NGN in The Netherlands: the market and regulation

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Business case of NGN is not proven yet;

Legacy regulation has high impact on business case

It should not be automatically extended to NGN

Market developments

kpn

Dynamic market situation

18% Mobile-only households **75% Broadband penetration** **High VoIP penetration**

The Netherlands is 'competition champion' of Europe

Existing operators are consolidating Fibre to the home operators are emerging

casema televisie internet telefonie

essent

multikabel

CITYNET Amsterdam

REGGEFIBER

upc

TELE2.

versatel

eurofiber

On top of existing service providers, new entrants with other business models

accenture

msn

ebY

Google Nederland

IBM

EDS

YAHOO!

skype

Marketshares The NL

	TV		Internet	Voice	
Kabel		Cable 83%	Cable 40%	Cable VOIP 19%	
KPN	DVB-T 6%	IP TV 0%	ADSL Internet 44%	VOIP 16%	POTS 60%
Other		Other TV (a.o. satellite) 11%	Other Internet (ADSL) 16%	Other VOIP (DSL-Providers) 5%	

Market Shares Consumer Market in % (indicative/management estimates)

Tariffs in the Multiplay market

Telfort	Casema	UPC
€ 19,95 tot 20 Mb/s	€ 69,95 20 Mb/s	€ 60,00 24 Mb/s
€ 9,95 voice	voice incl	Voice include

Internetsnelheid	Tot 20Mb/s	Tot 20Mb/s
Bellen	Bellen tegen voordelige Tele2 tarieven.	**GRATIS** naar vaste nummers in Nederland
Actie eerste 6 maanden	**€ 14,95 p/mnd**	**€ 24,95 p/mnd**
Abonnement	€ 29,95 p/mnd	€ 39,95 p/mnd

Next steps: FttC and FttH?

Change of mindshift KPN

- Market developments:
  - High churn to cable;
  - Television is crucial for Multiplay;
  - IP-technology

Lead to

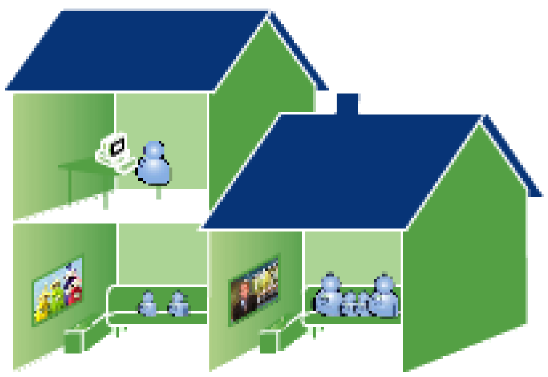
Upgrade of the network:

- VDSL by Fiber-to-the-Curb;
- Fiber-to-the-Home?

Business Model:

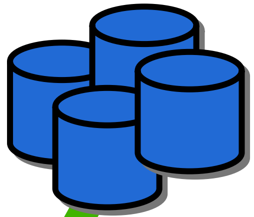
- Multiplay;
- Open wholesale

Upgrade of the network: FttC
FttH: local projects in 2008-2009



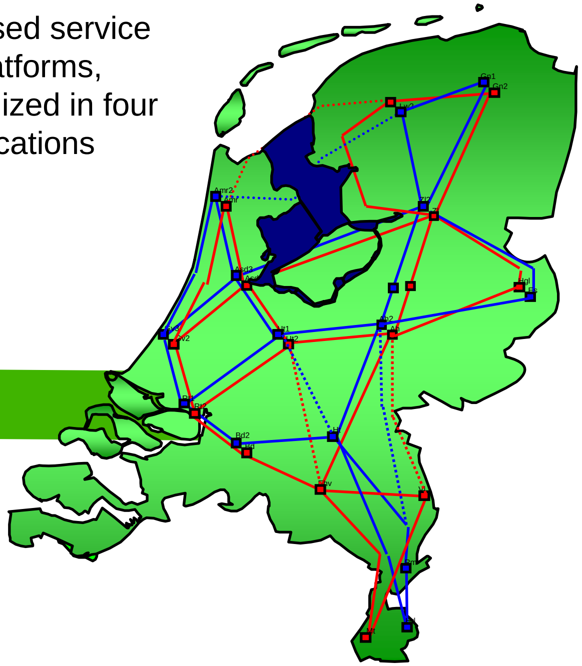
Via our own copper and fiber lines we will deliver high-speed access (Homes up to 30-100 Mbps, offices up to 1 Gbps)

In our street cabinets we will install VDSL2 / FttX technology



IP-based service platforms, centralized in four locations

We will dismantle exchanges and switch off the old network



We have used fiber in various parts of our network for many years. We will invest to even further increase speeds

Business model: Multiplay
FttC vs fttH

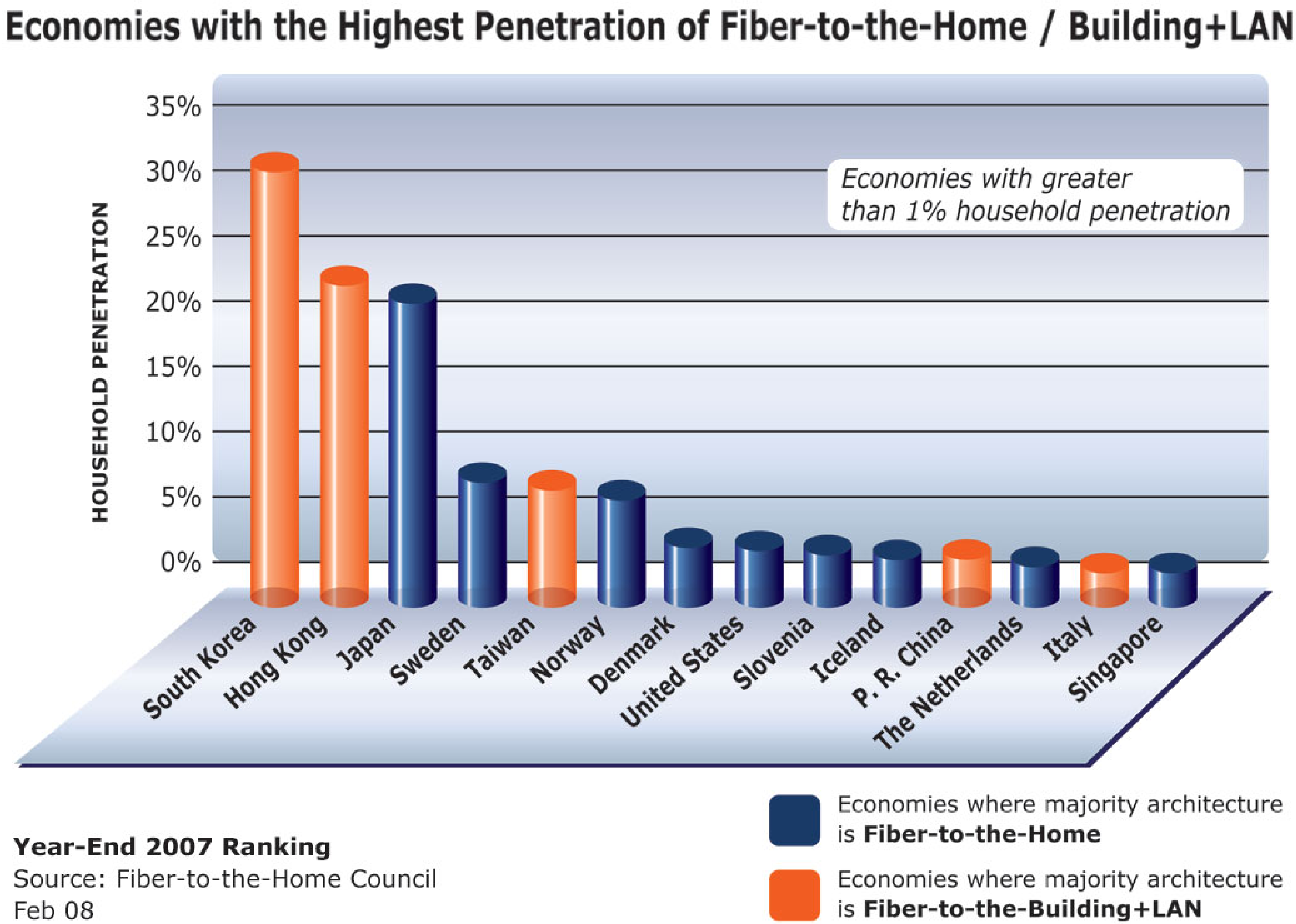
- Investment
  - FttC € 300 per HH
  - FttH €1000 per HH

- Technology:
  - FttC (VDSL): most HH have 30Mb download
  - FttH: 100 Mb plus ‘analogue television

- ARPU:
  - Current ARPU approx. €40 p/m
  - With 60% penetration ARPU has to raise to € 60 p/m

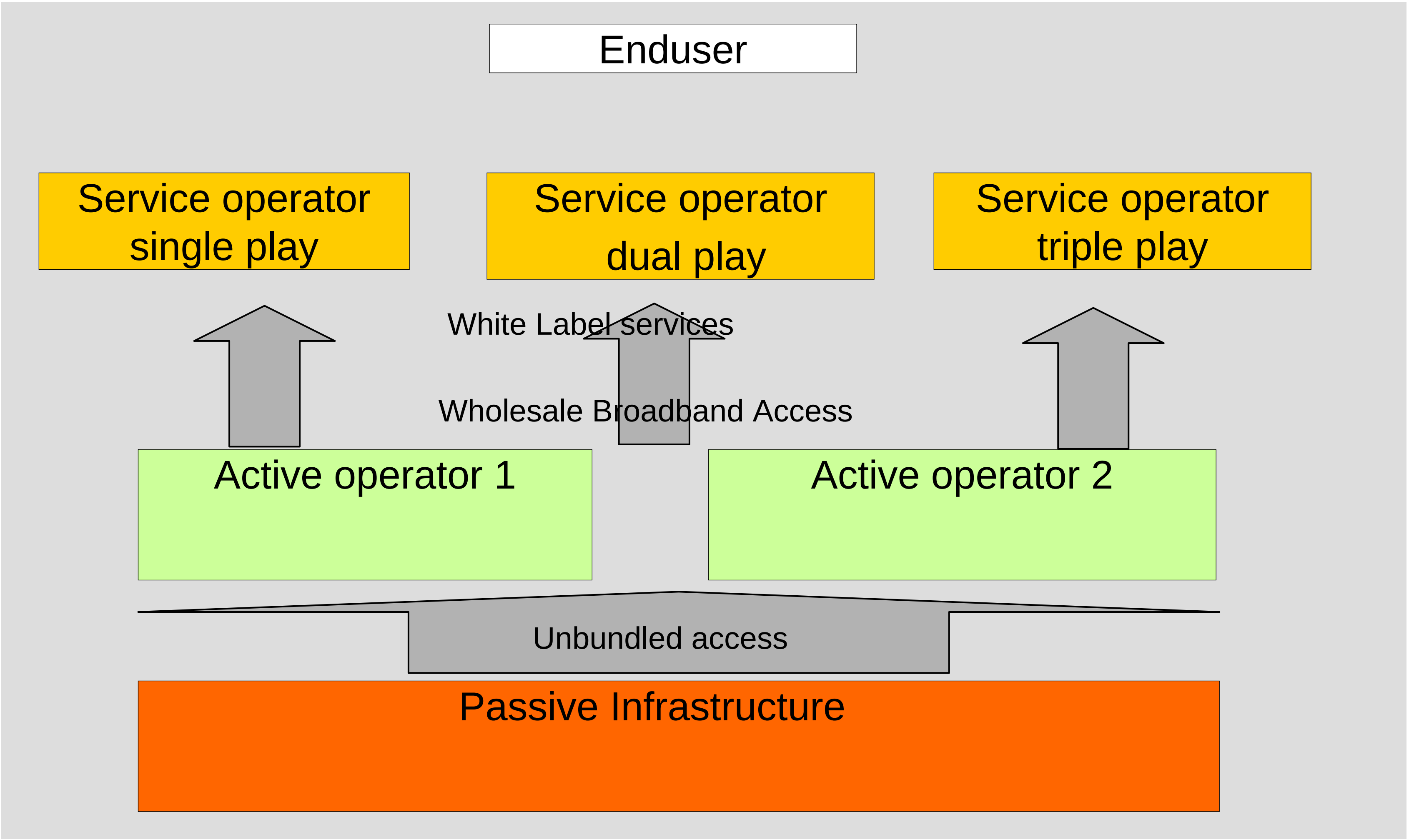
→ FttH is not proven yet

FttH is not yet ‘proven’



Year-End 2007 Ranking
Source: Fiber-to-the-Home Council
Feb 08

Business model: Open wholesale model



Open wholesale model;

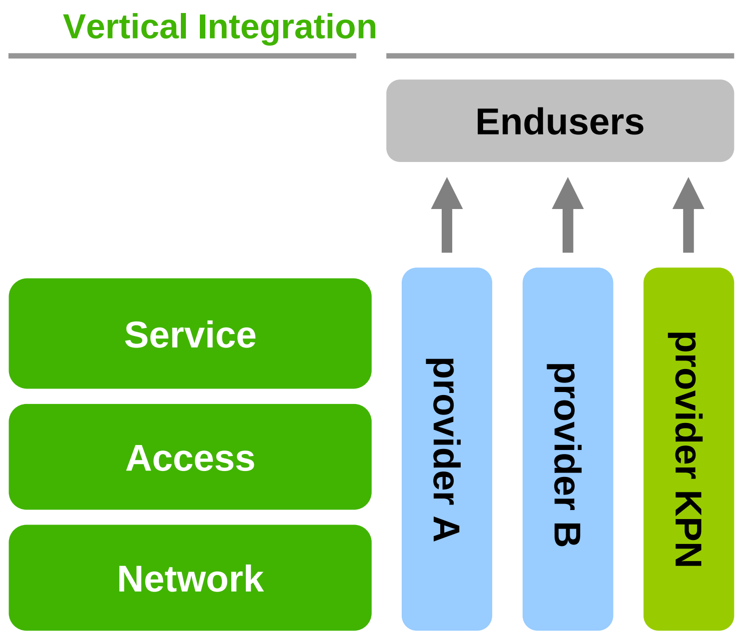
www.kpn-wholesale.com/all ip/mdf migration offer

- MDF access;
- Migration from MDF to WBA and/or SLU
- Wholesale Broadband Access (WBA) via copper and fiber:
  - VLAN between service platform and enduser;
  - Broadcast WBA will also be available
  - The Wholesale customer determines capacity, QoS, redundancy, transparancy of the VLAN;
  - Available on 3 network levels
  - WBA is a public offer of KPN on a non-discriminatory basis
- Sub Loop Unbundling (SLU) for copper
  - A Reference offer is made by KPN
  - Backhaul service is provided by KPN

Regulatory challenges

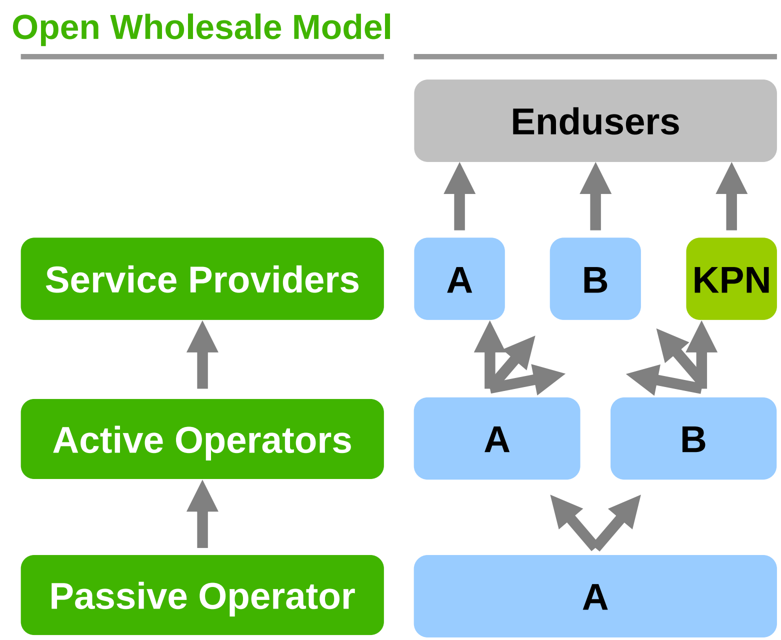
No more justification for legacy regulation

Traditional copper world



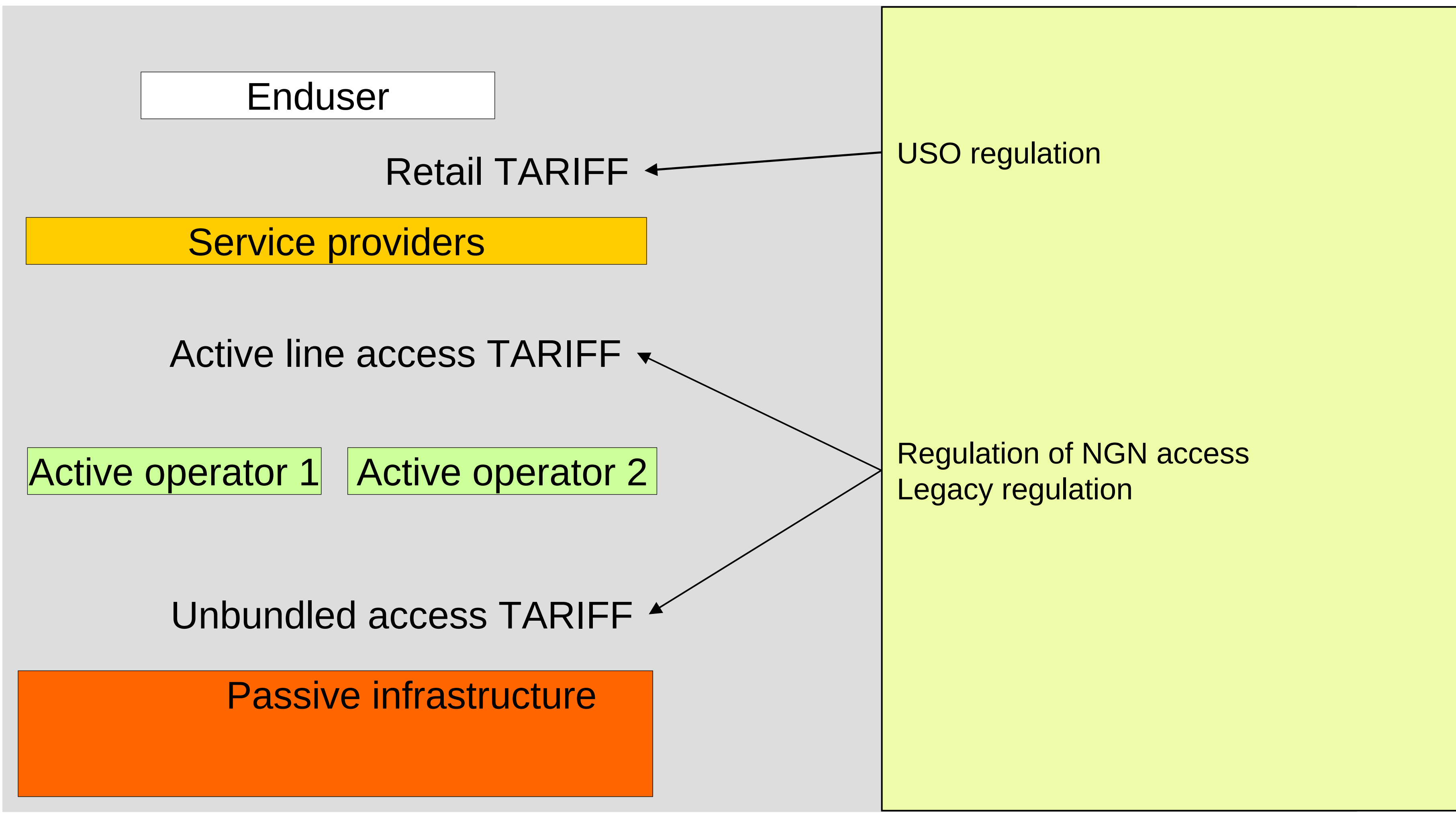
In the old copper world regulation aimed at unbundling/de-integration of PTT

Future (fibre) world



In future world there is an incentive for sharing the networks and the legacy regulation is superfluous

The impact of regulation on business case NGN;



Universal service obligation should be modernised

- Availablity:
  - USO obligations should be technology neutral;
  - Everyone should be served with the best cost efficient technology
    - Wireless;
    - Fibre;
    - Copper
- Affordability:
  - Investment in NGN is based on ARPU of Multiplay
  - What to do with the cost of Voice-only service over NGN?
- Which layer is regulated?
  - Service provider?
  - Active operator?
  - Infrastructure provider?

Regulation of NGN access

- NGN is new and not 100 years around like the PTT network;
- 3 years regulation periods do not give certainty for investments;
- How to determine the costprice of a new service at the start when there is low penetration;
- How to deal with high penetration;
  - high margins (when?);
  - Cost price regulation should not deter investment

Legacy regulation

- **Legacy regulation:**
  - Unbundled local loop;
  - Call originatio/CPS;
  - Wholesale Line Rental;
  - Leased lines
- **Low use of copper: high costprice**
  - Dismantling of copper should be allowed (OPTA accepts)
  - Increasing costprice of copper (OPTA does not accept)

Goal should be: stimulation of migration

Thank you

for your

attention