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The Consultation Secretariat
National ICT Consultation
The National Information and Communication Technology Company Limited (iGovTT)
Ministry of Science, Technology and Tertiary Education
Lord Harris Court
#52 Pembroke Street, Port of Spain
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Re: TTCS Contribution to the National ICT Consultation (Online)

For the attention of the Consultation Secretariat, National ICT Consultation.

The Trinidad and Tobago Computer Society (TTCS) is writing to provide our contribution to the online [National ICT Consultation](#).

We engaged in a virtual meeting with our membership on these topics on 25th March, 2012 and also solicited comments from our members via our Membership Forum. The minutes from this meeting as well as membership comments were used to compose this contribution.

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Ideas for Track 1: A Modern, Competitive New Economy (*Pro-Enterprise*)

The ability to send and receive monies via electronic methods is of paramount importance to any e-business model. As such, in addition to focusing on creating the necessary infrastructure,

the government should incentivise adoption by ensuring a low cost of entry and low per transaction cost as well as assisting merchants in developing a familiarity with the various systems and tools involved. The small and medium business sectors are rife with examples where the high cost of entry and operation for credit card and LINX payments is dissuading merchants from adopting these facilities.

We would posit that this effort is currently being blocked on two fronts. Firstly, existing exchequer laws may prevent the government from ‘taking in front’ as it were and deploying e-payment systems throughout its various arms.

Secondly, while frameworks for e-payments exist, notably the Automated Clearing House and the capacity to use credit card terminals to “manually key” card not present transactions, the banking sector has been, as a whole, very reluctant in developing e-payment systems. While some may argue that it is the lack of specific legislations that tie the hands of the banking sector a quick look at the development of e-payments in other countries like the United States for example shows that the government is usually forced to legislate AFTER banks and the rest of the private sector have begun to trade electronically. That said though, we have, as a nation, felt the effect of unregulated trade.

But let there be no mistake about it, the demand exists. It may be that, as with the provision of Internet access in 1995, the private sector is again incapable of adequately gauging demand. In that case the Government was instrumental in directing TSTT to develop Internet access infrastructure. While in that case the provider was majority state owned we still believe that the government can help the private sector in this endeavour.

There is a need for the promotion of information security best practices. Some ideas may include legislation on the audit of critical industries’ information security plans and practices, as well as fines and withdrawal of licenses to trade as penalties for failing compliance checks. Government should give strong consideration towards implementation of a local Computer Emergency Readiness Team (CERT) similar to the United States CERT (<http://www.us-cert.gov/>) to help share information on best practices for secure computing as well as to prevent and respond to threats to our nation’s ICT infrastructure, ranging from worms such as Stuxnet (<http://en.wikipedia.org/wiki/Stuxnet>) that could attack our energy infrastructure, to Denial of Service (DoS) attacks (http://en.wikipedia.org/wiki/Denial-of-service_attack) on Government and local businesses’ websites.

Implementing and adhering to well-known industry standards in Security can have a positive impact on our ability to compete economically. For instance, local Financial Institutions can improve their global competitiveness by implementing the Payment Card Industry Data Security Standard ([PCI-DSS](#)), giving other institutions more confidence in their abilities and competence. Implementing good practices and legislation in the area of security and privacy of health care (similar to [HIPPA](#)) can also help nurture a Medical Tourism industry, something in which the Government has expressed interest.

In addition, the government should consider extending the VAT incentive applied to the import of computers to all “two way communication devices”, especially in consideration of the TATT compiled statistics relating to mobile internet penetration. In that vein, if we are to have a thriving ICT industry not just internally but regionally and internationally as well, special consideration should be paid to the development fulfillment and logistic solutions which are currently severely lacking and have a high cost of entry.

Also, with all due respect to the existing relationships between proprietary application and service vendors and our local industries both private and public, we strongly suggest that a serious look should be taken at implementing open source solutions in the development of a robust trade industry using ICT. Firstly Open Sourced solutions are often cheaper, especially when used to computerise a non-computerised sector, where the cost of conversion would not have to be taken into account. More important to us, though, is the chance to allow local entrepreneurs to contribute to the global codebase.

This brings us to another point: the need to move our society at large from a passive, consumerist state to a more active and creative one. This doesn't only include providing an environment where entrepreneurs can buy and sell but fostering awareness and promoting education which should be a responsibility of both the public and private sectors.

With regards to the environmental cost to be incurred by this advancement we should explore the creation of a recycling industry specifically geared towards the disposal and recycling of e-waste. There should also be efforts to promote in-use recycling where companies with 3 year pc usage cycles can donate or subsidise the purchase of the older machines by schools or municipal bodies.

At this time, the Cloud is becoming an attractive option for reducing the cost and improving the reliability of data storage and processing. However, there are concerns about where data is stored given the apparent discomfort with the US Patriot Act (which can allow the US Government access to stored data). Therefore, there is an opportunity right now for Trinidad and Tobago to drive a Regional cloud industry which can attract companies dissuaded from making use of the Cloud by the US Patriot Act and other legislation. By giving assurances of privacy and prevention of interference and monitoring of customer data by foreign Governments, we can develop a major industry for Trinidad and Tobago and the Caribbean. The TTCS would like to advise the Government to look at ways of encouraging and supporting such an industry through the use of legislation and education.

Ideas for Track 2: Effective Government (eGovernment)

The TTCS is of the belief that Transparency and Openness are requirements for Effective Government given the potential for reducing corruption and improving efficiency of service delivery. ICT makes the goal of achieving greater Transparency easier and the TTCS would like to see steps in the direction of making use of technology to promote Transparency. An example of using ICT to promote Transparency would be making data on Government tenders available electronically to the public. For example, all tenders over a certain value (e.g. 1 million TTD) should have data publicly available via contracts.gov.tt (for example) on:

- the Bidders
- the Tender itself
- Evaluation rubric
- Bid prices and responses

(with competitive information redacted in line with international best practices).

Merely storing the data in arbitrary data formats is not sufficient; for optimal usefulness and longevity, it is recommended that data be stored in open data formats using open standards.

Additionally, the TTCS notes with concern the slow pace at which eGovernment Services are being offered online and while we do applaud certain Government Units making forms available for download (Immigration Division and IRD, for example), we believe that service delivery would be greatly improved if citizens were, for example, able to apply for birth certificates or do driver's permit renewals online. Although steps can be taken in this direction, ultimately ePayments to Government institutions would have to be made possible to achieve maximum efficiency so that citizens can do a form of self-service and ease the burden on our civil servants.

A pilot project may be useful to encourage more Government Agencies to put their services online. We would suggest executing a small project with a broad impact just to let the decision makers know how easily it can be done. One such project would be to allow the purchase of PTSC/Water Taxi tickets online. While relatively simple and easy to implement, this project can have an enormous impact with regards to traffic congestion and public transport utilisation. Another, even simpler project could be the provision of a harmonized tariff schedule for the Customs division online.

Ideas for Track 3: Poverty Eradication and Social Justice (*Digital Divide*)

As a first step towards poverty eradication, data from poverty studies done locally by the Government should be made public so that NGOs can be more efficient in their relief delivery. Even raw data, provided online in an open format by the Government Agencies in charge, can be useful, as numerous organisations would be able to transform it into information that can guide planning for themselves and provide this derived information to other agencies.

As for addressing the Digital Divide, the TTCS advises that reducing the access cost for under-privileged persons and communities to technology and communications infrastructure is of paramount importance. ISPs should be encouraged, by way of subsidies and tax breaks, to provide Internet access for rural communities presently under-served. Price regulation can be exercised to ensure that broadband access is kept within acceptable ranges.

The TTCS is encouraged by the recent implementation of the Barbados WiFi project and we feel that there should be some investigation on the part of the Government with a view to implementation, in at least a similar form, in Trinidad and Tobago. Free, accessible Internet will go a long way towards bridging the Digital Divide. Should investigation prove the idea to be feasible and promising, funding can be requested from agencies such as the ITU to assist in implementation. Small-scale implementation is advised at the onset, with WiFi provided in major transport hubs (such as City Gate in Port of Spain) and in large educational institutions (UWI, SBCS, UTT etc).

Finally, understanding the impact of Information Technology on Poverty Eradication and Social Justice is important for ministries other than the MSTTE and MPA - this knowledge should impact plans of the Ministries of Education and People and Social Development. By encouraging and enabling equal access to Information Technology, these ministries can help promote equal access and engagement which will improve literacy, numeracy and critical thinking ability - qualities which can move our society from a passive, consumerist mentality to an active, creative one.

Ideas for Track 4: A Connected T&T (*Accessibility and Usage*)

As a start towards providing services to the differently-abled, Government ministries and agencies should be mandated to develop websites which follow the [Web Content Accessibility Guidelines](#). It is important to do this as soon as possible before we start providing e-Government services.

At this point in time, Trinidad and Tobago has no provisions to enforce Net Neutrality and citizens are very much at the mercy of ISPs which have full control over what content they have access to. Besides the very real dangers of censorship, without restriction ISPs can encourage an unfair business model which would slow innovation by making it more difficult for newer, smaller online entities to compete. The TTCS therefore advises that steps be taken to develop legislation for ensuring Net Neutrality.

With the depletion of IPv4 addresses, the time has come for Trinidad and Tobago to consider moving to IPv6. As the rest of the world moves to IPv6, it is likely that Trinidad and Tobago will experience difficulty accessing IT infrastructure based on IPv6, putting us at a competitive disadvantage with other countries. Provision of e-Government services over IPv6 can be a tentative first step but more concrete steps must be taken to get the country on par with the rest of the world in terms of IPv6 adoption.

Finally, for the effective use of technology, education on information use and security is required for ordinary citizens. With the proliferation of connected mobile devices and 4G internet access, we can expect a lot more access to technology. Without an awareness of the need for security and privacy of data, however, we run the risk of turning people away from technology if their data is compromised. Our recommendation is that a National Education Campaign centred around security awareness, data use and privacy should be formulated and publicised with a view to informing users about the need for, and implementation of, security best practices.

Ideas for Track 5: People-Centred Development (*eReady Society*)

An important part of promoting more People-Centred Development is the diversification of Central Government and extending the portfolio of Local government, especially with respect to the disbursement of funds.

We believe that the development of policies for communities would be better serviced by the communities themselves rather than Central government. In this regard, Information Technology can be of assistance by facilitating online discussion among community members and creating networks to allow community networking, knowledge sharing and peer support. In addition, Government Policies and Community Initiatives should be made available online.