



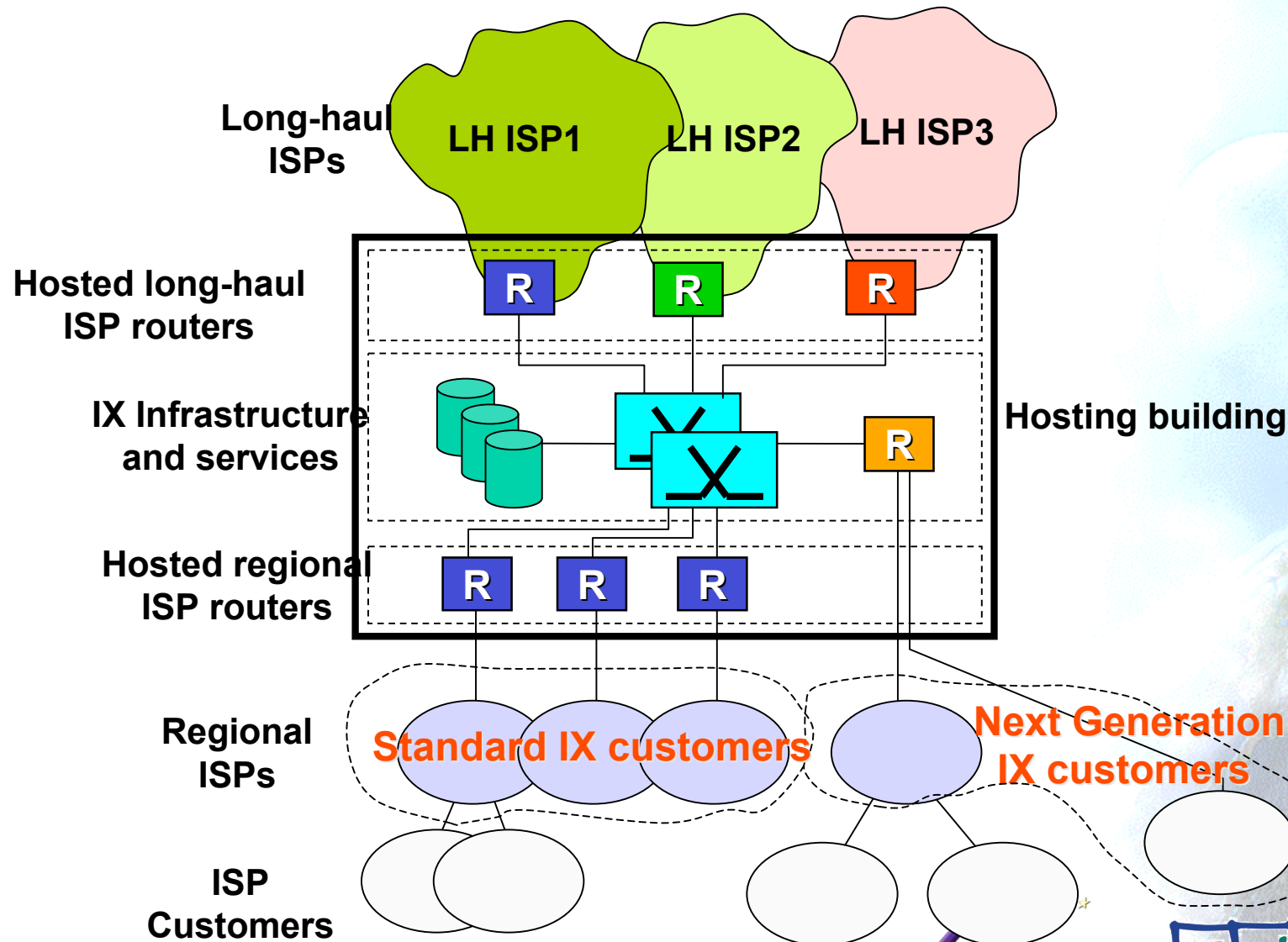
The Pan-European IPv6 IX Backbone Project Status December 2004

Euro6IX outputs:

Address delegation and L3MF

- IX customers are not only big ISPs but also, for example, big enterprises
 - They come to the IX to:
 - Exchange IP traffic (like in the traditional IX)
 - To get IPv6 prefixes from the IX owner (NEW!)→ address delegation mechanism provided by an IX
 - Address delegation mechanism can make simple (even if not totally solve) Long Haul Provider Selection and Multihoming mechanisms
 - Renumbering is not required except for those customers changing IX
- Address delegation mechanism can be deployed by a functionality called Layer 3 Mediation Function

Model C Internet Exchange

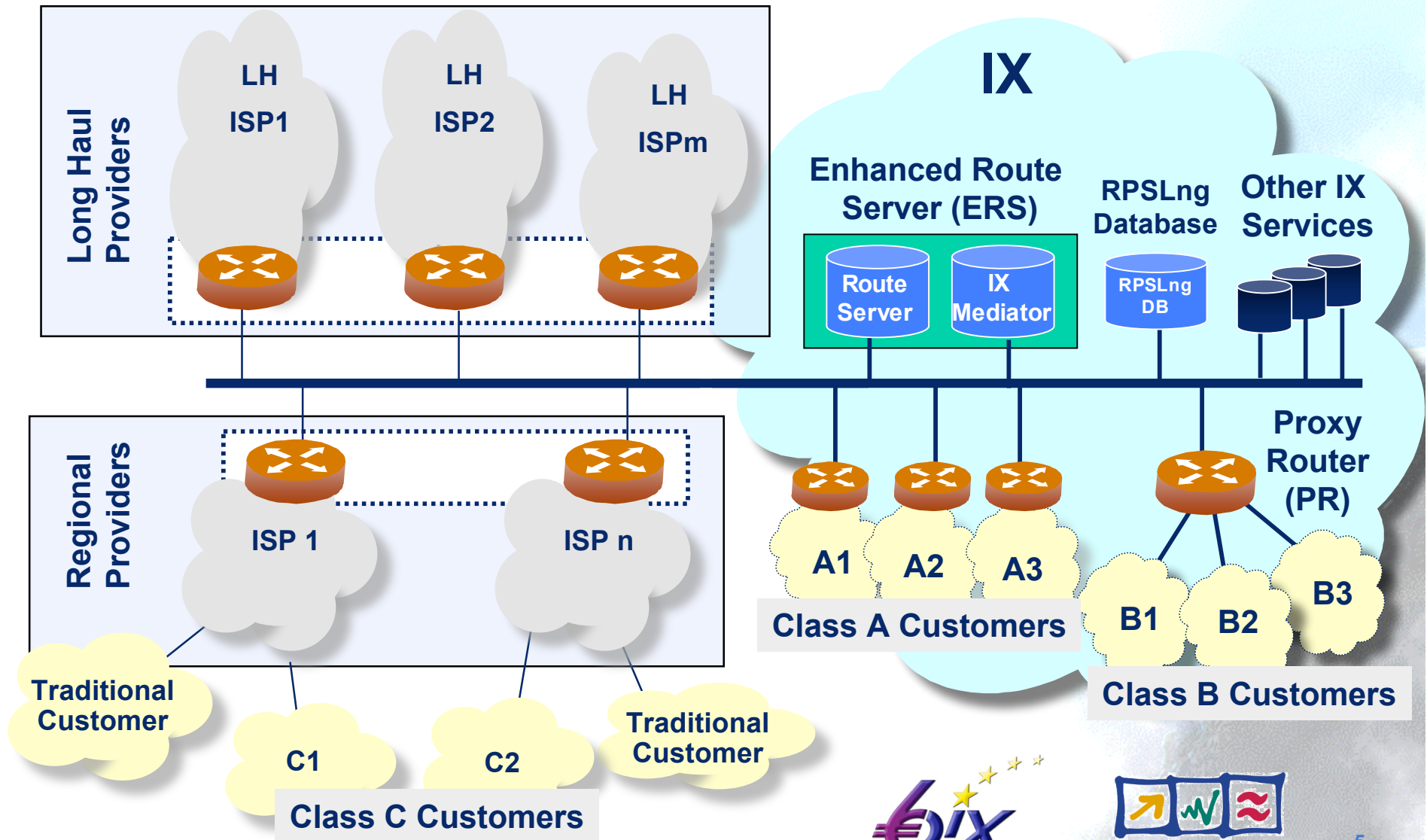


Euro6IX outputs:

Address delegation and L3MF

- Address delegation mechanism can be deployed by a functionality called **Layer 3 Mediation Function**
- It is a functionality that can be implemented in different ways:
 - BGP mechanism like next-hop setting
 - BGP communities
 - VLAN tagging

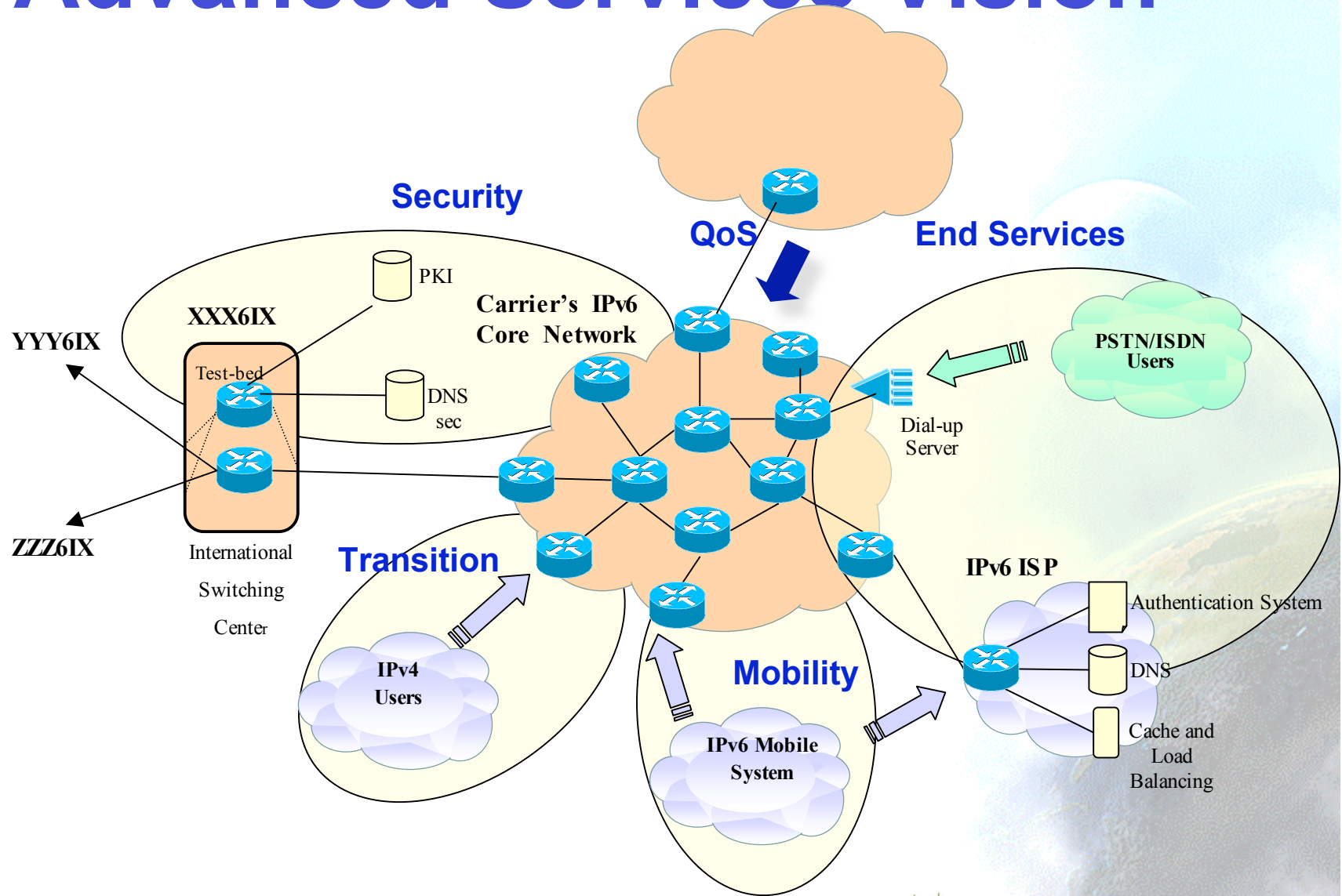
IX Model to Study IX Allocated Addresses Schemes



Results Summary

- Technical Report describing the results and conclusions of the address delegation study including
- Quagga Route Server implementation for IPv4/IPv6
- VNUML open source tool to emulate linux-based network scenarios
- RPSLng database implementations tested
- RtConfig patch to support quagga and Route Server based IX configurations
- Three papers about this activity published (one magazine and two conferences)

Advanced Services Vision



Lessons Learnt

- A lot of work has been carried out in this direction
- Innovative model
 - It does not solve all the problems but it is really service oriented
 - Need some time before to accept it (above all because all IXs use a totally different architectural model)
 - Need to identify some realistic business model to avoid clashes between traditional IX and new model
 - Need to disseminate this result and implement it

Other Results

- Complete architecture of Policy Based Network Management, for issues such as mobility, security, AAA, QoS, transition, routing, VoIP/SIP etc.
- 3G SIP/IMS applications.
- IPv6 VPNs, with integration of SNMP, COPS, Radius and Diameter.
- Deployment of IPv6 Wireless ISP infrastructure and Operations & Management support platform (using Radius, Diameter, 802.1x or EAP, or any combination of these).
- IPv6 Premium (QoS) service with VoIP/SIP end-to-end support.
- QoS measurement using the 6QM results on our Premium service deployment.

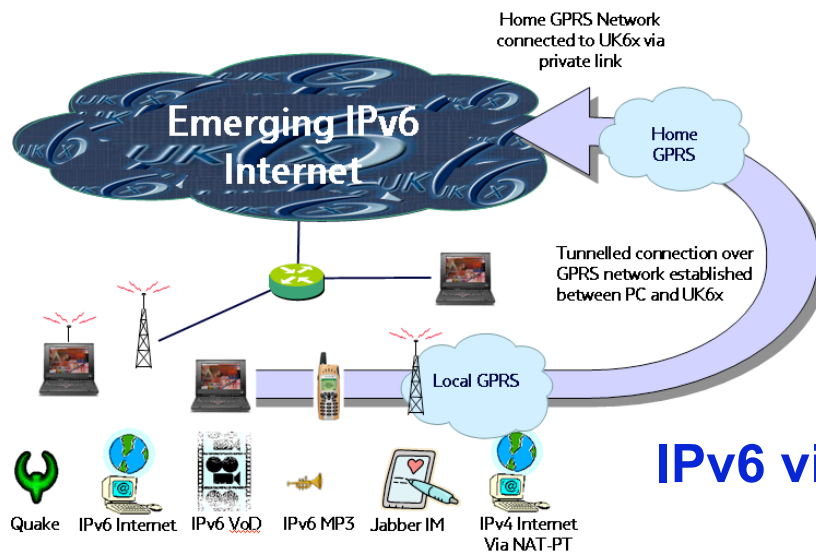
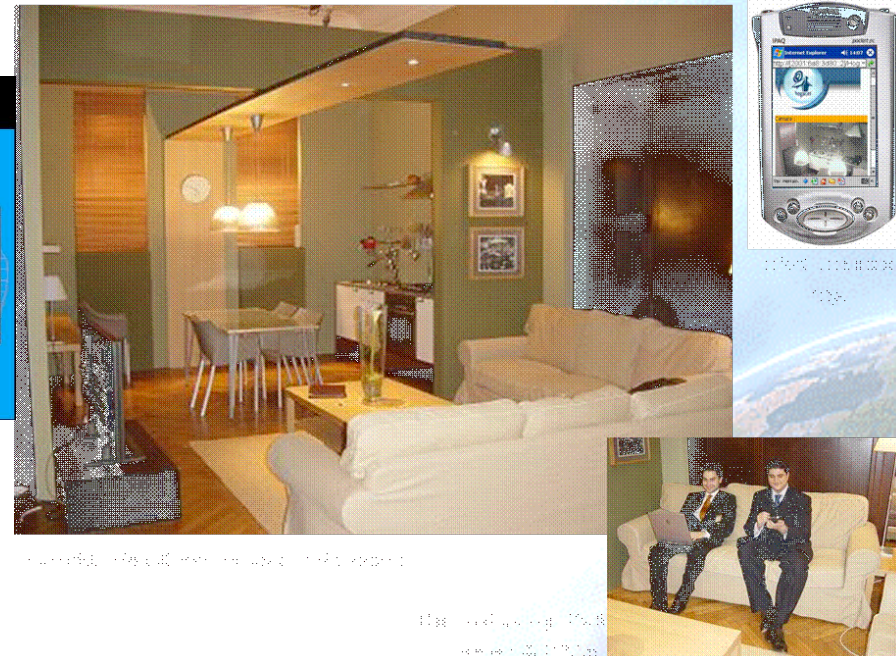
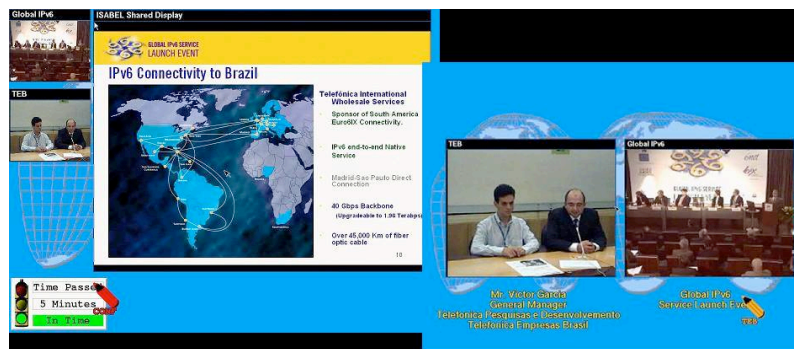
Other Results (II)

- IPv6 Peer to peer application.
- Code porting: PVM GRID environment, MySQL.
- Standardization results regarding different activities, including IPv6 IX, security, transition, scenarios, 3GPP zeroconfiguration, multihoming. Network Processing Forum framework and and service API for MIPv6.
- Lots of trials and dissemination activities.
- Legal aspects work (System/ISP data protection was done mainly in 2004, together with IPRs and related issues).
- Exploitation results by some project partners (including universities, Telcos and SMEs).
- Finally, the work of Euro6IX allowed that France Telecom and Telefonica launch commercial services in 2004.

2nd Year Public Trial

Some impression of Global IPv6 Service Launch Event:

Remote Supervision



Digital Home

IPv6 via GPRS



Thanks !

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