

Comments by LIRNEasia on the Telecommunications Policy Consultation Draft (version 1.4) issued by the Ministry of Information Technology, Islamic Republic of Pakistan

Comments Submitted to the Ministry of Information Technology on the 15th October 2014

LIRNEasia appreciates the opportunity to offer comments on the draft telecom policy 2014. We commend the Ministry of Information Technology (MoIT) for recognizing the immense potential Information and Communication Technologies (ICTs) bring to an economy and for proactively revising its policies on the same.

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The proposed telecom policy 2014 unquestionably aims to provide guidance on all aspects relating to the sector and has some very progressive suggestions; spectrum trading for instance, that must be lauded. However, there are sections of the policy that hint at overall progressive intent, without giving sufficient detail. This in itself is not a problem, but our experience shows that the details are as important as the overall intent. In this light, we have provided below some good practices on select sections of the policy, which we hope will be considered with the MoIT, PTA and other stakeholders to finalize the details of the policy itself, and the subsequent rules and regulations.

Section 9.6 of the Policy - Analogue UHF TV spectrum and MMDS spectrum

The reallocation of the 700 MHz band has great potential to improve the wireless communication landscape. When spectrum is being released and re-allocated, spectrum harmonization ought to be a key consideration. Potential signal interference aside, it also contributes to economies of scale for manufacturers and thereby lowers the costs of devices.

In-depth analysis conducted by Boston Consultancy Group (BCG) during a study for the GSM Association suggests that the most productive use of the digital dividend in terms of both social and economic benefit is mobile broadband in comparison to digital broadcast, fixed wireless Internet (WiFi, WiMax) and public use.

Mexico is unique in its decision to use the full 90 MHz block of the 700 MHz band for the provision of a wireless wholesale network where operators can lease capacity from (similar to the traditional MVNO model). One of the main concerns with spectrum sharing based solutions is the management of interference between users. The absence of clear and regulated usage rules can lead to overuse and therefore poor quality of service.

Recommendation:

The digital dividend provides a good opportunity to expand the wireless network. In light of the importance of spectral harmonization it should be pursued sooner rather than later, specifically given the fact that India is already entering the auction design stage.

Depending on how the digital dividend is re-purposed, there will potentially be white spaces¹ that can be used for wireless communications. Singapore leads the region in this sphere and has set up a working group that has prepared commercial trials. Most developed economies such as Hong Kong and Singapore recognize the demand for mobile data services and route traffic through WiFi networks to ease the load. **WiFi offloading** allows for handheld devices with built-in WiFi capabilities to seamlessly transfer traffic between WiFi and mobile networks thereby offering better performance during peak times.

¹ White spaces are the unused or under-used frequencies mostly in the bands used by TV. TV Band Devices (TVBDs) can be used to check a database or use cognitive radio to identify others users and avoid interference on those channels.

Sections 9.13 License renewal where the license includes spectrum assignments & 9.8.3 Method of assigning and pricing spectrum

LIRNEasia appreciates the fact that the policy stipulates fair, transparent and economically justifiable pricing methods that will be followed in case of spectrum renewal. Unambiguous pricing models and license renewal processes are mandatory to ensure service continuity. Policy makers and regulators must give priority to consumers' access to services and consumer protection. Competitive markets create a favorable environment for consumers. Using market-based approaches and providing operators with certainty of license renewals using transparent pricing models is imperative.

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In the case of Hong Kong, following a consultation, the Office of Communication Authority (OFCA) decided to exercise their right to refusal for 1/3rd of the spectrum from each licensee. According to the Radio Spectrum Policy Framework, OFCA has the right to "vary or withdraw any spectrum assigned by reasonable notice". OFCA has reason to believe that as customers increasingly migrate to LTE, operators will not require the current allocation of 3G spectrum for the provision of existing services. It also exerts pressure to strive for spectral efficiency. However, from the operator point of view, users cannot be compelled to migrate to LTE. Although the measure seems drastic, the pricing model OFCA intended on was a hybrid market-based approach and an administratively-assigned-based approach.

Recommendation:

License fees are a significant means of government revenue. The fact that it has to be fair, logical and transparently priced cannot be over-stated. In the case of Bangladesh, license renewals were subject to spectrum fees based on market share and market competition factor, which meant that those with the higher number of subscribers (irrespective of low-income / low ARPU subscribers), would pay more for the license priced equally across different GSM bands. Such inequitable practices must be avoided.

Section 10.3 of the Policy - Broadband quality of service

The telecom policy rightly highlights the need to regularly amend broadband quality benchmarks. It is important to consider research oriented methods of diagnostic tools that have been developed before determining the best fit for Pakistan's broadband. There are multiple methods and parameters use to benchmark broadband Quality of Service (QoS). It is essential to understand the impact of each parameter on the user experience (Figure 1), particularly with cloud services gaining popularity. For instance, upload speeds will become more significant when cloud-based storage services are being used.

Service	Download (kbps)	Upload (kbps)	Latency (Round Trip Time, RTT) (ms)	Jitter (ms)	Packet Loss (%)
Browsing (Text)	++	-	++	-	-
Browsing (Media)	+++	-	++	+	+
Downloading	+++	-	-	-	-
Transactions	-	-	++	+	-
Streaming media	+++	-	++	++	++
VOIP	+	+	+++	+++	+++
Games	+	+	+++	++	++

+++ Highly relevant; ++ Very relevant; + Relevant; - Irrelevant

Figure 1: The relevance of broadband quality parameters on services ([LIRNEasia, 2007](#))

One of the more distinct features of the LIRNEasia is its ability to perform diagnostics on three different domains; (1) local (within the host ISP), (2) national (within the country but with access to other ISP networks) and (3) international. The multi-domain level testing has in the past hinted at potential bottlenecks (Figure 2).

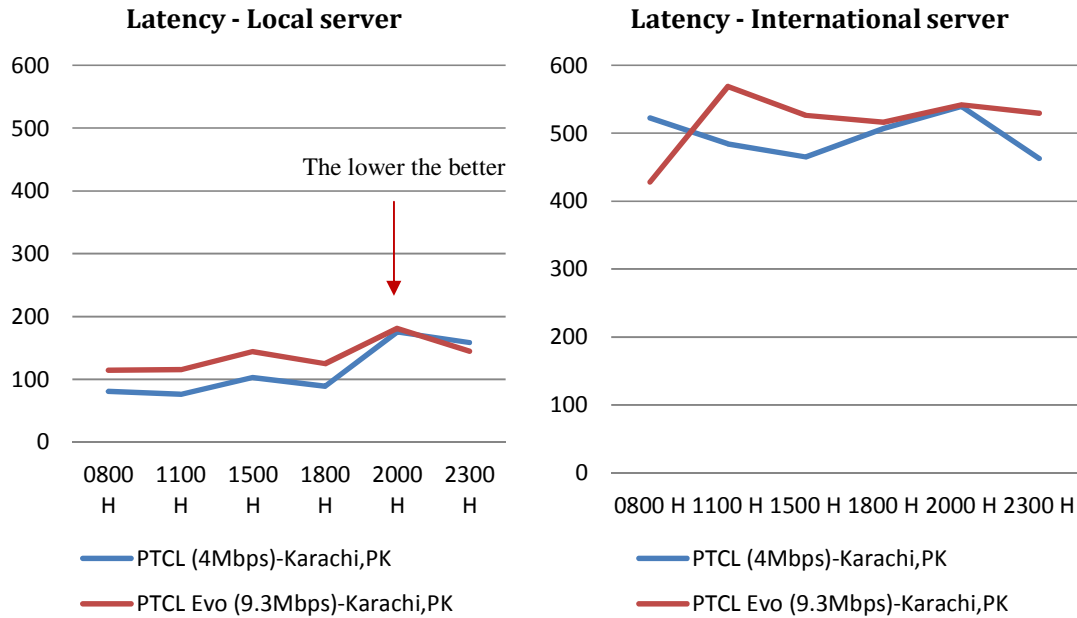


Figure 2: Latency local vs. International, (LIRNEasia 2014)

Consumers being the focus, the regulator should also address the speeds advertised by service providers. Often it is the theoretical maximum that is advertised, which is misleading to consumers because it is not achieved always. It is recommended that service providers measure and publish typical download speeds. LIRNEasia research also illustrates the difference of advertised download speeds vs. actual (Figure 3).

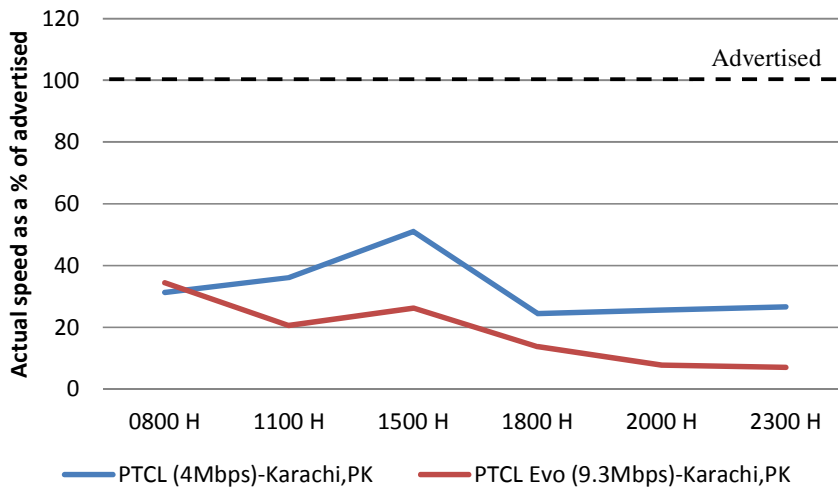


Figure 3: 10 MB file download from an International server - actual speed as a percentage of the advertised speed, (LIRNEasia 2014)

Recommendation:

- (a) Methodology - There are many tools and techniques available for benchmarking broadband QoS. It is important that the differences in the methodologies are recognized before selecting the approach.
- (b) It is also recommended that diagnostics are carried out in a manner that accounts for anomalies caused by peak / off peak variations
- (c) Analysis - The LIRNEasia method of analysis makes an effort to be nondiscriminatory. For instance download speeds are not compared based on the actual value but as a percentage of the advertised speed, thereby encouraging service providers to be more aware of their service offerings.
- (d) Publishing findings - It is important to be transparent about the benchmarking process and to publish results so that consumers can make informed decisions when selecting a service provider for a particular geographical location.
- (e) With mobile broadband gaining popularity and in an increasing number of instances becoming the primary mode of access to the Internet, the quality of data services offered over wireless technologies ought to be considered.

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Section 12.3 of the Policy - Use of the USF

The Universal Service Fund (USF) of Pakistan has been viewed as an exemplary model. As such it has been presented and discussed in multiple international forums. A key component of its success was the governance of the fund itself – having stakeholders from different sectors present on the board and ability to manage conflicts of interest. In recent years, this stellar reputation of Pakistan’s USF has suffered somewhat. Therefore we appreciate the actions taken this year by MoIT to revive the USF.

Recommendation:

We urge the MoIT to continue to re-vitalize the USF, but keep in mind the importance of putting into place appropriate governance mechanisms. The USF should be directed by overall government policy, no doubt. But its day-to-day operations and implementation activities should be professionally and independently managed.

LIRNEasia is a regional information and communication technology (ICT) policy and regulation think tank active across the Asia Pacific.

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