

Impact of NGN on Telecom Services

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Some **myths** and **realities** of NGN

- **NGN simply means adoption of Internet protocol**
- There is lot more to NGN then just IP, ultimately it should result in increased revenues and reduced Capex and Opex
- **Massive turn key tenders ensure interoperability**
- Separation of Core from Access will help operator to simplify network and focus on convergence, operator has to ensure that standards will take care of interoperability
- **Technology and market will take care of NGN automatically**
- Strict adoption of NGN architecture and specific migration plan alone will help operator to reap the real economic benefits of NGN

Some **myths** and **realities** of NGN

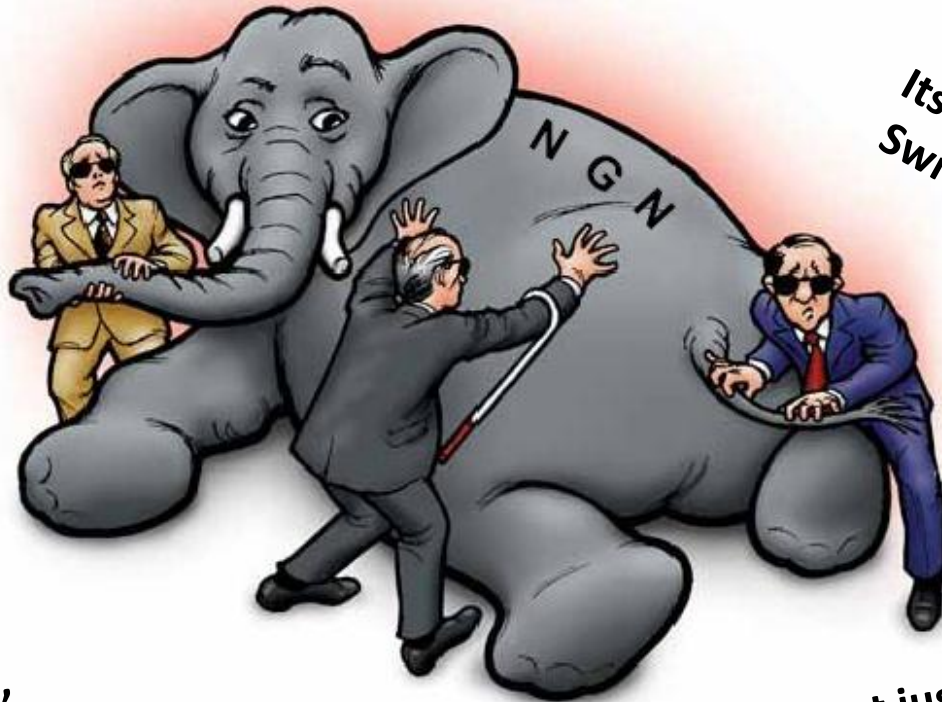
- Service Provider can leverage on the expertise of vendor insofar as standards and interoperability are concerned by spelling out deliverables
- To understand the deliverables, there is no escape for Service Provider from being technically fully informed
- There cannot be any synchronization in IP
- Sync Ethernet standards for IP have matured, Synchronous Ethernet, defined in ITU-T G.8261, provides SDH-grade timing over lower cost 1GE and 10GE interfaces.
- Ethernet technology has not matured
- The world and our competitors are already into fully interoperable MPLS compliant Carrier Ethernet with RPR support (equivalent of TDM SDH), All the leading vendors are supporting this technology on their Carrier Ethernet platforms, and the last EANTC MPLS World Congress event held in February 2010 demonstrated the strong momentum behind this technology, as well as multi-vendor interoperability

“NGN”

**Its not just
IP and MPLS!**

**Its not just
IP TAX!**

**Its not just Voice,
Video or Data –
it is the
combination!**

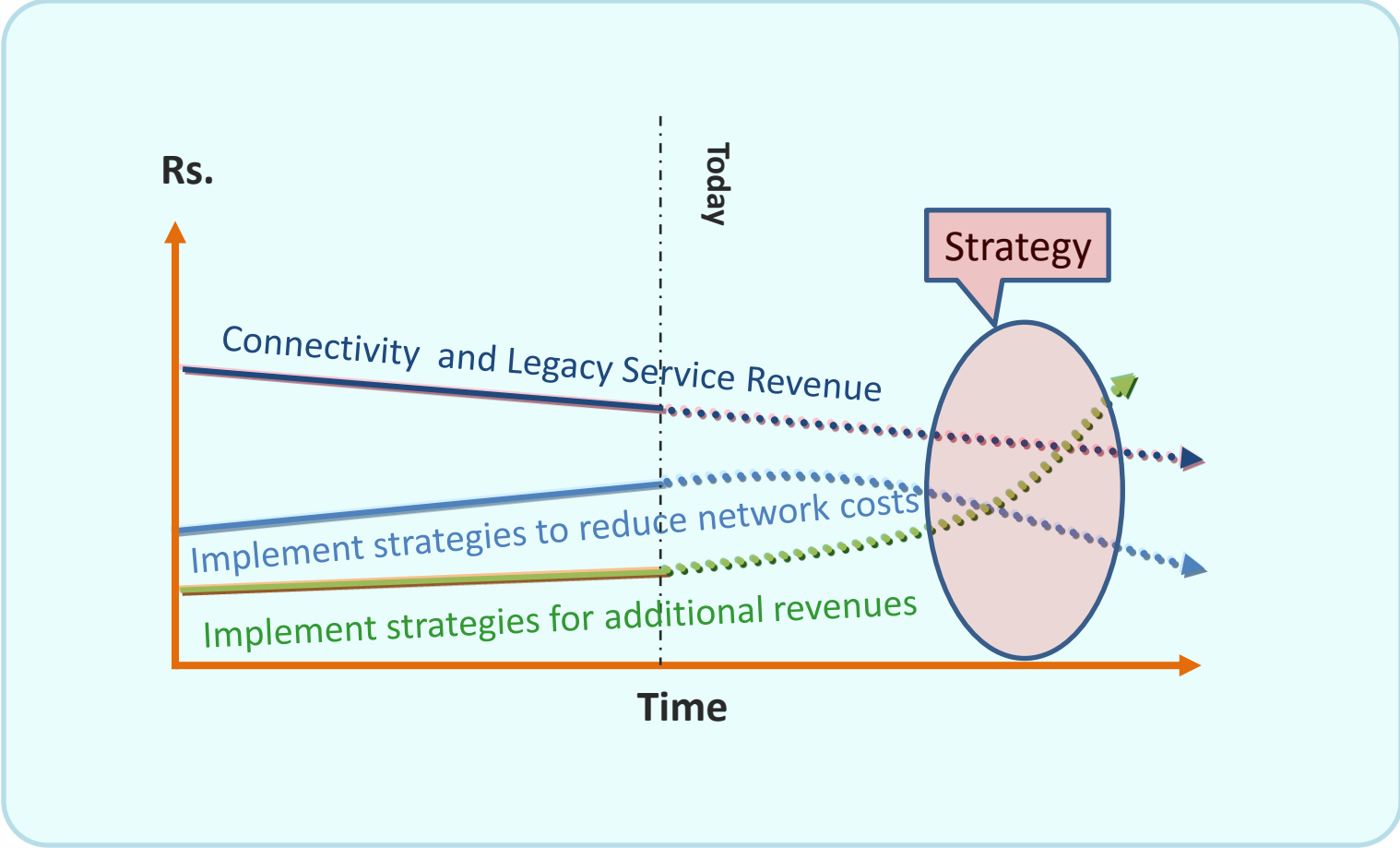


**Its not just Soft
Switch or IMS!**

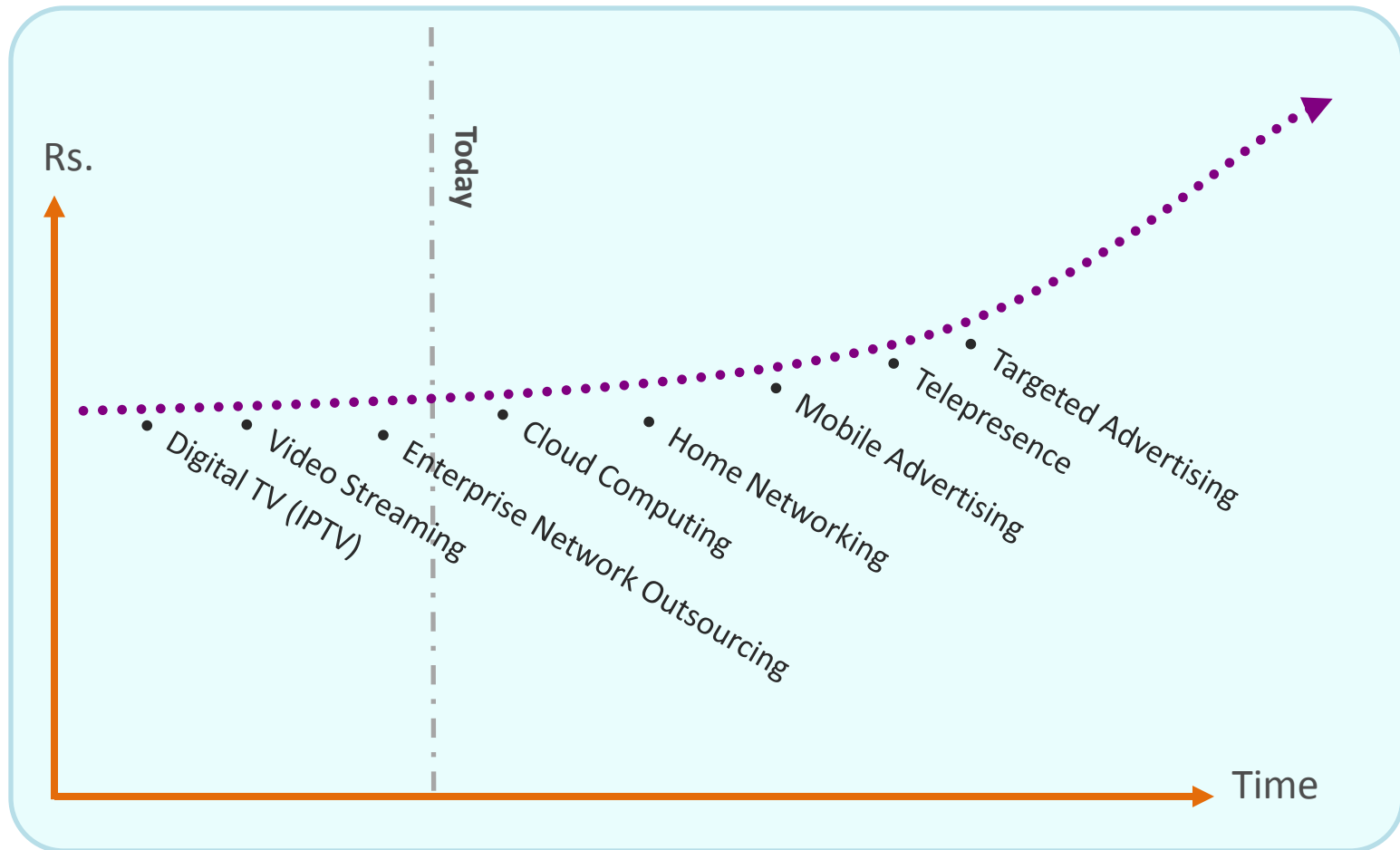
**Its not just
ADSL/VDSL!**

**Its not just
FTTC, FTTB or
FTTH!**

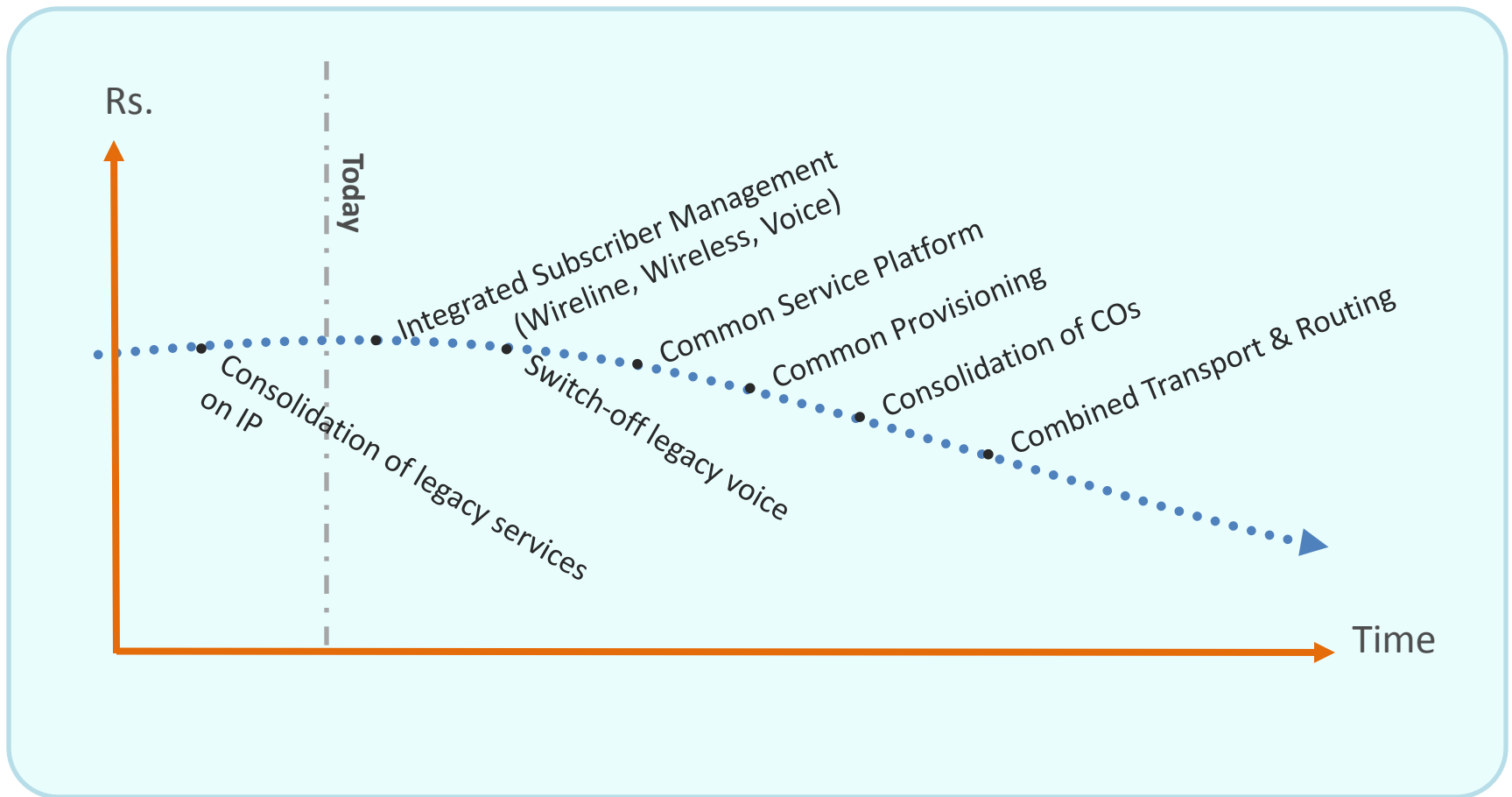
What options? What strategy?



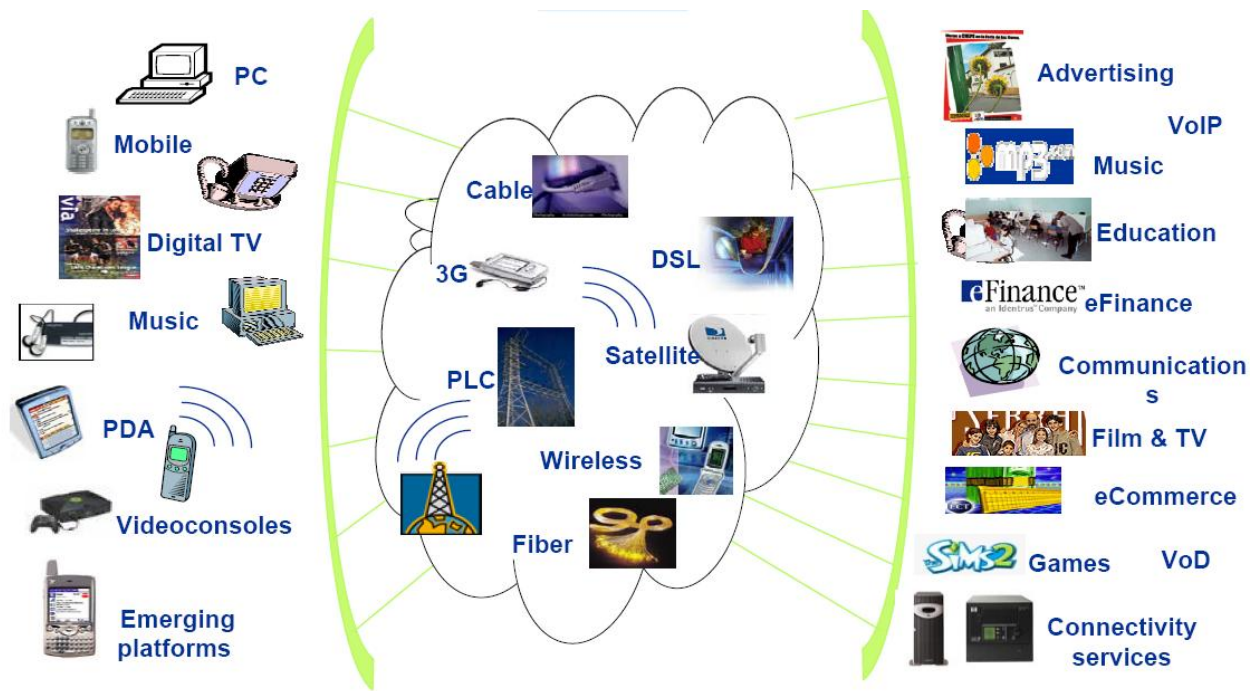
An NGN framework architecture alone can support enablement of newer services



Convergent platform under NGN framework alone can support costs reduction



Next Generation Network – Simplified Model



• **Device agnostic**

• **Access & Location agnostic**

• **Service agnostic**

Next Gen - Central Office has 5 network functions

Aggregates
~ 4 lakh
subscribers

Routing & Transport

- Scale control plane
- IP/MPLS and Optical Integration
- 100GE Support
- Non-stop operations

Packet handling

- Multi-layer security protecting apps/services and infrastructure
- Scale subscribers, sessions and bandwidth

Non-blocking Switch Fabric

Interconnect supporting standards based interfaces to connect both networking and IT resources

Content Servers & Storage

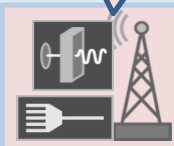
- Caching & delivery of popular content/application
- Dynamic & network aware content delivery

Subscriber/Enterprise Service

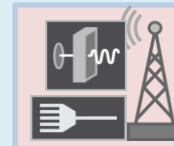
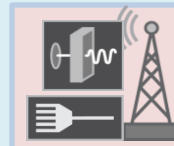
- Consolidate business, residential, fixed and mobile access in Unified Edge
- Scale subs, traffic & services

Fixed Mobile
Convergence

ON/PON
DSLAM



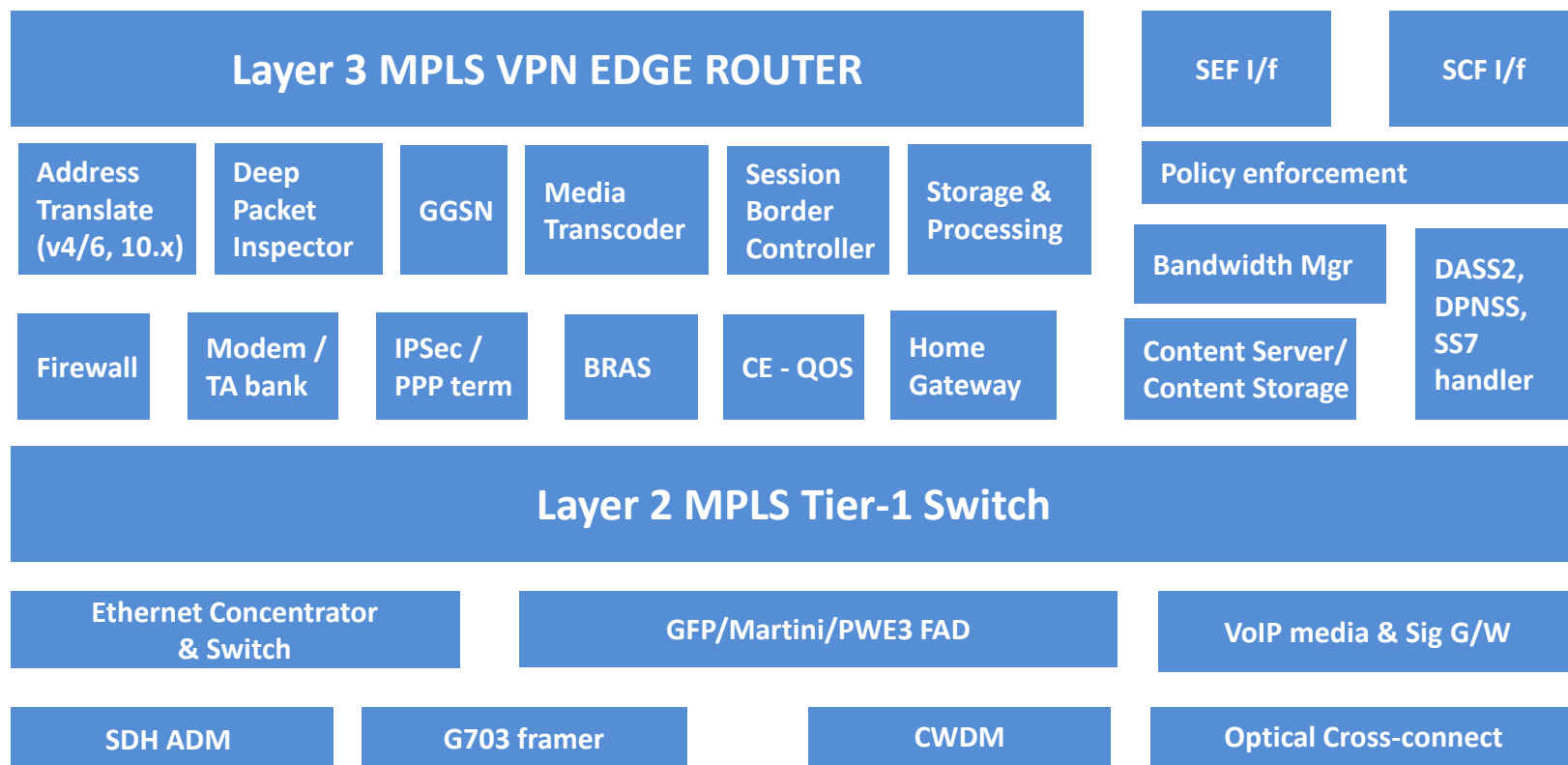
NODE-B
or BTS



Next Gen - Access Nodes

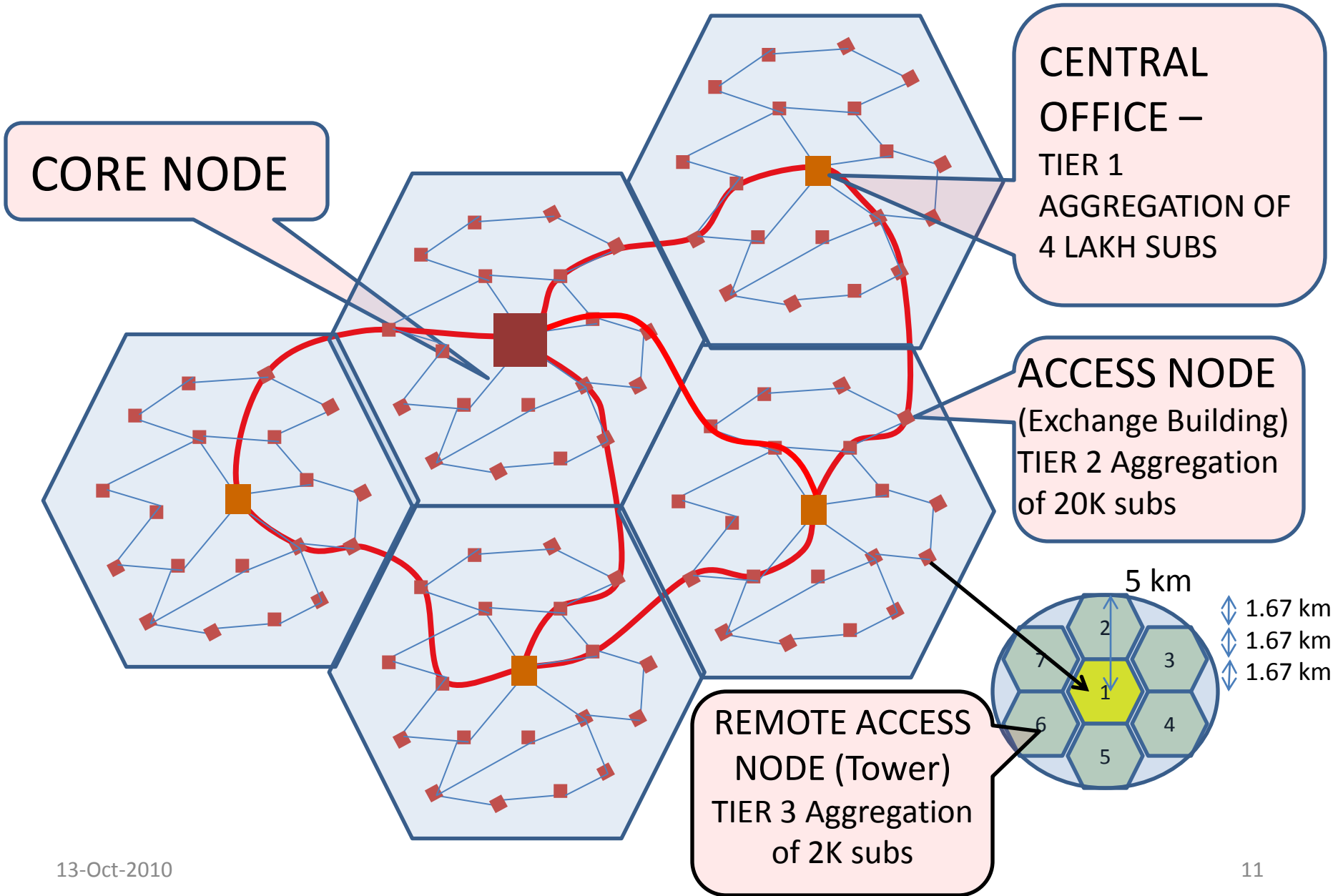
Next-Gen Central Office or **NG-CO**

Functional Schematic

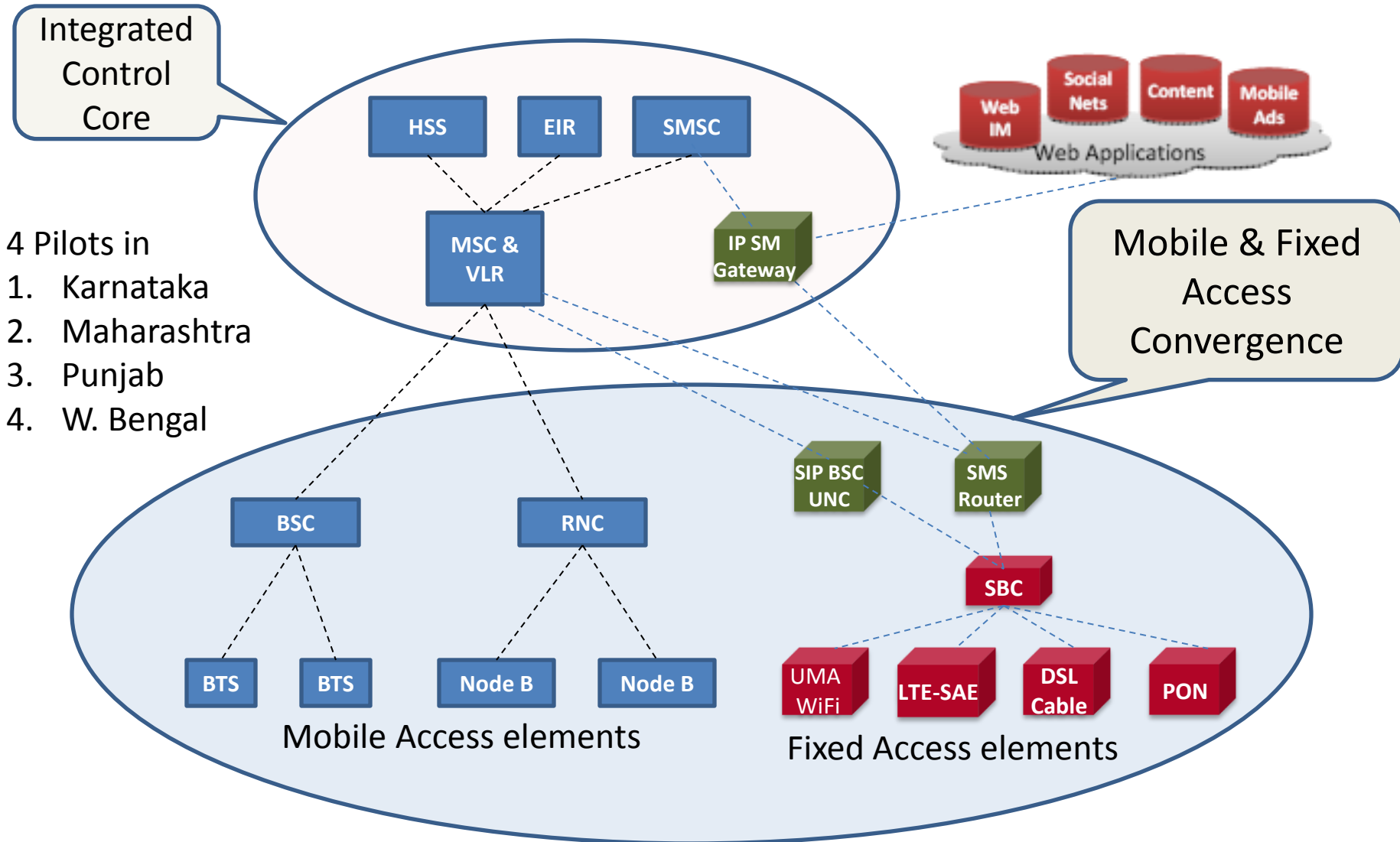


Consolidate 38000 TDM exchanges to 150 Next Gen Central Offices

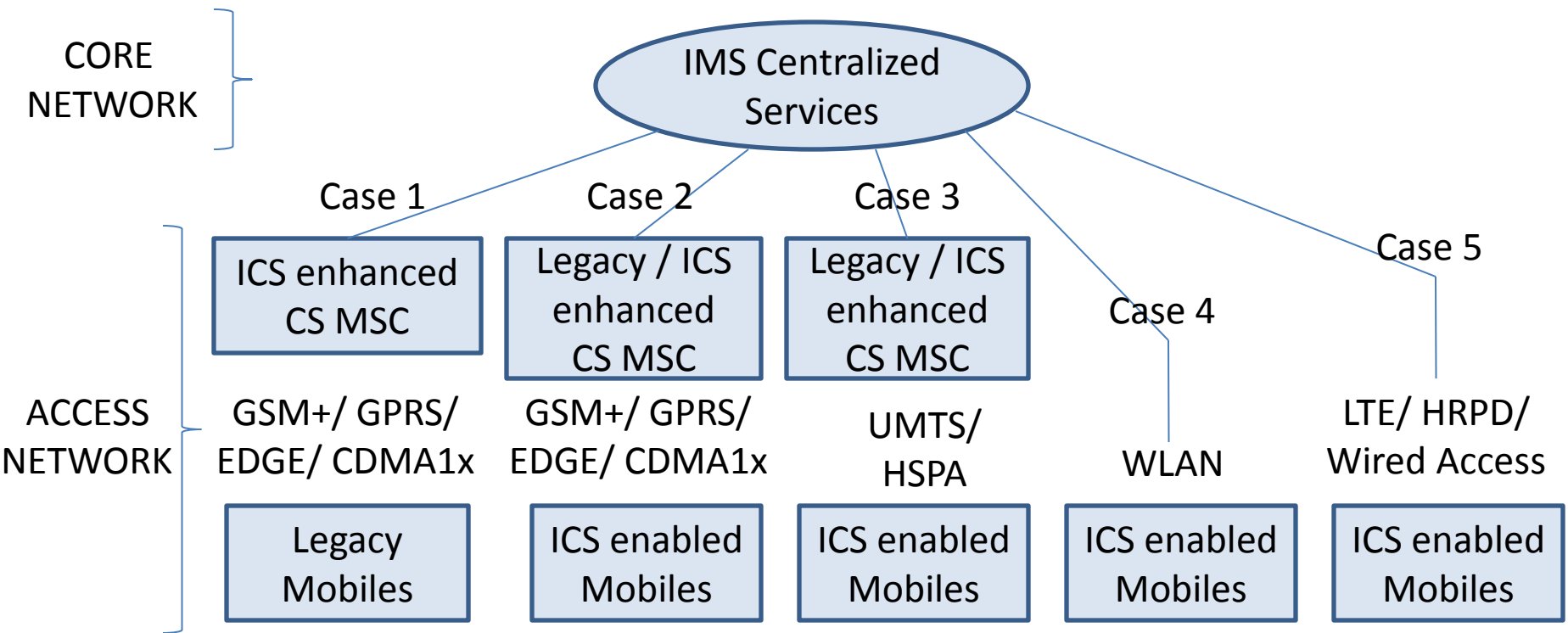
Consolidation in NGN Framework



FMC Implementation in BSNL



Roadmap enables implementation of 3GPP Centralized Services

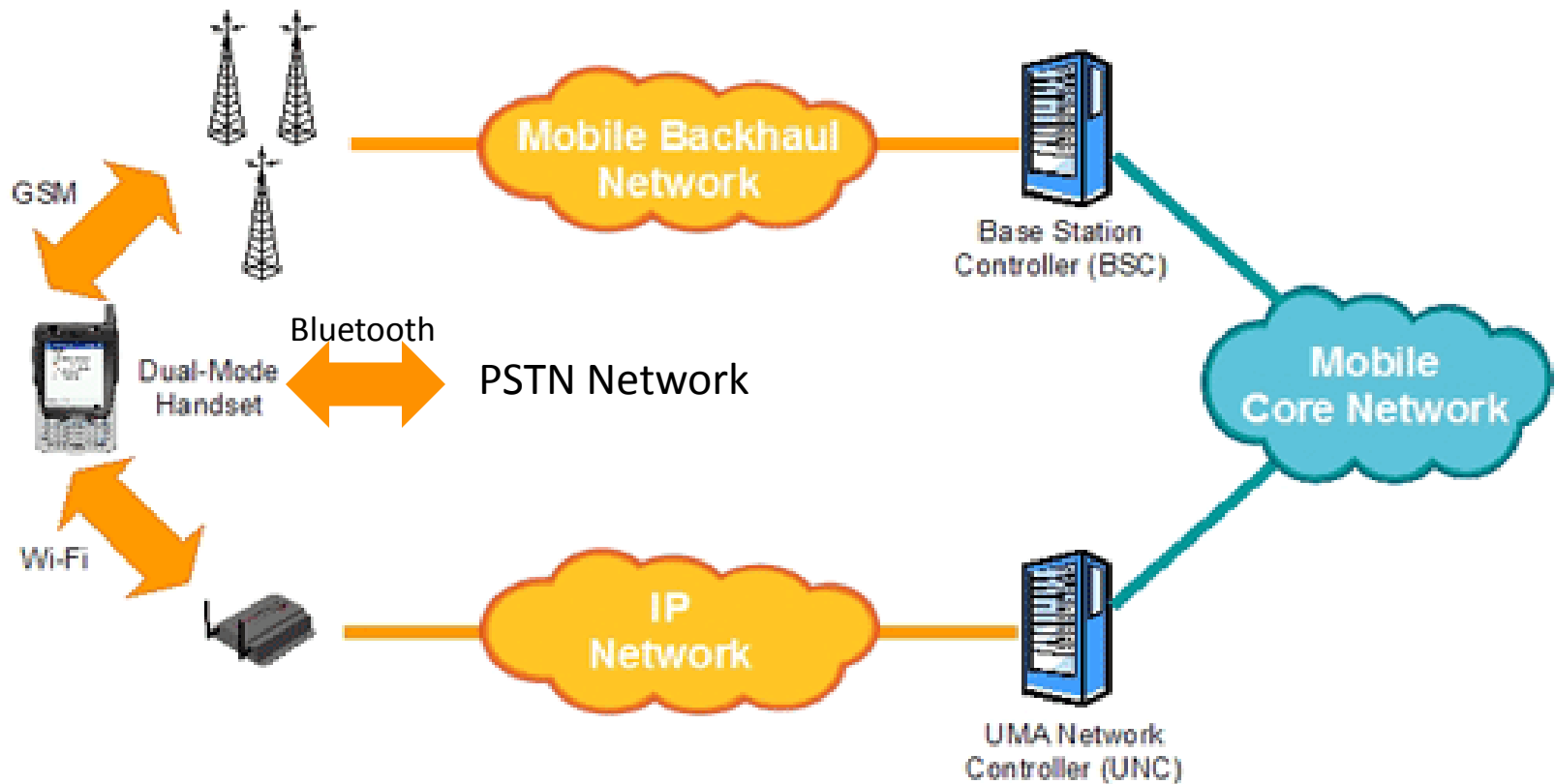


Common Device Client provides consistent User View

Service capabilities grow with Access capabilities

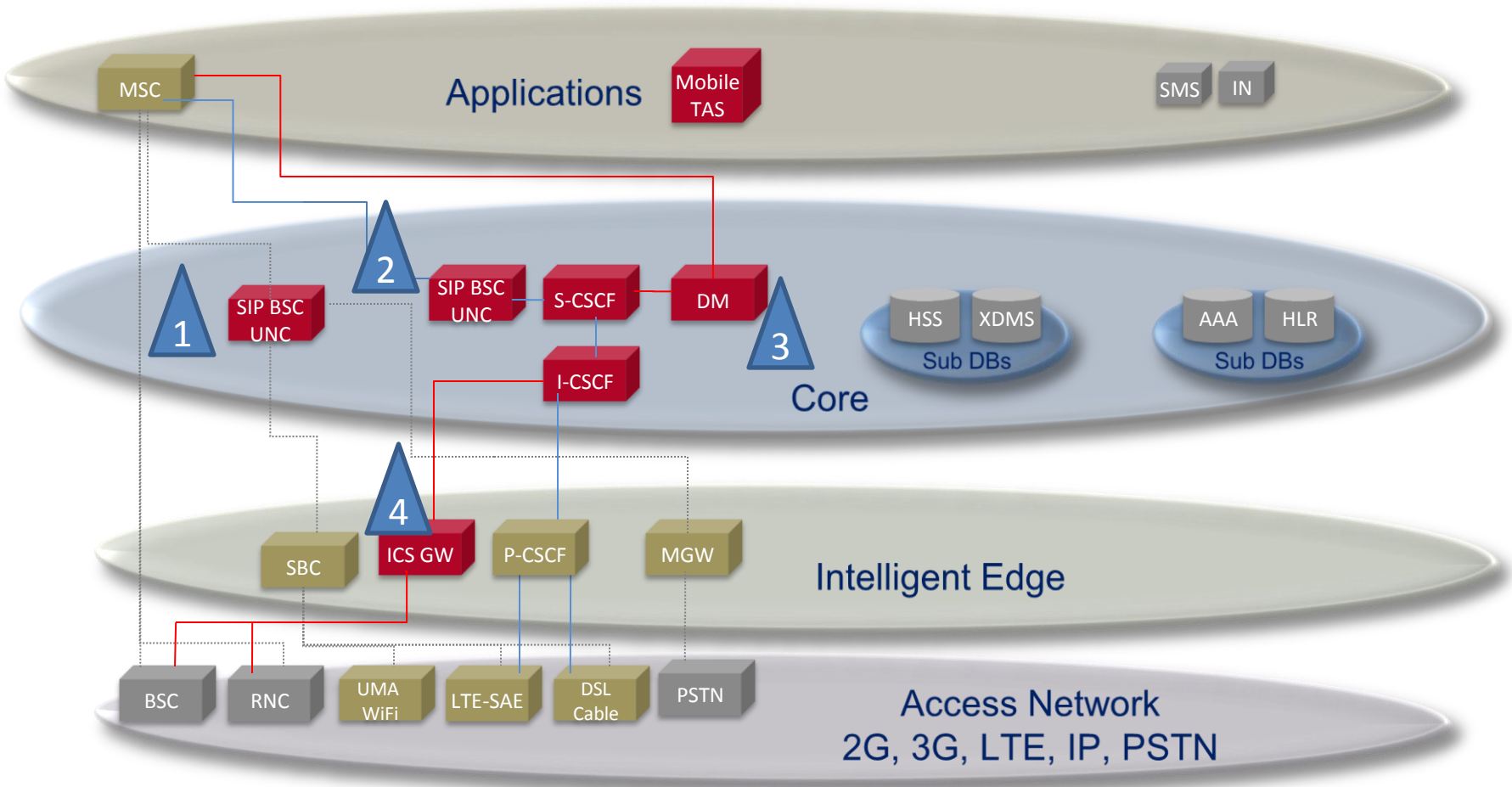
	Case 1	Case 2	Case 3	Case 4	Case 5
IMS Centralized Services provided to User	CS Voice	CS Voice	CS Voice	VoIP	QoS VoIP
	CS equivalent MMTEL SS	Partial MMTEL SS	Full MMTEL SS	Full MMTEL SS	Full MMTEL SS
		Data	HI Speed Data	HI Speed Data	HI Speed Data
		IP Services	Rich IP Services	Rich IP Services	Rich IP Services
			IMS Video	IMS Video	IMS Video
					Real Time Services (Gaming)

FMC Options



UMA relies on a UMA Network Controller at the edge of the mobile core network.

4-Stage Functional implementation



Thank You