



Valuable Role of Open Standards for the World of Mobile Entertainment

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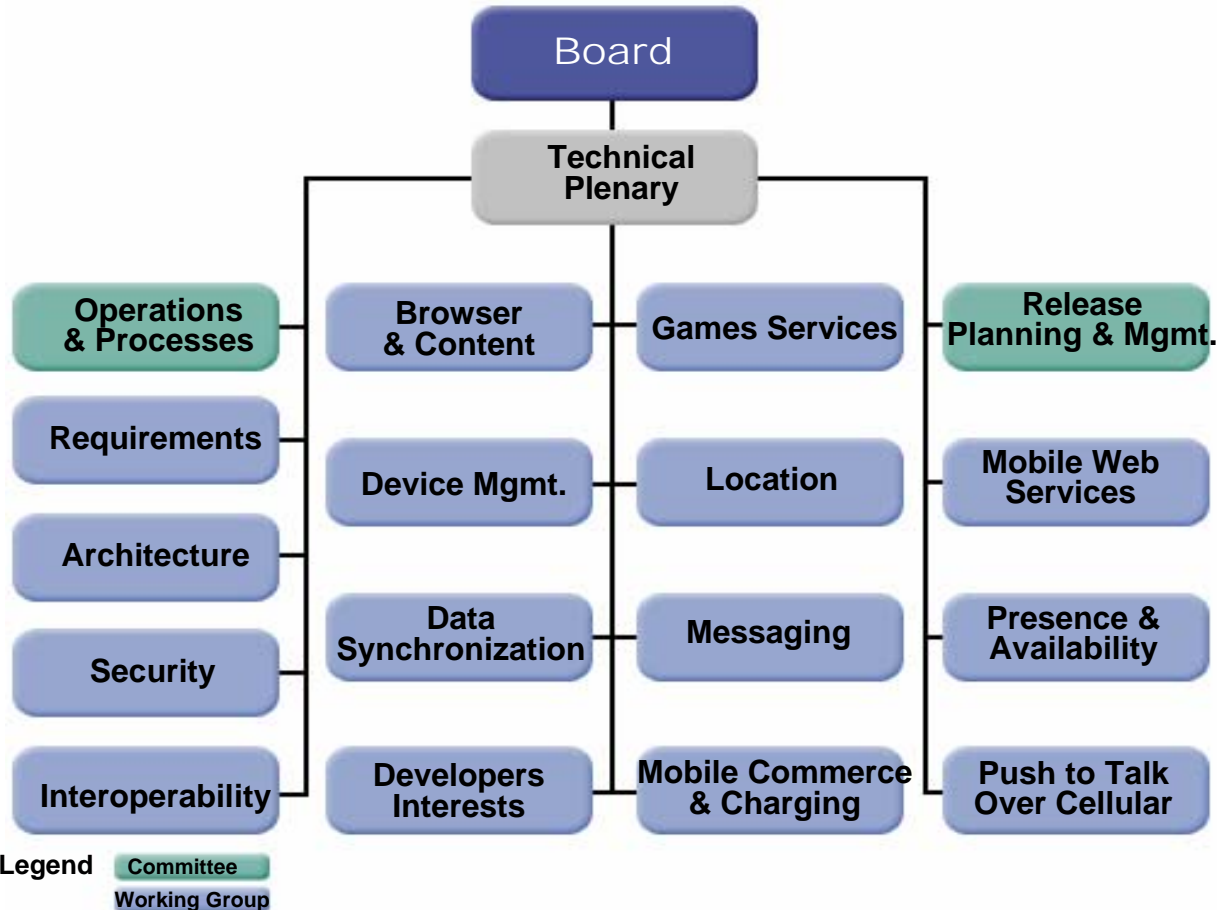
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- Overview of Open Mobile Alliance
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The Open Mobile Alliance (OMA)

- Open Mobile Alliance is an international organization, developing open, market driven interoperable specifications for global adoption
- Created in July 2002 by leading mobile operators, device and network suppliers, information technology companies, content and service providers – the entire mobile value chain
- Created by combining many existing smaller industry organizations to work under the OMA umbrella
- Cooperating with various other mobile and fixed line organizations, the OMA is expanding its role to include more dynamic interaction with IT and Consumer Electronic industries
- The over 400 OMA member companies represent a global organization with members from all regions, which complement the various parts of the end-to-end value chain in the mobile industry

OMA Working Groups and Scope



OMA Enabler Release Program

- Market based
- Packaged open specifications
- Ongoing testing

OMA Interoperability Program

- Tests conformance and interoperability
- IOP documents
- Trusted Zone services
- Third party test locations

Analysis, reports, white papers, industry studies

OMA Methodology

- OMA has primarily been working on specifications and interoperability within the mobile services area
 - E.g. OMA Mobile Broadcast Service, Digital Rights Management and OMA Mobile Location Service
- OMA is not limiting the scope of its specifications to the mobile market
 - Allowing more general applicability to IP based networks which could be fixed or mobile, Consumer Electronics devices, traditional PC and telephone environments
- As a principle, OMA aims to re-use existing technologies avoiding duplication, divergence and fragmentation
 - E.g. as defined for fixed internet, helping to provide interoperability between mobile and fixed devices and networks
- OMA has an extensive network of 35 formal liaison relationships with other standards bodies, including those dealing with fixed and broadcast networks
 - E.g. ETSI, IETF, W3C, DVB, ITU-T, RIAA, MPA, CDG and JCP

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Standards Development

- Innovation in the mobile industry is happening faster and faster
- Early adopters often use proprietary technology
- Broad adoption of new services depends upon standardized implementations
 - E.g. Innovation in the Internet boom drove the development of Web Services and open standards
- OMA benefits from the real world experience of early adopters, and keeps pace with innovation
- Standards based solutions provide the framework for the rapid deployment of new products and services

Demand for Interoperability

- Fast paced innovation and development has built demand for interoperability and interworking
 - Equal stake among various elements in end-to-end chain
 - Demand for quality, open specifications enabling interoperable and conformant implementations
 - Demand for trusted and unbiased tools and testing frameworks
- OMA Interoperability Programme reuses existing testing contributions and results where applicable
 - Testing experience with fixed Internet is applicable in the mobile world
 - Avoiding duplication, divergence and fragmentation
 - Helping to enable fixed-mobile interoperability
 - Offering trusted zone services for bilateral testing

OMA commitment to Interoperability

- OMA Interoperability
 - Verification of interoperability, stability and quality in multi-vendor, multi-operator, multi-content provider environment
- OMA has a commitment to increase the number of specification implementations tested
 - Over 850 product implementations tested to date
 - 50 in 2002
 - Nearly 100 in 2003
 - Over 160 in 2004
 - Nearly 400 in 2005
 - Expect nearly 700 in 2006
- OMA is shortening the time to market with open and tested quality specifications through its IOP program

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OMA in Mobile Entertainment

- OMA Members represent the entire Mobile Entertainment value chain share concern about technology fragmentation and the lack of interoperability:
 - Mobile network operators who want to sell music and must work with multiple vendors and record labels
 - Mobile service providers who want to increase product offerings to meet consumer demand
 - Broadcasters and media companies who have begun to compliment the mobile value chain with high value content for distribution to mobile domain
 - Terminal vendors who must keep pace with the demands of the market and industry players
 - Network and IT infrastructure vendors who must extend their reliability to accommodate new products, services and traffic requirements
- These members actively contribute to OMA work in the Mobile Entertainment space
 - Along with organizations representing Music and Movie Industries OMA has established cooperative arrangements

OMA Digital Rights Management 1.0

- Created to meet market requirements for light media content
 - Three levels of functionality
 - Forward Lock prevents content from leaving device
 - Combined Delivery adds rights definition
 - Separate Delivery provides content encryption and supports legitimate viral distribution (SuperDistribution)
- OMA DRM 1.0 became available in September 2004
 - Already deployed in market with over 450 handset types world wide

OMA Digital Rights Management 2.0

- Evolution of DRM 1.0 to meet Premium Content protection needs
 - High bandwidth cellular networks becoming widely available
 - Mobile devices with removable media and larger color screens support downloading, streaming rich media, and ability to transfer content to other devices such as PC, music players, set top boxes, etc.
 - Content and service providers eager to release rich audio/video content and applications
- Greater security and trust management required to protect high value content
 - Need to ensure target device can be trusted to keep content and trade secrets safe
 - Need greater security to prevent content from leaking out during distribution
- OMA DRM 2.0 became available as interoperability tested specification in April 2006
 - Tested in multiple OMA TestFests during 2005 with over 92 different product implementations

Applying DRM to Protect Content

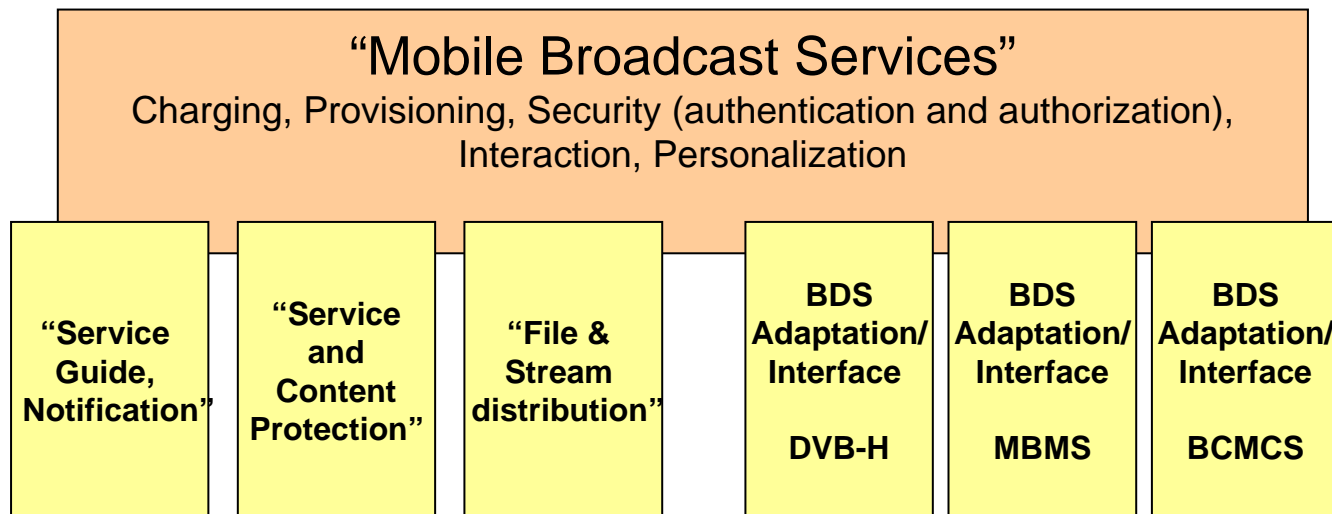
- Steps for distributing DRM protected content
 - Encrypt the content and package in DRM Content Format
 - Assign permissions and constraints for content
 - Consumer receives content and “rights” and begins using the content
- DRM enables viral distribution of content
 - Consumers can send the protected content to their friends that have OMA DRM enabled mobile devices
 - Their friends, in turn, purchase the permission to consume the content
 - Content and service providers make money through “word of mouth” advertising – SUPER DISTRIBUTION

OMA Digital Rights Management

- A response to strong market demand
- Content sales to mobile devices becoming lucrative
 - Phones coming to market able to support light media
 - Content and service providers wanted to protect their investments
- Levels of protection needed to be commensurate with increased content value
- Need for an open mass market solution
 - Timely and inexpensive to deploy
 - For mass market mobile devices (not just high-end)
 - Did not require costly infrastructure to be rolled out
- Two versions of interoperability tested OMA DRM specifications are available

Upcoming: OMA Mobile Broadcast

- OMA is currently developing globally interoperable access system/radio technology agnostic service layer solution to be used by multiple broadcast systems
 - Builds on existing OMA specifications such as OMA DRM and OMA DM
 - Equally addresses the needs of mobile, content, IT and broadcast industries
 - Expected to be published and ready for subsequent interoperability testing in early H2 06



Summary

- OMA's market driven approach and commitment to testing supports evolution of existing products and services and sustains the pace of innovation
- Cooperation among OMA membership reflects real market demand and cross-industry commitment to interoperability around the globe
- The value, impact and necessity of open global standards are more important than ever to support adoption of more innovative products and services