



Next Generation Networks

Project :

**New Services in the area of
Mobile Communications**



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Letter of content

- Scope of the SMONET-NGNI project
- Results
 - D01: Report on User Requirements Analysis
 - D02: Report on state-of-the-art & market situation
 - D03: Specification of Integrated Network Platform Architecture
 - D04: Specification of Service Discovery Platform Architecture
 - D05: Endorsed Document addressing the benchmark & roadmap
 - D06: The Final Report



Scope of SMONET

Propose a technology that allows the integration of available heterogeneous and homogenous networks into a single platform capable of supporting user roaming between them, while not interrupting active communications“



User Requirements Analysis

- Vision Workshop
- Approach used to interview (mind-setting stories)
- Segments interviewed
- Interview highlights (how well did it work)
- General direction of vision workshop and interview results



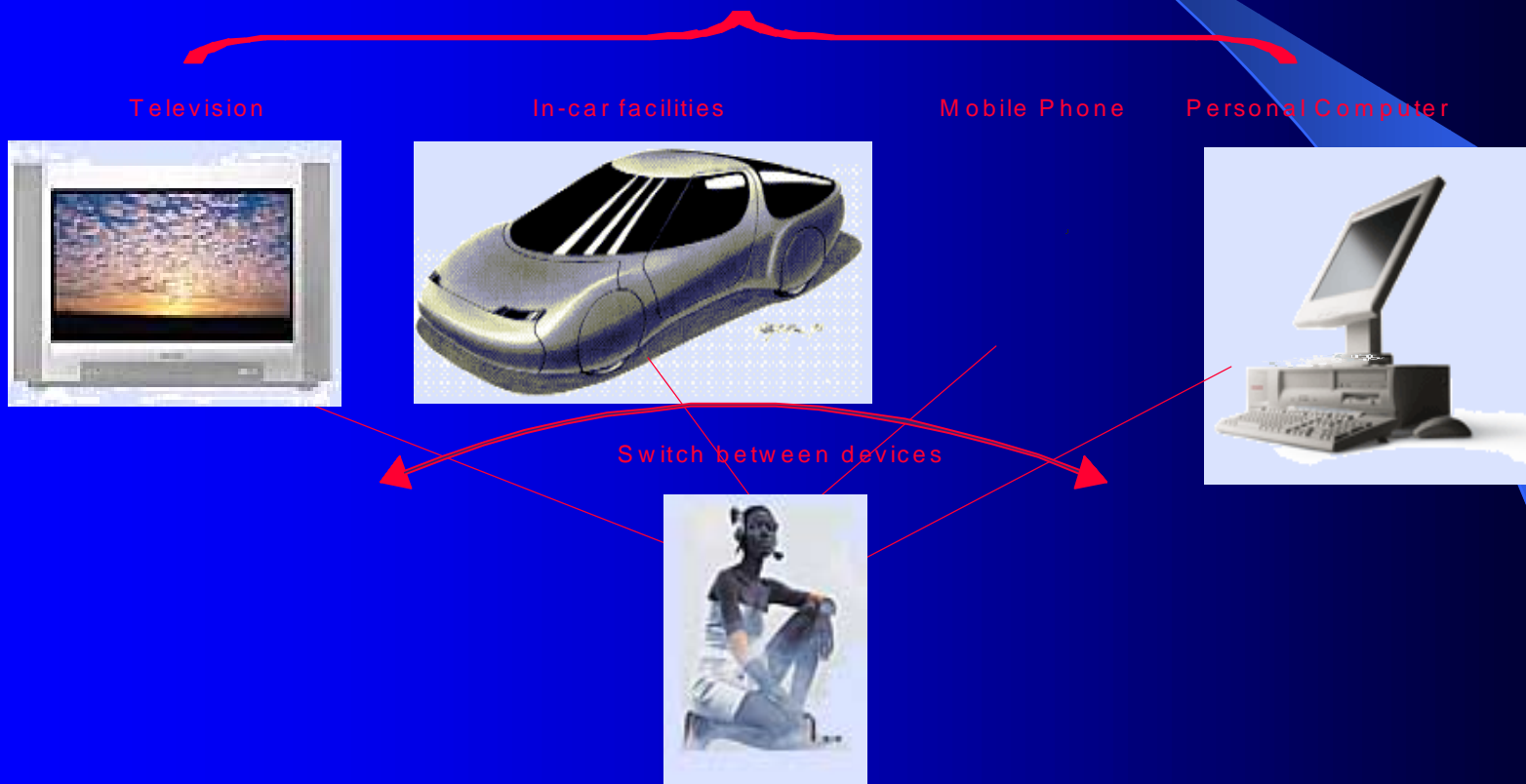
Roaming accross networks using the best fit





Applications with multiple devices

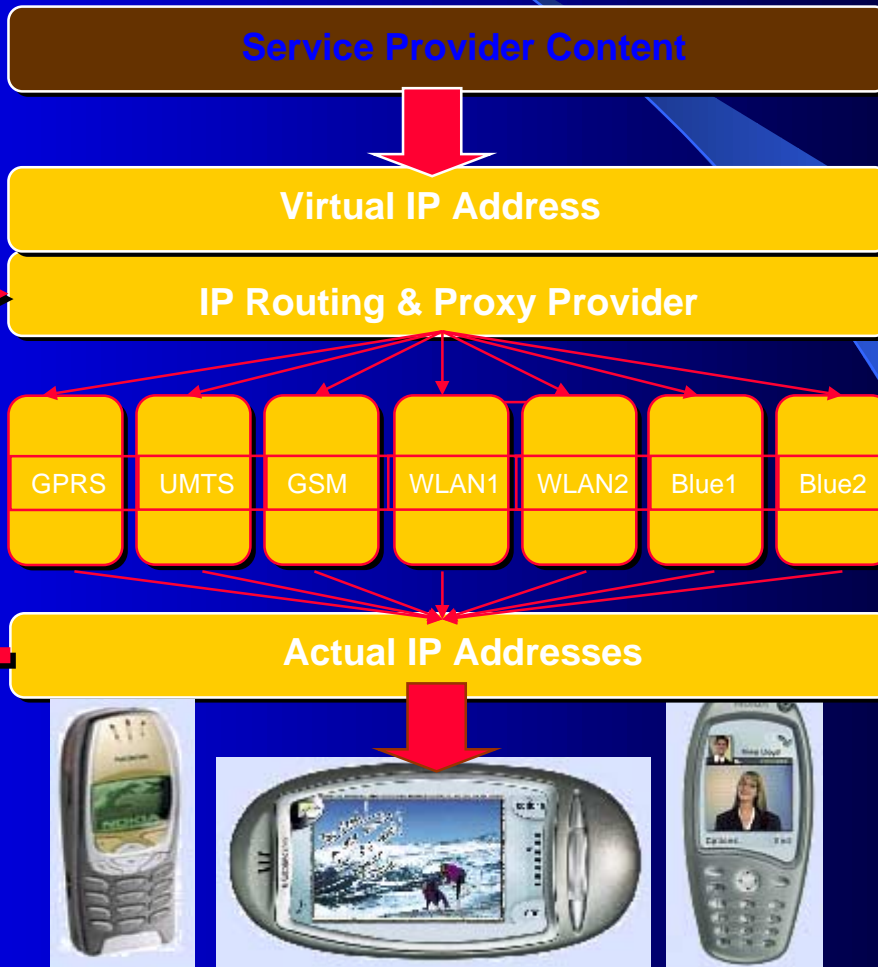
Access Devices





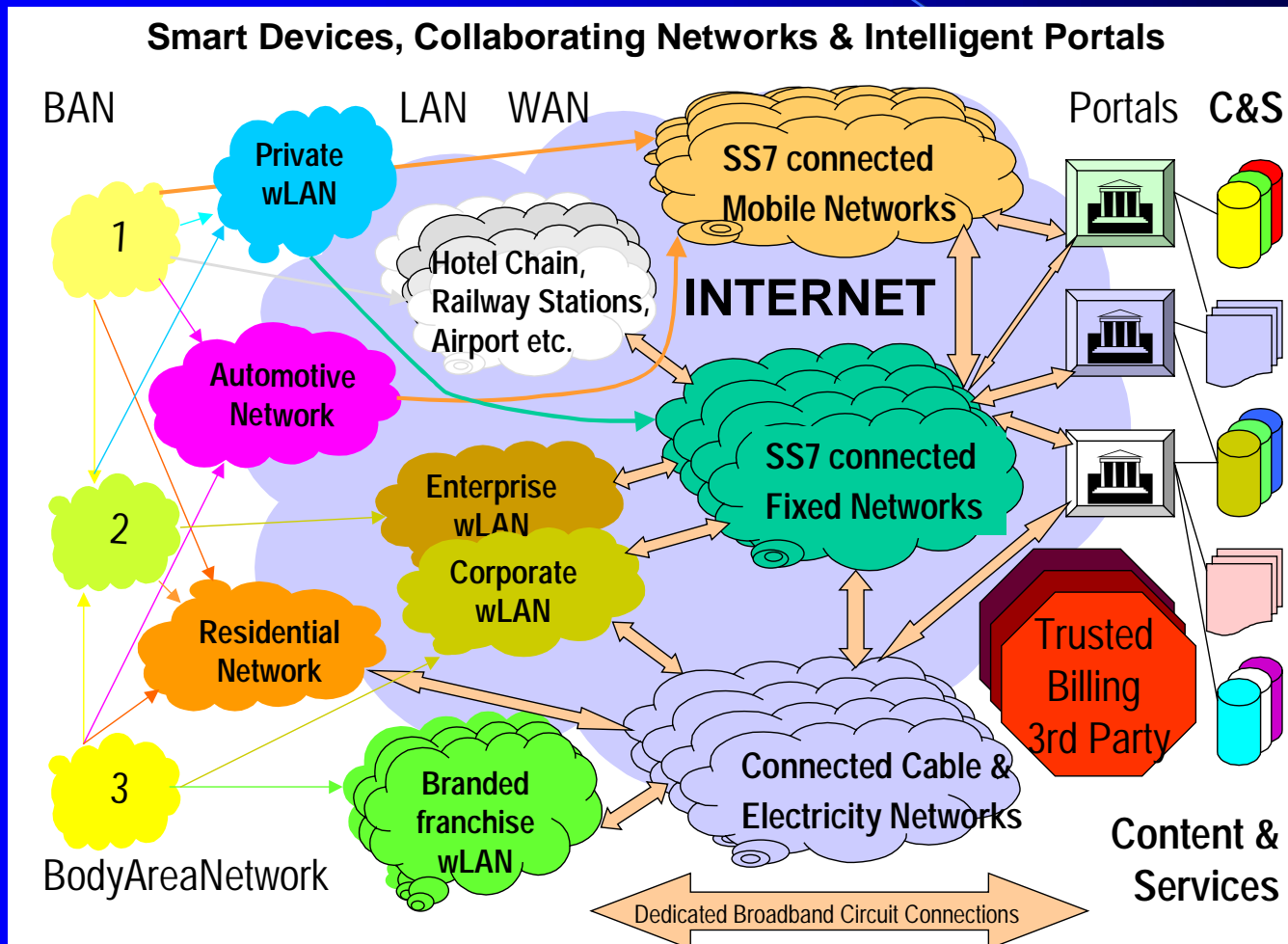
Abstraction layer between user and content provider

Least Cost Routing Instructions





Intelligent Portals





Value Added Service

- The value added services will very soon get decoupled from commodities ones, only because the customer does not accept the regular Telecom and Internet commodity anymore.
- These updated old technologies and new technologies will be financed by the customer in a new way of billing
- All content for mobile services on Next Generation Networks should be stored and managed in such a service-dependent, multi-format condition, that the user-in-the-driving seat could use any available device to access any local available network for the same service
- The specifications of the available infrastructure and (the presentation on the) terminal depends the (format of the) delivered content.



High Flexibility

- The evolution of Multi Standard Wireless Personal Devices and Body Area Networks could not be stopped by the incumbents, nor by the service providers
- Ignoring the progress of network-independent mini-computers will be the same as ignoring the customer as end-user
- The next generation mobile networks have to be a collaborative heterogeneous infrastructure, able to access, connect, converge, transport and deliver anything anytime, anywhere and anyway.



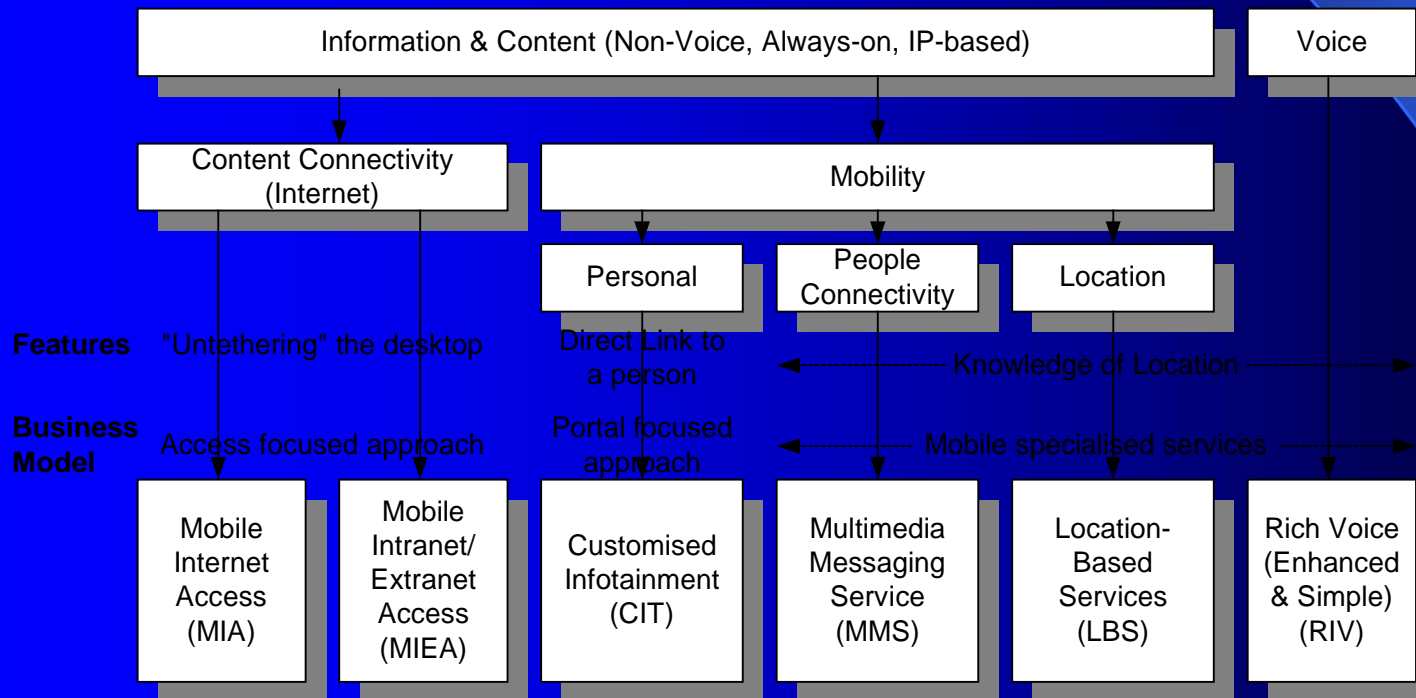
State-of-the-art & market situation (1)

- User expectations
 - **Value** means that a service satisfies a concrete need or requirement.
 - **Ease-of-use** for both terminals and services demands a user-friendly, intuitive Man Machine Interface (MMI)
 - **Cost benefits** are closely related to perceived value



State-of-the-art & market situation (2)

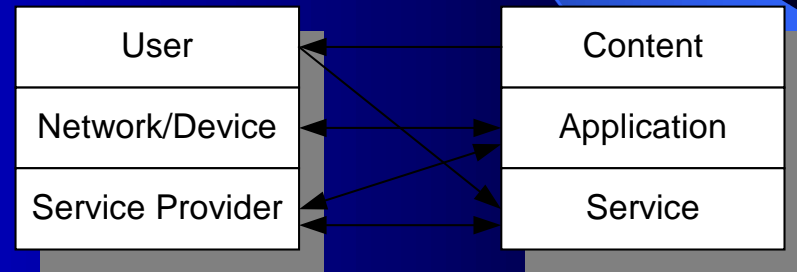
- Service provisioning





State-of-the-art & market situation (3)

- Services and applications
 - Services are the portfolio of choices offered by a service provider to a user
 - Applications are the building blocks that enable the creation of services
 - Content: is the information the user wants and is willing to pay for
 - Devices: allow a user to interact with the application in order to access and use the content

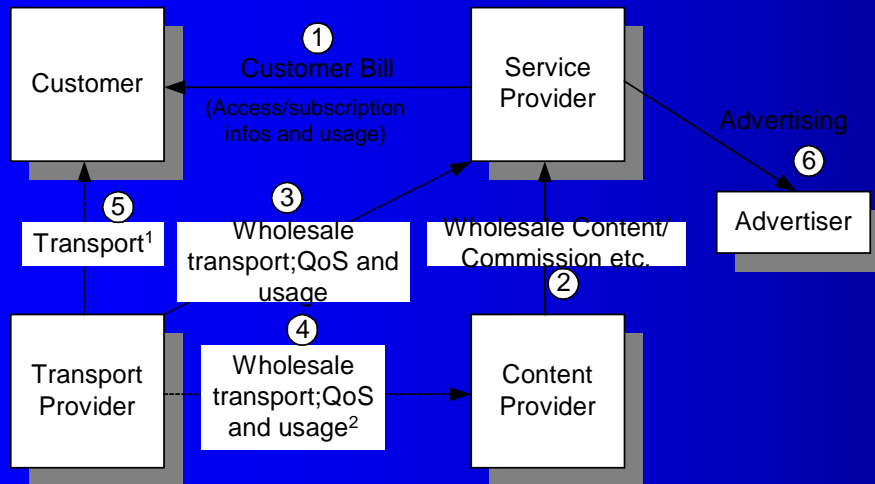




State-of-the-art & market situation (4)

● Charging

- Change of business
- Billing for Transport
- Billing for Content
- Transaction flows



1 = If (4) exists, then (2) will include transport and (3) will not exist

2 = May be addressed by (1) if the company is the same entity



State-of-the-art & market situation (5)

● Operators

- Auto configuration
- Embedded encryption support and authentication
- Embedded mobility
- Embedded multicasting
- Internet provider selection
- Efficient packet processing in routers
- Real-time support
- Protocol extensions for proprietary solutions.

● End Users

- Easy management (auto-configurations)
- Efficient address allocation
- Improved multicast management
- Renumbering possible
- Efficient network route aggregation
- Efficient packet processing in routers
- Real-time support



Outcome

- **Handling QoS in and between Packet-Based Networks:** Service providers will need to take into consideration the current limitations of IP in terms of QoS while planning for next generation services. In the longer term, QoS support across multiple networks will require new forms of commercial agreements between operators that will be radically different from the traditional Peer-to-peer agreements from the Internet world or the roaming agreements known from the 2G mobile World.
- **Evolving towards IPv6:** The rapid wide-scale introduction of IPv6 should be the basis for overcoming the problems relating to numbering, addressing, naming and QoS for real-time applications and services.
- **Role of broadcasting:** Operators will need to evaluate the role of broadcasting as an additional source of revenues and content.



Conclusion

- Deliverable D06 (final report) is ready:
 - Main technology issues are: IPv6, Mobile IP, Traffic Engineering, QoS, Roaming and Routing
 - Main service issues are: Service Discovery Platform, mobile clients, user interface, software components, user profiling
- Next steps are the interworking with other projects and follow up in billing and structuring



Summary

- Structurised terminals are necessary as an added benefit to next generation network customers.
- Networks have to make a choice between enhancing to a collaborative network intelligency or staying with bitpipe.
- Trusted third parties are a preferred source for mediated billing within next generation networks.
- 4G Developments in handsets will pass 3G terminals.



More information

URL: http://www.ngni.org/working_groups.htm SERVICES

Final Report New Services in the area of Mobile Communications:

<http://www.ngni.org/projects/SMONET-D06-FINAL.pdf>

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