

## **Next Generation Mobile Technology & Standardization Conference**

### **OMA Strategies on Device Management**

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**Vice-Chair, OMA Device Management Working Group**

**Research In Motion**

## Agenda

Overview of OMA Device Management Working Group

OMA DM Management Objects – Approved

OMA DM Management Objects - Pipeline

OMA DM M2M Initiatives and Industry Cooperation

OMA DM 1.3 and OMA DM 2.0 and Client Side API

Summary



## OMA DM Overview

Device Management is well established and reliable in the mobile value chain

Interoperability is the key to seamless maintenance and integration of devices, services and applications – now and in the future

OMA DM helps operators and IT departments manage access capabilities, diagnose problems and fix and update devices over the network

Many implementations deployed globally

- 89% deployment rate of OMA DM according to major handset vendors around the globe\*
- 90% deployment rate of OMA DM in operator implementations of services\*

\*\*According to iSupply Research Analytics



## OMA DM Overview, *continued*

### **Mobility is for everyone, everywhere**

- At home, in the office, on the road, consumer and enterprise applications must work with evermore complex multi-use devices
- Interoperable and standardized OMA DM has the agility to meet the demands of this environment
- OMA DM Working Group has been creating device management specifications in a consistent manner for over 7 years
- Billions of handsets deploying OMA DM specs on different platforms in multiple markets around the globe
- OMA DM Working Group has commenced extension of OMA DM in order to standardize Converged DM
- OMA seeks cooperation with other standards bodies and industry fora

## Need for DM Standardization

**Before DM was specified, the only way to configure devices was:**

- In Factory
- In Store

**Evolving devices and services creates the need to manage the devices remotely**

- Connectivity configuration
- Firmware update
- Diagnosis and monitoring
- Software installation and update
- Lock and wipe
- Device Capability Management
- Scheduling of all of these tasks

## Need for DM Standardization, continued

### **Why standardize these particular functions**

- Uniform visibility into the resources and functionality of all devices
- Network operators can manage devices, conduct diagnosis and update devices remotely and without direct vendor support
  
- Standardization solutions are cost efficient
- Adoption of mobile data services on a global scale demands standardization and interoperability

### **Reduced support costs**

- Fewer recalls/returns

### **Operator cost saving and reduced churn**

### **Revenue enablement**

- Ensure services work
- Facilitate service discovery and discovery of new applications



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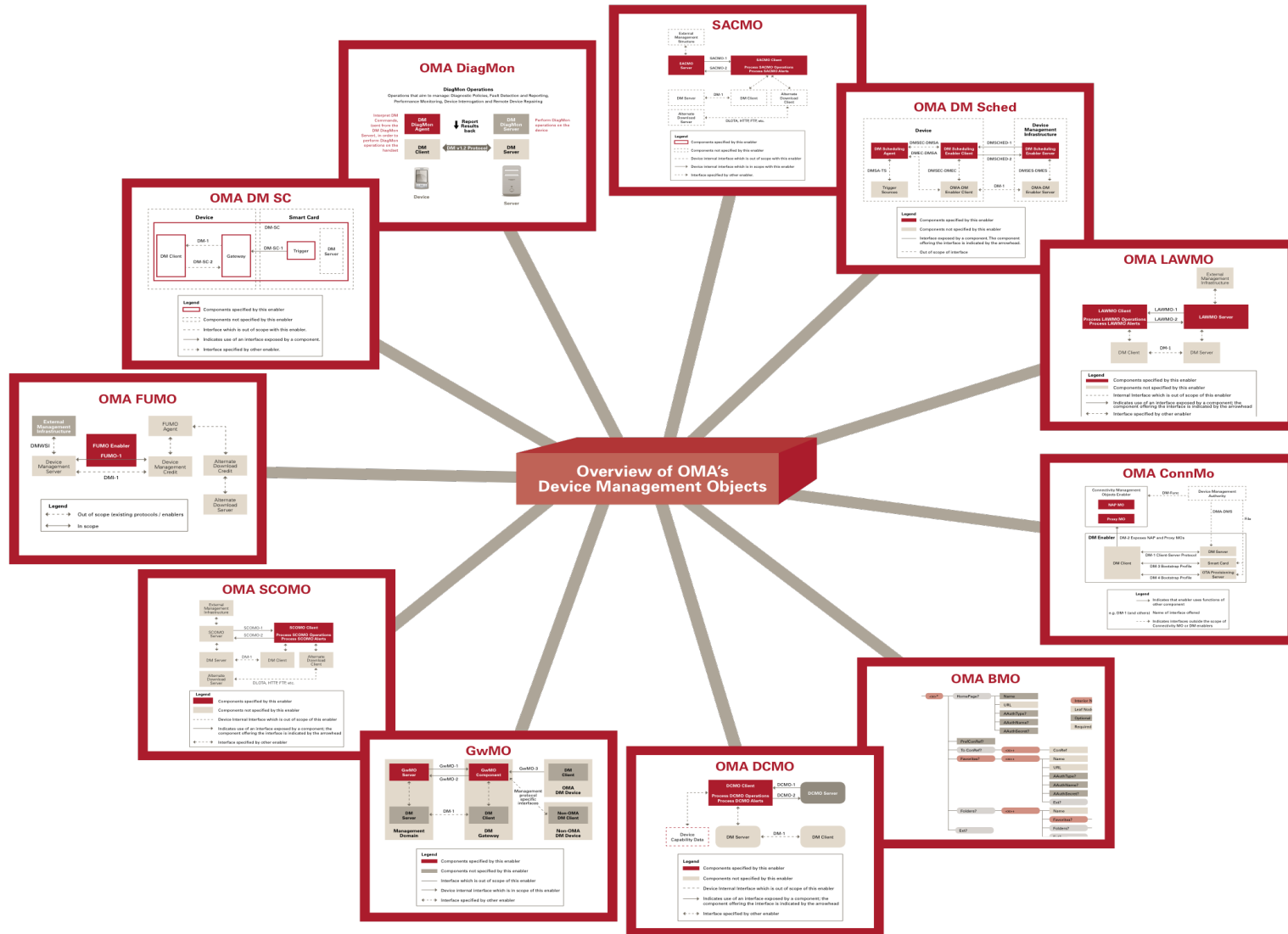
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## OMA DM Management Objects

**A Management Object works like an add-on, OMA XXMO on top of OMA DM 1.x**

- This modularity allows help desks and service providers to pick and choose what they want from the list of existing MOs.

**Management Objects can be created, updated and deleted even when devices are already deployed**

**There are several other organizations that create MOs such as 3GPP, 3GPP2, WiMAX**

- To date, there hover 15 MOs from other fora registered with OMA, as well as over 35 MOs registered from other OMA Working Groups outside of OMA DM.
- The list of registered MOs can be found:  
[http://www.openmobilealliance.org/Tech/omna/omna-dm\\_mo-registry.aspx](http://www.openmobilealliance.org/Tech/omna/omna-dm_mo-registry.aspx)

## Connectivity Management Object (ConnMO)

- Seamless operation of device over all the various protocols without manual administration of the device
  - 3GPP Circuit Switched, 3GPP Packet Switched, 3GPP2 and WLAN bearers, WAP & HTTP proxies
- Improving interoperability by reducing version-driven fragmentation in the market

## Firmware Update Management Object (FUMO) 1.0

- Enables firmware updates by specifying the locations in the management tree where update packages could be downloaded
- Specifies commands that need to be invoked on specific nodes of the management tree to start an update activity.

## Browsing Management Object (BMO)

- Facilitates management of Browser parameters

## Software Component Management Object (SCOMO)

- Operator and corporate IT departments can manage software inventory such as libraries and user interface elements
- Allows operators and corporate IT departments to ensure compatibility of old and new software
- Remove and update existing software and install new software

## Lock and Wipe Management Object (LAWMO)

- Remote Lock (fully or partially) and unlock the device, wipe memory

## Device Capability Management Object (DCMO)

- Allows control of device capabilities e.g. bluetooth, WLAN, camera

## Scheduling Management Object (Sched)

- Common scheduling capability for the OMA DM based management infrastructure for management operations on the device
- Client executes operations offline when schedule – time-based or event-based – matches
- Scheduling capability comes in handy when network operator or service provider needs to cause management operations to take place at the same time on large basis of the devices

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## Gateway Management Object (GwMO)

- Enables the management of devices not directly accessible to the OMA-DM server
- Supports the ability to fan-out commands from a DM server via a gateway to multiple end devices
- Aggregates responses from multiple end devices in order to facilitate a consolidated response back to the DM Server
- Supports Machine-To-Machine (M2M) use cases

## Software and Application Control Management Object (SACMO)

- Enables execution of workflows on the device consisting of MO operations

## Software Component Management Object 1.1(SCOMO)

- Will provide several enhancements for remote software management

## ListMO

- Management Object that would list the Management Objects supported by the OMA DM Client resident on the device and exposed by the device
- Allows a Device Management Server to easily retrieve the list of the supported MOs and any associated details

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## OMA DM M2M Initiatives and Industry Cooperation

OMA has identified areas where further standardization will enhance support of generic M2M implementations including Device Management

- Lightweight DM protocol for M2M devices
- DM gateway supporting M2M networks
- DM security enhancements specific to M2M applications
- Extend OMA DM to support M2M device



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## Device Management (DM) 1.3

- OMA DM 1.3 is an expansion of OMA DM 1.2 and supports the following additional functionalities:
  - Support for SIP/UDP transport bindings
  - Specifies mandatory support for bootstrap/TNDS
  - Support for rich information in notification messages including expiration
  - Reason for session, etc.
  - Support for the discovery of optional DM features supported by the DM Client
- Brings various improvements such as
  - Additional transports
  - Indication DM client capabilities to DM server
  - Security enhancements

## Device Management (DM) 2.0

- OMA DM 2.0 brings major functional enhancements such as support of multiple management authorities and management delegation



## DM Client Side API Framework

- Goal is to specify a framework to enable applications on a device to access the Management Objects supported by the OMA DM Client resident on the device in a secure manner

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Interoperability is the key to seamless maintenance and integration of devices, services and applications - now and in the future.

OMA DM helps operators, enterprises and device vendors to manage access capabilities, diagnose problems, fix and update devices over the network.

Mobility is for everyone, everywhere

- At home, in the office, on the road, consumer and enterprise applications
- Must work with evermore complex multi-use devices in multiple environments across a variety of networks and regions.
- Interoperable and standardized OMA DM has the agility to meet the demands of this environment.

OMA DM Working Group is the place for the industry to best address the challenges of capability development with a goal of global adoption.

OMA DM is continuously evolving to address the industry needs



## More Information

### **OMA Communications Contact**

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### **Interested in joining the OMA**

<http://www.openmobilealliance.org/Membership/default.aspx>

### **2010 Q3 OMA Quarterly Newsletter**

[http://www.openmobilealliance.org/comms/pages/OMA\\_quarterly\\_2010\\_vol\\_3.htm](http://www.openmobilealliance.org/comms/pages/OMA_quarterly_2010_vol_3.htm)

### **Full list of OMA Mobile Service Enablers**

<http://www.openmobilealliance.org/Technical/releaseprogram.aspx>

### **List of upcoming OMA Plenary Meetings**

<http://www.openmobilealliance.org/Meetings/>

### **For a full list of OMA members**

<http://www.openmobilealliance.org/Membership/CurrentMembers.aspx>