COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)

Fifteenth Session
Geneva, 21 to 25 May 2012

Submissions from entities in the United Nations system and elsewhere on their efforts in 2011 to implement the outcome of the WSIS

Submission by

NIGERIA

This submission was prepared as an input to the report of the UN Secretary-General on "Progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society at the regional and international levels" (to the 15th session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

Contribution of the

Federal Government of Nigeria

to the

2012 WSIS Stocktaking Process

By

Federal Ministry of Communication Technology

Contact Person: Mr Kilyobas Binga

Email: kilyobas.binga@commtech.gov.ng

URL: www.commtech.gov.ng

15 December, 2011

Table of Contents

1 Main Report

1.1 Executive Summary

The Federal Government of Nigeria through the Ministry of Communication Technology (MCT) hereby submits her contribution to the 2012 WSIS Stocktaking process. The contribution captures ICT projects executed by agency and parastatals under the Ministry as part of national eStrategy implementation track towards the achievement of WSIS 2015 targets. The report covers Action Lines (ALs) C1, C2, C3, C4, C5, C6, C7, C8, C9 & C11. It also encompasses targets 1-10.

1.2 The AL Interventions

1. C1 - The role of public governance authorities and all stakeholders in the promotion of ICTs for development: The Federal Government recognised the need for a focal point for ICT intervention in Nigeria and thus established the Ministry of Communication Technology in June 2011 to provide a focal Ministry for ICT policy articulation and development in Nigeria. Hitherto, two Ministries provided control on ICT issues in Nigeria. This development has energised the ICT ecosystem and provided steepest momentum for the implementation of the National eStrategies.

2. C2 - Information and communication infrastructure: Government has linked all its Ministries in the Federal Secretariat complex in a LAN of 8000 network points with a target of 12000 points by 1st Qtr 2012. This is to enable shared eGovernment services. Services already deployed are messaging, IP-Telephony and shared Internet access. The Nigeria Communication Satellite (NIGCOMSAT-1R) scheduled for launch on December 19, 2011 will provide broadband access for eGovernment services and access across diverse user bases in Nigeria and most part of Africa. The satellite infrastructure is expected to provide platform for telemedicine, tele-education, direct-to-home services and deeper Internet access across geographically dispersed locations in Nigeria. Under IT Infrastructure in tertiary institutions in Nigeria, NITDA has deployed computers, servers and Internet access in thirty Six (36) Tertiary Institutions that is, one per state benefitted under this programme in 2010 while another 36 is already being implemented in 2011. The idea is to equip tertiary institutions in Nigeria with basic IT tools and facilities that would enhance the global competitiveness of graduates.

3. C3: Access to Information and knowledge: Galaxy Backbone has successfully deployed internet connectivity to about 400 Schools, 200 Primary Health Care Canters, 154 Local Governments for the MDG Conditional Grant Scheme, 341 Locations for FRSC (Drivers License Scheme), 51 locations for Petroleum Equalization Fund Management Board (PEFMB), making a total of 1,146 locations all over the country. Also, the National Information Technology Development Agency (NITDA) has established 200 Rural Information Technology Centres. The Rural Information Technology Centres are reliable vehicles for providing public access to ICT and services to rural and underserved communities. It is a major means of fulfilling NITDA's mandate of enhancing Internet penetration and general deployment of Information and Communication Technologies especially in the rural areas of Nigeria. Particular attention is paid to the rural areas in order to bridge the digital divide existing between the urban and rural areas in the country. It involves the provision of complete Computer Centres with 20 units of computers, Internet access, eLearning package, Printers, Scanners, etc. It is planned to be executed in the 774 local government areas of Nigeria. About 200 have been executed so far while more are currently ongoing.

4. C4 - Capacity building: The Ministry of Communication Technology through Galaxy Backbone Plc and the National Information Technology Development Agency (NITDA) have organised ICT userbility training for more than 5000 civil servants. The training cover government officials in the three arms of government. These include Directorate cadre officials of Federal Government Ministries, Departments and Agencies; National Assembly members and the Judiciary. Scholarship award is ongoing for higher degrees in core IT disciplines. Thirty Six (36) Masters and Six (6) Doctorate scholarships were awarded in 2010 while 72 Masters and 6 PhD are slated for 2011for students to obtain higher degrees in different universities across the world.

5. C5 - Building confidence and security in the use of ICTs: Galaxy Backbone became the first public sector organisation in Nigeria to be ISO IEC 27001:2005 certified thereby assuring security of public data and information; and building confidence on the use of ICT for critical processes by government.

6. C6 - Enabling environment. The Ministry is working hard to unify the IT and

Communication Policy documents to just on ICT Policy document. Its working with the Parliamentarians to enact appropriate ICT laws to create the desired enabling environment for ICT in growth and development.

7. C7 – ICT Applications: Various initiatives are on-going in all the action points such as eGovernment, eBusiness, e-Health, eLearning, e-Science, e-Agriculture etc.

8. C8 - Cultural diversity and identity, linguistic diversity and local content: The Ministry has commenced incubation programmes and granting for local content research under NITDA.

9. C9 – Media: The Freedom of Information Act passed in 2011 by Nigerian parliament has thus engendered new and diverse media activities and thus promoted free information exchanges.

10. C11 - International and regional cooperation: Nigeria collaborated extensively with the United Nations Economic Commission for Africa (UNECA) to develop her ICT4D Strategies upon which its ICT implementations are based. She also collaborates with ECOWAS to foster regional integration.

1.3 Conclusion

There are a number of challenges faced in the process of WSIS implementation not least power challenges and change management. Alternative power such as solar is being utilized progressively. Also, to overcome skill gaps with personnel, series of continuous capacity programmes are being implemented. The new Ministry has energized the process of meeting the WSIS target and it is advancing collaboration among various stakeholders to make this happen. Simply put, the establishment of a focal Ministry is the game changer and the most innovative policy of government of Nigeria towards achieving the WSIS 2015 targets.

2 ANNEX 1 – Galaxy Backbone Plc

WSIS STOCKTAKING

GALAXY BACKBONE LAN POINTS CONNECTIVITY WSIS ACTION LINES - C2: Information and Communication Infrastructure

GALAXY BACKBONE PLC,

DECEMBER 2011

2.1 Managed LAN Services Deployed at Federal Secretariat

2.1.1 Executive Summary

Galaxy Backbone has successfully deployed about 8000 LAN points that are fully managed by Galaxy backbone. The LAN points spanned entire Federal Secretariat across five (5) complexes within the federal Capital territory (PHASE 1, PHASE 2, PHASE 3, New SGF & Old Federal secretariat).

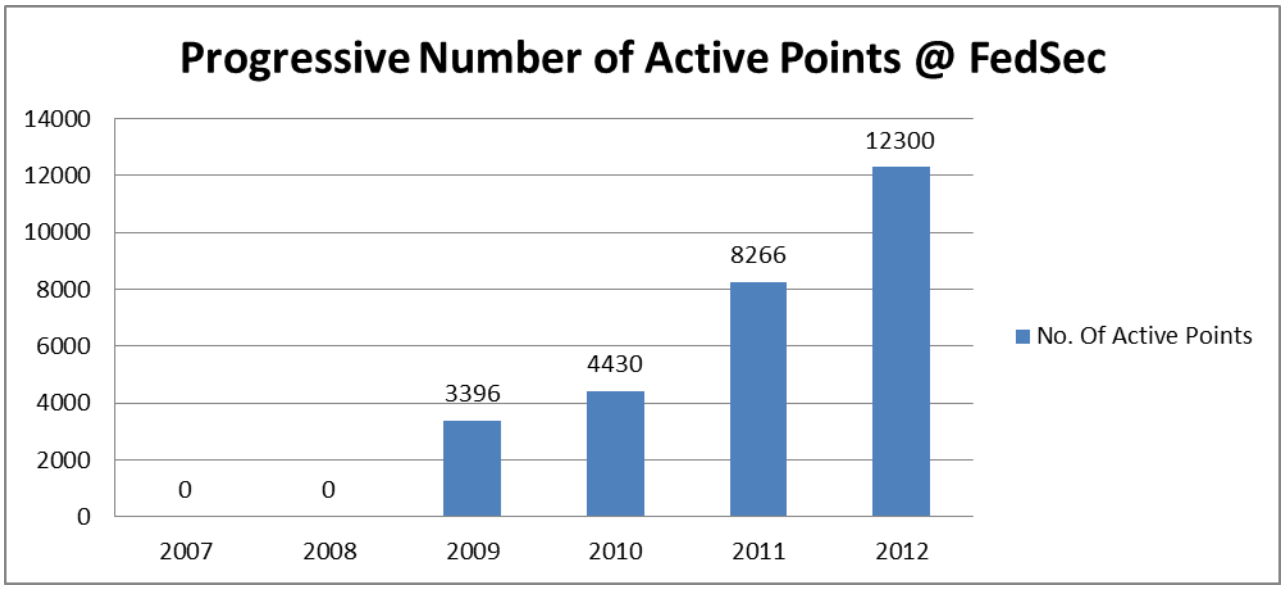
This managed LAN services enables easy access to shared services and government-wide applications including the Messaging & Collaboration platforms and Internet Access. The LAN is an hybrid of wired and wireless connectivity, Virtual LAN is now being integrated to segment and localised users to their respective MDAs.

While operating this managed LAN Services enormous challenges have been encountered over time ranging from users' knowledge, facility control, & power utility among others

2.1.2 Brief Analytical Overview Of Trends And Experiences In Implementations

The project of managed LAN Services is an integral part of the vision to provide shared ICT infrastructure, applications and services to ***all*** Federal Government MDAs and institutions including management of Government Data Centres and databases, Directory Services, National Information Repositories, IP-telephony and other solutions.

The project implementation started 2009, with initial deployment of about 2000 LAN points at Phase 1 complex and progressively increased to over 8000 LAN points as end of Third Quarter 2011 with a projection of about 12000 LAN points to be covered by end of first quarter 2012.



During the project take-off phase, effective capturing of user requirements was a serious challenge due to user knowledge-gap and understanding of the potential of ICT deliverables in improving their efficiency and effectiveness.

Access to facility where active network devices were to be installed was a nightmare as the office occupants were reluctant or not readily available to grant access. This actually delayed and prolonged implementation beyond targeted date.

BRIEF DESCRIPTION OF:

2.1.3 Innovative policies, programmes and projects

By leveraging LAN points' connectivity platform, Galaxy Backbone is ensuring that the targets set in the Federal Government initiative on ICT4D policy framework to Create Nigeria's Knowledge Economy and Transition to an Information Society is achieved before the year 2015. This would create impact on other sectors of the economy particularly eGovernment, eAgriculture, eHealth, eCommerce, eEmployment, eEnvironment, ELearning etc.

It could also provide other benefits such as the following:

- **Reduced Administrative Burden:** This makes IT applications more easily accessible to a wider community of users, through connectivity which reduces manual workload.

- **Reduced Cost** - pricing can be structured around a price per-seat per-month, resource usage, or license fee-per-use. Agencies can have the flexibility to scale up or down as demands require, and will not be required to buy or maintain excess capacity.
- **Increased Agility:** Makes it quick and easy to provision IaaS and SaaS.
- **Improved Security**: Centralizes application management and applies better security practices.
- **Cost Recovery:** Using the reseller system to enable IT departments to act as service providers and cross-charge their 'customers'.

2.1.4 Future actions or initiatives to be taken

- Broad service components to serve needs of various Government Agencies in the most secure way
- Wide range of pre-integrated and customized services and applications including Microsoft Exchange, SharePoint, Microsoft Business Productivity Suite, IP Telephony, Document Management, CRM and legacy applications delivered via VDI interface.
- Hosted IT services - Backup/Recovery, DR, Hosted Virtual Desktop, Monitoring and Security services
- Complete Integration of Government Administrative Processes
    - Messaging & Collaboration, Project Planning, Shopping cart, payments, capacity planning, provisioning
- Self-service and delegated portals – reduce support costs

3 ANNEX II – Galaxy Backbone Plc

WSIS STOCKTAKING

GALAXY BACKBONE Internet Connectivity Services deployed at Federal Government Institutions

WSIS ACTION LINES -

C3: Access to Information and Knowledge

GALAXY BACKBONE PLC,

DECEMBER 2011

3.1 Internet Protocol (IP) Connectivity Services deployed at Federal Government Institutions

3.1.1 Executive Summary

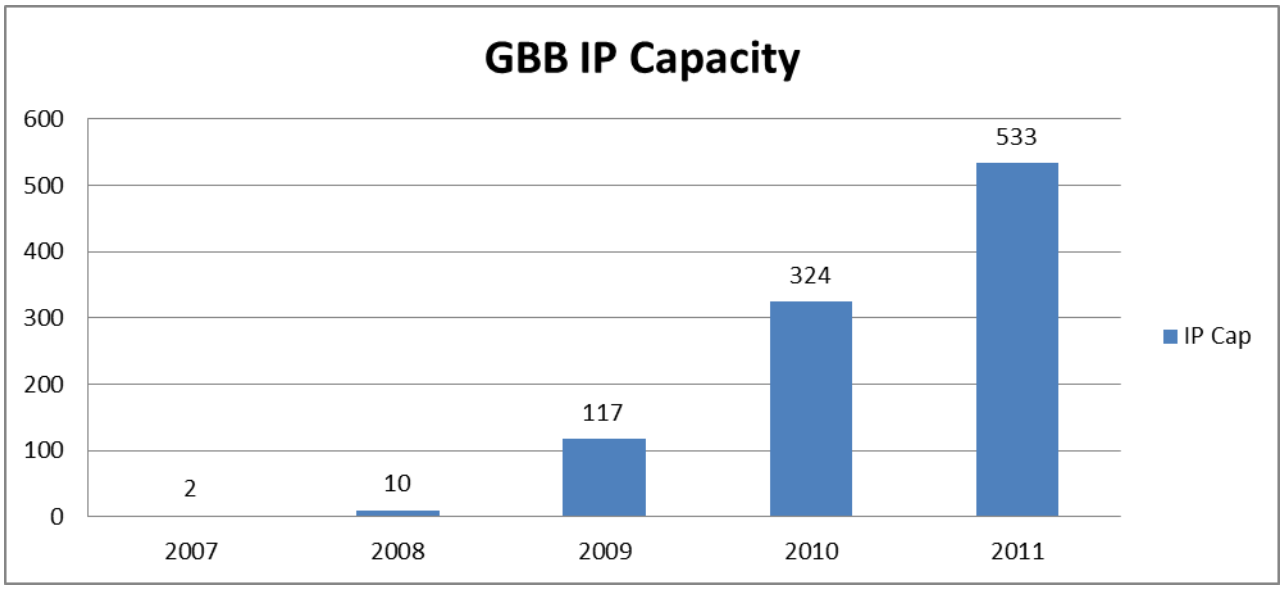
Galaxy Backbone has successfully deployed internet connectivity to about 400 Schools, 200 Primary Health Care Canters, 154 Local Governments for the MDG Conditional Grant Scheme, 341 Locations for FRSC (Drivers License Scheme), 51 locations for Petroleum Equalization Fund Management Board (PEFMB), making a total of 1,146 locations all over the country.
The Federal Government shall use ICT as the major driving force to reengineer and rapidly transform governance to interface with the needs of her citizenry by establishing transparent "Government-wide Information Systems" at National, State and Local Government Levels.
Also, as part of the objective of the federal government initiatives is to improve accessibility to public administration for all citizens, bringing transparency to government business. The transformation agenda of the federal government seeks to address the following:

- To empower Nigerians to participate in Software and ICT development to be consistent with Government policy and practice in many developing countries such as South Africa, Mauritius, Iran, India, etc.
- To secure a common platform for addressing the connectivity and other technology imperatives of Government MDAs.
- To achieve significant cost savings through economies of scale and significantly reduce duplication.
- To provide sustainability
- To provide availability of skilled manpower to manage ICT facilities and services in Government.
- To provide the technology platform to support Government's IT enabled services and improve cohesion and efficiency;
    - E.g., IPPIS, Travel Desk, Email, GIFMIS, PIMU, etc.

3.1.2 Brief Analytical Overview Of Trends And Experiences In Implementations

The project of IP Connectivity Services was started 2007 to ensure that the Federal Government's

goal of e-governance, e-health, e-education and so on are achieved. Galaxy Backbone has taken this project very seriously and has deployed several VSAT remote terminals for Schools, Primary health care centers, Security agencies and community centers.



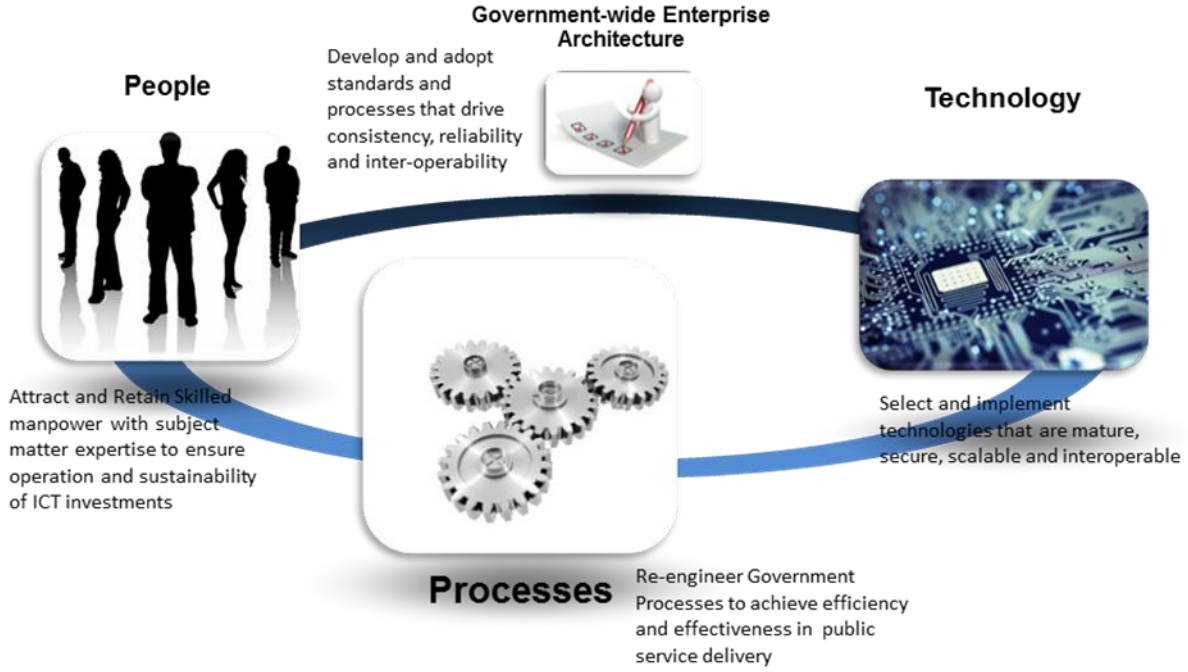
Our experience has shown that with the availability of this service, stakeholders are continuously finding more and more ways to use the platforms to add value to the life of ordinary Nigerians. There is increased coordination within and between MDAs which has improved efficiency and effectiveness of operations. However, we have identified the need for training of Federal Civil servants to increase their understanding of the benefits and potentials of ICT in relation to their work. A lot of users still do not understand how ICT or the operations it currently supports benefits them in the short or long term. As a result of this perception some are resistant to changes that have been brought about by ICT.

Some other issues we have experienced had to do with the facilities, utilities and infrastructure; these are mostly issues that have increased cost of Support and Maintenance. Power supply across the nation has been the most significant issue; almost 40% of VSAT sites deployed have Solar Power systems integrated to support public power source (or could be the only source of power) To tackle these issues, Galaxy Backbone has introduced regular training across several levels of the Civil Service cadre to improve understanding and acceptability of ICT. To address the power issues, we have collaborated with MDAs to work on repairs of their installed power systems and provided backup power for certain parts of the IP equipment deployment to reduce interruption to services.

BRIEF DESCRIPTION OF:

3.1.3 Innovative policies, programmes and projects

Galaxy Backbone Plc has made significant progress over the past 5 years in deployment of ICT infrastructure in Government, Education and underserved communities in line with its mandate of providing connectivity, data center and hosted services, transversal applications and extension of terrestrial (Fibre and Radio) network with footprints beyond Abuja and Lagos (to cover, at least one city in each of the 6 Geo-political regions. The Company has so far connected over 3,000 locations across the nation via VSAT and Terrestrial media – Radio and Fibre Optics cables (FOC). This has improved Government to Government (G2G) and Government to Employee (G2E) communications within a common and robust network providing data, voice and video solutions. There is however, lots of work that still needs to be done in order for Government to expand its e-network reach and provide access to its other segments, citizens and businesses.



3.1.4 Future actions or initiatives to be taken

3.1.4.1 E-Government Approach:

- **Stage 1.** All departments of central government are connected to the Internet and establish informative web pages. The web pages are updated regularly and all the main documents published; contact telephone numbers are made available. Growing numbers of staff use email for internal communications. Little can usefully be done about e-government before officials themselves are able and willing to communicate through the new technologies.

- **Stage 2.** In those departments with responsibilities for service delivery to end users (such as public administration, agriculture, health, education and posts), all staff whose jobs require completion of at least secondary education are Internet-literate and email-literate and use email for internal and external communications. This is necessary both to provide open government, and to facilitate the use of Internet and email by rural development projects. The web pages include email addresses for relevant government officials and facilities for feedback or forum discussions. Most of the early benefits of e-government come through indirect effects, when NGOs, journalists and others relay government information to the general public, typically through meetings, broadcasts and newspapers.
- **Stage 3.** The FMCT ministry in charge of e-government devises a longer-term plan for introducing and prioritizing interactive e-government applications (typically involving end-users getting permits, certificates etc by completing forms online). This involves ensuring that the procedures to be automated are simplified as far as possible and that ICTs are becoming available and widely affordable. Growing numbers of people refer to the web pages (especially if voice help is available), but of course face-to-face meetings, broadcasts and newspapers remain very important for disseminating information.
- **Stage 4.** Some interactive e-government applications are introduced and people are helped to access them through telecentres or other forms of shared access.

4 ANNEX III – Galaxy Backbone Plc

WSIS STOCKTAKING

GALAXY BACKBONE Information Security Management System (ISO27001) Certification WSIS ACTION LINES - C5: Building Confidence and Security in the use of ICTs

GALAXY BACKBONE PLC,
DECEMBER 2011

4.1 Information Security Management System (ISO27001) Certification

The First Public Sector Organization in Nigeria To Be So Certified

4.1.1 Executive Summary

The mandate of our company is to provide all ICT related shared services, such as Connectivity, bandwidth and hosted services to the Ministries, Departments and Agencies (MDAs) of the Federal Government of Nigeria.

About two years ago it dawned on us that in the business we are in, the security of information entrusted into our hands is of paramount importance and that we need to do whatever it takes, to not only secure the information, but to subject ourselves to the highest certification that exists in the world on Information Security, the ISO IEC 27001:2005.

After taking this far-reaching decision the first thing we did was to engage a consulting firm to do a gap analysis for us. The idea of the gap analysis was to find out to what extent our processes and practices comply with the acclaimed and published global best-practices in information security management. The findings from this gap analysis opened our eyes to the great challenges required to achieve our dream in ISMS. Our existing policies, processes and practices conformed to only 7% of the ISO 27001 specified controls.

Thus over the following 18 months we worked very hard indeed to alter all our practices across the entire organization and make those practices compliant with the global best practices. The most difficult aspect of all these activities is changing people. We had to carry our various and extensive programs of capacity building in the form of training and re-training all cadres of the workforce from all departments.

Finally in September 2011 we were certified by the BSI, British Standards Institute after the final examination of our organization.

4.1.2 Brief Analytical Overview Of Trends And Experiences In Implementations

A key value proposition of Galaxy Backbone as the provider of shared ICT infrastructure and services for the Government is the need to ensure security in the deployment and utilization of ICTs in Government. This cannot be achieved with the fragmented and so-called “independent” approach

advocated in some quarters. Thus, standards and policies have to be defined and adopted by all MDAs when implementing ICTs. Working with the Ministry there will also be a focus on capacity building so that IT Managers in the public sector can acquire competencies in the area of Information Security to enable their management of systems and networks under their care and also operate within a Government-wide environment.

Cyber-crime and cyber-terrorism have become very real global phenomena that no country can claim to be insulated from. The public sector must shake off its lethargy and begin to pay attention and take proactive protective measures.

As Government moves towards electronic service delivery in areas such as payments, identity management, etc. online security has to be recognized and strengthened as an underpinning foundation for the building of systems and the delivery of these services. The recent wide-ranging disclosures of previously classified information from highest levels of Governments by Weakileaks, is a good case in point

BRIEF DESCRIPTION OF:

4.1.3 Innovative policies, programmes and projects - ISO/IEC 27001:2005 Certification:

Galaxy embarked on the journey to ISO 27001:2005 Certification as part of an overarching imperative of implementing processes that will guide our service provision. In this regard the ISO/IEC 27001 certification specifies requirements for ISMS (information security management systems) management. And certification is a recognition of compliance with the stringent requirements of the ISMS standards and regulations for handling all organizational information, be it for the organization or for its clients, in such a manner as to ensure that it is secure, available when needed and reliable.

The certification process involved the auditing and verification of Galaxy's Information Security Management Systems (ISMS) practices by the British Standards Institute (BSI), the accredited certification agency from the United Kingdom. Passing a rigorous audit of this nature conducted by such a world-renowned standards body establishes Galaxy as a Nigerian organization with processes at par with global standards.

With this Certification, Galaxy Backbone Plc has become the first organization in the Nigerian public sector to be awarded the ISO 27001:2005 Certification on Information Security Management System (ISMS), acclaimed as the world's highest accreditation for information protection and security from the International Standards Organization (ISO).

4.1.4 Future actions or initiatives to be taken - ISO/IEC20000 certification

In order to ensure the best practice capability of Galaxy, the company has recognised, and promoted, across the relevant market and amongst partner suppliers, to seek formal ISO/IEC20000 certification for one, or a number of key services offered.

ISO/IEC20000 is the worldwide standard for IT Service Management and describes an integrated set of management processes for the effective delivery of services to the business and its‟ customers.

Galaxy backbone has set as its target, the year 2012 in its implementation plan for the ISO/IEC20000 IT Service Management certification.

5 ANNEX IV – NIGCOMSAT Ltd

5.1 NIGCOMSAT LIMITED

The Nigerian Communications Satellite (NIGCOMSAT) Limited is a wholly Government-owned company, under the auspices of the Federal Ministry of Communications Technology. It was incorporated on 4th April 2006 to provide an infrastructural backbone for ICT penetration in Nigeria.

The objects of the Company, as set out in the Memorandum and Articles of Association empower the company to operate and manage communications satellite, provide comprehensive transmission services via digital or analogue system, operate same by either fixed and mobile satellite, direct broadcast satellite services, provide end-to-end solution and engage in transponder leasing.

To this effect, the first Pan-African communications satellite, NigComSat-1, was launched on 13th May 2007 and will be replaced by NigComSat-1R which is scheduled to be launched on 19th December, 2011. NigComSat-1R will play a critical role in the provision of an ICT infrastructure for Nigeria and Africa as a whole and help to raise Africa's Digital Opportunity Index (DOI) and Digital Access Index (DAI).

It is pertinent to note that NIGCOMSAT LTD has a teleport in Lagos to uplink internet content and broadcast to Nigeria and other countries within the NigComSat-1R footprint. This will increase internet penetration in Nigeria by making internet readily available to the underserved and unserved parts of the country.

Furthermore NigComSat-1R will provide the platform for various key applications which include:

5.1.1 TELEMEDICINE

Telemedicine is the use of medical information exchanged from one site to another, via electronic communications, to improve a patient's health. Electronic communication refers to the use of interactive telecommunications equipment that includes, at a minimum, audio and video equipment permitting two-way, real time interactive communication between the patient and the physician or practitioner at the distant site.

The telemedicine project is an on-going one in NIGCOMSAT. A test-pilot was conducted, using

NigComSat-1, to provide telemedicine services for the University College Hospital Ibadan, University of Maiduguri Teaching Hospital and other Federal medical centres in Ibadan, Gombe, Owo, Benue and Benin. The Federal Medical centres were inter-connected via NigComSat-1 and were able to communicate effectively. In addition, consultants from the teaching hospitals were able to render consultancy services to remote locations using our infrastructure.

The forthcoming launch of NigComSat-1R will allow for the expansion of these services to include more teaching and specialists hospitals that will provide specialist services to more remote locations that otherwise would not have access to such services.

5.1.2 TELE-EDUCATION

Tele-education provides the means of connecting geographically dispersed teachers, students and collaborating groups on real-time using hardware implementations, voice recognition, computer vision, and other technologies to provide an experience similar to the real classroom. Tele-education is important for developing countries as it has the potential to expose students to the multifarious learning experiences and opportunities that challenge and maximize learning potential.

Using the National Open University as a pilot, effective communications were established with twelve learning centres in different parts of the country. These centres were able to communicate effectively with their respective headquarters. The facility has capability for video conferencing, life streaming and playback of lectures.

5.1.3 DIRECT-TO-HOME (DTH)

The NIGCOMSAT DTH project will provide a hundred channel capacity head-end for the compression, encoding and multiplexing of various programs for direct transmission to homes. The NIGCOMSAT DTH is designed to be a signal carrier distributor for licensed broadcasters. The system is designed to have a Conditional Access System that will provide subscription content management in addition to an SMS & Billing system which will support a remittance policy.

Direct-to-home television services, Multimedia and Video Streaming Services will be provided using NigComSat-1R as a platform to improve the quality and standard of broadcasting in Nigeria.

NIGCOMSAT LTD through its various services and projects will indeed impact positively on the lives of Nigerians and Africans in general as it helps to bridge the digital divide between Africa and the rest of the world and improve internet penetration in Africa.

6 ANNEX V – National Information Technology Development Agency

6.1 National Information Technology Development Agency (NITDA)

In line with the fulfillment of the mandate of Nigerian National Information Technology Development (NITDA), various activities and initiatives have been carried out. These are also very relevant to the implementation of some WSIS action lines. These include action lines C1, C2, C3, C4, C6, and C7 amongst others. Specifically, the following have been implemented:

6.1.1 C1and C7: ICT4D Plan:

The Nigerian ICT4D plan was developed by National Information Technology Development Agency (NITDA) in collaboration with United Nations Economic Commission for Africa (UNECA). The Plan covers ICT in Agriculture, Education, Health, eGovernment; Infrastructure; Human Resource Development; National Security and Law Enforcement; Legal and Regulatory Framework; Research and Development; Private Sector Participation; and ICT Awareness & Popularization. It is already serving as a road map on how the National Information Technology System will be upgraded and used in addressing several development issues. The co-ordination of the implementation Process is ongoing through the printing of abridged versions and hosting of stakeholders' workshops to create ownership and inclusion in annual budgetary estimate for all the sectors. A coordination body has also been set up to monitor progress.

6.1.2 C3: Rural Information Technology Centres (RITC)

The Rural Information Technology Centres are reliable vehicles for providing public access to ICT and services to rural and underserved communities. It is a major means of fulfilling NITDA's mandate of enhancing Internet penetration and general deployment of Information and Communication Technologies especially in the rural areas of Nigeria. Particular attention is paid to the rural areas in order to bridge the digital divide existing between the urban and rural areas in the country. It involves the provision of complete Computer Centres with 20 units of computers, Internet access, eLearning package, Printers, Scanners, etc. It is planned to be executed in the 774 local government areas of Nigeria. About 200 have been executed so far while more are currently ongoing.

6.1.3 C4. Capacity Building

Various Training programmes have been organised for government officials in the three arms of government. These include Directorate cadre officials of Federal Government Ministries, Departments and Agencies; National Assembly members and the Judiciary. Scholarship award is ongoing for higher degrees in core IT disciplines. Thirty Six (36) Masters and Six (6) Doctorate scholarships were awarded in 2010 while 72 Masters and 6 PhD are slated for 2011for students to obtain higher degrees in different universities across the world.

6.1.4 C3: IT Infrastructures for Tertiary Institutions in Nigeria

NITDA has commenced the deployment of IT infrastructures in tertiary institutions. The equipment includes computers, servers and Internet access amongst others. Thirty Six (36) Tertiary Institutions that is, one per state benefitted under this programme in 2010 while another 36 is already being implemented in 2011. The idea is to equip our tertiary institutions with basic IT tools and facilities that would enhance the global competitiveness of our graduates. (see map)

6.1.5 Scan ICT

The Nigerian SCAN-ICT is currently ongoing. It is aimed at measuring the impact of ICT on socio economic development of the country. It will assist in the provision of relevant data and information to guide Nigerian policy makers to harness ICTs as effective development tools for sustainable development. It will also support Nigeria's transition to an information society by building the capacity to collect and manage the kind of information and data that supports and engineers ICT's growth and investment.

6.1.6 Challenges

Major challenges include ICT infrastructures especially the issue of power thereby increasing the cost of access. These usually lead to high cost in developing ICT in Nigeria. Also, it is always difficult to guarantee the sustainability of some programmes/projects due to none charlant attitude of people in some locations. Some are usually stolen while others have serious phobia to understand and use technologies. The communities or local government areas may not be willing to continue to fund some of them shortly after they are handed over. For instance, the current high cost of bandwidth has made it very difficult to continue the services of MIU while some RITCs are also experiencing challenges in this regards.