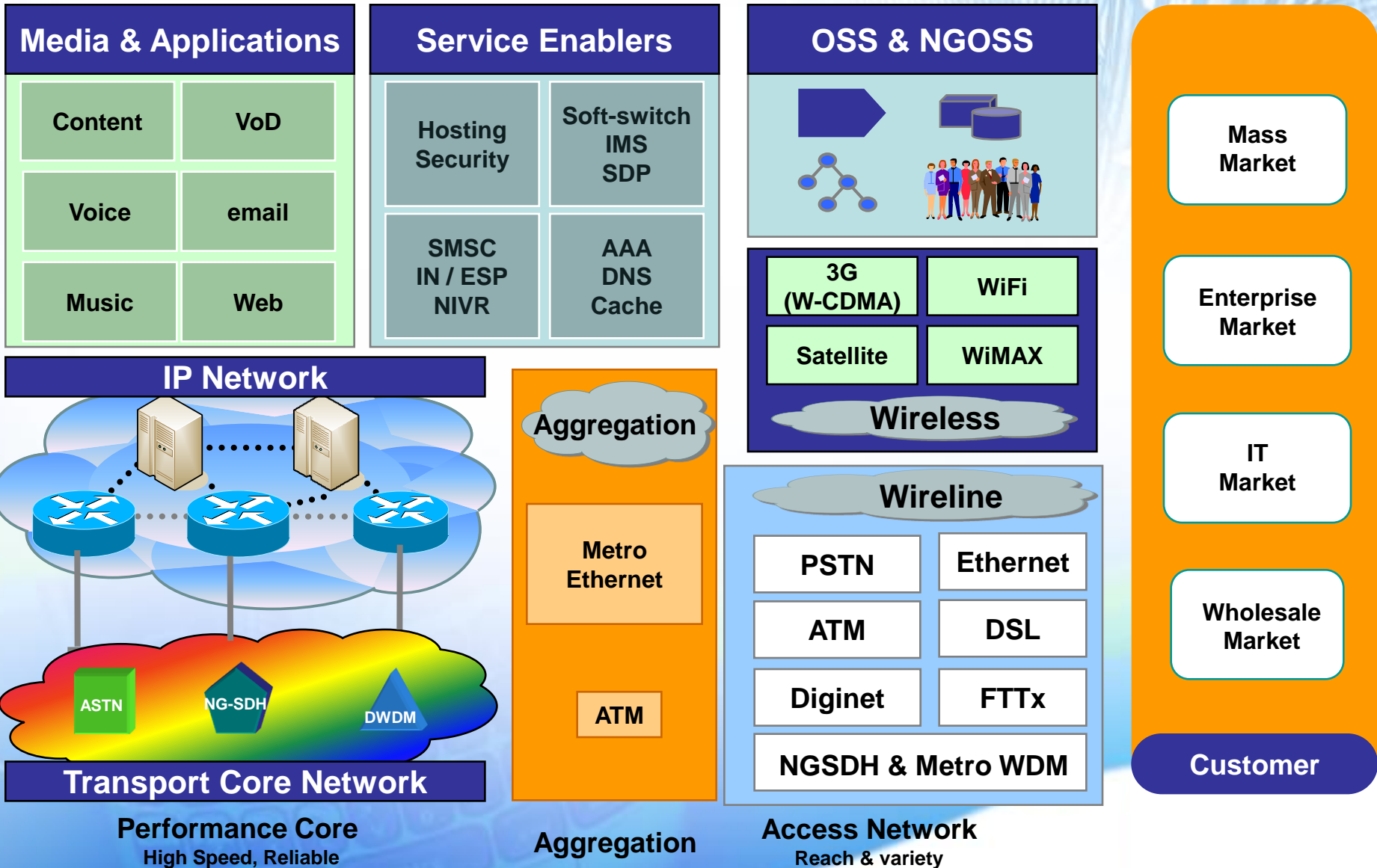




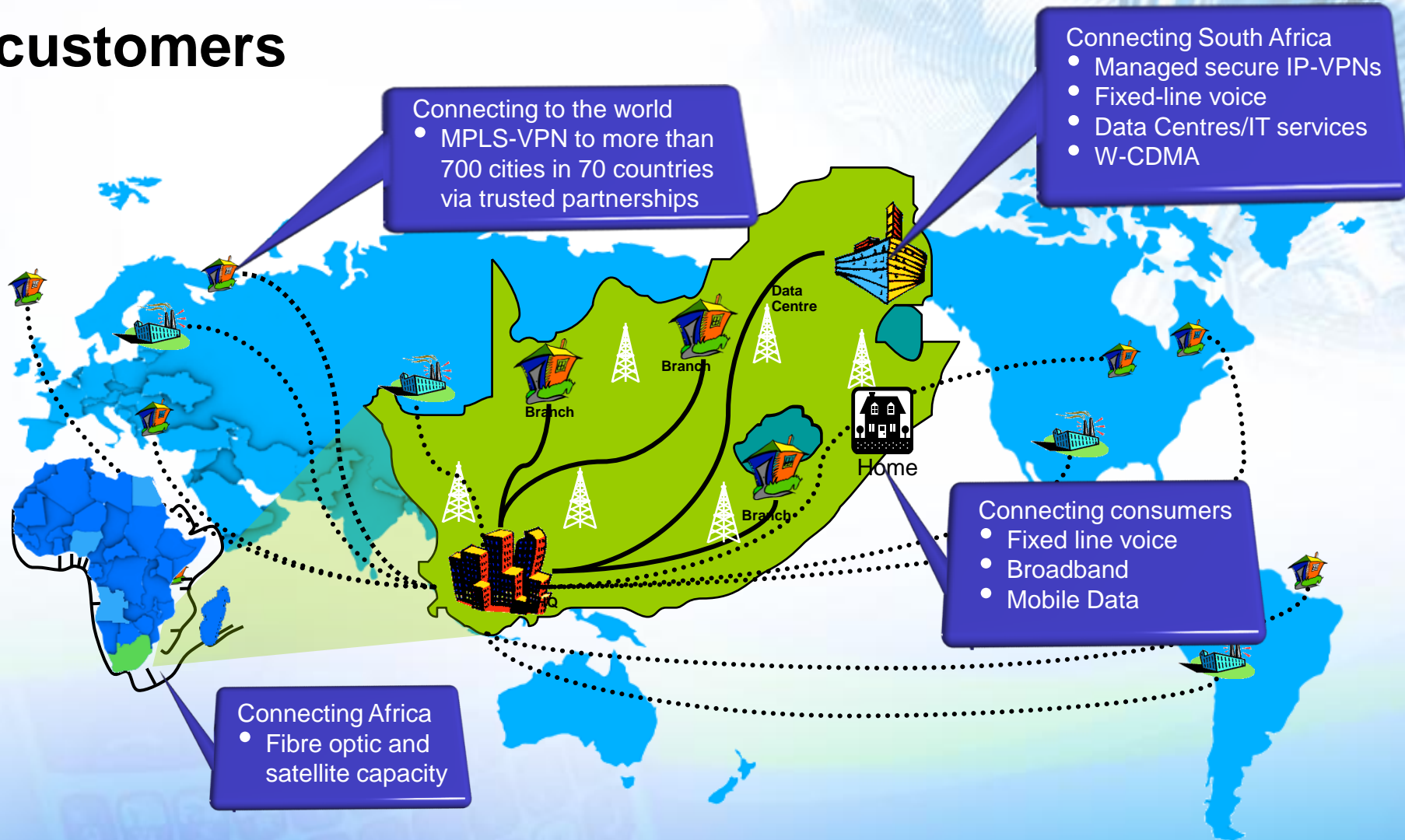
Telkom's NGN

Richard Majoor

The Telkom NGN Architecture



Our vision of how Telkom will serve our end-customers



Telkom's Network of the Future

Your future...

- The goal ... *a rejuvenated network for the future*
- Access network ... *coverage and ubiquity*
- Transport capability ... *creating capacity with resilience*
- Rich applications and services ... *driving customer centric services*
- The ultimate goal of enabling converged services ... *creating and delivering value to the customer*





The Rejuvenated Network of the Future

... with IP as the chosen fabric

Telkom's network of the future

Logical network layers focused on service diversification



IP over Everything and Everything over IP

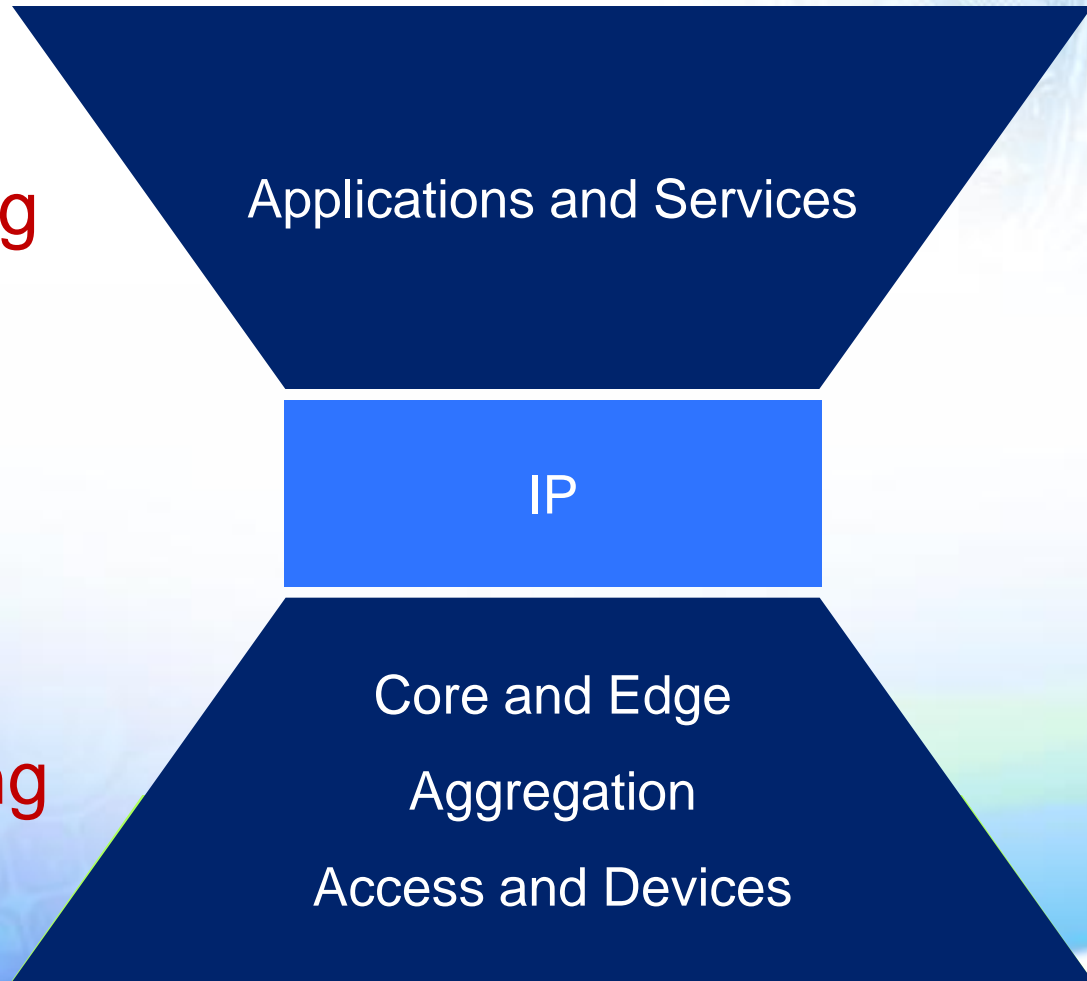
Everything

over

IP

over

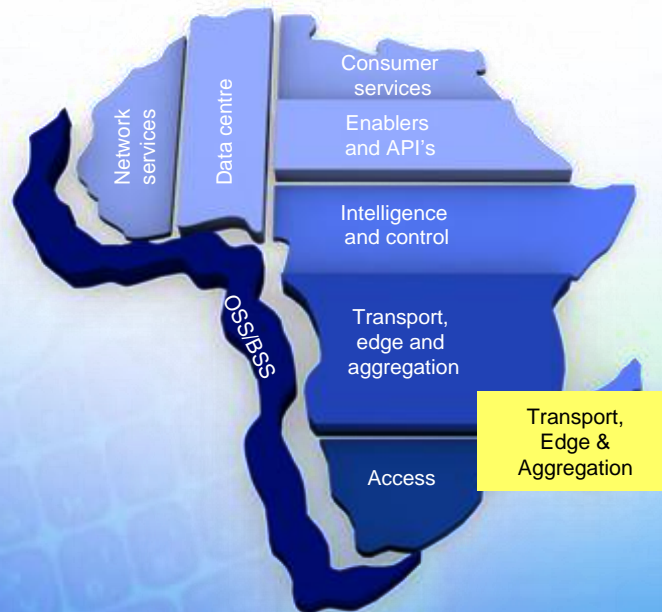
Everything



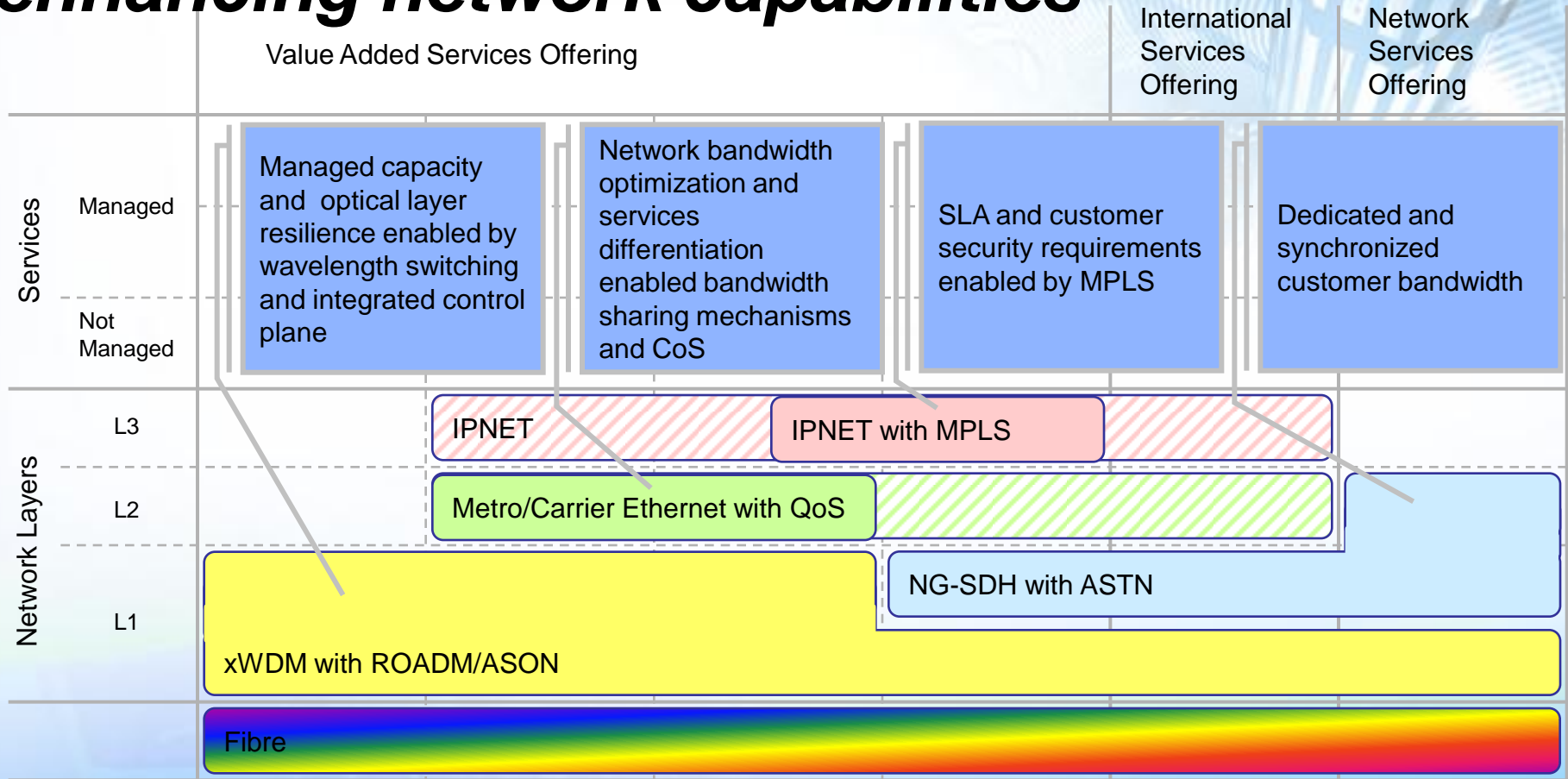


The Network Core

... evolving from Mbit/s to Tbit/s



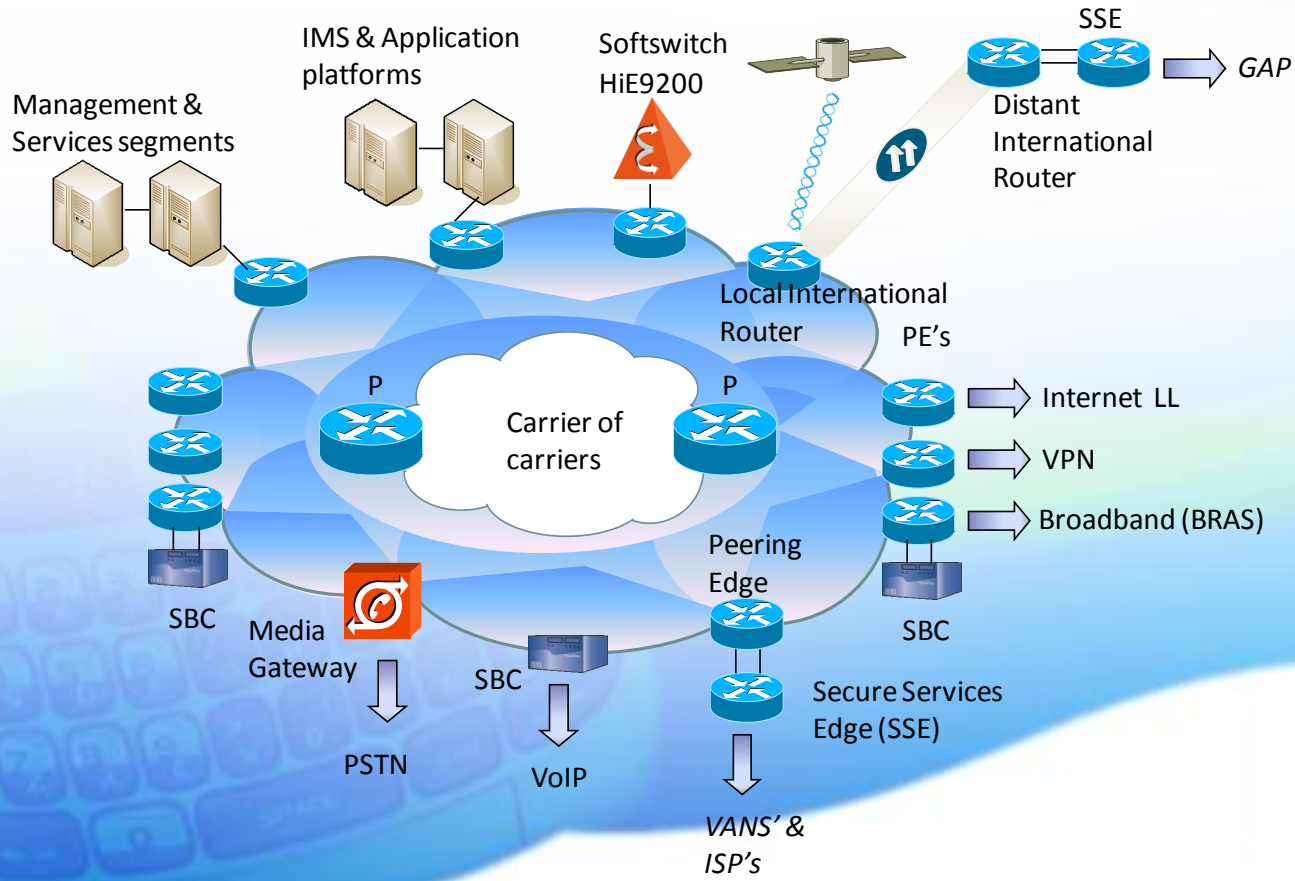
Transport Network building blocks – enhancing network capabilities



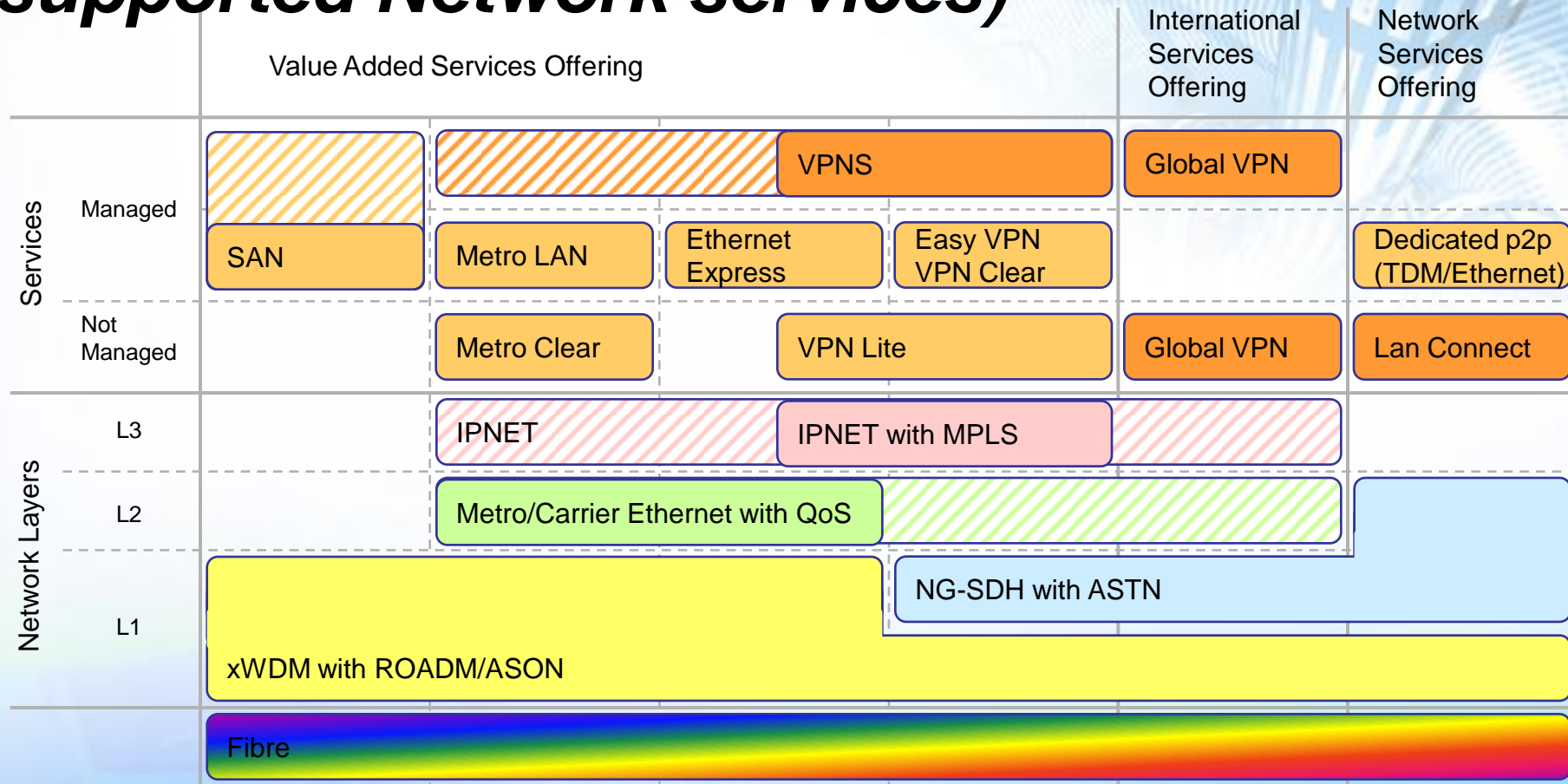
... evolving from *kbit/s* to *Tbit/s* throughput with *resilience (self healing)* and *manageability (customer focussed)*

IP Network

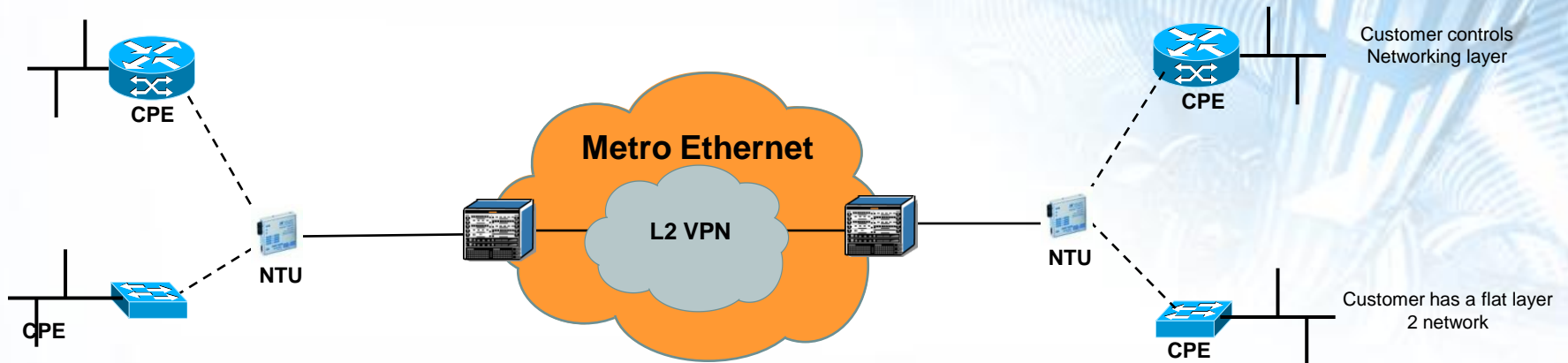
- Rolling out new core – Carrier Support Carrier
- Improved security
- Upgrading the edges
- Caching
- Resilient network
- Capacity to increase in line with transport initiatives from 2.5G → 10G



The Transport Network building blocks (*and supported Network services*)



Metro Clear



- Metro Clear is a cost-effective layer 2 VPN solution that is designed to provide multipoint connectivity and allows a customer to have full control over the networking layer.
- Fibre connection will be managed by Telkom up to and including the NTU. The customer will be given a wide choice of bandwidths (4-600MB) and will be free to choose the QoS breakdown of the traffic.
- Service will be delivered on a standard electrical Ethernet port.
- Several classes of service.

Ethernet Express

- High demand for point-to-point solutions.
- Bandwidth is limited in current layer 2 point-to-point solutions.
- Some layer 2 point-to-point services inefficiently use fibres.
- Certain layer 2 point-to-point services have distance limitations.
- Ethernet Express is designed to offer the same and more than current layer 2 point-to-point solutions.
- Ethernet Express will be capable of offering software upgradeable bandwidth.

Ethernet Express

Product

Ethernet Express

Bandwidth Type

Shared

Dedicated

Bandwidth

2 – 600 Mbps

> 155 Mbps

Class of Service

RT, BB, GD

Not applicable

International Access

Yes

No

Interface

E1, Eth, STM1

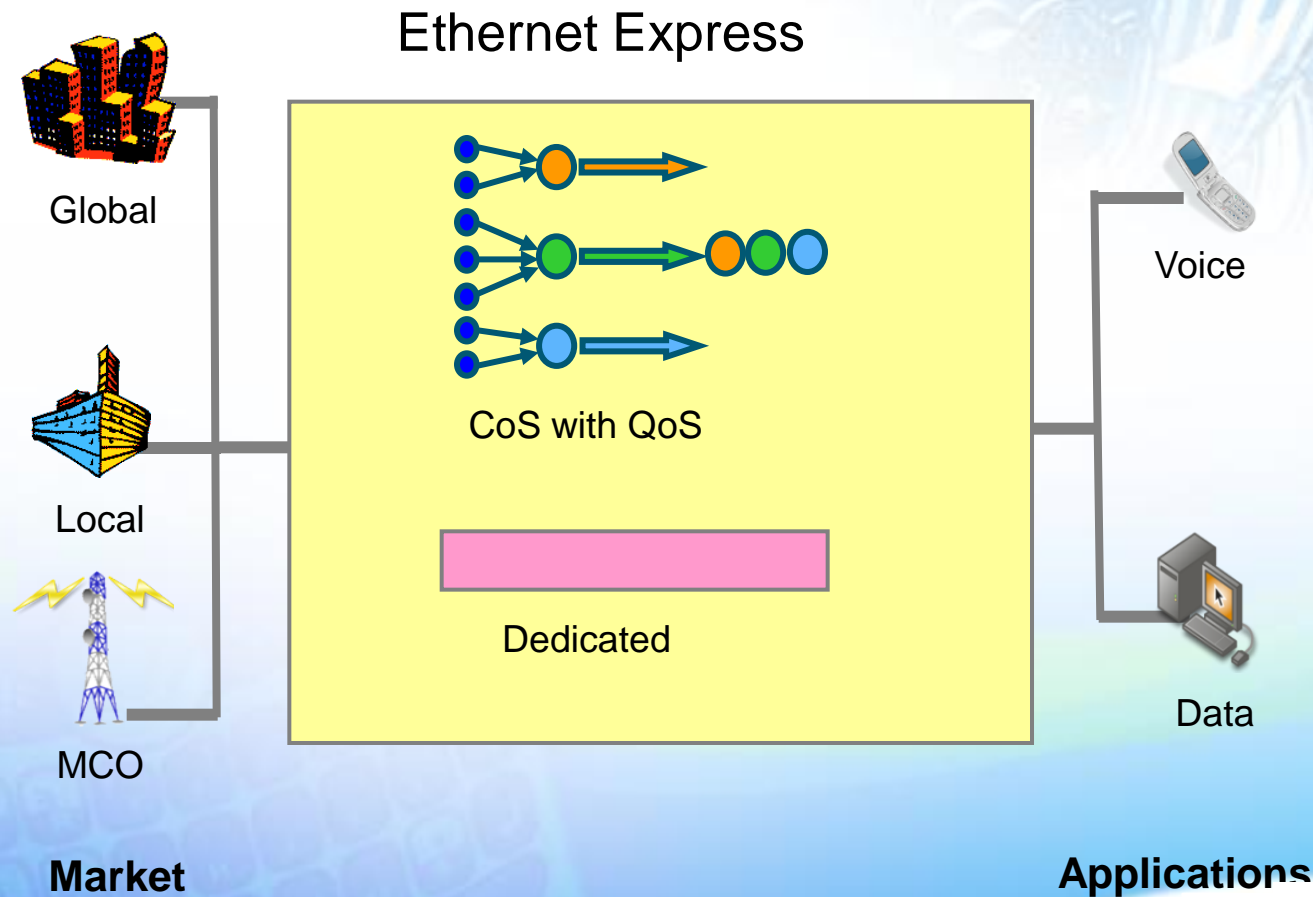
Eth, STMx

Managed Service

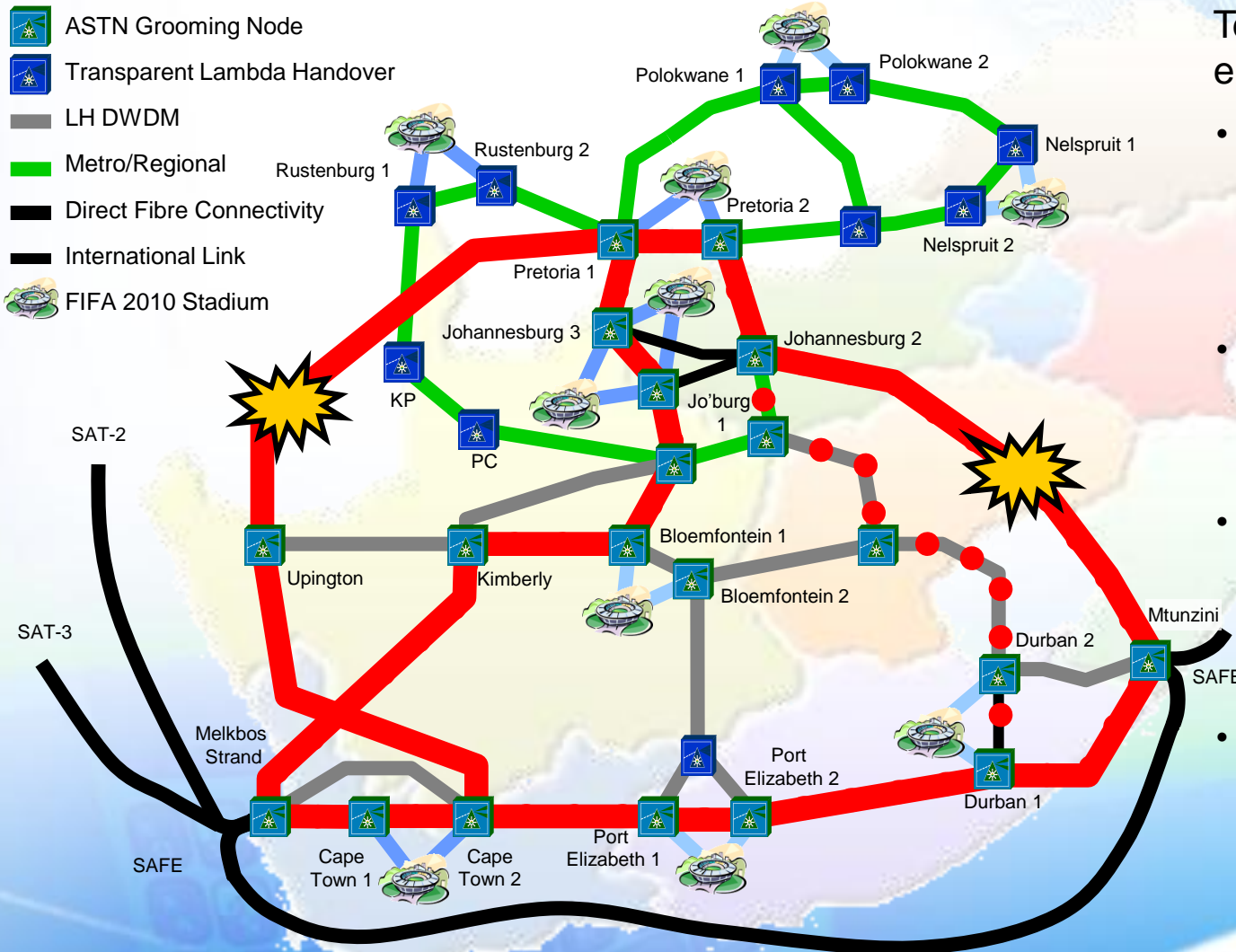
Yes

No

Ethernet Express



Regional and National networks – built with resilience and manageability



Telkom National Network enhancements

- Overhead fibre replacement to reduce “accidental” fibre/route damage and ensure network stability
- “Legacy” DWDM replacement – gearing for 10Gbit/s service capability on National Network
- Regional network enhancement – providing managed capacity and consolidated network infrastructure
- Intelligence – managed control of restoration schemes across multiple fibre routes



Access Network

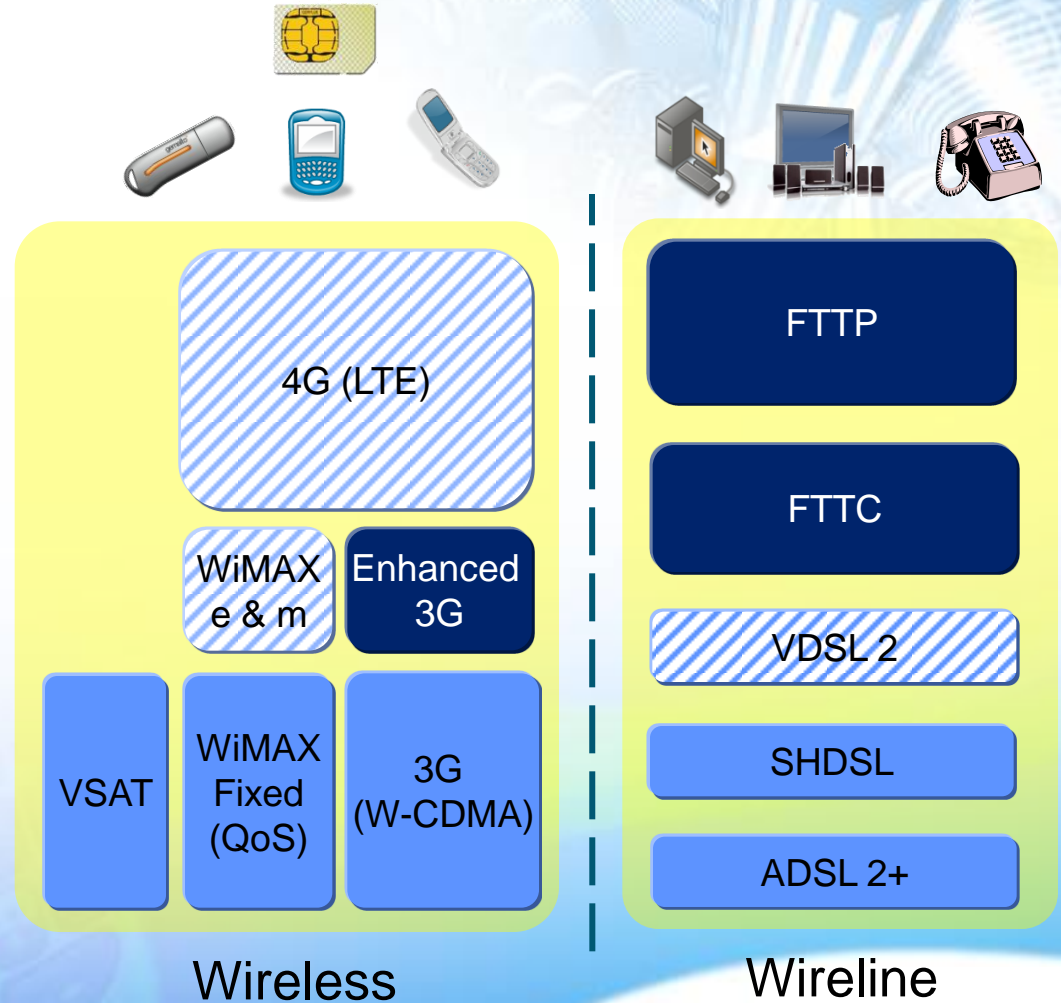
... coverage and ubiquity



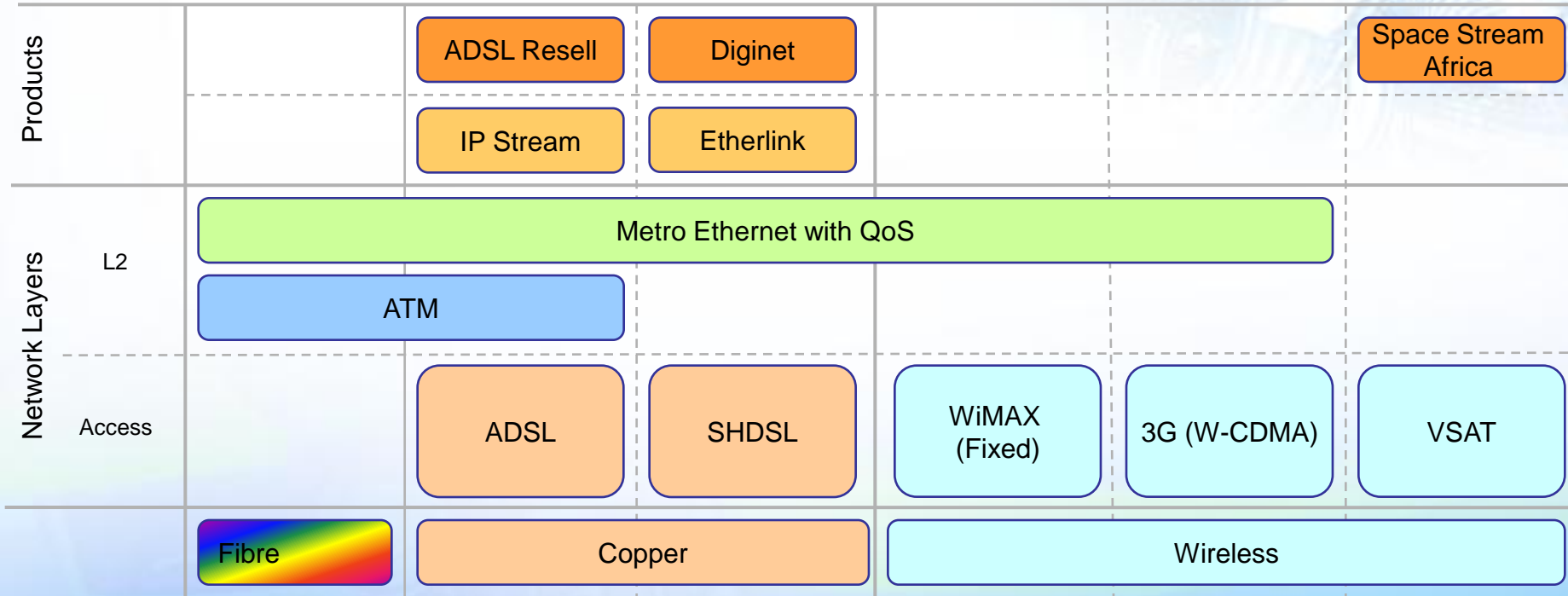
Technology Agnostic Customer Access

Competing technologies start to compliment each other

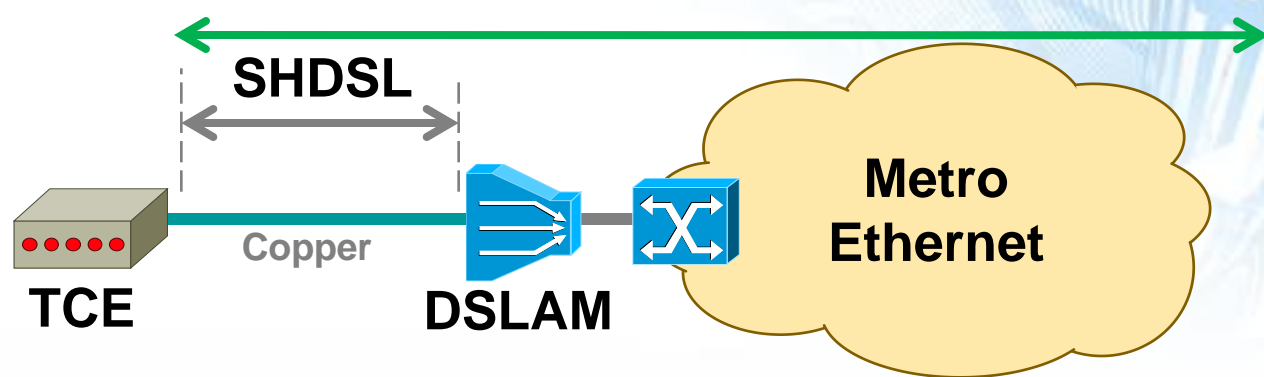
- Evolving access media
 - *fuelled by optic and wireless revolution*
- Telkom initiatives in support of ubiquitous coverage
 - Evaluating developments and the business case for FTTP
 - Tracking development of 4G, WiMAX e & m



The Access Network *supports* Wholesale Services

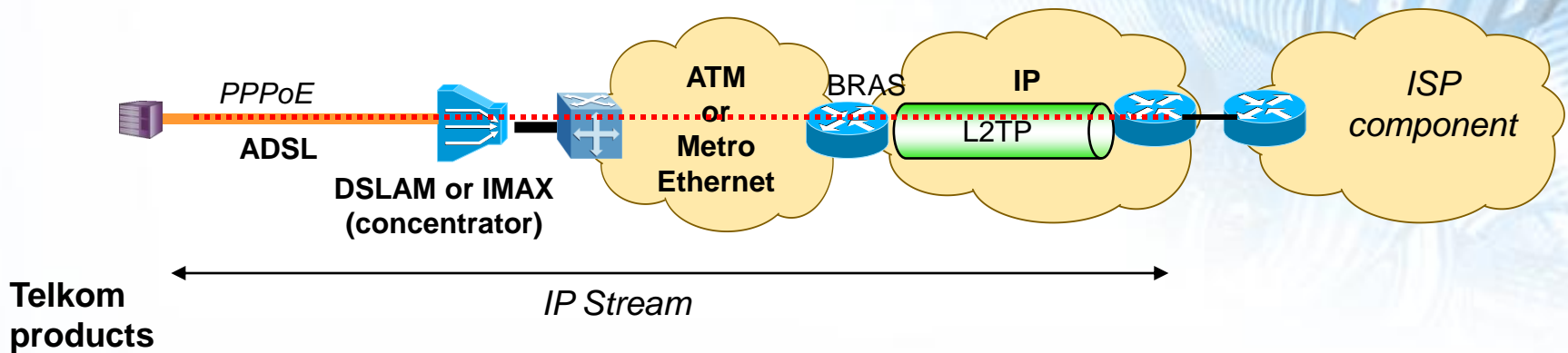


Etherlink Overview



- It is a guaranteed packet-based service.
- Utilises SHDSL.
- Point-to-Cloud Layer 2 service.
- Ethernet interface to customer.
- 64kbs – 2Mbs (Guaranteed).
- Metro Ethernet backhaul.
- From Wholesale perspective, Etherlink will be an enabler for the following retail products:
 - Stand alone point-to-point leased line services.
 - Access to IP VPNs, Internet and value added services.
 - Access to L2 VPNs, for example Metro Clear. (future)

IP Stream



- Customer pays Telkom for line rental & POTS calls
- With L2TP the backhaul is technology transparent (ME or ATM).
- Services may be provisioned to customers on all Telkom DSLAMs.
- More service layer control ...
 - ✓ IP address assignment – the operators can use static IP addresses.
 - ✓ Timeouts – operators have full control over this aspect
 - ✓ Authorisation, authentication and accounting (AAA)
 - ✓ Service creation and design.



The Telkom Network of the Future in Practice

... "The FIFA solution"

South Africa – *the country in 2010 ...*



... the communications architecture for 2010

Telkom Current and NGN Services Networks utilized for standard Communication Services





**What does this mean to
the end customer?**

Ultimate Goal

- Customer – *the centre of our universe*
- Any service – *uniquely profiled to the customer*
 - anywhere...
 - anytime...
 - on any appropriate device...
 - always on...
 - and always available



How do we do this?

By working together!

