



# Enabler Release Definition for Gateway Management Object (GwMO)

Candidate Version 1.0 – 08 May 2012

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**Open Mobile Alliance**  
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# 1. Scope

The scope of this document is limited to the Enabler Release Definition of GwMO v1.0 according to OMA Release process and the Enabler Release specification baseline listed in section 5.

## 2. References

### 2.1 Normative References

- [DMDICT] “OMA Device Management Dictionary, Version 1.0”. Open Mobile Alliance™. OMA-SUP-DM\_Dictionary-v1\_0.  
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [DevInvDDF] “OMA Device Inventory Managed Object DDF, Version 1.0”. Open Mobile Alliance™. OMA-SUP-MO\_GwDeviceInventory-V1\_0.  
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [EDTgrDDF] “OMA End Device Trigger Managed Object DDF, Version 1.0”. Open Mobile Alliance™. OMA-SUP-MO\_GwEDTrigger-V1\_0.  
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [FanoutDDF] “OMA Fanout Managed Object DDF, Version 1.0”. Open Mobile Alliance™. OMA-SUP-MO\_GwFanout-V1\_0.  
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [GwCfgDDF] “OMA Gateway Configuration Managed Object DDF, Version 1.0”. Open Mobile Alliance™. OMA-SUP-MO\_GwConfig-V1\_0.  
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [GwMOAD] “OMA DM Gateway Management Object Architecture, Version 1.0 ”, Open Mobile Alliance™, OMA-AD-GwMO-V1\_0,  
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [GwMORD] “OMA DM Gateway Management Object Requirements, Version 1.0 ”, Open Mobile Alliance™, OMA-RD-GwMO-V1\_0,  
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [GwMOTS] “OMA DM Gateway Management Object Technical Specification, Version 1.0 ”, Open Mobile Alliance™, OMA-TS-GwMO-V1\_0,  
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [ImgInvDDF] “OMA Image Inventory Managed Object DDF, Version 1.0”. Open Mobile Alliance™. OMA-SUP-MO\_GwImageInventory-V1\_0.  
[URL:http://www.openmobilealliance.org/](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](http://www.ietf.org/rfc/rfc2119.txt)
- [SCRRULES] “SCR Rules and Procedures”, Open Mobile Alliance™, OMA-ORG-SCR\_Rules\_and\_Procedures,  
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)

### 2.2 Informative References

None.

## 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”, “Release Version Overview” and “Conformance Requirements Notation Details”, are normative, unless they are explicitly indicated to be informative.

The formal notation convention used in sections 8 and 9 to formally express the structure and internal dependencies between specifications in the Enabler Release specification baseline is detailed in [SCRRULES].

### 3.2 Definitions

Kindly consult [DMDICT] for all definitions used in this document.

### 3.3 Abbreviations

Kindly consult [DMDICT] for all abbreviations used in this document.

## 4. Release Version Overview

The GwMO enabler allows an OMADM Server to manage devices that are not directly accessible to it (for example, because the devices are deployed behind a firewall or because the devices do not support the OMA DM protocol). It also enables the management of devices in a Machine to Machine (M2M) ecosystem (for example, fanning out DM commands from a DM Server to multiple End Devices and aggregating responses from multiple End Devices so that a consolidated response is sent back to the DM Server).

### 4.1 Version 1.0 Functionality

GwMO V1.0 covers:

- Transparent, Proxy, and Protocol Adaptation modes of operation
- Device inventory
- Command fanout and response aggregation
- Storage of configuration data and software image for subtending devices

The following issues are out of scope:

- Device discovery mechanisms
- Management protocol adaptation rules

## 5. Document Listing for GwMO

This section is normative.

Doc Ref	Permanent Document Reference	Description
<b>Requirement Document</b>		
[GwMORD]	OMA-RD-GwMO-V1_0-20120306-C	Requirement Document for GwMO Enabler
<b>Architecture Document</b>		
[GwMOAD]	OMA-AD-GwMO-V1_0-20120306-C	Architecture Document for GwMO Enabler
<b>Technical Specifications</b>		
[GwMOTS]	OMA-TS-GwMO-V1_0-20120508-C	Technical Specification for GwMO Enabler
<b>Supporting Files</b>		
[DevInvDDF]	OMA-SUP-MO_GwDeviceInventory-V1_0-20120306-C	DDF for the Device Inventory MO
[GwCfgDDF]	OMA-SUP-MO_GwConfig-V1_0-20120306-C	DDF for the Gateway Config MO
[FanoutDDF]	OMA-SUP-MO_GwFanout-V1_0-20120306-C	DDF for the Fanout MO
[EDTgrDDF]	OMA-SUP-MO_GwEDTrigger-V1_0-20120306-C	DDF for the End Device Trigger MO
[ImgInvDDF]	OMA-SUP-MO_GwImageInventory-V1_0-20120306-C	DDF for the Image Inventory MO

**Table 1: Listing of Documents in GwMO Enabler**



## 6. OMNA Considerations

The OMNA portal maintains the following MOs in the MO registry:

MO Identifier	Description	Owner	Version	MO DDF	MO Spec
urn:oma:mo:oma-gwmo-deviceinventory:1.0	Device Inventory MO	DM WG	1.0	OMA-SUP-MO_GwDeviceInventory-V1_0	OMA-TS-GwMO-V1_0
urn:oma:mo:oma-gwmo-config:1.0	Gateway Config MO	DM WG	1.0	OMA-SUP-MO_GwConfig-V1_0	OMA-TS-GwMO-V1_0
urn:oma:mo:oma-gwmo-fanout:1.0	Fanout MO	DM WG	1.0	OMA-SUP-MO_GwFanout-V1_0	OMA-TS-GwMO-V1_0
urn:oma:mo:oma-gwmo-imageinventory:1.0	Image Inventory MO	DM WG	1.0	OMA-SUP-MO_GwEDTrigger-V1_0	OMA-TS-GwMO-V1_0
urn:oma:mo:oma-gwmo-edtrigger:1.0	End Device Trigger MO	DM WG	1.0	OMA-SUP-MO_GwImageInventory-V1_0	OMA-TS-GwMO-V1_0

The OMNA portal maintains the following alert types in the Alert Type registry:

Alert Type Identifier	Alert Type Description	Owner	Version	Spec	MO Identifier (Optional)
urn:oma:at:oma-gwmo:deviceattached:1.0	Device Attach Alert	DM WG	1.0	OMA-TS-GwMO-V1_0	
urn:oma:at:oma-gwmo:devicedetached:1.0	Device Detach Alert	DM WG	1.0	OMA-TS-GwMO-V1_0	
urn:oma:at:oma-gwmo:resultaggregation:1.0	Fanout Result Aggregation Alert	DM WG	1.0	OMA-TS-GwMO-V1_0	
urn:oma:at:oma-gwmo:completionstatus:1.0	Fanout Completion Status Alert	DM WG	1.0	OMA-TS-GwMO-V1_0	
urn:oma:at:oma-gwmo:BootstrappedDMSList:1.0	Bootstrapped DMS List Alert	DM WG	1.0	OMA-TS-GwMO-V1_0	
urn:oma:at:oma-gwmo:AssociatedGateway:1.0	Associated Gateway Alert	DM WG	1.0	OMA-TS-GwMO-V1_0	
urn:oma:at:oma-gwmo:imageready:1.0	Image Ready Alert	DM WG	1.0	OMA-TS-GwMO-V1_0	

## 7. Conformance Requirements Notation Details

This section is informative.

The tables in following chapters use the following notation:

- Item:** Entry in this column **MUST** be a valid `ScrItem` according to [SCRRULES].
- Feature/Application:** Entry in this column **SHOULD** be a short descriptive label to the **Item** in question.
- Requirement:** Expression in the column **MUST** be a valid `TerminalExpression` according to [SCRRULES] and it **MUST** accurately reflect the architectural requirement of the **Item** in question.

## 8. ERDEF for GwMO - Client Requirements

This section is normative.

Item	Feature / Application	Requirement
OMA-ERDEF-GwMO-C-001-M	Device Inventory MO	[GwMOTS]
OMA-ERDEF-GwMO-C-002-M	Gateway Configuration MO	[GwMOTS]
OMA-ERDEF-GwMO-C-003-M	Fanout MO	[GwMOTS]
OMA-ERDEF-GwMO-C-004-O	Image Inventory MO	[GwMOTS]
OMA-ERDEF-GwMO-C-005-O	End Device Trigger MO	[GwMOTS]
OMA-ERDEF-GwMO-C-006-M	Inventory Update Alerts	[GwMOTS]
OMA-ERDEF-GwMO-C-007-M	Command Fanout	[GwMOTS]
OMA-ERDEF-GwMO-C-008-M	Response Aggregation	[GwMOTS]
OMA-ERDEF-GwMO-C-009-M	Response Completion Indication	[GwMOTS]
OMA-ERDEF-GwMO-C-010-M	Notification with Push Extension Header	[GwMOTS]
OMA-ERDEF-GwMO-C-011-M	DM Server Assisted Bootstrapping	[GwMOTS]
OMA-ERDEF-GwMO-C-012-M	Local DM Bootstrap Server Assisted Bootstrapping	[GwMOTS]
OMA-ERDEF-GwMO-C-013-O	Device Detection Alert	[GwMOTS]
OMA-ERDEF-GwMO-C-014-O	Bootstrapped DMS List Alert	[GwMOTS]
OMA-ERDEF-GwMO-C-015-O	End Device Image Distribution	[GwMOTS]

**Table 2: ERDEF for GwMO Client-side Requirements**

## 9. ERDEF for GwMO - Server Requirements

This section is normative.

Item	Feature / Application	Requirement
OMA-ERDEF-GwMO-S-001-M	Operations on Device Inventory MO	[GwMOTS]
OMA-ERDEF-GwMO-S-002-M	Operations on Gateway Configuraton MO	[GwMOTS]
OMA-ERDEF-GwMO-S-003-M	Operations on Fanout MO	[GwMOTS]
OMA-ERDEF-GwMO-S-004-M	Operations on Image Inventory MO	[GwMOTS]
OMA-ERDEF-GwMO-S-005-O	Operations on End Device Trigger MO	[GwMOTS]
OMA-ERDEF-GwMO-S-006-M	Processing Inventory Update Alerts	[GwMOTS]
OMA-ERDEF-GwMO-S-007-M	Issuing Notification with Push Extension Header	[GwMOTS]
OMA-ERDEF-GwMO-S-008-M	DM Server Assisted Bootstrapping	[GwMOTS]
OMA-ERDEF-GwMO-S-009-O	Processing Device Detection Alert	[GwMOTS]
OMA-ERDEF-GwMO-S-010-O	Processing Bootstrapped DMS List Alert	[GwMOTS]
OMA-ERDEF-GwMO-S-011-O	Processing Image Ready Alert	[GwMOTS]

**Table 3: ERDEF for GwMO Server-side Requirements**

## Appendix A. Change History

(Informative)

### A.1 Approved Version History

Reference	Date	Description
n/a	n/a	No prior version

### A.2 Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-GwMO-V1_0	13 Jul 2010	N/A	Baseline as per OMA-DM-GwMO-2010-0022R01-INP_ERELED_Baseline
	21 Jul 2010	All	Editorial fixes and clean up
Candidate Version OMA-GwMO-V1_0	31 Aug 2010	N/A	Status changed to Candidate by TP TP ref # OMA-TP-2010-0380- INP_GwMO_V1_0_RD_for_Candidate_approval
Draft Version OMA-GwMO-V1_0	15 Oct 2010	5	List of documents updated to add the AD before its Candidate approval.
Candidate Version OMA-GwMO-V1_0	02 Nov 2010	N/A	Status changed to Candidate by TP TP ref # OMA-TP-2010-0443- INP_GwMO_V1_0_AD_for_Candidate_approval
Draft Versions OMA-GwMO-V1_0	14 Nov 2011	5	List of documents updated to add the TS before Consistency Review
	12 Dec 2011	All	Applied OMA-DM-GwMO-2011-0121-CR_ERELED_Tech_Writer_Update
	17 Jan 2012	2, 5, 6, 8, 9	Applied OMA-DM-GwMO-2011-0145R01- CR_ERELED_Section_6_8_9_update
	18 Jan 2012	2, 3	Applied OMA-DM-GwMO-2012-0006R01-CR_Dictionary_ERELED
	23 Feb 2012	5	List of documents updated before Consistency Review closure request
Candidate Version OMA-GwMO-V1_0	06 Mar 2012	N/A	Status changed to Candidate by TP TP ref # OMA-TP-2012-0083- INP_GwMO_V1_0_ERP_and_ETR_for_Candidate_approval
Draft Version OMA-GwMO-V1_0	30 Apr 2012	5	List of documents updated before Candidate re-approval
Candidate Version OMA-GwMO-V1_0	08 May 2012	N/A	Status changed to Candidate by TP TP ref # OMA-TP-2012-0191- INP_GwMO_V1_0_ERP_for_Candidate_reapproval