Facultat d'Informàtica de Barcelona
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FINe: Future (Inter)Net(works)

The day by day of the course:

What we did
What we learned
What we will do today

September 23, 2020 (i)

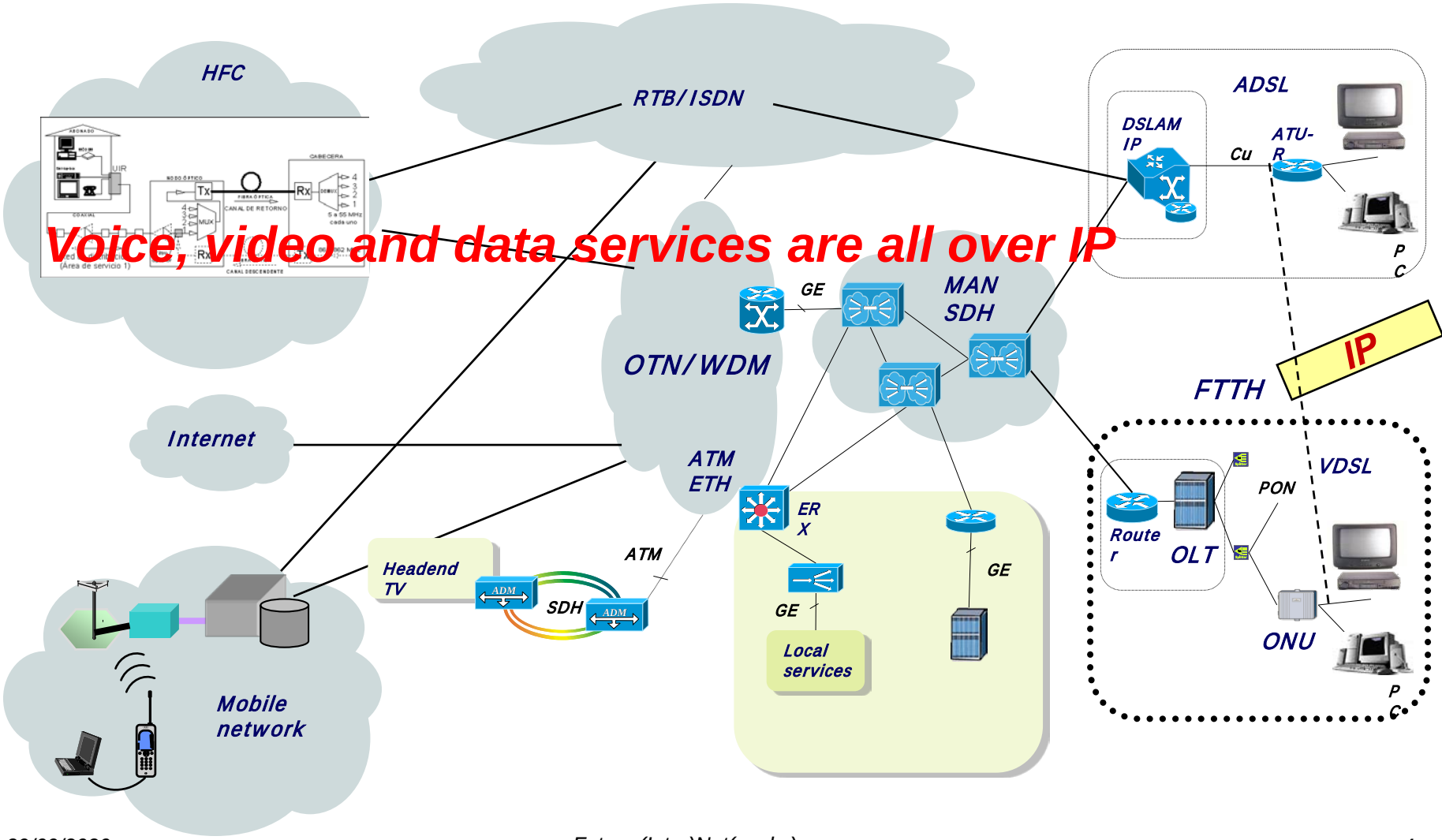
- ✓ What did we do last week (on September 16)?
  - We introduced the course
  - Launched the first Panel session
  - Launched the first set of questions
  - We started Chapter 1: Review of the statistical figures provided by ITU:
    - ICT facts and figures

September 23, 2020 (ii)

- ✓ What did we learn/revise/understand?
  - We learned what to do for passing the course
  - We revised the concept of Internet*:
    - *The layer 3 (IP) being the glue for interconnecting different network technologies*
      - *An IP network is packet switched*
      - *An IP network is connectionless*
      - *The IP packet is the universally accepted format for transporting data (either PDUs or streaming)*
      - *The Backbone (Transport) Network is usually connection oriented, and is in charge of transporting IP packets from source to destination*

* Internetworking, Interoperable/International Network

Internet became the Public Network



September 23, 2020 (iii)

- ✓ What did we learn/revise/understand? (cont.)
  - Revising the statistical figures provided by ITU, we knew that:
    - *Internet usage keeps growing, but barriers lie ahead*
      - Lack of ICT skills a barrier to effective Internet use
      - Most of the offline population lives in least developed countries
      - The digital gender gap is growing in developing countries
    - *Mobile-broadband subscriptions continue to grow strongly*
      - Computers no longer needed to access the Internet at home
    - *Bundled mobile broadband prices, compared with the PPP$ (Purchasing Power Parity) of 2019*
      - Broadband still expensive in LDCs
    - *Almost the entire world population lives within reach of a mobile network*

September 23, 2020 (iv)

- ✓ What did we learn/revise/understand? (cont.)
  - We learned about the existence of…
    - Two organizations providing the main Internet standard documents, namely ITU and IETF
    - CIS (Commonwealth of Independent States), a very powerful political and economic organization, in the orbit of the United Kingdom, whose head currently is the Queen of UK (Elizabeth II)
      - https://en.wikipedia.org/wiki/Commonwealth_of_Nations

September 23, 2020 (v)

- ✓ What will we do today?
  - Continue with Chapter 1: Review of the statistical figures provided by:
    - Mary Meeker in her 2019 Internet Trends report
  - Explore one of the main concerns of the EU in the ICT arena:
    - Joining efforts to shape the Digital Single Market …
  - Go through the Networking Infrastructure models, in particular, commons versus private
    - Lecturer: Roger Baig

September 30, 2020 (i)

- ✓ What did we do last week (on September 23)?
  - Review the statistical figures provided by:
    - Mary Meeker in her 2019 Internet Trends report
  - Explore the main concerns and active policies of the EU in the ICT arena
    - Technology that works for people
    - A fair and competitive digital economy
    - An open, democratic and sustainable digital society
    - Europe as a global digital player
  - The lecture on Infrastructure models, commons versus private (Lecturer: Dr. Roger Baig)

September 30, 2020 (ii)

- ✓ What did we learn/revise/understand?
  - From the Mary Meeker's 2019 Internet Trends report, we knew that:
    - The number of Internet users comprises more than half the world's population, but Internet user growth is slowing
    - E-Commerce continues to gain share vs. physical retail, but growth rates are slowing
    - Global innovation & competition continue to drive product improvements
      - New types of usage & monetization – especially in areas of digital video, voice, wearables, on-demand + local services & traditionally underserved markets
    - Internet advertising growth is solid & innovation is healthy, but there are areas where customer acquisition costs may be rising to unsustainable levels
    - The rapid rise of gathering digital data is often core to the success of the fastest growing & most successful companies of our days
    - As Internet systems become increasingly sophisticated, data-rich & mission critical, so has the opportunity for cyber attacks
      - We are in a new era of cyber security where technology issues are increasingly intermixed with international diplomacy & defense

September 30, 2020 (iii)

- ✓ What did we learn/revise/understand?
  - We learned that the European Digital Strategy is focused in the development, deployment and uptake of digital technologies to achieve:
    - *A real difference to enhance people's daily lives*
    - *A strong and competitive economy that masters and shapes technology in a way that respects European values*
    - *A frictionless single market, where companies of all sizes and in any sector can compete on equal terms, and can develop, market and use digital technologies, products and services at a scale that boosts their productivity and global competitiveness, and consumers can be confident that their rights are respected*
    - *A trustworthy environment in which citizens are empowered in how they act and interact, and of the data they provide both online and offline*
    - *A European way to digital transformation which enhances our democratic values, respects our fundamental rights, and contributes to a sustainable, climate-neutral and resource-efficient economy*

September 30, 2020 (iv)

- ✓ What did we learn/refresh/understood?
  - With Roger Baig, we went into the concepts of property and management for the Internet/network infrastructures
    - *We learned that the dominant models for building and managing the telecommunication infrastructures are three:*
      - Public
      - Public-private partnerships (PPP)
      - Private
    - *We discussed about the opportunities of an alternative model: The Commons*

October 2, 2019 (vii)

- ✓ What will we do today?
  - Run the first panel
    - Panel chaired by the members of Group #2
  - First item of the Chapter 2 (Lecturer: Prof. Josep Solé-Pareta):
    - Review the Transport Network Concept
    - Review the Control Plane Concept
    - Review GMPLS[1]: The control plane technology installed in current Backbone transport networks

[1] GMPLS: Generalized MultiProtocol Label Switching