



# NGN, Market and Regulatory Implications

NGN workshop of OFCOM / BAKOM in Biel/Bienne  
5 September 2006

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# Agenda

- *About COLT*
- COLT's NGN strategy, network technology and investment plans
- The implications of NGN on the market
- NGN and the challenges of the legal and regulatory policy

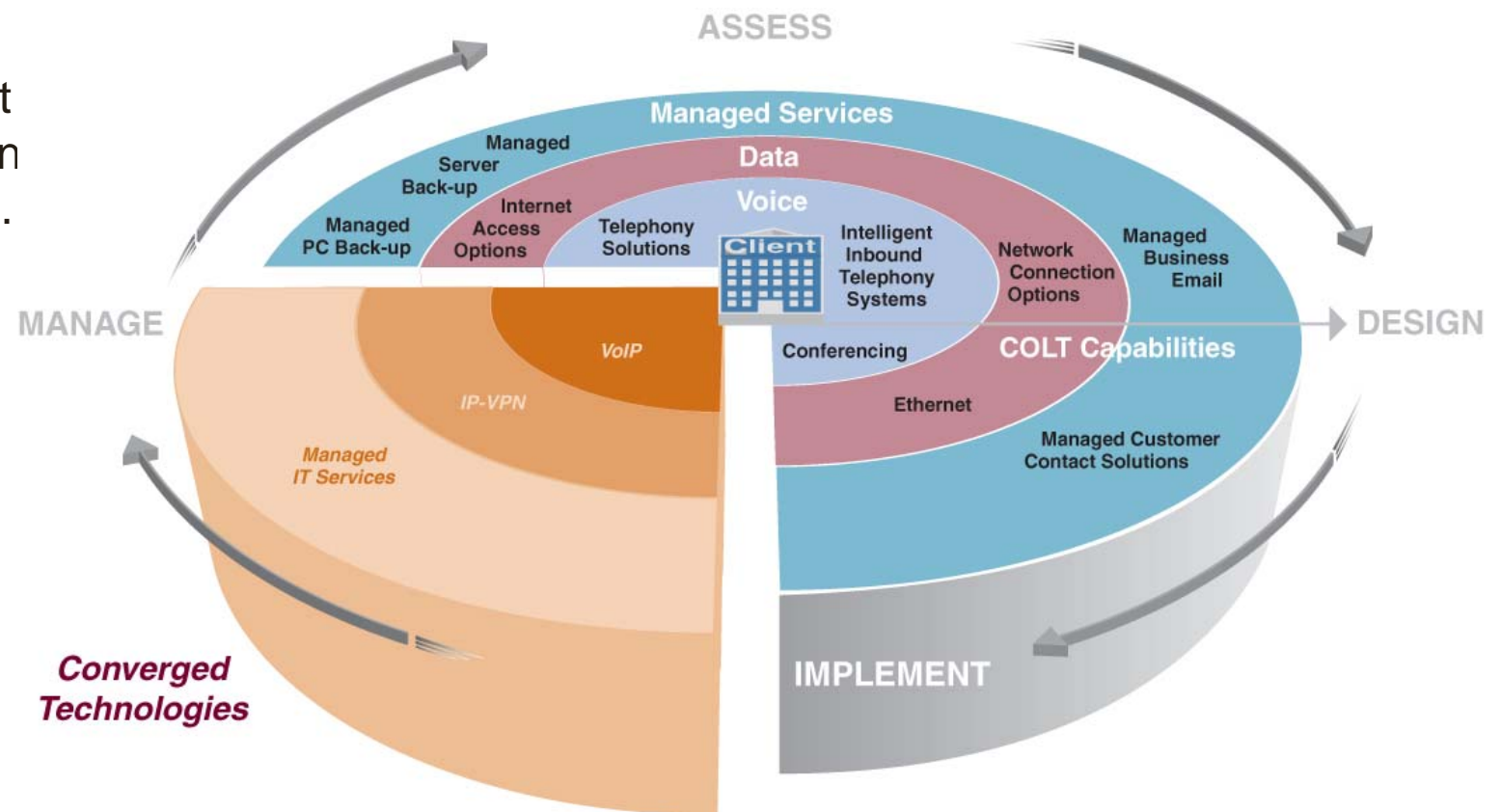
# COLT is built around customers

- COLT founded in 1992 by majority shareholder Fidelity Investments
  - > Trusted by more than 50,000 customers with their essential data and voice communications
- Customer growth has driven our data, voice and managed services roll-out across 32 cities
  - > Unrivalled wholly owned pan-European network
- Our ethos is the **customer first, every time!**
  - > Continually evaluating customer service
  - > Building best-in-class partnerships
  - > Superior technology deployment

# Solutions designed for customer's needs

## COLT services portfolio

Building dedicated solutions to support customer's needs in 2006 and beyond...



# Higher performance from COLT's secure and reliable network

- Unmatched breadth and depth
- 32 metropolitan area networks in 13 countries
- 13 fully integrated data centres
- Owned and operated end-to-end (stringent SLA, rapid provisioning)

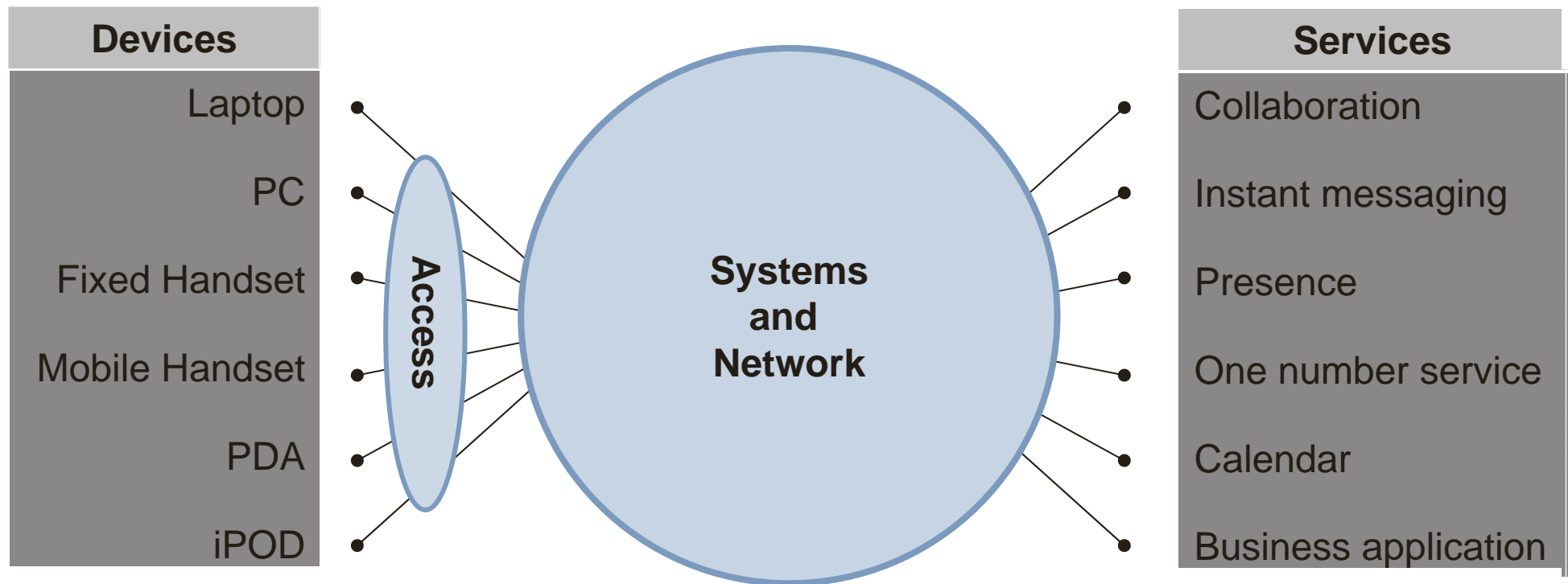


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# The COLT vision

- > The network will become invisible for the customer
- > You will access applications anywhere on any of your devices



The future: single number for any service on any device

# Benefits for the customer

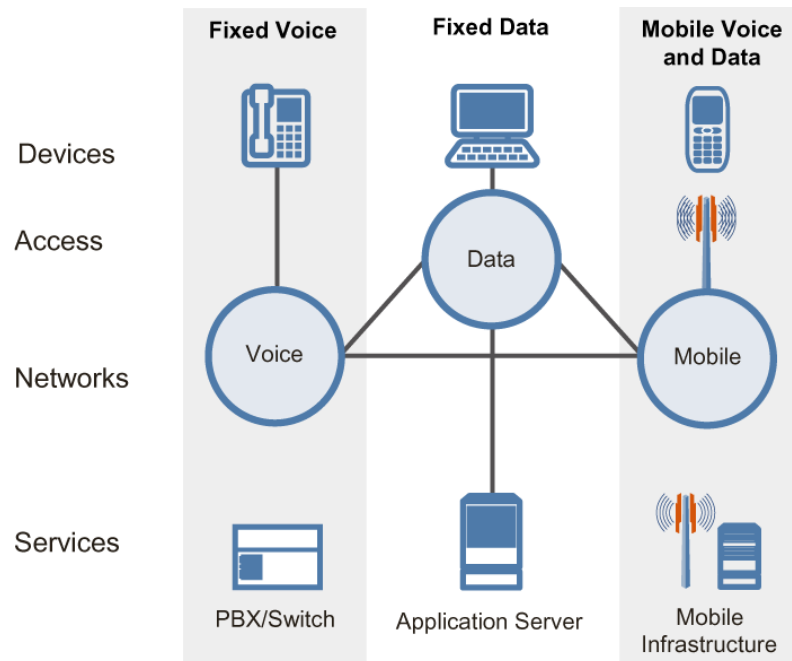


- Cost reduction by sourcing voice and data from same supplier
- Integrating customer applications with network supplier
- Mobility for voice and data applications
- Increased competition by buying best of breed
- Simple immediate control of the service



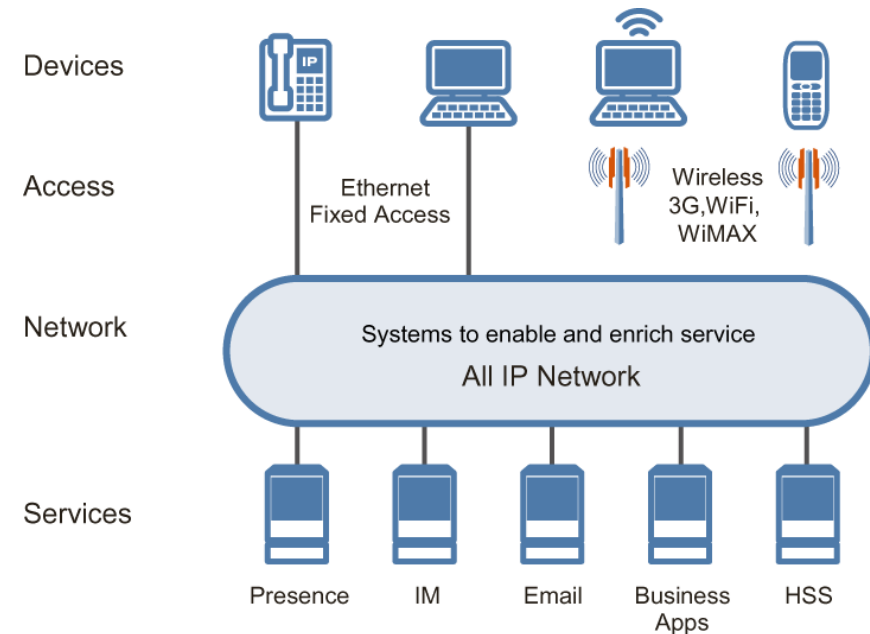
# Next generation networks – what are we talking about?

## Today's network



- > Separate networks for different services
- > Many numbers (Mobile, Fixed, different devices)
- > Equipment duplication
- > Service duplication

## Tomorrow's network

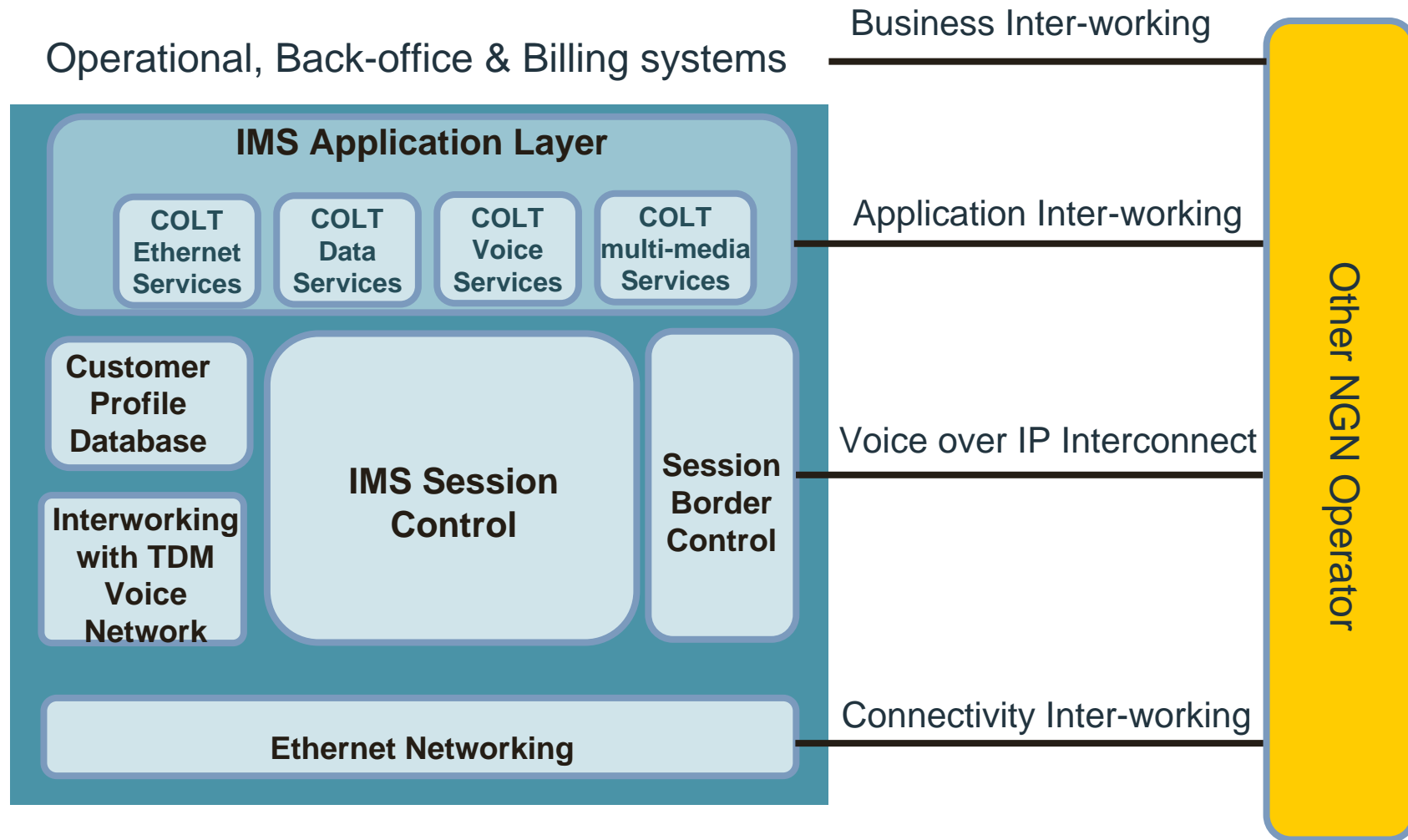


- > One network for converged services
- > One number, fewer devices (PC and Mobile)
- > Also called NGN (Next Generation Network)
- > Service creation and use simplified

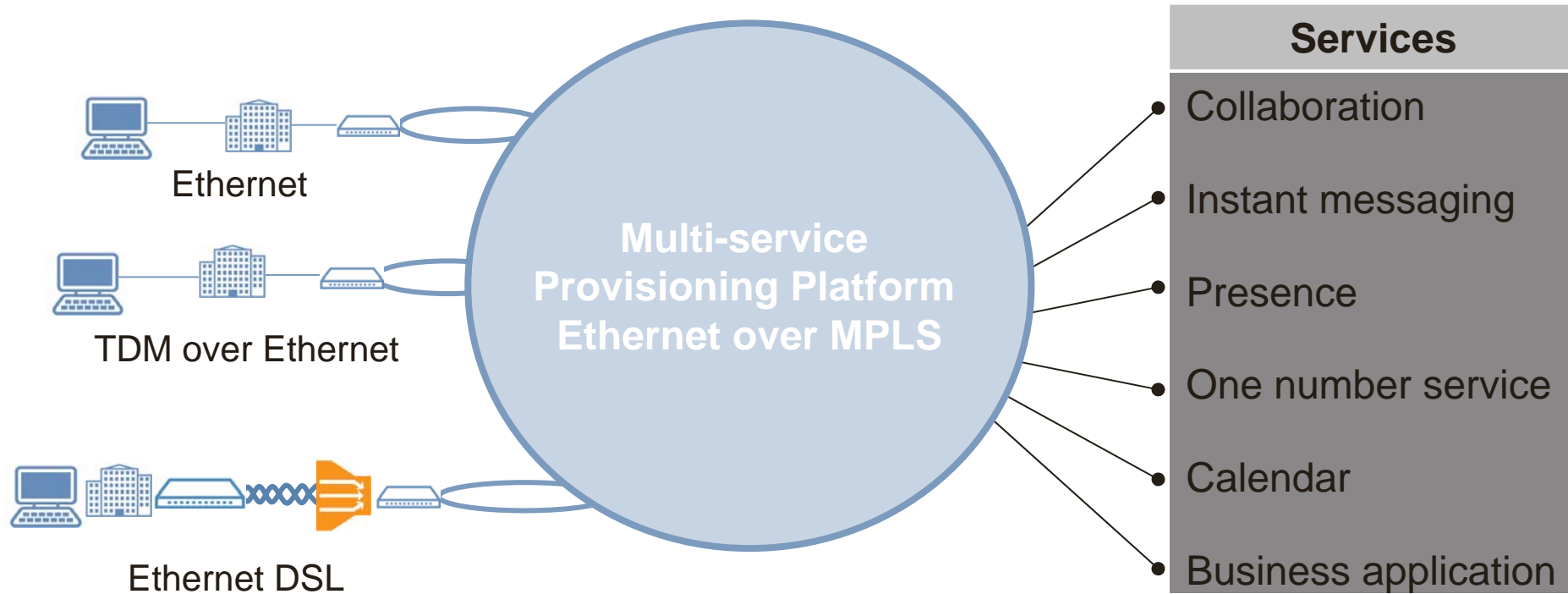
# Next generation networks – what's driving value

	Customers	COLT
Services	<ul style="list-style-type: none"><li>&gt; Network consolidation</li><li>&gt; Flexibility</li><li>&gt; Remote, mobile and home working</li><li>&gt; Data availability and resilience</li></ul>	<ul style="list-style-type: none"><li>&gt; Broader product portfolio</li><li>&gt; Quick time to market</li></ul>
Technology	<ul style="list-style-type: none"><li>&gt; Ethernet for data centres</li><li>&gt; IP/MPLS for integration</li><li>&gt; SIP/IMS for IP everywhere</li></ul>	<ul style="list-style-type: none"><li>&gt; Enables entire convergence proposition</li><li>&gt; Easier service creation</li></ul>
Price/cost	<ul style="list-style-type: none"><li>&gt; Affordable “on-demand” networking</li></ul>	<ul style="list-style-type: none"><li>&gt; Reduced operating costs</li></ul>

# IP Multimedia Subsystem, flatter simpler network



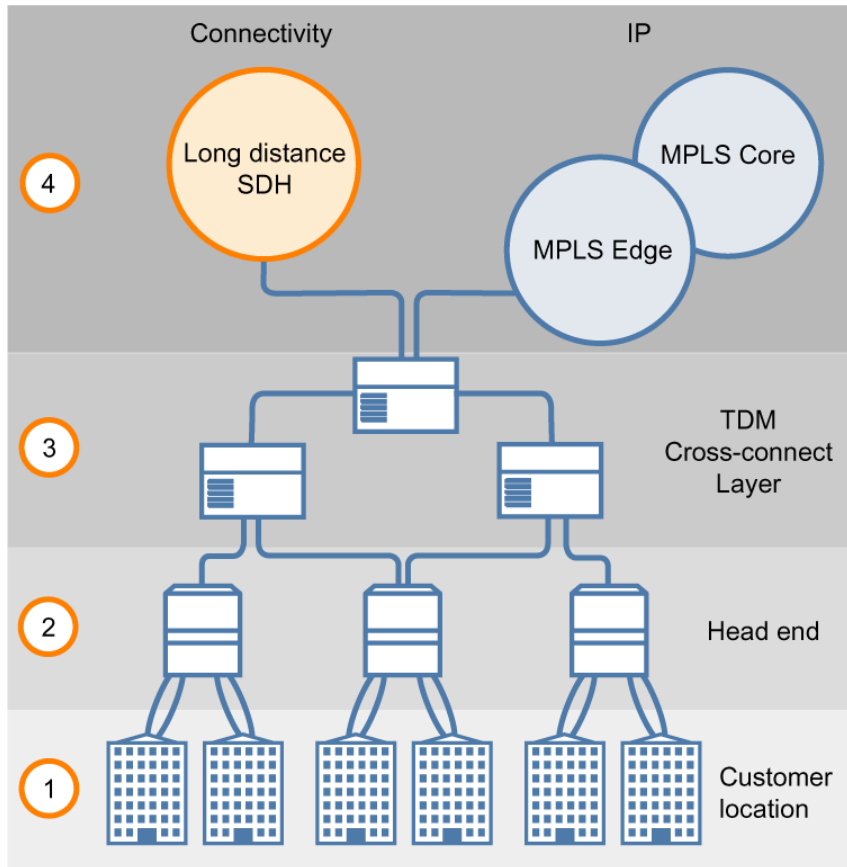
# All IP next generation network, based on Ethernet



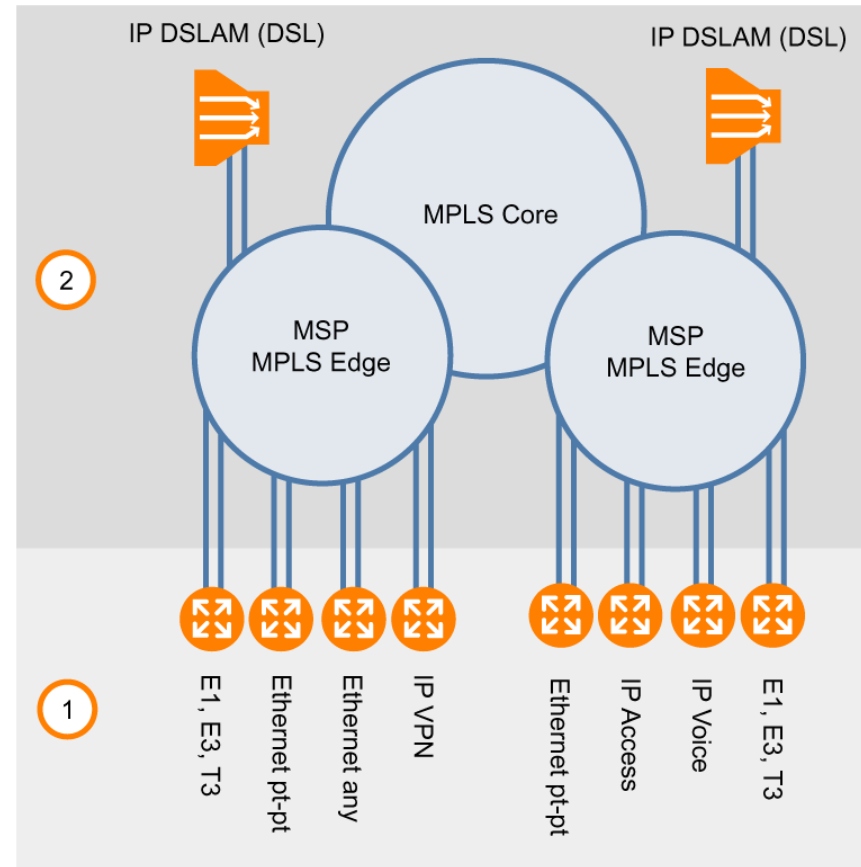
> Access and transport will be Ethernet

# Multi-service provisioning platform (MSPP)-reducing network layers

## Today

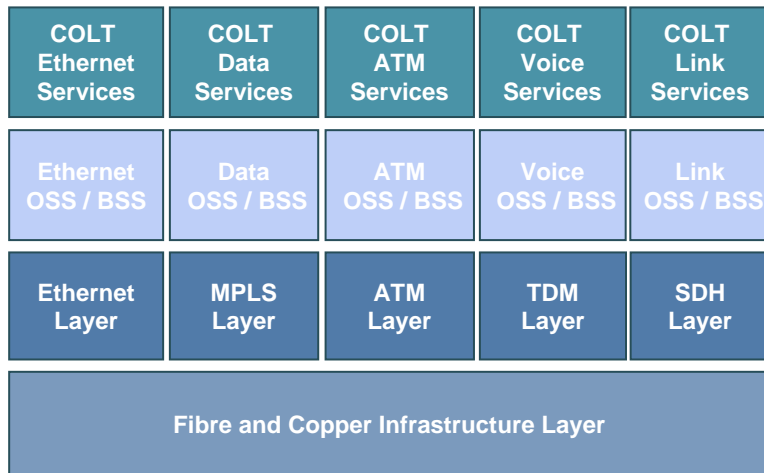


## Tomorrow

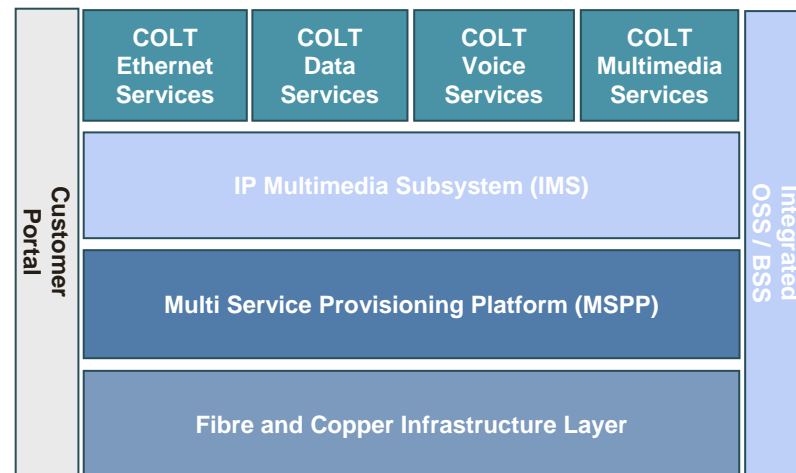


# COLT Network

## Today



## Tomorrow



# Network and technology conclusion

- Services will be delivered on a programmable platform easy to change
- Challenge is to keep the good of the legacy and get rid of the bad
- COLT's next generation network will be all IP under IMS control
- Ethernet will play a key role at every stage of the network
- Key challenges are with OAM and OSS/BSS
- Carrier interworking is fundamental to achieving this vision

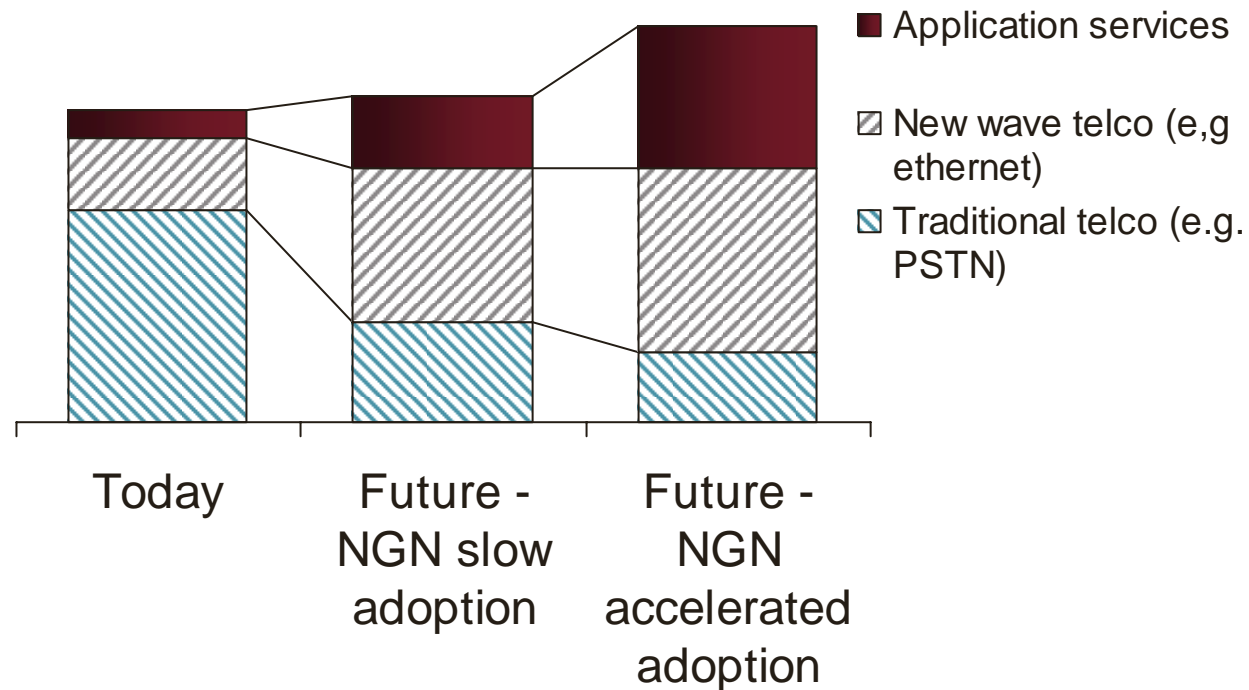
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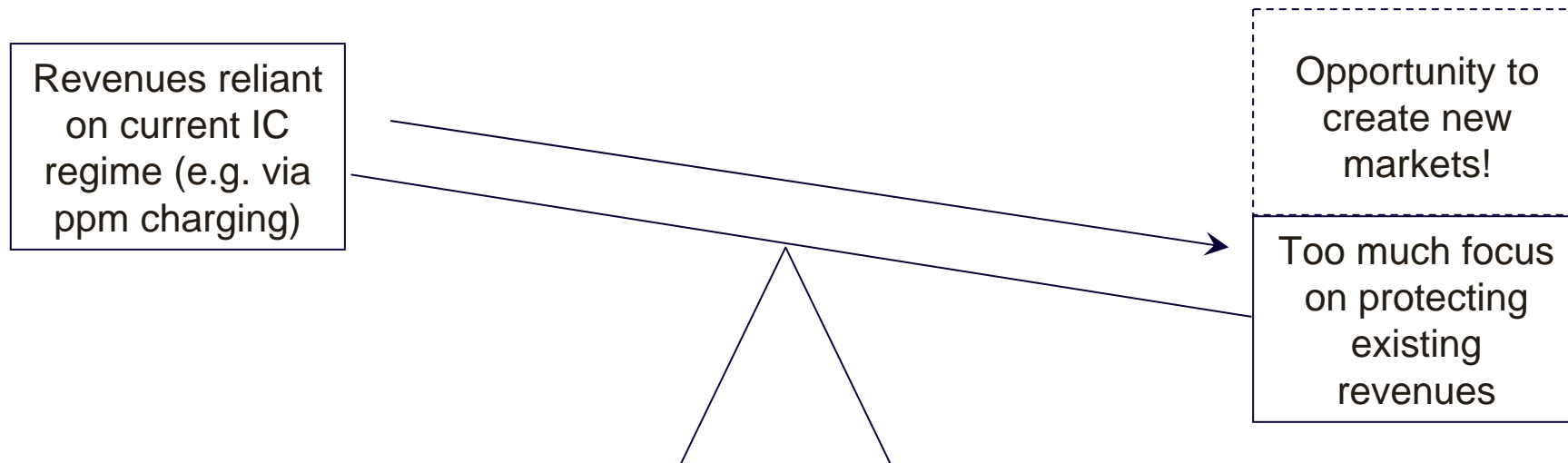
# Key NGN challenges

Where will the growth be in NGN world?



# Key NGN challenges

- NGN interconnect regime sets investment and migration incentives:
  - Will new interconnect reward investment in networks? Or in services?
- Preserve existing revenue – v – grow new business on NGN



# Key NGN challenges

## ➤ **Network hooks**

- Focus on “bottlenecks” traditionally on access network. Will this change given the increasing focus on application providers?
- Obtaining relevant information on security, authentication, presence and location will all be key for interworking between CPs in the NGN world
- How will interworking look in the NGN world?

## ➤ **Pan European harmonisation**

- Critical to COLT’s pan-European strategy to avoid different commercial and technical standards across Europe

# Market developments

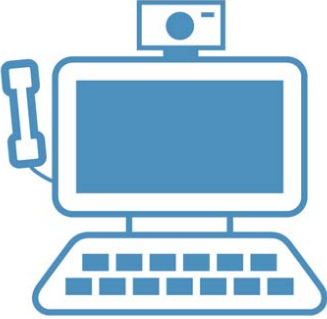


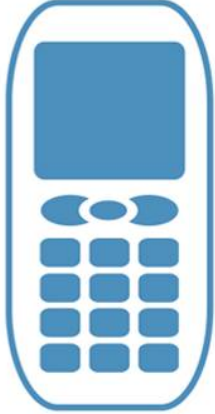

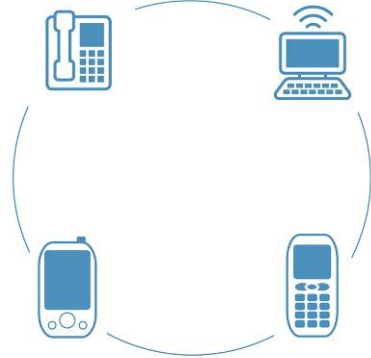
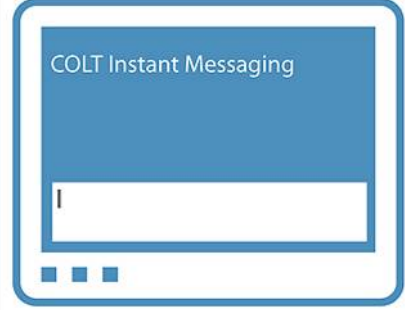
## ➤ **Market Pressure**

- > Price erosion, e.g. legacy services and fix-to-mobile voice traffic
- > Cost pressure from the market (competitors and customers)
- > Single Quality of Service

## ➤ **Service Convergences**

- > Data- & Voice Service Convergence based on IP platforms
- > Fixed & Mobile Service Convergence
- > Telecom & IT Convergence
- > Transport/Service and Content Convergence
  - Access, Service and Content

# Planned services

<p>Video Telefonie</p> 	<p>IP Contact centres</p> 	<p>Mobile Solutions</p> 	<p>Fixed mobile coverage</p> 
<p>Hosted IP-based voice recording</p> 	<p>Unified Messaging</p> 	<p>Instant Messaging / Presence</p> 	

# NGN and market conclusion

## ➤ **Commercial Conclusions**

- > Never-ending search for lowest unit cost/cost-leadership through NGN
- > Harmonisation of platforms (MSPP) leads to commercial and operational advantages
- > Competitiveness through service differentiations and faster service delivery

## ➤ **Service Conclusions**

- > Simplification and harmonisation of services through single interface/multiple devices
- > Network provided services lower end-user's cost structures to stay competitive
- > Service bundles and up-/cross-sales potential for service providers
- > Single billing leads to "customer control"

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# Legal and Regulatory implications of the NGN

## ➤ Challenges

- > Competition must be effective in all identified relevant markets for NGN
- > Vertically integrated Telecommunication Service Providers (TSP) with PSTN network, local loop, Internet backbones and partially Mobile networks may leverage their market power
- > The last mile will still be a bottleneck in the near term
- > Service bundling on retail level without appropriate cost oriented wholesale services from the TSP with market dominance
- > Convergence of data and voice as well as fixed and mobile
- > Network neutrality concerning access, QoS levels, bandwidth and interoperability
- > Remedies for market dominance or regulatory holidays for emerging markets?
- > Billing and accounting in a new service environment



# Legal and Regulatory implications of the NGN

## ➤ Challenges

- > Continuity of the legal and regulatory requirements, rules and principles including pricing where it make sense
- > Seamless migration to NGN
- > NGN disrupts traditional boundaries
- > The role of the service provider and their responsibilities will change
- > Interconnection to the legacy PSTN is necessary
- > The Point of Interconnection will change and may be reduced
- > Return on investments regarding the risks of the migration to NGN with still the focus on cost-orientation

# Continuity and changes in the regulatory policy

## ➤ **Continuity**

- > NGN Interconnection has to inherit the current regulated IC services and prices on wholesale level as far as they are concerned (e.g. ULL, Bitstream, originating services, terminating services, access services, network services)
- > Frame conditions for competition in the market of telecommunication shall be appropriately adapted (e.g. Decree concerning Telecommunication Services)
- > The ladder of investments is still to promote dependent on the evolution of competition
- > Investments for the competition of the networks is also the incentive for the NGN innovation and therefore not as risky that regulation shall not be applied to the TSP with significant market power
- > The competition of the networks and services is to promote by the regulatory policy

# Continuity and changes in the regulatory policy

## ➤ Changes

- > The TSP with market dominance shall not change the interconnection services and the conditions of the Points of Interconnection (PoI) to the disadvantages of the interconnected TSP without its consent
- > Without an agreement between the interconnection partners the follow-up costs for new conditions of the PoI caused by the offering TSP with market dominance are to bear by this TSP
- > Access to the service platform for intelligent services (e.g. location information, roaming) is to consider in the regulatory requirements
- > The regulator should pro-active monitor the regulatory environment to ensure that with NGN the appropriate wholesale services are available and no bottlenecks for the access to the network and services will arise

# Legal and regulatory policy conclusion

- The legal and regulatory challenges of the NGN are to consider in the regulatory policy to guarantee the competition of the networks and services that the consumer can gain from the benefits of the NGN
- The regulatory policy has to ensure the continuity of regulated interconnection services and prices as far as possible for the NGN environment
- Changes of interconnection services and the conditions for the Points of Interconnection (PoI) to the disadvantage of the interconnected TSP must be avoided with changes/amendments of the regulatory remedies for the TSP with market dominance
- The innovation of the NGN is driven by operational cost savings and the introduction of advanced services and therefore the calculated risk shall not avoid the regulatory remedies for the TSP with market dominance



Thank you



Data | Voice | Managed Services |