



Malaysia: Transition into Next Generation Networks

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Agenda item :

Regulatory Roundtable

Submitted by:

Malaysia

Malaysia: Transition into Next Generation Networks

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**APEC Telecommunications and Information Working Group
29th Meeting | 21-26 March 2004 | Hong Kong, China**

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Suruhanjaya Komunikasi dan Multimedia Malaysia
Malaysian Communications and Multimedia Commission



“Malaysia: Transition into Next Generation Networks”

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Malaysian Communications and Multimedia Commission

Regulatory Roundtable

APEC Telecommunications and Information Working Group

29th Meeting | 22-26 March 2004 | Hong Kong, China

Presentation Road Map



5. CHALLENGES AHEAD

4. APPLICATIONS ON NGN

3. MIGRATION AND TRANSITION

2. DRIVERS OF NGN

**1. MALAYSIA - MARKET AND
REGULATORY ENVIRONMENTS**

Presentation Road Map



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**1. MALAYSIA - MARKET AND
REGULATORY ENVIRONMENTS**

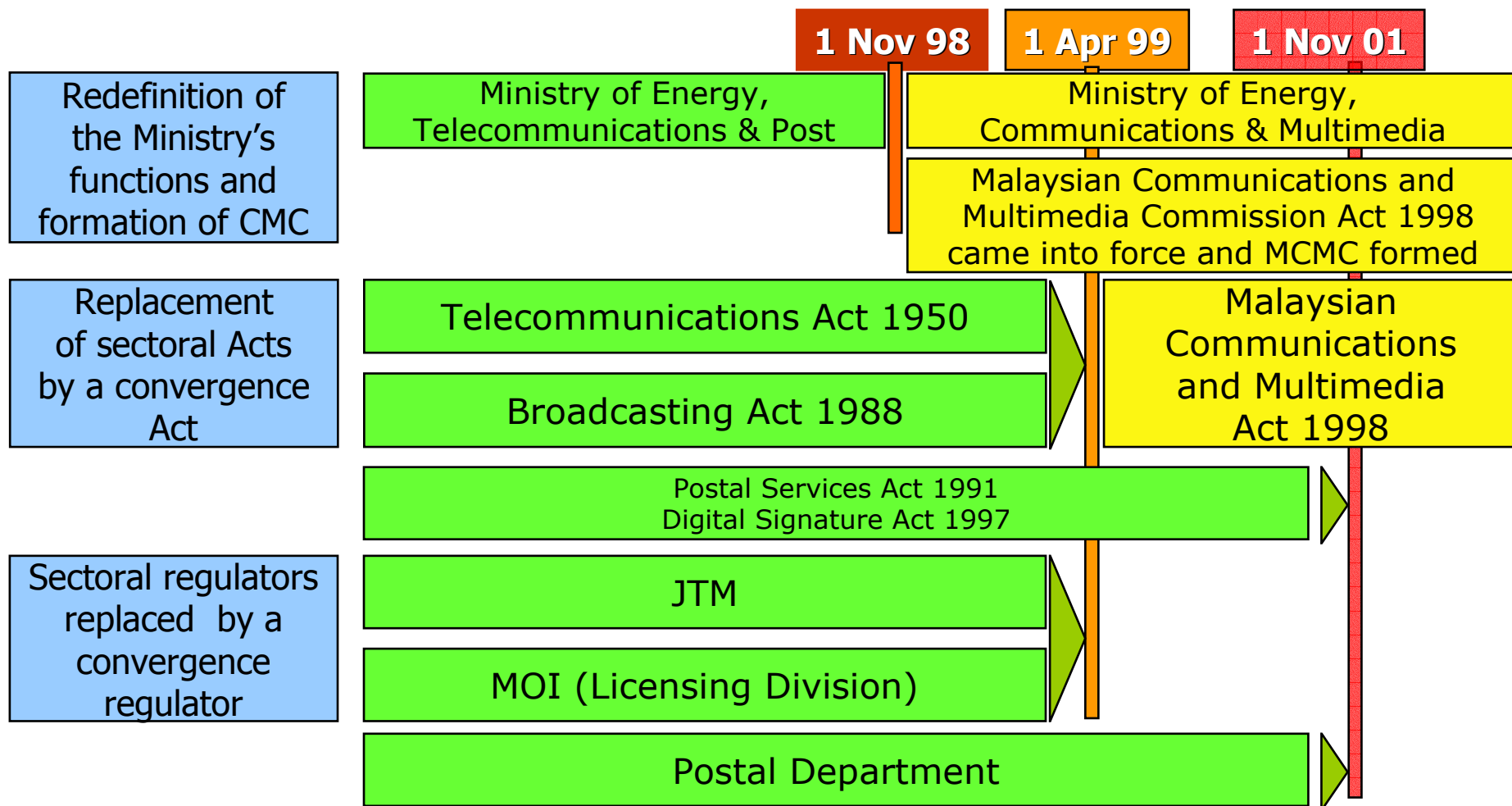


Evolution of market structure in Malaysia

	1980-85	1986-90	1990-95	1996-2000	Future
Fixed line	Monopoly	Monopoly	Oligopoly	Oligopoly	Fully competitive Converged market For C&M
Cellular	Monopoly	Duopoly	Oligopoly	Oligopoly	
Internet access		Monopoly	Monopoly	Oligopoly	
Broadcast	Duopoly	Duopoly	Oligopoly	Oligopoly	



Changes to facilitate convergence





10 National Policy Objectives

Creating a global hub

Building a civil society

Long-term benefits of end-users
Nurturing user confidence

Developing industry capabilities

Creating a robust
applications environment

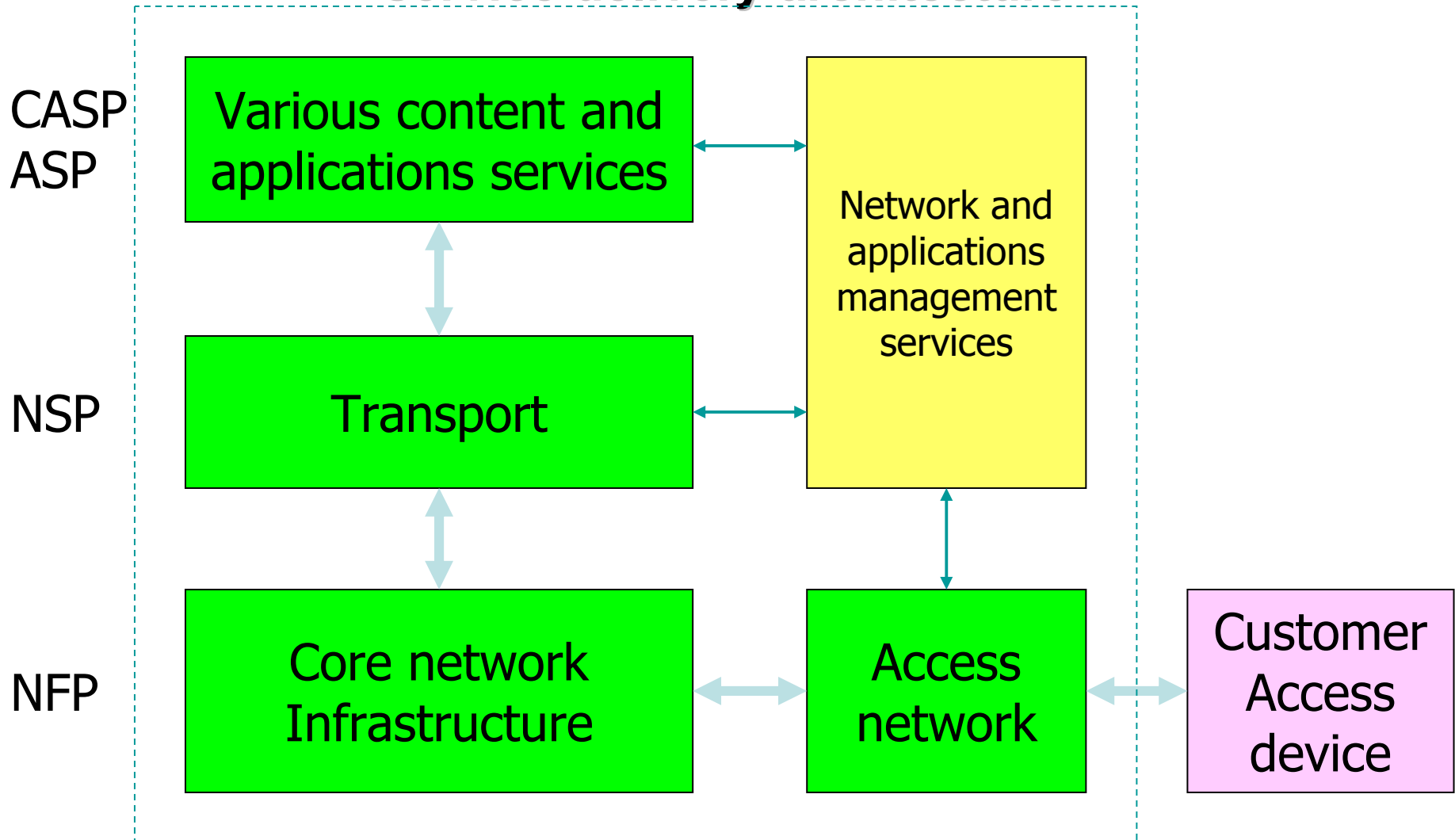
Nurturing
local content and culture

Promoting safe and secure networking

Promoting access and equity
Facilitating efficient allocation of resources



The licensing framework in relation to the C&M service delivery architecture



Presentation Road Map



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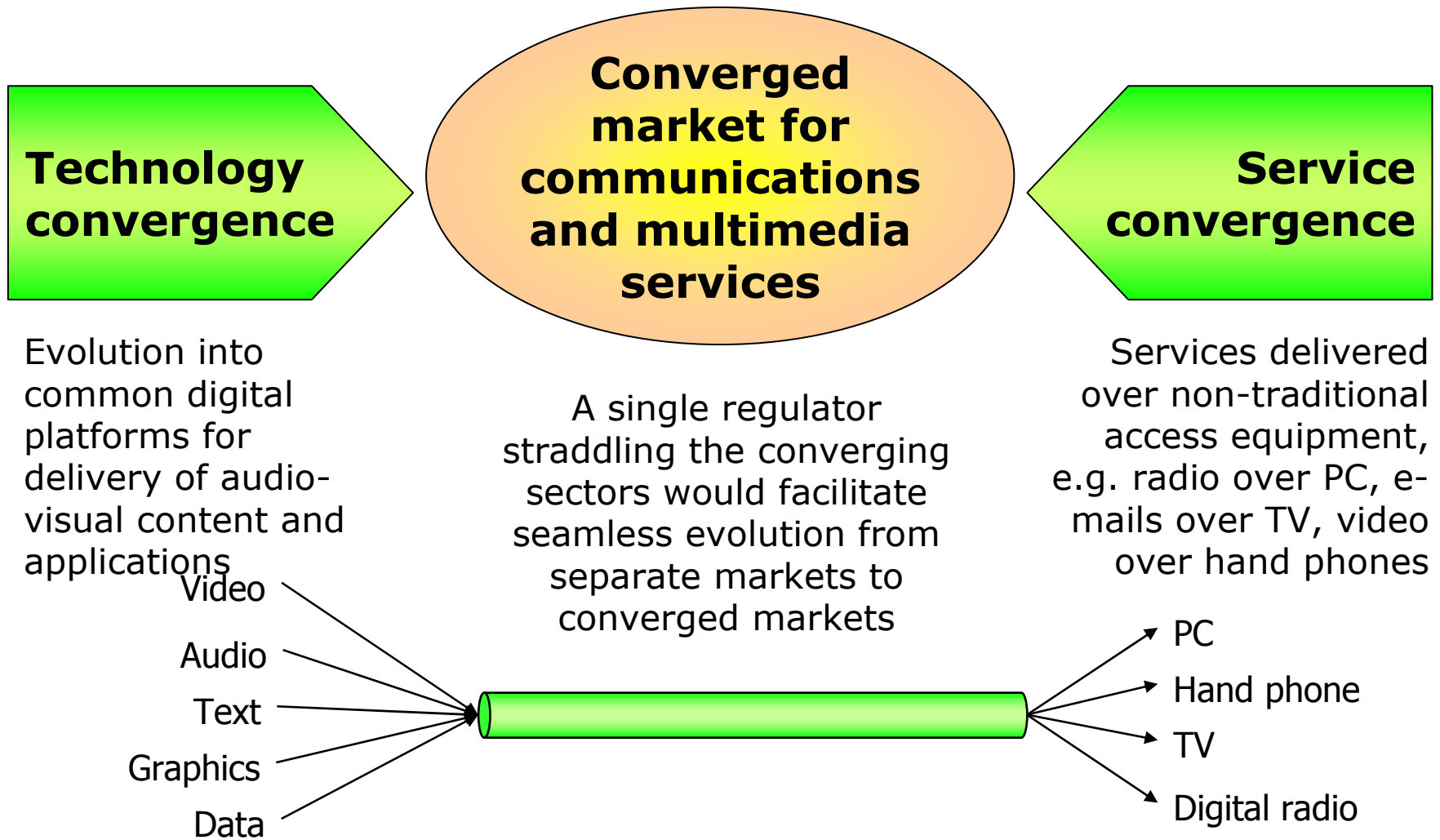
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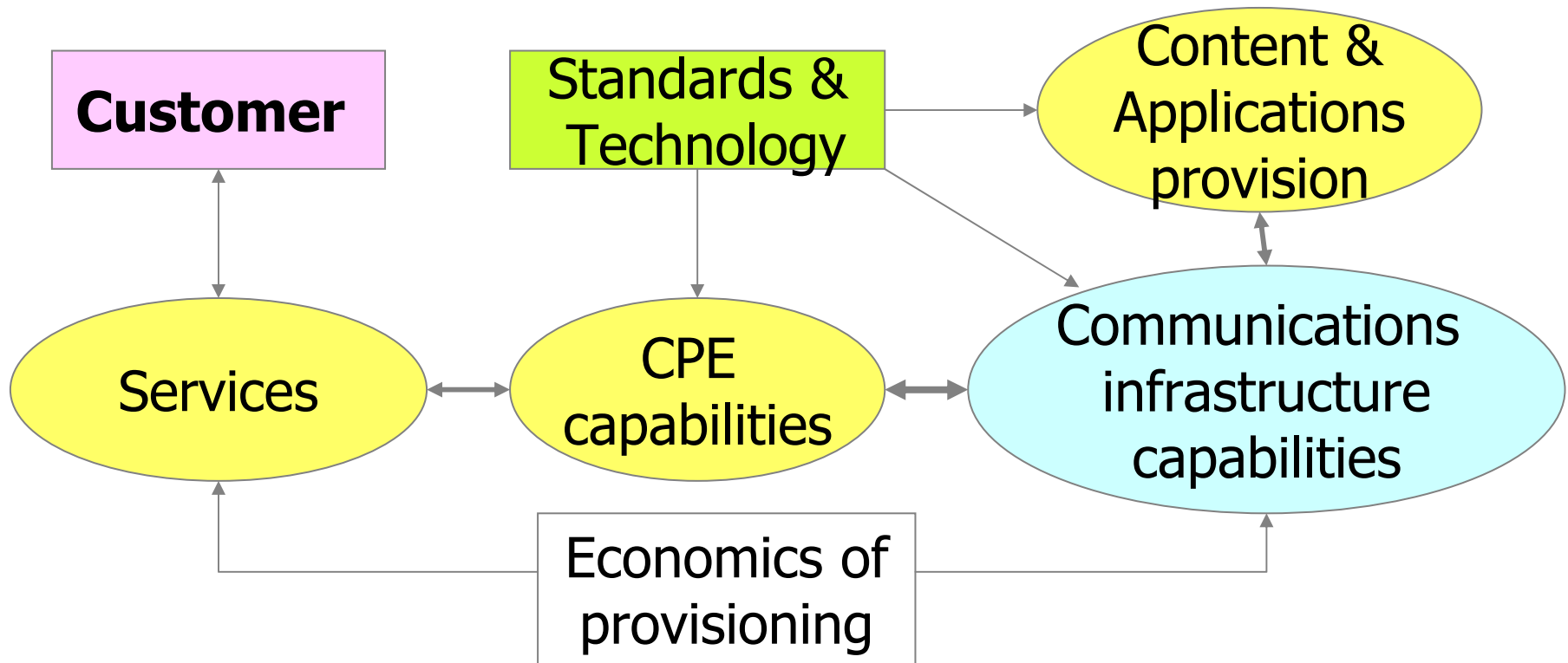


The forces of convergence





Service provisioning must work hand in hand with the availability of technology and equipment

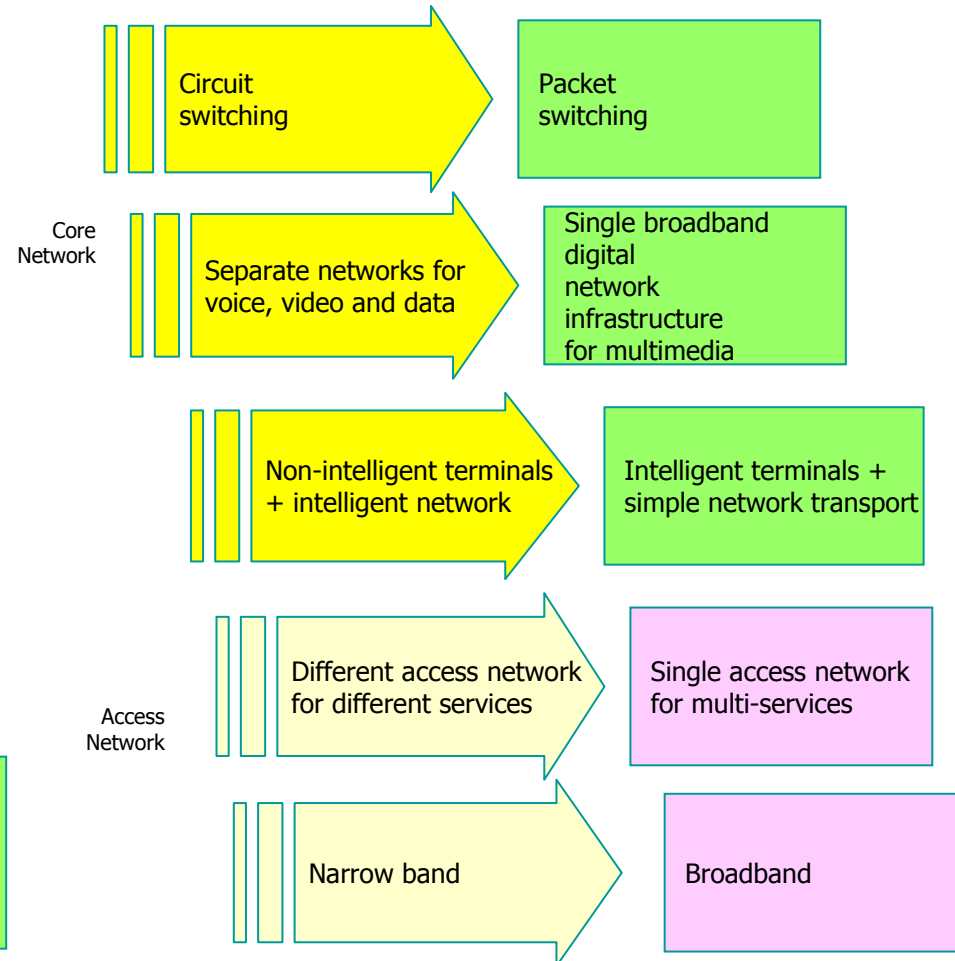
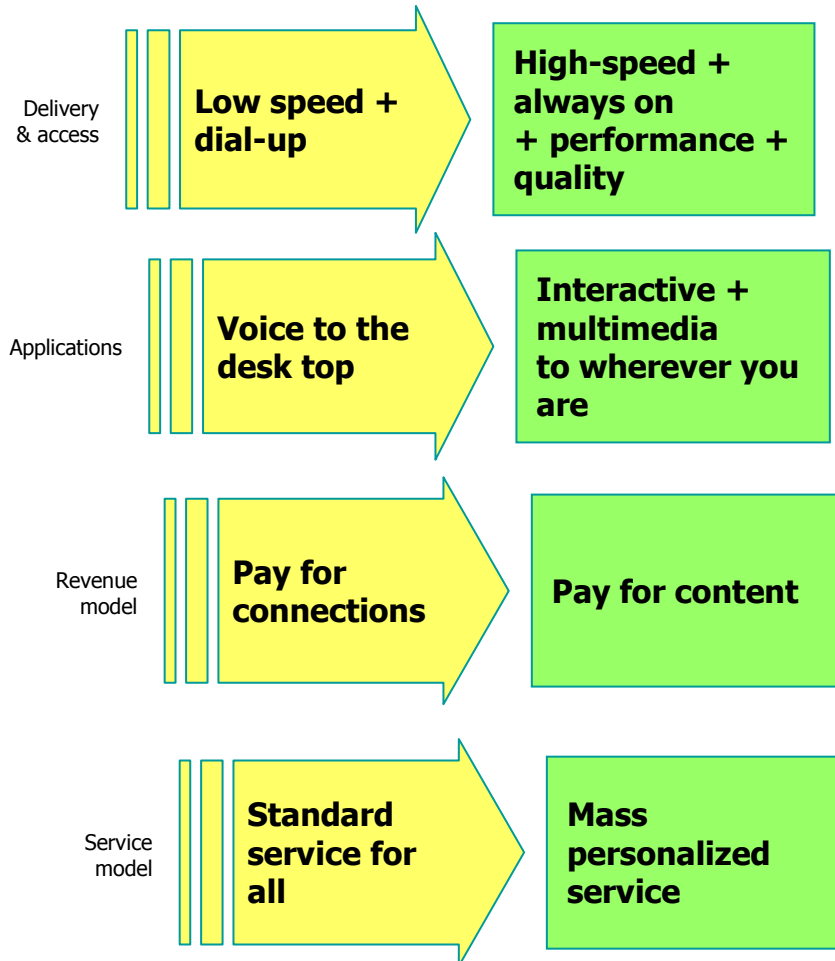




Service trend

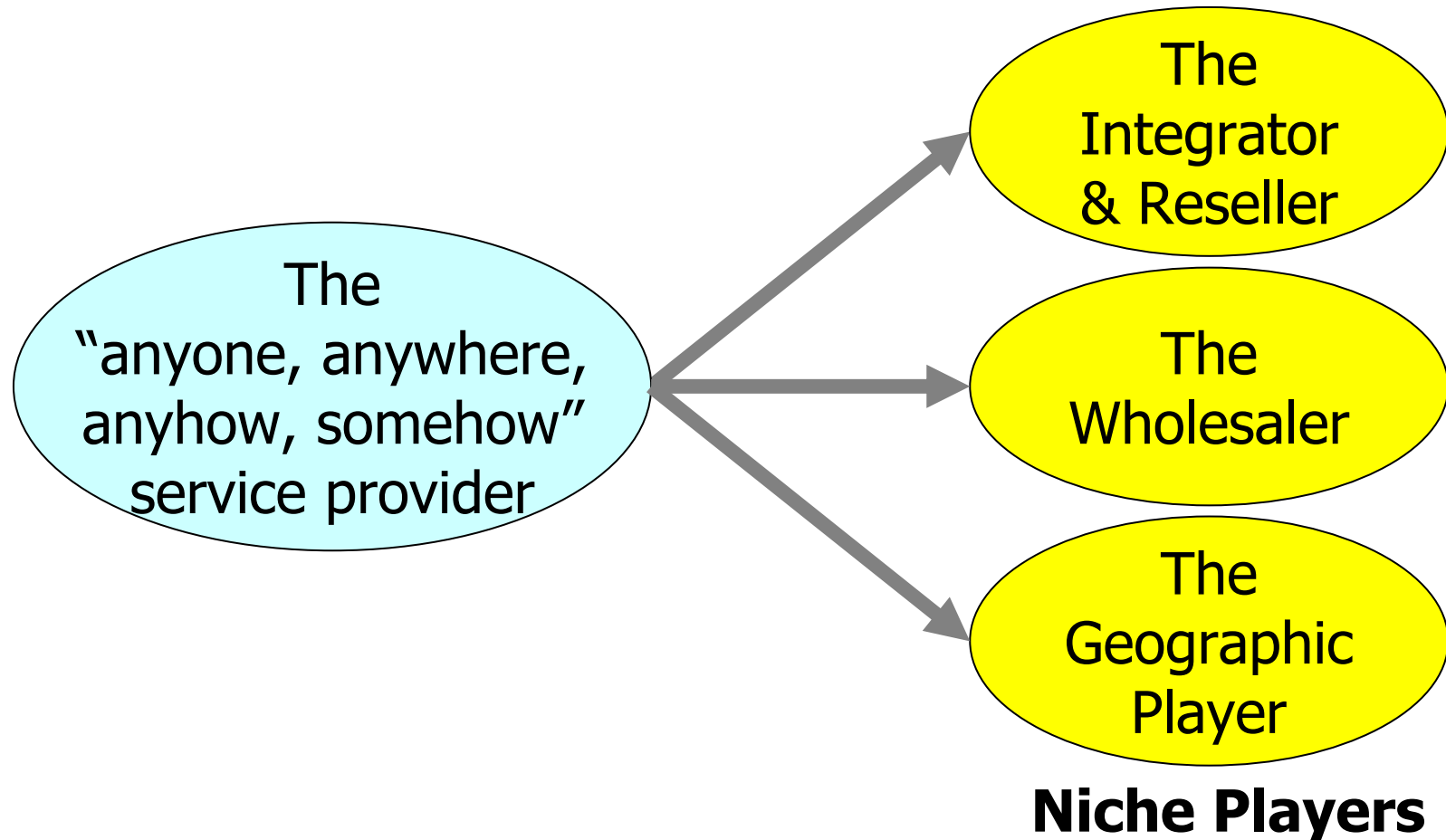
versus

Technology in Networks trend



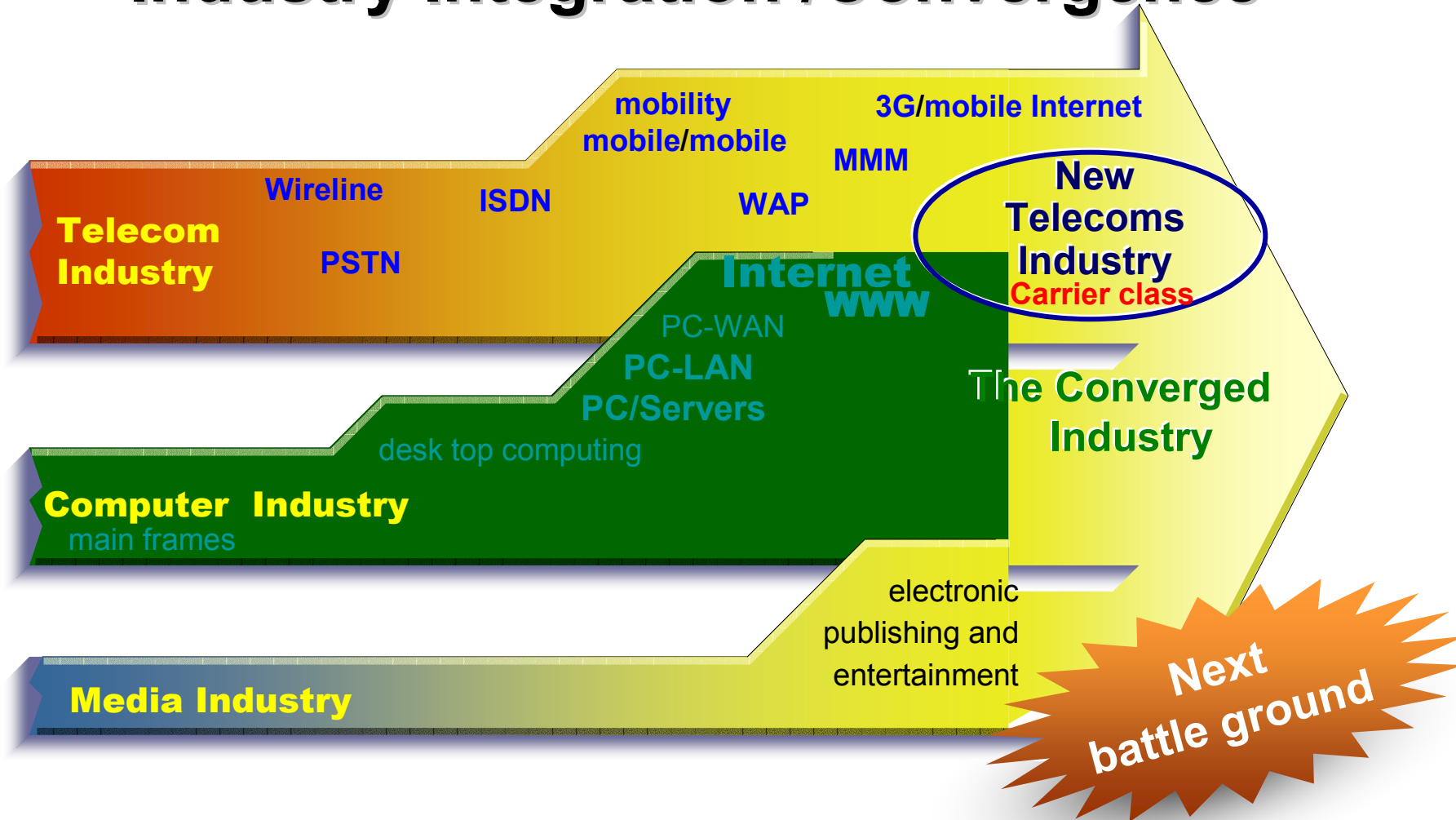


Trends in business models





Industry Integration /Convergence



Presentation Road Map

A scenic photograph of a two-lane asphalt road that curves through a hilly, green landscape. The road has a yellow double line in the center and white lines on the edges. The sky is filled with large, dramatic clouds, and the overall lighting suggests either dawn or dusk.

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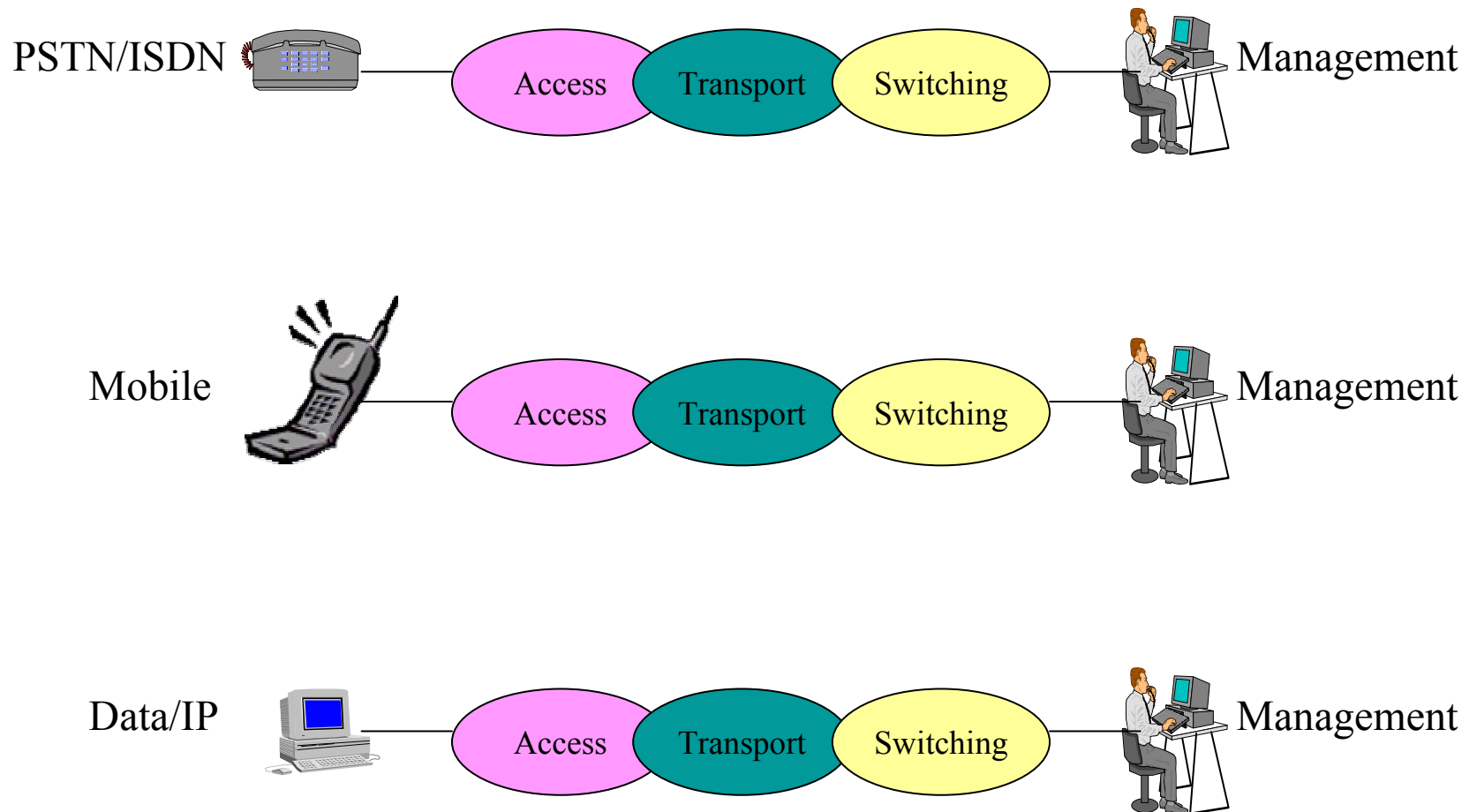
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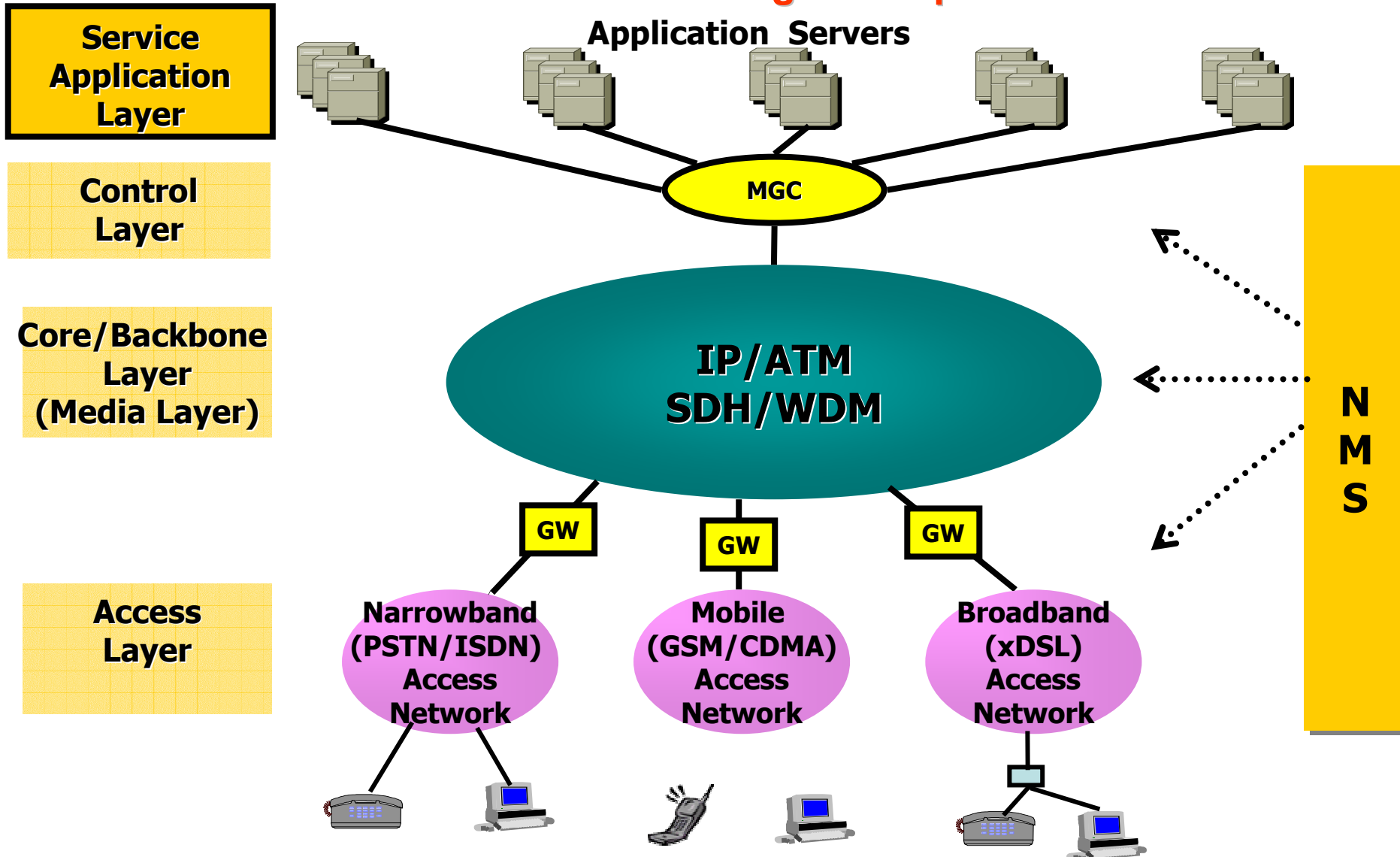
TODAY

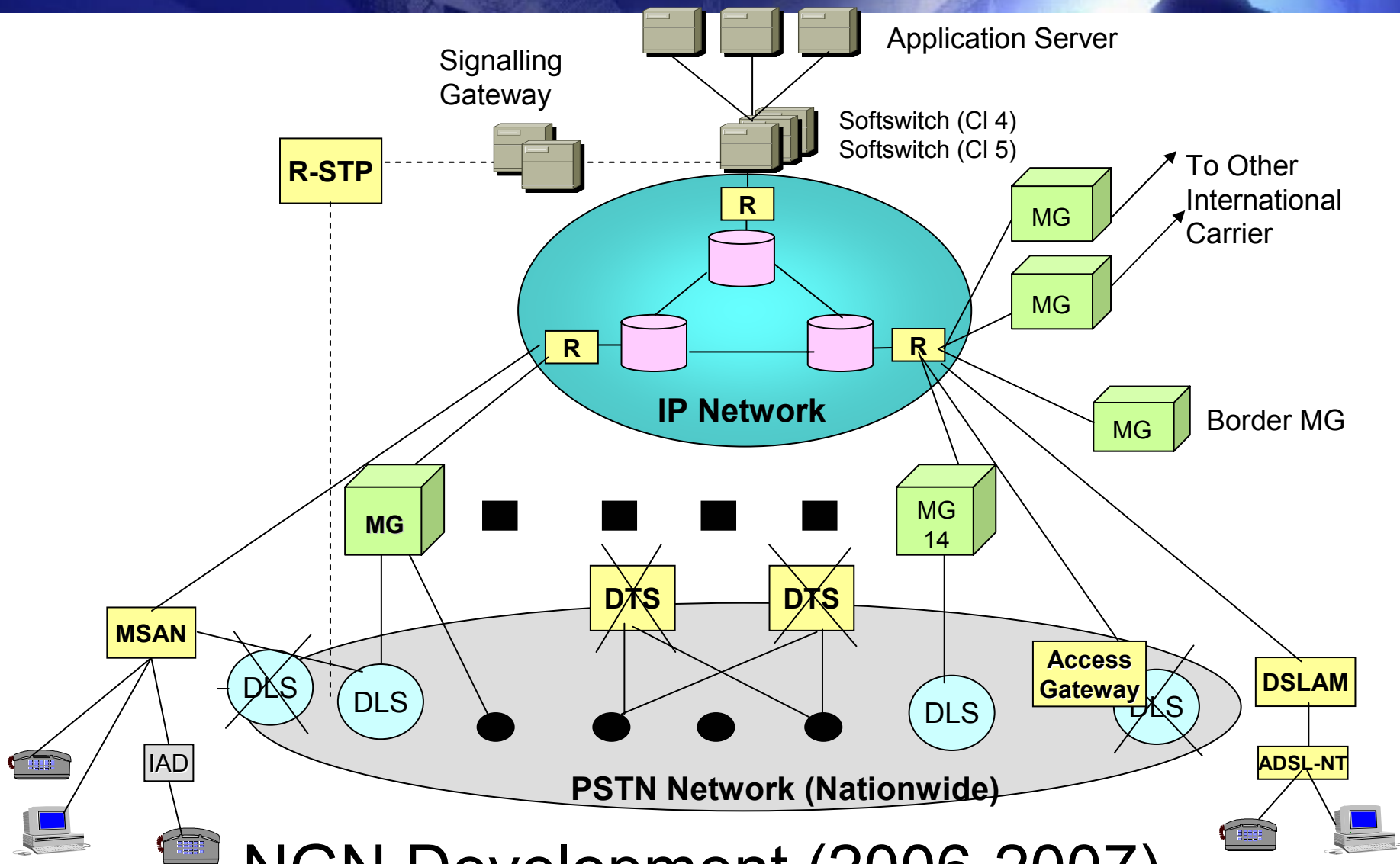
Multiple, Single – Service Network ..Needing Change





TOMORROW - NGN Architecture : Single/Multiple Service Network





NGN Development (2006-2007)

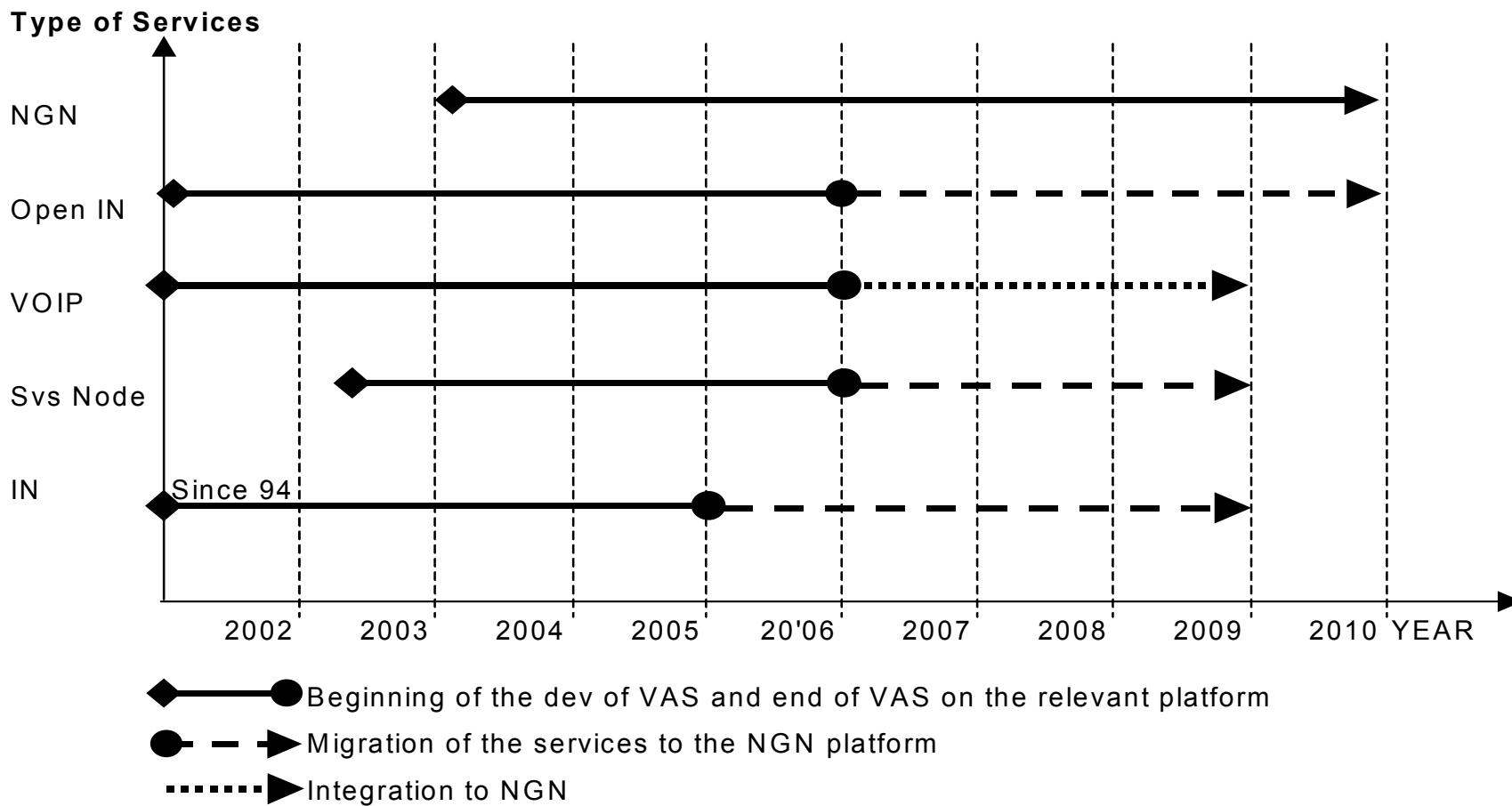


Malaysian Operator NGN Components

- 3.5 GHz Access
- ATM network as backhaul link
- Next Generation Switching – Softswitch
- MPLS network as Backbone
- 2.5 GHz Access (all-IP architecture)

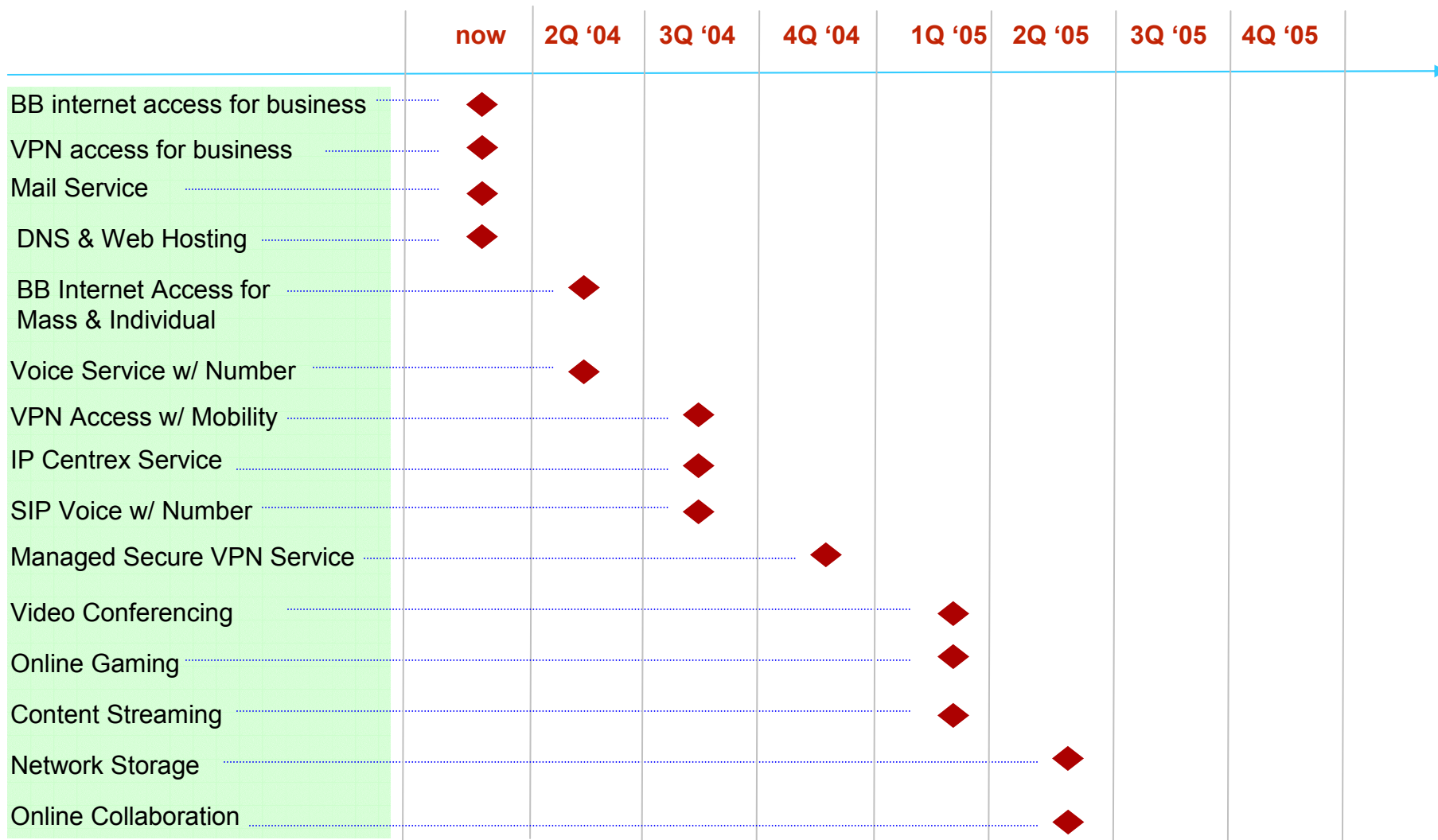


Application and Service Platform Road Map





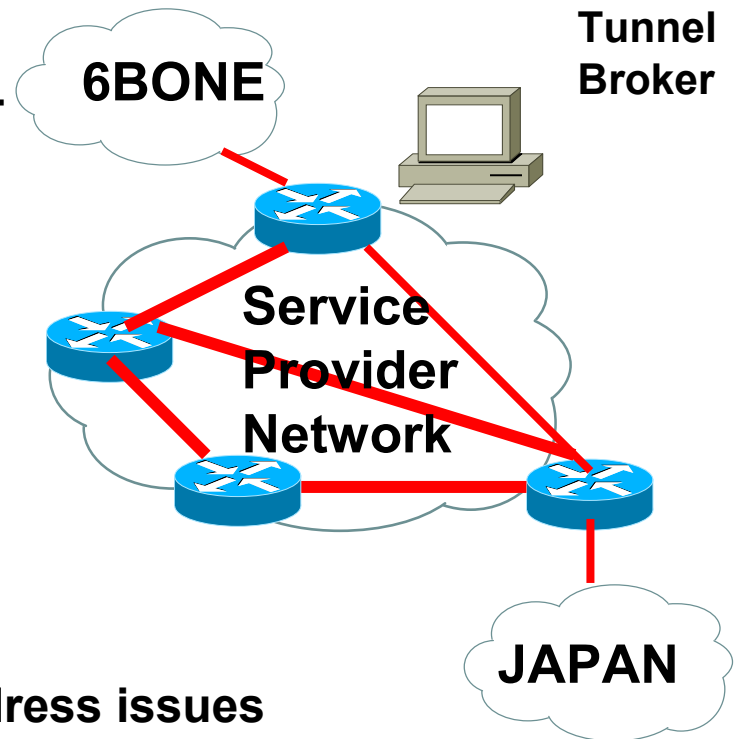
NGN Services Roll-Out Plan





ISP - Deployment Activities

- 4 ISPs/TELCO with sTLA address
JARING – 2001:0328::/32 NTT
MSC – 2001:0C18::/32
MAXIS – 2001:0D08::/32
TELEKOM – 2001:0E68::/32
- Provide Early Migration Tools dial-up/personal users segment through tunnel broker implementation, 6over4 implementation for network connectivity.
- DEPLOYMENT OF MY6 network - address issues of migrating and deploying IPv6 network
- Customer driven – where application is critical issue towards moving to IPv6



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New Applications Protocol on NGN

- **Session Initiation Protocol (SIP)**
- **Version 6 Internet Protocol**
- **ENUM**



Issues of IPv6 in Malaysia

- How critical is address space depletion in Malaysia? How long can Malaysia sustain?
- Industry readiness – are we ready?
- Migration path – best practices
- Cost of Migration – what are the economic incentive to migrate
- Stopgap measures during the transition period
- Address allocation - direct from APNIC?



Issues of IPv6 in Malaysia

- How does the use of IP facilitate internet take-up?
- Is there any national IPv6 platform looking into IPv6 issues comprehensively? Cross section representation?
- What do we need to do to get what we need? How do we assess our need for the next 10 – 20 years?
- Do we need to set a date for migration, what issues need to be considered? What areas need to be covered? How are we going to undertake this?



Advantages and Disadvantages of TDM Network

Advantages

- **Embedded QoS**
- **High reliability and availability**

Disadvantages

- **Inefficient capacity utilization due to the inability to offer shared bandwidth**
- **Unable to support IP services effectively**
- **Complex new service deployment – long time to market**
- **Lack of enhance and user friendly features.**
- **Not open platform – evolveability and modularity**

NGN combines the benefits of TDM and IP networks



Advantages and Disadvantages IP Network

Advantages

- Capacity is shared such that there is less potential for waste
- New service deployment is simple and fast
- Open platform

Disadvantages

- ISPs have been traditionally designed for best effort delivery and not supporting QoS
- Each service is architect in its own way without fitting into a unified architecture

NGN combines the benefits of TDM and IP networks

Presentation Road Map

A scenic background image of a two-lane asphalt road with yellow lane markings, curving through a hilly landscape under a dramatic, cloudy sky. The road leads the viewer's eye from the bottom center towards the horizon.

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Issues & Challenges Ahead

- Broadband Initiatives
- Roadmap to fully digital networks by 2010
- Interconnection
 - Upgrading of Bottleneck Facilities for Broadband
 - Signaling No. 7 scheme being finalised amongst industry players
- Review of Access Policy and Structure



Issues & Challenges Ahead

- **Consumers (end-users)**
choice, ease of upgrade, convenience of use, service quality, economically affordable
- **Industry/Related Industries**
effective competition, investment rationale, resource & technology (standards) development, spillover and peripheral benefits
- **Regulator/Government**
healthy market and industry development, sound policies, optimised regulatory environment
- **Nation/Society**
enhancement to economy and society, environmental issues, better life

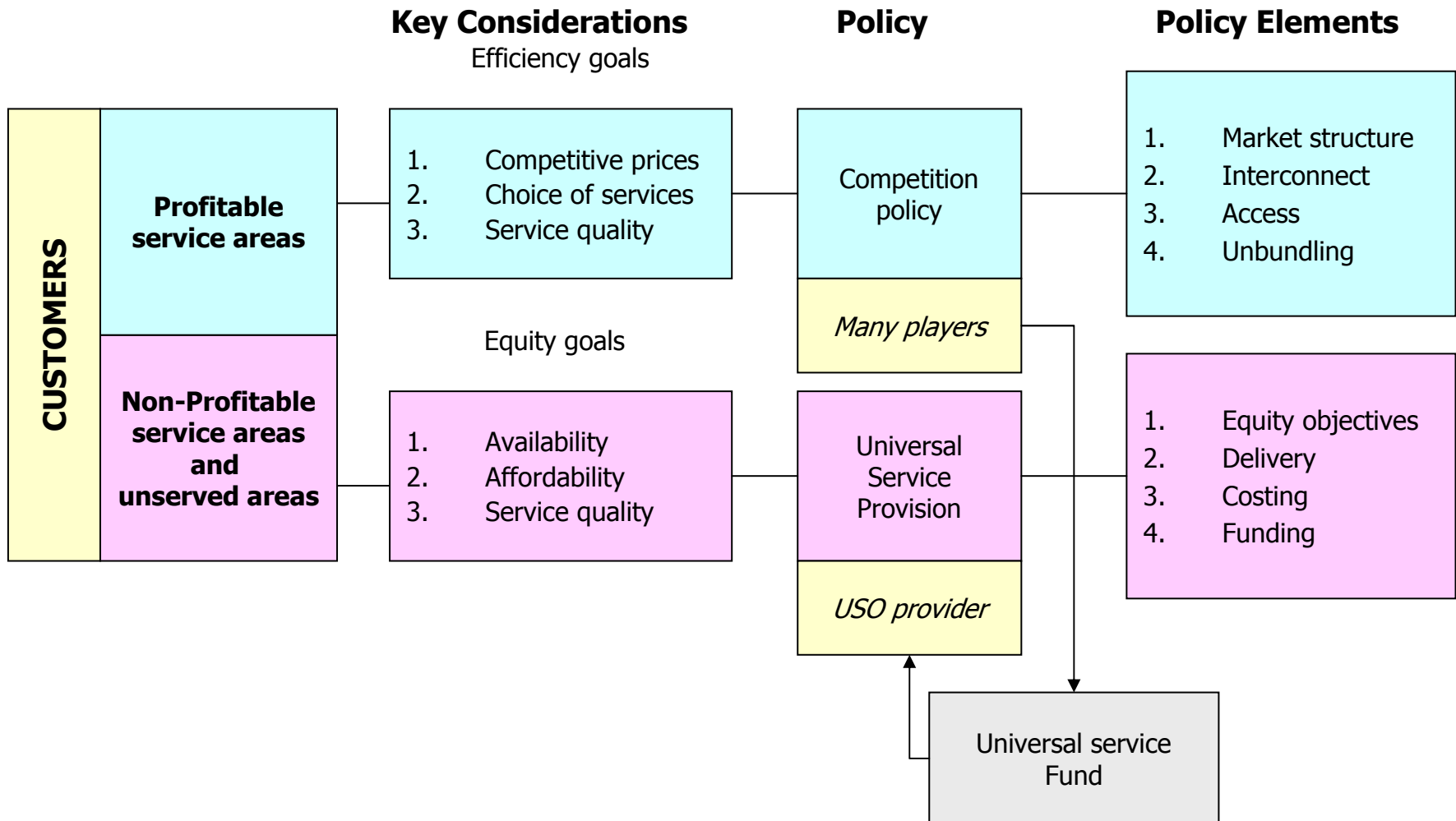


Forum as Mechanism to Address Challenges

- **Consumer Forum**
- **Content Forum**
- **Access Forum**
- **Technical Standards Forum**

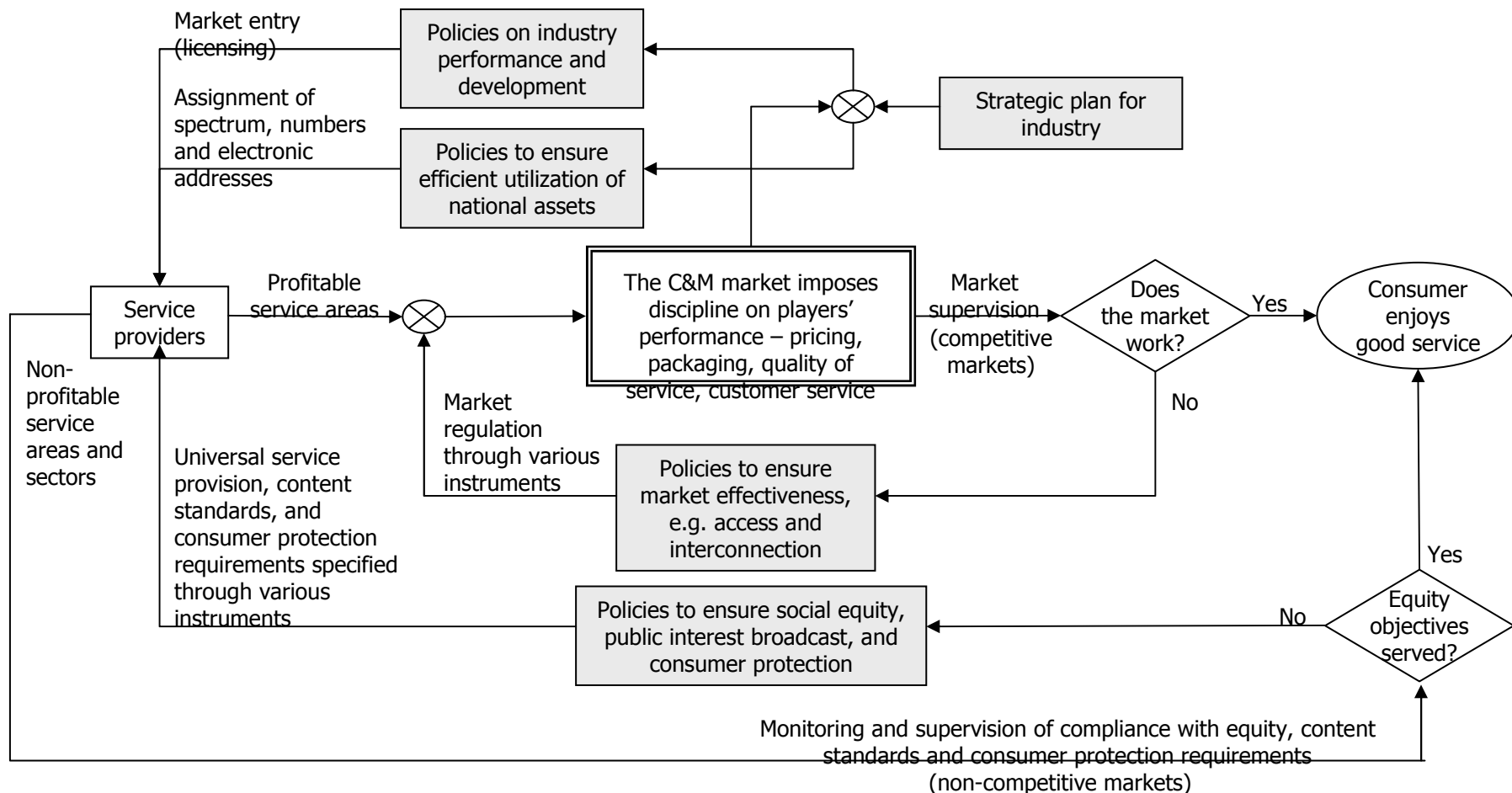


Balancing efficiency goals with equity issues





Intervention in the C&M Industry





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