

The Seventh International Conference on Networking and Services



~ICNS 2011~

May 22-27, 2011 - Venice/Mestre, Italy

PANEL on Networks and Services

Topic: Towards Smarter Networking

Moderator:

Jaime Lloret, Polytechnic University of Valencia, Spain

Panelists:

Jean-Yves Le Boudec, Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland

Jean-Charles Grégoire, International Institute of Telecommunications, Montreal, Canada

Iain Murray, Curtin University, Australia

Accessibility in Networking

Dr Iain Murray

Curtin University Centre for Assistive Technology



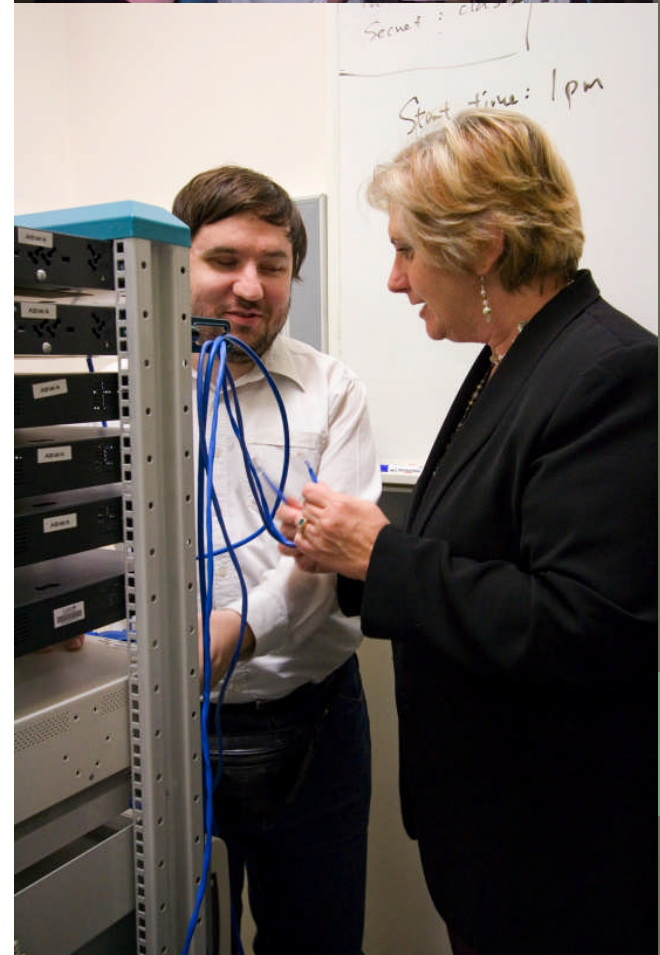
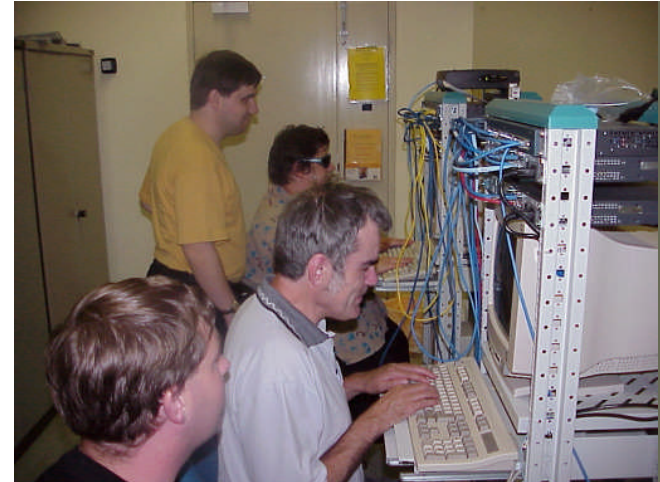
Issues

- Training
- Employment
- Applications
- Web
- the “Cloud”



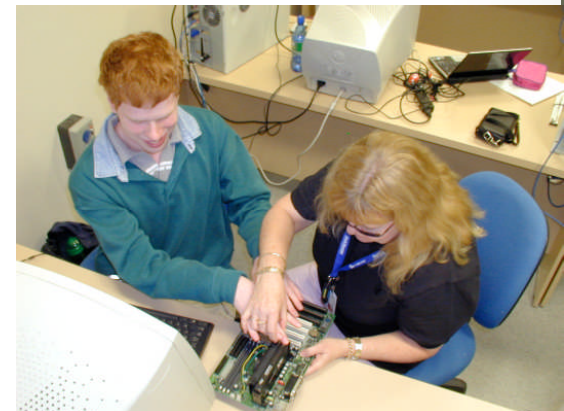
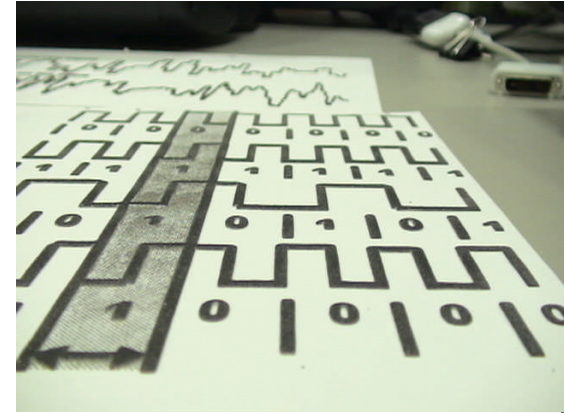
Current Solutions

- Internet is inherently accessible
 - It's the application that is not
- Screen Readers
 - Presentation order and usability
 - Language, Acronyms, graphics
- Mobile Devices
 - Touch Screen for blind or motor disabilities????
- GPS and Sensor data



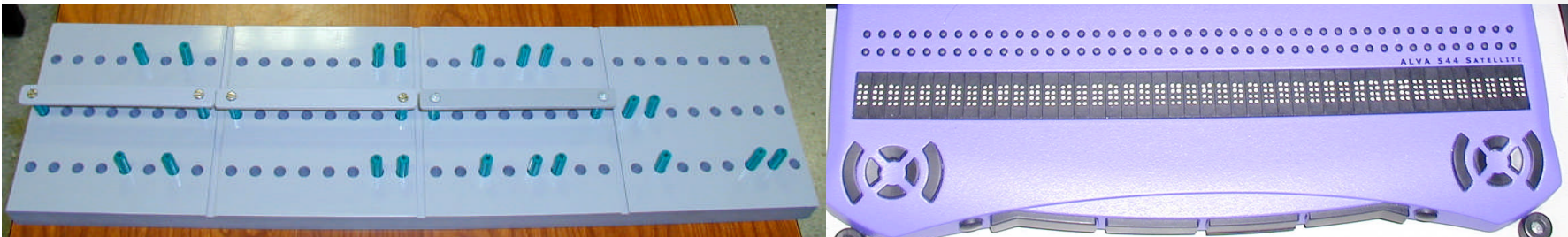
The Problems

- Web
 - W3C Guidelines
 - Can make a fully compliant site that is either unusable or inaccessible
 - Separate text only sites
 - Rarely updated
- Cloud
 - Interacting with the process
 - Video intercept etc
- Graphical information
 - By far the greatest issue



Employment & Training

- Everyone needs to know how to operate a computer
 - Including network access
- Ideal employment are for people with disabilities
 - Mobility
 - Textual representation
 - “Best” windows screen reader written by two blind programmers



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IDEAS - CONCEPTS



Smart Grid

Smart Home

Smart Network technology

Smart Network Data services

Smart Network communications

Smart Protocols and Algorithms

Efficient and intelligent energy distribution

Intelligent business decision

New way to fight spam and malware

The key to unlimited opportunities for business

Provide intelligence to the network

Cost reduction

PANEL on Networks and Services Towards Smarter Networking

J.-Ch. Grégoire, PhD

INRS-EMT, Université du Québec, Montréal

Status of networks

- Where is the growth?
 - Cloud-based Services
 - Including content streaming
- From
 - Mostly client/server through a transparent network
- Towards
 - Users of network-based services
 - Works for (content) producers, works for consumers
- Only minimally user to user

Criticism

- A good thing?
 - Core issues have not been resolved
 - (security – protection, anonymity – QoS)
 - At least not in a global way
 - IPv4-derived issues remain
 - NAT, middleboxes

Towards the re-birth of the smart network?

- How big a problem are we facing?
 - What already “works” will keep on working
 - Bandwidth scalability, load balancing
 - Mostly consumer-based model
- But there are clear limits and obstacles to growth
 - Snooping, ALGs, ...

Which Key Elements to Focus upon

- Universal switching
 - Networks, flows, services
- Identification
 - Networks, applications, users, behaviour
- Trust
 - Identity, confidentiality, integrity
- ...

What Is Missing?

- A conceptual model to organize our view of networks/
applications
 - OSI, Hourglass do not help
- Reconciliation between participating communities
 - “transport” vs. “application” vs. “networks”
 - Vs. “security”?

ONE DAY IN THE LIFE OF ROBERT LONGIROD

Jean-Yves Le Boudec

EPFL

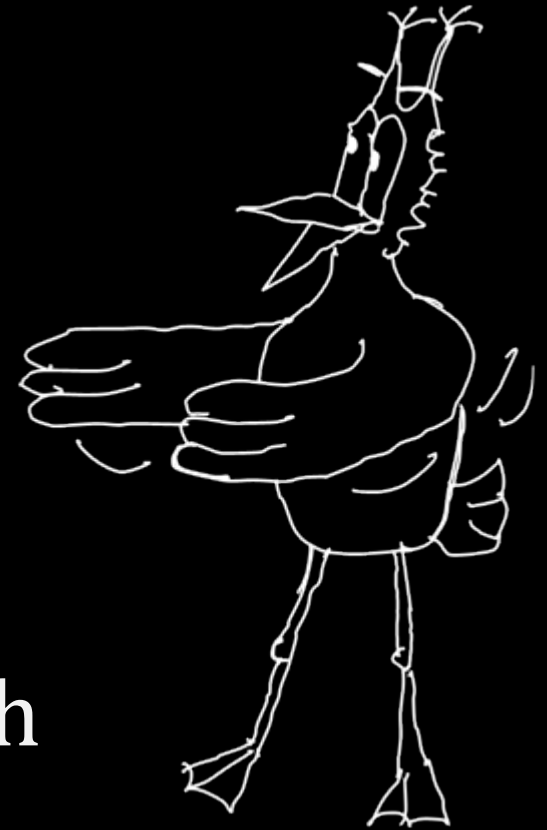
May 21, 2011



ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

We are in May 2050, in the
3500W society

Robert Longirod is telecom
engineer at the swiss branch
of Huawei Technologies



Robert goes for a shower...

...no hot water !

home automation
controller hung
yesterday night



Robert is a philosopher and takes a cold shower.

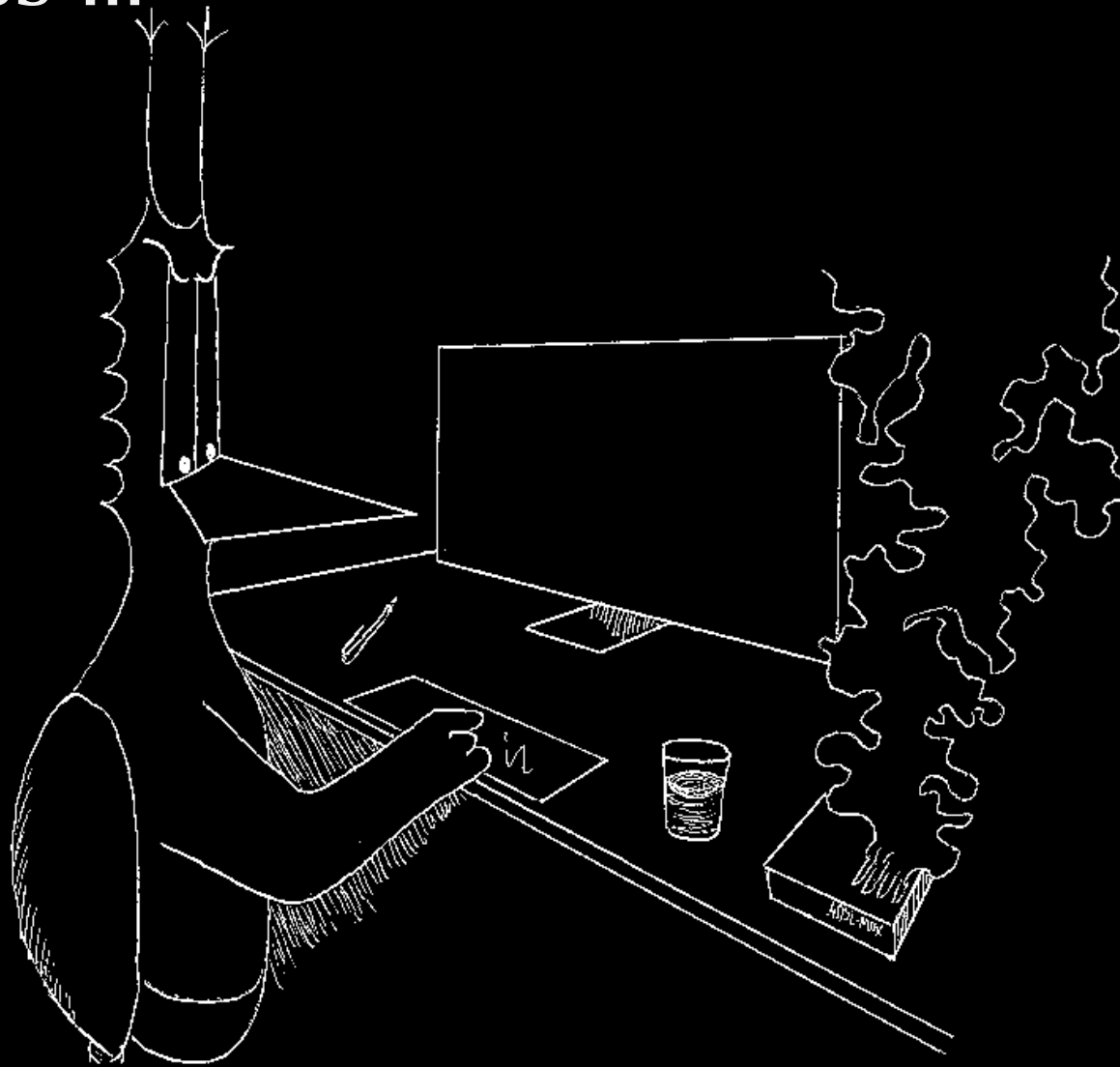
Now is time for a good, hot, espresso. Robert imagines the smell of the first coffee of the day and smiles ...

...but no coffee !

Fortunately, the fridge works and there is some orange juice left.

Robert sits at his table and opens his
desktop ...

The femtocell has burnt, no internet access ...



In the garage ...

The e-car is not charged.

The batteries were used to power the grid. Normal, Robert did not plan to go anywhere today...

Robert cycles to work

While pedalling back home in the evening, he hopes that the washing machine did its job...

Smart Grid... Dream or Nightmare ?

- Simplicity by Design

- Cost effective
validation techniques