



OMA RD RICD Requirements

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Open Mobile Alliance
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1. Scope

(Informative)

This document defines the requirements for the extension of OMA DRM Domain functionality OMA DRM 2.1.

The aim is to update OMA DRM in order to maintain its use based on current DRM market requirements:

- Sharing of Domain context among multiple Rights Issuers.
- Separation of Rights Issuer and domain management functionality.
- Support for offline delivery of Rights Issuer context
- Support for additional, optional file formats.

This update will also clarify or correct some inconsistencies of the OMA DRM Domain functionality.

Requirements in this document are backward compatible, i.e. requirements applying for a given version of the DRM apply to higher versions, unless stated otherwise.

2. References

2.1 Normative References

- [DRM-v2.1-DRM-TS] "OMA DRM Specification", Approved Version 2.1.1 – 06 Avr 2010, Open Mobile Alliance™, OMA-TS-DRM-DRM-V2_1_1-20100406-A, 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

- [DRMARCH-v2.1] "DRM Architecture V2.0", Approved Version 2.1 – Oct 2008, Open Mobile Alliance™, OMA-AD-DRM-V2_1-20081014-A, URL:<http://www.openmobilealliance.org>
- [OMADICT] "Dictionary for OMA Specifications", Approved Version 2.6 – 14 Jun 2007, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_6-20070614-A, 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

Device	Use definition from [DRM-v2.1-DRM-TS]
Domain	Use definition from [DRM-v2.1-DRM-TS]
Domain Context	Use definition from [DRM-v2.1-DRM-TS]
Domain Rights Object	Use definition from [DRM-v2.1-DRM-TS]
Join Domain	Use definition from [DRM-v2.1-DRM-TS]
Leave Domain	Use definition from [DRM-v2.1-DRM-TS]
RI Context	Use definition from [DRM-v2.1-DRM-TS]
Rights Issuer	Use definition from [DRM-v2.1-DRM-TS]

3.3 Abbreviations

DRM	Digital Rights Management
OID	Object Identifiers
OMA	Open Mobile Alliance
RI	Rights Issuer
RICD	Rights Issuer Common Domain

4. Introduction

(Informative)

Centralize domain control authority requirements are currently being defined in the commercial content distribution environment which has identified some extensions and clarifications to OMA DRM Domain in order for OMA DRM to support these new domain requirements while maintaining integrity.

4.1 OMA-DRM-RICD 1.0

It is clear that the existing installed base of DRM 2.1 implementations need to be enhanced to meet the evolving content distribution market that includes some of the following new features:

- Sharing of Domain Context among multiple Rights Issuers.
- Separation of Rights Issuer and domain management functionality
- Support for offline delivery of Rights Issuer Context information
- Support for additional, optional file format

5. RICD release description (Informative)

This RICD Work Item purpose is to create additional market benefits by introducing the following features to OMA DRM v2.1. More flexible domain model to meet market demand specifically: Sharing of Domain Context among multiple Rights Issuers, separation of Rights Issuer and Domain management functionality (Join Domain and Leave Domain), Support for offline delivery of Rights Issuer context, and Support for new, standard file format.

Enabling OMA Domain context to be permitted to be shared across one or more different RIs permits different business entities to operate RIs independently under a common domain control authority that issue valid Domain Rights objects while maintaining the integrity of OMA DRM Domains. Since RI context is based in part on public keying material under RICD the keying material for each RI is different permitting revocation of one RI without affect other RIs that are part of a common domain. RIs that are part of a common domain are indicated via additional information in the RIs certificate.

Furthermore domain functions like setup, device join, and device leave are only provided by an RI (RI_A below) that is separate and distinct from the RIs that issue Domain rights objects (RI_B and RI_C below) in conjunction with the Domain control authority. The Domain Control Authority in following diagram represents the business entity or entities that generates and maintains the Domain context that is shared between RI_A that manages the domain and RI_B and RI_C that generate domain ROs. Note, Domain Control Authority and the RIs (A, B, and C) may be the same or different business entities. The Domain Control Authority interaction and interface to RIs are out of scope of OMA.

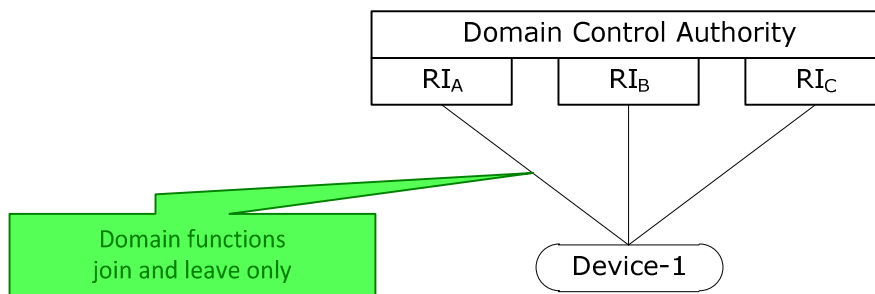


Figure 1 Diagram of RICD System

The delivery of RI context via offline methods in conjunction with associated content delivery supports the use of such content by the owner of a device that is part of a domain associate to the user when the device is not connected and has yet to establish RI context with the RI that generated the Rights Object for such content. The main scenario would be when a RI generates a Domain RO for a specific unit of content, the RI would then attached so to speak the domain RO and its RI context so that any device that is a member of the domain the Domain RO was generated for is capable of rendering the content when ask to render by the user, does not have RI context and can not connect to the RI reference in the Domain RO. One example would be a simplified content container with a RO for Domain X with RI Context is shown below:

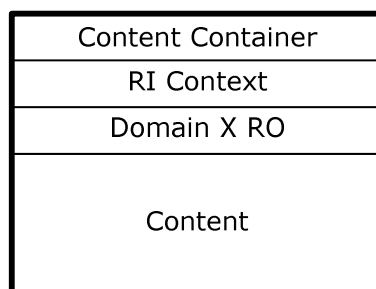


Figure 2 Example of Content Packet with RI Context Information

6. Requirements

(Normative)

6.1 Market

Label	Description	Release
REQ-MKT-001	It SHALL be possible to separate rights issuance and domain management functionality of OMA DRM 2.1 and to allow multiple RIs (each RI has its own unique public keying material) to create Domain Rights Objects for a centrally managed domain. This separation SHALL also permit domain context to be distributed across multiple RIs in order to support a central domain control authority.	RICD 1.0
REQ-MKT-002	It SHALL be possible to provide out-of-band delivery of RI Context information with Domain Rights objects as mentioned in 10.3 of [DRM-v2.1-DRM-TS].	RICD 1.0
REQ-MKT-003	It SHALL be clarified that OMA DRM 2.1 permits the use of optional file formats in addition to the DCF.	RICD 1.0
REQ-MKT-004	It SHALL be possible for trust authorities to assign OIDs to indicate RICD RIs and other related information concerning share domain context.	RICD 1.0

Table 1: Market Requirements

6.2 Domain

Label	Description	Release
REQ-DOM-001	It SHALL be possible for the OMA DRM 2.1 Domain Context to be shared among one or more Rights Issuers.	RICD 1.0
REQ-DOM-002	It SHALL be possible to identify Rights Issuer of a group of Rights Issuers that share Domain Context to issue domain management functions join and leave.	RICD 1.0
REQ-DOM-003	It SHALL be possible to identify Rights Issuers of a group of RIs that share Domain Context to issue Domain Rights Objects.	RICD 1.0
REQ-DOM-004	It SHALL be possible for non-OMA OIDs to be defined that identify the group RIs that share Domain Context as well as their function specifically those RIs that process domain management functions and those RIs that generate Domain Rights Objects.	RICD 1.0
REQ-DOM-005	It SHALL be possible to deliver domain Rights Object with corresponding Right Context information offline to Devices that are members of the domain so that the associated content can be rendered if the device is unable to connect to the RI and obtain online RI context.	RICD 1.0

Table 2: Domain Requirements

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-RD-RICD-V1_0	16 May 2011	all	Initial draft skeleton RD
	20 May 2011	5	Applied changes agreed in: OMA-DRM-2011-0062R03-INP_RD_RICD
	20 Jul 2011	1, 2.1, 2.2, 3.2, 3.3, 5, 6.2	Editorial clean up
Candidate Version: OMA-RD-RICD-V1_0-20110802-C	02 Aug 2011	All	Status changed to Candidate by TP: OMA-TP-2011-0269-INP_RICD_V1_0_RD_for_Candidate_Approval