



# OMA Device Management and Platforms

**Mobile Internet World Summit Europe**

**Munich, 19 May 2008**

**Kevin Holley, Vice Chair OMA Technical Plenary**

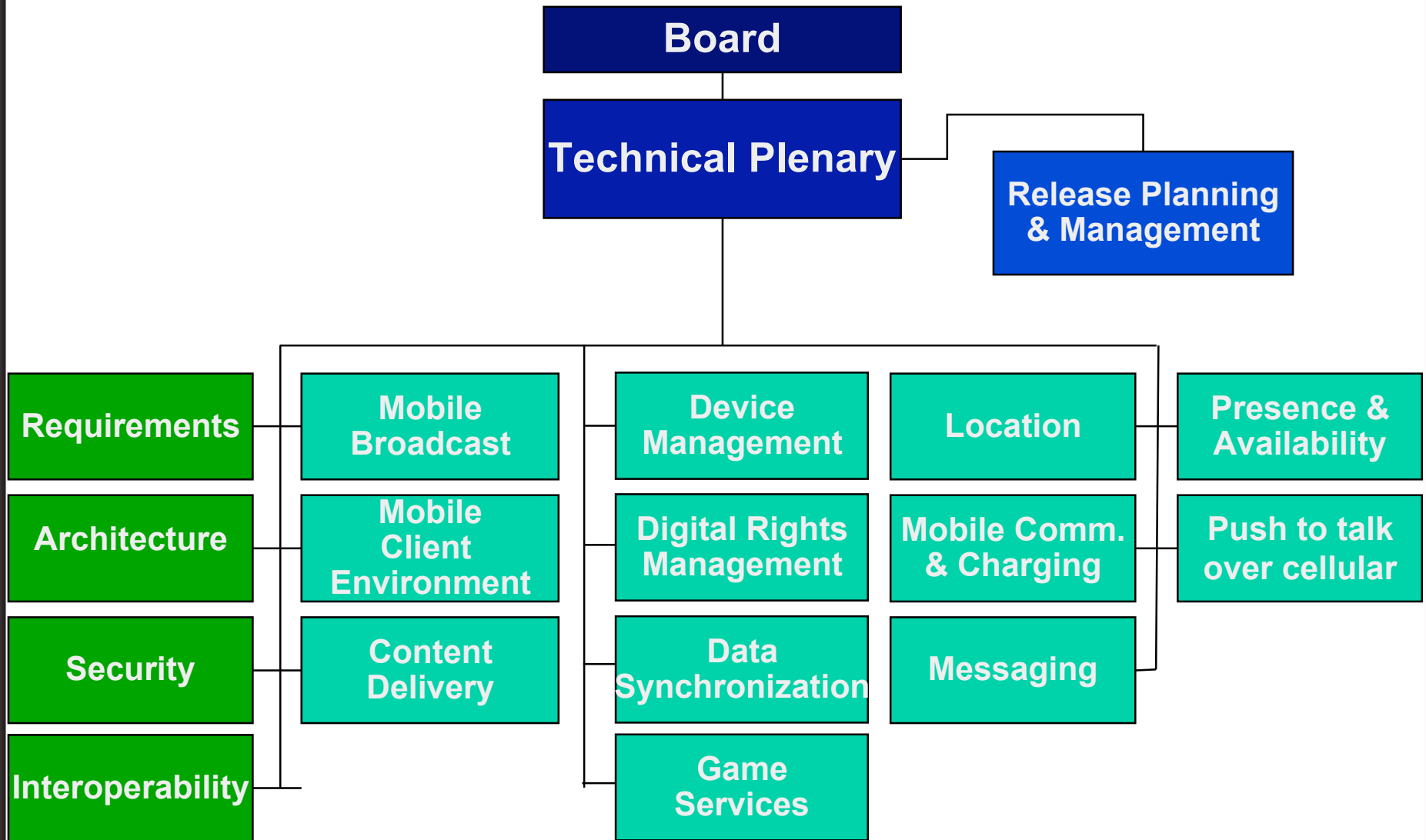
- » Overview of the Open Mobile Alliance
- » Current Issues Facing the Industry
- » Current Specifications from OMA DM
- » OMA DM Pipeline
- » Summary

## » Vision

- » **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**
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- » **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 suppliers, information technology companies, content and service providers**
  - » **380 Global Members developing open, market driven interoperable specifications for global adoption - representation from across the widening mobile value chain**
  - » **42 Formal Cooperation Agreements avoiding fragmentation and duplication**
  - » **39 Enablers published and over 100 active work items**

- » **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
  
- » **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 (**24 to date**), 1300+ implementations tested, Test Reports
  - » Facilitates certification outside OMA

# OMA - Current Evolved Organization



# Highlights of OMA Service Enablers



## » Over 20 Candidate and Approved Enablers Published in the Last 18 Months

### » Candidate Enabler Releases

- » OMA Push to talk over cellular V2\_0
- » OMA Secure Removable Media V1\_0
- » OMA SIMPLE Instant Messaging V1\_0
- » OMA URI Schemes V1\_0
- » OMA XML Document Management V2\_0
- » OMA Mobile Broadcast V1\_0
- » OMA Download V2\_0

### » Approved Enabler Releases

- » OMA Email Notification V1\_0
- » OMA vObject V1\_0
- » OMA Charging V1\_0
- » OMA Client Side Content Screening Framework V1\_0
- » OMA SUPL Secure User Plane Location V1\_0
- » OMA Online Certificate Status Protocol Mobile Profile V1\_0
- » OMA Standard Transcoding Interface V1\_0
- » OMA Smart Card Web Server V1\_0
- » OMA Presence SIMPLE V1\_0

- » **A Candidate Enabler Release (CER)** delivers an approved set of open technical specifications that can be implemented in products and solutions, and then tested for interoperability.
- » **An Approved Enabler Release (AER)** represents Candidate Enabler Releases that have gone through the Interoperability Program (IOP) of OMA. The IOP tests interoperability between different member company's implementations – either within the OMA or through other means.

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# The Need for Device Management



- » 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
  - » Firmware update
  - » Diagnosis and monitoring
  - » Individual installation of software
  - » Device configuration
  - » Scheduling of all of these tasks
  
- » Why standardize these 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
  - » Interoperability directly impacts consumer experience
  
- » Adoption of mobile data services on a global scale demands standardization and interoperability

- » **Preparing for increase in number of data-enabled mobile devices**
  - » Emerging markets will find low cost devices that provide first time internet access to new users
  - » Maintaining these devices becomes necessary over the air vs. in person -- whether due to accessibility of users or awareness of the need to update devices
  
- » **Coping with many new players in the market**
  - » Emerging businesses in emerging markets
  - » Consumer Electronics and PC industries have DM needs
    - » DSL Forum interested in OMA DM
  
- » **Reducing time to market with well-devised standard**
  - » New products and services only find global adoption possible with standardized approach

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# OMA DM Approved Enablers



- » DM 1.2 moved from Candidate to Approved status in 6 months
- » 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 implementation of services
- » Firmware Update Management Object (FUMO) 1.0
  - » Completed Interoperability Testing Program
  - » Approved Enabler Release
- » Quality and reliability of these Enablers is well established and bodes well for the future pipeline of OMA Device Management Enablers
- » New applications and developer activities need to consider OMA DM to support global adoption of new services



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# OMA DM - Connectivity and Software



- » **Connectivity Management Object -- In OMA Work Program**
  - » Seamless operation of device over all the various protocols without manual administration of the device
    - » UMTS, CDMA2000, WiFi
    - » 3GPP Packet Switch or other Proxy settings
  - » Wireless data connectivity
    - » Specification of a set of data management object schema
    - » Exposure by an OMA DM client
    - » Targeting by an OMA DM server from operator or corporate infrastructure
  
- » **Software Component Management Object SCOMO - in OMA Work Program**
  - » 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

- » **Diagnostic Monitoring Object – In OMA Work Program**
  - » Detect and repair actual or potential troubles
  - » Report faults to the network
  - » Enable terminals to measure and report key performance indicators
  - » Query the device for additional diagnostic data
  - » Operators or corporate helpdesks can also use the diagnostic enabler
    - » Invoke specific repair procedures embedded in a given handset model
  - » Use case
    - » Subscriber reports an error indicator or problem to operator or helpdesk
    - » Customer care server or help desk agent queries device for more information
    - » Cause of error or problem is identified
    - » Action taken to repair or correct
  
- » **Smart Card Web Server 1.0 - Portability of Management Objects**
  - » Management objects can be stored on the (U)SIM card
  - » Users can switch between devices and take security and other settings with them from device to device
  - » Recently moved from Candidate to Approved status end of 2007

- » **Additional Enablers in Development within OMA DM**
  - » Lock and Wipe Management Object – allows deactivation of the device over the network.
  - » Device Capabilities Management Object – allows activation or deactivation of hardware on the device, such as WiFi access or other capabilities.
    - » Taken from Asian market and brought to OMA for specification and standardization
- » **Device Profiles Evolution -- In OMA Work Program**
  - » Not in the OMA DM group, but related
  - » Applications and services need to address variable network environments
  - » Different users with different devices have a wide range of capabilities and features
  - » DPE creates an enhanced device profiles mechanism
  - » Allows devices to convey real time dynamic device properties to an ASP
  - » Enable any ASP to provide content best suited to device's capabilities
    - » Memory size, cache size, CPU load, battery life

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- » OMA DM 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.
- » The future of OMA DM will see increased security and maintenance capabilities.
- » **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 and complexity to meet the demands of this environment.
- » **OMA DM Working Group is the place for the industry to best address the challenges of development with a goal of global adoption.**
  - » OMA DM Working Group is exploring Converged DM

## More Information

- » **OMA Communications Contact**
  - » Bobby Fraher, External Communications Manager  
[bfraher@omaorg.org](mailto:bfraher@omaorg.org)
  
- » **Interested in joining the OMA**
  - » <http://www.openmobilealliance.org/Membership/default.aspx>
  
- » **Full list of OMA Enablers**
  - » <http://www.openmobilealliance.org/Technical/releaseprogram.aspx>
  
- » **List of upcoming test events and plenaries**
  - » <http://www.openmobilealliance.org/TestFests/overview.aspx>