OMA DCD Management Object

Candidate Version 1.0 – 23 Dec 2008

Open Mobile Alliance

OMA-TS-DCD_MO-V1_0-20081223-C

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1. Scope

This document defines the OMA DCD Management Object that enables management of default DCD connection profiles.

2. References

2.1 Normative References

[BCAST-TS-Service_ Guide] "Service Guide for Mobile Broadcast Services", Version 1.0, Open Mobile Alliance™, OMA-TS-BCAST_Service_Guide-V1_0, URL:http://www.openmobilealliance.org/

[DCD] " Dynamic Content Delivery Technical Specification – Semantics and Transactions Version 1.0". Open Mobile Alliance™ OMA-TS-DCD_Semantics-V1_0. URL:http://www.openmobilealliance.org

[DMBOOT] "OMA Device Management Bootstrap, Version 1.2". Open Mobile Alliance™. OMA-TS-DM_Bootstrap-V1_2. URL:http://www.openmobilealliance.org

[DMPRO] "OMA Device Management Protocol, Version 1.2". Open Mobile Alliance™ OMA-TS-DM_Protocol-V1_2. URL: http://www.openmobilealliance.org

[DMSTDOBJ] "OMA Device Management Standardized Objects, Version 1.2". Open Mobile Alliance™ OMA-TS-DM-StdObj-V1_2. URL:http://www.openmobilealliance.org

[DMTNDS] "OMA Device Management Tree and Description Serialization Specification, Version 1.2". Open Mobile Alliance. OMA-TS-DM_TNDS-V1_2. URL:http://www.openmobilealliance.org

[DM-TND-V1-2] "OMA Device Management Tree and Description, Version 1.2". Open Mobile Alliance™ OMA-TS-DM_TND-V1_2 URL:http://www.openmobilealliance.org

[GENFORM] "WAP General Formats Document", WAP Forum_, WAP-188-WAPGenFormats, URL:http://www.openmobilealliance.org

[RFC791] "Internet Protocol", RFC 791, The Internet Society, URL:http://www.ietf.org/rfc/rfc791.txt

[RFC1918] "Address Allocation for Private Internets", RFC 1918 , The Internet Society, URL:http://www.ietf.org/rfc/rfc1918.txt

[RFC2373] "IP Version 6 Addressing Architecture", RFC 2373, The Internet Society, URL:http://www.ietf.org/rfc/rfc2373.txt

[RFC3513] "Internet Protocol Version 6 (IPv6) Addressing Architecture", RFC 3513, The Internet Society, URL:http://www.ietf.org/rfc/rfc3513.txt

[RFC3986] "URI Generic Syntax", RFC 3986, The Internet Society, URL:http://rfc.net/rfc3986.html

2.2 Informative References

[DCDMO-DDF] "DCD Management Object Device Description Framework", 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

See the DM Tree and Description [DM-TND-V1-2] document for definitions of terms related to the management tree.

3.3 Abbreviations

DCD	Dynamic Content Delivery
MO	Management Object
OMA	Open Mobile Alliance
SMSC	Short Message Service Centre

4. Introduction

DM group has defined Management Objects where parameters can be easily managed and used by applications. This document describes the OMA Dynamic Content Delivery (DCD) Management Object syntax that that enables management of default DCD connection profiles.

5. DCD Management Object

DCD Management Object (MO) is an object for OMA DCD that allows a device to present its DCD configuration in a standardized way, allowing also the subsequent retrieval and management of DCD connection profiles. DCD connection profiles are used by DCD Clients to activate DCD interfaces, e.g. setup data connections and deliver interface messages to the correct address of the DCD Server.

The OMA DCD MO is defined using the OMA DM Device Description Framework and is compatible with OMA DM protocol version 1.2 [DMPRO] or any later compatible version. If DCD MO is to be configured during initial configuration (i.e. bootstrap) then the DM Profile, as described in [DMBOOT], SHALL be used.

The Management Object Identifier is: TBD.

The following figure shows the OMA DCD Management Object.

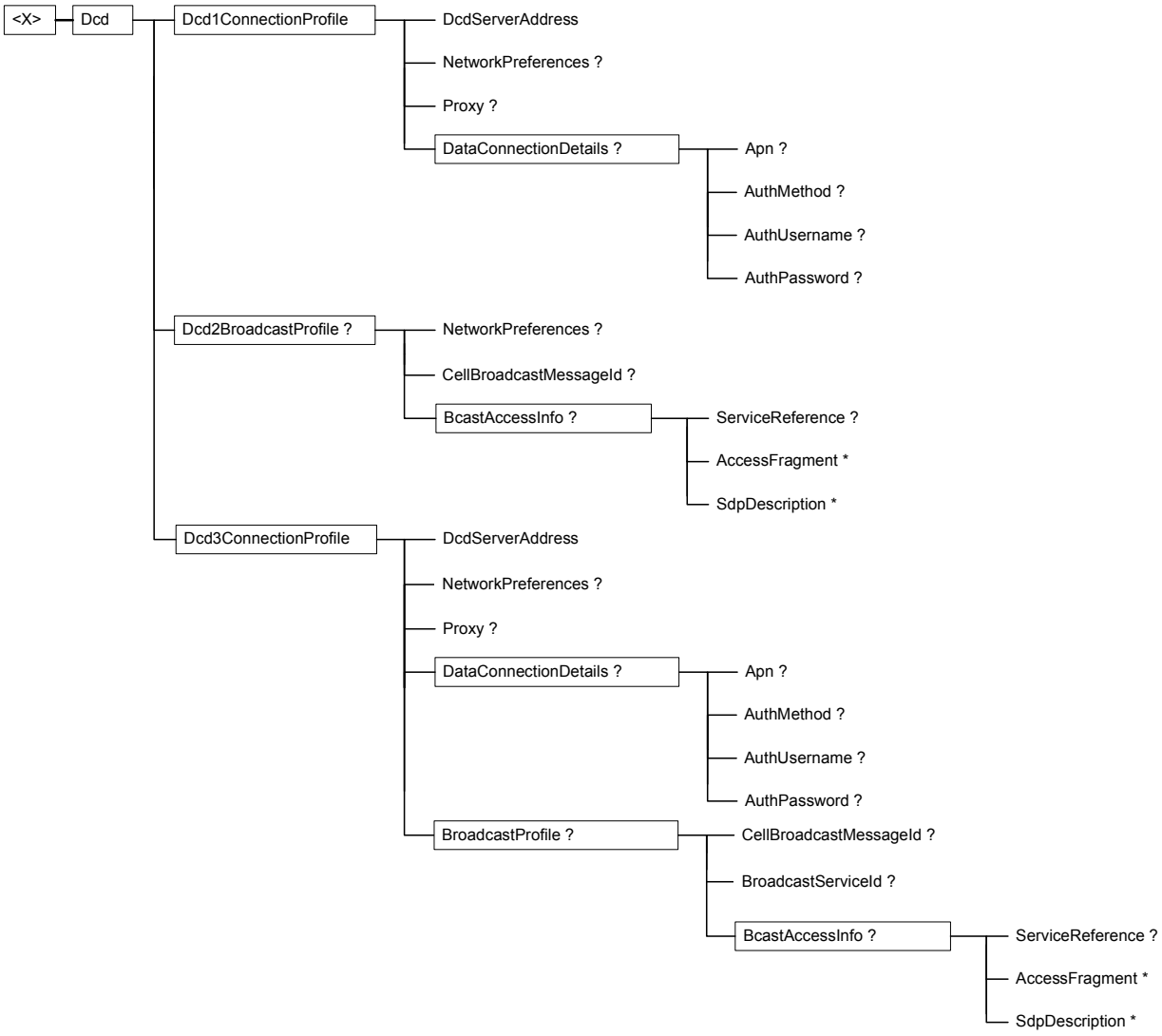

Figure 1 DCD MO

5.1 Management Object parameters

This section describes the parameters for the OMA DCD Management Object. The use of the connection profiles is defined in [DCD]. The complete Device Description Framework of this DCD management object can be found in [DCD-DDF].

5.1.1 Node: <X>

This interior node acts as a placeholder for one or more accounts or for a fixed node.

- Occurrence: OneOrMore / One
- Format: Node
- Access Types: Get
- Values: N/A

5.1.2 Node: <X>/Dcd

This interior node acts as the root node of the DCD MO.

- Occurrence: One
- Format: Node
- Access Types: Get
- Values: N/A

5.1.3 Node: <X>/Dcd/Dcd1ConnectionProfile

This interior node specifies connection profile information applicable to the DCD-1 interface.

- Occurrence: One
- Format: Node
- Access Types: Get
- Values: N/A

5.1.4 Node: <X>/Dcd/Dcd1ConnectionProfile/DcdServerAddress

This node specifies the address (URI) of the DCD-1 interface of the DCD Server.

- Occurrence: One
- Format: Chr
- Access Types: Get
- Values: <address (URI) of the DCD Server DCD-1 interface>

5.1.5 Node: <X>/Dcd/Dcd1ConnectionProfile/NetworkPreferences

This node specifies a priority-ordered list of network/bearer types for use in content delivery, selected per arbitrary deployment-specific criteria.

- Occurrence: ZeroOrOne
- Format: Chr

- Access Types: Get
- Values: < a comma-separated list, including one or more of the strings “UMTS”, “WiMAX”, “LTE”, “802.11”>

5.1.6 Node: <X>/Dcd/Dcd1ConnectionProfile/Proxy

This node specifies the address (IP address or hostname) of the WAP proxy that should be used for transactions via the DCD-1 interface.

- Occurrence: ZeroOrOne
- Format: Chr
- Access Types: Get
- Values: < IP address or hostname>

5.1.7 Node: <X>/Dcd/Dcd1ConnectionProfile/DataConnectionDetails

This interior node specifies additional bearer-network-specific connection details for the DCD-1 interface.

- Occurrence: ZeroOrOne
- Format: Node
- Access Types: Get
- Values: N/A

5.1.8 Node: <X>/Dcd/Dcd1ConnectionProfile/DataConnectionDetails/Apn

This node specifies the Access Point Name used to establish a data connection for the interface.

- Occurrence: ZeroOrOne
- Format: Chr
- Access Types: Get
- Values: <APN>

5.1.9 Node: <X>/Dcd/Dcd1ConnectionProfile/DataConnectionDetails/AuthMethod

This node specifies the authentication method for the interface. Possible values: “none”, “digest-user”, “digest-gba”, “x509”.

- Occurrence: ZeroOrOne
- Format: Chr
- Access Types: Get
- Values: <one of “none”, “digest-user”, “digest-gba”, “x509” >

5.1.10 Node: <X>/Dcd/Dcd1ConnectionProfile/DataConnectionDetails/AuthUsername

This node specifies the username for use with “digest-user” authentication method. If auth-method “digest-user” is specified and this attribute is not present, the username is to be determined through other unspecified means, e.g. user prompts.

- Occurrence: ZeroOrOne
- Format: Chr

- Access Types: Get
- Values: <username>

5.1.11 Node: <X>/Dcd/Dcd1ConnectionProfile/DataConnectionDetails/AuthPassword

This node specifies the password for use with “digest-user” authentication method. If auth-method “digest-user” is specified and this attribute is not present, the password is to be determined through other unspecified means, e.g. user prompts.

- Occurrence: ZeroOrOne
- Format: Chr
- Access Types: Get
- Values: <passsword>

5.1.12 Node: <X>/Dcd/Dcd2BroadcastProfile/NetworkPreferences

This node specifies a priority-ordered list of network/bearer types for use in content delivery, selected per arbitrary deployment-specific criteria.

- Occurrence: ZeroOrOne
- Format: Chr
- Access Types: Get
- Values: < a comma-separated list, including one or more of the strings “UMTS”, “WiMAX”, “LTE”, “802.11”, “CBS”, “BCAST”>

5.1.13 Node: <X>/Dcd/Dcd2BroadcastProfile

This interior node specifies broadcast bearer connection details, e.g. cell broadcast message-identifier and/or BCAST access parameters.

- Occurrence: ZeroOrOne
- Format: Node
- Access Types: Get
- Values: N/A

5.1.14 Node: <X>/Dcd/Dcd2BroadcastProfile/CellBroadcastMessageId

This node specifies the Cell Broadcast Service Message Identifier (logical Cell Broadcast Service channel) from which the DCD Client should expect DCD-2 interface data delivered via Cell Broadcast Service.

- Occurrence: ZeroOrOne
- Format: Int
- Access Types: Get
- Values: <cell broadcast message identifier>

5.1.15 Node: <X>/Dcd/Dcd2BroadcastProfile/BcastAccessInfo

This interior node specifies OMA BCAST specific connection details (e.g. multicast IP, port, and TSI) for file delivery session over which the DCD Client should expect DCD-2 interface data to be delivered via OMA BCAST. Note: One of 'ServiceReference' or 'AccessFragment' or 'SdpDescription' but not more than one SHALL be instantiated.

- Occurrence: ZeroOrOne
- Format: Node
- Access Types: Get
- Values: N/A

5.1.16 Node: <X>/Dcd/Dcd2BroadcastProfile/BcastAccessInfo/ServiceReference

This node specifies a URI which provides the globalServiceID for the OMA BCAST service associated with the DCD-2 interface (see Section 5.1.2.1 of [BCAST-TS-Service_ Guide]).

- Occurrence: ZeroOrOne
- Format: Chr
- Access Types: Get
- Values: <URI>

5.1.17 Node: <X>/Dcd/Dcd2BroadcastProfile/BcastAccessInfo/AccessFragment

This node specifies a complete OMA BCAST Service Guide "Access" fragment as described in Section 5.1.2.4 of [BCAST-TS-Service_ Guide] containing access information for the default file delivery session associated with the DCD-2 interface.

- Occurrence: ZeroOrMore
- Format: Xml
- Access Types: Get
- Values: <OMA BCAST Service Guide "Access" fragment>

5.1.18 Node: <X>/Dcd/Dcd2BroadcastProfile/BcastAccessInfo/SdpDescription

An SDP session description containing access information for the file delivery session associated with the DCD-2 interface.

- Occurrence: ZeroOrMore
- Format: Chr
- Access Types: Get
- Values: <SDP>

5.1.19 Node: <X>/Dcd/Dcd3ConnectionProfile

This interior node specifies connection profile information applicable to the DCD-3 interface. At least one DCD-3 connection profile must be specified, thus this node must be present.

- Occurrence: One
- Format: Node

- Access Types: Get
- Values: N/A

5.1.20 Node: <X>/Dcd/Dcd3ConnectionProfile/DcdServerAddress

This node specifies the address (URI) of the DCD-3 interface of the DCD Server.

- Occurrence: One
- Format: Chr
- Access Types: Get
- Values: <address (URI) of the DCD Server DCD-3 interface>

5.1.21 Node: <X>/Dcd/Dcd3ConnectionProfile/NetworkPreferences

This node specifies a priority-ordered list of network/bearer types for use in content delivery, selected per arbitrary deployment-specific criteria.

- Occurrence: ZeroOrOne
- Format: Chr
- Access Types: Get
- Values: <a comma-separated list, including one or more of the strings “UMTS”, “WiMAX”, “LTE”, “802.11”, “CBS”, “BCAST”>

5.1.22 Node: <X>/Dcd/Dcd3ConnectionProfile/Proxy

This node specifies the address (IP address or hostname) of the WAP proxy that should be used for transactions via the DCD-3 interface.

- Occurrence: ZeroOrOne
- Format: Chr
- Access Types: Get
- Values: < IP address or hostname>

5.1.23 Node: <X>/Dcd/Dcd3ConnectionProfile/DataConnectionDetails

This interior node specifies additional bearer-network-specific connection details for the DCD-3 interface.

- Occurrence: ZeroOrOne
- Format: Node
- Access Types: Get
- Values: N/A

5.1.24 Node: <X>/Dcd/Dcd3ConnectionProfile/DataConnectionDetails/apn

This node specifies the Access Point Name used to establish a data connection for the interface.

- Occurrence: ZeroOrOne

- Format: Chr
- Access Types: Get
- Values: <APN>

5.1.25 Node: <X>/Dcd/Dcd3ConnectionProfile/DataConnectionDetails/AuthMethod

This node specifies the authentication method for the interface. Possible values: “none”, “digest-user”, “digest-gba”, “x509”.

- Occurrence: ZeroOrOne
- Format: Chr
- Access Types: Get
- Values: <one of “none”, “digest-user”, “digest-gba”, “x509”>

5.1.26 Node: <X>/Dcd/Dcd3ConnectionProfile/DataConnectionDetails/AuthUsername

This node specifies the username for use with “digest-user” authentication method. If auth-method “digest-user” is specified and this attribute is not present, the username is to be determined through other unspecified means, e.g. user prompts.

- Occurrence: ZeroOrOne
- Format: Chr
- Access Types: Get
- Values: <username>

5.1.27 Node: <X>/Dcd/Dcd3ConnectionProfile/DataConnectionDetails/AuthPassword

This node specifies the password for use with “digest-user” authentication method. If auth-method “digest-user” is specified and this attribute is not present, the password is to be determined through other unspecified means, e.g. user prompts.

- Occurrence: ZeroOrOne
- Format: Chr
- Access Types: Get
- Values: <passsword>

5.1.28 Node: <X>/Dcd/Dcd3ConnectionProfile/BroadcastProfile

This interior node specifies broadcast bearer connection details, e.g. cell broadcast message-identifier and/or BCAST access parameters.

- Occurrence: ZeroOrOne
- Format: Node
- Access Types: Get
- Values: N/A

5.1.29 Node: <X>/Dcd/Dcd3ConnectionProfile/BroadcastProfile/CellBroadcastMessageId

This node specifies the Cell Broadcast Service Message Identifier (logical Cell Broadcast Service channel) from which the DCD Client should expect DCD-3 interface data delivered via Cell Broadcast Service.

- Occurrence: ZeroOrOne
- Format: Int
- Access Types: Get
- Values: <cell broadcast message identifier>

5.1.30 Node: <X>/Dcd/Dcd3ConnectionProfile/BroadcastProfile/BroadcastServiceId

This node specifies a default set of Broadcast Service Ids (identifiers for broadcasting DCD Service Providers) for which the DCD Client should expect DCD interface data delivered via Cell Broadcast Service.

- Occurrence: ZeroOrOne
- Format: String
- Access Types: Get
- Values: <comma separated list of broadcast-service-id values >

5.1.31 Node: <X>/Dcd/Dcd3ConnectionProfile/BroadcastProfile/BcastAccessInfo

This interior node specifies OMA BCAST specific connection details (e.g. multicast IP, port, and TSI) for file delivery session over which the DCD Client should expect DCD-3 interface data to be delivered via OMA BCAST. Note: One of ‘ServiceReference’ or ‘AccessFragment’ or ‘SdpDescription’ but not more than one SHALL be instantiated.

- Occurrence: ZeroOrOne
- Format: Node
- Access Types: Get
- Values: N/A

5.1.32 Node: <X>/Dcd/Dcd3ConnectionProfile/BroadcastProfile/BcastAccessInfo/ServiceReference

This node specifies a URI which provides the globalServiceID for the OMA BCAST service associated with the DCD-3 interface (see Section 5.1.2.1 of [BCAST-TS-Service_ Guide]).

- Occurrence: ZeroOrOne
- Format: Chr
- Access Types: Get
- Values: <URI>

5.1.33 Node: <X>/Dcd/Dcd3ConnectionProfile/BroadcastProfile/BcastAccessInfo/AccessFragment

This node specifies a complete OMA BCAST Service Guide "Access" fragment as described in Section 5.1.2.4 of [BCAST-TS-Service_ Guide] containing access information for the file delivery session associated with the DCD-3 interface.

- Occurrence: ZeroOrMore
- Format: Xml
- Access Types: Get
- Values: <OMA BCAST Service Guide "Access" fragment>

5.1.34 Node: <X>/Dcd/Dcd3ConnectionProfile/BroadcastProfile/BcastAccessInfo/SdpDescription

An SDP session description containing access information for the file delivery session associated with the DCD-3 interface.

- Occurrence: ZeroOrMore
- Format: Chr
- Access Types: Get
- Values: <SDP>

Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description
n/a		

A.2 Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-TS-DCD_MO-V1_0	16 Jun 2008	All	Document creation
	09 Jul 2008	5, 5.1.30	Addition of Broadcast Service Id per OMA-CD-DCD-2008-0261-CR_BroadcastServiceId_in_DCD_MO_TS.
		2.1, 5	OMA-CD-DCD-2008-0237R01-CR_DCDMO_DM_indications_bugfix
	20 Oct 2008	5.1.15-18, 5.1.31-34	Update for CONR C001, OMA-CD-DCD-2008-0301-CR_BCAST_Service_Fragment_Reference_Fix
Candidate Version: OMA-TS-DCD_MO-V1_0	23 Dec 2008	All	Status changed to Candidate by TP OMA-TP-2008-0493-INP_DCD_V1_0_ERP_for_Candidate_Approval