cases included in [ETS].

The following status is used in the tables below:

- **Total number of TCs:** Used in the summary to indicate how many test cases there are in total.
- **Number of passed:** Used in the summary to indicate how many of the total test cases successfully passed.
- **Number of failed:** Used in the summary to indicate how many of the total test cases failed.
- **Number of N/A:** Used in the summary to indicate how many of the total test cases have not been run due to one of the implementations not supporting the functionality required to run this test case.
- **Number of OT:** Used in the summary to indicate how many of the total test cases have not been run due to no time to run the test case.
- **Number of INC:** Used in the summary to indicate how many of the total test cases have not been run due to functionality not being tested due to an error in the implementation or other functionality that is required to run this test case.

Test Section:	Number of test sessions:	Total number of TCs:	Number of Passed:	Number of Failed:	Number of N/A:	Number of OT:	Number of INC:	Total:
Client to Server TCs	17	52	545	14	288	37	0	884
Total	17	52	545	14	288	37	0	884

Table 2. Test Summary Table

5.2.2 Test Case List

This chapter lists the statistics for all test cases included in [ETS].

The following status is used in the tables below:

- **No. of runs(R):** Used to indicate how many times the test cases have been run in total.
- **No. of passed(P):** Used to indicate how many times the test case has been run with successful result.
- **No. of failed(F):** Used to indicate how many times the test case has been run with failed result
- **No. of OT(O):** Used to indicate how many times the test case has not been run due to no time available.
- **No. of INC(I):** Used to indicate how many times the test case has not been run due to errors being found in other functionality required for running this test case.
- **PR:** Used to indicate if any PRs (Problem Reports) have been issued during testing.
- **Note:** Used to indicate the cause of Inconclusive or Fail verdicts.

Tests for DRM Enabler TestFest From OMA-ETS-DRM-V2_0-20060124-C

Test Case	Test Case Description	Test Case Counts					PR	Notes (See Below)
		Run	Pass	Fail	OT	INC		
DRM-2.0-int-1	To test "Forward Lock" DRM 1.0 functionality.	14	13	0	1	0		
DRM-2.0-int-2	To test DRM 1.0 "Combined Delivery" functionality.	14	13	0	1	0		
DRM-2.0-int-3	To test DRM 1.0 "Separate Delivery" functionality in case the DCF file indicates that the server intends to push the rights object separately.	11	10	0	1	0		
DRM-2.0-int-4	Registration of a DRM Agent	14	14	0	0	0		
DRM-2.0-int-5	RO Acquisition with existing RI Context.	14	14	0	0	0		
DRM-2.0-int-6	RO Acquisition without existing RI Context	14	14	0	0	0		
DRM-2.0-int-7	1-pass RO Acquisition with existing RI Context.	14	13	1	0	0		
DRM-2.0-int-8	1-pass RO Acquisition without existing RI Context.	14	14	0	0	0		
DRM-2.0-int-9	Server-initiated Device Time Synchronization	12	12	0	0	0		

Test Case	Test Case Description	Test Case Counts					PR	Notes (See Below)
		Run	Pass	Fail	OT	INC		
DRM-2.0-int-10	To test a situation where an RO is included in the DCF.	14	11	3	0	0		
DRM-2.0-int-11	To test behaviour in the presence of a group RO for multiple DCFs, using the Group ID mechanism.	14	14	0	0	0		
DRM-2.0-int-12	To test behaviour in the presence of an individual RO for a content item which has a Group ID.	14	13	0	1	0		
DRM-2.0-int-13	To test behaviour in the presence of several rights objects for one piece of content.	14	13	0	1	0		
DRM-2.0-int-14	To test behaviour in the presence of several rights objects for one piece of content.	14	13	0	1	0		
DRM-2.0-int-15	To test DRM Agent's capability to process Multipart DCFs from the RI.	14	13	1	0	0		
DRM-2.0-int-16	To test behaviour in the presence of multiple ROs for a multipart DCF.	11	11	0	0	0		
DRM-2.0-int-17	To test behaviour when different content items in a multipart DCF are associated with different groups	11	11	0	0	0		
DRM-2.0-int-18	To test "Superdistribution" functionality. The protected content is sent from one DRM Agent to another. The rights object is obtained by ROAP session to the rights issuing service.	13	12	0	1	0		
DRM-2.0-int-19	To test the TransactionID mechanism in connection with Superdistribution.	8	5	3	0	0		
DRM-2.0-int-20	To test <display> and <print> permissions.	14	13	0	1	0		
DRM-2.0-int-21	To test <play> permission.	14	13	0	1	0		
DRM-2.0-int-22	To test <execute> permission.	14	13	0	1	0		
DRM-2.0-int-23	To test <count> constraint for a DCF.	14	13	0	1	0		

Test Case	Test Case Description	Test Case Counts					PR	Notes (See Below)
		Run	Pass	Fail	OT	INC		
DRM-2.0-int-24	To test <timed-count> constraint for a DCF.	14	13	0	1	0		
DRM-2.0-int-25	To test <datetime> constraint for a DCF.	14	13	0	1	0		
DRM-2.0-int-26	To test <interval> constraint for a DCF.	17	16	0	1	0		
DRM-2.0-int-27	To test <accumulated> constraint for a DCF.	11	11	0	0	0		
DRM-2.0-int-28	To test <individual> constraint for a DCF.	8	8	0	0	0		
DRM-2.0-int-29	To test <system> constraint for a DCF.	5	5	0	0	0		
DRM-2.0-int-30	To test the effect of having multiple constraints.	14	12	0	2	0		
DRM-2.0-int-31	To test the REL Permission Model in the case that the rights include a stateful top level constraint.	11	10	0	1	0		
DRM-2.0-int-32	Initiate ROAP from DCF Preview Header with existing RI Context & domain name NOT in Domain Name Whitelist.	14	11	1	2	0		
DRM-2.0-int-33	Initiate ROAP from DCF Preview Header with existing RI Context & domain name in the Domain Name Whitelist.	14	11	1	2	0		
DRM-2.0-int-34	To test inheritance model when stateful constraints are involved.	11	9	0	2	0		
DRM-2.0-int-35	To test a case where the Parent Rights Object	11	9	0	2	0		
DRM-2.0-int-36	To test inheritance model when a child RO is a group RO	11	9	0	2	0		
DRM-2.0-int-37	Trigger-initiated domain join without existing RI Context	14	13	0	1	0		
DRM-2.0-int-38	Trigger-initiated domain join with valid RI Context and no existing Domain Context for this RI.	14	13	0	1	0		

Test Case	Test Case Description	Test Case Counts					PR	Notes (See Below)
		Run	Pass	Fail	OT	INC		
DRM-2.0-int-39	Automatically-initiated domain upgrade with valid RI Context and existing Domain Context for this RI A Domain RO is delivered before the DRM Agent has upgraded the domain.	11	10	0	1	0		
DRM-2.0-int-40	Trigger-initiated domain join with valid RI Context and existing Domain Context for this RI RI-initiated domain generation upgrade	11	10	0	1	0		
DRM-2.0-int-41	Domain RO Acquisition with existing RI Context.	14	13	0	1	0		
DRM-2.0-int-42	To test delivering the DomainRO inside a DCF.	14	12	1	1	0		
DRM-2.0-int-43	To test if different devices related with the same domain are able to share DCFs.	9	8	1	0	0		
DRM-2.0-int-44	Device leaves a domain after receiving a LeaveDomain trigger.	14	13	0	1	0		
DRM-2.0-int-45	Initiate ROAP from DCF Silent Header with existing RI Context and domain name NOT in Domain Name Whitelist.	14	12	1	1	0		
DRM-2.0-int-46	Initiate ROAP from DCF Silent Header with existing RI Context and domain name NOT in Domain Name Whitelist.	14	12	1	1	0		
DRM-2.0-int-47	To test a local backup of content and rights object.	8	7	0	1	0		
DRM-2.0-int-48	Device registration and domain establishment for Unconnected Device.	0	0	0	0	0		
DRM-2.0-int-49	RO Acquisition with existing RI Context.	0	0	0	0	0		
DRM-2.0-int-50	Unconnected Device leaving domain.	0	0	0	0	0		
DRM-2.0-int-51	RO Acquisition without existing RI Context	0	0	0	0	0		

Test Case	Test Case Description	Test Case Counts					PR	Notes (See Below)
		Run	Pass	Fail	OT	INC		
DRM-2.0-int-52	To test Datetime constraints with an unconnected device that does not have a time source (i.e. a situation where the constraint is not understood and cannot be enforced).	0	0	0	0	0		

Table 2. Test Case Counts

5.2.3 Problem Reports

During the activities for TestFest-15, the following problem reports were generated relating to the test materials and test process:

PR Number	Affecting	Description	Test Case reference / Specification reference
0021	Specification	Ambiguity in handling of transaction id and the mutable information box	OMA-DRM-DRM-V2_0-20060303-A
0022	Specification	Some servers are using IDs for ROAP triggers, content, ROs, etc. that are not valid according to the ROAP schema and the definition of NCNames or ID in the XML Schema	OMA-ETS-DRM-Interoperability-V2_0-20060124-C OMA-DRM-DRM-V2_0-20060303-A

Full details of all Problem Reports can be found at:

<http://www.openmobilealliance.org/OMA-Problem-Reporting-System.html>

6. Confirmation

This signature states that the included information is true and valid.

A handwritten signature in black ink, appearing to read "Alan P. [unclear]". The signature is fluid and cursive, with a long horizontal stroke at the end.

OMA Trusted Zone

Appendix A. Change History (Informative)

Type of Change	Date	Section	Description