

THE 10TH ANNUAL
CTO FORUM
Towards a Digital Commonwealth 2012



22 - 24 October 2012
 InterContinental Mauritius Resort
 Balaclava Fort, Mauritius

52ND COUNCIL MEETING

25 - 26 October 2012
 InterContinental Mauritius Resort
 Balaclava Fort, Mauritius

Host



Organiser



COMMONWEALTH
 TELECOMMUNICATIONS
 ORGANISATION

Mobile broadband for development

Key Topics

- Infrastructure build-out for rapid mobile broadband roll-out
- Spectrum licensing and ubiquitous mobile broadband service delivery
- Democratising broadband-capable handsets
- Cyber threats and security for broadband-enabled mobile devices
- Mobile content, cloud platforms and applications ecosystem

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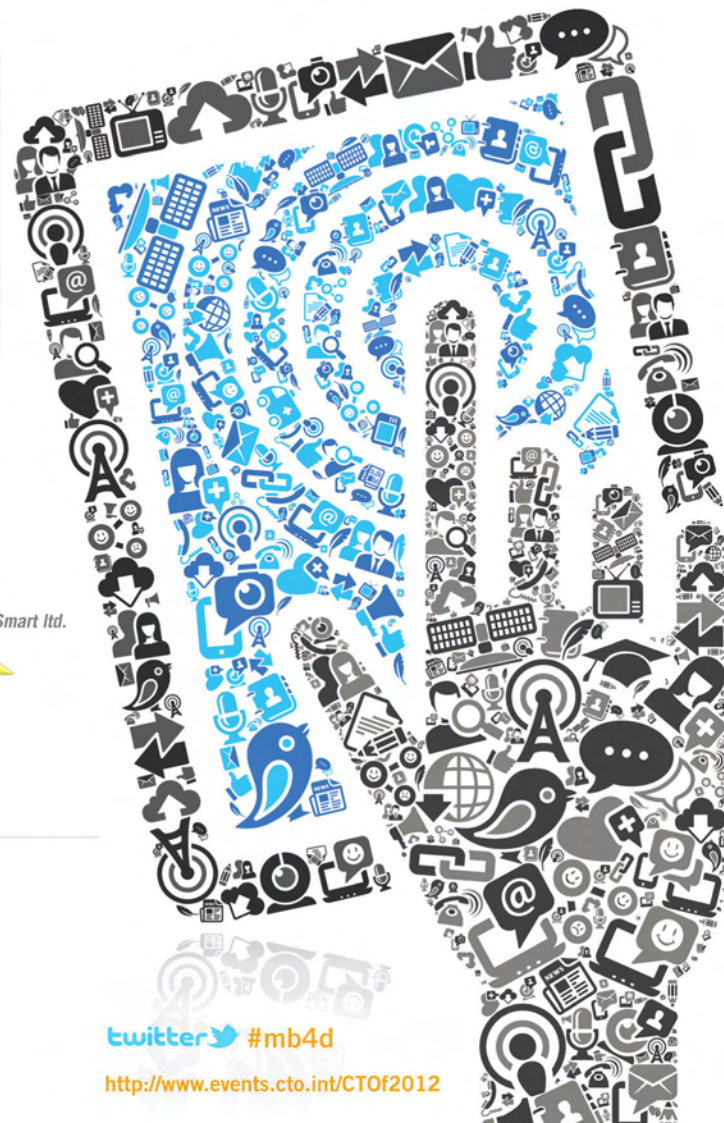
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Day 1 - Monday 22nd October 2012

Policy panel discussion: Implementing widespread access to affordable mobile broadband - opportunities and challenges

Mr Trilock Dwarka, Chairman, ICT Authority of Mauritius, the host of the 10th annual CTO Forum, said that the choice of Mauritius for this event stood out as a recognition of the efforts of Mauritius to promote a sector that has become one of the key drivers of development not only in his country but also across the Commonwealth and throughout the world. He also stressed the importance of modern flexible frameworks that will allow innovation and the adoption of new technologies matching the ICT needs of people.

The ICT sector contributed 6.3% of the GDP and 4.3% of national employment in 2011 of Mauritius and the International Telecommunications Union ranked that country first in Africa for Internet penetration in its Development Index.

Professor Tim Unwin, CEO of the Commonwealth Telecommunications Organisation, in his welcome address, congratulated Mauritius for recently winning Africa Telecom People's Best Regulator for Southern and Eastern Africa award for 2012. He invited the delegates to take the commitment, when they return home, to do something different from what they have learned through their participation in this Forum.

On his part, Honourable Tassarajen Pillay Chedumbrum, Minister of Information and Communication Technology of Mauritius, shared his views on how policy makers should harness the advantages of digital technology. He stated that first, there should a firm commitment of the Government to develop the ICT sector; secondly, a well laid out ICT policy framework; thirdly, the sector should be open to full competition in a gradual manner; fourthly, the government should become one of the biggest users of ICT and above all, content creation should be systematically encouraged with applications centred around citizens for ICT to become a way of life.

The Chief Guest, His Excellency Mr Rajkeswur Purryag, President of the Republic of Mauritius, in his speech, invited the delegates to pay special attention to how ICTs can help businesses, governments and communities become more productive and effective in ensuring economic growth. He also shared his views on how Commonwealth countries can prepare themselves for the networked world in order to bridge the gap between developed and developing countries in terms of living standards.



Mr Andrew Rugege, Regional Director for Africa of the ITU Regional Office, noted that unfortunately, most African countries are in the lower quartile of least connected countries as they lack affordable infrastructure and have higher costs for broadband access.

Ms Elizabeth Powell, Permanent Secretary at the Ministry of Communications of Fiji, expressed the opinion that mobile broadband is the best solution for affordable access for Fiji as the country lacks economies of scale. Free access is granted to its citizens through Telecentres funded by a Trust that receives a 6% levy on incoming international calls.

Mr Erick Lefevre, Director of Regulatory Affairs at operator SFR in Reunion Island, revealed that his company, SFR, is negotiating with its competitor Orange to share the costs of infrastructure, as cooperation between operators is the best way for them to offer affordable broadband in the future.

Session 2: Achieving rapid deployment of mobile broadband infrastructure

Achieving the rapid deployment of mobile broadband infrastructure is critical. **Ms Puleng Sejanamane**, CEO of Broadband Infraco of South Africa, stressed the importance of digital inclusion. She called for the alignment of legislation at local and national levels to overcome the difficulty of rolling out infrastructure.

Mr Alok Singh, CEO of Novatium, highlighted how Cloud Computing could add value to mobile broadband. He gave the example of the government of India leveraging Cloud Computing to further computer-aided education.



Session 3: Building capacity to deliver cost-effective, universal mobile broadband services

Speaking on the issue of cost-effective, universal mobile broadband services, **Mr William Hearmon**, Chairman of the 4G African Broadband Forum, appealed to African operators to consider distributed architecture.

Mr Fabio Leite, Deputy Director of the Radiocommunication Bureau of ITU, was of the view that one of the main hindrances to Internet penetration is the lack of National Broadband Policies. Some 62 countries throughout the world still do not have such a plan. For deployment of 4G in Africa, Mr Leite recommended the lower bands of frequency to avoid deploying too many base stations.

Mr Alistair MacPherson, a partner of PriceWaterhouseCoopers, spoke about the issues pertaining to the efficient use of Universal Service Funds, claiming that there are currently real problems related to the efficient dispersion of funds due to a lack of clarity in their objectives and modes of allocation. He called for a process of rationalising fund allocation, identifying potential beneficiaries and evaluating them. Mr MacPherson favoured auctions to allocate spectrum in order to maximise their value. However, in several African countries, the 700 and 800 MHz bands might not be available as they have already been devoted to digital television. The introduction of 4G in Africa might be hindered by the relatively low percentage of users of smart phones in Africa, estimated at around 3 to 4%.

Session 4 : security privacy and mobile broadband

Concerning security and privacy in mobile broadband, **Mr Nader Saad Henein**, Security Advisor at **Research in Motion (BlackBerry)**, emphasised the need for governments to hold enterprises accountable for the use of their customers' data especially as online fraud is increasing at an exponential throughout the world. On the role of government in Cybersecurity, Mr Henein added that too many laws tend to contradict each other.

Ms Velamah Cathapermal, in charge of Regulatory Affairs at **Mauritius Telecom**, focused on the importance of finding the right balance between protecting individual rights and fostering development.

Mr Pelle Gara, founder of **NetClean Technologies**, strongly recommended the harmonisation of standards across countries, particularly, not only in the country where the information was given but also in the country where the data was stored.

The moderator, **Dr Krishna Oolun**, pointed out the role of education as the starting point, enabling users to become aware of the risks associated with disclosing personal information.



Day 2 - TUESDAY 23rd OCTOBER 2012

Mr Pelle Gara, speaking on 'Filtering-Censorship or making a difference?' explained how software of **NetClean** helps prevent child abuse by filtering blocking access. He suggested that the regulators should request ISPs to block child pornography.

In Mauritius, ICT Authority has already implemented such a filtering system with the collaboration of ISPs. **Mr Trilock Dabeesing**, Director of IT at the **ICT Authority of Mauritius**, stated that his organisation has acted in line with its mandate, obtaining the list of child pornography web sites from the Interpol.

Session 5: Regulatory framework for mobile broadband development

At the regulators' panel, there was discussion on the need for a liberal and technology neutral regulatory framework for mobile broadband development. **Mr Thari Pheko**, CEO of the **Botswana Telecommunications Authority**, identified, as the critical success factor, a clear policy direction. In Botswana, a National Radio Frequency plan has been elaborated to facilitate the allocation of spectrum, frequency management and monitoring. Other key elements include tariff setting, the development of infrastructure and their sharing by operators as well as an open access principle.

Ms Lynne Dorward, CEO of **Ladcomm** and former Group Chief Regulatory Officer of **Zain**, made it clear that it is difficult for regulators to keep pace with technology and market developments. She said that, for existing licensees, there should be either licence modifications with mutually beneficial trade-offs or new obligations when licences are renewed, to increase mobile broadband deployment. She proposed changes in the use of the Universal Service Fund to provide for broadband, as many funds focus only on fixed telephony or voice communication.

Mr Rakesh Kumar Bhatnagar, Advisor (Technology) of the Department of Telecommunication of India, talked about the unified licensing regime due to the convergence of networks and the need to have liberalised spectra through public auction process. Concerning networks, he advocated that operators at national, regional and area-specific levels, should be allowed to share actively and passively all elements of the infrastructure.

Ms Angelique Weeks, Chairperson of the Liberia Telecommunications Authority, said that her organisation reviewed the interconnection regulations and charges to tackle market dominance of an operator.

Panellist **Ms Debbie Roets**, Executive Secretary of the African Forum for Utility Regulators, highlighted the importance of minimum regulations, acting in a transparent, autonomous and non-discriminatory way but above all, not having over regulation so as to stimulate innovation. The right balance has to be struck between the interests of investors and consumers by limiting anti-competitive behaviour.

Session 6: Satellite broadband for development

The satellite operators' panel reiterated that satellite broadband can contribute to development especially as the next generation satellite technologies can cost-effectively connect Africa. **Mr Jonathan Osler**, Managing Director of Intelsat, revealed that currently, less than 4% of rural Africa are connected to broadband and pointed out the limitations of terrestrial cable to meet the demand of Africa. The digital divide can be bridged by satellites which provide 100% market coverage at a reduced total cost of ownership.



Mr Daniel Schapiro, Sales Consultant at O3b, asserted that submarine fibre cables reach effectively only the main coastal urban localities. Next year O3b plans to deploy 8 next-generation satellites with a total capacity of 10 Gbps, using the Ka band which will enable a spot beam to be produced with fibre-like latency connections.

According to **Mr Kumar Singarajah**, Director, Regulatory Affairs and Business Development at **Avanti Communications Group**, which operates 2 satellites (Hylas-1 and Hylas-2), the Ka band introduces higher download (up to 20 M) and upload (up to 8 M) speeds at a lower cost. Its satellites use 'wet' and 'dry' spot beams for regions with fluctuating climate. The group plans to launch in 2015, a third satellite to serve the needs of the regional market of Africa. Delegates identified the need to find complementarities between satellite and fibre technologies, especially in rural areas.

At the 10th CTO Forum the CTO together with the silver sponsor Emtel and the ICT authority of Mauritius made a donation of 100,000 Mauritian Rupees to the 'Society for the Welfare of the Deaf', a social initiative in line with one of the CTO's six niche areas of work under its new strategic plan; Making people with special needs lead independent and more fulfilling lives through the use of ICTs.

Session 7: Mobile content and mobile applications

Mobile content and mobile applications played a large role at the 10th Annual CTO Forum. Mr Anuraj Gambhir, Strategic Advisor and Innovation Evangelist at Steadworks in India, informed how the mobile content industry is undergoing major changes due to the consumers' needs for immersive experiences.

In Mauritius, Emerginov project was initiated by operator Orange with the collaboration of academia and developers, to stimulate the development of local mobile apps through an open platform. A Mauritius Tourism Guide app developed through that channel was officially launched in October 2012.

A session was devoted to the presentation of innovative apps developed by five local companies to promote social and economic development within the broadband ecosystem.

Session 8: Mobile Apps Marathon

The second day ended with a 'Mobile Hack-a-thon' challenge, sponsored by Mauritius Telecom, where 3 competing teams of 4 young Mauritians each, competed to develop mobile applications aimed at helping users of public transport of the island, within 30 hours. The winners were Terence Zama, John Paul Koo, Parvin Lollidharry and Mevin Dhunnooa who developed an app which allows the user to programme their mobile alarm to ring shortly prior to a bus arriving at a pre-determined destination.



Day 3 - Wednesday 24th October 2012

A case study on the transition from IPv4 to IPv6 from the Regulator's perspective was presented by **Mr Trilock Dabeesing**, Director of IT at the **ICT Authority of Mauritius**. It is expected that at latest by the end of year 2015, all IPv4 addresses in Africa will be depleted.

Moving to the specific case of Mauritius, he explained that the ICT Authority of the island launched in March 2011, a public consultation on the transition from IPv4 to IPv6, with the participation of the different stakeholders. A transition paper and its findings were made public in September 2011. For the transition, the regulator will adopt a technology-neutral and light-handed approach while the Government takes the lead through capacity building programmes and sensitization programmes. Moreover, the setting up of a National IPv6 Task Force has been recommended. It has also been proposed that the Government upgrade public facing servers and services to operationally use native IPv6 by the end of 2013.

Mr Adiel Akplogan, the CEO of Afrinic, the Internet Numbers Registry for Africa, stressed the importance for developing countries to be ready for the transition to IPv6 for a sustainable Internet as IPv4 will not be able to meet the future needs. He disclosed that there are today 320 networks with IPv6 addresses in Africa and added that 11% of operators in Africa are IPv6 ready.

In parallel with this workshop the Forum also saw the launch of the joint ITU-CTO project to implement Child Online Protection in six selected Commonwealth countries; Cameroon, Gambia, Ghana, Mauritius, Nigeria and Sierra Leone. COP aims to tackle Cybersecurity holistically by addressing legal, technical, organisational and procedural issues as well as capacity building and international cooperation. The event was chaired by **Honourable Tassarajen Pillay Chedumbrum**, Minister of Information and Communication Technology of Mauritius with **Professor Tim Unwin**, Secretary General of the CTO and **Mr Andrew Rugege**, ITU's Regional Director for Africa in attendance.



The 10th Annual Forum of the CTO was officially closed with speeches by **Honourable Nizam Baksh**, Minister of Public Utilities of Trinidad and Tobago and **Honourable Beatrice Khamisa Wani**, Deputy Minister of Telecommunication and Postal Services of the Republic of South Sudan.

Honourable Beatrice Khamisa Wani expressed disappointment that Juba, the capital of South Sudan is one of only two African capitals that are still not connected to undersea cables, but invited the delegates to help South Sudan connect to an undersea cable, and in turn, to the global information society.

Professor Tim Unwin promised CTO's support to help South Sudan to deliver on its capacity through ICTs. In fact he alerted delegates to one of the key outcomes of the event, which was multi-stakeholder partnerships that are the key to ICT propagation. He called the event itself a huge multi-stakeholder partnership that examined various interests and needs.

Honourable Nizam Baksh, Minister of Public Utilities of Trinidad and Tobago, stressed the need for members of Commonwealth to share objectives.

Finally, **Dr Krishna Oolun**, Executive Director of the ICT Authority of Mauritius which hosted the Forum, concluded by noting that the delegates had been able to establish strong links with each other within a setting that fostered innovation.



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