



## **Open Mobile Alliance Mobile Codes**

**GS1 Mobile Com and Extended Packaging Work Group Meeting**

**Koln 14 November 2008**

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- » Overview of the Open Mobile Alliance
- » Background on Mobile Codes
- » OMA's Mobile Codes
- » OMA and GS1
- » Summary

## » **Vision**

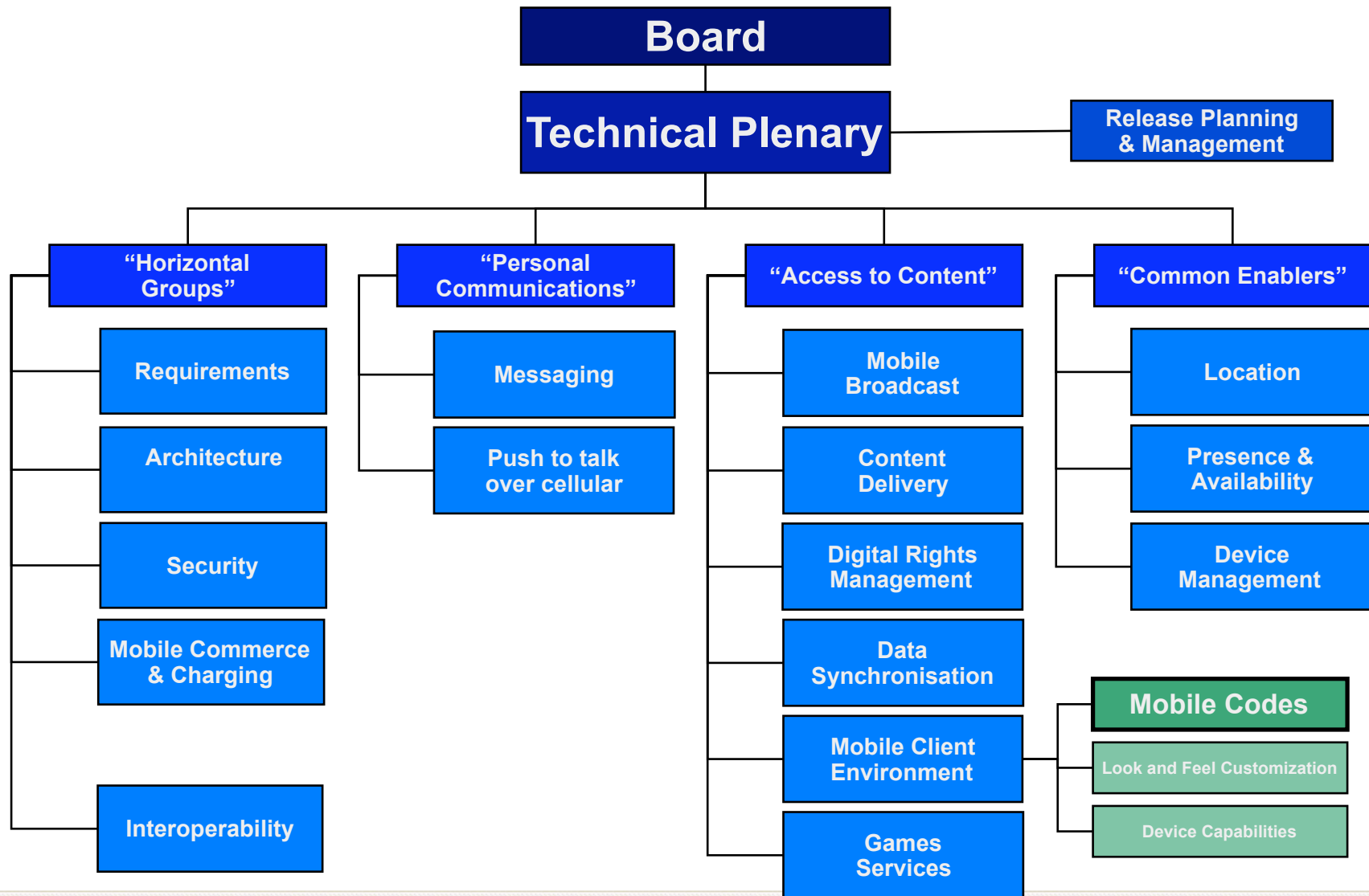
- » **No matter what**
- » **device I have**
- » **service I want**
- » **carrier or network I am using**
- » **I can communicate, access and exchange information**

## » **Background**

- » **International organisation, created in June 2002**
- » **~400 members from across the world**
  - » **mobile operators**
  - » **device and network suppliers**
  - » **information technology companies**
  - » **content and service providers**
- » **~100 active work items, ~120 Releases, ~40 published**

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

# OMA Working Group Structure



# 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.

# What's in the OMA pipeline?

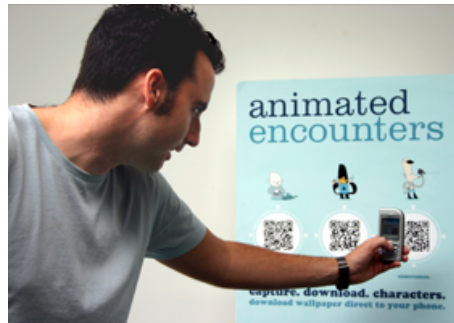


- » **Personal communications**
  - » Converged Address Book
  - » Converged Messaging
  - » Push-to-Talk Enhancement
  - » Mobile Email
- » **Access to content**
  - » Categorization Based Content Screening
  - » Dynamic Content Delivery
  - » DS Data Objects
  - » Data Synchronization
  - » Smart Card Web Server
  - » Secure Removable Media
  - » Secure Content Exchange
  - » SIP Push
  - » Browsing
  - » Rich Media Environment
  - » Device Profiles Evolution
  - » SVG in Mobile Domain
- » **Common service enablers**
  - » Presence\_SIMPLE
  - » Scheduling
  - » Connectivity Management Object
  - » Diagnostics and Monitoring
  - » Device Capabilities Management Object
  - » Software Component Management Object
  - » Lock and Wipe
  - » Device Management Smart Card
  - » XML Document Management
  - » Secure User Plane Location
  - » Mobile Location Service
  - » Location in SIP
  - » Global Location
  - » Generic Service Subscription Management
  - » WV-SIP Interworking
- » **Security**
  - » Common Function
- » **Charging**
  - » Charging Data

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# Background - What is a Mobile Code?

- » A 1D or 2D barcode as read by camera-equipped handsets
- » E.g.



QR



Datamatrix



EAN-13

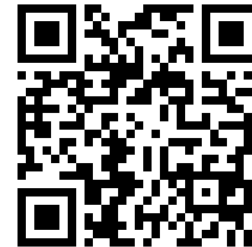
## » QR Codes at Tokyo bus stop, 2005



# Background – Mature Technology in Japan II



- » Pre-installed 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 – OMA Mobile Code



# Background – Towards Global Standards



**Different type of camera for each device (w, w/o autofocus...)  
Reader application are not currently pre-installed on devices**



**Different symbologies**

**Different Data Formats  
Data Structure  
Numbers**



**<http://www.openmobilealliance.org>: Direct access to service**

**#TagID: 57893023 -> Redirection Server -> http://.... ->  
Indirect Access to service**

**» Fragmentation in worldwide market**

**There is a need of standardization**

# Background – Towards Global Standards



- » Solution are needed to encourage widespread adoption around the world
  - » Pre-installed handset software conforming to standards
- » **Current Initiatives**
  - » Public trials e.g. BBC, Times newspaper in 2005
  - » 2007: Mobile Codes Consortium. 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
  - » 2008: CTIA Code Scan Action Team created
  - » 2008: White papers from GS1, OMA, GSMA, CTIA
- » **More effort is needed around:**
  - » Convergence between groups
  - » Technical specifications

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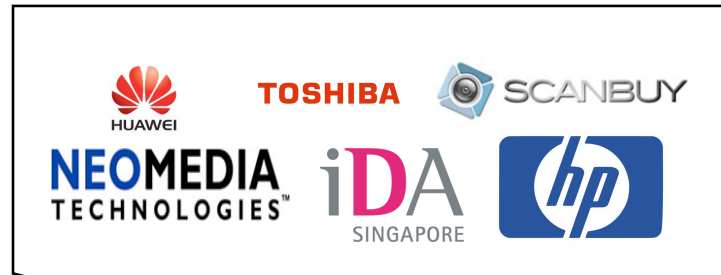
- » OMA MC WG was created in Q4 2007.
- » Mission: To develop a White Paper addressing the market fragmentation and performing a gap analysis.



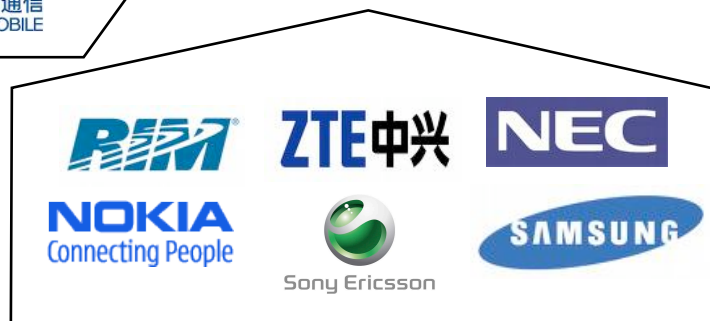
## Conclusion:

- There is a need for standardization.
- OMA can perform this task.
- A Complete Technical Specification will be released.

# OMA Mobile Codes WG Participants



- ~20-25 participants
- Operators
- Device Manufacturers
- Technological Partners



# OMA Mobile Codes WG Scope

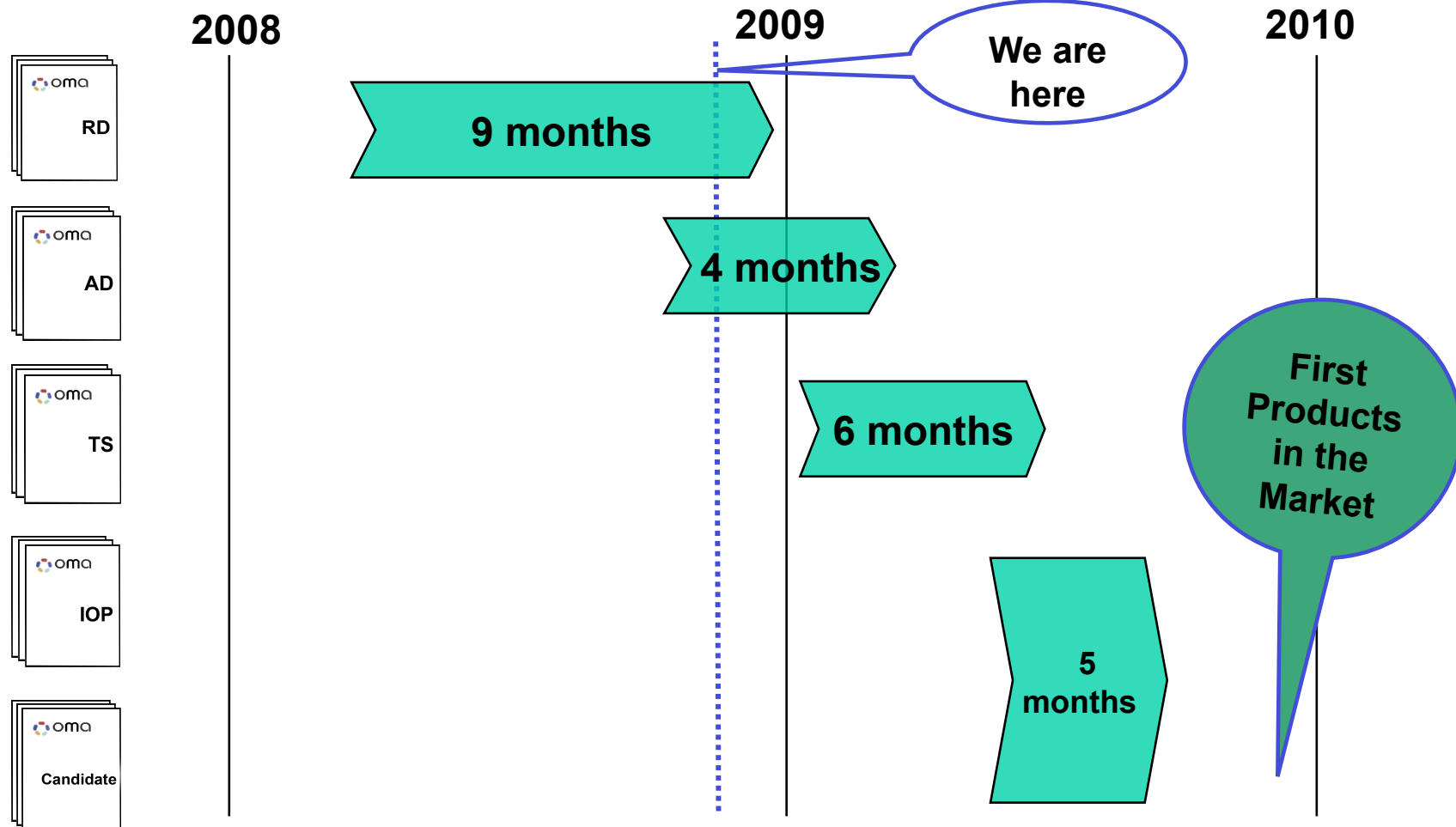


- » Create a standard in which Mobile Codes act as conduits for camera-equipped handsets to access content and services.
- » Choose 2D symbologies, with the goal of reusing existing solutions – “maximizing the modularity of OMA enablers”.
- » Define the format of the data stored in the barcodes.
- » Specify the behavior of the devices when reading barcodes, including behaviors associated with some existing 1D and 2D barcodes.
- » Ensure backwards compatibility with existing and relevant 2D barcode systems.
- » Ensure the full interoperability of the solution developed.

# OMA Mobile Codes WG Timelines

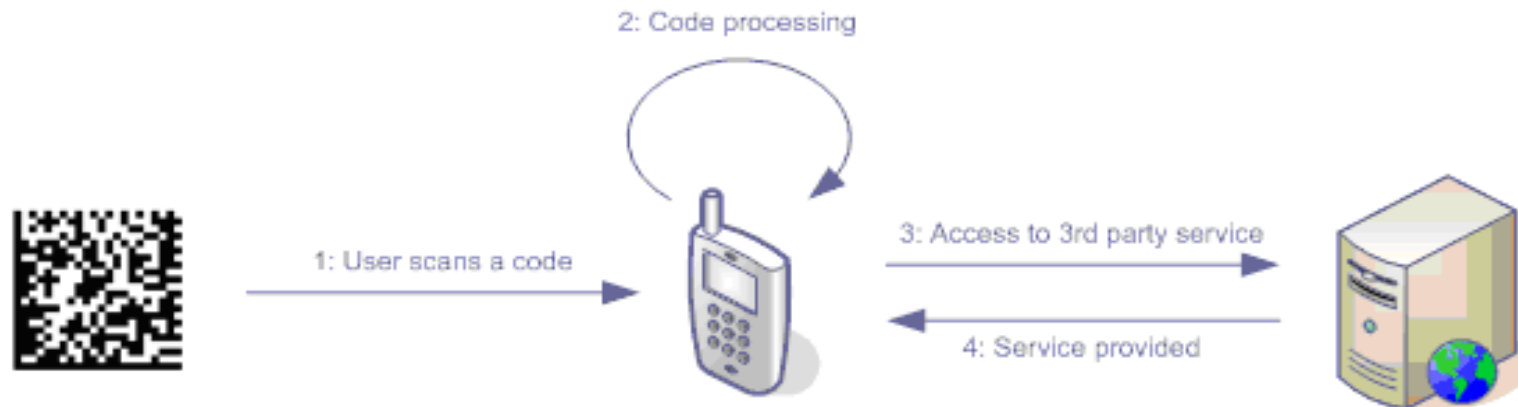


## OMA Mobile Codes Timeline



# OMA Mobile Codes Basic Use Cases I

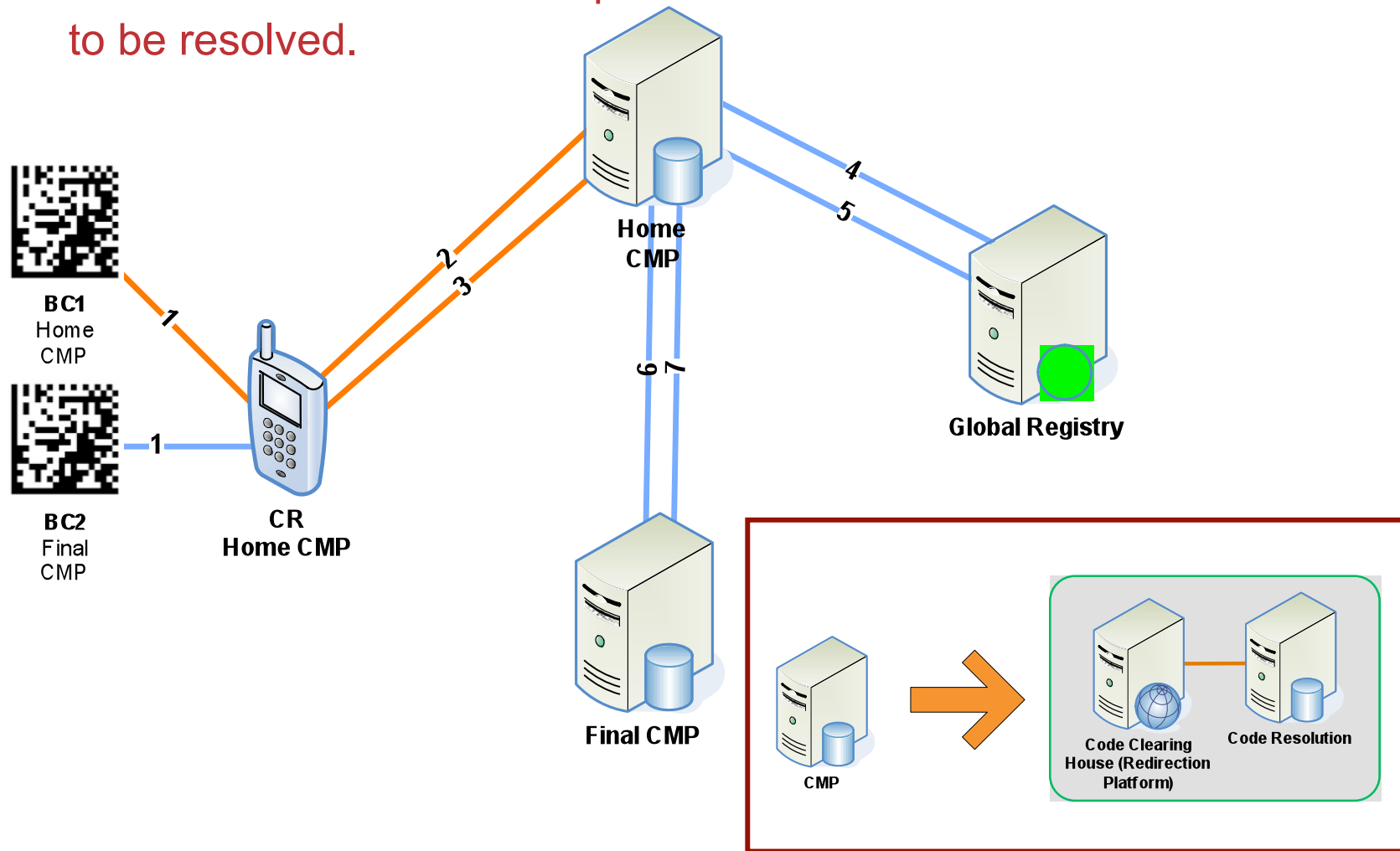
- » **Direct Mode: service information embedded in 2D code**



- » The User scans a code.
- » The Device processes the Code, which contains the information / address of final service.
- » The action is performed:
  - » The User sends an SMS.
  - » The User stores a vCard.
  - » The user accesses a URL: <http://www....>

# OMA Mobile Codes Basic Use Cases II

» **Indirect Mode:** The mobile phone contains an 'Identifier' which needs to be resolved.



## » **Main Architectural Entities for Indirect Mode**

### » **Code Management Platform (CMP):**

» **Performs a resolution service pertaining to Indirect Mobile Codes.**

» **Code Registration:** assigning them to a specific Code Publisher

» **Code Routing:** sending codes to another CMP, with/without asking the Registry

» **Code Resolution:** mapping the Code into either content or the address of content / service

### » **Mobile Code Registry:**

» **Authoritative body that allocates and administrates the identifiers used in the Indirect Code ecosystem.**

» **Responsible for allocating and registering CMP Routing Prefixes**

» **Responsible for providing a look-up service to the MC Enabler to determine routing information for the CMP responsible for resolving a particular Indirect Code Identifier**

- » **Symbologies:** Choice of symbologies, symbol creation, physical aspects, robustness and reliability
  - » **An Open Standards Symbology will be mandated to ensure a common entry point into the Mobile Codes Enabler.**
  - » **It will be possible to update Mobile Clients with additional symbologies depending on market need and device capabilities.**
  
- » **Service Aspects Online:** How to perform Mobile Code resolution when an interaction with the network is needed?
  - » **Global Registry: only one**
    - » **Manage a list of Code Management Platforms**
    - » **Assign blocks of Codes to the CMP's**

# 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:** Any additional requirements, including:
  - » Invocation of concrete applications upon MC processing
  - » Security requirements
  - » User information data collection and reporting
  - » Tracking and logging of user scanning behaviours
- » **1D Barcode requirements:**
  - » OMA MC Enabler shall be able to process EAN/UPC Barcodes
  - » The processing will be common to the 2D Indirect Mobile Codes

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- » GS1 is currently a **SUPPORTER** member of OMA
- » This level of membership:
  - » Allows participation in meetings if invited by the corresponding WG
  - » Does not allow technical contributions, decision making, voting etc...
- » Updating to the **ASSOCIATE LEVEL** of membership within the OMA
  - » Allows automatic participation in meetings (F2F, conf. calls, email)
  - » Allows technical contributions to be made and participation in decision making
  - » Benefits and opportunities for greater collaboration between the GS1 and the OMA with Associate Level Membership

- » Why it could be interesting to have GS1 participating actively?
  - » OMA includes 1D barcodes on its enabler, in which GS1 is a key player
  - » OMA will need a resolution infrastructure, and GS1 has one
  - » Some other organizations could be interested in take part on the resolution infrastructure, and OMA could be the best framework to discuss and make decisions

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# Summary



- » OMA 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.
- » **Mobility is for everyone, everywhere, and has to be easily accessible**
  - » 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 MC will give a basic yet robust and flexible solution to use Mobile Codes as a enabling technology to access services and / or content.
- » **OMA MC Working Group is the place for the industry to best address the challenges of development with a goal of global adoption.**
  - » OMA MC has gathered previous experiences on Mobile Codes, analyzed the gaps; got together all actors involved to work towards a satisfactory technological solution.

## More Information



- » **Topic Experts for OMA interaction**
  - » Bobby Fraher, [bfraher@omaorg.org](mailto:bfraher@omaorg.org)
  - » Iñaki Martínez de Lizarrondo, [imli@tid.es](mailto:imli@tid.es)
- » **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>

# Thank You