



**OMA's Work in Mobile Codes: Meeting industry needs for global standards and enabling an eco-system for new online advertising opportunities**

**Mobile Marketing Forum**

**Singapore, 29 April 2009**

**Alan Hameed, Member, OMA Board of Directors**

- » Overview of the Open Mobile Alliance
- » Background on Mobile Codes
- » OMA's Mobile Codes Enabler
- » Status of Development in OMA
- » Summary

# OMA - Vision and Background



## » 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

## » Open Mobile Alliance

- » international organisation, developing open, market driven interoperable specifications for global adoption of data services

## » Created June 2002

- » by leading mobile operators, device and network suppliers, information technology companies, content and service providers

## » More than 250 global members

- » developing open, market driven interoperable specifications for global adoption - representation from across the widening mobile value chain

## » 40+ formal cooperation agreements

- » increased cooperation, avoid fragmentation / duplication

## » 100 active work items, 120 Releases, 86 published Enabler Releases

# OMA - Deliverables



## » Key forum for support of interoperable multimedia data services

- » multiple domains (mobile, fixed, internet)
- » technical specifications
- » driving adoption



## » Convergence

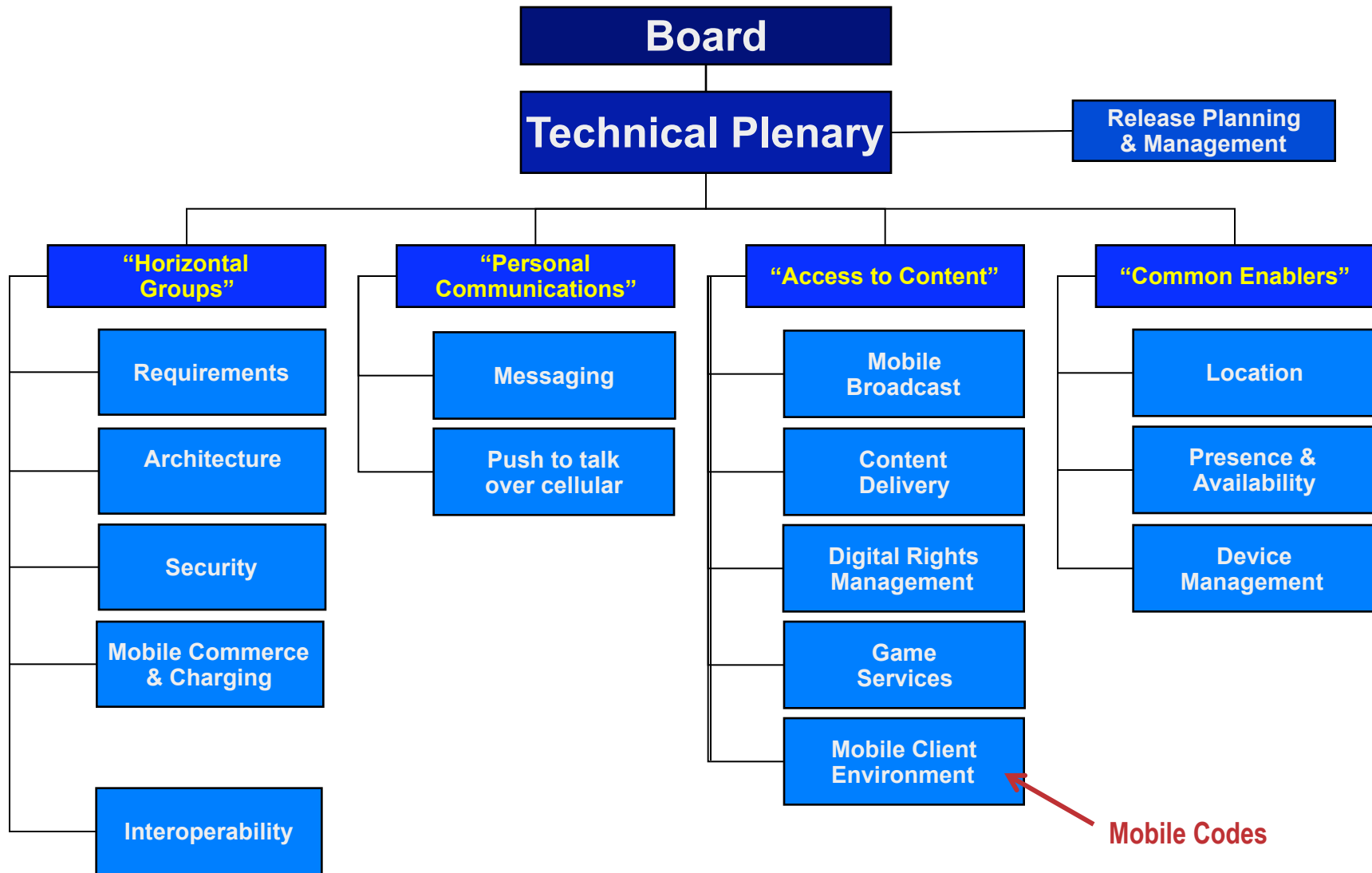
- » fixed AND mobile
- » scope: “...*present and future wireline and wireless network standards supporting the Internet Protocol...*”
- » enables seamless and integrated services

## » Interoperability Test Program

- » “Trusted Zone” for confidential testing
- » verifies specification interoperability
- » member verification of their product implementations
- » Test Specs, 27+ TestFests, 1300+ implementations tested, Test Reports
- » facilitates certification outside OMA



# OMA - Hierarchy



# Highlights of OMA Service Enablers



- » **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 has an advanced interoperability program to ensure the integration of devices, services and applications and provides the opportunity to evaluate innovative implementations prior to market entry.**

**For a complete listing of OMA releases, please logon onto this link:**

[http://www.openmobilealliance.org/Technical/current\\_releases.aspx](http://www.openmobilealliance.org/Technical/current_releases.aspx)

# Highlights of OMA Service Enablers



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

### » **Candidate Enabler Releases**

- » OMA Categorization Based Content Screening Framework V1\_0
- » OMA Charging V1\_1
- » OMA Charging Data V1\_0
- » OMA Converged IP Messaging V1\_0
- » OMA Data Synchronization V2\_0
- » OMA Download over the Air V2\_0
- » OMA Presence SIMPLE V2\_0
- » OMA Push to talk over cellular V2\_1
- » OMA SIMPLE IM V1\_0
- » OMA SIP Push V1\_0
- » OMA Secure User Plane Location V2\_0
- » OMA XML Document Management V2\_0

### » **Approved Enabler Releases**

- » OMA Browsing V2\_3
- » OMA Digital Rights Management V2\_1
- » OMA Email Notification V1\_0
- » OMA Mobile Broadcast V1\_0
- » OMA Parley/OSA in OSE (PIOSE) V1\_0
- » OMA Presence SIMPLE V1\_1
- » OMA Secure Removable Media V1\_0
- » OMA Secure User Plane Location V1\_0
- » OMA Smart Card Web Server V1\_0
- » OMA URI Schemes V1\_0
- » OMA vObject V1\_0

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# Background - What is a Mobile Code?

- » Linear (1-dimensional “1D”, i.e. EAN/UPC) or 2-dimensional “2D” Barcodes are read by camera-equipped mobile handsets
- » The handset application takes action to access content or services

Example:



QR



Datamatrix



EAN-13

# Background – Early Adoption in Japan I

» Example: QR Codes at Tokyo bus stop, 2005



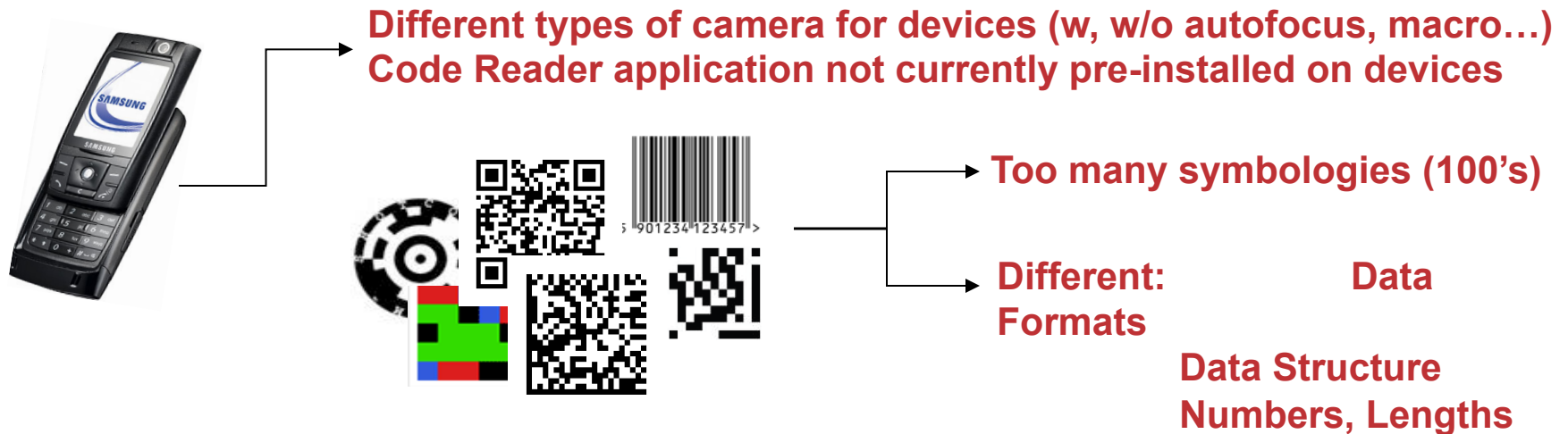
## Background – Widespread Adoption in Japan II



- » Highest penetration rate of mobile code usage in the world
- » Pre-installed Code Readers on the majority of handsets allowing for widespread use in print and on packaging
- » Symbology
  - » QR (2D) & JAN (1D, see EAN)
- » 2D Data Format
  - » NTT DoCoMo
  - » URL, Business card, Email message, Content (e.g. image)
- » 2D Direct Method, 1D Indirect Method
  - » All QR codes contain the address of a service or the content itself
  - » Consumers install custom “plug-ins” to obtain (e.g. dietary information) from JAN codes looked up at server



# Background – Towards Global Standards



## Also, different methods to encode the symbology:

1. Directly encodes the content, or an address of, the content/service
2. Encodes an index number (“Identifier”) pointing to an address of the content/service

### E.G.



- <http://www.openmobilealliance.org> → content/service
- [#TagID: 57893023](#) → Redirection Server → http://... → content/service

Fragmentation in worldwide market

Standardisation is needed !

# Background – Towards Global Standards



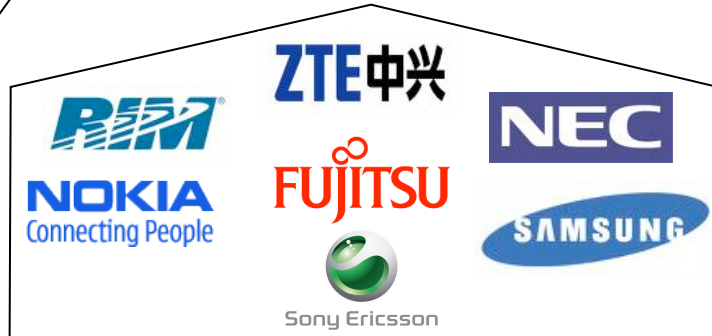
- » Solutions are needed to encourage widespread adoption around the world
  - » Pre-installed handset software conforming to standards
- » Initiatives
  - » 2005: Public trials (e.g. BBC, Times newspaper)
  - » 2007: Mobile Codes Consortium 'MC2'; informal advocacy group (Hewlett-Packard, Publicis, Nokia, Qualcomm, Deutsche Telekom, KPN, Telefónica O2 Europe, Gavitec and NeoMedia)
  - » 2007: MC2 companies and partners create OMA Mobile Codes group and GSM Association 2D Barcode project
  - » 2007: CTIA Code Scan Action Team formed
  - » 2008: White papers from GS1, OMA, GSMA and CTIA
- » Momentum is gaining, common solutions are in sight
  - » Collaboration and cross inputs between stakeholders
  - » OMA aims to provide technical specifications for the ecosystem benefitting users, code publishers/brands and service providers

# OMA Mobile Codes WG Participants



20-25 participants

- Operators
- Device Manufacturers
- Technological Partners



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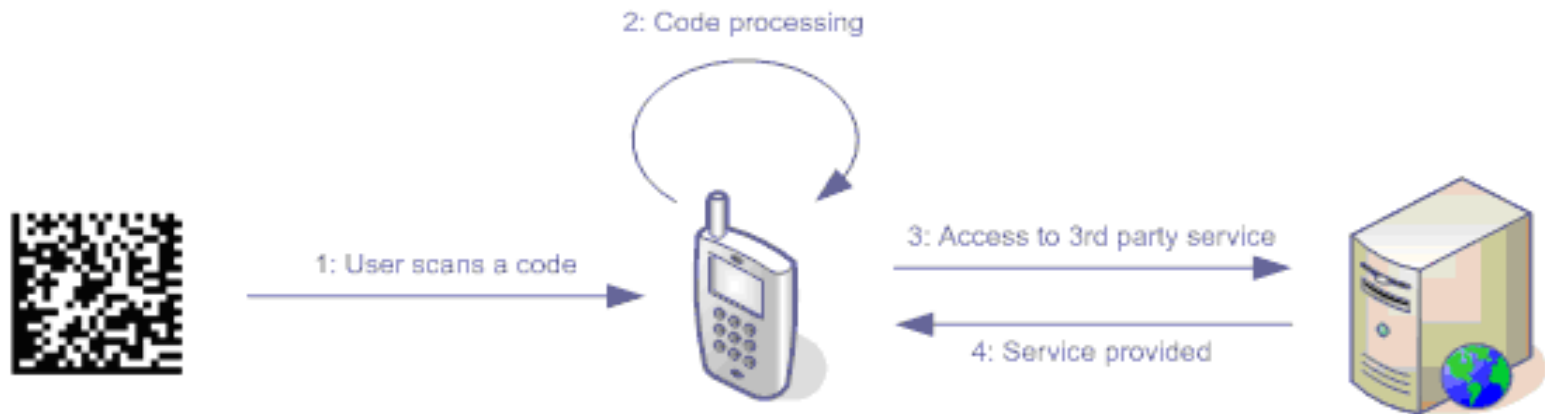
# OMA Mobile Codes WG Scope



- » **Mobile Codes WG created in Q4 2007; Mission:**
  - » To develop a White Paper addressing the market fragmentation and performing a gap analysis, followed by an OMA Enabler
  
- » **Mobile Codes (MC) Enabler Scope of Work:**
  - » Create a standard in which Mobile Codes act as conduits for camera-equipped handsets to access content and services
  - » Choose 2D barcode symbologies, reusing existing solutions whenever possible – “maximizing the modularity of OMA enablers”
  - » Define the format of data stored in the Barcodes
  - » Specify behaviour of the code reader/device when reading barcodes (including some existing 1D and 2D barcodes)
  - » Maximise backwards compatibility with existing & relevant 2D barcode systems
  - » Define interoperable solutions for critical building blocks in an Indirect Code ecosystem
    - » Indirect Encoding allows for enhanced user analytics & code scan reporting

# OMA Mobile Codes Basic Use Cases I

- » **Direct Mode:** service information embedded in 2D code

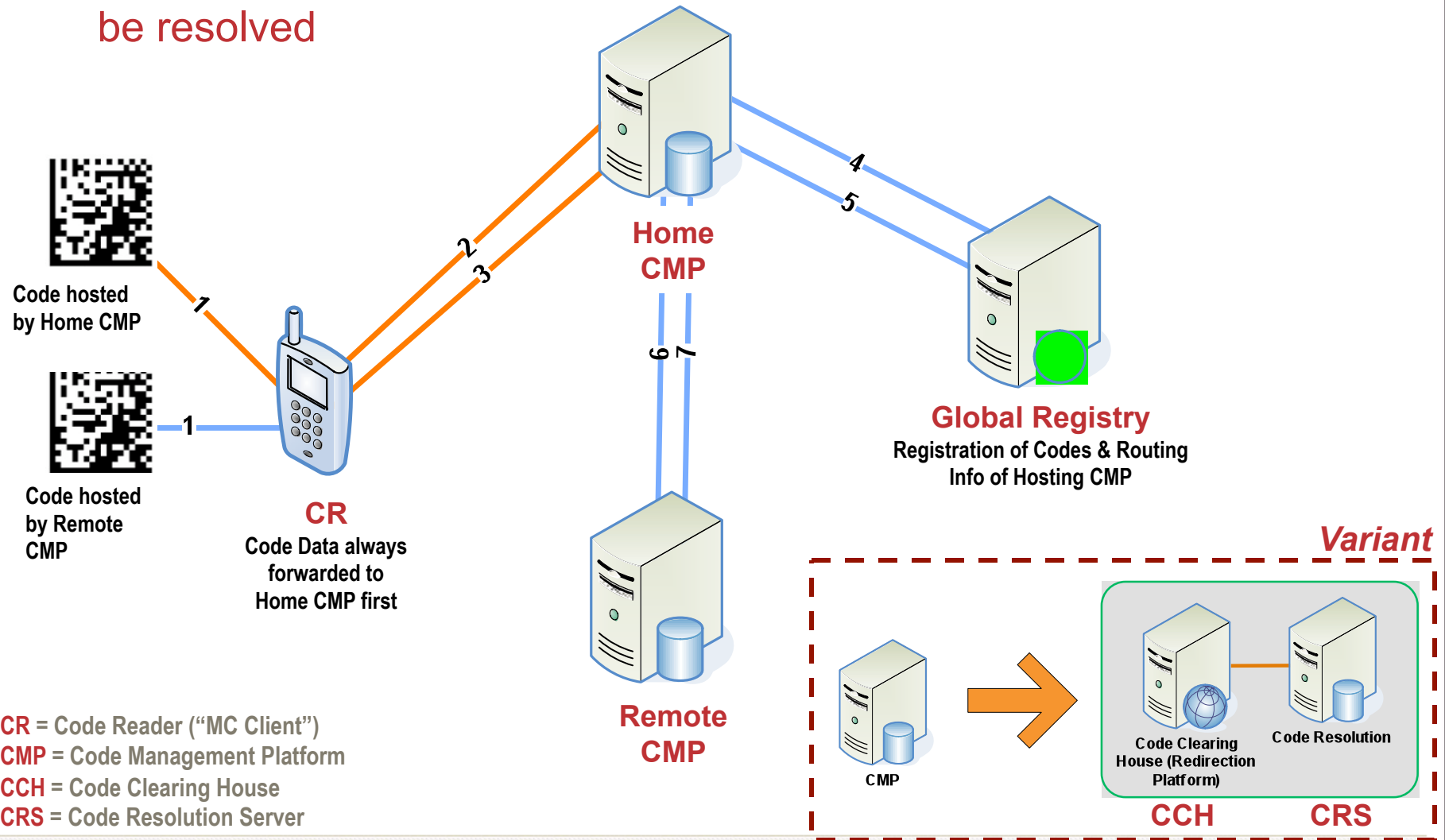


- » User scans a code
- » Code Reader (“MC Client”) processes the Code, which contains the *information / address to access the information or service*
- » Appropriate Application on the device is triggered:
  - » User sends an SMS
  - » User stores a vCard
  - » User accesses a URL: `http://www ...`

# OMA Mobile Codes Basic Use Cases II



» **Indirect Mode:** 2D barcode data contains an 'Identifier' which needs to be resolved



**CR** = Code Reader ("MC Client")  
**CMP** = Code Management Platform  
**CCH** = Code Clearing House  
**CRS** = Code Resolution Server

## Network Architectural Entities for Indirect Mode

### » Code Management Platform (CMP):

- » Performs a resolution service pertaining to Indirect Mobile Codes
  - » **Code Registration:** assigns Code Identifiers to specific Code Publisher
  - » **Code Routing:** when not hosting a Code, redirects the Code to the hosting CMP (may need to ask Registry)
  - » **Code Resolution:** when hosting a Code, maps Code Identifier into either content or address of content / service as per Code Publisher
  - » In some markets, CMP is split into **CCH** and **CRS**

### » Mobile Code Registry:

- » Entity that allocates and administers Identifiers used in the Indirect Code ecosystem
  - » Responsible for allocating and registering CMP Routing Prefixes
  - » Responsible for providing a look-up service that determines routing information for the CMP responsible for resolving ('hosting') a particular Indirect Code Identifier

# OMA Mobile Codes Requirements II



- » **Symbologies:** Choice of symbologies, symbol creation, physical aspects, robustness and reliability
  - » **Will mandate Open Standards Symbology(ies) to ensure a common entry point into the Mobile Codes Enabler**
  - » **Will be possible to update Mobile Clients with additional symbologies (depending on market needs and device capabilities)**
  
- » **Service Aspects Online:** How to perform Mobile Code resolution when interaction with the network is needed?
  - » **Global Registry: root registry concept (national/regional subset is optional)**
    - » **Manages a central list of Code Management Platforms in the ecosystem**
    - » **Assigns blocks of Codes (by Routing Prefixes) to the CMPs**

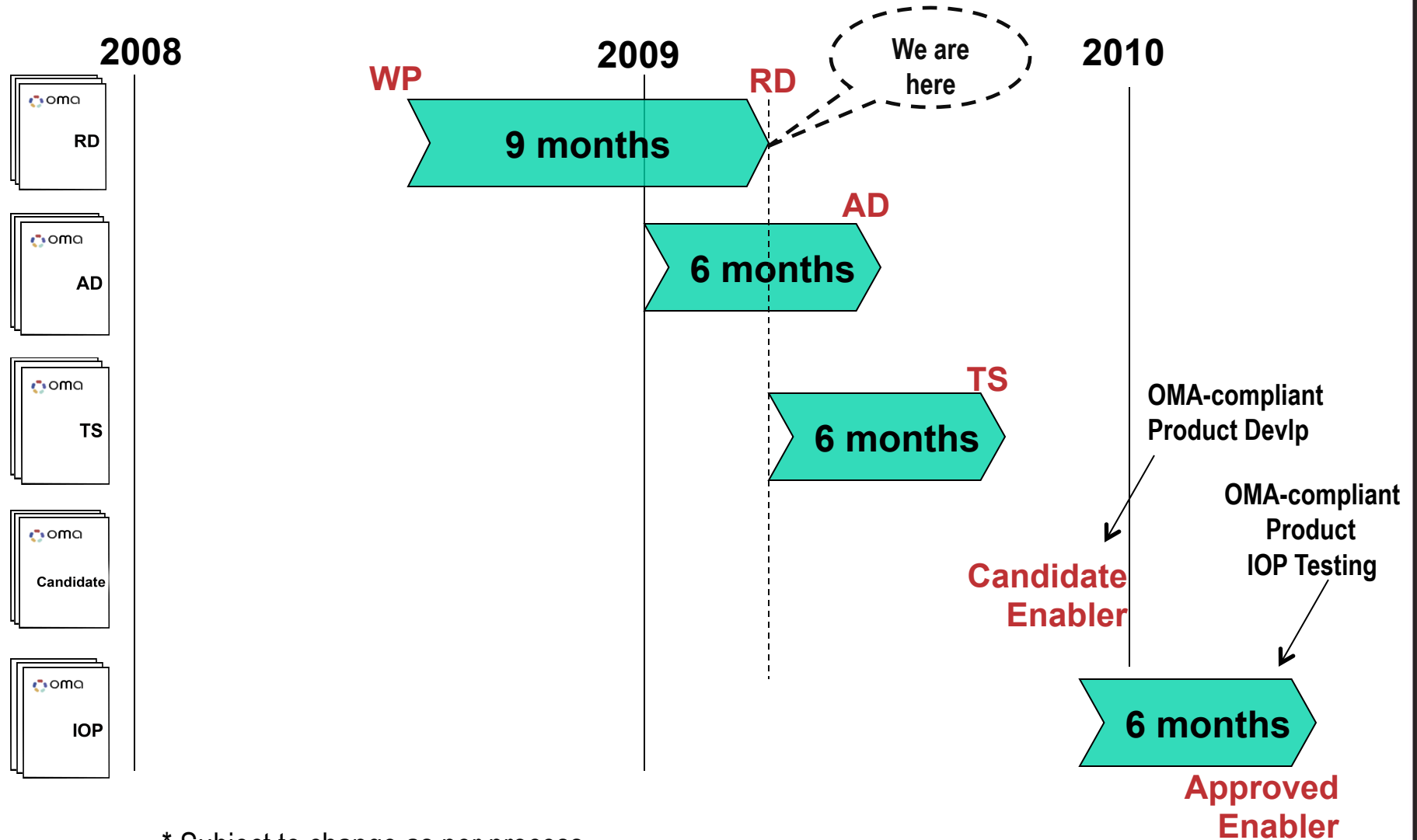
# OMA Mobile Codes Requirements III



- » **Service Aspects Offline:** Aspects of MC enabling services without network interaction:
  - » **Encoding, recognition and processing of vCards, email, phone numbers, http URIs, SMS URIs, IM URIs, etc...**
- » **System requirements:** other requirements, including:
  - » **Invocation of appropriate applications upon MC processing**
  - » **Security requirements (prevent hijacking for Codes, etc.)**
  - » **User information data collection and reporting\***
  - » **Tracking and logging of user scanning behaviours\***
  - » **Optional support to online advertising charging based on Code scans**
  - » **Transfer of Code Hosting responsibilities between CMPs**
- » **1D Barcode requirements:**
  - » **Will process EAN/UPC Barcodes**
  - » **Processing will be common to the 2D Indirect Mobile Codes**

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# OMA Mobile Codes Enabler Timeline\*



\* Subject to change as per process

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# Summary



- » OMA is well established and reliable in the mobile value chain
- » Interoperability is the key to seamless integration and support of devices, services and applications - now and in future
- » Mobility is for everyone, everywhere, and has to be easily accessible
  - » At home, office or on the move, consumer and enterprise applications must work with evermore complex multi-use devices across a variety of networks and regions
- » OMA Mobile Codes WG aims to meet the challenges of creating an interoperable ecosystem standard to spur global adoption of Mobile Codes
  - » OMA MC group has leveraged previous experiences on Mobile Codes, analysed the gaps and assembled key actors in the value chain to define the required ecosystem solutions that are robust and flexible
    - » Users can access Code Publisher content or services seamlessly
    - » Code Publishers/brands can greatly enhance advertising accountability from the Indirect Code ecosystem
- » We Welcome and Encourage the Continued Participation of Asia Pacific Companies !

# Thank You

(contact information for OMA and  
Mobile Codes activity is attached)

## More Information



- » **Topic Contacts for OMA interaction**
  - » Communications: Bobby Fraher, [bfraher@omaorg.org](mailto:bfraher@omaorg.org)
  - » MC Convenor: Kennie Kwong, [kennie.kwong@att.com](mailto:kennie.kwong@att.com)
- » **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>