Enabler Test Specification for Secure Removable Media

Candidate Version 1.0 – 28 Apr 2008

Open Mobile Alliance

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Contents

Figures

Tables

1. Scope

This document describes in detail available test cases for OMA SRM v1.0. The interoperability test cases are aimed to verify that implementations of the specifications work satisfactorily.

2. References

2.1 Normative References

[SRM-TS] "OMA Secure Removable Media Specification", Open Mobile Alliance™, OMA-TS-SRM-V1_0, URL:http://www.openmobilealliance.org/

[OMADRMv2] "Digital Rights Management", Open Mobile Alliance™, OMA-DRM-DRM-V2_0, 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

[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

[OMADICT] "Dictionary for OMA Specifications", Version 2.6, 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”, are normative, unless they are explicitly indicated to be informative.

The following numbering scheme is used:

xxx-y.z-int-number where:

xxx	Name of enabler, e.g. MMS or Browsing
y.z	Version of enabler release, e.g. 1.2 or 1.2.1
’int’	Indicating this test is a interoperability test case
number	Leap number for the test case

3.2 Definitions

Content Issuer	The entity making content available to the DRM Agent in a Device.
Device	Entity (hardware/software or combination thereof) within a user equipment that implements a DRM Agent. The Device is also conformant to the OMA DRM specifications. The Device may include a smartcard module (e.g. a SIM) or not depending upon implementation
DRM Agent	Entity in the Device that manages permissions for media objects
DRM Content	Media objects that are consumed according to a set of permissions in Rights
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.
Handle	A random number generated by the DRM Agent, which is stored in the SRM and in the Operation Log (kept in the Device) used for associating the DRM Agent to specific Rights for the Move or Local Rights Consumption operation.
Minimum Functionality Description	Description of the guaranteed features and functionality that will be enabled by implementing the minimum mandatory part of the Enabler Release.
Move	To make Rights existing initially on a source Device or SRM fully or partially available for use by a recipient Device or SRM, such that the Rights or parts thereof that become usable on the recipient Device or SRM can no longer be used on the source Device or SRM.
Rights	Collection of permissions and constraints defining under which circumstances access is granted to DRM Content. Rights may include the associated state information
Rights Issuer	An entity that issues Rights Objects to OMA DRM Conformant Devices.
Rights Object	A collection of Permissions and other attributes which are linked to DRM Content.
Secure Authenticated Channel	A logical channel that provides message integrity and confidentiality.
Secure Removable Media	A removable media that implements means to protect against unauthorized access to its internal data and includes an SRM Agent (e.g. secure memory card, smart card)
SRM Agent	A trusted entity embodied in Secure Removable Media. This entity is responsible for storing and removing Rights in Secure Removable Media, for delivering Rights from/to a DRM Agent in a secure manner, and for enforcing permissions and constraints, including securely maintaining state information for stateful rights. The SRM Agent is a part of Secure Removable Media

3.3 Abbreviations

AD	Architecture Document
CRL	Certificate Revocation List
DCF	DRM Content Format
DRM	Digital Rights Management
ERDEF	Enabler Requirement Definition
ERELD	Enabler Release Definition
KDF	Key Derivation Function
MAC	Message Authentication Code
MAKE	Mutual Authentication and Key Exchange
OCSP	Online Certificate Status Protocol
OMA	Open Mobile Alliance
RD	Requirements Document
REK	Rights Encryption Key
RI	Rights Issuer
RO	Rights Object
SAC	Secure Authenticated Channel
SCR	Static Conformance Requirement
SRM	Secure Removable Media

4. Introduction

The purpose of this document is to provide interoperability test cases for SRM Enabler Release 1.0. These tests are specifically designed to test interoperability between client and server implementations.

Some features in the SRM enabler may optionally be implemented in mobile devices. The tests associated with these optional features are marked as [Optional] in the test specification.

5. SRM Conformance Test Cases

Not Available.

6. SRM Interoperability Test Cases

There are 26 interoperability test cases for the SRM 1.0 Enabler.

6.1 SRM Hello and MAKE

6.1.1 SRM Hello

Test Case Id	SRM-1.0-int-001
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that the DRM Agent and SRM Agent exchange information about each other with the SRM Hello message.
Specification Reference	[SRM-TS] Chapter 6.1
SCR Reference	SRM-HEL-C-001-M, SRM-HEL-S-001-M
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent
Test Procedure	1. The DRM Agent sends the SrmHelloRequest to the SRM Agent. 2. The SRM Agent sends the SrmHelloResponse to the DRM Agent.
Pass-Criteria	1. The SrmHelloResponse is received in the DRM Agent with *Status* = "*Success*".

Table 1: Test Information for SRM Hello

6.1.2 Mutual Authentication and Key Exchange: MAKE

Test Case Id	SRM-1.0-int-002**Error! Reference source not found.**
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that DRM Agent and SRM Agent mutually authenticate with MAKE process comprised of the Authentication and Key Exchange messages.
Specification Reference	[SRM-TS] Chapter 6.2
SCR Reference	SRM-SAC-C-001-M, SRM-SAC-S-001-M
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o SRM-1.0-int-001**Error! Reference source not found.** is successfully completed o Both the DRM Agent and the SRM Agent have a CRL for the other Agent's revocation status.

Test Procedure	2. The DRM Agent sends the AuthenticationRequest to the SRM Agent. 3. The SRM Agent sends the AuthenticationResponse to the DRM Agent. 4. The DRM Agent sends the KeyExchangeRequest to the SRM Agent. 5. The SRM Agent sends the KeyExchangeResponse to the DRM Agent.
Pass-Criteria	6. The KeyExchangeResponse is received in the DRM Agent with *Status* = "*Success*", and 7. The hash of the concatenation of RN_D and RN_S matches the corresponding hash of the random numbers exchanged in the KeyExchangeRequest and AuthenticationResponse respectively.

Table 2: Test Information for Mutual Authentication and Key Exchange: MAKE Error! Reference source not found.

6.1.3 Key Derivation Function

Test Case Id	SRM-1.0-int-003
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that both DRM Agent and SRM Agent generate the key materials (Session Key and MAC Key) with the KDF (Key Derivation Function)
Specification Reference	[SRM-TS] Chapter 6.3.1, [OMADRMv2] Chapter 7.1.2
SCR Reference	SRM-SAC-C-002-M, SRM-SAC-S-002-M
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o SRM-1.0-int-002**Error! Reference source not found.** is successfully completed • Continuation of SRM-1.0-int-002
Test Procedure	8. The DRM Agent and the SRM Agent generate the key materials with the KDF, by inputting the values exchanged in the MAKE process.
Pass-Criteria	9. The MAC Key and Session Key generated by each Agent are the same.

Table 3: Test Information for Key Derivation Function Error! Reference source not found.

6.1.4 MAC key update

Test Case Id	SRM-1.0-int-004
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that both the DRM Agent and SRM Agent properly generate a new MAC key when transferring messages that require integrity protection.
Specification Reference	[SRM-TS] Chapter 6.3.4
SCR Reference	SRM-SAC-C-003-M, SRM-SAC-S-003-M
Tool	None
Test code	None

Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o There exists a valid SAC Context on the DRM Agent with the SRM Agent under test. o There exists a valid SAC Context on the SRM Agent with the DRM Agent under test.
Test Procedure	10. The DRM Agent sends a request that requires integrity protection.
Pass-Criteria	11. The response is received by the DRM Agent with *Status* = "*Success*". 12. The MAC Key contained by each Agent is properly updated and is the same value.

Table 4: Test Information for MAC key update

6.1.5 Change SAC (Includes Optional Features)

Test Case Id	SRM-1.0-int-005
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that the DRM Agent and SRM Agent change to a different SAC
Specification Reference	[SRM-TS] Chapter 6.3.5
SCR Reference	SRM-SAC-C-004-O, SRM-SAC-S-004-O
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o Both the DRM Agent and the SRM Agent support multiple SACS and the Change SAC function in [SRM-TS] 6.3.5. o Two valid SAC contexts exist between the DRM Agent and SRM Agent under test
Test Procedure	13. The DRM Agent sends the ChangeSacRequest to the SRM Agent indicating a change to the second SAC. 14. The SRM Agent sends the ChangeSacResponse to the DRM Agent.
Pass-Criteria	15. The ChangeSacResponse is received in the DRM Agent with *Status* "*Success*". 16. Both the DRM Agent and the SRM Agent switch to the second SAC.

Table 5: Test Information for Change SAC

6.2 CRL and OCSP

6.2.1 CRL Number Exchange

Test Case Id	SRM-1.0-int-006
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that DRM Agent reads an SRM's CRL information.
Specification Reference	[SRM-TS] Chapter 6.4.1
SCR Reference	SRM-CRL-C-001-M, SRM-CRL-S-001-M
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent
Test Procedure	17. The DRM Agent sends the CRLInformationExchangeRequest to the SRM Agent. 18. The SRM Agent sends the CRLInformationExchangeResponse to the DRM Agent.
Pass-Criteria	19. The CRLInformationExchangeResponse is received in the DRM Agent with *Status* = "*Success*".

Table 6: Test Information for CRL Number Exchange

6.2.2 CRL Delivery from Device to SRM

Test Case Id	SRM-1.0-int-007
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that DRM Agent replaces the current CRL in the SRM with the CRL in the Device.
Specification Reference	[SRM-TS] Chapter 6.4.4
SCR Reference	SRM-CRL-C-002-M, SRM-CRL-S-002-M
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o Both the DRM Agent and the SRM Agent have a CRL for the other Agent's revocation status. o The SRM Agent has an older CRL than the one stored in the DRM Agent.
Test Procedure	20. The DRM Agent sends the CRLUpdateRequest with the newer CRL to the SRM Agent. 21. The SRM Agent sends the CRLUpdateResponse to the DRM Agent.
Pass-Criteria	22. The CRLUpdateResponse is received in the DRM Agent with *Status* = "*Success*". 23. The CRL in the SRM is properly updated.

Table 7: Test Information for CRL Delivery from Device to SRM

6.2.3 CRL Delivery from SRM to Device

Test Case Id	SRM-1.0-int-008**Error! Reference source not found.**
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that DRM Agent retrieves the CRL in the SRM.
Specification Reference	[SRM-TS] Chapter 6.4.5
SCR Reference	SRM-CRL-C-003-M, SRM-CRL-S-003-M
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o Both the DRM Agent and the SRM Agent have a CRL containing the other Agent's revocation status. o The SRM Agent has a newer CRL than the one stored in the DRM Agent
Test Procedure	24. The DRM Agent sends the CRLRetrievalRequest to the SRM Agent. 25. The SRM Agent sends the CRLRetrievalResponse with the newer CRL to the DRM Agent.
Pass-Criteria	26. The CRLRetrievalResponse is received in the DRM Agent with *Status* = "*Success*". 27. The CRL in the Device is properly updated.

Table 8: Test Information for CRL Delivery from SRM to Device Error! Reference source not found.

6.2.4 OCSP Nonce generation (Includes Optional Features)

Test Case Id	SRM-1.0-int-009
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that DRM Agent requests an SRM Agent to generate a nonce, and the SRM Agent returns the value.
Specification Reference	[SRM-TS] Chapter 6.4.2
SCR Reference	SRM-OCSP-C-001-O, SRM-OCSP-C-003-O, SRM-OCSP-S-001-O
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o Both the DRM Agent and the SRM Agent support the OCSP Nonce function in [SRM-TS] 6.4.2.
Test Procedure	28. The DRM Agent sends the OCSPNonceRequest to the SRM Agent. 29. The SRM Agent generates the OCSP Nonce. 30. The SRM Agent sends the OCSPNonceResponse to the DRM Agent.

Pass-Criteria	31. The OCSPNonceResponse is received in the DRM Agent with *Status* = "*Success*".

Table 9: Test Information for OCSP Nonce generation

6.2.5 OCSP Response processing and validation (Includes Optional Features)

Test Case Id	SRM-1.0-int-010
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that DRM Agent requests an SRM Agent to generate a nonce, and the SRM Agent returns the value.
Specification Reference	[SRM-TS] Chapter 6.4.3
SCR Reference	SRM-OCSP-C-002-O, SRM-OCSP-S-002-O
Tool	None
Test code	None
Preconditions	• Equipment: o DRM Agent o SRM Agent o OCSP Responder • State: o Both the DRM Agent and the SRM Agent support the OCSP Response Processing function in [SRM-TS] 6.4.3. o SRM-1.0-int-009 is successfully completed. o DRM Agent has a valid OCSP Response with a nonce generated by the SRM Agent that contains the revocation status of the DRM Agent
Test Procedure	32. The DRM Agent sends the OCSPProcessRequest containing the OCSP Response from the OCSP responder to the SRM Agent. 33. The SRM Agent verifies the OCSP Response 34. The SRM Agent verifies the OCSP-provided status of all revocable certificates in the Device Certificate Chain. 35. The SRM Agent sends the OCSPProcessResponse to the DRM Agent.
Pass-Criteria	36. The OCSPProcessResponse is received in the DRM Agent with a *Status* of "*Success*" or "*Request Not Supported*".

Table 10: Test Information for OCSP Response processing and validation

6.3 Rights Movement between a Device and an SRM

6.3.1 Rights Move from Device to SRM

Test Case Id	SRM-1.0-int-011
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that Rights are moved from a Device to an SRM
Specification Reference	[SRM-TS] Chapter 6.5
SCR Reference	SRM-MOV-C-001-M, SRM-MOV-S-002-M, SRM-MOV-S-003-M

Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o There exists a valid SAC Context on the DRM Agent with the SRM Agent under test. o There exists a valid SAC Context on the SRM Agent with the DRM Agent under test. o The Device contains Rights with a Move permission. • Can be tested together with: o SRM-1.0-int-013
Test Procedure	37. The user selects the Rights on the Device and initiates the Rights Move function from Device to SRM.
Pass-Criteria	38. The RightsInstalltionResponse is received in the DRM Agent with *Status* = "*Success*". 39. The Rights no longer exist in the source Device. 40. The Rights are stored in the SRM.

Table 11: Test Information for Rights Move from Device to SRM

6.3.2 Rights Move from SRM to Device

Test Case Id	SRM-1.0-int-012
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that Rights are moved from an SRM to a Device
Specification Reference	[SRM-TS] Chapter 6.6
SCR Reference	SRM-MOV-C-003-M, SRM-MOV-S-004-M
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o There exists a valid SAC Context on the DRM Agent with the SRM Agent under test. o There exists a valid SAC Context on the SRM Agent with the DRM Agent under test. o The SRM contains Rights with a Move permission. o The Rights to be moved do not have the same ROID as any other Rights on the Device • Can be tested together with: o SRM-1.0-int-013
Test Procedure	41. The user selects the Rights on the SRM and initiates the Rights Move function from SRM to Device.

Pass-Criteria	42. The RightsRemovalResponse is received in the DRM Agent with *Status* = "*Success*". 43. The Rights no longer exists in the source SRM. 44. The Rights are stored in the Device.

Table 12: Test Information for Rights Move from SRM to Device

6.3.3 Move Permission

Test Case Id	SRM-1.0-int-013**Error! Reference source not found.**
Test Object	DRM Agent, RI Server
Test Case Description	To test that a Rights Object with a Move permission is generated and used correctly.
Specification Reference	[SRM-TS] Appendix G
SCR Reference	SRM-MOV-C-006-M, SRM-MOV-S-001-M
Tool	None
Test code	None
Preconditions	• Equipment: o One RI Server o One terminal with a DRM Agent o SRM Agent • State: o A valid RI Context with the RI server under test exists on the DRM Agent. o There is a DCF stored on the terminal. o The RI has issued an RO for the DCF containing a Move permission with an associated count constraint set to 1. o There is no same entry as the RO in replay cache on the DRM Agent. o There exists a valid SAC Context on the DRM Agent with the SRM Agent under test. o There exists a valid SAC Context on the SRM Agent with the DRM Agent under test. • Can be tested together with: o SRM-1.0-int-011 o SRM-1.0-int-012
Test Procedure	45. User requests an RO for the DCF residing on the terminal. 46. User tries to move the RO to the SRM 47. User tries to move the RO back to the terminal.
Pass-Criteria	48. RI and DRM Agent successfully complete the 2-pass ROAP and the RO is delivered successfully to the DRM Agent. 49. The DRM Agent allows the Rights to be moved to the SRM. 50. The DRM Agent does not allow the Rights to be moved back to the terminal

Table 13: Test Information for Move Permission Interoperability Test

6.4 Local Rights Consumption

6.4.1 REK Query

Test Case Id	SRM-1.0-int-014**Error! Reference source not found.**
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that the DRM Agent receives the REK of Rights from the SRM Agent and consumes the associated DRM Content
Specification Reference	[SRM-TS] Chapter 6.7.2
SCR Reference	SRM-LRC-C-001-M, SRM-LRC-S-001-M
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o There exists a valid SAC Context on the DRM Agent with the SRM Agent under test. o There exists a valid SAC Context on the SRM Agent with the DRM Agent under test. o The Device contains a DCF whose Rights are stored on the SRM • Can be tested together with: o SRM-1.0-int-015 o SRM-1.0-int-020
Test Procedure	51. The DRM Agent selects Rights from the SRM associated with the DCF 52. The DRM Agent sends the REKQueryRequest to the SRM Agent. 53. The SRM Agent sends the REKQueryResponse to the DRM Agent.
Pass-Criteria	54. The REKQueryResponse is received in the DRM Agent with *Status* = "*Success*". 55. The DRM Agent grants access to the DCF in accordance with the associated Rights.

Table 14: Test Information for REK

6.4.2 State Information Update

Test Case Id	SRM-1.0-int-015**Error! Reference source not found.**
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that the DRM Agent properly requests the SRM to update State Information in the SRM
Specification Reference	[SRM-TS] Chapter 6.7.3

SCR Reference	SRM-LRC-C-003-M, SRM-LRC-S-002-M
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o There exists a valid SAC Context on the DRM Agent with the SRM Agent under test. o There exists a valid SAC Context on the SRM Agent with the DRM Agent under test. o **Error! Reference source not found.**The Device contains a DCF with stateful Rights that are stored on the SRM • Can be tested together with: o SRM-1.0-int-014 o SRM-1.0-int-020
Test Procedure	56. User selects the DCF to render 57. The DRM Agent selects the associated Rights from the SRM 58. User completes rendering of the DCF
Pass-Criteria	59. The DRM Agent grants access to the DCF in accordance with the Rights. 60. The SRM Agent correctly updates the State Information for the Rights associated with the DCF

Table 15: Test Information for State Information Update

6.5 SRM Utilities

6.5.1 Handle List Query

Test Case Id	SRM-1.0-int-016**Error! Reference source not found.**
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that the DRM Agent reads a Handle list from the SRM
Specification Reference	[SRM-TS] Chapter 6.8.1
SCR Reference	SRM-UTIL-C-001-M, SRM-UTIL-S-001-M
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o There exists a valid SAC Context on the DRM Agent with the SRM Agent under test. o There exists a valid SAC Context on the SRM Agent with the DRM Agent under test.
Test Procedure	61. The DRM Agent sends the HandleListQueryRequest to the SRM Agent. 62. The SRM Agent generates a Handle List. 63. The SRM Agent sends the HandleListQueryResponse to the DRM Agent.
Pass-Criteria	64. The HandleListQueryResponse is received in the DRM Agent with *Continuation Flag* = '*0*' and *Status* = "*Success*". 65. The Handle List is properly stored in the Device.

Table 16: Test Information for Handle List Query

6.5.2 Rights Information Query

Test Case Id	SRM-1.0-int-017**Error! Reference source not found.**
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that the DRM Agent reads Rights Information including the Rights Meta Data, Rights Object Container, and State Information from the SRM
Specification Reference	[SRM-TS] Chapter 6.8.2
SCR Reference	SRM-UTIL-C-002-M, SRM-UTIL-S-002-M
Tool	None
Test code	None

Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o There exists a valid SAC Context on the DRM Agent with the SRM Agent under test. o There exists a valid SAC Context on the SRM Agent with the DRM Agent under test. o The SRM contains at least one enabled Rights
Test Procedure	66. The DRM Agent sends the RightsInfoQueryRequest to the SRM Agent. 67. The SRM Agent sends the RightsInfoQueryResponse to the DRM Agent.
Pass-Criteria	68. The RightsInfoQueryResponse is received in the DRM Agent with *Status* = "*Success*". 69. The Rights Information is properly stored in the Device.

Table 17: Test Information for Rights Information Query Error! Reference source not found.

6.5.3 Rights Information List Query (Includes Optional Features)

Test Case Id	SRM-1.0-int-018**Error! Reference source not found.**
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that the DRM Agent reads a List of Rights Information including the Rights Meta Data, Rights Object Container, and State Information from the SRM with the Rights Information List Query message.
Specification Reference	[SRM-TS] Chapter 6.8.3
SCR Reference	SRM-UTIL-C-003-O, SRM-UTIL-S-003-O
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o There exists a valid SAC Context on the DRM Agent with the SRM Agent under test. o There exists a valid SAC Context on the SRM Agent with the DRM Agent under test. o The SRM contains at least one enabled Rights
Test Procedure	70. The DRM Agent sends the RightsInfoListQueryRequest to the SRM Agent. 71. The SRM Agent generates the Rights Information List. 72. The SRM Agent sends the RightsInfoListQueryResponse to the DRM Agent.
Pass-Criteria	73. The RightsInfoListQueryResponse is received by the DRM Agent with *Continuation Flag* = '*0*' and *Status* = "*Success*". 74. The Rights Information List is properly stored in the Device.

Table 18: Test Information for Rights Information List Query

6.5.4 Handle Removal

Test Case Id	SRM-1.0-int-019**Error! Reference source not found.**
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that the DRM Agent removes a Handle from the SRM
Specification Reference	[SRM-TS] Chapter 6.8.4
SCR Reference	SRM-UTIL-C-004-M, SRM-UTIL-S-004-M
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o There exists a valid SAC Context on the DRM Agent with the SRM Agent under test. o There exists a valid SAC Context on the SRM Agent with the DRM Agent under test. o The SRM has at least one Handle stored
Test Procedure	75. The DRM Agent sends the HandleRemovalRequest to the SRM Agent. 76. The SRM Agent removes the Handle. 77. The SRM Agent sends the HandleRemovalResponse to the DRM Agent.
Pass-Criteria	78. The HandleRemovalResponse is received in the DRM Agent with *Status* = "*Success*". 79. The Handle no longer exists in the SRM.

Table 19: Test Information for

Handle Removal

6.5.5 Rights Enablement

Test Case Id	SRM-1.0-int-020**Error! Reference source not found.**
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that the DRM Agent enables Rights in the SRM with the Rights Enablement message.
Specification Reference	[SRM-TS] Chapter 6.8.5
SCR Reference	SRM-UTIL-C-005-M, SRM-UTIL-S-005-M
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o There exists a valid SAC Context on the DRM Agent with the SRM Agent under test. o There exists a valid SAC Context on the SRM Agent with the DRM Agent under test. o The SRM has at least one disabled Rights • Can be tested together with: o SRM-1.0-int-014 o SRM-1.0-int-020
Test Procedure	80. The DRM Agent sends the RightsEnablementRequest to the SRM Agent for the disabled Rights. 81. The SRM Agent enables the Rights. 82. The SRM Agent sends the RightsEnablementResponse to the DRM Agent.
Pass-Criteria	83. The RightsEnablementResponse is received in the DRM Agent with *Status* = "*Success*". 84. The selected Rights in the SRM are enabled.

Table 20: Test Information for Rights Enablement

6.5.6 Rights Removal

Test Case Id	SRM-1.0-int-021**Error! Reference source not found.**
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that the DRM Agent removes Rights from the SRM
Specification Reference	[SRM-TS] Chapter 6.8.6
SCR Reference	SRM-UTIL-C-006-M, SRM-UTIL-S-006-M
Tool	None
Test code	None

Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o There exists a valid SAC Context on the DRM Agent with the SRM Agent under test. o There exists a valid SAC Context on the SRM Agent with the DRM Agent under test. o The SRM contains at least one Rights
Test Procedure	85. The DRM Agent sends the RightsRemovalRequest to the SRM Agent. 86. The SRM Agent removes the Rights. 87. The SRM Agent sends the RightsRemovalResponse to the DRM Agent.
Pass-Criteria	88. The RightsRemovalResponse is received in the DRM Agent with *Status* "*Success*". 89. The Rights no longer exists in the SRM.

Table 21: Test Information for Rights Removal

6.5.7 WBXML Dynamic Code Page Query (Includes Optional Features)

Test Case Id	SRM-1.0-int-022**Error! Reference source not found.**
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that the DRM Agent reads the WBXML Dynamic Code Pages from the SRM
Specification Reference	[SRM-TS] Chapter 6.8.10
SCR Reference	SRM-UTIL-C-007-M, SRM-UTIL-S-007-O
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o There exists a valid SAC Context on the DRM Agent with the SRM Agent under test. o There exists a valid SAC Context on the SRM Agent with the DRM Agent under test. o The SRM Agent supports the WBXML Dynamic Code Page Query function in [SRM-TS] 6.8.10.
Test Procedure	90. The DRM Agent sends the DynamicCodePageQueryRequest to the SRM Agent. 91. The SRM Agent sends the DynamicCodePageQueryResponse to the DRM Agent.
Pass-Criteria	92. The DynamicCodePageQueryResponse is received in the DRM Agent with a *Status* of "*Success*" or "*Dynamic Code Pages Not Found*".

Table 22: Test Information for WBXML Dynamic Code Page Query

6.5.8 WBXML Dynamic Code Page Update (Includes Optional Features)

Test Case Id	SRM-1.0-int-023**Error! Reference source not found.**
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that the DRM Agent stores an updated WBXML Dynamic Code Page on the SRM
Specification Reference	[SRM-TS] Chapter 6.8.11
SCR Reference	SRM-UTIL-C-008-O, SRM-UTIL-S-008-O
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o There exists a valid SAC Context on the DRM Agent with the SRM Agent under test. o There exists a valid SAC Context on the SRM Agent with the DRM Agent under test. o Both the DRM Agent and the SRM Agent support the WBXML Dynamic Code Page Update function in [SRM-TS] 6.8.11. o The SRM has stored at least one Code Page.
Test Procedure	93. The DRM Agent sends the DynamicCodePageUpdateRequest to the SRM Agent. 94. The SRM Agent sends the DynamicCodePageUpdateResponse to the DRM Agent.
Pass-Criteria	95. The DynamicCodePageUpdateResponse is received in the DRM Agent with *Status* = "*Success*". 96. The Code Page in the SRM is properly updated.

Table 23: Test Information for WBXML Dynamic Code Page Update

6.5.9 Store RI Certificate Chain (Includes Optional Features)

Test Case Id	SRM-1.0-int-024**Error! Reference source not found.**
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that the DRM Agent stores a Rights Issuer certificate chain in the SRM
Specification Reference	[SRM-TS] Chapter 6.8.7
SCR Reference	SRM-CERT-C-001-O, SRM-CERT-S-001-O
Tool	None
Test code	None

Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o Both the DRM Agent and the SRM Agent support the Store RI Certificate Chain function in [SRM-TS] 6.8.7. o The Device contains an RI certificate chain
Test Procedure	97. The DRM Agent sends the RICertificateStoreRequest to the SRM Agent with the RI certificate chain 98. The SRM Agent sends the RICertificateStoreResponse to the DRM Agent.
Pass-Criteria	99. The RICertificateStoreResponse is received in the DRM Agent with *Status* = "*Success*". 100. The RI certificate chain is properly stored in the SRM.

Table 24: Test Information for Store RI Certificate Chain

6.5.10 Get RI Certificate Chain (Includes Optional Features)

Test Case Id	SRM-1.0-int-025**Error! Reference source not found.**
Test Object	DRM Agent, SRM Agent
Test Case Description	To test that the DRM Agent reads a Rights Issuer certificate chain from the SRM
Specification Reference	[SRM-TS] Chapter 6.8.8
SCR Reference	SRM-CERT-C-002-O, SRM-CERT-S-002-O
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o Both the DRM Agent and the SRM Agent support the Get RI Certificate Chain function in [SRM-TS] 6.8.8.
Test Procedure	101. The DRM Agent sends the RICertificateQueryRequest to the SRM Agent. 102. The SRM Agent sends the RICertificateQueryResponse to the DRM Agent.
Pass-Criteria	103. The RICertificateQueryResponse is received in the DRM Agent with *Status* = "*Success*". 104. The DRM Agent stores the RICertificateChain retrieved from the SRM.

Table 25: Test Information for Get RI Certificate Chain

6.5.11 Remove RI Certificate Chain (Includes Optional Features)

Test Case Id	SRM-1.0-int-026**Error! Reference source not found.**
Test Object	DRM Agent, SRM Agent

Test Case Description	To test that the DRM Agent removes a Rights Issuer certificate chain from the SRM
Specification Reference	[SRM-TS] Chapter 6.8.9
SCR Reference	SRM-CERT-C-003-O, SRM-CERT-S-003-O
Tool	None
Test code	None
Preconditions	• Equipment: o Two terminals, one for DRM Agent and the other for SRM Agent • State: o Both the DRM Agent and the SRM Agent support the Remove RI Certificate Chain function in [SRM-TS] 6.8.9. o The SRM contains an RI certificate chain
Test Procedure	105. The DRM Agent sends the RICertificateRemovalRequest to the SRM Agent. 106. The SRM Agent sends the RICertificateRemovalResponse to the DRM Agent.
Pass-Criteria	107. The RICertificateRemovalResponse is received in the DRM Agent with *Status* "*Success*". 108. The RI certificate chain no longer exists in the SRM.

Table 26: Test Information for Remove RI Certificate Chain

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 Versions OMA-ETS-SRM-V1_0	18 Feb 2008	All	Initial draft
	28 Feb 2008	All	Template update
Candidate Versions OMA-ETS-SRM-V1_0	28 Mar 2008	n/a	TP approved ref # OMA-TP-2008-0177-INP_SRM_1.0_ETS_for_Candidate_Approval