



Open Access To NGN Networks

Broadband at a Crossroads Conference

Auckland, New Zealand

27 February, 2009



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Agenda

- Netherlands market update
- ALL IP
- FTTH
- Key questions about regulating Fiber

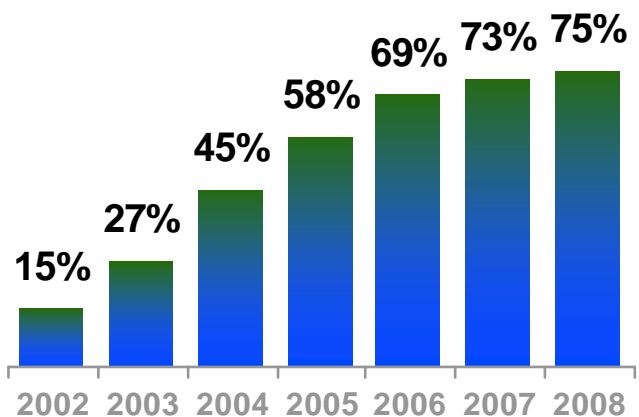
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Agenda

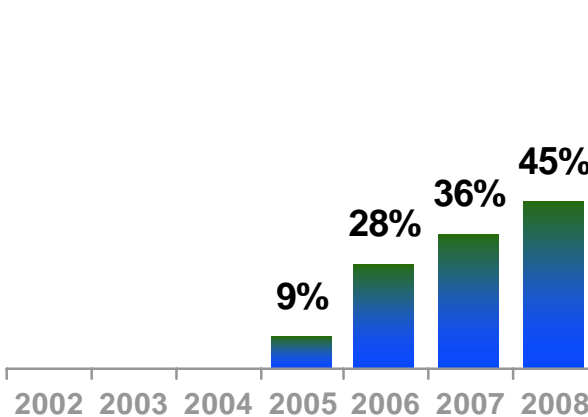
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Market Developments Netherlands Broadband and Voice

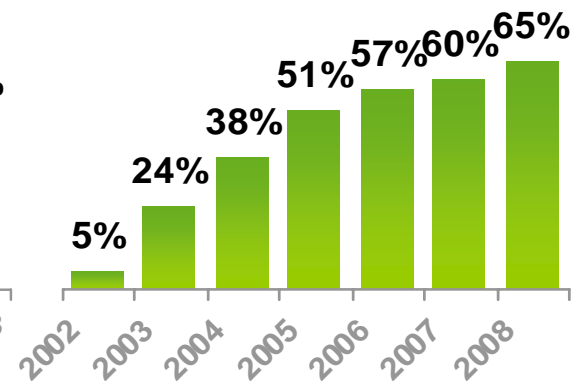
Broadband penetration



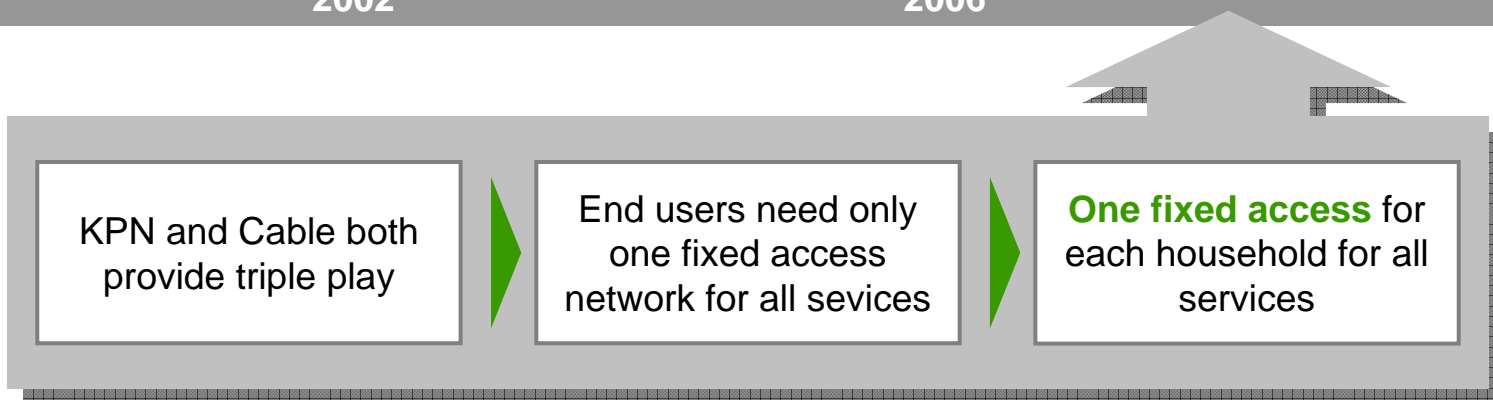
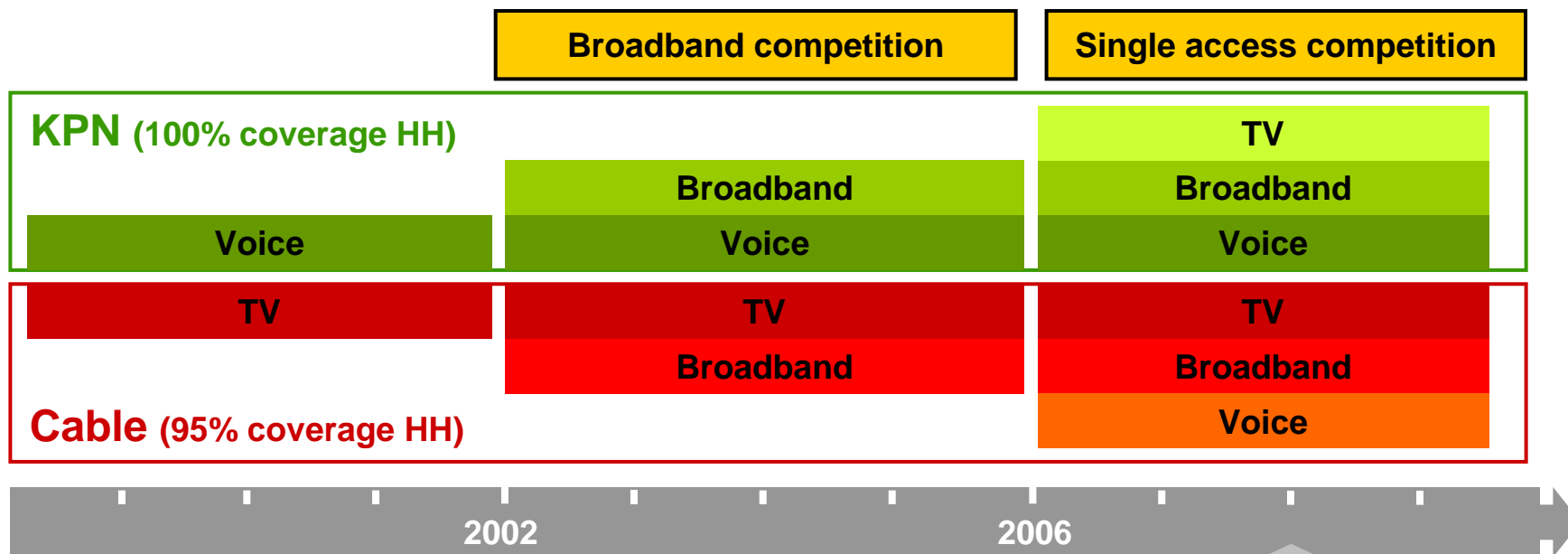
VoIP penetration



IP-VPN penetration



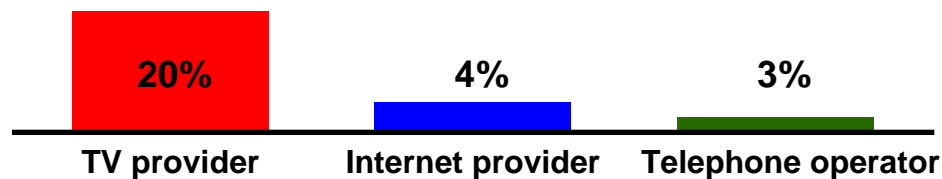
Dutch Market: Towards Single Access Competition



Single access market: TV is main differentiator

TV offer is leading consumers choice

The Netherlands: consumer preference* when choosing a “multi-play package” service provider:



*) Source: Ernst & Young market research: Bundle Jungle, October 2007

Strong position of analogue cable TV

Advantages analogue cable TV	
A	No 'In house hassle' (equipment en wiring is already there)
B	'incremental' pricing of Digital TV
C	No additional costs for additional TV sets.

High Definition TV is coming

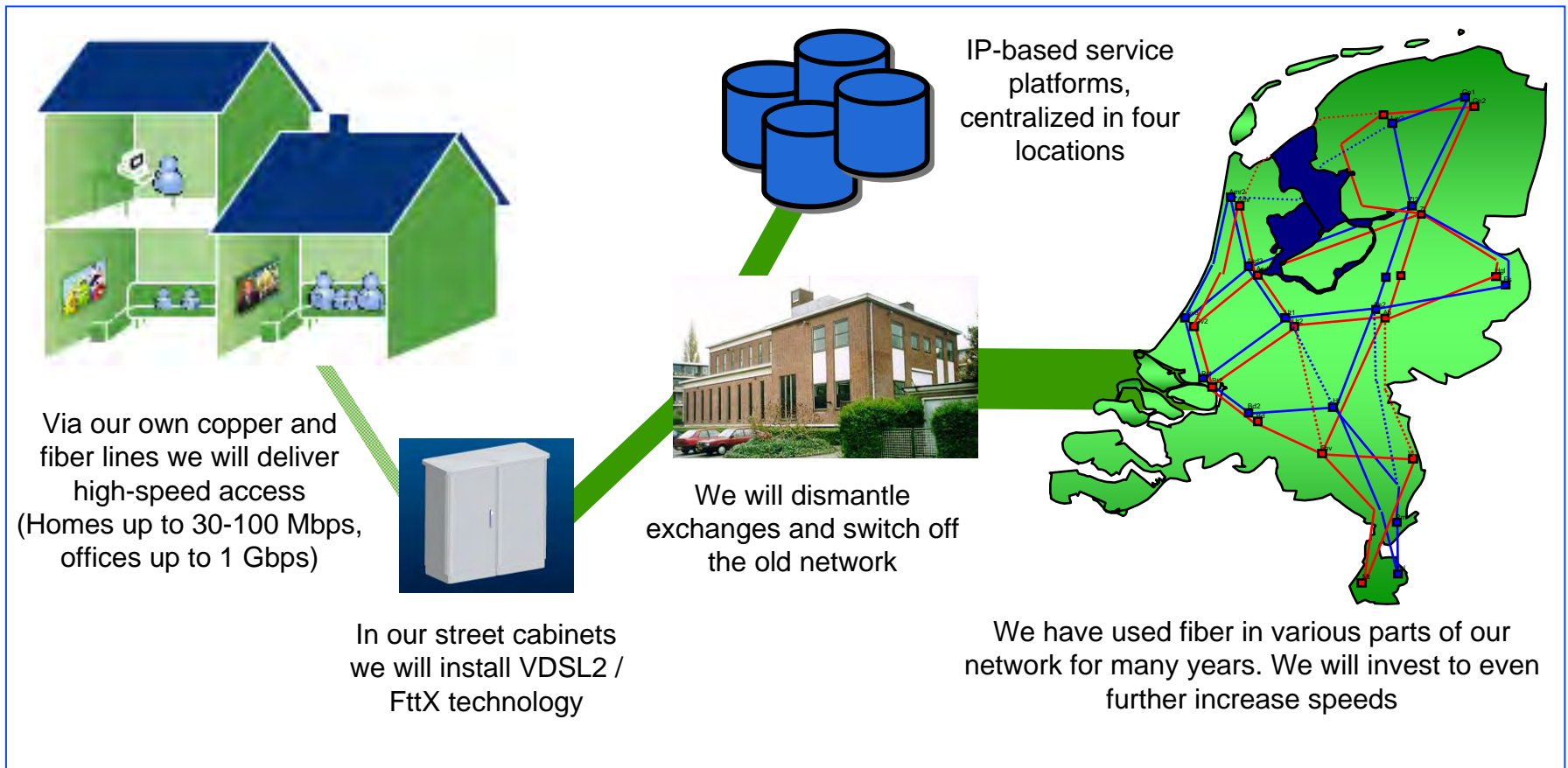
- Cable companies sponsor HDTV of public broadcaster
- Start in spring 2009

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Mindshift KPN 2005: ALL IP



Mindshift KPN 2005: ALL IP (ctd)

- High churn to cable, although declining now
- Wholesale is business too
- Television is crucial
- Economically rational

***Announcement of Network Rationalisation and Closure
MDF Unintentionally Led to Investment Decline***

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2005-2009

- OPTA Consultations on migration policies
- Development VDSL portfolio, testing VDSL
- Discussion about migration issues
 - Resulting in MoUs end of 2007
- Further development on FTTH in 2007
 - Commercial pilots announced early 2008: 5 cities fttc and 5 cities fttb
- Joint Venture Reggefiber May 2008
 - Regulatory approval December 2008
 - February 2009: Joint venture Citynet Amsterdam – Reggefiber
- H2 2009: Evaluation commercial pilots

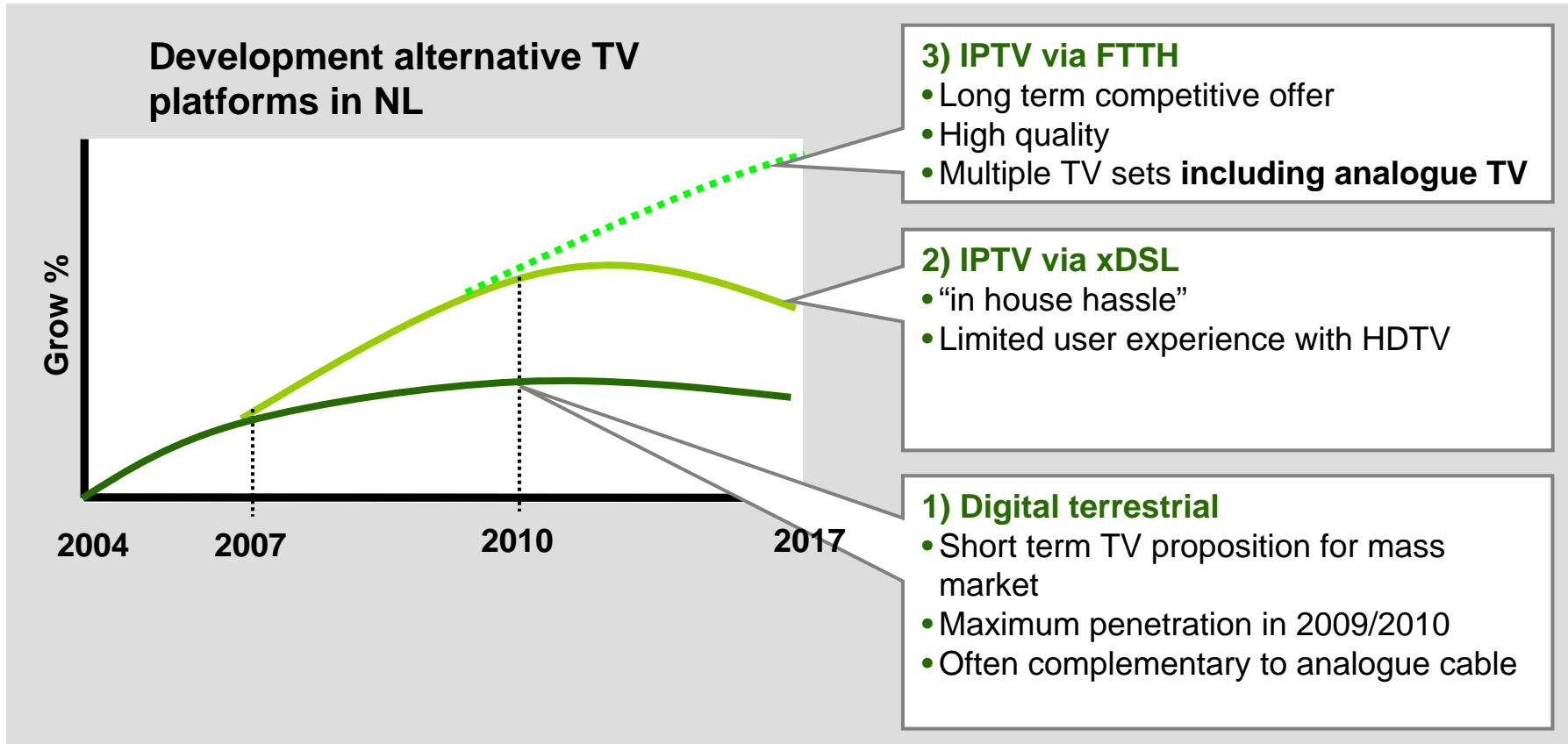
Interactive, Multi-part and (therefore?) Lengthy Process

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Single Access via FTTH: Long Term Competitive TV Offer For KPN



What Are We Talking About?

- NGN
 - > 50 Mb/s? >100 Mb/s?
 - FTTH, FTTN, Docsis 3.0, LTE?
- Access: to passive and active elements
 - Passive: Ducts? Dark fibre?
 - Active: wholesale broadband access/bitstream type access
- Netherlands:
 - no ducts,
 - cable competition
 - wireless competition
- Ambition? NGN 4 ALL?
 - NGN will be local for next 5-10 years

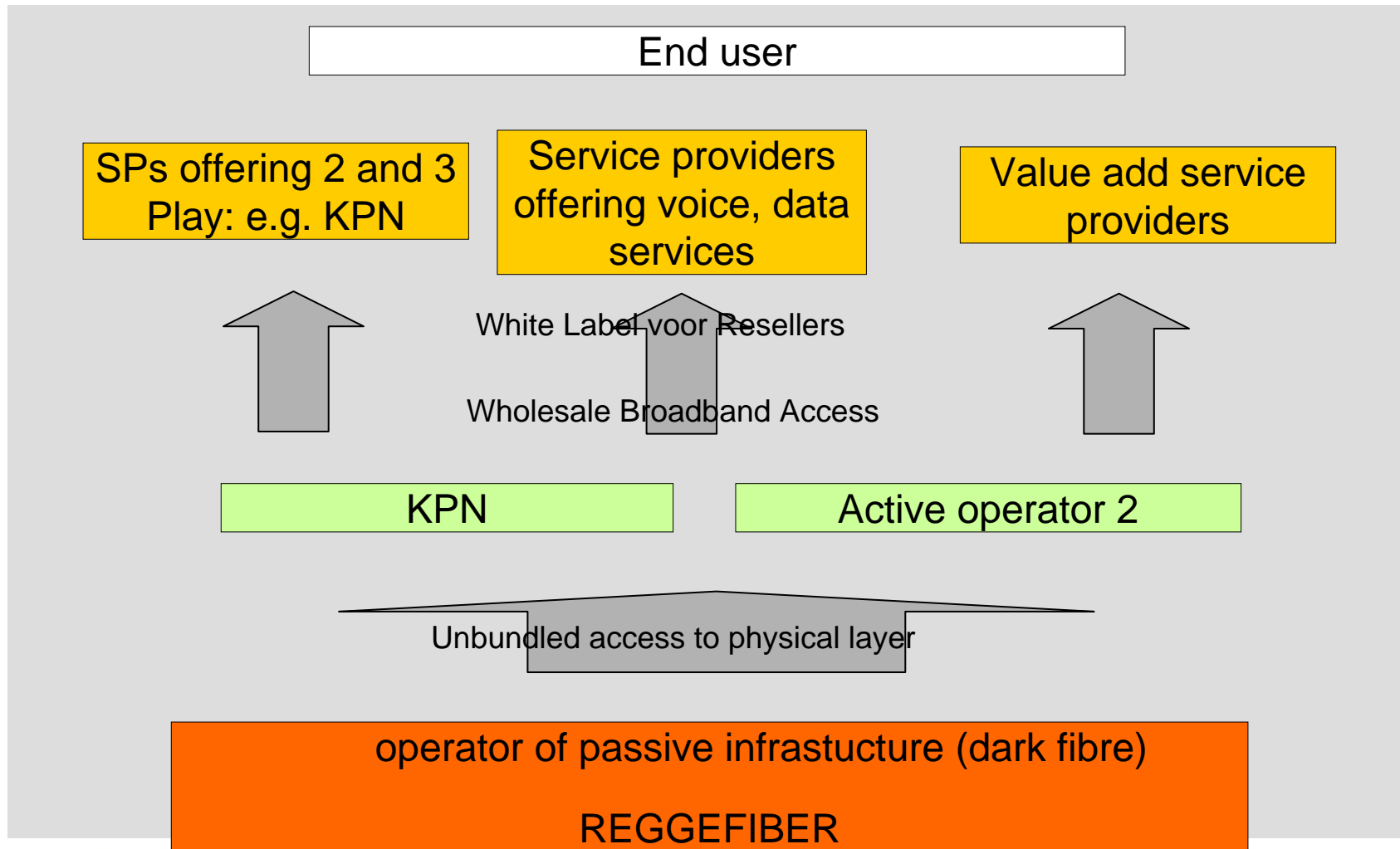
Choices Made By KPN And Key Regulatory Decision

- KPN: pro-competitive access policy
 - P2P technology
 - Open access model
 - Passive infrastructure provider functionally separated from active operator and Service Provider

- Key Regulatory Decision

Where access is mandated, the pricing should take into account any higher risk and the need for the investor to recoup its investment through its revenues on the retail markets

Reggefiber and KPN FttH Open Access: 3 Layer Model



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- Key questions about regulating Fiber

Regulatory Aspects FTTH- Unbundled Access Regulation OPTA

- Tariff Principles
 - Differentiation (CAPEX), discounts, structure (recurring and one-off charges)
 - Price cap
 - DCF-methodology
 - All-risk WACC
 - Following the Reggefiber business modelling
 - Certainty
 - Methodology
 - 3-yearly review over total investment
 - Starting point
 - IRR based on business model
 - CAPEX: investment and payback period, penetration levels
 - OPEX
 - WACC