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The Changing Role of Regulators in the new Telecommunication environment: NGN Networks and Applications-based pricing

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The Changing Role of Regulators in the new Telecommunication environment:

NGN Networks and Applications-based pricing

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Broadband deployment is for many governments a key economic growth factor

What Happens in an Internet Minute?



And Future Growth is Staggering

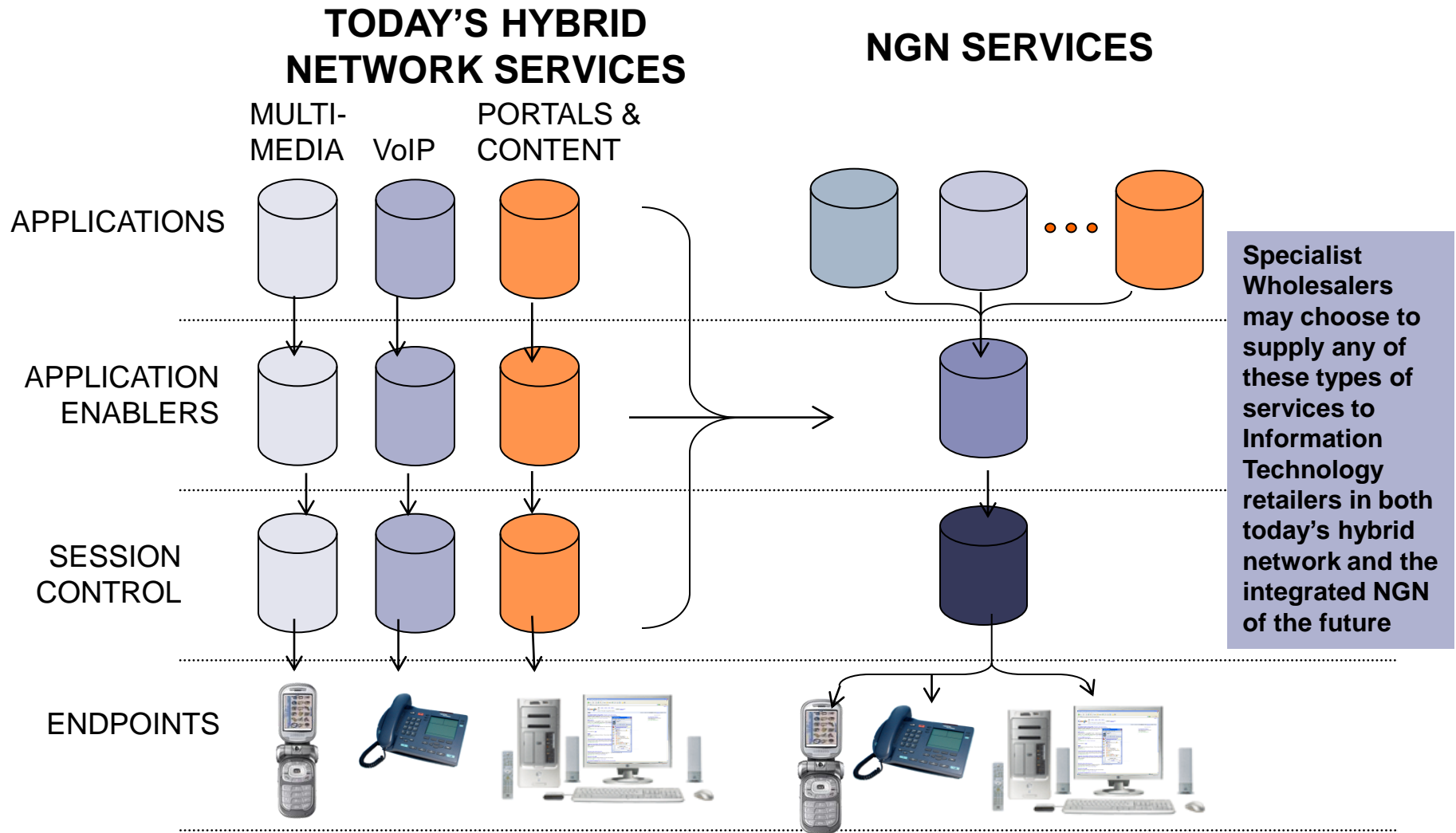


To deliver broadband growth, Regulators work with Governments

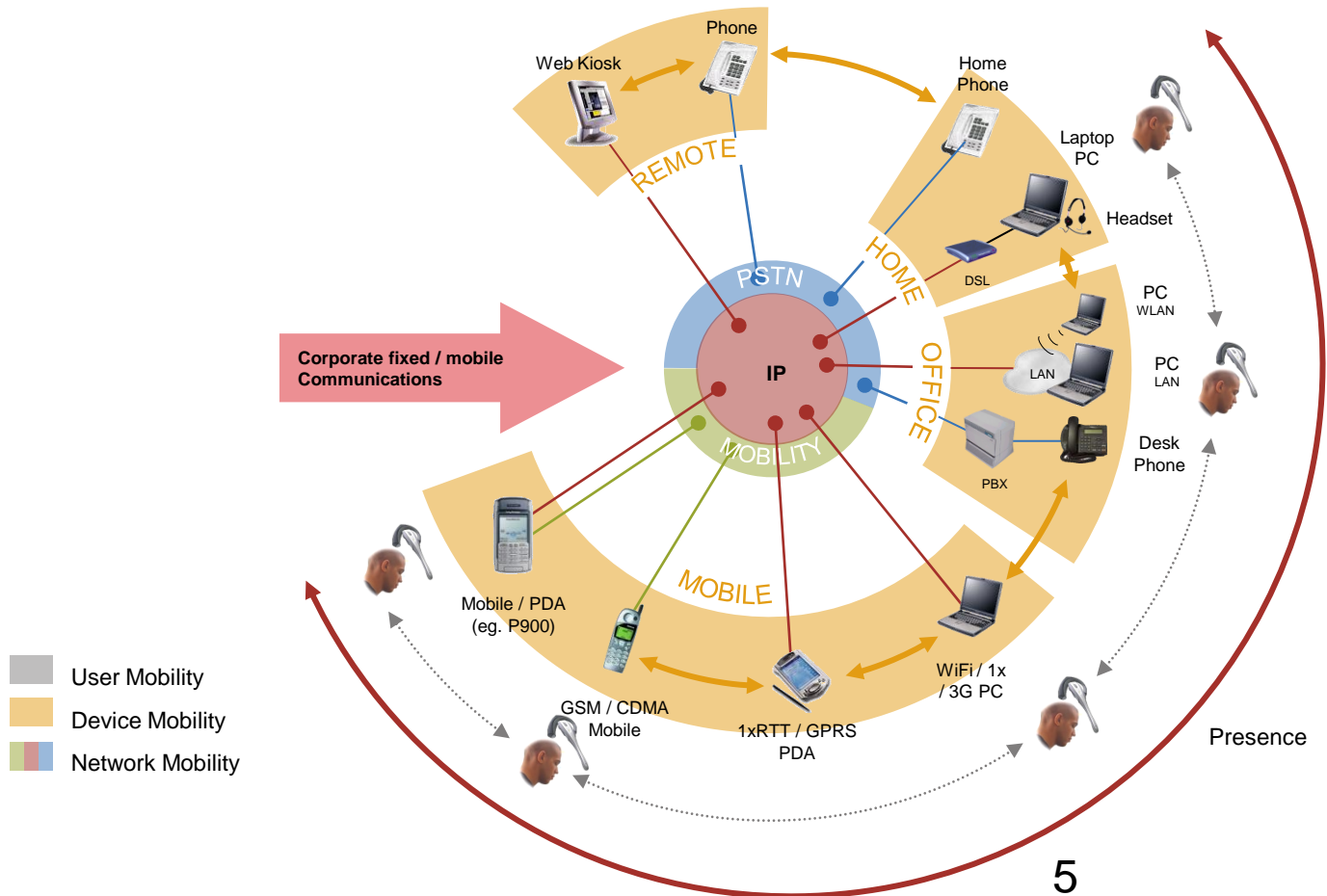
Typical strategies include a number of interventions:

- Revised policies for wireless broadband and metro fiber networks
- Promotion of infrastructure sharing, co-locating and unlocking core fibre optic excess capacity
- Mandating broadband access under the USP scheme
- Loans and schemes to encourage computer ownership and Broadband access
- Forming government-backed structures for providing last-mile facilities
- Total Government ownership of infrastructure (NBN in Australia)

Wholesale Opportunities for Applications Supply



EVOLVING TOWARDS SEAMLESS MOBILITY



Regulatory framework is facing a challenging industry change

Main regulatory role historically

Ensure healthy competition

Ensure that prices are cost-based and fair

Prevent monopolistic structures and non-separated organizational structures

But with changes to NGN...

Not Point-to-Point, but Any-to-Any

Multi-layer structure of services, application and service layer play considerable role in shaping of services

...What is needed?

Dynamic costing that reflects cost causality

New pricing structures linked to Value

Telecommunications companies face a different set of broadband challenges

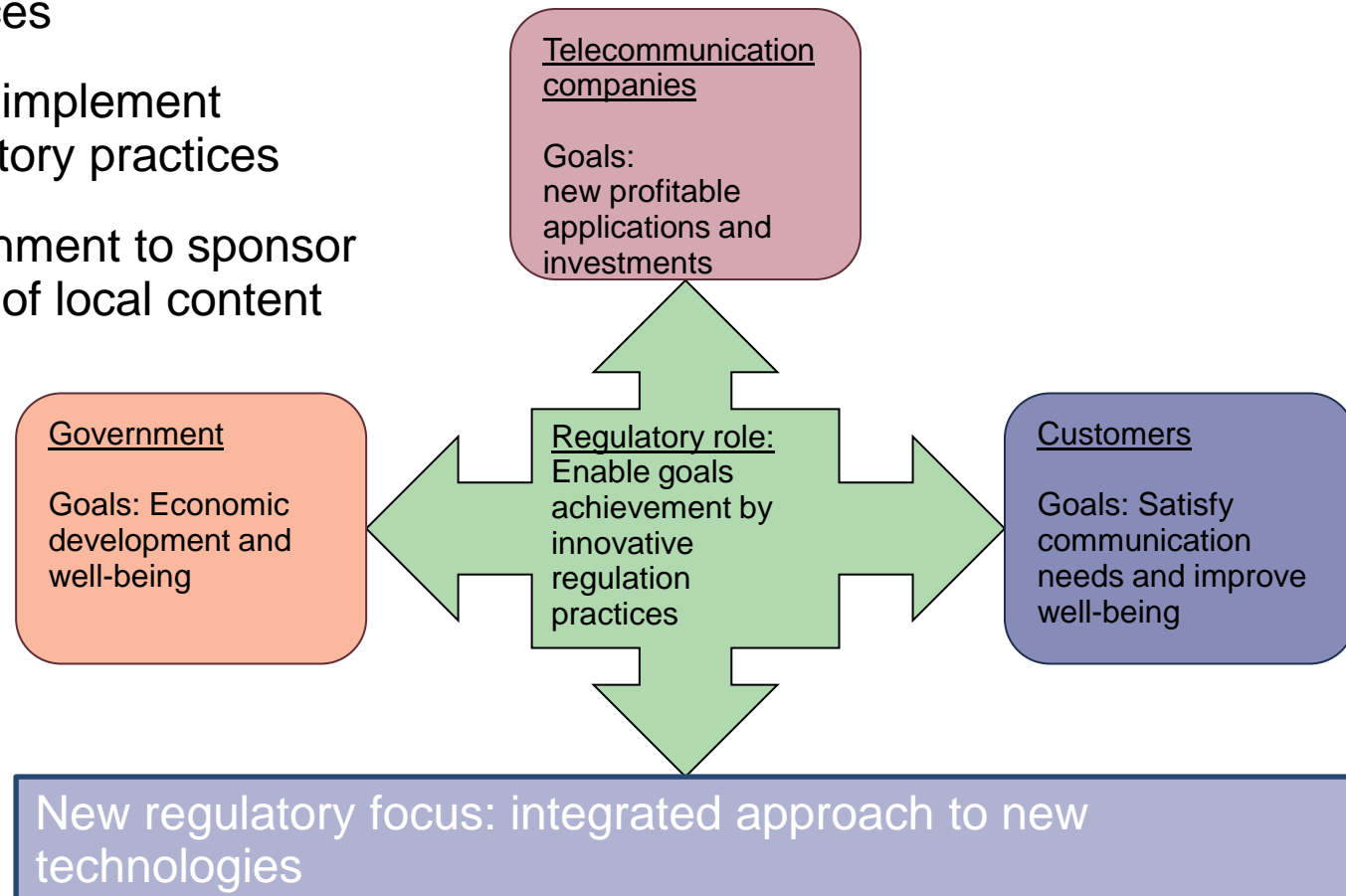
Often, in deployment of broadband services, telecommunications companies find that failure to adopt broadband access is most likely due to different factors:

- **Affordability of the service**
- **PC/tablet penetration**
- **Education**
- **Lack of valuable content and applications**

ASIA INTERNET USAGE AND POPULATION						
ASIA	Population (2010 Est.)	Internet Users, (Year 2000)	Internet Users, Latest Data	Penetration (% Population)	User Growth (2000-2010)	Users (%) in Asia
Afghanistan	29,121,286	1,000	1,000,000	3.4 %	99,900.0 %	0.1 %
Armenia	2,966,802	30,000	208,200	7.0 %	594.0 %	0.0 %
Azerbaijan	8,303,512	12,000	3,689,000	44.4 %	30,641.7 %	0.4 %
Bangladesh	158,065,841	100,000	617,300	0.4 %	517.3 %	0.1 %
Bhutan	689,847	500	50,000	7.1 %	9,900.0 %	0.0 %
Brunei Darussalam	395,027	30,000	318,900	80.7 %	963.0 %	0.0 %
Cambodia	14,753,320	6,000	78,000	0.5 %	1,200.0 %	0.0 %
China *	1,330,141,295	22,500,000	420,000,000	31.6 %	1,766.7 %	50.9 %
Georgia	4,600,825	20,000	1,300,000	28.3 %	6,400.0 %	0.2 %
Hong Kong *	7,089,705	2,283,000	4,878,713	68.8 %	113.7 %	0.6 %
India	1,173,108,018	5,000,000	81,000,000	6.9 %	1,520.0 %	9.8 %
Indonesia	242,968,342	2,000,000	30,000,000	12.3 %	1,400.0 %	3.6 %
Japan	126,804,433	47,080,000	99,143,700	78.2 %	110.6 %	12.0 %
Kazakhstan	15,460,484	70,000	5,300,000	34.3 %	7,471.4 %	0.6 %
Korea, North	22,757,275	--	--	--	--	0.0 %
Korea, South	48,636,068	19,040,000	39,440,000	81.1 %	107.1 %	4.8 %
Kyrgyzstan	5,508,626	51,600	2,194,400	39.8 %	4,152.7 %	0.3 %
Laos	6,993,767	6,000	527,400	7.5 %	8,690.0 %	0.1 %
Macao *	567,957	60,000	280,900	49.5 %	368.2 %	0.0 %
Malaysia	26,160,256	3,700,000	16,902,600	64.6 %	356.8 %	2.0 %

The key to work together to overcome both sets of challenges lies in looking at the nature of demand and relationship to Value creation.

- Establish a broadband strategy tasked with identifying innovative pricing and packaging options for broadband services
- Work together to implement innovative regulatory practices
- Work with Government to sponsor the development of local content and applications



The new focus of work for Regulators

Trade practices

- Support competition through a trade practices regime
- Encourage competition principles by integrated approach, rather than by a specific technology per
- Privacy and security of information

Pricing practices

- Demand transparency from operators
- Recommend methodologies for costing and pricing based on demand-based and transparent practices
- Encourage innovative pricing practices, which correctly reflect value with the new applications
- Move away from price regulation to dynamic cost modeling and a robust cost model

Competition practices

- Ensure standards of service provided by wholesale and retail businesses that minimize non value adding arbitrage and market foreclosure
- Evaluate all regulatory issues (technical or competition-related) in terms of their economic and commercial impact for individual operators, its customers and the industry in general.

Cost drivers are changing

Cost drivers in PSTN (Connection Oriented)

- Distance
- Duration
- Circuit Capacity

Nature of costs:
Predominantly fixed

Cost drivers in NGN and (Connectionless)

- Content
- Authentication
- Presence
- Quality of Service
- Availability
- Reliability
- Security

Nature of costs:
Moving towards
transaction costs due to
service charge by
application (content)
provider

The Need to understand Value and Cost of Services in a Customer-Centric way

Service pricing with NGN must be linked to the value of services to different types of customers, with different affordability levels

NGN is converging the technology, and it eliminates main cost drivers of the past (ex: distance and duration)

Need to de-average the view on costs of products and services, to better reflect customer needs

Therefore, enabling the granular information flow to understand costing of NGN applications across multiple access technologies

Innovative practices in pricing and service design

NGN Pricing Structures



Wholesale Channel Pricing

- Bulk Pricing
- Futures Pricing
- Adoptive Pricing

Interconnect
And Service
Element Pricing



Retail Channel Pricing

- Term and Fixed Pricing
- End-to-End Service Pricing
- Application & Transaction Pricing

Integrated
Applications &
Service Pricing

Innovative service types and pricing

	Spot Pricing	Futures Pricing	Forward Pricing	Term Pricing
Network Services	✓	✓	✓	✓
Session Services			✓	✓
Application Services				✓

- Network services are Transport Links that support channels.
- Session services are Information Services managed end-to-end for customers.
- Application Services are particular applications and information services that are packaged to meet specific customer needs.

The Future for Regulators in NGN

- Build, cooperate on and gain acceptance of the new pricing constructs that reflect value, affordability and risk.
- Work on establishing granular levels of demand and its relationship to economic value, consumer needs and geographic area.
- Implement dynamic cost and capacity tracking which would allow the linkage to market segment demand.