



EETT

HELLENIC TELECOMMUNICATIONS & POST COMMISSION

Encouraging broadband Internet uptake: National regulatory strategies

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Introduction – The Internet agenda

- The development of (broadband) Internet is one of the top priorities for all developed countries.

- The facts justify such a strategic choice:
 - Internet users have exceeded 1 billion (Cosmscore, Dec. 2008).
 - Internet is the second most important source of information in the USA, having overtaken printed press (Pew Research Center, Dec. 2008).
 - In the period before the economic downturn, 25% of the increase in the GDP of the EU member states was directly connected to the exploitation of ICT.

- What policies are needed to encourage Internet development?
 - Strike a balance between public funding and competition
 - Invest in the future and reduce the digital divide.
 - Build a strong, consumer-centric brand.

Challenges

- Fostering (infrastructure based) competition versus direct financing policies (education, public access points..)
- NGA generate tremendous opportunities for digital inclusion of low income population and need to be encouraged through specific action plans.
- The consumer has the right to know what he gets for his money, so we need to invest in information transparency.
- Establishing trust in electronic transactions through the use of electronic signatures is essential for the uptake of e-business and e-government.
- Migration to IPv6 unleashes new potential, including the Internet of things.

The role of competition in Internet development

- The most developed European broadband markets are characterized by intense competition by a multitude of alternative infrastructures, notably:
 - High uptake of LLU
 - Strong presence of CaTV networks
 - Increasing penetration of FTTx networks
- In Greece the high uptake of LLU has led to explosive broadband development (in the absence of alternative infrastructures).

End 2005

- LLU penetration <1%.
- Access speeds practically at 384 Kbps.
- Monthly cost at 384 Kbps > €40.
- Broadband penetration <1,5%.
- Lowest annual increase in broadband penetration among EU member states.

End 2009

- LLU penetration ~19%.
- Access speeds between 2 and 20 Mbps.
- Monthly cost at 2 Mbps < €20.
- Broadband penetration >17%.
- 4th highest increase in broadband penetration among EU member states.

The effective unbundling of the local loop is cheaper and more efficient than a state subsidy for retail cost.

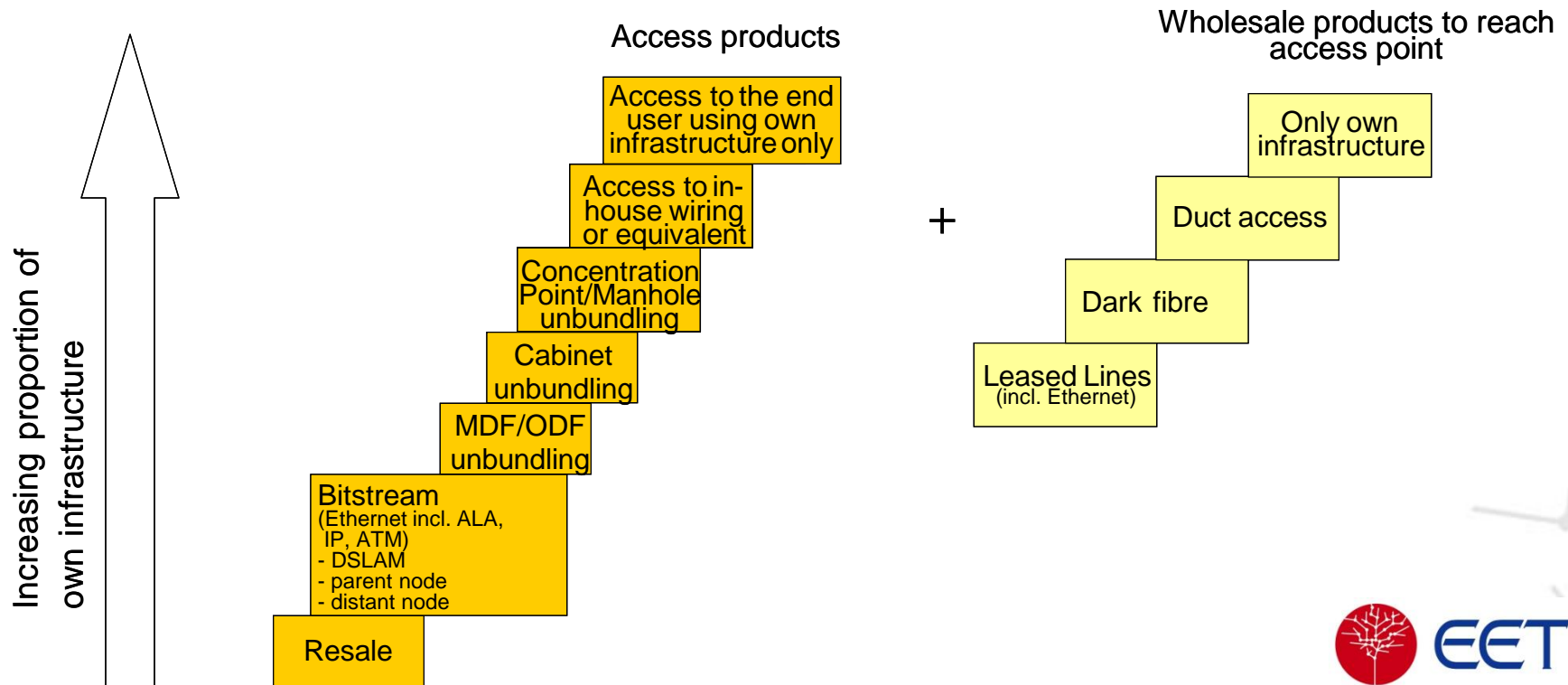
Next Generation Access

- The transition to NGAs appears to be inevitable, as a result of exponential increase in traffic demand related to broadband services (HDTV, interactive and real-time applications, tele-medicine, tele-conference etc).
- NGA options: Partial or full replacement of the traditional copper access network between Local Exchanges and end-user premises by optical fiber.
- A) Fiber To The Home (FTTH)
 - Full replacement of the traditional copper access network by optical fiber.
 - High CAPEX requirement but future-proof investment.
 - More friendly to the environment (green technology).
- B) Fiber To The Cabinet (FTTC/VDSL2)
 - Partial replacement of the traditional copper access networks by optical fiber.
 - Replacement of passive outdoor cabinets by modern but more energy consuming cabinets (less green technology).
 - Technologically limited: cannot serve in the long term the anticipated increase in demand.
 - Typically asymmetric in terms of downstream-upstream capacities.



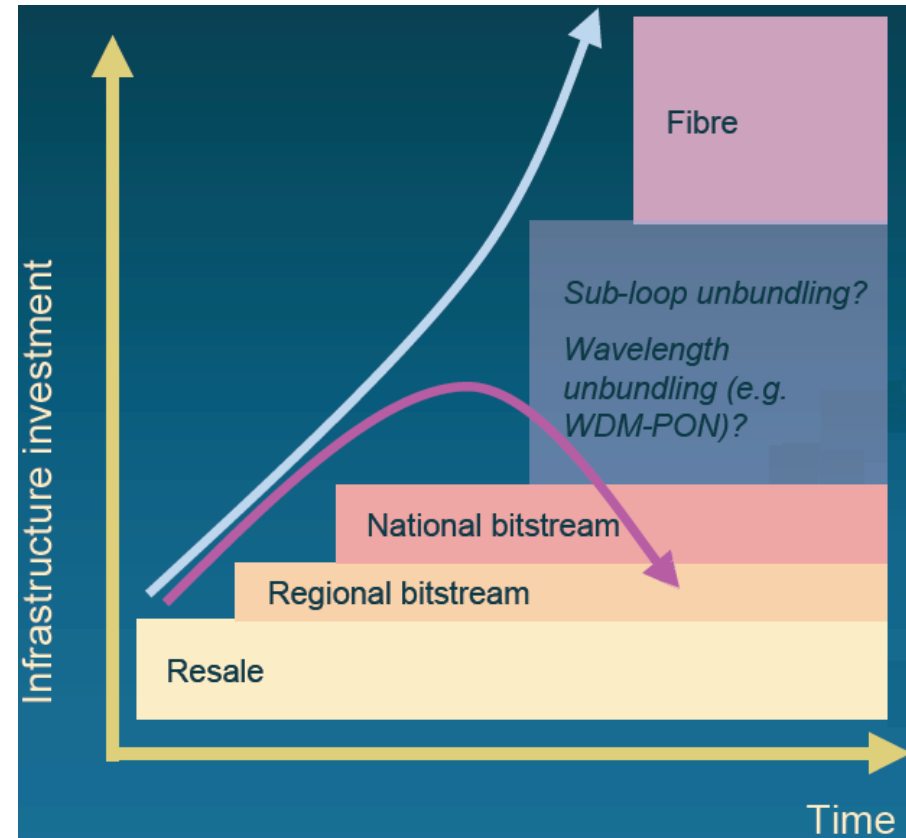
The ladder of investment in an NGA environment

- In an NGA environment, the traditional ladder of investment is modified, depending on the NGA access level (Local Exchange, outdoor cabinet, etc.)
- To allow OLOs to stay in the market, significant modifications are required to the mandated wholesale products and facilities (compared to “traditional” products, e.g. bitstream and LLU)



The case of FTTC / VDSL

- The migration of the incumbent to FTTCab/ VDSL leaves OLOs with two options to stay in the market:
 - A) Collocate at the outdoor cabinet level: Requirement for a new investment with high inherent risk due to:
 - Low customer density at cabinet level
 - Procedures and Delays Multiplication
 - Short expiry date of VDSL technology
 - B) Base on Wholesale Broadband access (at least in the early phase)
- Need to assure the availability of appropriate WBA products
- Step back in "ladder of investment": WBA becomes more important than Fiber-LLU (at least in the short term).



The Greek FTTH Action Plan

- Building FTTx in Greece appears to be viable only in Athens.
- Countries with the geophysical, demographic and socio-economic characteristics of Greece cannot rely on market forces for entering into the Next Generation era.
- State announcement: National plan for the deployment of a nation-wide optical fiber access infrastructure
 - Open access, active state participation (state-aid)
- European Commission approval required:
 - To prevent plausible distortion of competition.
 - To assess compatibility with the (recent) EC guidelines regarding broadband state-aid projects.
 - To ensure that a number of important contractual obligations are included: open access, technology neutrality etc.
- EETT guarantees that the operation of the new FTTH network will not distort competition and that it will be made available on equal access terms to all licensed network operators.

Information Transparency: The KOMEX service

- The Broadband Quality Measurements Node (KOMEX) is a service that enables broadband Internet users to measure quality characteristics of their connection, including connection speed, available bandwidth, problems impacting the last mile network, traffic throttling etc.
- It has been developed in co-operation of EETT and GRNET and is part of "M- Lab", an open, distributed server platform, seeking to advance network research and empower the public with useful information about their broadband connections.
- The first month of its introduction the system accepted around 4,000 visitors that spent in the site an average of more than 4 minutes each.
- The desired market effects:
 - To enable informed consumer decisions (both business & private).
 - To encourage ISPs re-focus on improving service quality.
 - To make Actual Quality of Service an Advertising Tool.
 - To ensure the availability of subjective data, in case of disputes relating to service quality.



Establish trust in electronic transactions

- The widespread use of electronic signatures can contribute to establishing trust in e-government and e-business transactions.
- EETT has established the necessary regulatory framework for the use of electronic signatures and currently focuses in market supervision.
- State interventions are needed for the adoption of e-government services, with a twofold target.
 - Encourage the uptake of the electronic signatures market.
 - Increase the efficacy of the public sector.
- EETT, seeking to promote electronic signatures, has introduced a set of internal goals for the period 2010-2011 for the electronic processing of applications, such as:
 - Granting or modifications of general authorizations
 - Allocation of numbering resources
 - Certification of domain names.

Conclusions

- It is preferable to invest in competition than only in state subsidies.
- The effective unbundling of the local loop in Greece proved cheaper and more efficient than any state policy for financing retail costs.
- Making a strategy for the uptake of broadband Internet is obsolete.
- What we need is a balanced public –private strategy for NGA uptake.
- Transparency of information enables the users to make informed decisions and encourages ISPs to invest in quality.
- Eventually it can lead to a stronger Internet brand.
- Last but not least, it's all about innovative services (eg. education, content, e-commerce, high speed communication...)
- We need to promote Internet as an effective and risk-free environment for transaction making.



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