ITU AREGNET
Regulation of OTT

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Session 1: Regulatory initiatives regarding OTT services

Agenda

- What is Over-the top
- Drivers of communications services substitution
- Key policy and regulatory issues
- Regulatory initiatives regarding over-the-top services : international benchmark
- Discussion questions

What is Over-the-Top?

- *Over the Top* is a 1987 movie starring Sylvester Stallone as a champion arm-wrestler (seriously!).
- OTT also describes a service that rides on top of a user's internet connection
  - The user's ISP/telco is not involved in the supply of an OTT service
- OTT services take many forms
  - voice and messaging services more apparent today
  - video and music services increasingly so

Source: Incyte Consulting, ITU ADVANCED LEVEL TRAINING, Strategic Costing and Business Planning for Quadplay, Windhoek, Namibia, 6–10 October, 2014

Based on the kind of service they provide, OTT apps are a substitute of operators services

Communications	■ Voice services ■ Messaging		Fixed and Mobile telephony substitute; SMS substitute
Applications	■ Social networks ■ E-commerce		Alternative way of communications
Video/audio	■ OTT-TV ■ OTT Video ■ Streaming and VoD		A TV substitute

By competing directly with network operators OTT's emergence is raising regulatory concerns

	Telco	OTT
Access to customer	• Via own network • QOS guaranteed	• Via someone else's network • Unlikely to guarantee QoS
Potential customers	• Those within the footprint of the telco's network	• Any person anywhere in the world
Business model	• Subscription based	• App sales, freemium, advertising, partnerships, or "yet to be determined"
Platform	• Open standards • Interoperability	• Proprietary • Not interoperable • Walled gardens

QoS

Jurisdiction

Taxation

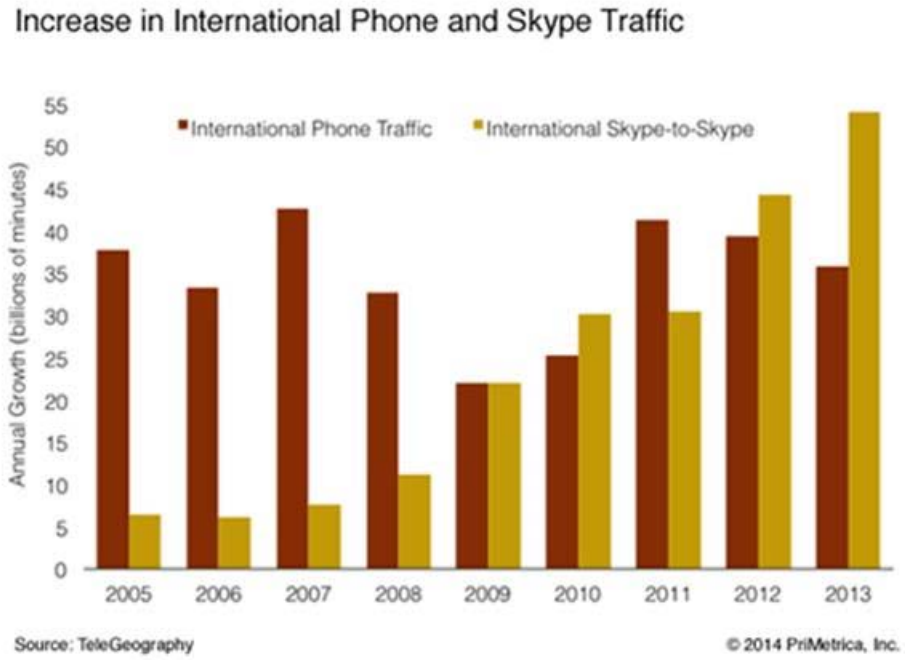
Source: Incyte Consulting, ITU ADVANCED LEVEL TRAINING, Strategic Costing and Business Planning for Quadplay, Windhoek, Namibia, 6–10 October, 2014

Also because the forecasted scale of migration will have a significant impact on revenues

- The volume of OTT messages sent is already estimated to exceed standard SMS messages and forecasts are unambiguously in favour of OTTs
- According to Ovum, a London-based research and analytics firm, the telecommunications industry will lose a combined $386 billion between 2012 and 2018, mainly from customers using over-the-top (OTT) voice applications such as the market-leading Skype and Lync, both owned by Microsoft

The volume of international telephone traffic remains larger than Skype traffic, but Skype's international minutes are growing much faster

- While international fixed-line and mobile phone call traffic rose an estimated 7% in 2013, to 547 billion minutes, international Skype-to-Skype traffic grew 36% in 2013, to 214 billion minutes, according to TeleGeography data.
- Therefore it's difficult not to conclude that at least some of Skype's growth is coming at the expense of traditional carriers.



Source: Telegeography

Impact of lost revenues may be further enhanced by smartphones dramatic growth

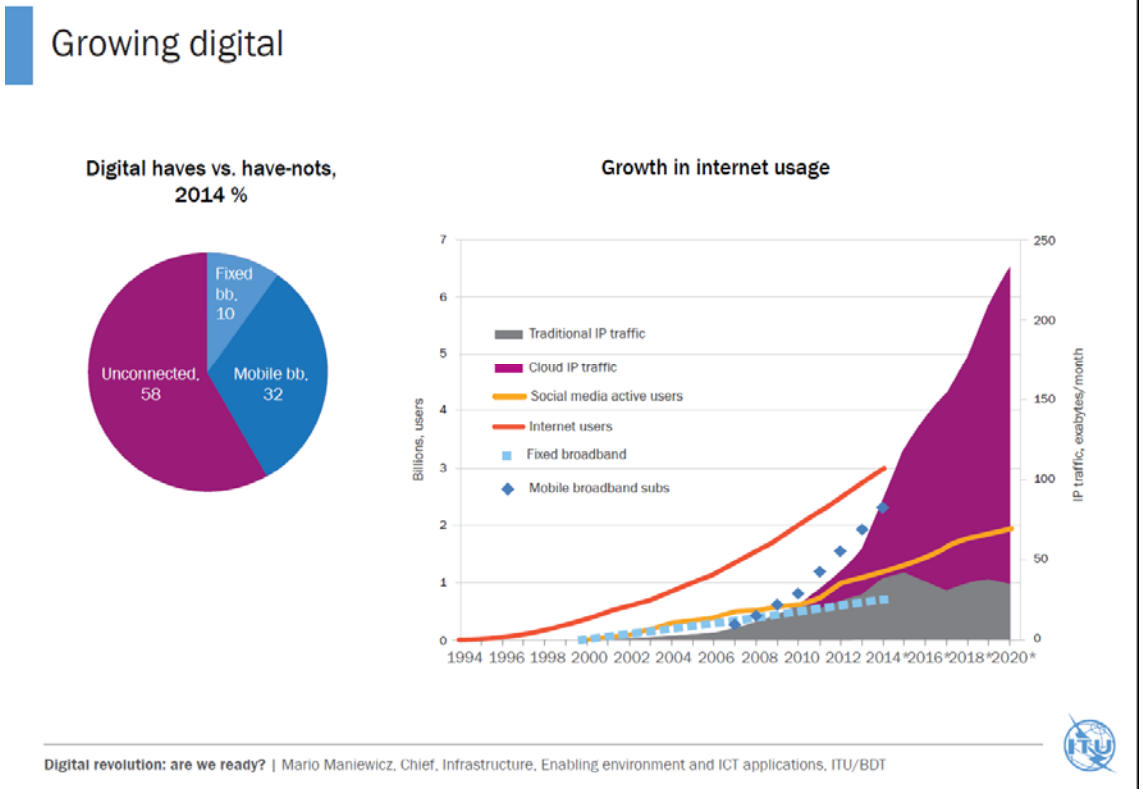
- Mobile context enabled by arrival of the smartphone and public wifi
  - Further enabled by the enhanced capabilities of 4G
- Consequences particularly great for mobile networks
  - Displaces and disintermediates supply of voice and (especially) messaging
  - risks reducing network connectivity to a commodity
  - third-party providers challenging the mobile operator hegemony

Short Quizz

- What percentage of the world adult population owns a smartphone?
- How many will by 2020?
- How much time the average American is buried in one every day?
- Asked which device they would miss most, what would the majority of British teenagers answer?
- What % of smartphone-owners check messages, news or other services within 15 minutes of getting up?

The other major driver of OTT applications are Cloud Services

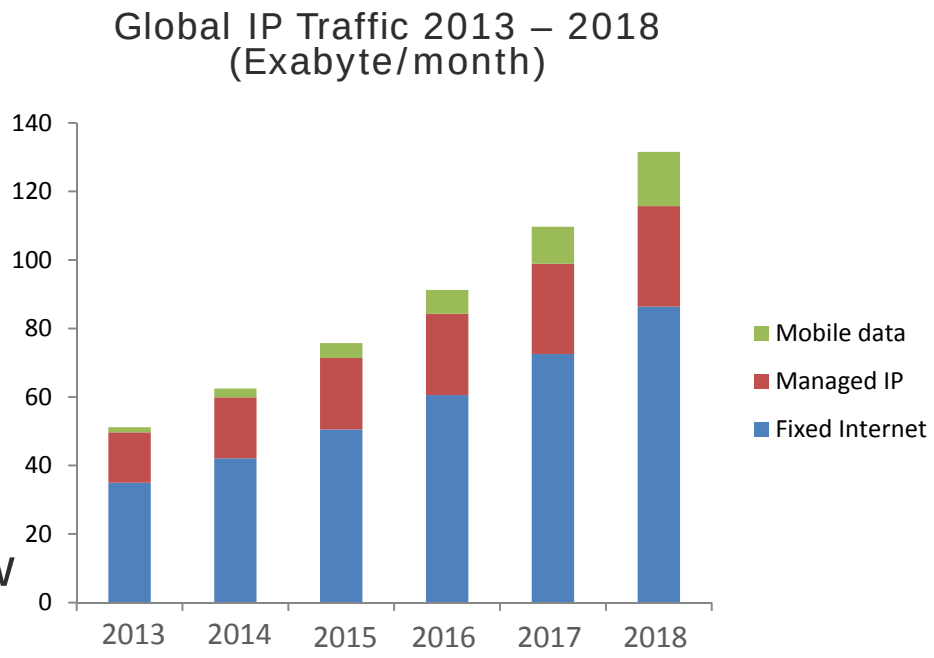
- The general idea of the 'Cloud' is to store content on a server that can be reached through the internet so that the content can be accessed from any device anywhere, as against leaving it on a hard drive
- Apple, Google, Amazon, Microsoft and Dropbox offer various kinds of Cloud services



Source: Digital revolution: are we ready? Mario Maniewicz, Chief, Infrastructure, Enabling environment and ICT applications, ITU/BDT 14th Global Symposium for Regulators (GSR): Capitalizing on the potential of the digital world, Bahrein 2014

IP traffic increased demand will require additional investment in bandwidth

- According to Cisco's forecast, global IP traffic will nearly triple by 2018, to reach 131.6 exabytes/month
- Consumer IP traffic will reach 108 exabytes/month and business IP traffic will surpass 23.6 exabytes per month
- Mobile data is estimated to grow at a CAGR of 61% in this time frame



Source: Cisco Visual Networking Index: Forecast and Methodology, 2013–2018

Telecom operators pushed to finance the necessary additional investment in network upgrading and spectrum

Key elements and issues likely to be at the core of the policy and regulatory debates

Net Neutrality	■ The open internet 'net neutrality' principle, which asks operators to treat all data equally, and not intentionally block or slow down traffic that competes with their own services: Traffic management policies?
Zero rating	■ Zero-rating is the practice of mobile network operators not to charge end customers for data used by specific applications or internet services in capped data plans. Should MNOs be allowed this practice?
Market Reviews	■ When competition is not effective, regulatory measures aiming to address market failure can be imposed on dominant firms by NRAs, after conducting a thorough market review. To what extent OTT applications need to be considered in demand side substitution analysis?

Key elements and issues likely to be at the core of the policy and regulatory debates (II)

Consumer rights	■ Certainly challenging for consumers to understand impact of traffic management on their Internet use as it becomes more complex and widely used
Feasibility	■ Telecoms business model sustainability taking into account decreasing revenues and constant investment for increased bandwidth. For example the EU political (digital) agenda has demanding objectives
Competition	■ Ensuring a level playing field between telecom operators and OTT services providers and preventing anti-competitive behaviors

Two pioneering countries, Chile and the Netherlands, safeguarded from the onset net neutrality principles

- Way back in July 2010 net neutrality principles have been introduced in the National Telecommunications Act. “No [ISP] can block, interfere with, discriminate, hinder, nor restrict the right of any Internet user of using, send, receive, or offer any content, application, or legitimate service through the Internet, as well as any activity or legitimate use conducted through the Internet.”
- Banned “zero-rating” recently (27 May 2014)

The Netherlands was the second country globally to make net neutrality principles into a law, in 2011. The law prevents telecom operators from blocking or charging consumers over and above the regular data charges, for using VoIP based apps and other internet-based communication services.

Some countries also banned zero rating practices

Zero-rating access deals are also outlawed in the Netherlands. Vodafone was fined $225,000 last month after bundling HBO's smartphone app into its monthly package, seen a violation of the zero-rating prohibition. KPN, Vodafone's main rival, received a $280,000 penalty for blocking Internet calling services on some of its Wi-Fi hot spots.

Slovenia, the regulator fined Telekom Slovenia and Telekom Austria because they zero-rated music and cloud-based applications.

On the other side of the Atlantic the Canadian telecom and media regulator (CRTC) has banned zero-rated mobile video streaming of carriers own services.

The US recently set new net neutrality rules but still not incorporated as a law

Recently, the FCC released new internet rules on March 12, 2015 which further strengthens the network neutrality concept in the US. These rules, called as bright-line rules are:

a) No Blocking: broadband providers may not block access to legal content, applications, services, or non-harmful devices;

b) No Throttling: broadband providers may not impair or degrade lawful internet traffic on the basis of content, applications, services, or non-harmful devices.

c) No Paid Prioritization: broadband providers may not favor some lawful internet traffic over other lawful traffic in exchange for consideration of any kind—in other words, no "fast lanes."

The EU intends to support net neutrality as a legal concept but also opens up revenue opportunities for network operators

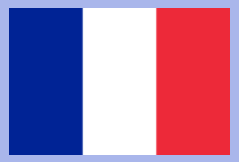
The European Parliament substantially amended the Commission's proposal in April 2014. It clarified the net neutrality concept and limited network operators' options to offer preferential services to OTT providers.

It bans blocking and throttling practices, and makes traffic management non-discriminatory and transparent. But allows network operators and OTT providers agree on **“specialized services”** to assure a quality of service, if it doesn’t affect the “normal” internet service.

Individual countries in the European Union are doing it in different ways, some creating laws (e.g. the Netherlands, Slovenia) others just having general principles being set by the NRA (e.g. UK, France, Sweden)

Some European countries have set some net neutrality principles

Ofcom, the UK regulator, permits experimentation with new business models that rely on certain forms of traffic management, so that the “best-efforts” Internet is protected. Through a transparency obligation, customers should be made aware of average speeds, the impact of any traffic management on specific types of service, and whether any blocked services.



ARCEP, France’s regulatory authority, published 10 proposals including freedom and quality of Internet access, non-discrimination between Internet data streams, a framework to govern traffic management, and increased transparency for end users.

Some others so far have just made public statements or opened up a public discussion

After a statement of SingTel CEO, asking regulators to allow carriers to charge OTT's for the use of their networks, Singapore's communications regulator, IDA, publicly stated that mobile consumers must be given access to web content and apps, and internet service providers should not create barriers to block such access (2013).

TRAI has just issued a Public Consultation regarding OTT regulatory issues: Consultation Paper On "**Regulatory Framework for Over-the-top (OTT) services". (**27th March, 2015).

A few countries have, in the past, been more rigorous regarding OTT services

Korea Communications Commission (KCC), the telecom regulator, announced “Net Neutrality and Internet Traffic management Guidelines” in 2011. However the KCC ruled in June 2012 to allow telecommunications operators to charge subscribers when they use mobile VoIP services

The Communications and Information Technology Commission (CITC) has requested OTT service providers to comply with the regulator’s rules and conditions or face a ban

According to TRA regulations "VoIP services are still a prerogative of the licensed providers who reserve the right to provide such services through their networks. Companies wishing to offer such services must co-ordinate with the licensed telecom providers in the UAE."

Regulatory issues regarding OTT services: discussion questions

- Who should be regulated? More regulation or less to level Telcos vs OTT's? What should be regulated? Content?
- Consumer rights protection: transparency, non-blocking, throttling, reasonable speed, traffic management for congestion. Where is the dividing line for traffic management? In what instances might regulators interventions be justifiable?
- Does zero rating enhance consumers welfare? Or not? Why? In what circumstances?
- Sustainability of Telco's current business model considering the gap between traffic, investment and revenues disparity: change from competition to investment in NGA's as regulatory objective; should public funds be used? Will termination regulation simply go away?

Thank you