Statement by the Trinidad and Tobago Computer Society
On the Telecommunications Authority request for comment on Over The Top services in the local telecoms sector.
Ref: Towards the Treatment of Over-The-Top (OTT) Services (http://tatt.org.tt/Forms/DownloadableDocuments.aspx?Command=Core_Download&EntryId=479)

The core concerns of the TTCS are as follows…

This is a Net Neutrality issue, and any regulation in the sector will stifle innovation and domestic competition.
The status quo, as facilitated by TATT, should be maintained as the market can and will continue to innovate as it has already been doing to the benefit of consumers, providers and the country at large.
The request by providers that TATT must intervene to mitigate loss or potential loss of revenue on their part, is false. This situation is the result of increased and differentiated competition in the telecoms space, which is to be encouraged, not taxed.
The focus of this paper is misplaced. Over the top services (OTT), as a definition, is broad enough to apply to the internet as a whole. If TATT is to consider competition described by providers as "unfair," then Zero Rated services should also be considered by the authority in greater detail.

Some specific notes about parts of the paper follow.

Page 24, Section 6
"ÒWith the increase in demand for OTT services by the public, there may be a negative impact on the market if such services are removed."Ó

The T&T public has embraced the potential of Internet and all its services to keep in touch with friends and family abroad, shop and to educate themselves. We are not only considering Skype and Viber.
Any attempt to regulate VOIP is a potential first step to regulating YouTube, Khan Academy (the Backbone of Knowledge.tt), Coursera, EdX and other valuable services.
Local businesses use Internet services to do research and transact business with suppliers and customers. Any action that restricts access to these services or

raises the prices of same will harm local consumers as well as make local businesses less competitive.

Page 26-27, Section 6.3
Impact on Non-Telecommunications Businesses
“Ò2. OTT services, in particular OTT VoIP and messaging services, are becoming pervasively used instead of traditional telephone local and international calling and SMS messaging.”Ó

VoIP is almost certainly reducing the number of traditional voice minutes used. However, messaging, including SMS are probably having an equal or greater impact. Short phone calls like “Òdon’t forget to buy bread,”Ó “ÒPickup the children at 3pm”Ó and “Òwhere are you?”Ó have now been replaced by messaging.

“Ò3. OTT services used on smartphones, whether OTT VoIP or messaging, are primarily used when connected to the Internet via a Wi-Fi access point, as an option to the Internet accessed through mobile data plans.”Ó

This is driven by simple economics. The cost per megabyte of a wired broadband connection (which supports a WiFi access point) is much lower than a 3G connection. Furthermore, the quality on a wired connection is better given that neither cellular provider offers true 4G services.

“Ò4. Mobile and Fixed Internet service providers should be allowed to apply an additional charge for subscribers who wish to access OTT services.”Ó

Why should VoIP be treated any differently from HTTP or SMTP? This is the first step down a slippery slope. Will consumers be expected to pay more when they look at YouTube? The Internet is an empty highway until data traffic flows along it, and this is an attempt to classify that traffic for profit.
Telecommunications companies must recognize that the business model supporting voice and messaging died when the VoIP protocol was developed.
This is the same creative destruction that has transformed so many other industries. New ways of doing business push out incumbents, for example, Amazon, Uber and AirBnB.
Providers are pointing to the glass as half-empty instead of planning for the half that’s full of possibility. These new business models generate huge data streams.

“Ò5. OTT services are used because they may be more affordable, accessible, and convenient than traditional telecommunications and broadcasting services.”Ó

Yes, OTT services are used because they are free or extremely low cost. Telecommunications providers should also note that customers are willing, even keen to accept the compromises inherent in these nascent technologies.

“Ò6. OTT services are used even though they may be less reliable, offer lower quality and lack essential services such as access to emergency services.”Ó

VoIP call quality can exceed traditional telephony. Further, the language in the statement is also very voice-centric. Emergency services and notification systems may eventually migrate to services like Twitter, Facebook. Wearable technology that monitors an individual’s vital signs and automobile monitoring systems may take over EMS contact even if the user is incapacitated.

Page 29, Section 7.1
The advent of OTT Services
“ÒAuthorised telecommunications service providers have lobbied for the regulation of OTT operators, particularly for the acquisition of relevant licences and compliance with the legislative requirements of countries.”Ó
“ÒOTT players have countered such statements that any move to seek payment for the provision of OTT services may constitute regulation of the Internet and violate the concept of net neutrality.”Ó

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Digicel has sought to position their call to regulate OTT as a matter unrelated to net neutrality issue, but regulation of any Internet service is by definition an net neutrality issue.

It might be useful to stop using the term OTT as it is imprecise and clouds the issues being raised here. VoIP and IPTV, which most concern telecommunications providers, are just two protocols in use on the Internet. There are hundred of others already existing and many more yet to be developed.

Page 37, Section 7.3
Financial Impact
"ÒWith the introduction of various communications platforms including OTT, the reliance on traditional voice and SMS communication is declining;
Authorised service providers will lose revenues from voice services with the proliferation of OTT VoIP services;
The fall in the mobile voice revenue market may be offset by an increase in mobile data revenues;
It is forecast that mobile data revenue will overtake voice revenue globally by 2018…"Ó

Despite dramatic drops in traditional voice revenue and concerns about the potential of mobile data to take up the slack, the trend in device use is to untethered use of data and such use is exploding as more OTT services arrive to make demands on capacity.
WiFi access points will be used when mobile users have access to them, but that's another type of tethering, albeit a wireless one. Users with mobile devices will increasingly demand full mobility, which offers greater opportunities for providers capable of delivering such data streams on ever increasing wireless pipes.
In the short-term, such data streams will need to be metered to ensure that there is revenue to support infrastructure spending, but ultimately fast enough wireless broadband may make even such strategies unnecessary.

Page 42, Section 7.4
Financial Impact on the Trinidad and Tobago Telecommunications Market
"ÒEven with the introduction of OTT services, revenues generated by the domestic voice and SMS markets, as well as the domestic mobile Internet market, have increased in Trinidad and Tobago over the last four years."Ó
"ÒThe analysis of the Trinidad and Tobago market trends is consistent with global telecommunications revenue trends, that is, revenue generated by the mobile Internet market are growing at a faster rate than revenue from the domestic voice markets."Ó
As a result of the slowdown of growth in the international incoming voice market, it

may be inferred that one of the reasons local telecommunications service providers may be losing potential international incoming voice revenues is the proliferation of OTT VoIP services."Ó

Is the role of the regulator to guarantee businesses a return on investment or is it to develop the market for the benefit of individual and commercial customers?
TATT has no role in the development of growth strategies within businesses and it should not cast itself in the role of blunting the edge of the free market.
Telecommunications companies see the decline of their voice revenue as being driven by VoIP services, but their own messaging systems have improved to the point where text messages are often a preferred alternative to placing a phone call.
Telecommunications companies need to be clearer about their business models. Any provider of IP services that believes they are in any business than the data business is operating on principles that are fundamentally wrong.

"Ò2. Mobile data subscribers pay to access the Internet with the understanding that it is inclusive of all services offered over the Internet. These subscription fees paid by customers should be sufficient to allow the authorised operator to cover its cost for the provision of OTT services to its customers and for any additional infrastructure build-out that may be necessary."Ó

Ensuring that this balance is kept is a core function of TATT. There is no other organisation in place to monitor the relationship between the cost of providing IP based services and the price that telecommunications companies charge for their services. A competitive market, as governed by TATT, also has its role to play in ensuring that prices are reasonable.

"Ò4. Organizations that provide OTT services, particularly OTT VoIP services, should be required to register locally in order to fall under the country's regulatory oversight and for the Government to collect relevant tax revenues."Ó

If they are doing business in this country, then those revenues should be taxable.
When it comes to OTT services, the matter requires more intelligent intervention and consideration. Why stop at VoIP? Why not ask YouTube to register as

a television provider? Why not ask EdX to get accredited by the Accreditation Council of Trinidad and Tobago?

“Ò5. Organizations that provide OTT services should contribute fairly towards the use of the local telecommunications operators’ networks.”Ó

This is another slippery slope. Should every organisational user of the network “Òcontribute fairly”Ó to its use?
All organizations provide services over the internet.
This includes eCommerce companies, newspapers, voice providers, hotels and more. The Internet has grown explosively over the last two decades with a very simple model; consumers pay for their connection and are free to use it as they see fit.
Why play with a model that has benefited consumers and business in such full measure?

“Ò6. In the event that an OTT service provider requires ‘better than best effort’, then an authorised operator can consider engaging in a commercial arrangement with the OTT provider which may allow the OTT service to traverse the network at a quality of service better than ‘best effort’ Internet traffic.”Ó

This seems to hint at tiered pricing and preferential access to data streams, which is a construct of commerce and not technology.
The protocols and codecs have advanced sufficiently to provide a very high quality service over mediocre connections. In fact, the very architecture of TCP/IP (slow start) takes into account poor connectivity and has done so for more than two decades.
This will also serve to hamper innovation since the smaller, newer players are unlikely to be able to afford such tiered access.
Customers should pay more for a higher quality version of an app. In this way new players can easily enter if they are favored by the public. This only holds for the wireless part of the connection but typically this is the bottleneck.

Page 72, Section 11.3
Value Added Services
In accordance with the Telecommunications Act, OTT VoIP is not considered a value-added service.

OTT telecommunications service may be classified as a public telecommunications service, based on the definition in the Telecommunications Act Ch 47:31 of Trinidad and Tobago.

This is retrograde thinking and an effort to shove modern technology developments into a cage of words that never contemplated the rapid changes in modern technology. The Internet is a fundamentally different space and the regulatory thinking that worked for the last 100 years will prove inadequate to this new space.

2. It is recognised that OTT telecommunications services are carried via the Internet. If OTT services are classified as public telecommunications services, then the Internet, which "Òswitches"Ó OTT traffic, can be classified as a public telecommunications network.

The internet is everywhere and nowhere. This is very much unlike telephone companies or cable TV providers where is it much easier to establish jurisdiction.
The regulatory approaches that worked reasonably well for PTSNs will not work with the Internet and any attempt to use them will harm local consumers and place our business at a competitive disadvantage.
If OTT does not offer the quality and emergency services of the PTSN, it cannot be categorised and regulated the same way.
The benefits of these services will accrue to other jurisdictions who recognize the difference and exercise a degree of forbearance.

5. If there is need for regulatory oversight of OTT services, there may be need to regulate the various types differently:
i. OTT VoIP, Messaging and Media
ii. Interconnected and non-interconnected OTT VoIP
iii. Number based and non-number based OTT VoIP and Messaging Services
iv. Access to Emergency Services

Everything about this statement suggests voice-centric thinking. That is no longer the world we live in regulators will need to get their heads around the regulation of a flat global data network.

Page 76, Section 12
Discussion

The issue of regulating OTT VoIP services over the Internet is not a simple issue because of the many interests to be affected.

TATT must carefully consider its own tactical position as the regulator of a very small market.
What if TATT tries to regulate the VoIP or IPTV providers and they refuse to comply because T&T revenue is a rounding error in their revenue stream?
What recourse does TATT have except for blocking them? In this scenario the people and business of Trinidad and Tobago will be the losers.
It must also have a global perspective on this and consider what happens if 200 regulators try to impose 2,000 different regulatory frameworks on VoIP providers?
This would kill the innovative spirit that has provided so many benefits world wide.

OTT VoIP services utilise network elements and capacity of authorised operators in the delivery of the service to customers. This can compromise the efficiency and effectiveness of authorised network operators

VoIP uses relatively little data and messaging uses miniscule amounts.
OTT will only have a significant impact on data use if the traffic is prioritized. At present this is not the case and the resources required for OTT VoIP are small.
The claims of intermittent quality of VoIP on the uplink causes congestion on the control channel but this is because the network is poorly designed.
VoLTE is meant to carry PSTN traffic (switched voice) over the LTE PSN with performance just as good (or better) than circuit switched channels over 3G (which is presently used for CS voice). If operators plan to move to a single pricing strategy (a single data plan for everything) then they would have to modify the pricing scheme. This has not happened in the developed countries. At present, T&T is far from having to make these decisions.
The only place where this argument has technical merit is video. Video accounts for 70% of Internet traffic already and will account for almost all of the growth in the next decade and video streaming upshifts to HDTV and 4k encoding.

2. OTT/OTT VoIP providers should be treated as customers of authorised (PSTN) operators and be required to negotiate commercial agreements to provide OTT services.

We might try but TATT has very limited negotiating leverage. We are not India, which could more or less compel Blackberry to allow the Indian government to decrypt secured traffic.

Page 82, Section 14

Recommendations

In view of the findings in the paper and the various considerations with respect to OTT services and OTT VoIP service, in particular, the following recommendations are made: TATT maintains the generally accepted "ÒFree and Open"Ó Internet policy and does not allow authorised public telecommunications services providers (operating as Internet service providers) to "Òblock"Ó any OTT services unless directed to so by the relevant authority, in accordance with national laws.

Given the benefits that the Internet brings to a small economy with very limited intellectual resources, negotiating leverage and the conceptual challenges of regulating Internet traffic this seems to be the most sensible policy.

The countries that use a light touch in their regulatory approach will reap most of the benefits of an open internet.

In the case of Trinidad, the openness of our internet may become one of the criteria that investors consider when looking at our investment attractiveness.