MDM and Telco Service Development
OMA Device Management and Platforms

Berlin, 21 September 2010

Friedhelm Rodermund, Vice-Chair, Device Management Working Group, OMA
Agenda

Overview of the Open Mobile Alliance

Current specifications from OMA DM

OMA DM Pipeline and Activities

Summary
OMA—Vision and Background

No matter what device I have
No matter what service I want
No matter what carrier or network I am using
I can communicate, access and exchange information

• The Open Mobile Alliance is an international organization, developing open, market driven interoperable specifications for global adoption of data services
• Created in June 2002 by leading mobile operators, device and network vendors, information technology companies, content and service providers
• Over 200 Global Members developing open, market driven interoperable specifications for global adoption - representation from across the widening mobile value chain
• 45 Formal Cooperation Agreements avoiding fragmentation and duplication
• More than 100 Enablers published and over 75 active work items
OMA WG Structure

Board

Technical Plenary

Release Planning and Management

Horizontal Groups
- Requirements
  - Architecture
    - Security
  - Mobile Commerce and Charging
- Interoperability

Personal Communications
- Messaging

Access to Content
- Mobile Broadcast
  - Content Delivery
    - Mobile Client Environment
  - Digital Rights Management

Common Enablers
- Location
  - Presence and Availability
- Device Management

MDM and Telco-September 2010
OMA—Deliverables

Principal Forum for support of interoperable data services across multiple domains

• Creating specifications driving adoption of multimedia and data services

Published specifications only part of OMA story

• Development is market driven with members observing industry demand
• Use cases identify market requirements
• OMA facilitates market adoption through member-driven specifications

Convergence

• Not just mobile: applicable to fixed AND mobile networks
• In 2005 OMA expanded its mandate to include: “...other present and future wireline and wireless network standards supporting the Internet Protocol family”
• OMA enables enhanced seamless and integrated services
OMA—Deliverables, *continued*

**Interoperability test programme**

- Product testing for conformance in trusted zone key differentiation point for OMA
- Verifies specification interoperability
- Communicates value to market
- Test Specs, TestFests (27 to date), 1300+ implementations tested, Virtual TestFests, Test Reports
- Facilitates certification outside OMA
Recent OMA Candidate Enabler Releases

An OMA Candidate Enabler Release delivers an approved set of open technical specifications that can be implemented in products and solutions, and then tested for interoperability. Upon publication as a Candidate, specifications then enter the OMA Interoperability Testing Program where they will eventually reach Approved Enabler Release status.

• OMA Device Management
• OMA Diagnostic Monitoring
• OMA Secure Removable Media
• OMA Global Service Architecture
• OMA SIP Push
• OMA SIMPLE Instant Messaging
• OMA Mobile Advertising
• OMA Digital Rights Management
• OMA Lock and Wipe Management Object
• OMA Diagnostic Monitoring
• OMA Push
• OMA RESTful bindings for Parlay X Web Services
• OMA Device Management Smart Card

http://www.openmobilealliance.org/comms/pages/OMA_quarterly_2010_vol_2.htm#achievements
2010 OMA Release Plan
• OMA DM Smart Card 1.0
• OMA Converged Address Book 1.0
• OMA Device Profiles Evolution 1.0
• Secure Content Identity Mechanism 1.0
• Full list available at

New Work Items Recently Begun
• OMA Restful Bindings for Parlay X Web Services
• OMA DM Gateway Management Object 1.0
• OMA Software Component Management Object 1.1
• OMA Diagnostics and Monitoring
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Overview of the Open Mobile Alliance and the Device Management Working Group

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OMA Device Management

OMA 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, fix and update devices over the network

Many implementations deployed globally
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 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 has been creating device management specifications in a consistent manner for over 7 years

- Billions of handsets deploying OMA DM specs on different platforms

- 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 Standardisation

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 Standardisation, 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

• Standardized 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
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.
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

• 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
Browsing Management Object

• Facilitates management of Browser parameters

Device Management Smartcard

• Allows dynamic provisioning of management objects in the device and provisioning performed through local DM sessions between the smartcard and the DM Client in the device
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Gateway Management Object

• 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

• Enables execution of workflows on the device consisting of MO operations
Diagnostics and Monitoring Functions

• Determines the capabilities of any given device

• Performs fault detection and provides the ability to invoke diagnostic functions.
  • allows the Management Authority (network operators and corporate helpdesks) to detect and repair actual or potential troubles
  • enables fault reporting back to the network

• Allows terminals to measure and report key performance indicators

• Will provide a number of interesting functions such as:
  • Battery status
  • Memory status
  • Device/Application malfunctions logs
  • SMS/MMS usage
  • device restart
  • browser usage reporting
  • application usage reporting

• Further functions are under development
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
  • specify for mandatory support for bootstrap/TNDS
  • support for rich information in notification message 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
  • indicating DM client capabilities to DM server
  • security enhancements

Device Management (DM) 2.0
• Brings major functional enhancements such as support of multiple management authorities
SCOMO 1.1

• Will provide several enhancements for remote software management

Client 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

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
Management Objects defined by other organizations

• Various Management Objects to be used with OMA DM have been defined outside OMA e.g. by 3GPP

OMA DM and M2M (Machine-to-machine)

• OMA DM supports management of M2M devices and gateways
• Ongoing communication with ETSI TC M2M
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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 Q2 OA Quarterly Newsletter
http://www.openmobilealliance.org/comms/pages/OMA_quarterly_2010_vol_2.htm

Full list of OMA Mobile Service Enablers

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