



International Telecommunication Union

IPTV in Hong Kong - Current Status and Regulatory Regime

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IPTV – An Emerging Technology (1)

- What is IPTV?
 - From the “network” perspective
 - Conveyance of video signals over broadband network via
 - The Internet
 - A “managed network”
 - A new platform complementary to existing satellite, cable and terrestrial systems
 - From the “service” perspective
 - A broadband digital “triple play” service offering video, Internet access and voice services
 - Pay TV service to registered subscribers



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IPTV – An Emerging Technology (2)

- ITU IPTV Focus Group is still considering the definition of IPTV
- Some definitions proposed to the ITU
 - Alliance for Telecommunications Industry Solutions (USA)
 - IPTV is defined as the secure and reliable delivery to subscribers of entertainment video and related services that employs the IP protocol to transport the audio, video and control signals
 - British Telecom (UK)
 - An IPTV service is defined as the secure delivery of streamed visual content over a managed IP network to a customer for display on a television or similar device



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IPTV – An Emerging Technology (3)

- o No consensus on the definition, but IPTV seems to take the following generic form
 - Transmission of video signal over the Internet or managed (wireline and wireless) broadband networks using Internet Protocol



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IPTV via Internet

- o IPTV via Internet
 - Conveniently and easily accessible from different locations in the world
 - Low set up cost
 - Large potential viewer base
 - Picture quality depending on bandwidth
 - Suitable for viewing on smaller displays only
 - No guarantee on QoS
 - Difficult to maintain subscription service



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IPTV via Managed Networks

- o IPTV via managed networks (mobile and wireline)
 - High initial network infrastructure cost, operating cost in bill management, CPE maintenance, etc.
 - Various transmission medium, e.g. fixed networks, 3G, HSDPA, etc
 - Picture quality comparable to that of conventional TV
 - Suitable for viewing on common TV screen
 - Smaller display for mobile reception
 - Guaranteed QoS, network reliability, network security, etc
 - Better access control facilitating subscription based service



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IPTV's Presence in Hong Kong

- o IPTV services in Hong Kong
 - Over fixed networks
 - Over mobile networks
 - Over Internet
- o General scene on broadcasting and telecommunications in Hong Kong

Hong Kong - General Facts

- o A small territory of about 1000 km²
- o 7 million people
- o 2.3 million households
- o GDP in 2005 is US\$ 177.2 billion
- o Broadcasting sector contributes 0.4% to GDP
- o Telecom sector contributes 3.3% to GDP

Telecom Services (1)

- o Fixed services
 - Fully liberalised since 2003
 - No pre-set limit on number of licences
 - 5 active operators
 - 3.8 million telephone lines
 - 1.7 million broadband subscribers
 - 24% broadband population penetration
 - More than 76% of households have a choice of more than two broadband networks



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Telecom Services (2)

- o Mobile services
 - No pre-set number of operators subject to frequency constraint
 - Ten 2G networks
 - 3 GSM, 6 PCS, 1 CDMA
 - 9 million mobile users
 - 130% population penetration
 - Four 3G (WCDMA) networks
 - 2.5G, 2.75G, 3G and 3.5G customers : 23% of all mobile users
 - 3G and 3.5G customers : 11% of all mobile users



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Broadcasting Services

- o 2 free-to-air (UHF band) broadcasters
 - 4 programming channels
 - Virtually universal coverage
 - Digital terrestrial services in 2007 with plan to shut down analogue services in 2012
- o 4 pay-TV operators
 - Coaxial cable, satellite, fixed line (including IPTV)
 - Over 1.4 million subscribers
 - Nearly 300 programming channels
- o Out of the 4 pay TV operators, 3 provide IPTV services
 - Services launched in end 2003
 - 700,000 subscribers
 - 30% household penetration
 - Nearly 200 Programming channels



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Mobile TV

- Emerging technologies for transmitting digital multi-media services for reception by mobile phones / hand-held devices
- Some mobile TV technologies enable provision of IPTV service
- Strong interest worldwide to launch commercial mobile TV services including IPTV
- Promising commercial prospects due to convenience and mobility
- Market acceptability is uncertain
- We will consult the industry on mobile TV
 - Regulatory framework and licensing regime
 - Frequency bands
 - Allocation method



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IPTV Service over Mobile Networks

- o Mobile operators are allowed to provide IPTV services over their networks
 - No separate broadcasting licence is required for provision of IPTV over mobile networks under the existing legislation
 - All mobile operators are providing IPTV services
 - All 2.5G/2.75G/3G/3.5G customers (about 2 million) are capable of accessing IPTV services
 - Typical applications : Internet access, streaming video, etc
 - Attractive service packages, e.g.
 - 100 minutes 3G/3.5G streaming video airtime for monthly rental of US\$3.8
 - complimentary unlimited viewing of selected channels for its subscribers



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IPTV Service over Fixed Networks

- Fixed network operators are allowed to convey IPTV services
- IPTV services over fixed networks require a separate broadcasting licence
- Three IPTV services over fixed networks employing different network configurations
 - ADSL + ATM/Ethernet
 - Metro Ethernet
 - Ethernet over fibre backbone



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IPTV Service over Internet

- o IPTV on Internet
 - No broadcasting licence is required
 - Access providers require a telecom licence
 - Internet access via Wi-Fi hot spots
 - Class licence for provision of wireless LAN
 - Technical requirements on output power & others
 - No licence fee, registration only
 - Frequency bands : 2.4 GHz & 5 GHz
 - Over 740 registered Wi-Fi hot spots in Hong Kong for broadband Internet access
 - Internet access via fixed networks
 - Public Non-exclusive Telecommunications Service licence
 - 184 Internet services providers
 - No limit on licences
 - Annual licence fee - US\$96
 - Interconnection charge paid to fixed operators : 15.4 US cents per hour



Why IPTV Grows so Fast In Hong Kong?

- Good investment environment in Hong Kong
- Regulatory approaches facilitating the development of a good mobile and fixed broadband infrastructure
- Separate conveyance and programme content regulatory frameworks
 - Technology neutrality



Investment Environment in Hong Kong

- o High GDP per capita: US\$25,546
- o Population ready to embrace new technologies
- o A capital for regional headquarters/offices
- o A regional centre for financial services, logistics, tourism and professional services
- o Geographic location, infrastructure, rule of law, clean government, simple and low tax regime (16% of revenue), free flow of information, talents, entrepreneurship, etc.
- o Society is moving to a knowledge-based and high value-added economy



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Regulatory Approaches

- o Facilitating the development of a good broadband infrastructure
- o Liberalization and competition
- o Light-handed approach that relies on market forces
- o Regulatory intervention unless the market fails
- o Fully privatised telecom industry
- o No foreign ownership restriction in telecom licensee
- o Low entry and exit barriers

Separate Regulatory Frameworks (1)

- Separate regulatory frameworks on
 - Conveyance
 - Regulated under the Telecommunications Ordinance
 - Telecommunications Authority is an independent statutory body established under the Telecommunications Ordinance
 - Licence for conveyance of IPTV is issued by the Telecommunications Authority
 - Carrier licence
 - No pre-set limit on number of licence
 - Simple application procedures

Separate Regulatory Frameworks (2)

- Programme content
 - Regulated under the Broadcasting Ordinance
 - Broadcasting Authority is an independent statutory body established under the Broadcasting Authority Ordinance
 - Licence issued by Chief Executive in Council upon the recommendation of the Broadcasting Authority
 - TV programme services are regulated under the same category of licence in a consistent manner
 - Categorized based on their characteristics and pervasiveness
 - Four types of television programme services
 - IPTV service over fixed network is categorised as domestic pay TV programme service
 - IPTV provided over the Internet is exempted from the licensing requirement under the Broadcasting Ordinance
 - Content needs to comply with the Control of Obscene and Indecent Articles Ordinance

Separate Regulatory Frameworks (3)

- o Separate regulatory frameworks facilitates the development of IPTV
 - Applicants approach the right licensing authority for appropriate licence
 - No dispute on who have the right to provide IPTV services
 - Licensees clearly know under what regulation their services will be subject to
 - No need to spend time on amending or creating legislation

Separate Regulatory Frameworks (4)

- Technology neutrality
 - Allowing changes to regulation of conveyance and programme content to occur at a different pace in the era of convergence
 - TV programme service providers do not need to invest in network rollout



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Unified Regulator

- o Convergence takes place at multi-levels
 - Mobile-fixed convergence
 - Telecom-broadcasting convergence
- o Regulatory regime and institutional framework will remain
 - conducive to the development of new services
 - encouraging innovation and entrepreneurship
 - safeguard the public interest
- o Consultation on the establishment of a unified regulator - Communications Authority
 - Merger of the regulation of telecom and broadcasting



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Thank you and see you at
ITU TELECOM
WORLD 2006 in Hong Kong
4-8 December 2006
<http://www.itu.int/WORLD2006/>