

# **P A N E L**

## **Trends in Networking and Services**

**ICNS 2009**

**Cancun**

**March 7-12, 2010**

# Guests

## **Moderator:**

**Petre Dini, IARIA, USA // Concordia University, Canada**

## **Guest Panelists:**

**Miklós Molnár, IRISA, INSA Rennes, France**

**Juan Flores, Universidad Michoacana, Mexico**

**Jaime Lloret, Polytechnic University of Valencia, Spain**

**Srikant Akella Vardhana, Infosys Technologies Ltd., India**

# Facts

## Trends and Paradigms

### - Networking:

**/intelligent, adaptive, ambient/**

**/ body, sensors, etc./**

**! New Internet, NGN, etc.**

### - Services

**/any\*/**

**/SaaS, Paas, Haas, etc./**

**! Service Science, Cloud Computing, etc.**

**? Service as a Service**

### - Social aspects of using networks and services

### - Vertical and horizontal services

# Questions

- **How much is fiction and how much is reality?**
- **Where is the biggest challenge?**
- **What is the most promising achievement?**
- **How open the industry is for embracing the new approaches?**



The Sixth International Conference on  
Networking and Services (ICNS 2010)  
March 7-13, 2010 - Cancun, Mexico

## Trends in Networking and Services

By Jaime Lloret



## Trends in Networking and Services

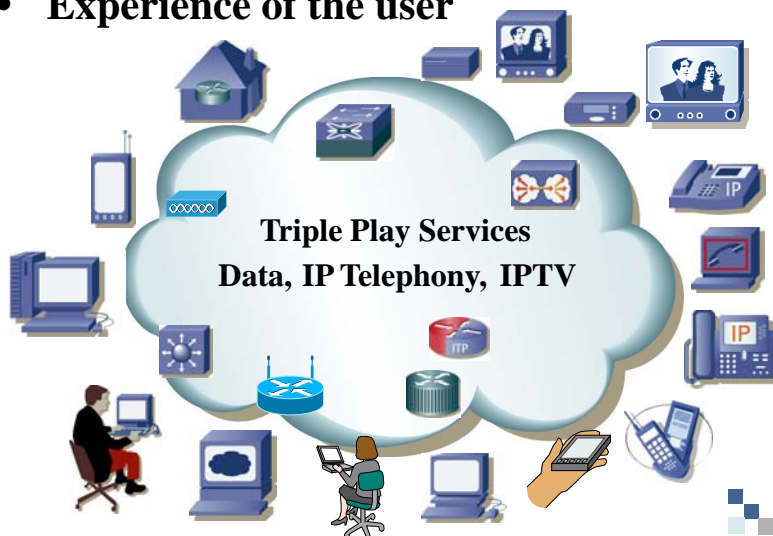


- **Experience of the user**
- **Take additional information from the network**

## Trends in Networking and Services



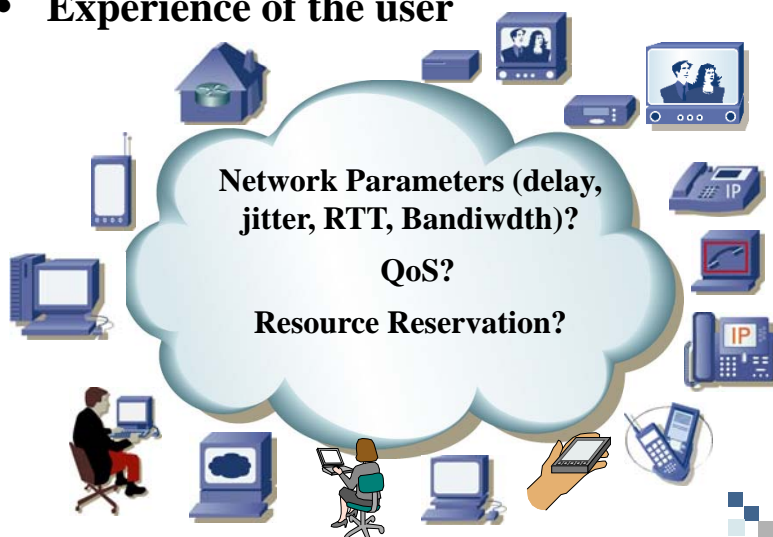
- **Experience of the user**



## Trends in Networking and Services



- **Experience of the user**



## Trends in Networking and Services



- **Experience of the user**

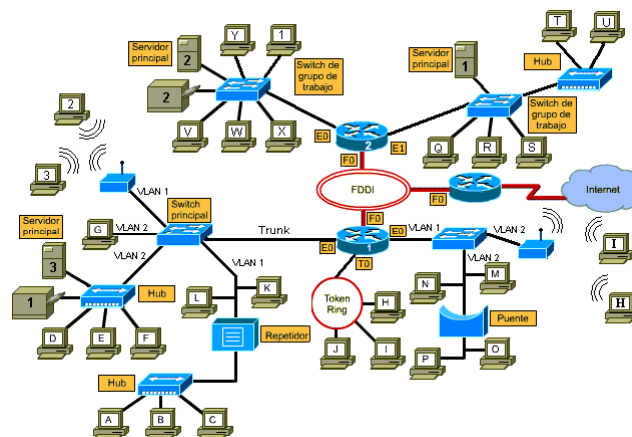


ICNS 2010

## Trends in Networking and Services



- **Take additional information from the network**



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## Trends in Networking and Services



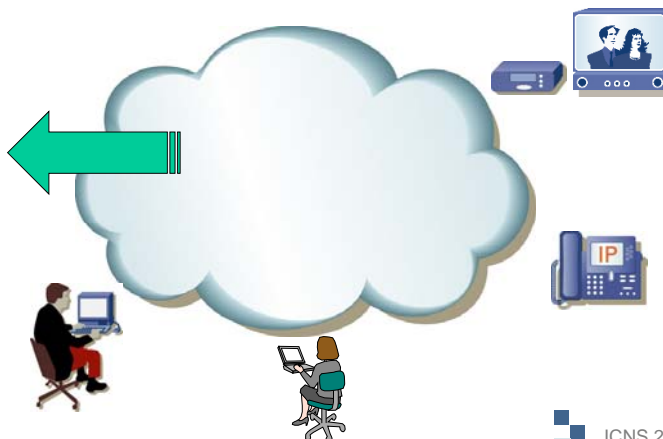
- **Take additional information from the network**

Do People like the football match?

Is there a nice program in the TV?

What places are most visited in the network?

Is it a good weather?



## Trends in Networking and Services



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# PANEL ICNS

## Trends in Networking and Services

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# Network

- Abstract principles
  - Names, addresses, routing, layers
- Protocols
- Mechanisms
- Physical infrastructure

# Cloud computing

- Distributed computacion
- Cheap Investment vs. Computing as Utility
- Issue: security
  - Confidentiality
  - Security
  - Availability

# Cloud computing

- Amenable to distributed Intrusion Detection
- Issue: security
  - Confidentiality
  - Security
  - Availability

# Need for ID as a service

- Distributed (agent-based) ID
- Distributed ID processing
- Not just distributed sensing
- Nor central ID processing
- Utility model for ID

**¡THANKS!**

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# **Trends in Networking and Services**

08<sup>th</sup> March 2010

Srikant Akella Vardhana

ICNS 2010 Conference - March 7<sup>th</sup> – 13<sup>th</sup>

Cancun, Mexico

Note:- Views expressed in this slide deck are my personal and not attributed to the company

# Trends in Networking and Services

- Networking
  - IPv6
  - Ubiquitous High Speed Internet Access
- Services
  - NSDK



# Trends in Networking and Services

- IPv6
  - IPv6 is the next generation Internet Protocol and is a successor of Internet Protocol version 4
  - It is predicted that Internet Protocol version 4 addresses will get exhausted by end of 2012
  - The main driving force for the redesign of IP is foreseeable IPv4 address exhaustion and growth of Internet enabled services
  - Migration from IPv4 to IPv6 is not a trivial task and requires Internet service providers to upgrade their network, systems and services infrastructure which needs time and money
  - Looking at the Trend, IPv6 penetration is low worldwide
  - ISP's need to start looking at migration strategy to understand the typical timelines and high level approach
  - As part of the network migration strategy, ISP can initially look at implementing short term solutions (Tunneling or Translations) and later move towards long term solutions (enabling dual stack-IPv4/IPv6 capability in the core network devices)
  - Mobile IPv6 deployment will be the key enabler for Telcos to handle the growth in rapidly expanding Mobile Broadband subscriber base

# Trends in Networking and Services

- Ubiquitous High Speed Internet Access

- ISP's are slowly moving away from Traditional (copper) to high speed broadband to increase their customer base
- Copper based broadband can offer speeds up to 24Mbps however varies based on the distance from exchange, home environment etc
- Fiber based broadband offer speed up to 100Mbps
- With the advent of 3D programming, the bandwidth requirements in both ISP Metro/Core networks and the last-mile will increase tremendously
- Apart from general Internet access and IPTV-HD, ISP's are looking for the services which would benefit from high speed broadband
- Current popular services (VOIP and IPTV-SD) can still survive in the copper environment !!!
- Mobile Broadband (3G/4G/WiMax) is also propelling the consumption of feature rich content and applications that are made available for end-users in a ubiquitous manner.

# Trends in Networking and Services

- Network Software Development Kit (NSDK)
  - Telco are opening up NSDK for developers/Enterprises to build applications/solutions
  - Provides the opportunity for innovation
  - NSDK are offered as open systems, web services
  - NSDK can be expanded to mashups, ecosystem build ups, SoA etc to bring in a much wider appeal to the concept
  - Offers reduced time to market to Launch new applications
  - SDK are not standardized and implementation varies from Telco to Telco