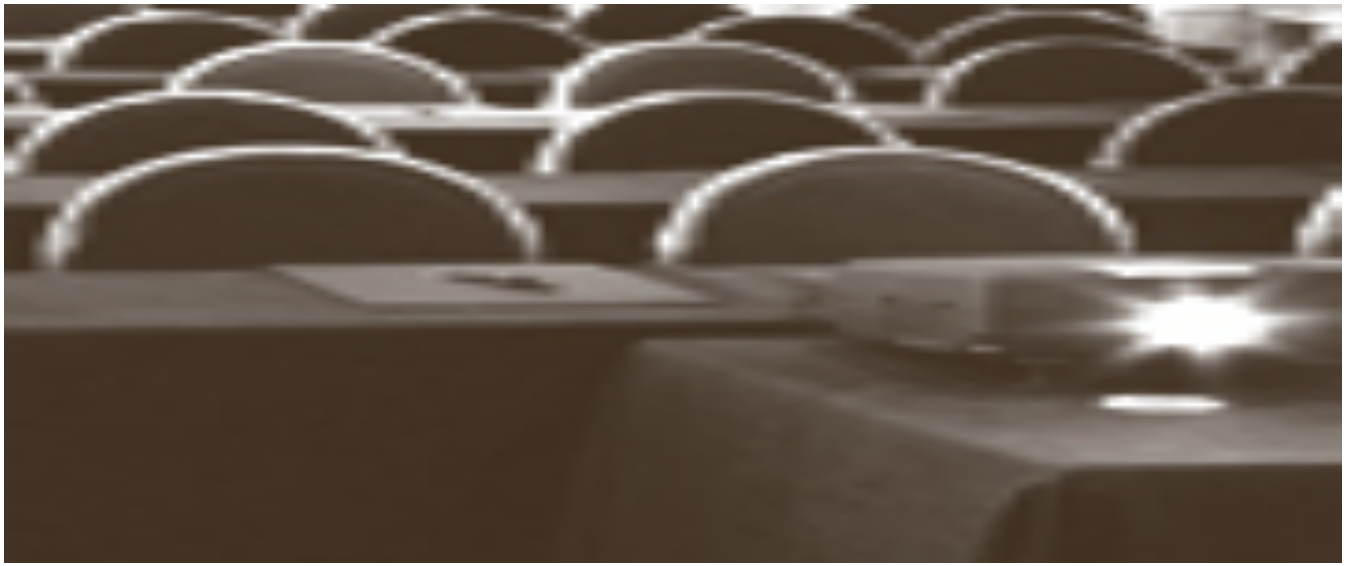


OMA API Program

IETF – 2012

Liliana Dinale
Chairman OMA Architecture Group
Systems and Standards Manager, Ericsson

interface
Growth
Network
bits
services
AppStore
Opportunity
OMA
API
provider
cloud
mobile
challenge
Market
open
ICIN
cost
data
pipe
fragmentation
network
time-to-market
developers
service
revenue
alliance
operator
Standardization
innovation
application
programming

THE MARKET OPPORTUNITY

The Apps Market is big, and becoming bigger

- MarketsAndMarkets expects the global mobile applications market to be worth **$25.0 billion in 2015** [1]
- IDC predicts app revenues will surpass **$35 billion in 2014** [2]
- Canalys expects that app store revenue will reach **$36.7 billion by 2015** [3]
- Gartner: Applications stores are creating a revenue opportunity that will reach **$58 billion in 2014** [4]
  - Compare:
    - Weight-loss and health nutrition are a $60 billion industry
    - Gaming is a $60 billion industry
    - Coffee is a $60 billion industry

- Whatever number you want to use, it's **huge**

What about today? Can the market scale up?

- Estimates about the size of the Applications Market in 2010 vary between **$2 billion** and **$4 billion**

- Even if we take the high end ($4 billion), the market would have to double nearly every year to reach **$58 billion** in 2014

- Is the current model **scalable** ?

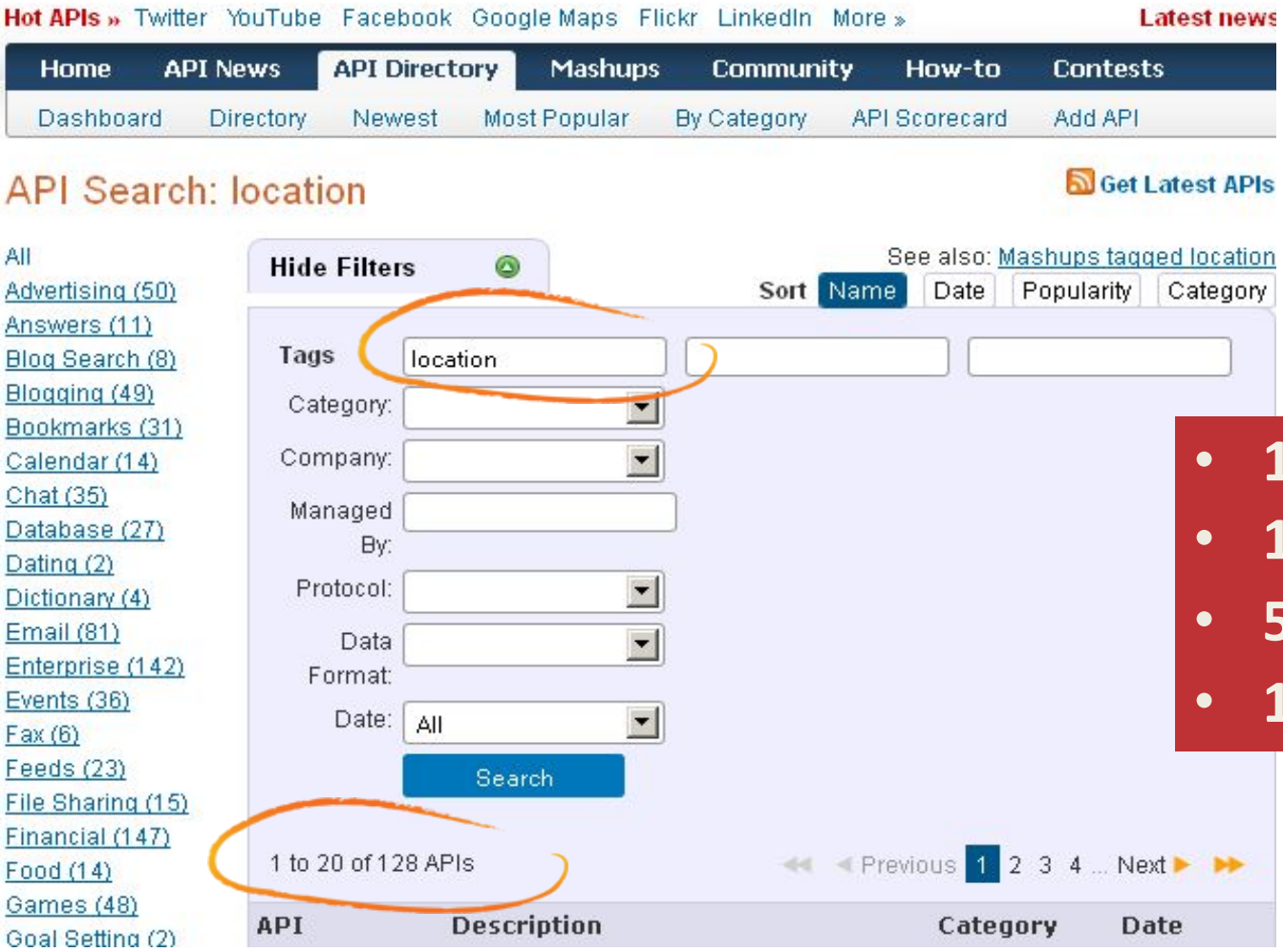
- Can the current model support this **growth** ?

NO!

THE STANDARDIZATION CHALLENGE

APIs proliferate!

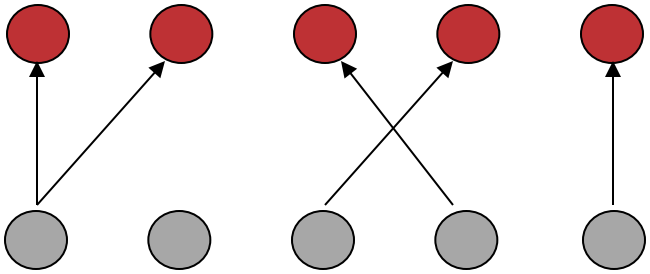
programmableweb



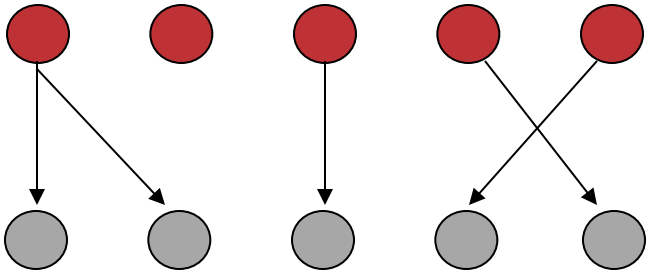
- 128 Location APIs
- 129 SMS APIs
- 53 Payment APIs
- 14 MMS APIs

Today's Problem

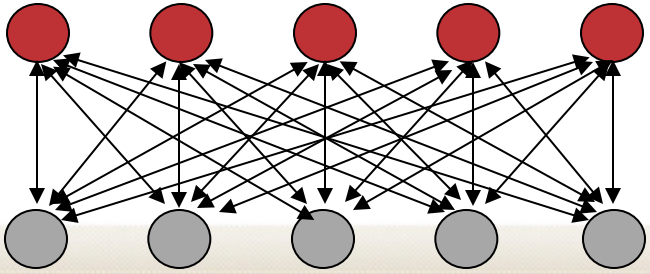
- Each **operator** can only reach a small set of **application developers**



- Each **application developer** can only reach the subscriber base of a few **operators**

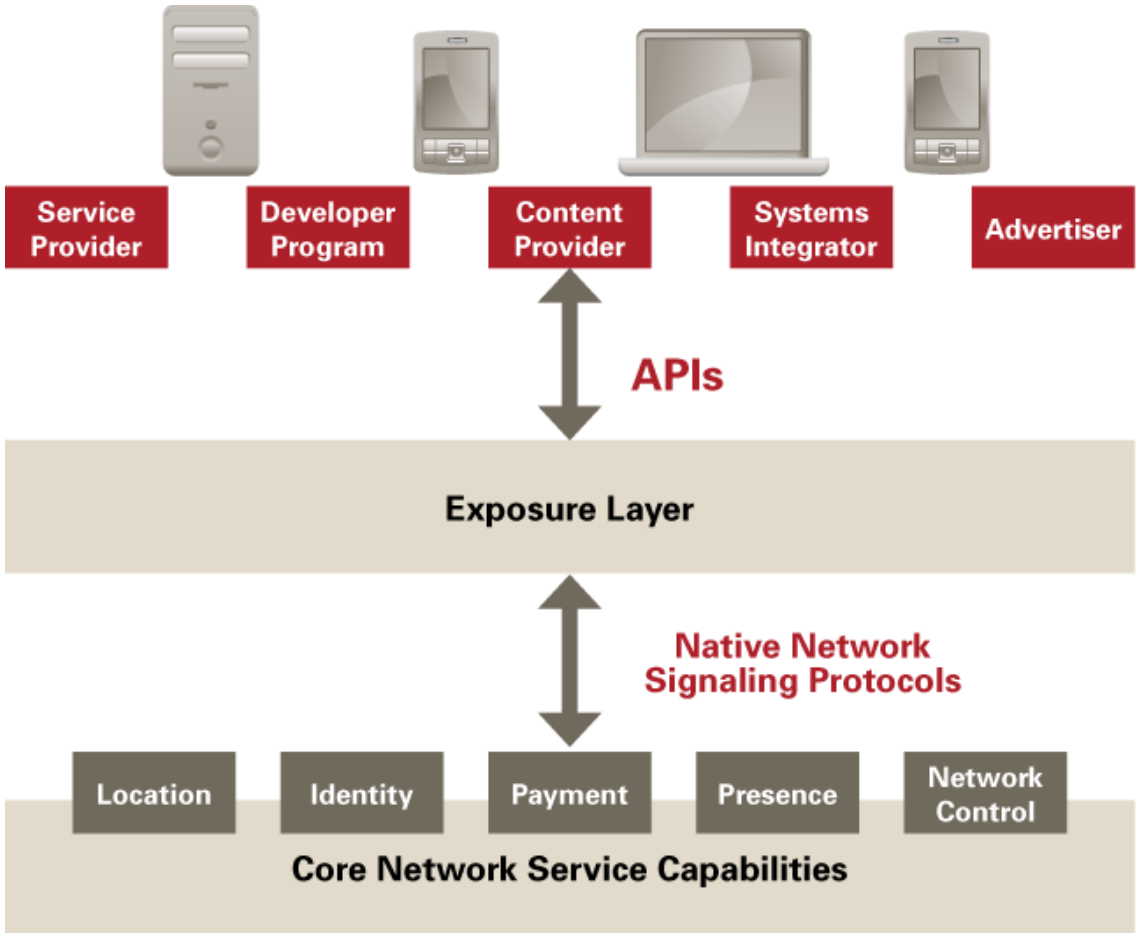


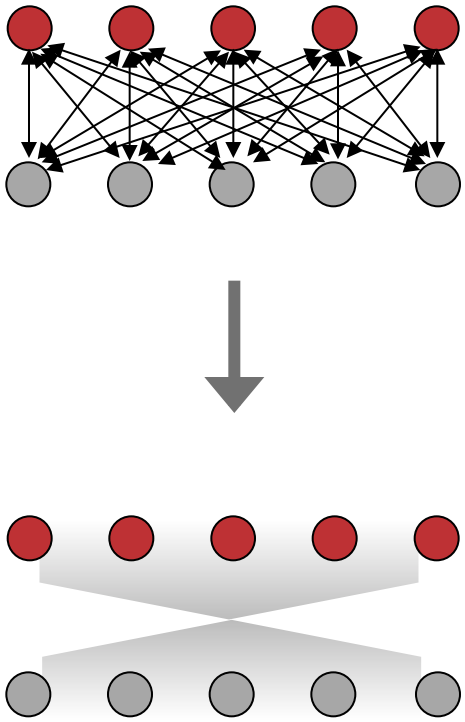
- Does not scale



THE ROLE AND CONTRIBUTION OF OMA

OMA APIs Standardize Access to Unique Resources within Operator Networks





The Value of Standardized APIs

Available to any developer community independent of the development platform

Expose network assets independent of the signaling protocols, network platforms, or access technology

Identify and define management tools for service platforms (e.g. FemtoZone service

Operators benefit

Developers benefit

Users benefit

Everybody benefits

Reduces development cost and time-to-market for new applications and services

Simplifies and fuels wider deployment of existing applications and services

OMA Network APIs

Next couple of slides are aiming to socialize OMA's published specifications and current ongoing standards activities in the area of APIs. To make sure that the standards landscape for APIs is coordinated and harmonized.

OMA Network APIs

Abstract APIs

- Call Control
- Call Notification
- Call Handling
- Context Entity Discovery
- Context Information
- Generic Data Change Notification
- Generic Data Management
- Identity Management
- Identity Resolution
- Multimedia Conference
- Multimedia List Handling
- Service Discovery
- Service Registration

RESTful APIs

- Address Book
- Audio Call
- Third Party Call
- Call Notification
- Device Capabilities
- Messaging
- Payment
- Presence
- Service User Profile Management
- Short Messaging
- Terminal Location
- Terminal Status
- Notification Channel
- File Transfer
- Image Share
- Video Share
- Chat
- OneAPI Profile V3.0
- OneAPI Profile V4.0
- RC-APIs
- Guidelines
- Common
- CAB-APIs
- RCSeProfile
- ParlayREST 2.0
- PushREST
- ACR Management
- Customer Profile
- Capability Discovery

SOAP/WSDL APIs

- Account Management
- Audio Call
- Application Driven QoS
- Call Notification
- Call Handling
- Content Management
- Device Capabilities
- Geocoding
- Multimedia Conference
- Multimedia Messaging
- Multimedia Multicast Session mgt
- Multimedia Streaming Control
- Payment
- Policy
- Presence
- Short Messaging
- Terminal Location
- Terminal Status
- Third Party Call
- Service User Profile Management
- PXProf

Supporting enablers for OMA RESTful Network API and IETF synergies (I//II)

Authorization Framework for Network APIs, in short Autho4API

OMA RESTful Network APIs may be complemented with a common delegated authorization framework based on IETF OAuth 2.0, for access of third party Applications via those APIs.

Autho4API is based on IETF OAuth 2.0 specifications:

"The OAuth 2.0 Authorization Protocol", URL:https://datatracker.ietf.org/doc/draft-ietf-oauth-v2/

"The OAuth 2.0 Protocol: Bearer Tokens", URL:https://datatracker.ietf.org/doc/draft-ietf-oauth-v2-bearer/

"Token Revocation", URL:https://datatracker.ietf.org/doc/draft-lodderstedt-oauth-revocation/

"OAuth 2.0 User Experience Extension", URL:http://tools.ietf.org/id/draft-recordon-oauth-v2-ux-00.txt

Supporting enablers for OMA RESTful Network API and IETF synergies (II/II)

In addition OMA **Autho4API enabler** defines the following:

- OMNA registry for Scope Values
- Secondary channel, i.e. alternative to HTTP redirection for the delivery of response to Authorization Request
- Deployment scenarios for environments where multiple Service Providers expose the same service
- Resolution of resource server location from an issued Access Token
- One-time Access Tokens
- Considerations on:
- Scope Value definitions
- self-contained Access Token formats
- service discovery
- native Applications
- HTTP redirect capture mechanisms

ACR, OMA APIs and IETF synergies

All of the new RESTful Network APIs specified by OMA provide:

- Support for Anonymous Customer Reference (ACR) as an end user identifier
- Support for “acr:Authorization” as a reserved keyword in a resource URL variable that identifies an end user

As per IETF:

•The acr URI for anonymous users”, S.Jakobsson, K.Smith, July 2011, URL: http://tools.ietf.org/html/draft-uri-acr-extension-03

In addition OMA just approved a new work item **RESTful Network API for Anonymous Customer Reference Management, based on the same IETF draft**

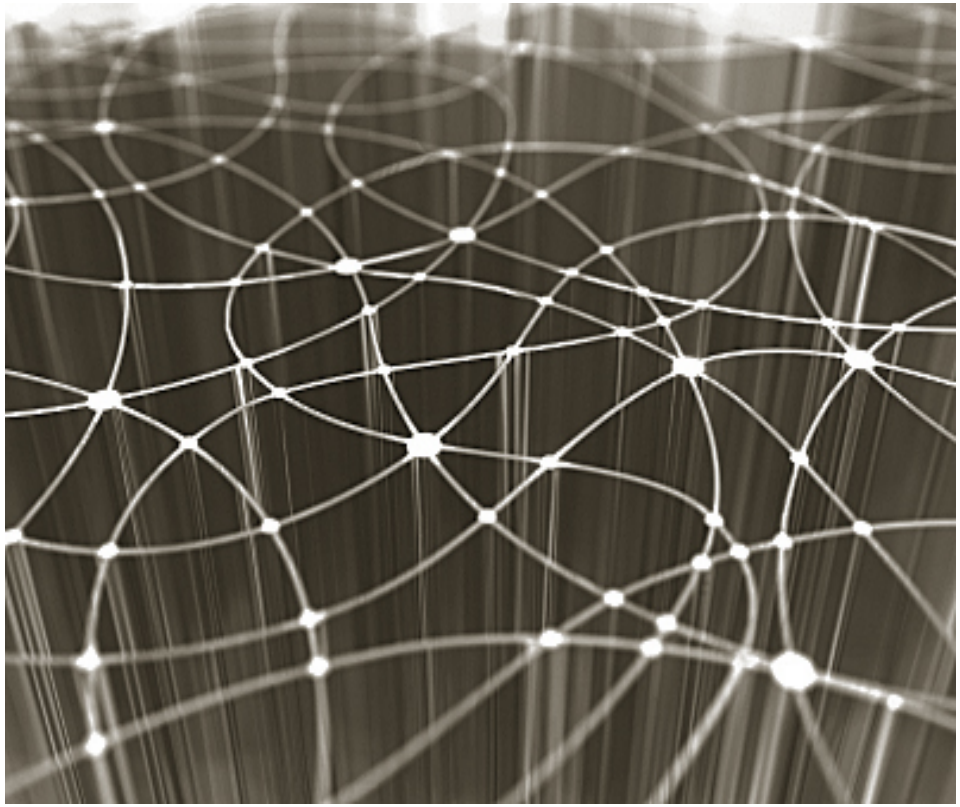
OMA and IETF

OMA Architecture will like to solicit feedback about OMA's specification for Authorization4APIs, which is built on IETF OAuth and initiate discussions on ACR

CONCLUSION

Conclusion

- OMA APIs Standardize Access to Unique Resources within Operator Networks. OMA APIs expose the network assets that developers need - no matter what protocols, platforms or other APIs they use
- Standardized APIs are necessary to help realize the tremendous growth potential for the Applications Market and Operators Service Management
- Core network assets must be made available in order to deploy the wide variety of new applications and services that enter the market every day
- The OMA set of APIs increases the portability of applications and services in order to reach the subscriber base of operators and service providers that deploy OMA APIs
- As the number of APIs that perform the same functionality proliferate, fragmentation occurs. This limits developer access to subscribers, and operator and service providers' choices of development platforms and communities. The OMA API Program, through standardization, solves this problem
- **OMA APIs relies on IETF work and collaboration between the 2 organizations is critical**



REFERENCES AND BACKUP

References

- [1] “World Mobile Applications Market - Advanced technologies, Global Forecast (2010 - 2015)”, Markets and Markets, Aug 2010, Pages: 217, http://www.researchandmarkets.com/

- [2] “Worldwide and U.S. Mobile Applications, Storefronts, and Developer 2010–2014 Forecast and Year-End 2010 Vendor Shares: The "Appification" of Everything?”, Dec 2010 (Doc # 225668), 44 pages, http://www.idc.com/

- [3] “Canalys Mobile App Store Analysis forecast”, June 2011, http://canalys.com/

- [4] “Forecast: Mobile Application Stores, Worldwide, 2008-2014”, December 2010, http://www.gartner.com/

OMA – Overview

More than 150 members from across the mobile value chain
- Founded June 2002
- Operators, terminal and software vendors, content and entertainment providers

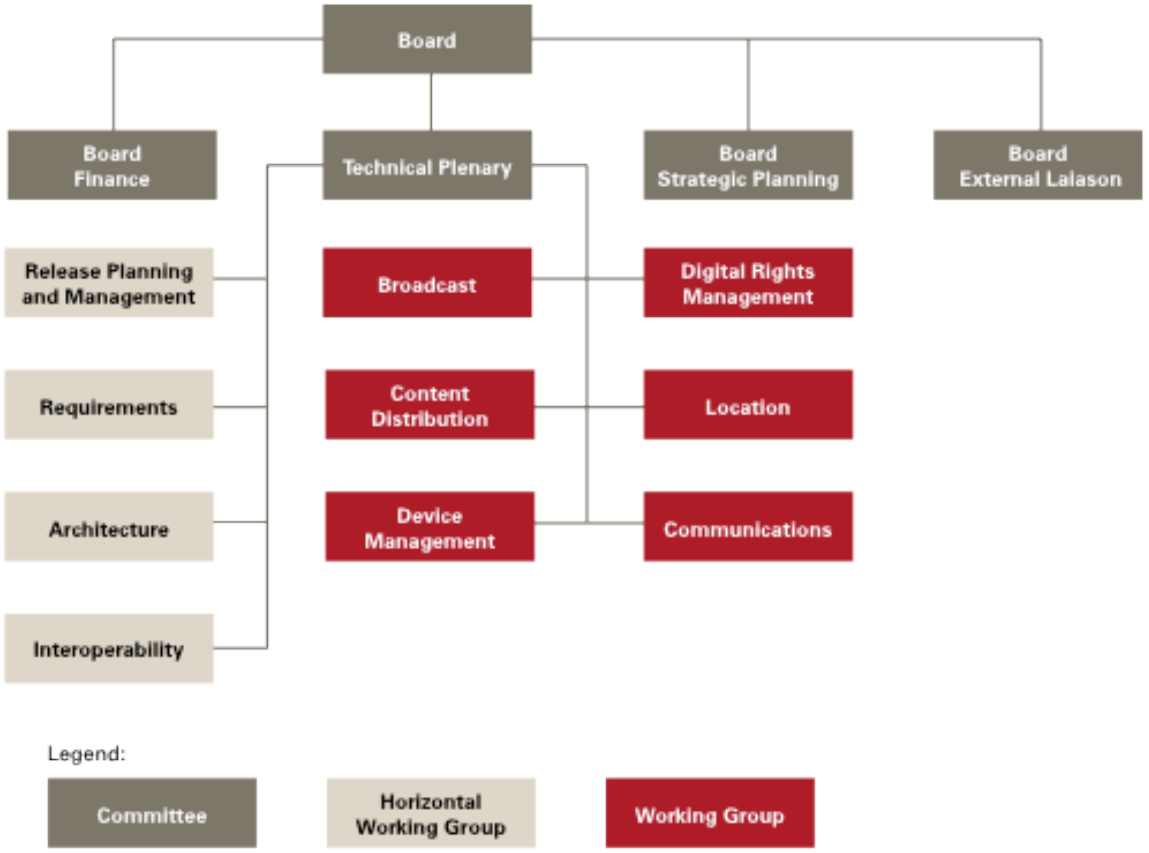
Interoperable service enablers across multiple domains
- Architecture, Security, Charging and Network APIs
- Person-to-Person Communications
- Device Capabilities
- Access to Content
- Services Access Interface
- Service Customization

Current and Ongoing Technical Deliverables – more detail in presentation
- 44 service enablers delivered in 2010 with 80 planned for 2011
- Ongoing refinement of interoperability testing program with Test on Demand in Q3 2011
- API Framework—building on success of GSMA OneAPI and Parlay affiliation
- M2M Communications—enabling terminals as gateways and converged personal networks

New and improved organizational structures and efficiencies
- Fast track process for omitting or combining steps and deliverables in OMA Process
- Min Max procedure for an alternative path to traditional testing of every OMA enabler

Collaboration with other bodies—including WAC, GSMA, W3C & ETSI
- Reduce duplication and fragmentation
- New strategic program of liaisons with appointed Board level champions to other bodies
- OMA maintains formal cooperation agreements or frameworks with nearly 50 industry bodies

OMA – Organizational Structure



Highlights of OMA RESTful Network API

Candidate Enabler Releases

- REST_NetAPI_NotificationChannel-V1_0
- REST_NetAPI_SMS-V1_0
- REST_NetAPI_AddressBook-V1_0
- REST_Guidelines-V1_0
- REST_NetAPI_Messaging-V1_0
- REST_NetAPI_Payment-V1_0
- REST_NetAPI_DeviceCapabilities-V1_0
- REST_NetAPI_TerminalStatus-V1_0
- REST_NetAPI_TerminalLocation-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.

Highlights of OMA API

http://www.openmobilealliance.org/API/APIInformation.aspx?page=about

OMA API Inventory (CER and AER)

http://www.openmobilealliance.org/API/APIsInventory.aspx

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.

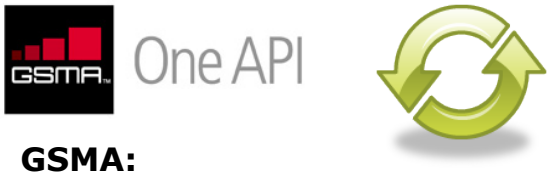
An Approved Enabler Release (AER) represents Candidate Enabler Releases that have gone through the Interoperability Program (IOP) of OMA. The IOP tests interoperability between different member company's implementations—either within the OMA or through other means.

OMA receives market requirements from their industry partners

Referencing OMA API specifications

Re-using OMA Network APIs

OMA Network APIs



GSMA:
Developer outreach
Go-to-market
Business models

OMA:
Technical Specifications
Standards publication

Rich Communication APIs

GSMA:
Requirements

OMA:
Technical Specifications
Standards publication

More Information

• OMA Communications Contact
Bobby Fraher, External Communications Manager
bobby@agilis-communications.com

• 2011 Annual Report

http://www.openmobilealliance.org/comms/pages/oma_2011_AR_contents.html

• Full list of OMA Mobile Service Enablers
http://www.openmobilealliance.org/Technical/releaseprogram.aspx

• Interested in joining the OMA
http://www.openmobilealliance.org/Membership/default.aspx