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TTIGF
TRINIDAD AND TOBAGO
INTERNET GOVERNANCE FORUM
2023

JANUARY 26TH & 27TH | 2023 | ONLINE

MEETING REPORT

OVERVIEW

About the Trinidad and Tobago Internet Governance Forum (TTIGF)

The TTIGF was held virtually over 2 days on Thursday 26th and Friday 27th January, 2023. The theme entitled *Creating a Stronger, More Resilient Internet for Trinidad and Tobago's Shared Sustainable Future*, was selected to reflect the current climate in Trinidad and Tobago after being forced into a digital age.

The target audience for the event included:

- Academic Community
- Technical Community/ ICT Civil Society
- Civil Society
- Commercial / Business
- Government
- Students
- All Internet Users.

The IGF is valued as a resource for networking with peers, a forum for sharing information and experiences and “a non-judgmental venue for members to openly discuss their challenges and perspectives.

TTIGF Host

The TTIGF is hosted annually by the Trinidad and Tobago Multistakeholder Advisory Group (TTMAG). TTMAG is an independent entity for the promotion and development of best practice policy standards for the .tt country code Top Level Domain (ccTLD) and the local Internet ecosystem in the interest of the Internet Community. The entity aims to continue the mandate of the United Nations Secretary-General, to:

1. maximize the opportunity for open, inclusive dialogue and the exchange of ideas on Internet governance (IG) related issues;
2. create opportunities to share best practices and experiences;
3. identify emerging issues and bring them to the attention of the relevant bodies and the general public;
4. contribute to capacity building for Internet governance;
5. facilitate inclusive, productive discussions on Internet-related public policy issues from a general perspective, while keeping all stakeholders involved.

Audience and Impact

- Registered Participants- Eventbrite - 374
- Zoom: - 234 attendance on Day 1 & 254 on Day 2
- TTIGF Youtube Live: 214 views on Day & 188 on Day 2
- 26 Speakers
- 5 Partners

AGENDA

DAY 1

- 8:00 – National Anthem
8:05
- 8:05 – Opening Remarks:
8:15 Tracy Hackshaw, Chair, *Trinidad and Tobago Multistakeholder Advisory Group (TTMAG)*
- Introductory Keynote Addresses:
8:15 – Paul Mitchell, Chair, *United Nations Internet Governance Forum Multistakeholder
8:35 Advisory Group*
- Dr. the Honourable Nyan Gadsby-Dolly, Minister of Education, *Ministry of Education*
- Panel Session: *Internet Resilience: Implications for Trinidad and Tobago and the Caribbean*
Moderator: Kim I. Mallalieu (PhD), Senior Lecturer, UWI
- Panelists:*
- 8.35 –
10:00
 - Kevin Chege, Director of Internet Development, *Internet Society (ISOC)*
 - Kurleigh Prescod, Executive Officer Technology & Engineering, *Telecommunications Authority of Trinidad and Tobago (TATT)*
 - Brent McIntosh, Chief Technical Officer, *McNet-Solutions*
 - Patrick Hosein, Director, *TTMAG*
 - Rodney Taylor, Secretary General, *Caribbean Telecommunications Union (CTU)*
 - Bevil Wooding, Caribbean Outreach, *American Registry for Internet Numbers (ARIN)*
- 10:00 – Break
10:15
- 10:15 – Panel Session: *Future-proofing ICT in Education*
11:45 Moderator: Jacqueline Morris, Director, *TTMAG*

Panelists:

- Dr. Peter Smith, Chief Education Officer, *Ministry of Education*
- Keith Laban, ICT Educator, *Ministry of Education*

- Pt. Shiva Maharaj, Educational Technologist & Founder, Director Chief Operations Officer, *I.C.T. Expertz Ltd.*
- Dev Gosine, Chair-Elect, *TTMAG* & Founder, *WeXL Online*
- Dr. Andrea Kanneh, Manager – Performance and Engagement Digital Skills Unit, *Ministry of Digital Transformation*
- Dr. Keith Nurse, President, *College of Science, Technology and Applied Arts of Trinidad and Tobago (COSTAATT)*

End of Day 1

DAY 2

- 8:20 – Opening Remarks:
8:30 Tracy Hackshaw, Chair, *TTMAG*

Panel Session: Digital Government Society: *Digital Acceptance, Transformation and Acceleration for T&T*
Moderator: Ken Sooknanan, Director, *TTMAG*

- 8:30 – Panelists:
10:00
- Wendell Mitchell, National Chief Digital Officer, *Ministry of Digital Transformation*
 - Lequanne Collins-Bacchus, Senior Advisor, *Treasury Board of Canada Secretariat*
 - Ravi Sankar – Partner, Head of Cyber and Technology Consulting, *KPMG Caricom*

- 10:00 – Break
10:10

Panel Session: *The A.R.T of Cybersecurity: Attacks, Risks, and Threats*
Moderator: Ajmal Nazir, Director, *TTMAG*

- 10:10 – Panelists:
11:40
- Vince Stewart, Director, *CyberEye Caribbean*
 - Ricardo Martinez, Chief Revenue Officer, *DigitalEra Group*
 - Anthony Peyson, President, *International Information System Security Certification*

Consortium's Caribbean Chapter ((ICS) Caribbean Chapter)
– Emmanuel A. Oscar, Caribbean Systems Engineering Manager, *Fortinet*

11: 40 – LACNIC Panel Sum-up & Regional Cybersecurity Culture Insight

11:50 Kevon Swift, Head of Public Safety Affairs, *LACNIC*

11:50 – Open Forum
12:50

12:50 – Closing Address

1:00 Dev Gosine, Chair-Elect, *TTMAG*

DAY ONE

OPENING REMARKS

Tracy Hackshaw, Chair, Trinidad and Tobago Multistakeholder Advisory Group (TTMAG)



The 7th TTIGF was opened by Mr. Tracy Hackshaw, TTMAG Chair. As a small island developing state, Trinidad and Tobago is compounded by vulnerability, global economic shocks, and the impacts of global climate emergencies. The Internet based global economy is thus a critical element to face these challenges. Meaningful and affordable access and connectivity, along with equitable digital inclusion must be a top priority.

Mr. Hackshaw made mention of the United Nations Report entitled *Our Common Agenda* which was released in September 2021 and which proposes a digital cooperation track that is to be agreed upon by all stakeholders. He used the opportunity to request input into this Report both online and during the Open Forum segment of the TTIGF.

Paul Mitchell, Chair, United Nations Internet Governance Forum Multistakeholder Advisory Group



Mr. Mitchell recalled the UN IGF which was held in Ethiopia in November 2022 and involved over 4000 participants from across the world. He noted that the UN system is increasingly leaning into technology and that the IGF is more relevant than ever. The themes selected at the IGF reflect the goal of aligning the IGF with the work of other UN agencies.

The IGF is a hallmark to find common ground and involve all stakeholders in the process. It has evolved and expanded to include 152 national, regional and sub-regional IGFs, including the TTIGF.

Key messages from the recent global IGF must be turned into work items and lead to change. Some of the key messages are as follows:

- There is a contained challenge of the digital divide and we need to ensure meaningful access which includes but is not limited to accessibility, affordability, content, and digital literacy;
- There is the risk of fragmentation. We need to reassert the value of an open and connected internet to achieve the sustainable development goals (SDGs);
- We need to enable safety, stability and accountability. Cybersecurity continues to be a critical concern and there must be collaboration amongst all stakeholders to serve the needs of users.

Dr. the Honourable Nyan Gadsby-Dolly, Minister of Education, Ministry of Education



Dr. Gadsby-Dolly began by commending the multistakeholder effort of the TTIGF, stating that initiatives such as these help us learn and develop shared solutions.

The Minister stated that education institutions must harness the full potential of technology in order to equip present and future generations with the skills needed to fulfil their potential as global citizens. As a result, the Ministry of Education's strategic approach to futureproof ICT encompasses investment in systems development, training, hardware, software and human resources. Teachers are fundamental to this transformative process, which means that their terms and conditions of employment must be updated to include a digital mode of operation.

Future Proofing ICT in education means that we must put children first. IT skills must be included into the education curriculum to ensure that students receive the full benefit of the technology available to them. This by no means is easy as it entails activities such as the training of 13,000 teachers and equipping them with devices, the incorporation of digital strategy into the curriculum for over 250,000 students and the digitalization of student and teacher records.

PANEL SESSION 1: INTERNET RESILIENCE: IMPLICATIONS FOR TRINIDAD AND TOBAGO AND THE CARIBBEAN



Moderator: Kim Mallalieu, Senior Lecturer, University of the West Indies, St. Augustine Campus

Panelists:

- Kevin Chege, Director of Internet Development, Internet Society;
- Kurleigh Prescod, Executive Officer Technology & Engineering, Telecommunications Authority of Trinidad and Tobago (TATT);
- Brent McIntosh, Chief Technical Officer, McNet-Solution;
- Patrick Hosein, Director, TT MAG;
- Rodney Taylor, Secretary General, Caribbean Telecommunications Union (CTU);
- Bevil Wooding, Caribbean Outreach, American Registry for Internet Numbers (ARIN).

Overview:

This session explored various dimensions of building internet resilience in Trinidad and Tobago as well as the Caribbean at large. It kicked off with insights from the Regional Internet Registry for Africa (AFRINIC) / ISOC project, *Measuring Internet Resilience in Africa (MIRA)*. It then focused on the role of regulators and Internet exchange points (IXPs) in Internet resilience: the former drawn from the Trinidad and Tobago country case, and the latter from multiple country experiences around the Caribbean. A strategy, and associated platform, to monitor and fill gaps in traditional DNS mappings, was offered as an example of low-resource complementary resilience building strategies. Perspectives on mechanisms to develop and operationalize a regional framework for internet resilience were shared; as are other recommendations to bolster Internet resilience in the Caribbean. The session comprised a series of lightning presentations followed by discussions prompted by participants; closing off with a capstone question posed to panellists.

The key points from the presentations and discussions are captured below.

Kim Mallalieu (Introduction)

- The internet is a foundation for much of the critical infrastructure on which countries around the world rely.
- Internet resilience is the ability to maintain an acceptable level of service in the event of an outage or during a crisis.

Kevin Chege

- An Internet Resilience Index (IRI) was derived from four pillars considered necessary for a robust Internet ecosystem - infrastructure, performance, enabling technologies and security and the local ecosystem and market readiness.
- The four pillars are weighted equally when measuring the IRI and the IRI is modular.
- Metrics vary per person or region.
- A private measurement platform is simple to establish but challenging to maintain.

Kurleigh Prescod:

- Trinidad and Tobago's regulator has a legal mandate that is outlined in the Telecommunications Act.
- Concessions are issued to operators by the regulator and speak to quality of service, service interruptions and internet access and services.
- Measurement of standards of internet experience used by the regulator include the user experience (download speeds, upload speeds, latency, fault repair time, availability) and network performance (standby power runtime, grounding, lightning protection, minimum capacity for core links, prioritization of critical traffic, building codes).
- The regulatory framework to support internet resilience include establishment and monitoring of standards, licensing of sustainable competition, diversity of critical infrastructure, 5G regulatory collaboration.

Brent McIntosh:

- Redundancy supports resilience.
- One way to measure how well a country is performing is to see how it accesses services from its local ISPs.
- IXPs are important in building resilience.
- There is a need to promote hosting of local content and peering, to continue to partner with key content delivery networks (CDNs) to bring key content closer to end users and increase stakeholder and member base.

Patrick Hosein:

- Patrick presented a scenario of a potential issue with DNS resilience for SIDS though the example of a problem.
 - o The problem: suppose T&T becomes isolated from the Internet and mapping functions may not be possible.

- Proposed solution: maintain a cache of all mappings that point to machines within T&T with ISP assistance. IXP/ISP can deploy on a periodic basis, the running of scripts to extract mappings to local machines and store the mappings. The proposed solution does not significantly affect operations and resources and sites that are not captured can be manually entered.

Rodney Taylor:

- The Caribbean IGF (CIGF) remains the most effective mechanism for harmonization.
- The CIGF Policy Framework includes infrastructure for broadband connectivity, Internet technical infrastructure and operations management, legal framework and enforcement, internet content development and management, public awareness and capacity building and research.
- The Caribbean Internet Resilience Task Force is a possible framework to operationalize internet resilience in the region. It is proposed to be multistakeholder in nature, provide updates to the CIGF and supported by the CTU Secretariat.

Bevil Wooding:

- When examining regional resilience, we should look at it from an ecosystem perspective. This means looking at the entire system of networks, devices, stakeholders and services.
- A regional framework provides a mechanism to develop tailored policies and procedures, and allow for sharing of information and best practices across countries. It can allow for better responses for cross border incidents and facilitate rapid coordinated responses across countries.
- All stakeholders should be involved in the development of such a framework.
- Development of a framework for resilience requires an assessment of the internet ecosystem within the region, the creation of a plan of action that identifies vulnerabilities and risk as well as areas for investment and development, and a continuous monitoring mechanism.
- *We need to act.*

General Comments

Albert Daniels (ICANN): One of the best ways to get access to resources is to participate in meetings.

Question: How can Starlink play a role and what is its status in T&T?

Kurleigh Prescod: Diversifying critical infrastructure and licensing of sustainable competition are factors to consider. Starlink satellites are nearing global coverage and satellites play a critical role as they are not impacted by terrestrial factors. An application for a concession was received by TATT and the final part of the approval process is in progress.

Question: How do we convince organizations to peer with the local IXP?

Rodney Taylor: CTU facilitated discussions at the regional level for issues such as a reduction in roaming charges, and discussions between operators and Over the Top (OTT) providers on how to work together.

PANEL SESSION 2: FUTURE-PROOFING ICT IN EDUCATION



Welcome & Introductions

Moderator - Jacqueline Morris, Director, TT MAG

Panelists:

1. Dr. Peter Smith, Chief Education Officer, Ministry of Education;
2. Keith Laban, ICT Educator, Ministry of Education;
3. Pt. Shiva Maharaj, Educational Technologist & Founder, Director Chief Operations Officer, I.C.T. Expertz Ltd.;
4. Dev Gosine, Chair-Elect, TT MAG & Founder, WeXL Online;
5. Andrea Kanneh, Manager - Performance and Engagement Digital Skills Unit, Ministry of Digital Transformation (MDT);
6. Keith Nurse, President, College of Science, Technology and Applied Arts of Trinidad and Tobago (COSTAATT).

Overview:

The Covid-19 pandemic ushered in the need for educators and students to utilize ICT for online classroom interaction. While this was the state of play, one of the major issues at hand which was never formally addressed was the need to retool our educators in the effective and efficient use of ICT in the classroom, thereby overcoming their phobias to the use of this technology. As protective measures relaxed and both educators and students returned to the classroom, so too did the enthusiasm of both educators and policymakers to utilize ICT in the delivery of the curriculum. Future-Proofing ICT in education has many benefits both for the educator and the student. Some of these may include but are not limited to:

1. The efficient and effective use of instructional time;
2. Classroom management and control;

3. Individualized interaction with students;
4. Instructions targeting multiple intelligence;
5. The modality of delivery is attractive and engaging to students;
6. Affords students the ability to easily access information/content missed;
7. Students are able to be more participatory; and
8. Formative and summative assessments of students can be more effective.

Given that the benefits are many and the effort to utilize ICT has started, sustainability by educators and policymakers to this enthusiasm is critical despite present demands. This panel therefore, addressed the vehicles that can be employed to effectively future-proof ICT in education.

The key points from the discussions are captured below.

Jacqueline Morris (Introduction)

- During the pandemic, there was a need to use ICT for education. Where do we go now as the pandemic restrictions have been lifted?

Keith Nurse:

- The pandemic had a huge impact on how we dealt with education.
- We should be talking about digital technologies in the broadest way and how ICT is utilized outside the classroom in an educational context. This includes the Internet of Things (IoT), social media, virtual reality and so on.
- Digital transformation enables curated and customized learning experiences and environments that are adaptive to technological change and stakeholder interests.
- Digital transformation facilitates improved teaching, learning and education through online, hybrid and experimental training such as eLearning on demand, Artificial Intelligence (AI) teaching assistants and MakerSpaces for learning-by-doing.
- Digital transformation employs technologies and data management services to improve institutional operations and consultancy, particularly for tertiary level educational institutions.
- Can we use digital technologies to produce county relevant content and possibly export this content to other states?

Question: Is it fair to judge ICT enabled education by what happened in the pandemic?

Keith Nurse: Most of what was offered in the pandemic was based on an emergency situation. Students have now come to appreciate the value of online education. It offers learning on demand and can be viewed multiple times. Face-to-face teaching is effective in a workshop setting where there is learning by doing.

Dev Gosine: With the sudden closure of schools in March 2020, there was a lack of rules or directives to educators as to how to educate students online.

Keith Laban: A UNESCO teaching competency training for teachers was conducted pre-pandemic for selected persons. Teachers who were not exposed to such training were at a disadvantage and may have had negative feedback given their lack of preparedness. We needed our human resources to be prepared.

Shiva Maharaj: there is a need for training in the use of digital teaching tools, to make classes more engaging for students.

Andrea Kanneh: The MDT has a focus on the digital society as one of three pillars. In order to develop digital skills, the MDT is working with institutions to build capacity, not just for schools but for citizens in general. Enhancing the skills of developers is also a focus so that persons can create content, and design solutions for the country.

Question: Are there benefits to the various ways of online learning as opposed to face-to-face?

Shiva Maharaj: Technology is constantly evolving. We have to find ways to embed such training into the education system. This training needs to start from an early age in order to have digitally competent citizens.

Dev Gosine: One of the roles of traditional schools is to create passion to learn as educators are not the repository of all information. *We are not smarter than the Internet.* We need to infuse the passion in students to want to learn to use the available tools. Learning can take place anywhere and anytime.

Question: Is there a need for teacher education?

Keith Laban: Many teachers were hesitant to use online tools. We need teacher education on different models such as project based learning. These tools can make learning more exciting for students.

Andrea Kanneh: The MDT has access centres where members of the public can go in and there will be assistance on how to access information and use it. This allows persons to be better able to support their families.

Presentation from Peter Smith

- The sudden shift to online highlighted opportunities and challenges in education in T&T.
- Technology is rapidly advancing. It is therefore crucial to invest in ICT to ensure students are prepared for workforce by doing the following:
 - Bridging the digital divide by providing devices and access to students who do not have resources. Public private partnerships and subsidies are way to help achieve this;
 - Providing teachers with training and support;
 - Investing in infrastructure and support including high-speed internet, upgrading hardware and software and technical support for teachers and students;
 - Placing emphasis on digital literacy to empower teachers, parents and users to be able to use technology effectively; and
 - Addressing cybersecurity by ensuring security and privacy of student data, and educating students on safe and responsible online behaviour. Policies and protocols are needed in this regard.

Question: What is your preferred vision for education and training in T&T?

Andrea Kanneh: We need to have young students using basic programming languages from the start.

Shiva Maharaj: The goal of education should be teaching skills for lifelong learning. The lack of infrastructure is not to blame as 20 years ago we found ways to get kids online by downloading caches etc. A well-trained educator would be able to use whatever resources they have in order to meet the needs of their students.

Keith Laban: Infrastructure is critical. No matter how good the training is, you will reach the point where you need some form of infrastructure. A lack of infrastructure dissuades teachers.

Dev Gosine: The geography of T&T does not always allow everyone the same level of connectivity. There was a need for ISPs to create plans tailored for students.

Question - The use of AI and Chat GPT: if AI can do the work, then why should I?

Keith Laban: The AI revolution is here. Students are using the tools and AI is heading in a direction of possibly replacing higher-level jobs such as programming. We need to know how to use these tools as well as the tools which can counteract certain AI programmes.

Shiva Maharaj: We need to educate children on AI and IOT, actuators and sensors from a very early stage.

Question: Why do we think there is parental pushback on the use of technology?

Shiva Maharaj: Knowledge, aptitude and attitude has to go with the skill to make a person competent. How many parents know about parental controls and use them?

Dev Gosine: We need to make stakeholders part of the decision making process so that buy in will be easier.

Question: How would cybersecurity be addressed in a digital society?

Andrea Kanneh: the MDT is conducting training on security and promoting education and awareness from all stakeholders, especially parents.

Dev Gosine: infrastructure is needed for security.

Question: What are we doing about the issue of digital skills in the country? What is happening now?

Andrea Kanneh: The MDT has partnerships with organizations such as the Youth Training and Employment Partnership Programme. The Ministry is also creating a learning management portal and there are access centres to assist persons with access and use of ICT.

Shiva Maharaj: There are resources tailored to teaching digital skills.

DAY TWO

PANEL SESSION 3: DIGITAL GOVERNMENT / SOCIETY: DIGITAL ACCEPTANCE, TRANSFORMATION AND ACCELERATION FOR T&T



Welcome and Introductions

Moderator: Dr. Ken Sooknanan, Director, TTMAG

Panelists

- Wendell Mitchell, National Chief Digital Officer, Ministry of Digital Transformation;
- Lequanne Collins-Bacchus, Senior Advisor, Treasury Board of Canada Secretariat; and
- Ravi Sankar, Partner, Head of Cyber and Technology Consulting, KPMG CARICOM.

Overview

Technology is here to stay, so we might as well openly accept and implement it into our daily routines. Not only for leisure, but for our careers, businesses, and personal life commitments.

How do we implement Digital Transformation to serve all classes of society? Have the needs of the poor and less fortunate citizens of our country been considered by our Digital Transformation planners. How do we prepare them for this change and mind-set shift. Infrastructure for digitization is the key element for its success. What is the percentage readiness of T&T? As we have certain parts of our country without basic utilities (electricity and water); internet connectivity is fast becoming a basic utility and an absolute necessity.

The Government of the Republic of T&T has indicated that the country is on a digital transformation journey. Citizens are asking for technology solutions to problems like traffic, government service

delivery, work from home, education, and crime (including cyber security). What does a technology-enabled future in our country look like? The digitization of Government and Society will positively affect the lives of citizens and the Economy in Trinidad and Tobago.

This panel sought to address the aforementioned questions. The key points are summarised below.

Ken Sooknanan (Introduction)

- Digital transformation is defined as the process of using digital technologies to improve existing processes.
- Digital Government is defined as the use of digital technologies in an integrated part of government modernization strategies.

Lequanne Collins-Bacchus

- We need to put people first within the government context of digital transformation.
- The language used to communicate with people is important. We need to ensure people are able to understand what is being shared.
- Ontario, Canada has a *Digital Service Standard* which is updated annually and is a guidebook on how to design platforms, measure performance, are accessible and so on.
- Laws, policies and guidelines have to reflect a digital first approach to service delivery.
- We have to align key elements for better ways of working on digital initiatives within government by developing principles for working on digital projects, building and enabling multidisciplinary teams within skills sectors, supporting digital talent, and incorporating privacy and accountability within designs.

Ravi Sankar

- The development of digital technology offers great potential to address the most relentless challenges facing the Caribbean such as lack of trust, low productivity and persistent inequality. Covid-19 has accelerated this journey which started decades ago.
- Corporate culture, organizational models and processes need to change to enable institutions to meet the needs of citizens in an efficient, secure and transparent manner. How do we improve the lives of citizens of our jurisdictions?
- It is critical that governments take a holistic approach. We need to benefit from economies of scale.
- We need to get the right legislation. Technology moves faster than legislation.
- Reskilling citizens to take advantage of new technologies is necessary.
- Once we put the improvement of our citizens' lives at the forefront of this transformation, we can truly realize the benefits of this technological journey.

Wendell Mitchell

- Technology is not of any use unless we transform our mindset.
- The MDT's *Roadmap for Economic Recovery* includes building a digital nation, institutional capacity, creating an environment of harmony and inclusiveness, and expanding the scope and focus of social protection programmes.

- The MDT's Mandate is: *"A new way to address the end-to-end consumption and delivery of goods and services to customers using appropriate digital technology"*.
- The MDT's Work Programme therefore, focuses on a digital society, digital economy and digital government.
- To enable a digital society, the MDT has undertaken projects to promote digital literacy, access tools and devices and access the Internet.
- To become digital we need to have online customers, digital collaboration and digital services.
- An E-Identity solution is in the works to create a universal ID that uniquely distinguishes persons or organisations. It will eliminate the use for multiple government ID's and allow access to online services. It can be used for authentication and digital signatures.

Question: Is data analytics and AI useful for digital government and society?

Ravi Sankar: Data is useful but it depends on how good the data is. Good data will assist in knowing where to apply limited resources.

Lequanne Collins-Bacchus: We need to have a healthy approach to data and an understanding that standards can enable good quality.

Question: Is security in digital transformation necessary?

Ravi Sankar: Security is absolutely necessary and it is everyone's business, not just for the persons providing the technology. Technology evolves but if we get the basics right where everyone is responsible and if we train persons, then we can help ensure a secure environment.

Lequanne Collins-Bacchus: Literacy is important so persons are aware of scams and fraudulent activity and can be alert.

Wendell Mitchell: There are two types of persons in this world – those who have been hacked and those who don't know they have been hacked. Cybersecurity is essential.

Question: What are the advantages of having cloud computing and storage?

Lequanne Collins-Bacchus: You can access information from anywhere and when the information is standardized benefits can be greater.

Ravi Sankar: From a citizenship perspective, we have a challenge of data centres and data sovereignty in the Caribbean so some of the benefits of the cloud are lost. Most places and most countries are working in a hybrid environment.

Wendell Mitchell: Hybrid cloud is the way to go as you want flexibility, low cost services, perhaps seasonal services and sovereignty and continuity.

Question: How important is the customer experience in digital government and society?

Lequanne Collins-Bacchus: This is most important as we need to provide an opportunity for users to set standards at all stages of development to know what will engage the users.

Wendell Mitchell: We have been utilizing some platforms to allow the engaging of citizens and incorporating feedback. There is the need to incorporate continuous improvement but there is a balance to be met as not all needs can be addressed for everyone.

Ravi Sankar: We need to consider the ageing population to ensure they do not get lost in this transformation.

Wendell Mitchell: Digital advocacy is being promoted by the MDT via access centres to get support for access of services or device setup. We need to start teaching kids how to programme.

Question: There appears to be employee resistance to change. How do we solve the gap?

Wendell Mitchell: You have to design with the customer in mind. Technical capability is not necessarily the major issue, it is trust. Persons may feel the government is spying on you. On the employee side, we have to implement on a phased basis and create creative tension. There is also a need for legislative change.

Question: Is the data protection for citizens' personal information adequate?

Lequanne Collins-Bacchus: In Canada, the laws were too stringent so there was a need to review and enable balance. What kind of data do we want to protect?

Question: What does a technology enabled future in our country look like?

Ravi Sankar: Legislation needs to be in place to protect users and ensure infrastructure is in place. It all ties back to transparency as well. It can make our lives easier so there are many benefits.

Question: Is it beneficial for a country to develop collaboration with other countries?

Wendell Mitchell: There are initiatives through the ITU and CTU on standards, interoperability, consolidating data centres and so on which are of value.

Question: Do we know as a society, what our core business is? Do we have systems that prioritize digital governance?

Wendell Mitchell: We don't as yet as this requires Memorandum of Understandings (MOUs) with each Ministry. Key Ministries have been identified to create priority end-to-end digital services.

PANEL SESSION 4: THE A.R.T. OF CYBERSECURITY: ATTACKS, RISKS, AND THREATS



Welcome & Introductions

Moderator - Ajmal Nazir, Director, TTMAG

Panelists:

1. Vincent Stewart, Director, CyberEye Caribbean;
2. Ricardo Martinez, Chief Revenue Officer, DigitalEra Group;
3. Anthony Peyson, President, International Information System Security Certification Consortium's Caribbean Chapter ((ICS)2 Caribbean Chapter); and
4. Emmanuel A. Oscar, Caribbean Systems Engineering Manager, Fortinet Corporation.

Overview

Cybersecurity is an increasingly important concern for individuals and organizations alike. With the proliferation of the internet and the increasing reliance on technology, it is more important than ever to be aware of the potential risks and threats that can compromise your security online. One of the main challenges in maintaining cybersecurity is the constantly evolving nature of the threats. New vulnerabilities and exploits are discovered on a daily basis, and hackers are always finding new ways to bypass security measures. This means that even if you have taken steps to secure your systems and devices, there is still a chance that you could be at risk.

To address this issue, it is important for organizations to have a proactive approach to cybersecurity. This means investing in the necessary personnel and tools to monitor and respond to potential threats. This can include hiring trained cybersecurity professionals, implementing robust security software, and establishing clear policies and procedures for responding to potential attacks.

Individuals also have a role to play in maintaining cybersecurity. By being aware of the potential risks and taking steps to protect yourself, you can significantly reduce the chances of falling victim to a cyberattack. This can include using strong passwords, being cautious about the websites you visit and the emails you open, and keeping your systems and devices up to date with the latest security patches.

Another important aspect of cybersecurity is cyber-awareness. This refers to the general understanding of the risks and potential threats of a cyberattack, and the measures that can be taken to protect against them. By educating yourself and others about these issues, you can create a more secure and resilient internet for everyone.

There are a number of organizations and resources available to help individuals and organizations stay up to date on cybersecurity issues. These can include government agencies, industry associations, and non-profit organizations that provide guidance on best practices and the latest threats.

In summary, being fully secure online is not a guarantee, as new threats are constantly emerging. However, by being aware of the risks and taking proactive steps to protect yourself and your organization, you can significantly reduce the chances of falling victim to a cyberattack. Cyber-awareness is an important part of creating a stronger and more resilient internet for all.

The key points from this panel are captured below.

Ajmal Nazir (Introduction)

- There are two types of companies – those that have been hacked and those that will be hacked.
- With the increasing reliance on technology, the need for cybersecurity has never been greater.
- Cybersecurity is not just protecting against threats but it is about innovation and development.

Question: The delivery/mail organizations appear to be targets of recent ransomware attacks. What do panellists recommend to postal operators in SIDS to better prepare themselves, and what role does the government have in handling incidents and beyond the Data Protection Act?

Ricardo Martinez

- Contingencies are important in preparedness. There is a need for an incident response plan and this is an area of deficiency. Being able to react quickly is crucial.
- Public relations is part of an incident response plan.

Vincent Stewart: Organisations need to know what their network configurations look like. They need to have updated operating systems, updated anti-virus software, workforce education and awareness, passwords and updates.

Emmanuel A. Oscar: There is sometimes a lapse in terms of business continuity and recovery. Many business continuity plans do not contain incident response or have an incident command structure. Business continuity and response plans should be tested.

Anthony Peyson

- Organisations need to understand what their critical processes are and how they relate to the goods and services offered.
- A business impact assessment can help determine this and it will feed into the incident response and protection.
- How long can your organisation go without offering its products before it fails?

Audience question: What are some of the countries in the Caribbean that have been making the most progress in this area from Fortinet's point of view?

Emmanuel A. Oscar: The Organization of American States (OAS) Report on the *State of Cybersecurity in Latin America and the Caribbean* is helpful in providing this snapshot. There is an overall movement or awareness of cybersecurity in the region.

Question: How do we deal with the lack of experience and knowledge?

Anthony Peyson

- The demand for cybersecurity resources keeps increasing as we are in an information driven world.
- The threat landscape would evolve with the changing times. The systems that we have all gather information on us. We have smart health devices, vehicles and appliances that now have personal data and come with vulnerabilities.
- We do not value our information as much as we should.
- We need to have resources that will counter threats and we do not have enough experts who can assist in this regard. We have to now find the right human resources and train them.

Ricardo Martinez

- Partnerships with organizations that understand cybersecurity are important. Partnerships around education are also important.
- Cybersecurity exposure is needed in terms of education and training.

Vincent Stewart

- We have done a poor job educating the workforce on how to conduct business in the digital age.
- We have done a terrible job at educating our C suite. We cannot speak to them in technical terms; it needs to be communicated in a way they can understand. Organisations must be cybersecurity driven from the top down.

Emmanuel A. Oscar: The shortage of trained people continues to be a challenge. Fortinet intends to train over 1 million persons in cybersecurity.

Question: Incidents of identity theft appear to be low in the region. Could this be a factor which impacts cybersecurity response by organisations in the region?

Anthony Peyson: Caribbean culture is loyal to local suppliers and we are very forgiving. There is not enough awareness on the value of personal information. Therefore, there is not much reputational damage if there is an adverse event.

Ricardo Martinez

- Market impact is felt less due to a lack of competition.
- US laws dictate that companies have to disclose when they have a cyber attack so incidents are more likely to be shared in the media and raise concerns.
- Awareness has to come from pressure and penalties, as companies need an extra push to improve security and data privacy.

Vincent Stewart

- *Your best firewall is an educated workforce*
- Having someone's phone number is a good start to getting their information
- How do you make people aware of threats without scaring them away from technology?

Emmanuel A. Oscar

- How do we educate people? Sometimes people do not take it seriously until it happens. The message needs to change as we are all part of the digital threat landscape.
- Cyber threats impact the way we work and live and governments need to step up to ensure citizens are protected.

Question: GDPR puts fines on companies should they fail to protect personal information. Should we in T&T be looking at something similar, not just for data privacy but also for downtime of critical infrastructure?

Emmanuel A. Oscar: Critical infrastructure is acute to a nation's survival. There needs to be accountability if services go down

Vincent Stewart: Unless there are consequences for failure to act and hold organisations accountable, then they will keep doing the bear minimum with respect to cybersecurity.

Ricardo Martinez

- We need legislation to protect against attacks.
- Cyber insurance is prevalent in the US as well as insurance for business continuity. Cyber insurance is a way for companies to do the minimum but some insurance providers require certain measures in place in order to provide coverage.

Anthony Peyson

- If organisations are not provided with policies then they will do the bare minimum. A legislative framework is required with enforcement and consequences.
- *Compliance drives proper governance.*

Question: What is one strategy that would push T&T or the region forward in terms of cybersecurity?

Emmanuel A. Oscar: Cybersecurity resilience needs to be pushed. The Board, security managers and all levels of workers need to understand their role.

Ricardo Martinez: Having a baseline understanding of what your situation is important. A security assessment should therefore be undertaken to understand what mitigating tools are in place and what needs improvement.

Vincent Stewart

- The best firewall is an educated workforce.
- We must have a plan and exercise that plan.
- We need to share and collaborate in order to solve challenges .

Anthony Peyson: Accountability from the public and private sectors require compliance and a legislative framework. Once we have this, then there would be a change in culture.

LACNIC PANEL SUM-UP & REGIONAL CYBERSECURITY CULTURE INSIGHT

Presented by: Kevon Swift, Head of Public Safety Affairs, LACNIC



- LACNIC is one of the five (5) regional registries and participates in spaces that deal with cybersecurity.
- A culture of cybersecurity has to do with having the right tools, protocols and measures to protect against and mitigate cyber attacks. The end goal is not just security but defence, resilience and trust and confidence in systems from a user's perspective.
- There is a maturing and industrialised cybercriminal environment. Online child sexual exploitation and abuse is ranked third among the top ten crimes in the Americas according to Interpol.
- Cybercrime and cyber insecurity remain within the top ten global risks for long term outlooks according to the *World Economic Forum Global Risk Report 2023*.
- The lack of preparedness and lack of harmonised cybercrime laws across the region is a challenge.
- According to IBM, human error is responsible for 95% of data breaches.
- There are opportunities from initiatives such as the Global Forum on Cyber Expertise, LAC4, the Cybercrime Atlas, the US International Counter Ransomware Initiative, Second Additional Protocol to the Budapest Convention.

OPEN FORUM



Moderators: Dev Anand Teelucksingh, Director, TT MAG and Tracy Hackshaw, Chair, TT MAG

The Open Forum was used to discuss specific issues facing T&T. Dev Anand informed that on the igf.tt website, there are forms to provide feedback on the following policies:

- Telecommunications Authority of Trinidad and Tobago Framework on Net Neutrality;
- Telecommunications Authority of Trinidad and Tobago Framework on Over the Top (OTT) Services; and
- The United Nations Global Digital Compact.

Framework on Net Neutrality in Trinidad and Tobago

Net neutrality is the principle that the ISP has to provide access to all sites, content and applications at the same speed, under the same conditions without blocking or giving preference to any content. Feedback was sought on the paper, including some of the key statements relating to traffic management definition and principles and notifications.

The following questions were posed for comments and discussion:

- a) Is 30 days sufficient notice for ISPs to notify the Authority of changes to be made to its traffic management policies prior to its implementation?
- b) In the event of an emergency, when the ISP has changed its traffic management policy, is the notice to the Authority within 7 days after the change sufficient?
- c) Is 7 days sufficient notice to customers of changes to its traffic management policies?
- d) Should ISPs log their traffic management practices and measures for a period longer than 12 months?
- e) Should the Authority notify the public if it has reasons to believe that an ISP's traffic management policy, practice or measure is unreasonable?
- f) Should the Authority notify the public if it has reasons to believe that an ISP's agreement, network or commercial practice constitutes unreasonable discrimination?
- g) Should the disclosure of ISP's information on the technical and commercial conditions of the service, including information on its traffic management policies, performance characteristics, and commercial terms and conditions also be posted on the Authority's website?
- h) Should the Authority notify the public if it has reasons to believe that an ISP has failed to meet its transparency requirements when it notifies the ISP in writing?
- i) Is the ISP's 30 day prior notice of its plan to zero rate specific content to the Authority, sufficient?
- j) Should the Authority publish a notice on its website of an ISP's plan to zero rate content?
- k) Should the Authority notify the public that it has notified an ISP that it believes an ISP's zero rated plan is anti-competitive or constitutes an unfair commercial practice?
- l) Should the Authority notify the public that it has notified an ISP that it believes an ISP's conditional paid-prioritisation agreement is anti-competitive or constitutes an unfair commercial practice?

Discussion Points

- The Trinidad and Tobago Computer Society had discussions on this paper and was of the view that the ISP needs to inform the telecoms authority in advance so it should be greater than 30 days and 7 days. An example of a change to traffic management policy can be a reduction in bandwidth for streaming services.
- From the ISP perspective, traffic management is done on a dynamic basis. For instance, in the event of an outage, this is an unplanned event and the ISP would not have 30 days to notify of changes.
- What qualifies as an emergency? This needs to be defined and ISPs need to have provisions as to what will happen in the event of an emergency.
- The Authority should notify the public if it has reasons to believe that an ISP's traffic management policy is unreasonable.
- Would fair usage be included in a traffic management policy?
- If the Authority has determined that the ISP is contravening a policy then should it be disclosed to the public?

- Can the Authority utilise provisions to push back on something such as censorship of specific content? There is a provision for lawful content so the Authority can direct ISPs to take specific action.
Can the ISPs take such action themselves?
- What would address unfair usage, data caps, throttling and so on? Unlimited data in Trinidad and Tobago is not unlimited.
- Has zero rating been done without TATT's approval thus far? ISPs took unilateral action to zero rate certain sites during Covid-19.

Framework on Over the Top Services in Trinidad and Tobago

The following questions were shared:

- a) Should the Telecommunications Act and other legislative frameworks be amended to incorporate OTTs which will clarify the Authority's remit over any entity providing OTTs?
- b) Should OTT be regulated to comply with the Trinidad and Tobago constitution and the [National Broadcast Policy](#)?
- c) Should OTTs be required to fund local telecommunications infrastructure in Trinidad and Tobago?
- d) Should OTT be required to have a quota on share of local content, for example requiring OTTs to have a specific percentage of local content be made available on OTT catalogue of programmes?
- e) Should OTTs have obligations to operate in T&T to directly invest in local content initiatives?
- f) Should OTTs have obligations to pay via levies or OTT investment to a local content fund?

Discussion Points:

- If it competes with traditional telecoms services then it is a concern. Is this a realistic statement?
- Do you think the definition of OTTs is fair and should it be regulated?
- ISPs will then be gatekeepers based on the proposed framework.
- The framework implies that the regulator should be regulating overseas services.
- With respect to on demand content from services such as YouTube, can we enforce provisions?
- If it is so onerous to operate in T&T which is a small market, then why would OTTs continue to provide services?
- *The Declaration of St George's Towards the Reduction of Intra CARICOM Roaming Charges* has two action areas how can we harmonise regulatory frameworks and how can we address the impact of OTTs on the business of operators in the region.

The United Nations Global Digital Compact

The UN has established a strategy for going beyond, entitled Our Common Agenda and the Global Digital Compact (GDC) is the digital component of this. TT MAG and TTIGF have taken it upon themselves to have a consultation on this issue. The form produced is an adaptation of the UN's form and can be used to respond to the issues being addressed by the GDC.

There are seven areas of the Global Digital Compact mentioned in the [Secretary-General's Common Agenda](#) on which persons were invited to submit inputs. The seven areas are:

1. Connect all people to the internet, including all schools
2. Avoid internet fragmentation
3. Protect data
4. Apply human rights online
5. Accountability for discrimination and misleading content
6. Regulation of artificial intelligence
7. Digital commons as a global public good

For each area, it was requested that views and inputs should be organized along the following two aspects:

- a) Core principles that all governments, companies, civil society organisations and other stakeholders should adhere to;
- b) Key commitments, pledges, or actions that in your view should be taken by different stakeholders – governments, private sector, civil society, etc. – in order to realize the above-mentioned principles.

CLOSING



Dev Gosine, TTMAG Chair Elect

Dev shared that the IGF is for all of us and encouraged people to keep checking the website for updates and presentations. He briefly recapped the proceedings of the two-day event, congratulating all speakers for their impactful contributions.

Dev announced the tentative dates for the 2024 TTIGF to be held in January 2024 which will be confirmed later in the year. He thanked all partners, panellists and participants and extended best wishes to all.

- Our Partners -

