the mobile web and the mobile communication service provider

Robert Hyerle, Marc Brandt
OpenCall Business Unit
w3c mwi, November 2004

background:
OCBU's third generation service project

- How does one offer "the web" to subscribers profitably while maintaining subscriber "ownership?"
- People subscribe and carry mobile phones primarily to call, be called, and to talk with other people. How does a 3G network and handset investment enhance this basic service?
- A mobile phone is not the ideal device for web interactions. WAP, with a simplified format, has not proved to be a great success. And again, how does a 3G investment solve this problem?
- "I just sunk a bunch of money into 3G license and infrastructure. The network itself has value, but it seems I'm stuck between the walled garden that doesn't work and the web that no one wants to pay for."

our approach: enhanced communication and collaboration

H

- communication services enhanced by content –
  – content services enhanced by communication
- multi-modal, multi-media, multi-access network, multi-device
- personalization and subscriber-centric, as opposed to network- or site-centric services
- services delivered in context: taking into account role, device, location, preferences, history, ...

- collaboration: between people, between services
- hosted network presence for (often disconnected) subscribers
- aggregation: building richer communication, new content services, and new business models through combinations of components

portal evolution

H

WHERE PEOPLE FIND ME

- allow users/services to contact me
- users find me at my portal
- presence management, user proxy

MY COMMUNICATION HUB

- access to other users and application
- voice & data calls, interaction
- multi modal, multi-session, multi-service

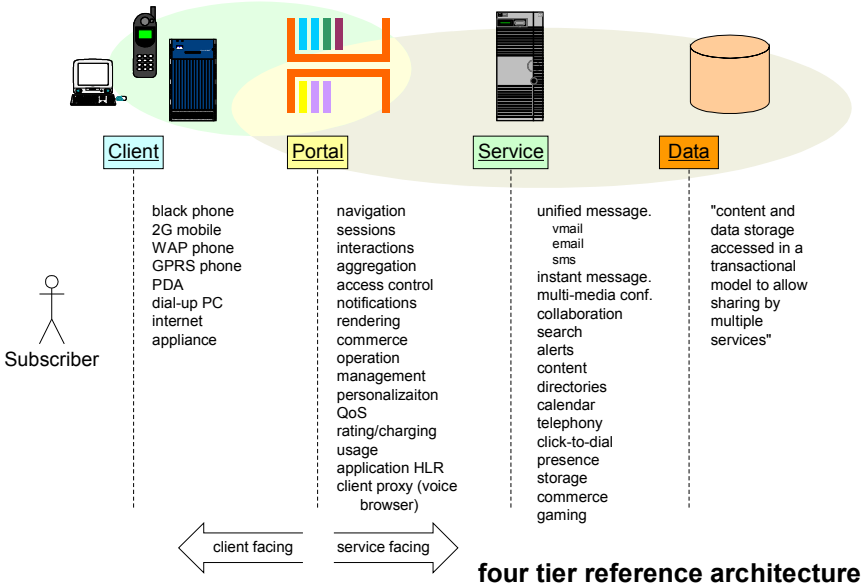
PORTAL GOES WIRELESS

- multiple access method/networks
- wireless data (WAP, WML)
- voice browsing (VXML)

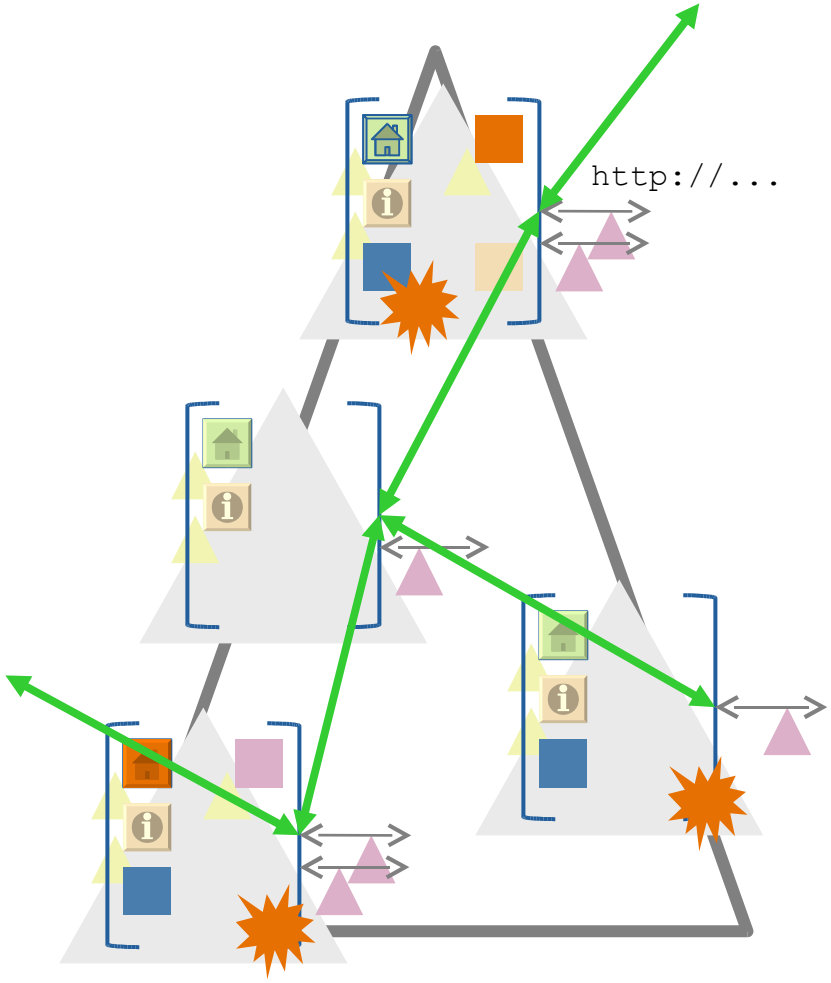
A GATE TO THE INTERNET

- access to multiple content sources
- web portal model
- content/applications can be brokered

our prototype: a personal communication, content, and service portal



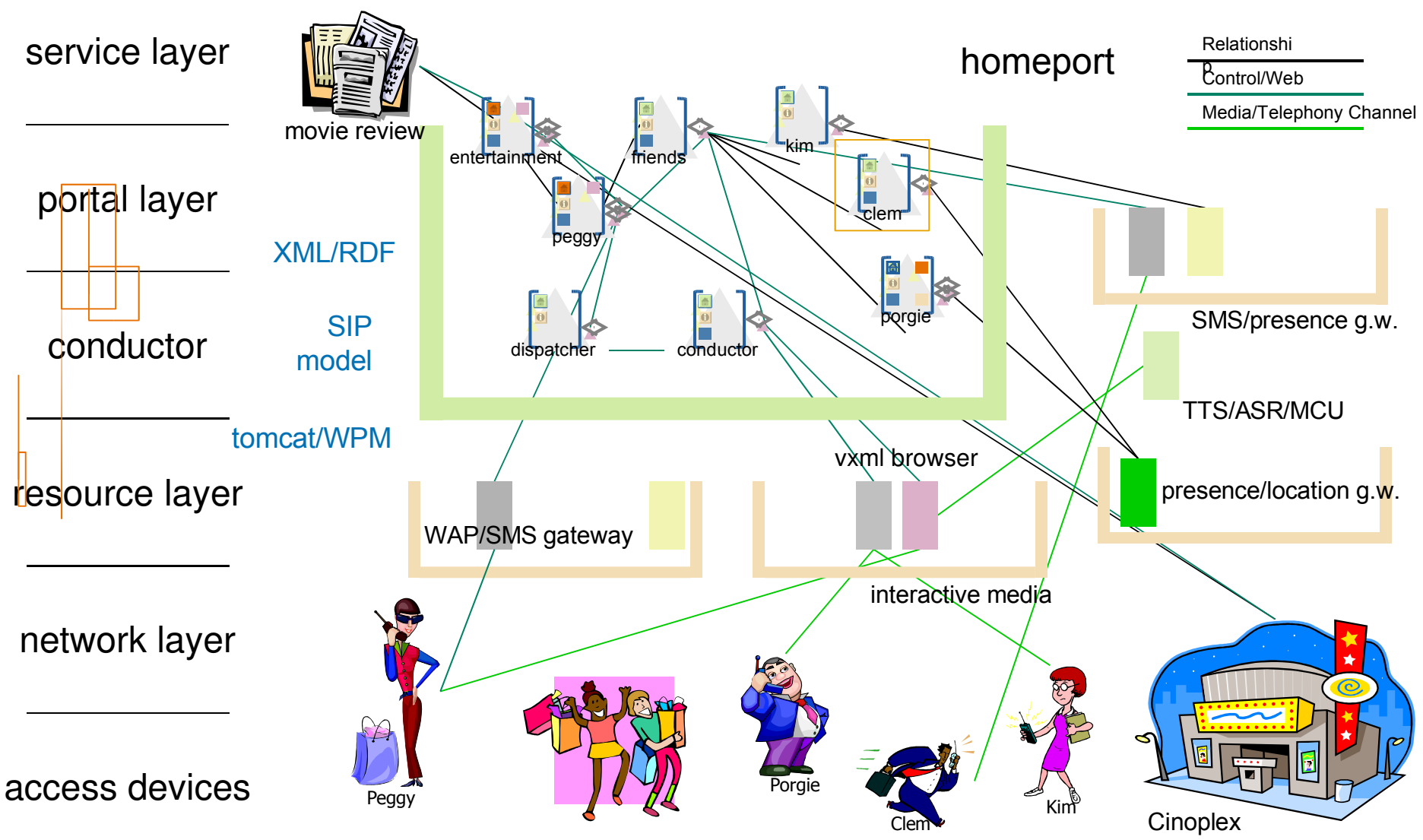
four tier reference architecture



- place = collaborative space
- hey, everything's a resource ("hear")
- context = recursive computable namespace
- connections = stream driver model
- events = same old, same old

“what are my friends doing?” use case, technologies, and stack

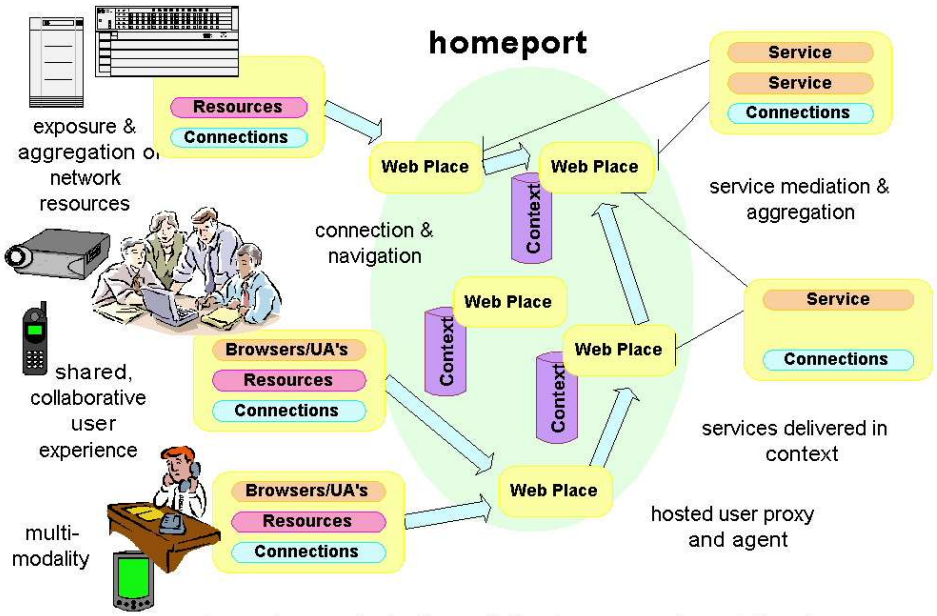
H



web places:
our container model and implementation

H

- a “rich” conference call or collaboration session
- a context rich, specific service: e.g. trusted/targeted ride sharing
- a long running series of interactions: e.g. finding, negotiating, buying, delivering, using, disposing of a product or service
- portal building blocks and aggregation containers
- . . . others!



key characteristics of the homeport architecture

themes and findings

- mobility means local, physical context as well as global, virtual context: we deal with people, places, and things as well as content, communication, and services
- communication trumps content
- “person accessing web resource” in the mobile setting is relatively simple compared to all the other combinations and it *soon gets personal*
- there is a need for containers (beyond the marked-up document) for context, discovered devices, collaboration, multi-mode/media, re-aggregation, creation/authoring
- you can start small: existing technologies, interfaces, restricted applications and still reach a large population of users (people with phones?)

proposed work areas

- authoring: simplified, reliable when deployed on mobile, conformance
- multimodality in mobility: evolve the browser architecture around the user interaction needs: additional capabilities, contextual multimodality
- context model & semantics: manage the complexity of data coming back from devices, sensors, the user, or the network and services. Context should become a first class Web citizen that can be used to adapt "mobile rendering" like style sheets do, within trust boundary
- device independence: extended to cover capabilities other than visual and keyboard
- web model for communications and collaboration: beyond the “web page.” browse, author, and share?
- unbundled browsing: distributed browser, device and network assistance. Event model
- service composition and aggregation: aggregating services to automate mobile users' activities
- dynamic rendering, quality of browsing: cope with changing environment and context

industry initiatives cooperation

H

- requires joint work and liaisons among key organizations: W3C, OMA, 3GPPs, LA, from defining architecture models to deployments
- close cooperation between OMA and W3C (W3C-OMA MOU), so that architectural models and browser models gets adopted and deployment model defined in the context of OMA requirements
- growing importance of network independence, especially in the context of converging mobile and NGN infrastructures: mobility issues span further than the mobile phones
- mobile web spans web transactions, communications, entertainment, collaboration and makes best use of the underlying protocol sets (e.g. http, sip, rtsp, web services …) and related industry initiatives
- (user-centric) technologies defined by W3C, should be delivered to users on top of an OMA defined service deployment architecture through a layer of distributed XML based presentation, application programming, and browser technologies that simplifies authoring, aggregation, composition, and use of interactive services