

Challenges of Multi Services Convergence Network

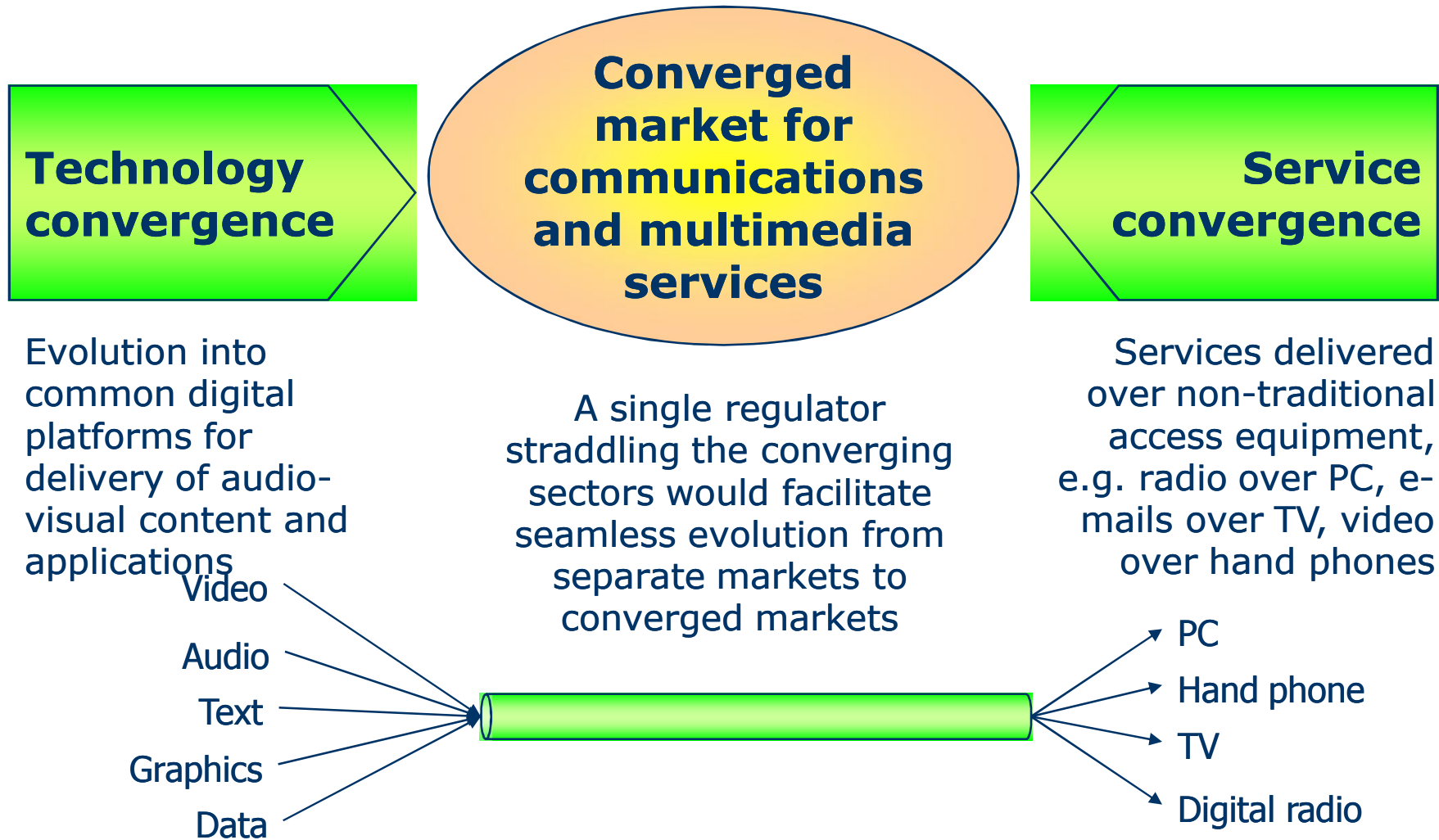
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Agenda

- Forces of Convergence
- Differences between MSCN and Legacy Network
- Implications of MSCN
- Policy and Regulatory Issues
- Challenges Ahead

The forces of convergence



Definition



- ❑ A Next Generation Network (NGN) is:
 - ❑ a packet-based network able to provide services including Telecommunication Services
 - ❑ able to make use of multiple broadband, QoS-enabled transport technologies
 - ❑ which service-related functions are independent from underlying transport-related technologies.
 - ❑ unfettered access for users to networks and to competing service providers and services of their choice.
 - ❑ generalized mobility which will allow consistent and ubiquitous provision of services to users.

Differences of NGN with Legacy Networks



- ❑ **Legacy Networks** - different networks for different services e.g. (data network for data services, voice network for voice services, broadcasting network for broadcasting services.) **NGN** – ONE Network for MULTIPLE Services
- ❑ **Legacy Network** – multiple transport protocols e.g. circuit switch and packet switch. **NGN** – one transport protocol e.g. packet based (IP based)
- ❑ **Legacy networks** – requires different CPE for different services. **NGN** will allows ONE CPE for different services.
- ❑ **Legacy Networks** – requires more time to introduce new services. **NGN** – quick introduction of new services since services are independent of transport layer.

Implications of NGN



- ❑ NGN offers different implications to different stakeholders
 - ❑ **Incumbent** – new revenue streams, further excuse of maintaining significant market power, better margin resulted in cost reduction, competition,.
 - ❑ **New players** – new business models, more opportunity resulted from converged environment, interconnection
 - ❑ **Vendors** – sales of new hardware and software
 - ❑ **Policy makers and regulators** – converged paradigm, new learning, innovative approach to regulation– balancing between innovation, investment and competition, security issue, defining USP scope
 - ❑ **Consumers** – more choices, “one stop service provider”

Deployment of Multi Service Convergence Network



- ❑ There are still many work in progress and issues but in principle two new elements have been introduce:
 - ❑ For Fixed (PSTN/ISDN)- requires introduction of new element - SoftSwitch
 - ❑ For Mobile - requires introduction of new element IMS (IP Multimedia System). Developed by 3GPP

Typical Questions on MSCN



- What would be the redefinition of universal service in the context of a Multi Service Converged Network?
- What services are deemed essential in the context of an MSCN?
- Do the following technical provisions apply equally well to MSCN's:
 - Emergency services (data, voice, or both)?
 - Disaster Relief capabilities (data, voice, or both)?
 - Lawful interception (data, voice, or both)?
- How would national numbering be affected by Internet Telephony:
 - What is the technical scope of E.164 numbers?
 - User issues (number portability from PSTN to Internet)?
 - Allocation issues (e.g. telco versus ISPs)?
 - Rights and ownership of numbers?

Adopted from ITU-NGN Workshop

Policy and Regulatory issues



- ❑ **Migration and transition time table** - when and who to invest, government-led or market-driven. Balance between maturity of technology and leadership/nation's competitive advantage
- ❑ **Approach** - regulatory holiday/forbearance to encourage investment by incumbent or tight handed to ensure level playing field for all resulted.
- ❑ **Competition oriented regulation**- is "service bundling" allowed. Significant market power due to converged network capability which is what NGN promised the service providers.
- ❑ **Interconnection issues** - what are services in access list, access price - costing method?
 - ❑ pricing guidelines - pricing of termination service among operators
 - ❑ Imbalance of Traffic - small subscriber base
- ❑ **Quality of services definition** - IP is based on best efforts, what is the measurement and enforceability of new QoS
- ❑ **Security and social issue**- lawful interception, privacy, content
- ❑ **Regulators capacity** - are we prepared for this convergence e.g. licensing, resource allocation and assignments (IP address, numbers, spectrum), knowledge and information, regulatory evolution
- ❑ **Definition of Universal Service Provisioning** - what will be the scope of services offered in USP

Way forward for MSCN



- ❑ MSCN being introduced in phases from 2006 with full migration to MSCN by 2010.
(The first element of the 8 infrastructures in MyICMS 886)
- ❑ We will continuously monitor the MSCN development closely and review our regulatory framework to create favorable deployment.
- ❑ We have developed strong VoIP players/industry and also assigned numbers to them which allows users to terminate call to the VoIP network. Therefore, acquired some capacity in addressing the IP environment
- ❑ Framework and guidelines stable but pricing will be an issue and challenge. Is regulatory intervention required?



Thank You