



CANCIÓN

Many Nations... One Voice
Muchas Naciones... Un Sentimiento
Vele Landen... Een Stem
Plusieurs Nations... Une Seul Voix
Differente Nashon... Un Bos
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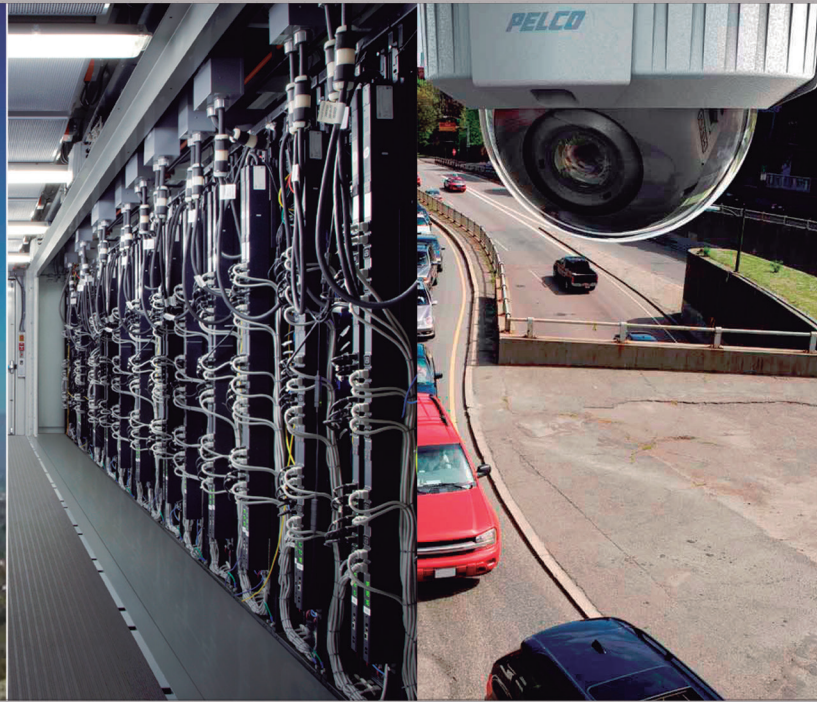


"IMPROVING LIVES THROUGH BROADBAND INNOVATION"

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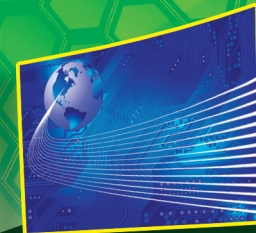
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Contents

Mission

To facilitate the development of ICT solutions for the benefit of members and other stakeholders in the Caribbean region.

Vision

To be the leading authority in shaping information and communication in the Caribbean.

Objectives of Cancion

To inform CANTO's membership of information and communication technologies and policy developments taking place in the member organizations of the association.

To reach policy makers of the Caribbean, sharpening their awareness of regulatory developments and technological progress as it affects the region.

To provide CANTO with a literary voice to reach others in the region and internationally, with news, information and analysis of information and communication technology developments in/or affecting the Caribbean.

If you or your organization are engaged in or informed about activities or developments which impact upon Caribbean information and communication technologies please write and let us know.



Editorial Director - Regenie Fraser
rfraser@canto.org

Editor in Chief - Tricia Balthazar
tbalthazar@canto.org

Contributing Editor - Philip Cross
crossesp@gmail.com

Proof Readers - Jimmy Rodrigues
jrodrigues@canto.org
Teresa Wankin
twankin@canto.org

Production & Art Director - Gail Edwards
gedwards@canto.org

Advertising/Sales - Carmen Ramlal
cramlal@canto.org

Spanish Translator - Lucia Cabrera-Jones
lucy_martha_2000@yahoo.com

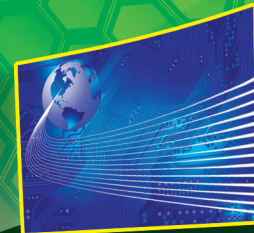
Distribution - Andrea Lewis
alewis@canto.org

Publisher/Printer - Jhullian Graphics
Communication
jhulliangraphics@gmail.com



67 Picton Street, Newtown, Port of Spain
Republic of Trinidad & Tobago
Tel: (868) 622-3770/4781/0929/5582
Fax: (868) 622-3751
Website: www.canto.org

Editorial (English)	3 - 4
Editorial (Español)	5 - 7
Dirk Currie's Farewell Remarks at 31st Annual General Meeting	8 - 10
Digicel Emerges as Chairman of CANTO's Board of Directors	11 - 12
New Chairman of CANTO Welcome Message	14 - 15
Congratulations CTU on 25th Anniversary	16
TATT Targets Enhanced Consumer Focus in a Demand Driven Market	17 - 18
Centre Spread	19-22
Moving Into the Post-IPv4 Depletion Era at ARIN	24
Information & Communication Technology for Disaster Risk Management in the Caribbean	25 - 27
Addressing Coverage and Capacity Challenges in the Evolving Wireless Network Landscape	28 - 29
Research on ICT for Disaster Management in CARICOM Japan Delegate Visit at the UN	30
Labour in a Technology Driven World	31-33
A Modern Approach to Legacy Switches	35-36
Customer Experience Management to Increase Loyalty and Reduce Churn	37-38
Calendar of Events	39



CANTO's 2015 Calendar to focus on "Improving Lives Through Broadband Innovation"

Editorial (English)

2015 will be a very important year, not only for CANTO and the global Information and Communication Technology (ICT) sector, but also for global sustainable development. One of the main reasons is that 2015 is the target year for both the Millennium Development Goals (MDGs) and the World Summit on the Information Society Goals (WSIS). For CANTO it is also important since the very important Broadband Infrastructure and Public Awareness in the Caribbean (BIIPAC) project with the Inter-American Development Bank (IDB) will continue and is expected to move into the implementation phase.

The ITU World Telecommunication Development Conference of 2014 declared that "despite all the progress made during past years, the digital divide still remains, and is compounded by disparities in access, use and skills between and within countries, in particular between urban and rural areas, as well as in the availability of accessible and affordable telecommunications/ICTs, particularly for women, youth, children, indigenous people and persons with disabilities, including age related disabilities". It is against this background that Caribbean countries must take a hard look at ICT development in the Caribbean, especially broadband, and seek ways of improving access to ICTs.

Caribbean countries have signed on to both the MDGs and the WSIS and have been making efforts to achieve the stated goals. Many of these will be met and others will not be met. In some cases the goals were not clearly stated and the impact of ICTs was not evident at the time. 2015 will therefore provide an opportunity for introspection, evaluation and planning so that CANTO can prepare its members for the post-2015 development agenda. That agenda will take into account the global successes and failures of the last fifteen years and it will also develop new strategies for the development and use of ICTs. Since the MDGs were established, the ICT landscape has also changed dramatically. There was very little emphasis on broadband, which has now come to be one of the most important aspects of ICT development.

Caribbean ICT stakeholders, including CANTO members, are expected to be involved in important discussions that will take place in 2015. These discussions will play a very important role in obtaining information and statistics that will show clearly the situation in the Caribbean. CANTO will again be seeking to make inputs that will help in the overall development strategy for broadband. It will be important to see where the Caribbean stands in broadband development so that decisions can be taken on the way forward.

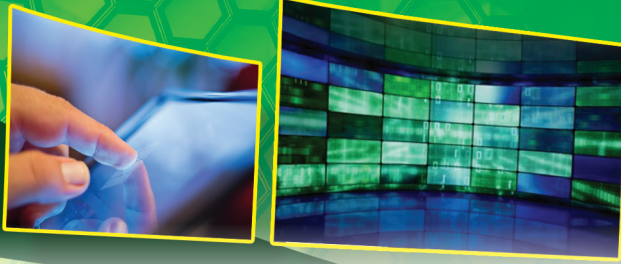
The ITU/UNESCO Broadband Commission for Digital Development, taking into consideration the impact of broadband, has established several criteria for global broadband development. For 2015, the Commission has established four targets to be considered by all countries. These targets will be examined, at the 31st Annual Conference & Trade Exhibition with a view to CANTO developing its broadband strategy for 2015 and beyond, as well as strategies for the post-2015 development agenda. The four targets are:

Target 1: Making broadband policy universal. By 2015, all countries should have a national broadband plan or strategy or include broadband in their Universal Access/Service Definitions.

Target 2: Making broadband affordable. By 2015, entry-level broadband services should be made affordable in developing countries through adequate regulation and market forces (amounting to less than 5% of average monthly income).

Target 3: Connecting homes to broadband. By 2015, 40% of households in developing countries should have Internet access.

Target 4: Getting people online. By 2015, Internet user penetration should reach 60% worldwide, 50% in developing countries and 15% in LDCs.



These are targets which clearly fit into CANTO's agenda, but now additional discussions are required which will take them into account.

Many countries in the Caribbean utilize Universal Service Funds (USF) for the deployment of broadband, although not all countries have USF regimes. CANTO will continue discussions on how countries can be assisted in developing and maintaining their USF strategies. CANTO is also mindful of the difficulties being faced by telephone companies, including the gradual decline in telephone revenues. A decline in revenues also means declining USF contributions. This factor could affect the ability of some countries to roll out broadband as quickly and as efficiently as they would like. Therefore CANTO 2015 we will need to focus on various aspects of broadband rollout, the problems being encountered and possible solutions.

The CANTO AGM provided an update of the BIIPAC project which is now being implemented. This project is assisting CANTO members in broadband diagnosis and infrastructure maps, regulatory and institutional framework, ICT awareness and capacity building, as well as public policy and regional recommendations. The objectives of this project are closely aligned to the targets set by the Broadband Commission so there are already some synergies in moving forward.

The first phase of the BIIPAC project is being implemented in Barbados, Belize, Dominican Republic, Guyana, Haiti, Jamaica, Suriname and Trinidad & Tobago.

When the MDGs were adopted in 2000, there was very little awareness of the potential of ICTs in sustainable development, both as a means to an end as well as an end in itself. The potential of broadband was nowhere on the horizon. At the AGM, CANTO members discussed various aspects of broadband and the role it has played and is expected to play in the lives of the people of the Caribbean. In order to develop a realistic scenario, the voice of the youth must be taken into account. It is important to know how young people see ICTs, in particular broadband, the role it plays in their lives and the future that they see for broadband. Consequently,

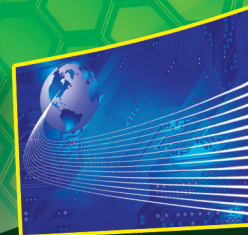
CANTO hosted the CANTO 2015 Youth Forum which promoted youth entrepreneurship and innovation. It brought together young, brilliant and creative minds from around the Caribbean to share their thoughts, dreams and visions among themselves and with CANTO members.

The agenda for the upcoming Conference & Trade Exhibition is therefore expected to assist in providing a better understanding of the ICT sector in the Caribbean, in particular progress made with broadband rollout, which continues to be an important subject for CANTO.

CANTO is therefore extending an invitation for the 31st Annual Conference & Trade Exhibition, from 26th- 31st July, 2015 at the Hyatt Regency Hotel, Miami, Florida. In addition to the various discussions that will take place, note should be taken of the following:

Other CANTO events:

- 23 April 2015 - Girls in ICT Forum, exhibition and mini mobile competition, Bishop's Centenary College, Trinidad & Tobago. Theme: "Girls and Women and Innovation"
- 17 May 2015 - WTISD Video Competition, Regional Theme: "ICTs Drivers of Innovation"
- 19 June 2015 - i-Create e-Content Competition, Regional
- 26-29 July 2015 - CANTO Annual Conference and Trade Exhibition, Hyatt Regency Hotel, Miami
- 26-29 July 2015 - Broadband Infrastructure Inventory and Public Awareness in the Caribbean (BIIPAC) Updates
- 28 July 2015 - Caribbean Women in ICT (CWIC) Forum, Hyatt Regency Hotel, Miami
- 29 July 2015 - Youth Forum - Hackathon - Hyatt Regency Hotel, Miami
- 30 -31 July 2015 - CANTO's 9th HR Forum, Hyatt Regency Hotel, Miami
- 30 -31 July 2015 - CANTO's 2nd Marketing Forum, Hyatt Regency Hotel, Miami.



Programa de CANTO para enfocarse en el mejoramiento de vidas a través de la innovación de ancho de banda

Editorial [Español]

El 2015 será un año muy importante, no sólo para CANTO y el sector global Mundial de la Información y Tecnología de las Comunicaciones (TIC), sino también para el desarrollo sostenible global. Una de las razones principales es que 2015 es el año crucial, tanto para las Metas de Desarrollo del Milenio (MDGs) como para la Cumbre Mundial sobre las metas de la Sociedad de la Información (WSIS). Para CANTO también es importante ya que el Proyecto sobre la infraestructura de banda ancha y conciencia pública en el Caribe de conjunto con (BIIPAC) Banco Interamericano de Desarrollo (BID) continuarán y se espera que pase a la fase de implementación.

La Conferencia de Desarrollo Mundial de las Telecomunicaciones de la UIT del 2014 declaró que “a pesar de todos los avances logrados durante los últimos años, la brecha digital sigue existiendo, y esta compuesta por las disparidades en el acceso, uso y habilidades entre y dentro de países, en particular entre las zonas urbanas y rurales, así como la disponibilidad y accesibilidad de las telecomunicaciones / TIC , en particular para las mujeres, los jóvenes, los niños, las personas indígenas y personas con discapacidad, incluidas las discapacidades relacionadas con la edad “. Es en este contexto que los países del Caribe deben mirar seriamente el desarrollo de las TIC en el Caribe, especialmente de banda ancha, y buscar formas de mejorar el acceso a las TIC.

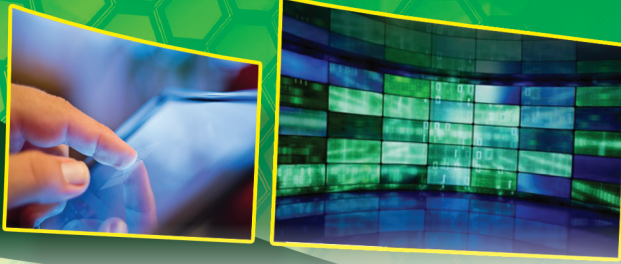
Los países del Caribe han firmado en ambos, MDG y la WSIS y se han de hacer esfuerzos para alcanzar los objetivos fijados. Muchos de éstos se cumplirán y otros no. En algunos casos, los objetivos no fueron claramente establecidos y el impacto de las TIC no era evidente en el momento. Por lo tanto, el 2015 será una oportunidad para la introspección, la evaluación y la planificación para que CANTO puede preparar a sus miembros para la agenda

post desarrollo del 2015. Esta agenda tendrá en cuenta los éxitos y fracasos de los últimos quince años a nivel mundial y también desarrollará nuevas estrategias para el desarrollo y uso de las TIC. Desde que se establecieron los MDG, el panorama de las TIC también ha cambiado drásticamente. Había muy poco énfasis en la banda ancha, que ahora ha llegado a ser uno de los aspectos más importantes del desarrollo de las TIC.

Interesados en las TIC del Caribe, entre ellos miembros de CANTO, se espera que participen en las discusiones importantes que tendrán lugar en el 2015. Estas discusiones tendrán un papel muy importante en la obtención de estadísticas que mostrarán claramente la situación en el Caribe. CANTO volverá nuevamente a buscar formas que ayudarán en la estrategia general de desarrollo de la banda ancha .Será importante ver donde el Caribe se encuentra actualmente en el desarrollo de la banda ancha para que puedan ser tomadas las decisiones en cuanto al futuro.

La comisión de banda ancha para el desarrollo digital UIT / UNESCO 1, teniendo en cuenta el impacto de la banda ancha, ha establecido varios criterios para el desarrollo global de banda ancha. Para 2015, la Comisión ha establecido cuatro objetivos para ser considerado por todos los países. Estos objetivos se examinarán en la Junta General, con vista a que CANTO desarrolle su estrategia de banda ancha para el 2015 y más allá, así como estrategias para la agenda de desarrollo post-2015. Los cuatro objetivos son:

Objetivo 1: Crear la política de banda ancha universal. Para el año 2015, todos los países deben tener la estrategia o plan nacional de banda ancha o incluir la banda ancha en la Definición de sus Servicios / Acceso Universal.



Objetivo 2: Haciendo banda ancha asequible. En 2015, se deben hacer los servicios de banda ancha de nivel de entrada asequibles en los países en desarrollo a través de regulación y las fuerzas de los mercados adecuados (por un importe de menos del 5% del ingreso mensual promedio).

Objetivo 3: Conexión de hogares a la banda ancha. En 2015, el 40% de los hogares en los países en desarrollo deben tener acceso a Internet.

Objetivo 4: Poniendo a la gente en línea. En 2015, la penetración de usuarios de Internet debería alcanzar el 60% a

nivel mundial, el 50% en los países en desarrollo y el 15% en los países menos adelantados.

Estos son los objetivos que encajan claramente en la agenda de CANTO, pero ahora se requieren discusiones adicionales donde los mismos se tendrán en cuenta.

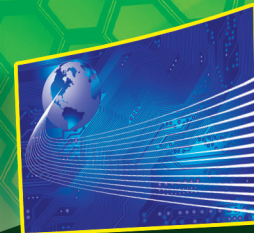
Muchos países en el Caribe utilizan los Servicio Fondos Universal (USF) para el despliegue de la banda ancha, aunque no todos los países cuentan con regímenes de USF. CANTO continuara las discusiones sobre cómo los países pueden contar con la asistencia en el desarrollo y mantenimiento de sus estrategias de USF. CANTO también es consciente de las dificultades que enfrentan las empresas de telefonía, incluyendo la disminución gradual en los ingresos de telefonía. Una disminución de los ingresos significa también una disminución en recibir contribuciones de USF. Este factor podría afectar a la capacidad de algunos países para desplegar la banda ancha lo más rápido y eficientemente como les gustaría. Por lo tanto, la Junta General deberá centrarse en varios aspectos de la banda ancha, los problemas que se están encontrados y las posibles soluciones.

La AGM de CANTO proporcionó una actualización del proyecto BIIPAC que ahora se está implementando. Este proyecto está ayudando a miembros de CANTO en el diagnóstico de banda ancha y los mapas de infraestructura, marco regulatorio e institucional, conocimiento de las TIC y el desarrollo de capacidades, así como las políticas públicas y las recomendaciones regionales. Los objetivos de este proyecto están estrechamente alineados con los objetivos fijados por la Comisión de Banda Ancha por lo que ya hay algunas sinergias en cómo seguir adelante.

La primera fase del proyecto BIIPAC se está aplicando en Barbados, Belice, República Dominicana, Guyana, Haití, Jamaica, Surinam y Trinidad y Tobago.

Cuando se adoptaron los MDGs en el 2000, había muy poca conciencia sobre el potencial de las TIC en el desarrollo sostenible, tanto como un medio para un fin, así como un fin en sí mismo. El potencial de la banda ancha no estaba en el horizonte. En esta Junta, los miembros de CANTO discutirán diversos aspectos de la banda ancha y el papel que ha jugado y se espera que juegue en la vida de los pueblos del Caribe. Con el fin de desarrollar un escenario realista, la voz de la juventud debe ser tenida en cuenta. Es importante saber cómo los jóvenes ven las TIC, en particular, la banda ancha, el papel que desempeña en sus vidas y el futuro que ellos ven para la banda ancha. En consecuencia, CANTO será la sede del Foro de la Juventud CANTO 2015 que promoverá la interprenuridad empresarial de los jóvenes y la innovación. Reunirá a mentes jóvenes y brillantes y creativas de todo el Caribe para que puedan compartir sus pensamientos, sueños y visiones entre ellos y con los miembros de CANTO.

Por lo tanto, se espera que la agenda de la próxima Conferencia y Exposición de Comercio para ayudar a



proporcionar una mejor comprensión del sector de las TIC en el Caribe, en particular los avances alcanzados con la banda ancha, que sigue siendo un tema importante para CANTO.

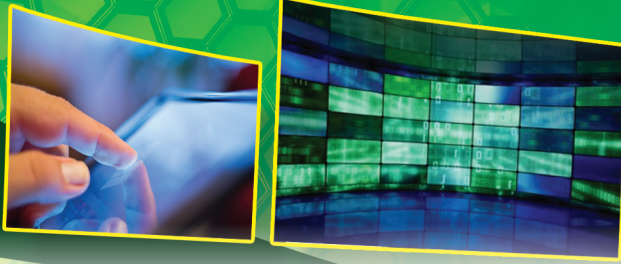
Por lo tanto, CANTO está extendiendo una invitación a la 31a Conferencia Anual de Exposiciones de Comercio, del 26 al 31 de enero 2015 en el Hyatt Regency Hotel, de Miami, Florida. . Además de los diversos debates que tendrán

lugar, se debe tomar nota de lo siguiente:

Otros eventos de CANTO

- Las niñas en las TIC Foro, Exposición y aplicación Móvil Competencia. tema: “las niñas y las mujeres y la innovación”
- 17 de mayo - Competencia Regional, Video WTISD

- 19 de Junio - Competencia Regional i-Crear e-Contenido
- 26 - 29 de Julio 2015 - CANTO Conferencia Anual y Exhibición de Comercio, Hotel Hyatt Regency, Miami;
- 30 - 31 de Julio 2015 - 9no Fórum de RH CANTO, Hotel Hyatt Regency, Miami.
- 30 - 31 de Julio 2015 - 2do Fórum de Mercado-tecnia CANTO, Hotel Hyatt Regency, Miami
- 29 de Julio - Fórum de Jóvenes - Hackathon - Hotel Hyatt Regency, Miami
- 26 - 29 de Julio - Inventario de banda ancha e Infraestructura y conciencia pública en el Caribe (BIIPAC) Actualizaciones
- 28 de Julio , Fotrum de Mujeres caribeñas en ICT (CWIC) Forum , Hyatt Regency Hotel, Miami



Dirk Currie's Farewell Remarks at 31st Annual General Meeting



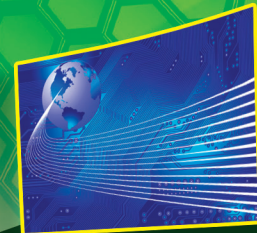
Dirk Currie
Managing Director - TELESUR

I hereby welcome you all to the Republic of Suriname at this 31st CANTO Annual General Meeting. It is the third CANTO Annual General Meeting that is held in Suriname and we are looking forward to a very fruitful and efficient meeting. I do hope that you will also explore the beauty of our country, the diversity of our people and the historical monuments in the heart of our capital. Make sure that your stay for the business of CANTO and the work of the Broadband Infrastructure Inventory and Public Awareness in the Caribbean (BIIPAC) Project. Take some extra days to visit our tropical rainforest so you will leave relaxed and energized by the spirit of the interior our country has to offer.

Our sector is presently in a state whereby we all experience changes that are influenced by fast evolving and comprehensive technology. We are also facing the fact that the competitive arena does not only consist of companies that have a license to operate in our respective countries, but even companies that don't have a license to operate are competing to serve our local customers. At several meetings, I used the following to describe this situation. We used to have only one fish in our swimming pool to provide local service. Then by administrative decision, our market was liberalized, and two additional companies were granted a concession to swim in the telco pool. If we presently look at the pool we see that it is full of telco fishes of which the majority, without any license, are providing some kind of free service. We all know them by heart and we all use the service of one or more of them, namely; Viber, Skype, Whatsapp, Facetime and many more.

This is just one of the changes we experience. We can also ask ourselves the question, what is in the best interest for companies like TELESUR, Suriname; UTS, Curacao; BTL, Belize; TELEM, St. Maarten; SETAR, Aruba; and GT&T, Guyana; to join other big groups of companies to merge or just stay on their own. What is the best mode for survival? It is really a question of what will be needed for the future survival of these member companies. We experience mergers and acquisitions all over the world including in our region, but in order to have a well-functioning telecommunication sector, it is necessary to have good infrastructure for fixed and mobile communications in each of our respective countries in support of economic development.

As we have to cope with all these changes in our sector we need to make sure that we embrace innovation not only in our respective companies, within our organization CANTO, and also for our countries, as this will support and help us in our survival process. As CANTO, we have for quite some years held our essay



and i-Create e-Content competition and I am proud to mention the names of the 2013 first place winners Ryan Soemodihardjo and Clint Siadis, from Suriname who are presently working with another youngster from Suriname in a start up company. William Mahler Jr. from Belize, winner in 2014 of the 8th Annual World Telecommunication and Information Society Day Video Competition. William made the following video about his experience during the CANTO 2014 Conference and Trade Exhibition and I would like to share this video with you.

View video at <http://youtube/LIO4KDCYd58>

William is also with us today and I would like to thank him.

I showed you this video, because within CANTO we have the strong belief that to support an environment of innovation you need to embrace and involve youngsters within your organization. They bring with them an excellent vibe of enthusiasm, knowledge, talent and an attitude where fear of the unknown is almost absent. They are ready to swim in a pool everywhere and are also committed to help bring our region to a higher level.

As CANTO, we have incorporated in our agenda of this AGM a youth forum which will be launched on Tuesday starting at one o'clock in the afternoon and I urge you all to be part of it. It is a matter of working together, young inspired innovators and present leaders and together strive for a better future for ourselves and those who will be our future citizens and leaders.

Our theme for this year is "Improving Lives Through Broadband Innovation". A theme allows us to focus on a certain area, but without commitment and action in that direction, the theme really is of no value other than just a statement. It is therefore our task as professionals

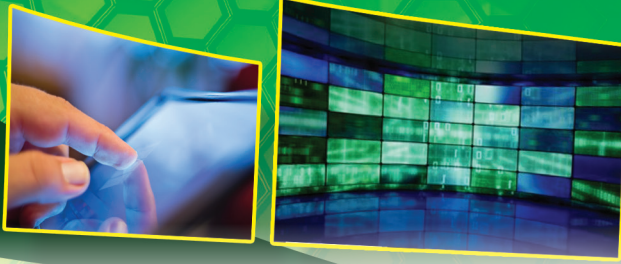
responsible in this area to act and bring this theme to life. I therefore call on all of you to act. Let us together improve the lives of our citizens by broadband innovation.

I stand before you tonight at the opening ceremony of this 31st CANTO Annual General Meeting here at my home front, the Capital Paramaribo, of the Republic of Suriname.

It is the last AGM that I will attend and speak to you all in my capacity as Chairman. I am grateful for the trust bestowed in me and therefore I take this opportunity to thank each and every one of you whom I worked with over the last four years and more, serving the organization. It was only with your assistance and support that I have been able to fulfill the duties as Chair. A chairperson, who doesn't have the support of the fellow directors, the Vice Chair; support of the members, of the Secretary General and staff of the Secretariat of the organization, is never able to perform its duties as Chair. My heartfelt thanks to you all for your outstanding support.

I separately want to thank my TELESUR family that supported me in my capacity as CANTO Chair. I would like to mention Mr. Henk Rahan and his team who have been very instrumental with the organization of the past CANTO AGM in 2008, the CANTO Conference and Trade Exhibition in 2011 and also this 31st CANTO AGM.

The Government of the Republic of Suriname, currently under the leadership of our President Desire Delano Bouterse, who was always very supportive at the preparatory stage. The assistance from the Ministry of Foreign Affairs, especially the protocol department and all the support we received during the meetings, even the availability of the Presidential Palace for one of our activities during the conference in 2011. Thank you



very much for this support. We are also very pleased our Vice President Robert Ameerali has accepted our invitation to speak to us at this opening ceremony.

I cannot forget to mention my own family who supported me even when having to travel so often and in particular my kids Giano and Tirzah who were always by my side when I needed them. I must also admit that I am very proud that my son Giano, together with quite a few more youngsters from our region, through their organization called PIEDATA, took up the responsibility together with the CANTO Secretariat under the leadership of Regenie Fräser to organize the youth forum. I really would like to publicly thank them all.

I also want to mention the name of one of the speakers at the youth forum. His name is Ryan Kopinsky and he is a PhD Candidate in Robotics at FSU, co-founder of Innovation District, Co-founder of Shop X and Founder of TechNole. Ryan is 24 years and a Suriname national. I think that's enough assurance for an excellent youth forum so don't miss being part of it.

But most importantly, all I have been doing has been in the spirit and under the guiding hand of our Savior Jesus Christ. Without his guidance and support I would have not been able to fulfill my duties.

I will be stepping down tomorrow during the official meeting at our 31st AGM but I am convinced that the person who will be elected as my successor as CANTO Chair will at least get the support I received from you all.

Finally, I leave you with the following:

Be Good in Every sense:

When a bird is alive, it eats Ants.

When the bird is dead.... Ants eat the bird.....

Time and circumstances can change at any time.

Don't devalue or hurt anyone in life.

You may be powerful today. But remember,

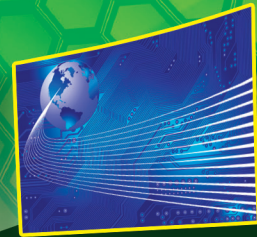
Time is more powerful than you!

One tree makes a million match sticks.....

But only one match stick is needed to burn a million trees,

So be good and do good!

In closing I wish you a pleasant stay in our country Suriname and that your deliberations will bring more value to CANTO and our respective countries. May God bless you all.



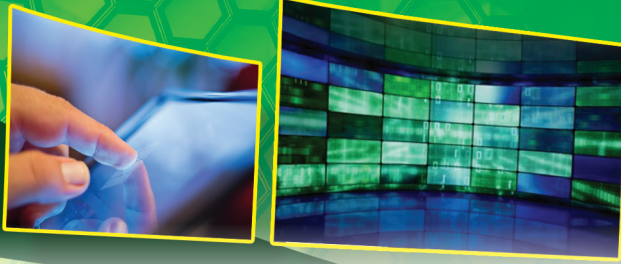
Digicel Emerges as Chairman of CANTO's Board of Directors



Sitting l-r: J. Wilkins, L. Williams, R. Fräser, H. Etnel. Standing l-r: E. J. Saunders, D. Charles, O. Neil, C. Carter, L. Gomez

On the 26th of January, Digicel was voted Chairman of the CANTO Board of Directors at the 31st Annual General Meeting of CANTO held in Paramaribo, Suriname. The new Chairman in the person of Mr. Julian Wilkins is the Director, Telecoms Public Policy of Digicel Group. Mr. Wilkins has represented Digicel Group on the CANTO Board of the Directors for the past seven (7) years in the capacity of CANTO Director and actively chaired the Marketing & Communications and Corporate Social Responsibility Working Committees of CANTO. Mr. Julian Wilkins was educated in the UK, has a MBA from the Henley

Business School in General Management and a full Telecommunications City & Guilds qualification. He joined Digicel Trinidad & Tobago in 2006 as Operations and Maintenance Manager moving to Digicel Group in 2008 as Director, Telecoms Public Policy of Digicel Group. He was re-elected as CANTO Board Director representing Digicel in 2008. Mr. Wilkins reiterates his vision for CANTO by saying: "As Chair, I will continue to work with all CANTO members, large and small, to find common ground that will best serve the industry and our consumers whilst ensuring open dialogue with all stakeholders".



Also elected as Vice Chair of CANTO is the Bahamas Telecommunications Company (BTC) represented by CEO, Mr. Leon Williams. Mr. Williams is no stranger to CANTO. He has served in the capacity of Vice Chairman in 2003 and 2005 and Chairman in 2008.

TELEM St. Maarten represented by Helma Etnel was elected and replaced Davidson Charles of (Cable & Wireless Antigua & Barbuda) as Treasurer of the Board. Charles was later elected as a director along with Mr. Lyrio Gomez, who makes a return as a director representing UTC Curaçao. Continuing on the board are directors Tim Heffernan (Cable & Wireless Grenada), E. J. Saunders (Digicel Turks & Caicos), John Reid (Columbus Communications) and Charles Carter (TSTT).

The CANTO membership and attendees of the 31st AGM bid farewell to Mr. Dirk Currie who served as Chairman on the board for the last five (5) years. Mr. Currie represented TELESUR and is its Managing Director. Mr. Currie, in his parting speech at the Opening Ceremony said: “It is the last AGM that I will attend and speak to you all in my capacity of Chairman. I am grateful for the trust bestowed in me and therefore I take this opportunity to thank each and every one of you whom I worked with over the last four years and more, serving the organization. It was only with your

assistance and support that I have been able to fulfill the duties as Chair. A Chairperson, which doesn't have the support of the fellow directors within the board, the Vice Chair, and the support of the members, but not the least the support of the Secretary General and staff of the Secretariat of the organization, is never able to perform its duties as Chair. My heartfelt thanks to you all for your outstanding support”.

The AGM continued on the 27th with the first Caribbean Youth Forum which was facilitated by PIEDATA and supported by Telesur and CARICOM. CANTO hosted the CANTO 2015 Youth Forum which promoted youth entrepreneurship and innovation. The Broadband Infrastructure and Inventory Public Awareness (BIIPAC) also held a three day workshop from the 27- 29th January and focused on the three components of the project. This project is assisting CANTO member countries in broadband diagnosis and infrastructure maps, regulatory and institutional framework, ICT awareness and capacity building, as well as public policy and regional recommendations.

The 31st AGM & Mini Expo was co-hosted by Telesur of Suriname. For more information visit <http://canto.org/events-conferences/annual-general-meeting-agm/>

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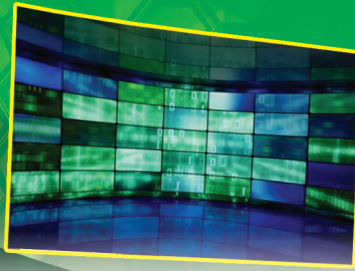


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New Chairman of CANTO Welcome Message

Julian Wilkins, Chairman of CANTO

As the Chairman of CANTO 2015-2017 it is indeed an honour and a privilege to have been elected as Chair. I am very much looking forward to the challenge.

My background spans over 20 years' experience being involved in the CANTO organisation, first representing APUA and then Digicel since 2008. This has afforded me a unique understanding of the role that CANTO plays in serving not only the small independent operators but also the larger regional operators.

As Chairman, some of my goals are to encourage increased participation by all existing members; to seek further opportunities to have smaller independent operators be more interactively involved and to generally widen the net so we can engage with more of our stake-holders.

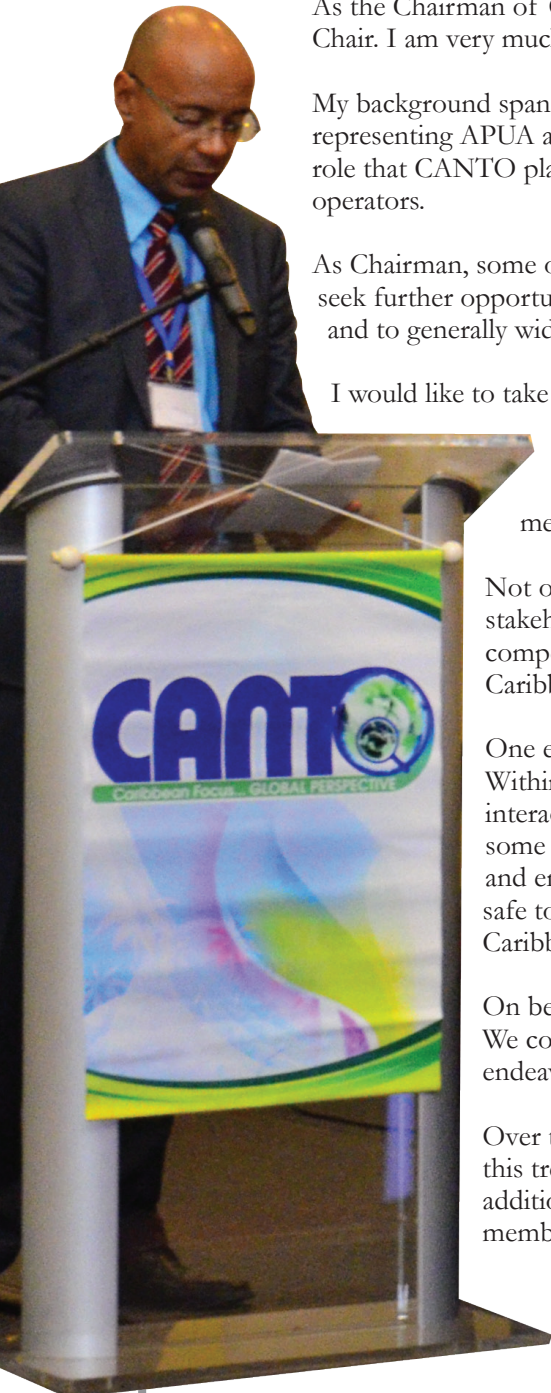
I would like to take this opportunity on behalf of the CANTO Board of Directors to thank Mr. Dirk Currie, former Chairman of CANTO for his leadership of the organisation for the past four years. Under his leadership, CANTO has grown from 32 full members in January 2011 to 37 in January 2015. For the same period, affiliate members have increased from 75 to 88.

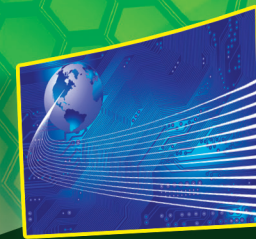
Not only has the membership grown – the organisation has also become a major stakeholder in the ICT arena. Dirk always sought to find common ground amongst competitors in the region encouraging us to work together for the benefit of our Caribbean customers.

One example is the ministerial panel at our Annual Conference and Trade Exhibition. Within the last two years, Dirk has changed the format of the panel making it far more interactive. Operators now put key questions to the ministers, thereby addressing some of the major issues in the industry. These sessions have become very dynamic and engaging with more than ten Ministers having attended over the last few years. It is safe to say that CANTO has become a major voice in articulating the way forward in the Caribbean telecoms/ICT industry.

On behalf of the Board of Directors, I thank Dirk Currie for his service to CANTO. We congratulate you on your achievements and wish you the very best in your future endeavours.

Over the past few years, we have grown the membership and I would like to continue this trend by attracting to the organisation the new ICT companies in the region. In addition, I would like to create opportunities for our affiliate (Vendors and Suppliers) members to be more active and participative in the work of CANTO.





We are a unique organisation representing many different types of stakeholders; it is my belief that its diverse membership is what makes CANTO the successful organisation that it is today. If our successes are to continue, we must as an organisation embrace new members and continue to offer value to our existing ones.

Our vision is 'to become the leading authority in shaping information and communication in the Caribbean.' One of our main vehicles for achieving this vision is through our annual conference at which we host Ministerial panels, a high level regulator forum, high quality speakers and an exhibition that is supported by many of our affiliate members highlighting the latest

ICT products and services. In addition, the meeting of our six (6) working committees at this conference is an important opportunity for all our members to contribute towards achieving our overall vision.

I certainly look forward to welcoming and meeting all of our members at our 31st Annual Conference and Trade Exhibition in Miami beginning 26th July, 2015.



Chairman J. Wilkins at Japan delegation visit on Research on ICT for Disaster Management in CARICOM



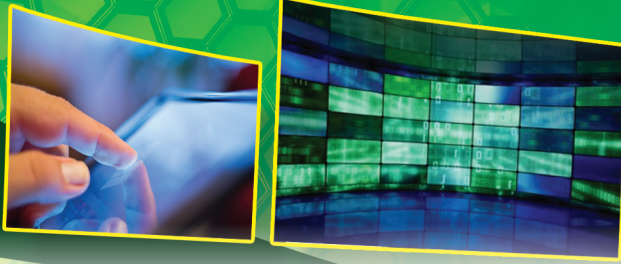
J. Wilkins greets B. Lewis Secretary General at CTU's 25th Anniversary Ceremony



Chairman's first official meeting with CANTO Staff



CANTO CSR committee members meet with staff of BASEL Convention Regional Centre



Congratulations CTU on 25th Anniversary



CANTO Chairman J. Wilkins congratulates B. Lewis Secretary General at CTU's 25th Anniversary

As the new Chairman of CANTO and on behalf of the CANTO Board and the membership we congratulate the Caribbean Telecommunications Union on the occasion of its 25th Anniversary.

It is indeed a privilege to be here today and to share this wonderful occasion with the CTU.

Over the years the CTU has been successful in organising many conferences due to the leadership of its Secretary General, Ms. Bernadette Lewis. Bernadette is someone whom I respect and admire; she is always professional, extremely hard working and is fair in her decision making. As an aside, Bernadette starts her day very early and we have often met to discuss key issues at 6:00 in the morning. Under the leadership of Bernadette Lewis the CTU has grown from strength to strength.

CANTO an organisation that represents network operators and suppliers in the Caribbean has a special relationship and partnership with the CTU. There is a special bond that keeps us together. Some of you may know that Bernadette Lewis was a former Technical Manager at CANTO and Selby Wilson was a former Secretary General of CANTO organisation. I am sure that because of this special relationship both organisations will continue to flourish. It's definitely a win-win.

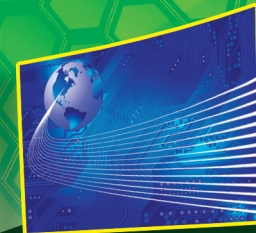
CANTO benefits from its partnership with the CTU as it provides opportunities for stakeholders to influence the development of telecommunications nationally and regionally, allowing operators to build and maintain positive and effective relationships with Ministers, Government officials and regulators.

In recent times the CTU has been highly productive organising conferences and ICT roadshow events in more than 20 countries.

The CTU's Mission is "To create an environment in partnership with members to optimise returns from ICT resources for the benefit of stakeholders."

I believe the CTU has worked hard in making this mission a reality. They have encouraged an environment of partnership and have been one of the prominent organisations in the region promoting ICTs.

On behalf of the CANTO Board of Directors, Secretariat and all of the CANTO members we congratulate the Caribbean Telecommunications Union on its 25th Anniversary and wish you every success and God speed in all of your future endeavours.



TATT Targets Enhanced Consumer Focus in a Demand Driven Market

By: TATT

Consumer demand has driven exponential growth in the global Information and Communication Technologies (ICTs) market over the past few decades.

New technologies and services are rapidly emerging as consumers seek more and efficient ways of doing business, conduct research, seek solutions to sustainable development projects in wealth producing sectors, along with satisfying the need to communicate and be entertained.

Mobile broadband has been identified by the International Telecommunication Union (ITU) as the fastest growing technology in human history.

In a recent release the ITU stated that the number of mobile phone subscriptions now exceeds the world's total population of around seven billion, whilst active mobile broadband subscriptions exceed 2.1 billion – three times higher than the 700 million wireline broadband connections worldwide.

Figures on Trinidad & Tobago's ICT sector released by the Telecommunications Authority of Trinidad and Tobago (TATT) in its annual and quarterly reports on the telecommunications and broadcasting sectors similarly indicate that the pace of growth continues to surge. In the mobile telephony market the levels of subscriptions increased from 530,000 subscribers in 2004 to 1,925,000 subscribers as at June 2014 – a mere ten year period.

In fact, this country's telecommunications and broadcasting sectors generated an estimated TT\$5.5 billion in 2013, an increase of 4 percent over the previous year. This equates to approximately 3.1 percent of Trinidad & Tobago's Gross Domestic Product (GDP).

TATT, as the organization responsible for developing the country's telecommunications and broadcasting sectors, has focused its development strategies over

this planning cycle on strengthening its legislative and other regulatory instruments to drive greater consumer focus in a market that has been traditionally driven by demand.

The organization aims to create a mutually beneficial environment for consumers, providers and future investors.

TATT's aim is to develop a healthy equilibrium between industry growth and consumer delight. Such an environment will increase investor confidence thereby providing a platform for greater investment in the use of ICTs, to their fullest potential, as the country achieves its developmental goals.

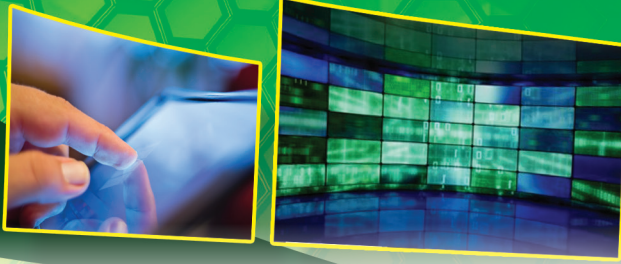
Between March 5th and May 4th 2015, TATT will have new Consumer Quality of Service Standards Regulations (CQoS) out for public consultation.

These new CQoS regulations aims at strengthening consumer protection mechanisms in the local Telecommunications and Broadcasting sector. They will ensure users of all abilities are better protected and become increasingly empowered, through both technical and consumer service-oriented benchmarks.

These new regulations will mandate greater compliance and provide TATT with enforcement flexibility.

The CQoS is designed to safeguard consumers' interests and should ensure that consumers have a right to the following:

1. Access to essential telecommunications and broadcast services;
2. Access to the information required to make informed consumption decisions;
3. Personal privacy which is respected and protected;
4. Minimum standards for consumer-related service quality;



5. Protection from unfair and anti-competitive business practices;
6. Effective and efficient complaint recognition, handling and resolution;
7. Information which creates an awareness of relevant consumer obligations.

Once the process of consultation is complete it is anticipated that the new regulations will be taken to and passed in Parliament within the current fiscal year. The regulations focus on the following areas:

- Consumers' Right of Access
- Quality of Service
- Customer Charter and Related Matters
- Consumer Obligations
- Compliance with Quality of Service Standards

While significant focus is being placed on consumer protection legislation, TATT is mindful of the need for consumers to become self-empowered and has

therefore identified consumer advocacy as one of three major areas of focus for this 2013/2016 Strategic Plan cycle. The two other pillars that will impact significantly on consumers are sector transformation (a major component of which is the Legislative agenda) and institutional strengthening to allow TATT to be better able to ensure regulatory compliance within the sector.

The consumer advocacy initiative combines a number of components including an aggressive consumer education drive aimed at enlightening consumers on their rights responsibilities and obligations when making purchases and or consuming telecommunications and broadcasting services.

New Consumer Quality of Service Standards Regulations is just one of the initiatives TATT is implementing towards sustainable consumer protection within the context of its mandate.



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HIGHLIGHTS OF CANTO's 31ST ANNUAL GENERAL MEETING



Finance & Administration Committee



Disaster Recovery Planning Committee



Marketing & Communications Committee



Human Resource Committee



Corporate Social Responsibility Committee



Board of Directors Meeting



Media Conference: From left: H. Etnel, G. Currie, R. Fräser, D. Currie



Delegates stand at attention for the national anthem of Suriname



R. Fräser welcomes delegates at the opening ceremony



D. Currie welcomes delegates to Suriname at the opening ceremony



Dr. H. Touré delivers keynote address at opening ceremony



Feature Address: His Excellency R. Ameeralli, Vice President of Suriname



H. Etnel thanks delegates at the opening ceremony



Sana Budaya Dance Company entertains delegates at opening ceremony



Delegates arrive at opening cocktail

HIGHLIGHTS OF CANTO'S 31ST ANNUAL GENERAL MEETING



HIGHLIGHTS OF CANTO'S 31ST ANNUAL GENERAL MEETING



HIGHLIGHTS OF CANTO'S 31ST ANNUAL GENERAL MEETING



Other CANTO Activities



R. Fräser meets Dr. A. Khan of Basel Convention Regional Centre



CANTO Chairman J. Wilkins chats with B. Lewis at CTU 25th Anniversary Celebration



Newly appointed chairman J. Wilkins officially meets with CANTO staff



CANTO staff at PLOTT Family Day

MEET CARIBBEAN ICT OPERATORS

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&

**9th Annual Human Resource Forum
& 2nd Annual Marketing Forum**

**Hyatt Regency Miami
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- **Ministerial Breakfast /Roundtable Panel**
- **Trending Zone**



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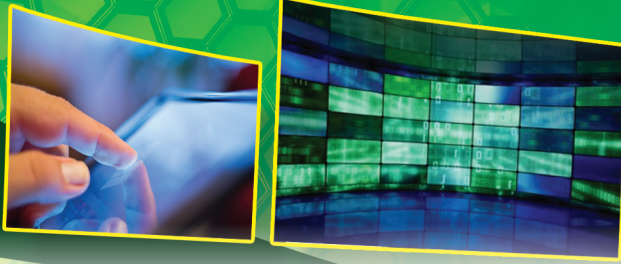
Phone: 1 (868) 622-3770/4781/0929 • Fax: 1 (868) 622-3751

Email: Carmen: cramlal@canto.org • Tricia: tbalthazar@canto.org

Jimmy: jrodrigues@canto.org • Ms. Regenie Fraser: rfraser@canto.org

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Moving Into the Post-IPv4 Depletion Era at ARIN

By: Sean Hopkins, Communications and Technical Editor, ARIN

In April of 2014, the American Registry for Internet Numbers (ARIN) entered the final phase of its IPv4 Countdown Plan, as the IPv4 free pool reached a single /8 equivalent of IPv4 address space. IPv4 depletion has been forefront in the minds of ARIN staff and community members for over a decade, and as its approach looms large, it brings about a new stage in the Internet's evolution. At ARIN, there have been a number of changes concerning procedures for managing IPv4 address space requests to ensure equitable processing for all organizations.

As the free pool has steadily progressed toward a state of true depletion, ARIN staff has increased the stringency with which they review and approve IPv4 requests. ARIN began implementing these changes in phases that corresponded to the space available in its free pool. Now that we are below a single /8 of IPv4 address space in aggregate, all new IPv4 requests are subject to team review, with any request above a /15 requiring the director's approval.

Since long before the beginning of this phase of IPv4 depletion, ARIN has been preparing for the day when an organization has justified a new allocation of IPv4 address space, but ARIN cannot fulfill their request from the available free pool. In 2010, ARIN adopted a community-initiated policy stipulating that a Waiting List for Unmet Requests should be established for when a single block from ARIN's available IPv4 free pool cannot fill a justified request for IPv4 address space.

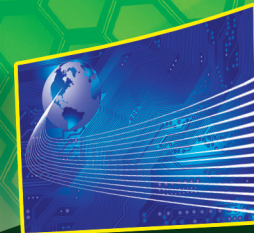
When a request comes in that cannot be fulfilled, the requestor will have three options. They may accept the largest available block in the ARIN IPv4 free pool. They may also elect to have their request placed on the Waiting List for Unmet Requests. On the wait list they identify a range of block sizes, from a minimum size acceptable to the requestor up to the original approved size. To date we have not had an approved request for IPv4 address space that we could not fulfill, but we expect this to occur sometime in the not-too-distant future.

Should an organization decline placement on the Waiting List for Unmet Requests, their third option is to obtain space by seeking another organization with unused IPv4 address space that they wish to transfer. While an organization may only request up to a three-month supply of IPv4 address space directly from ARIN, it may receive up to a 24-month supply via transfer, so long as your organization can justify the space you would like transferred. The full text of this policy may be found in Section 4.1.8 of ARIN's Number Resource Policy Manual (NRP), located on ARIN's website at: <https://www.arin.net/policy/nrpm.html>

We anticipate that the post-IPv4 depletion era will see sharp increases in transfer traffic, as well as utilization of the Waiting List for Unmet Requests. Community interest in IPv4 depletion has risen steadily over the past few years, and keeping track of the status of the IPv4 free pool has never been easier. ARIN's homepage (www.arin.net) includes an IPv4 inventory counter, designed to provide the community with a daily snapshot of how much IPv4 address space ARIN has left in its available pool. The counter shows the total number of /8 equivalents remaining in ARIN's available IPv4 inventory as well as a list of the total number of prefixes available of any given size.

"Available space" includes our current IPv4 inventory minus any returned, reclaimed, or revoked address blocks that may be "held" until it clears any filters before being released back into ARIN's IPv4 free pool. The "available space" reflected by the IPv4 counter fluctuates regularly based on new allocations and assignments being issued, and incoming address space being taken off hold status.

IPv4 depletion comes as no surprise, and as it reaches these final stages, ARIN will continue to conduct "business as usual." As the Internet reaches this key point in its evolution, ARIN strongly encourages its community members to prepare for and deploy IPv6 on their networks, and ensure that their websites are reachable over IPv6. The Internet is no longer an IPv4-only entity, and IPv6 adoption is the only way to ensure that your organization is truly on the entire Internet.



Information & Communication Technology for Disaster Risk Management in the Caribbean:

Regional solutions to the problem of limited human resource capacity

Robert Crane Williams, Economic Commission (ECLAC)

Extracted from a document which was prepared by Robert Crane Williams, Associate Information Management Officer at the Subregional Headquarters of the Economic Commission for Latin America and the Caribbean (ECLAC)

ECLAC has undertaken several activities to assess the current state of information and communications technology (ICT) in the field of disaster risk management (DRM) as practiced in the Caribbean. These activities included an in-depth study that encompassed a survey of disaster management organizations in the region, an Expert Group Meeting attended by the heads of several national disaster offices, and a training workshop for professionals working in DRM in the Caribbean. This paper summarizes the observations and conclusions gleaned from these activities.

One of the notable conclusions of ECLAC's investigation on this topic is that the lack of human capacity is the single largest constraint on the implementation of ICT for DRM in the Caribbean. This paper builds on that conclusion by investigating ways in which the problem of limited human capacity can be addressed at a regional level. Two separate issues are recognized – the need to increase the ICT capabilities of disaster management professionals, and the need to make ICT specialists available to disaster management organizations to advise and assist in the implementation of technology-focused projects.

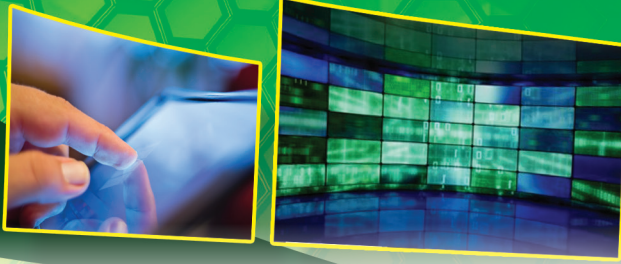
To that end, two models are proposed to engage with this issue at a regional level. The first entails the establishment of a network of ICT trainers in the Caribbean, who can help DRM staff develop a strategic understanding of how technology can be used to further their organizational goals. The second is the development of “Centres of Excellence” for ICT in the Caribbean, which would enable the deployment of specialized ICT expertise to national disaster management offices on a project-by-project basis.

The professionals responsible for the coordination of disaster response face difficult challenges in times of disaster. This is especially the case in small island developing states (SIDS), where resources are particularly scarce. Managing priorities, capacities, locations, and the expectations of governments and the public is a complex and dynamic endeavour. In addition, given the turbulent nature of disaster situations, the people and systems at disaster management offices are subjected to information overload, which can obstruct timely and accurate decision making. Systems that can help bring order to this chaotic flow of information have the potential to help disaster managers save lives and property.

Information and communication technologies (ICTs) can be used to support the practice of disaster risk management (DRM) in times of crisis, as well as in times of planning and in reconstruction. Indeed, if ICT systems are used to facilitate a logical and structured information flow during the planning stage, this could help to reduce the impact on society. ICT systems can be used to help mitigate the effects of storms before they occur, by identifying potential hazards and by facilitating informed land-use decisions.

However, ICT utilization for DRM activities in the Caribbean remains unevenly applied and significantly underdeveloped. While there are occasional bright-spots of innovation – such as the usage of geographic information systems (GIS) for disaster impact modelling in Jamaica (Powell and Stewart 2013) – there are significant shortfalls throughout the region in terms of infrastructure, human resources capacity, data sharing, and ICT governance.

In 2013, ECLAC performed an in-depth investigation into the current state of ICT in the area of disaster risk management in the Caribbean. This paper draws from ECLAC's experience in undertaking this initiative. It summarizes ECLAC's methodologies and conclusions,



and seeks to provide insight into ways to improve and expand the technological capabilities of DRM agencies in the Caribbean.

Specifically, this paper builds on one of the foremost determinations that came out of this experience – that the major limiting factor in the effective use of ICTs in DRM is the lack of human resource capacity in ICT operations and project development. Finally, this paper proposes options as to how these limitations on human capacity can be addressed at a regional level.

It included a formal study, which encompassed a survey on ICT issues sent to disaster management offices in the region, an expert group meeting that was convened to discuss a preliminary draft of that study, and a two-day workshop on ICT for DRM that was conducted with staff members from regional disaster management offices.

The on-line survey of disaster management offices was sent to 24 national disaster management offices in the region. Thirteen offices responded. The survey sought to find out what tools were being used in these offices, to assess the current level of ICT integration into their operations, to understand the level of sophistication of ICT usage, and to identify gaps in information and communications strategies.

The full analysis of this survey is included in a report, published as part of the ECLAC Studies and Perspectives Series, entitled “Information and communication technologies for disaster risk management in the Caribbean.”

As part of the review process for the publication of this report, ECLAC convened a meeting of a group of regional experts in the fields of disaster risk management and ICT. The group of experts included heads of disaster management offices from Antigua and Barbuda, Barbados, Jamaica, and Montserrat,

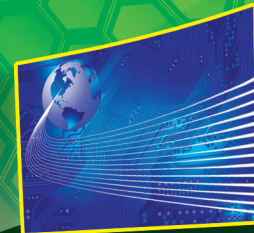
as well as representatives from Caribbean Disaster Emergency Management Agency (CDEMA) and CANTO. The findings of this group were incorporated into the text and conclusions of the final draft of the report. Additionally, a summary of the conclusions and recommendations of this expert group may be found in the appendix to this document.

Following the expert group meeting with organizational leaders of DRM organizations, a two-day workshop was held with operational staff members of the same organizations. The workshop, on the topic of ICT for DRM, was based on a training curriculum developed for the “Academy of ICT Essentials for Government Leaders Programme” from the Asian and Pacific Training Centre for Information and Communication Technology for Development (APCICT), which is a part of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). This particular program was considered a valuable candidate for adaptation to the Caribbean region due to its successful implementation in the Pacific, which is home to small island developing States (SIDS) that have many commonalities with countries in the Caribbean, including vulnerability to a similar set of disaster risks and development constraints.

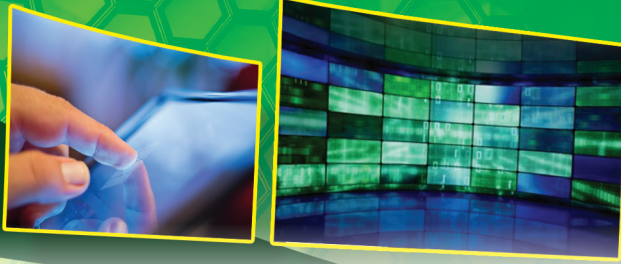
IX. Appendix

The following is the excerpted Decisions and Recommendations from the Report of the Expert Group Meeting on Information and Communications Technologies for Disaster Risk Management in the Caribbean [LC/CAR/L.419]. The meeting was held on 16 September, 2013 at the ECLAC Subregional Headquarters for the Caribbean in Port of Spain, Trinidad and Tobago.

1. It was agreed that information and communication technologies (ICT) have an important role to play as an enabler of disaster risk management (DRM). Specifically, there is much value to be gleaned from

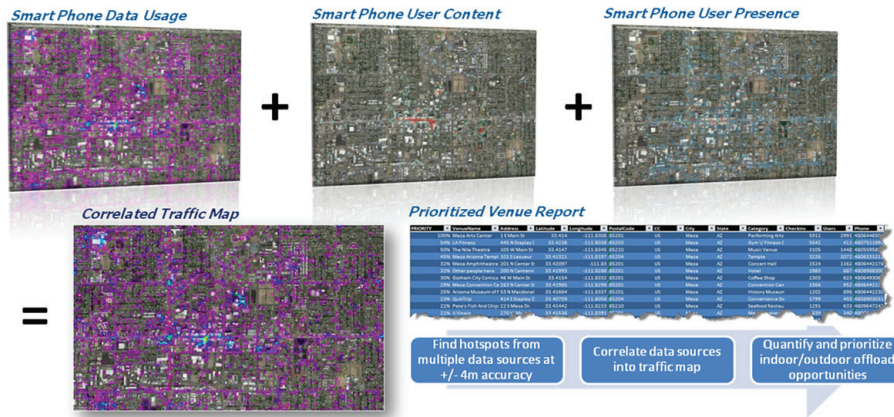


- the use of Geographic Information System (GIS) in the area of risk mapping and planning, in the use of mobile phone-based technologies, in the area of early warning systems and post-disaster response coordination, and in web-based systems for cross-organizational coordination.
2. Lack of human resource capacity was cited as the major factor holding back the adoption of ICTs in DRM. In many cases, disaster management offices lack dedicated ICT staff and are reliant on ICT support from outside the organization. However, even non-ICT staff can benefit from ICT skills; it was therefore recommended that development of programs for increasing the ICT capacity of DRM staff should be a matter of priority. Organizations should perform assessments of ICT capabilities so that gaps can be identified and relevant training can be targeted to improve operational capacity.
 3. Data sharing was identified as another limiting factor in ICT usage, both within governments, and between DRM offices and other organizations. Barriers can exist between different ministries that make government entities reluctant or unable to share information with disaster offices and regional organizations; these problems can include issues of security, privacy, and difficulties related to data standards for information exchange. Cooperation from telecom operators was also cited as a limiting factor.
 4. Improved governance was also identified as an important issue. Even with systems in place, issues exist beyond the technological level, which require the creation, implementation and maintenance of formalized governance policies regarding information sharing and utilization. The purpose of these policies should be to ensure that disaster risk reduction plans are implemented in advance of a disaster and that support structures for disaster response management will be made available in a post-disaster scenario.
 5. It was agreed that improved ICT governance should not be treated as merely an internal need, nor should it be limited to specific DRM agencies, but should embrace wider networks at the national level and beyond. In particular, national ICT policies should be updated to reflect the need to support disaster offices in the event of an emergency. These policies should not only provide for the availability of a national government's ICT resources, but also those of non-governmental organizations, organizations in the private sector and resources available at a regional and national level. Telecom operators, specifically, need to be brought into formalized agreements with regard to providing emergency support for disaster response and recovery operations.



Addressing Coverage and Capacity Challenges in the Evolving Wireless Network Landscape

By: Alberto Rubio, Vice President – Professional Services, ClearSky Technologies



The landscape of wireless networks is constantly changing, confronting operators with new challenges every day. As technology improves and networks become more complex, bandwidth demand from consumers and businesses continues to skyrocket. Amid these changes, efforts to address coverage and capacity issues have resulted in mounting costs and receding ARPU.

For operators, the objective is clear, although the road map remains elusive. The challenge is to efficiently navigate the complex landscape, retain subscribers, and pave the way for improved revenues. In short, what is needed is an all-encompassing solution for coverage and capacity issues that won't break the bank.

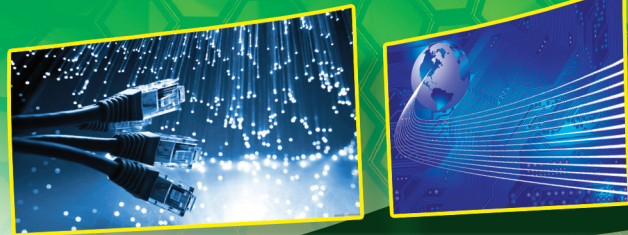
Comprehensive planning for heterogeneous networks (HetNets) requires deploying the best combination of RF technologies for each isolated scenario and evaluating how each potential solution will impact overall network performance. Yet, before operators can pursue solutions, they must first identify the barriers that complicate the process. That is a difficult, if not impossible, task using traditional RF planning methodologies.

It comes down to questions such as these: What is the optimal way to sort through multiple technologies to

determine the best solution for resolving each network challenge? How will various solutions impact overall network performance? Can coverage and capacity be expanded while minimizing capital expenditures and operating costs? And, what about the logistics associated with implementing each solution?

The answer lies in a two-part solution. The first step involves utilizing powerful analytics to accurately assess “weak points” and identify the optimal technologies for each unique network situation. Once the ideal network design has been identified, step two is to deploy the targeted technologies in a cost-effective method that maximizes coverage and capacity, while supporting the operator's overall strategy.

One powerful tool that has appeared on the scene is NetView 360, a comprehensive, RF analytics platform that harnesses advanced statistics, big data mining algorithms, next generation RF modeling and automation to address network complexities. Available from ClearSky Technologies, NetView 360 helps operators evaluate, design and optimize their wireless networks from an objective approach. The platform uses the simultaneous planning and analysis of any variety of frequencies, spectrums and technologies, from WCDMA/UMTS and 3G1x/EVDO to LTE and Wi-Fi deployment or any combination of these.



Advanced analytical and diagnostic tools take into consideration existing environments and changing needs, providing operators with the most cost-effective implementation plan, by accessing the following:

- Hot spot analysis that automatically locates areas of highest activity
- Technology and solutions analysis to evaluate existing networks and determine the best solution
- Real estate and backhaul analysis that assesses all possible combinations of real estate and backhaul
- RF planning and thorough network design
- Trend and business analysis that evaluates the trade-off options for every combination of solutions

The output of NetView 360 is a complete HetNet design, with a comprehensive macro and small cell strategy, using the most cost-effective configuration. Even before beginning implementation, operators can quantify the impact on the network by seeing the projected solution on a map, and verify that objectives have been met. The platform also calculates capacity offload percentage and data throughout for each site in the proposed new HetNet.

Once a thorough analysis has determined the optimal network configuration, the question then becomes how to implement and manage the changes. Depending on the specific challenges, it could entail small cells, macro cells, Wi-Fi or a combination of these. Small Cell as a Service (SCaaS) can be deployed by operators to cost-effectively address a number of operational challenges. ClearSky's Small Cell Neutral Host Gateway (NHG) is a hosted service that puts small cell deployment within reach for all operators.

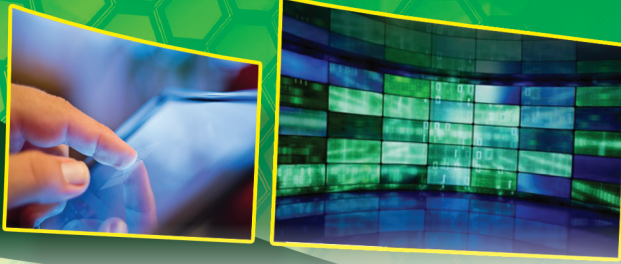
Deployment needs to be straightforward. Operators implement residential and/or enterprise small cells where needed, and the small cells connect via Internet

to ClearSky's small cell NHG, an innovative platform architecture that employs state-of-the-art features and capabilities. ClearSky will manage the end-to-end SCaaS solution, taking full responsibility for integration to the operators' 3G and/or 4G data core(s), OSS and NMS while also providing ongoing operations and maintenance, so operators can focus on marketing, branding and customer relationship management.

Perhaps the most important advantage of the hosted NHG is its ability to support multiple operators simultaneously. This creates in-building coverage using groups of small cells dedicated to each operator, while sharing installation, cabling, backhaul, monitoring and maintenance. Combining enterprise small cells with the NHG is a powerful and cost-effective solution that addresses a variety of challenges, especially in mid-sized buildings that need a multi-operator presence.

Navigating the evolving wireless network landscape doesn't have to be difficult. The tools required for launching powerful analytics and deploying effective performance strategies are available now. Subscribers consistently demand better coverage and greater capacity, and operators that take advantage of the opportunity to deliver the highest quality will enjoy a competitive advantage.

With decades of experience in designing practical solutions that unravel network complexities, ClearSky Technologies is taking the lead in addressing the wireless industry's critical need for comprehensive HetNet planning and small cell deployment. ClearSky has delivered cloud-based infrastructure to mobile network operators since 2001 through innovative service delivery platforms in three data centers across North America. ClearSky pioneered the concept of a neutral host service center with the launch of Small Cell as a Service (SCaaS) in 2013, and launched the NetView 360 HetNet analysis and planning tool in late 2014. Learn more at www.clearskytechnologies.com



Research on ICT for Disaster Management in CARICOM

Japan Delegate Visit at the UN



Participants with Japanese delegation contribute to a research project on previous initiatives and future opportunities in the area of ICT for Disaster Risk Management

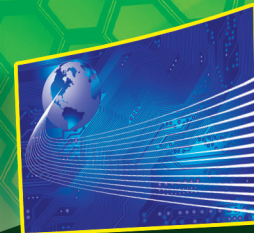
Objectives of this Research

In these thirty years there have occurred an increasing number of natural disasters in the world. Japan particularly has a history of severe damages and the measurement in: information collection, analysis and local announcements, effectively with ICT. We believe our advanced technology could contribute to other countries that have similar problems.

Sharing similar insular natural disaster situations and like-minded in democracy, we recognise CARICOM countries as our important partners.

In light of our Prime Minister Abe's visit to the Republic of Trinidad & Tobago to participate in the first Japan-CARICOM Summit meeting in July 2014, ICT-Disaster Management is a summit-level concern for us. We would like to comprehend what and how Japan could contribute to improve "the vulnerability of Small Island States" of Caricom countries with our ICT.

This delegation's visit is part of a research; visiting countries to get an overview of communication infrastructure, organizations and roles to find out the needs from our ICTs and related fields for disaster management.



Labour in a Technology Driven World

By: Atiba Phillips – Principal Consultant, INFOCOMM Technologies (ICT) Ltd.



There is a thought that the advent of ICTs threatens to replace human workers in the production process. Indeed, robots have taken on activities at many large-scale assembly-lines (for e.g. in automotive and electronics manufacturing), and software has made certain manual processes redundant. As such, there has been stout resistance in some quarters to the incorporation of ICTs into some corporate and state sector institutions.

However, the fact is, humans are and will always be required (for the foreseeable future) to write programs, as well as guide, quality check, and re-tool machinery. Further, the incorporation of technology into the production process has many times had the greatest impact in terms of reducing the risk to humans in repetitive or dangerous job activities such as in the mining industry.

Further, if we accept that labour is employed based on the continued economic relevance of the organization that acts as the employer, then we see the absolute need to ensure that our institutions, (and the human resources that drive them) stay at least close to the technological frontier in order to remain competitive.

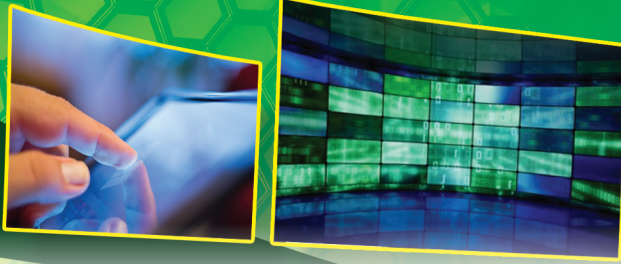
Particularly for firms in the knowledge economy, competitiveness is based on the firm's ability to:

- quickly access and gather relevant market information
- interpret information faster or more accurately than competitors
- create knowledge (knowledge = information prepared for decision-making)
- execute a relevant strategic response
- capture the value inherent in the economic opportunity (profit)

This type of business model is completely supported by ICT.

To be clear, the future growth of almost every sector or industry over the next 20 to 30 years will be linked to its incorporation of ICTs. The future jobs in energy lie in the cross-section of ICTs and the energy sector. The future of jobs in healthcare, lie in the cross-section of healthcare and ICT; the examples are all around us:

- **Healthcare**
 - patient information e-cards which have patient medical history, allergies, past diagnoses etc. to aid hospitals and doctors when patients travel or are admitted in emergency situations
 - higher resolution images and scanning technologies which aid doctors in making more accurate diagnoses
 - telemedicine, where video streaming technology is used to allow persons in remote areas to access specialized / trained doctors to review their situations virtually and guide less experience medical staff on hand
- **Energy**
 - Enhanced geo-seismic imaging, virtual undersea modelling and enhanced algorithms to enable better prediction of



the location of oil/gas pockets. These technologies allow fewer resources to be spent on digging dry wells and also reduce the disturbance to the sea floor by allowing the mapping of the shortest most effective route to well sites

- **Financial services**
 - Enabling on-line credit, electronic payment mobile payment, automatic credit approval, customized virtual banking, digital currencies, to name a few
- **Interior decorating**
 - virtual walk-throughs and using animation to get customer buy-in prior to starting a project

There are new fields, disciplines, and phenomena emerging on a daily basis in the cross-section of ICT's and traditional business (e.g. social media marketing, mobile payments, 3D printing, wearable technology etc. all have emerged within the last ten years).

In fact, the ICT sector is one of the few options for labour-intensive growth for the region, outside of agriculture. This sector is based on human creativity, and is fueled by highly-skilled professionals, such as software engineers, entrepreneurs, developers, designers, web/ mobile technologists, change managers, project managers and Internet and business strategists, among others.

There are also many platforms that assist persons in non-ICT disciplines find work (e.g. Caribbeanjobs.com, jobstt.com, monster.com.uk). Many electricians, domestic workers, plumbers, mechanics etc. in the US and UK, leverage recommendation websites such as Angie's List and Craig's List to find work, gain reputation and build careers.

Due to the increasing pace of technological advancement, it has now become a requirement for each of us as individuals to become life-long learners. The half-life of many information skills is becoming shorter and shorter, and more of what we may have learnt in school or in a degree program may not be sufficient to sustain us with the dynamic work environment - both now and in the future. In this regard, there is a requirement for organisations to re-tool their workers so that they can take up higher skilled, and higher paying work to remain relevant in a continuously changing economic and labour environment. Indeed, on a larger scale, the success of the region's entire diversification agenda is dependent on the widespread adoption and usage of ICT by the business community.

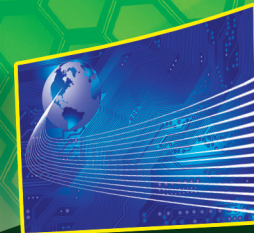
The issue of age

In the move to advance ourselves within a technological environment, often times it seems that there is no space for the aged among us. This mindset has to change. We must move away from the thinking that a person is no longer of use after retirement. Indeed, in our pursuit of the elusive and well-spoken of "knowledge economy", the knowledge gathered over time by older persons becomes the very value that we need to compete in the new economy.

Indeed it will be our unique knowledge - the collective knowledge of ourselves in the various aspects of who we are as a people - which will be the basis of our digital uniqueness. It is this uniqueness which is the added value that we can encapsulate into content, services, and applications and sell into the digital economy.

To do or not to do

Let us consider for a moment making the choice, as a nation, not to get on the ICT bandwagon; not to have policies and initiatives that encourage citizens, businesses and Governments to leverage technology to achieve its development and economic goals.



A country that makes such a policy decision at the level of its leadership, will likely suffer debilitating brain drain, as its best and brightest young people who are driven by innovation and have cutting-edge skills which cannot be put to use in their domestic geography, skip off to foreign lands where their drive and skills are valued and highly rewarded. Such a country would quickly lose its competitive advantage and would lose as well its attractiveness to international investors, who would see the lack of physical connectivity and lack of savvy in the population as economic detriments which increase the costs of doing business locally.

Populations would eventually become dissatisfied with their government as they would be subjected to inefficient Government processes, long lines and delays, as well as the spectre of having to travel long distances to complete simple Government transactions.

On the other hand, there are some countries that have actively taken up the challenge and have been reaping the rewards. In India, in 2010, revenue from ICT sector incl. Business Process Outsourcing (BPO) was US\$73.1bn, representing a 5.7% increase over the previous year. Out of this total, US\$50.1 bn. was attributed to exports and \$23bn from the domestic market. The ICT sector was also responsible for 30% of incremental export during 2005-09; providing direct employment for the financial year 2009-10 - 2.3

million persons, and nearly 8 million people in ancillary industries; the agglomeration effect spreading the industry to the tier 2 and tier 3 cities.

In Kenya, the ICT sector grew at an average of 20% per year from 1999-2009, while Agriculture (its traditional sector) grew at only 2%. ICT accounted for roughly 1/4 of Kenya's GDP growth of 3.7% 2000-2010. Less ICTs, Kenya's growth for the period would have stood at 2.8%.

In Antigua, the completely Internet-based gaming industry is responsible for US\$25million in government revenue annually. In that country there is increased employment demand for engineers, web-designers and CSRs at competitive salaries.

Notwithstanding the benefits, many countries and organisations sometimes need help in translating these benefits to their core operations. The truth is that the benefits of incorporating ICTs differ across firms, sectors and countries. By recognizing nuances and focusing efforts on removing constraints, policy makers can play an important role in encouraging labour and people as a whole to embrace technology as a culture and to become the beneficiaries of more effective use of ICTs. Each individual firm or nation must be convinced that the benefits outweigh the costs. Do you believe?

Momentum

noun - moh-men-tum

: strength or force gained by motion
or by a series of events



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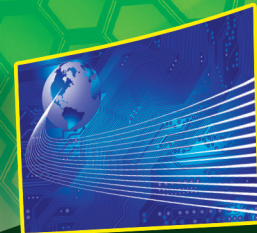
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A Modern Approach to Legacy Switches

By: Sasktel

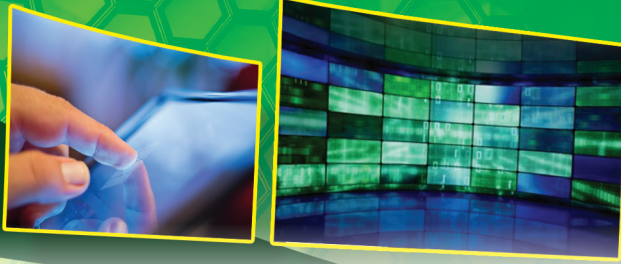


Since their introduction in the 1970's, legacy switches have transformed the way in which Communication Service Providers (CSPs) deliver critical services to their customers. A leading-edge technology at the time, these robust and reliable switches quickly saw deployment on a global scale.

Despite the advancement of new switching equipment and technologies over the past 40 years, many CSPs today still maintain legacy switch equipment to run their networks and provision services to their customers. With a continued reputation for stable service delivery and strong performance, legacy switches still exist in many CSP environments and there has been limited incentive on behalf of CSPs to swap out the legacy switches for more modern technologies.

However, as time goes on carriers are facing increased challenges in managing and maintaining legacy switch environments. As these switches continue to age, so does the pool of skilled and knowledgeable resources that are capable of managing the legacy technology. Legacy switch experience has become a specialized and in-demand skillset. For many CSPs the reality is a challenge in sourcing and retaining qualified resources both currently and in the future, as personnel familiar with the technology continue to transition into retirement. This translates into a significant challenge in justifying the costs of resources to manage and maintain a legacy environment.

SaskTel International's (SI's) parent operator, SaskTel, is a multi-service CSP with over 100 years of operating experience. Among other technology types, SaskTel still extensively leverages legacy switches in the delivery of



voice services and will continue to do so extending into the foreseeable future. In fact, SaskTel is recognized as a world leader with legacy switch technology, and many SI professional services consulting engagements have been associated with such technologies. SaskTel legacy switch personnel have years of experience with the technology, including familiarity with ongoing operation, support and maintenance as well as specialized capabilities in switch translations, capacity/performance management and disaster recovery. The result is a qualified and capable pool of resources with hands on experience and expertise.

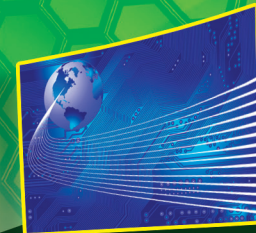
SI has transformed this unique capability into a range of professional services that empower CSPs to overcome challenges in maintaining and managing the legacy technology. Of the many intricacies with maintaining legacy switches, the challenge of ensuring equipment remains functional and operational is of the utmost importance. SI's on-demand services provide technical assistance in the event of an outage and support needed for system restoral. As a proactive solution, SI can also conduct system audits of the switch environment. As a result, CSPs can identify potential issues before they become service affecting, and benchmark performance of the switch environment with operational defined benchmarks.

For CSPs seeking a hands off approach, SI also offers a comprehensive managed services offering of the legacy switch environment. As an end-to-end solution, SI takes on regular system performance analysis, as well as hardware upgrades and maintenance on behalf of

the CSP, to ensure continued optimal operation and performance of the switch environment. As part of the managed solution, dedicated skilled technicians analyze the switch event logs to monitor for system health and analyze system performance. Hardware upgrades are remotely guided by technicians utilizing best practice 'soak' methods and defined change management processes. Regularly scheduled maintenance guided by skilled technicians ensures continued alignment with best practice benchmarks. With a managed switch solution, CSPs can eliminate a vulnerable reliance on scarce internal resources.

SI's legacy switch expertise was recently utilized when a Canadian-based CSP suffered a service affecting switch outage. The swift response and capabilities of the SI team supported the CSP in ensuring that with minimal disruption, service was promptly restored and the switch environment was returned to pre-outage levels. With SI's on-demand switch capabilities, the CSP was able to take an outage that would have normally taken weeks to resolve and restore service in under two days.

Legacy switches hold a significant footprint in the global communications environment today and will continue to do so in the foreseeable future. As qualified and capable resources become increasingly scarce, so do the requirement for new approaches and solutions for maintaining and managing the legacy technology. With on-demand and managed switch solutions, CSPs can empower optimal operation of legacy switch environments without the added complexities and costs of managing them internally.



Customer Experience Management to Increase Loyalty and Reduce Churn

Melissa Harris - President, Telecom Training Corporation

Global telecommunications and wireless operators are focused more than ever before on increasing customer loyalty and reducing churn. C-Level executives are facing unprecedented pressure to improve the customer experience using tools such as Net Promoter Scores (NPS), Customer Journey Roadmaps and Customer Satisfaction (CSAT) Surveys. They realize a successful Customer Experience Management (CEM) culture can be a major competitive differentiator while increasing profitability.

Customer Experience (CE) can be defined as the sum of all experiences a customer has with a supplier of goods and/or services, over the duration of their relationship with the supplier. It is the single most important aspect in achieving success for companies across all industries.

It includes interactions through traditional channels, such as purchases, customer service requests and call center communications, as well as social media channels such as Twitter, Facebook, etc. Over 80% of businesses state that they offer a “great customer experience”. This starkly contrasts with the 8% of customers who feel the same way (Source: James Allen).

Customer Experience Management (CEM/CXM) can be defined as the processes used to comprehensively manage a customer’s cross-channel exposure, interaction and transaction with an organization throughout the customer lifecycle. It includes various tools to keep up with complex and on-going demands:

- CEO commitment
- Strategy
- A focus on all touch points
- Integration of technology
- Business models
- Brand management
- Customer Journey Roadmaps
- Net Promoter Score (NPS)
- Constant employee training and development

The two major goals of CEM are optimizing interactions from the customer’s perspective and delivering an exceptional experience that sets it apart in the eyes of its customers. The resulting benefits include increasing the amount of consumer spending and inspiring brand loyalty.

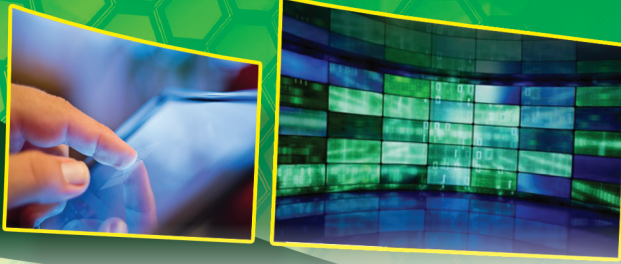
Why is CEM, and the resulting customer loyalty, so important today in the world of telecommunications? The answer includes competitive challenges, market saturation, commoditized products, unsustainable price differentiation, and increasing customer demands. CSPs (landline, wireless, broadband, cable, satellite, etc.) are now focusing on delivering superior customer experiences since they have a legacy of some of the lowest customer satisfaction results across all industries.

The financial benefits of improving the customer experience are significant. For example, in the mobile sector a 1% point increase of the Customer Satisfaction Index leads to a 2.9% increase in ARPU and 3.2% decrease in churn. A 5% increase in customer retention yields as much as 75% increase in profitability. (Ericsson and Arthur D. Little)

Why do customers churn? According to a recent Amdocs study:

- 45% changed because they had a bad customer service experience
- 52% got a better deal from another service provider
- 39% switched based on recommendation
- 38% switched service providers within the last 24 months
- 35% switched because their needs had changed

Research indicates that only one bad experience increases the risk of customers disconnecting service by 89%. However, 80% of subscribers say their operator could have prevented them from churning. (Database Marketing Institute 2014)



Based on these findings, telcos must focus on not only satisfying, but delighting their customers if they expect loyalty during both the “good” and “bad” times. Many companies focus their attention on satisfying customers. Examples of “satisfying” include: Getting a “C” in school and plain “vanilla” ice cream. Bottom line, satisfying someone is just what is expected; it’s average and ordinary.

By contrast, delighting customers means exceeding expectations, doing more than what is expected, “going the extra mile.” When this occurs, customers are surprised, grateful, and usually tell their friends and family since it’s so rare for this to happen in our society today. (P.S. Employees have to be delighted before they can delight their customers!)

According to a recent study by Comcast Cable, customers expect the following:

- Do it right the first time
- Make it easy to do business with
- Employees have knowledge and power to solve problems
- Service is reliable and fixed quickly when there is an issue
- Operator proactively manages relationships

The following ideas can be used to engage customers to improve their experience:

1. Stop the waiting game
2. Be a Value Provider vs. a Service Provider
3. Implement effective customer loyalty programs
4. Proactively contact customers to perform a free bill analysis
5. Offer free services that have high perceived value and low cost to provide

6. Upsell/cross sell new services
7. Staggered bill recovery strategies
8. Browser messaging with customer care campaigns
9. Empower front line employees to take care of customer issues without escalations to management that require transferring customers, putting them on hold, and calling them back
10. Provide clearly defined offers based on revenue, longevity, type of account, etc. to retain customers who call to cancel service

Search CRM.com provides the following steps to improve the customer experience:

- Get employee buy-in
- Conduct an open, transparent business
- Deliver consistent customer experiences
- Give customers a personalized experience
- Measure and analyze customer emotions
- Act on customer feedback
- Take the customer’s point of view
- Create a well-balanced customer experience team
- Design the total customer experience
- Train front-line employees sufficiently

The essence of CEM is treating customers as individuals (Forrester). “Consumers are statistics. Customers are people.” (Source: Stanley Marcus, Neiman Marcus Founder)

When everyone is focused and working together to improve the customer experience, the result will be a dramatic increase in customer loyalty and profitability.



“IMPROVING LIVES THROUGH BROADBAND INNOVATION”

Calendar of Events

Girls in ICT Forum, Mobile Application Competition & Exhibition
Bishop's Centenary College
Woodbrook
23 April, 2015

CANTO's 9th WTISD Regional Video Competition
17 May, 2015

4th Edition of CANTO's Regional i-Create e-Content Mobile App. Competition
30 May, 2015

CANTO 31st Annual Conference & Trade Exhibition
Hyatt Regency, Miami
26-29 July, 2015

CANTO's 1st Regional Software Developer Competition
The “Show Me What You Got” Hackathon, 48 Hour Coding Contest
Hyatt Regency, Miami
27-28 July, 2015

1st Caribbean Women in ICT (CWIC) Forum
Hyatt Regency, Miami
28 July, 2015

Broadband Infrastructure Inventory & Public Awareness in the Caribbean (BIIPAC)
Workshop Components 2, 3 & 4
Hyatt Regency, Miami
28-29 July, 2015

9th Annual Human Resource Leadership Forum
Hyatt Regency, Miami
30-31 July, 2015

2nd Annual Marketing Forum
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- **e-Culture & Tourism** • **e-Business & Commerce (Focus on telecommunications)** • **e-Inclusion & Empowerment (Focus on women)**

**DEADLINE FOR SUBMISSION OF ENTRIES IS
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For more information or to register, please log on to www.canto.org/competitions/icreate-2014/ or contact:- Tricia : tbalthazar@canto.org/ Gail: gedwards@canto-org
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- Deadline for submission of video: May 1st, 2015
- Complete registration form on:
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- Must have a facebook account
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67 Picton Street, Port of Spain

Tel : 1 (868) 622-3770/4781/0929/5582
Fax: 1 (868) 622-3751
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