Digital Libraries and the Philippines' Strategic Roadmap for the ICT Sector*

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Abstract

Discusses seven guiding principles of the Philippine strategic ICT roadmap and provides a situationer on the Philippines in cyberspace such as: information infrastructure, human capital, eBusiness, eGovernment, legal and regulatory situation. Envisions some Philippine agenda on strategic ICT programs for the country.

Introduction

The future has arrived. Now we have to ensure that we all will have a place in it.

We are all contributors to the emerging global economy, where the production of goods, services and capital in what we call "real time" are normal regular occurrences on a global scale. Alongside the emergence of this global economy is the development of global cultural exchanges and what could be a new global political order.   The recent US presidential campaign will be remembered as a pivotal moment in history in many ways — certainly a political and social watershed, and definitely also a digital one. There is now the digital advocacy world before Obama and after.

Globalization, which is made possible by the ICT revolution, has profoundly changed the rules of the game. More than ever, efficiency has now become an important indicator of competitiveness.

On a large scale, countries that provide better governance, with more transparency and efficiency in their bureaucracies and able to provide a legal

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and regulatory framework that allows for free and fair competition, will see greater investment flows and the creation of more well-paying jobs. Ultimately, it is these countries that will be successful in providing a better quality of life for their citizens.

On a more granular scale, we see that companies that make the best use of scarce resources, and are able to produce more and better goods and services using less inputs, will win in our increasingly competitive marketplace.

The same thing holds true with each and every individual. Education and experience, though still critical, will no longer be sufficient in this New Economic Order. We have to be able to adapt, and learn new technologies and new ways of doing business if we are to prosper in the 21st century. And the learning curve is only going to grow steeper, requiring us to become more efficient – doing and learning more, in less time. It is this drive and demand for greater efficiency that is driving the growth of the information and communications technology (ICT) sector.

And yet, it is also ICT itself that is opening more and more opportunities for greater efficiency. ICT allows governments to deliver its services faster and with greater transparency. ICT enables companies to tap into the competitive edge of particular nations in order to provide higher quality services cost effectively, and on a global scale. And, with ICT, individuals now have more information at their fingertips, and are more connected than ever before. They have more power, than ever before. The Sovereign Individual is emerging.

In other words, ICT is at the heart of a virtuous cycle that can lead to better governance, growing economies and more promising lives for all.

In the Philippines, ICT is already widely recognized as a potent tool for socio-economic upliftment. No less than the 1987 Constitution gives cognizance to ICT's role in nation-building. The Arroyo Administration's Medium Term Philippine Development Plan (MTPDP) identifies ICT as one of the drivers of jobs creation and investments.

Seven Guiding Principles of the Philippine Strategic ICT Roadmap
1. The Government is fully committed to the realization of the visionary goal of a people-centered, inclusive and development-oriented Information Society that promotes sustainable growth and improves the quality of life for all Filipinos.

An ideal situation in this emerging Information Society is where everyone can create, access, utilize and share information and knowledge; and all individuals, communities and peoples are fully enabled to achieve their full potential. All citizens should therefore have access to basic government services, information, and quality education through the use of appropriate and affordable ICT technologies. It is therefore this government's primary concern to ensure that appropriate connectivity is available in all local government units and public schools.

2. The Government's primary role in ICT development is to provide an enabling policy, legal and regulatory environment that levels the playing field and allows the private sector to take the leadership positions.

Initiatives and projects to develop the ICT sector will have a higher chance of success and sustainability if these are market-led, rather than government-led. The private sector should provide leadership through investments, capitals and other resources. Market forces alone, however, cannot guarantee the full development of an inclusive Information Society.

An enabling environment for ICT development requires good governance at all levels, and a supportive, transparent and pro-competitive policy and regulatory framework. Government must act as an enabler, and its involvement in the markets should be predictable, developmental, transparent and efficient. Regulation, where necessary, should promote a level playing field and should not hinder companies from competing in free and fair markets.

3. ICT is a tool for human and sustainable development.

The national objective is not only to develop the Philippine economy's ICT sector, but to ensure the propagation and widespread use of ICT in all aspects of the Filipino life. Therefore, plans and programs to use ICT for developmental purposes should be:

<u>Accessible</u>. Online access to services must be extended to all citizens and must cater to the needs of different stakeholders.

<u>Available</u>. ICT services to all citizens anytime. It should be available 24 x 7, at home, at the office, in schools, in libraries and other convenient public locations.

<u>Secure and Accountable</u>. Standards should be set for resolving security, privacy, non-repudiation and authentication issues to engender trust in the use of ICT services.

<u>Interoperable</u>. Online services should be able to link seamlessly to existing back-end systems and across different agencies and platforms.

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Sustainable. It should eventually transaction-based, cost-effective, revenue generating and self-financing.

4. The development of an Information Society requires a multi-stakeholder approach.

The realization of an Information Society requires a full appreciation for the requirements and circumstances of the people and institutions that will benefit from ICT. For this reason, all stakeholders – the private sector, civil society, civic organizations, international organizations and government – have an important role and responsibility in the development of the Philippine Information Society. They should be given appropriate opportunities to directly interact, constructively criticize, and participate in the conceptualization, planning, and implementation of Philippine ICT for Development initiatives.

5. A Philippine Information Society requires the availability, accessibility and development of digital content that is relevant and meaningful to Filipino citizens everywhere.

The Philippines' stock of content must be made available online, and all citizens must be provided with easy access to the information that is important to their lives. The development of digital content encompassing educational materials, national heritage collections, government information, research databases, literature, history and entertainment and resources in the various Philippine languages – particularly the 8 major Philippine languages – must be encouraged and pursued.

6. A safe and trustworthy online environment for all is a critical component of the Philippine Information Society.

As a tool, ICT can and is being abused by some. The Philippine government shall take preventive measures to guard against the dangers that arise from illegal and other disruptive uses of ICT, such as all forms of child abuse, including pedophilia and child pornography, and trafficking in, and exploitation of, human beings.

This need to take all appropriate security and preventive measures, shall however be balanced against the need to ensure that the privacy, and the right to freedom of thought, conscience and expression of individuals are fully respected and celebrated.

7. The undeniable role of ICT as a major driver of economic progress behooves the creation, focusing and/or strengthening of the government's institutional arrangements for the facilitation of ICT development, and ICT for development throughout the country.

This requires the transformation of ICT-related institutions into a focused, "lean and mean", and efficient organization equipped with the manpower, skills and equipment necessary to plan, manage, and where appropriate, outsource, government's projects effectively.

The Philippines in Cyberspace: A Situationer

Information Infrastructure
- Liberalization of the telecommunications sector in 1989 through RA7925 dramatically pushed the evolution of the country's competitive ICT sector.
- Rates for connectivity services in RP (telephone, mobile phones, Internet services, etc.) are now among the most competitive in Asia.
- Some ICT statistics (Source: ITU Statistics 2007):

Fixed Telephone Lines	4.30	per 100 citizens
Cellphone Subscribers	50.75	per 100 citizens
PC Density	7.46	per 100 citizens
Internet users	6.03	per 100 citizens
Broadband subscribers	1.10	per 100 citizens
% population covered by mobile signal (2005)	99.00%	

Telephone Services. Telephone services in the country are provided by nine major telecommunication companies. With the roll out executed through the Service Area Scheme, telephone availability in the Philippines varies widely from about 25 per 100 inhabitants in the National Capital Region (NCR) to less than 2 for other regions; nationwide telephone density is 7.83 as of December 2004.

Public Mobile Telephone and Radio Services. In 2002, there were already seven Cellular Mobile Telephone Service providers. At the end of 2007, the density of CMTS subscribers reached 50.75 per 100 citizens. As of end 2007, Smart Communications remains the dominant CMTS player with over 52,935,875 subscribers nationwide. Public mobile radio communication services are provided by using public repeater networks or trunk repeater networks. However, the provision of this service has declined since 2002.

Broadcast and CATV Services. Broadcast stations constantly increased in number over the years. As of December 2005, there are 375 AM stations, 580 FM stations, 232 TV stations, 1,480 CATV and 4 DTU.

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Internet Services. The number of Internet Service Providers (ISPs) registered with the National Telecommunications Commission (NTC) has decreased for the last three years, from 64 in 2001 to 43 in 2004. One of the reasons for the decrease is due to the high cost of bandwidth which the ISPs are leasing from the enfranchised telecommunication companies. The number of subscribers nevertheless tripled from 500,000 to 1,200,000 during the same period.

Personal computer penetration per 1000 inhabitants almost doubled its figure in 2004, from 27.70 in 2003 to 44.60, and the number of internet users increased considerably from more than 2 million in 2001 to 7.82 million in the first quarter of 2005.

Human Capital
- The highly adaptable Philippine labor force of 29M people is well-positioned to become a nucleus of a globally competitive knowledge-based economy.
- Filipinos in general still have a good command of the English language (although this has already been declared to be on the decline!) – this is an important differentiator and a key competitive advantage in the global ICT market.

The Philippines is well positioned to become a globally competitive knowledge-based economy. Already, both government and the private sector recognize and are pursuing initiatives for using ICT as a means of (1) improving the knowledge and skills of Filipinos nationwide, and (2) providing opportunities for employment that will uplift the economic and social well-being of the people.   Filipino ICT workers continue to be well regarded, and increasingly, the country is emerging as the destination of choice for business process outsourcing, offshore contact centers, and medical transcription, among others.

The Philippines has a skilled labor force of 29 million people:
- We turn out 350,000 tertiary level graduates per annum
- Of this, 36,000 graduated from ICT-related degree programs (e.g., Computer Science)
- 100,000 received degrees in commerce or business administration
- 2000 META Research Group ranked the Philippines number 8 among knowledge workers from 47 countries.
- 1999-2000 Rubin Report ranked the Philippines as the no. 1 producer of knowledge workers.

Filipinos have a command of English which is an important differentiator and key competitive advantage in the global market. *"According to most business leaders, Filipinos speak better English, have a better customer service mind-set and the cultural gap is less."* – Richard Mills, "Ask The Expert" section of CIO Magazine. *"...near flawless American accents (that) give the Philippines an edge in its battle with India for the fast-growing outsourcing market."* – excerpt from CNN International, "Call Centers Enliven City Scene." May 09, 2005.

Nonetheless, there is a continuing and urgent need to develop the quality of its human capital. A study of the Information Technology and E-Commerce Council (ITECC), the forerunner of today's Commission on Information and Communications Technology (CICT) revealed that as of 2003, the lack of well-trained and competent trainors and educators in ICT and ICT-related subjects has contributed to the declining quality of education in general, and of the country's ICT and knowledge workers. The existence of a non-formal training sector, operating without adequate regulation, further exacerbated the situation, resulting in wide variances in the quality of ICT training in the country. Moreover, the lack of accurate and comprehensive data on available ICT and ICT-enabled skills in the country has made ICT manpower planning and policymaking even more difficult.

eBusiness
- In FY 2007, the Philippine ICT industry accounted for $5.7 Billion in revenues.
- ICT empowerment in the Philippine SME sector has resulted in 45,800 business broadband connections for the year 2007 (up 100% increase from 2006).
- The Philippines enjoys distinct competitive advantages in several ICT market niches : <u>Animation, Contact Centers, Software Development, Medical Transcription, Business Process Outsourcing (BPO)</u>

As an industry, ICT brought in $5.7 Billion in revenues for FY 2007, higher than that of most traditional industries like mining or agriculture. The upward trend of ICT in the Philippines is evident in its growth.

Meanwhile, the empowerment of SMEs through ICT has resulted in 45,800 business broadband connection for the year 2007 showing a 100 percent increase from the 22,400 connections in 2006. With the jump in the use of ICT, SMEs have experienced significantly higher productivity and competitiveness, generating more jobs while increasing the demand for ICT

products and services like workstations, customize business software, and increased use of telecommunications facilities and services.

Several niches have emerged where the Philippines appears to enjoy distinct competitive advantages:

- Animation.   The history of ICT in the Philippines can be traced back as far as the 1990s when some of the back office functions of major international corporations decided to bring their business to the Philippines as a move to cut down on costs. The animation industry in the Philippines is a testament of the strength and staying power of local ICT industry players in the global economy.   For the past twenty years, the Philippine animation industry has carved a name as one of the best in the world. Filipino animators are highly preferred among other animators globally because of their innate creativity and impressive technical skill, particularly in the areas of 2D and 3D animation, interactive gaming for both PC and console gaming, medical animation, visualization and e-learning courses.

- Contact Centers.   The Contact Center industry is the fastest growing segment in the Philippine ICT industry, with 112 Customer Contact Centers nationwide. It boasts of a total capacity of 70,000 seats employing 179,000 skilled workers. In 2005, Contact Centers brought in an estimated $ 1.6 billion in revenues and has garnered an impressive 75 % growth rate.

- Software Development.   The Software Development industry has also made its mark in the ICT business with its high value services backed up by a highly talented workforce. In 2007, the software industry posted $404 M in revenues while growing at a steady pace of 20%. It has over 300 software development companies providing work for 12,000 skilled IT professionals. Recently, the Philippine Software Industry Association launched its own roadmap, the 2010 Fly High Program.

- Medical Transcription.   Medical Transcription is a recent addition to the ICT industry. When the US passed the Health Insurance Portability and Accountability Act (HIPPA law), it mandated that all medical records be converted electronically. This legislation opened the way for the Philippine ICT players to provide transcription services by transcribing dictated medical records converting it to electronic data. The high requirement of accuracy

and turn around time made the Philippines a substantially viable option for outsourcing US medical transcription requirements.

- Business Process Outsourcing (BPO). BPO in the Philippines on the other hand is not a new phenomenon in the Philippine ICT industry. With the advent of the deregulation of the Philippine telecommunications in the mid 1990s, Business Processing shifted gears into higher speed, establishing the Philippines as a realistic and proficient alternative outsourcing destination. Multinational Corporations brought their non-core functions for outsourcing here, maintaining back offices outside their original locations.

eGovernment

- The Philippines ranked 41st out of 191 countries in the 2005 UN eGovernment Readiness Survey.
  - With a Web Measure Index of 0.742, RP was ranked 17th out of 191 countries.
  - With an Info Infrastructure Index of 0.0840, RP was ranked among the bottom fifth of the 191 countries featured in the UN survey.
  - With a Human Capital Index of 0.89, RP was ranked   19th out of 191 countries.
  - RP's eParticipation Index (0.476) is above the world average of 0.153.
- The www.gov.ph portal is "*at par with the best   in the world and could be considered as a good practice*".
  Source: UN eGov Readiness Survey, 2005
   http://www.unpan.org/egovernment5.asp
- The Philippines fell to 66th out of 183 countries in the 2008 UN eGovernment Survey.
  - Our Web Measure Index dropped to 0.512, but this is still above the world average of 0.354.
  - Our Info Infrastructure Index improved to 0.101, but this is still way below the world average of 0.201.
  - Our Human Capital Index dropped slightly to 0.888, and this is still above the world average of 0.783.
  - Our eParticipation Index dropped to 0.273, but this is still above the world average of 0.191.
  Source: UN eGovernment Survey 2008

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http://www2.unpan.org/egovkb/global_reports/08report.asp

- As of August 2008, 98.4% of 1,696 LGUs have web presence while *92.80% of 375* NGAs have official websites.
- The e-Government Fund (eGF)
  - Originally conceptualized in 2003 as a separate line item in the annual National Expenditure Plan / General Appropriations Act. Primary function: to finance high-priority, cross-agency government frontline ICT projects.

eGovernment is more about government than about "e". e-Governance is manifested in the bureaucracy by agencies that provide cost effective government-related information and services through websites. Circulars have been issued to enforce compliance to the Philippine e-Commerce Act. The creation of e-Government Fund in 2003 as an integral part of the Annual General Appropriations Act is intended to finance priority cross-government frontline ICT projects.

Since the advent of computers, and more recently the Internet, pressure on governments to perform better has increased, and information and communication technologies (ICTs) have provided them with the capacity to do so via e-government. E-government is here defined as "the use of ICTs, and particularly the Internet, as a tool to achieve better government". The impact of e-government at the broadest level is simply better government – e-government is more about government than about "e". It enables better policy outcomes, higher quality services and greater engagement with citizens. Governments and public administrations will, and should, continue to be judged against these established criteria for success.

The United Nations e-Government Readiness Survey 2005 assesses more than 50,000 features of the e-government websites of the 191 UN member states to ascertain how ready the Governments around the world are in employing the opportunities offered by ICT to improve the access to, and the use of, ICTs in providing basic social services. The Philippines ranked 17 out of 191 countries in terms of web measure index which is the measure of how government sites are employing eGovernment to the fullest.

In terms of eParticipation which measures how relevant and useful the e-participation features of government websites around the world are; and how they are deployed by the governments for promoting participatory

decision making, the country ranks way above the world average.

Even though it did not make it to the list of top 25 countries in the overall ranking, the Philippines was included in the Top 25 List when assessed by website maturity. At 17th, the Philippines ranked the same as Austria. We were recognized as one of the countries who had improved a lot in terms of website performance from the prior years …. specifically one of the eight countries that were noted for a remarkable increase in web measure performance. This elite list included developed and developing economies such as Singapore, Sweden, Japan, Mexico, New Zealand, Brazil and Hungary.

According to the same UN survey, the Philippine Government portal was "at par with the best and considered a good practice".

1) One of its notable features, the E-Services section, illustrates that one can integrate information across departments and provides a single place for the users to find them in a simpler but more effective way.

2) Another remarkable feature is the a multi discussion forum and a recent feature that allows citizens to comment directly on news item posted on the site.

3) The site also has an "Issuance of Comments" section wherein the users can send their feedbacks in the policy making processes.

The commitment of the government to enhance the delivery of government services is demonstrated by the creation of the e-Government Fund in 2003. This fund was included in the annual General Appropriations Act to finance priority government frontline ICT projects such as the following:

• The Bureau of Internal Revenue's Integrated Computerization Projects, which include the electronic filing and payment system, and BIR Data Warehouse.

• The National Computer Center's Jumpstarting Electronic Governance in Local Government Units (eLGU) project which assists LGUs in the computerization of priority revenue-generating systems, as well as the establishment of community e-centers.

• The Food and Nutrition Research Institute's e-Nutrition Project – an internet-based information system that will allow electronic transactions involving a series of National Nutrition Surveys (NNS) data. This will be an automated knowledge center that will allow the electronic dissemination and utilization of nutrition survey data and results.

• The Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) - Interactive Climate and Weather

Information Network (PICWIN) Project which seeks to establish an interactive-based weather-related information system through the use of cellular technology to promote PAGASA data and information traffic, including graphical details of weather satellites and radars.

• The National Library of the Philippines (TNL) Philippine e-Library Project which aims to become the network of major government libraries in the Philippines focusing on Philippine materials

Legal and Regulatory Situation

The following ICT-related legislations have been (or will very soon be) passed into law:

• Electronic Commerce Act (RA 8792)
• Government Procurement Reform Act (RA 9184)
• Amended Election Modernization Law (RA 8436)
• Anti-CATV Theft Bill
• Cellphone User Protection Bill
• Telecomms Democratization through VoIP Bill

In support of ICT, the following ICT-related issuances have been passed:

E-Commerce Act.

A landmark legislation that serves to speed up the realization of the Philippine Government Online is the e-Commerce Act of 2000. Among this law's salient features include providing for legal recognition and admissibility of electronic data messages, documents and signatures. The act provides for the eventual letting go of traditional paper-based procedures in favor of electronic processes. The electronic OR can now be just as binding as the paper OR. The same goes for electronic payments, signature and other legal documents.

While the law acknowledged electronic transactions as legal and binding and while it allowed for non-discrimination between electronic and written documents, it also included penalties for acts and hacking and launching of computer viruses.

The e-Commerce Act also placed a two-year deadline within which all government agencies were to secure Internet connectivity, establish their web presence, and provide their frontline services over the World-Wide Web.

GPRA

Another landmark legislation that was passed is the Government Procurement Reform Act which in very simple terms enabled procurement by electronic means. All government agencies are now mandated by this law to connect to the Internet and access the DBM Electronic Procurement Service (EPS) portal for procurement and tender activities.

EPS would mean consistency in procurement practice and greater transparency in transactions. With its integrated web based system, suppliers and tender bidders enjoy broader access to government quotations. Public sector agency also enjoys markdowns on the purchases of commonly used items collectively.

EO 269

In preparation of the eventual creation of a DICT, ITECC chair PGMA signed EO 269 creating the CICT to replace the ITECC as the highest ICT body in the country. To provide a more focused approach, many IT and Communication agencies were brought together under the CICT umbrella. NCC and TELOF (which would take up the eGovernment and Information Infrastructure domains within CICT), their training arms NCI and TTI (which would form part of the Human Capital domain of CICT), the "C" offices within the DOTC (which would be integrated with the Office of the CICT Chairman), and PPC and NTC as CICT's attached agencies. As a transitory measure prior to the formation of a Department of ICT, the CICT was mandated by the EO to play an active role in streamlining, coordinating and implementing the various ICT-related plans and policies of government.

Strategic ICT Programs for the Philippines

Ensuring Universal Access to ICT

All citizens should have access to basic government services, information, and quality education through the use of appropriate and affordable ICT technologies. The Philippine government is committed to ensuring universal access to ICT, and will prioritize programs to benefit marginalized sectors and underserved areas.

Low Cost Computing. *PC ng Bayan* initiative was launched by CICT in 2005 in order to provide low cost computers to the population. At present these computers are available through DBM's procurement service. To further reduce the cost of access to ICT goods and services and to help combat the

use of unlicensed software particularly in government agencies and educational institutions, CICT is promoting the use Free and Open Source Software (FOSS) as an alternative to pirated commercial software. Towards these goals it is distributing FOSS CD Kits which compiles software options that come with quality features that match those on commercial products and are supported by the open community of developers and users.

National Broadband Plan. The provision of adequate bandwidth is key to ICT development. Government will ensure that adequate bandwidth to support widespread and intensive ICT use is available throughout the country.

Next Generation Networks (NGNs) can provide the foundation of connectivity for both wired and wireless platforms, and be utilized to deliver new communications services to enable people to communicate and exchange business opportunities not just in the Philippines but also abroad. To this end, government, through the CICT, will engage in a continuing effort to review the country's existing information infrastructure and to create new sets of policies and models, to encourage and provide incentives, as necessary, to encourage private sector investments in NGNs.

The Community e-Center Program. At the heart of the government's efforts to bridge the digital divide is the Community e-Center Program (CeCP). Partnering with private sector, local governments and civil society stakeholders, the Philippine government helps to establish various community-based options for telecommunications and internet access. Various trainings, specifically adapted to particular needs are also provided to ensure the sustainability and effective operations management of the centers.

- Internet in Schools (iSchools) project aims to provide public high schools with computers with broadband internet connectivity, complemented by educators' training (ICT Literacy/Competency Training for Teachers, Lab Management, Sustainability), tech support, and monitoring and evaluation.
- eCare Centers are specially designed to provide access and training programs for Persons with Disabilities (PWDs). The target is to establish one eCare Center in each region.

- eLGU CeCs enable local government units to deliver services more efficiently, while providing their respective constituents with access to the Internet and other ICTs. The project also recognizes model websites and best practices in the local government to encourage replication of useful and innovative applications.
- Regional ICT Centers will spur regional development through the use of ICT in education, commerce and governance and spearhead the building of local e-marketplaces or a one-stop-shops for e-commerce, e-learning and e-government services.

Developing human capital for sustainable human development

A well developed human capital base plays an important role in socio-economic development. While education and training are the most important investments in human capital, expenditures on medical care, and even lectures on the virtues of punctuality and honesty are also investments in *human* capital. Thus, government's human capital agenda vis-à-vis ICT is not simply to develop the ICT skills of its people but to harness the power of ICT for education and life-long learning. But investing in human capital is unlike other capital investment. Ongoing programs to develop ICT-enabled Human Capital in the country include the following:

ICT Competency and Standards Development. The Philippine Government, through CICT, partners with concerned government and private sector stakeholders, as well as internationally recognized bodies to develop and formulate ICT competency standards. These competency guidelines and standards be used and applied in education and training, and help to professionalize ICT human resource in government and private sector through the design, formulation and administration of competency-based certification exams. Specific projects include the creation of:

- National ICT Competency Standards which would indicate and rank (vendor-neutral) ICT-related knowledge and skills that an individual must possess at a recognized level of competence in specific ICT fields/areas. To date, the following draft standards have been formulated: National ICT Standards (NICS) - Basic; NICS – Advanced; NICS - Teachers.
- An ICT Competency Assurance Body which would be the implementing body that allows for the collation of necessary information to maintain the approved ICT standards by means of

accreditation, certification, and coordination with concerned stakeholders

ICT for Education (ICT4E). This Program aims to support the efforts of the Education sector in efforts to incorporate the use of ICT in education as well as in determining and gaining access to the infrastructure (hardware, software, telecommunications facilities, etc.), necessary to use and deploy learning technologies at all educational levels. Ongoing initiatives under this Program include:

- ICT in Education Masterplan for all levels, including a National Roadmap for Faculty Development on ICT in Education. In 2005, CICT assisted the Department of Education and the Foundation for IT Education and Development in formulating the *National Framework Plan for ICTs in Basic Education (2005-2010)*.
- Content and applications development through the Open Content in Education Initiative (OCEI) which will, among others, convert Department of Education's materials into interactive multimedia content, the development of applications for the use of schools, and conduct student and teacher competitions to promote the development of education-related web content.
- iSchool WebBoard, which will enable teachers to build and share online self-learning materials; and facilitate immediate access to useful references and interactive facilities in the Internet.
- PhEdNet, which is a "walled garden" that hosts educational, learning, and teaching materials and applications for use by Filipino students, their teachers and parents. All public high school will be part of this network with only DepEd-approved multimedia applications, materials, and mirrored Internet sites accessible from school PCs.
- eSkwela which establishes Community eLearning Centers for the out-of-school youth (OSY), providing them with ICT-enhanced alternative education opportunities.
- eQuality Program for tertiary education through partnerships with state universities and colleges (SUCs) to improve the quality of IT education and the use of ICT in education in the country, particularly outside of Metro Manila.
- Digital Media Arts Program which will build digital media skills for government using Open Source technologies. Particular beneficiary

agencies include the Philippine Information Agency and other government media organizations, the Cultural Center of the Philippines, National Commission for Culture and the Arts and other government arts agencies, State Universities & Colleges, and local government units.
- ICT Skills Strategic Plan which will develop an inter-agency approach to identifying strategic, policy, and program/project recommendations to address the ICT skills demand - supply gap.

e-Governance: Using ICT to promote efficiency and transparency in government
- Refreshed Government Information Systems Plan (GISP)
- EA-based Agency Information Systems Strategic Plans (ISSP)
- Services-focused e-Government Portal
- Jumpstarting e-Governance in Local Government Units (eLGU)
- Developing Common Applications for NGAs, LGUs and SUCs
- E-Government Fund
- Government Communication Network
- CIO Council
- Enhanced ICT Training for all Government Officials and Professional Staff.

Like the private sector, the Philippine government seeks to use ICT to become more efficient and responsive in the delivery of its services – from processing business permits to more effective revenue generation to ensuring better law enforcement to providing social security benefit, among many others – to the general populace. Equally important, ICT will also make government transactions and processes more transparent, increase accountability and reduce losses from graft, corruption and unnecessary leakages.

This is the vision of e-government: A smart ICT-competent Government providing innovative and efficient on-line services that respond to the needs of Filipino citizens and institutions worldwide. Recognizing that the efficiency and credibility of government is a critical component of the legal and regulatory environment that businesses and investors consider in making decisions, the Philippines has designed and is currently implementing the following programs and initiatives:

Refreshed Government Information Strategic Plan (GISP). The Government Information Systems Plan (GISP) or Philippine Government Online will establish an electronic bureaucracy that is widely and readily accessible to the Filipino people. Synchronized with the government's 10-Point Agenda and the MTPDP 2004-2010, all frontline government services systems,

oversight and common application systems, sector-specific ISs, LGU-specific ISs, and other mission-critical systems will be enhanced and developed to ensure citizen-centric and transactional service delivery. Enterprise Architecture-based Agency Information System Strategic Plan (ISSP). The ISSP program will steer and guide government agencies in the computerization of their vital government operations and key frontline services, thereby ensuring government services to be widely and readily accessible to the people. Advocacy programs and technical assistance will be provided to ensure that all agencies develop their respective ISSPs.

Services-focused e-Government Portal. The Philippine Government will create an e-Government Portal to serve as the primary gateway for e-government, and to break down the organizational barriers that have often made it difficult for citizens and businesses to interact effectively with the government. The e-Government Portal, will make access to government services and information easier by presenting all government services and information in citizen-centric and immediately useful categories such as Health, Employment, Education, and Social Services, rather than by agency or department.

Jumpstarting e-Governance in Local Government Units (eLGU). The local government units (LGUs) shall continue to be assisted in their e-government initiatives thru the eLGU project. eLGU aims to give LGUs a headstart in computerization by making them more capable of embracing information and communications technology in their operations for increased revenues and better public service.

Developing Common Applications for NGAs. Among the common applications that will developed are:

1) Financial Information and Management Systems;
2) Human Resource Management Systems; and
3) eProcurement and Logistics Systems.

E-Government Fund. To ensure successful completion of high-impact projects that would jumpstart the development and implementation of eGovernment throughout the country, CICT shall continue to lead the review, evaluation, selection, and monitoring of priority mission-critical, cross-agency frontline ICT projects in government that will be funded from the e-Government Fund. The selection of priority projects to be funded shall be based on the Government Information Systems Plan

and the Medium Term Philippine Development Plan. The Fund will continue to be CICT's primary lever to develop citizen-centric applications involves multiple government agencies. CICT is also reviewing the rules governing the eGov Fund to ensure that it is used to fund more strategic projects. <u>Government Communication Network</u>. The Government will aggressively pursue the development of an IP-based, nationwide communications network that will connect all government agencies. This IP-based government network will not only provide data communications but also VOIP services for all national government agencies (including their regional, provincial and other local offices).

<u>CIO Council</u>. Chief Information Officers (CIOs) shall be appointed for every agency of government. Collectively, they will form the CIO Council and will work together to maximize the use and effectivity of government's ICT resources, and ensure better information on, and monitoring of the use of ICT to implement government's programs and priorities. Under the leadership and guidance of the CICT Chairman, the CIO Council will coordinate, and improve data sharing and network interoperability among the various agencies of government, subject to legal and policy considerations to protect privacy and security of information.

<u>Enhanced ICT Training for Government IT Professionals</u>. The Government is committed to developing a corps of highly skilled ICT professionals in government. The CICT therefore will design continuing initiatives to support the development of an ICT- enabled civil service, including the development of Government ICT Professionals' training and certification in eGovernment Project Management, IT Services Management, Applications Development, and Technology Solutions.

Strategic business development to enhance competitiveness in the global ICT market

The continued rise of the ICT sector in the Philippines is largely dependent on initiatives and the necessary resources that will help sustain its competitiveness. The roles of both private and government in this endeavor must be well established. The private sector should remain as the prime mover of the ICT industry with government playing the role of advocate, laying the ground work for regulations and polices that level off the playing field for entrepreneurs and providing a business environment that can power and enable the economic dreams of the 21st century Filipino.

<u>Philippine Cyber Corridor</u>. The Cyber Corridor is envisioned to strengthen our education, telecommunications, and technology resources. Physically,

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it covers the territories linked by the Fiber Optic Cable Networks of three of the country's backbone common carriers: 1) PLDT Digital Fiber Optic Cable Network (DFON) and its nationwide Radio Microwave Terrestrial Network; 2) Globe Telecom Fiber Optic Backbone Network (FOBN) and its Nationwide Microwave Radio Network; and 3) Telecphil's Nationwide Digital Telecommunication Network (NDTN). The first two are NGN or Next Generation Networks, characterized by the use of Internet Protocol (IP)), Multi-Protocol Label Switching (MPLS), and Wave Division Multiplexing (WDM). Both are implemented using IP Version 4, and are preparing for the migration to IP Version 6. Cyberservices are defined as those services provided over cyberspace by some 555 companies in the Corridor. These companies are primarily engaged in contact centers, animation, medical transcription, software development and business process outsourcing.

Workforce Mobilization Program. A partnership between the CICT and concerned agencies such as the Commission on Higher Education (CHED) and the Technical Education and Skill Development Authority (TESDA) and other private training institutions, the Workforce Mobilization Program seeks to ensure a suitable match between available jobs and quality workers. A review of the existing curriculum is presently being undertaken in consultation with the private sector to create and establish relevant course outlines that would increase the competency skills of graduates. Key areas of interest include:

- English Competency, particularly oral English skills is a key area of interest not only because it is a main consideration for the global BPO market, but equally important, it already is a huge competitive advantage for Filipinos that must nonetheless be protected if the country is to maintain, if not improve it position as a premier BPO investment destination.

- In coordination with industry associations, industry certification programs are being institutionalized to rationalize the competency of ICT workers and provide the industry players with a benchmark for its human resources. These benchmarks will further be utilized by TESDA to promulgate training regulations for providers of training programs and services.

- Career advocacy programs meant to educate parents, faculty, school administrations, and prospective ICT jobseekers on the

requirements for an ICT career, and the potential for self-fulfillment offered by a career in ICT.

Marketing the Philippine Brand (*Making the Philippines the Country of Choice for Investors*). The Philippines is already a major player in the global ICT market, particularly in the area of e-services. This position needs to be strengthened and solidified into a Philippine brand that evokes quality, innovation and world class sophistication, and that then provides Philippine companies with an additional and immediate competitive edge. This effort to create a strong Philippine brand includes such efforts as creating an Industry Portal to provide a virtual business matching service, Entrepreneurship Education to help stimulate the expansion of homegrown companies, support for the establishment or strengthening of a private-sector led e-Services Association which will promote the Philippines as a whole, as well as support the efforts of Filipino companies to compete in the global market, and ensure a continuing partnership and commitment between the private and public sectors towards a common vision and plan for the Philippine ICT industry, and, through the various associations, the government and the private sector can also work together in areas such as Data Collection to provide more timely and accurate measurements of trade-in-services and workforce statistics; Research & Development to help develop new niches where the country has a competitive advantage; Market development to collect market intelligence on country-specific rules and regulations affecting Cyberservices; Incentives monitoring to ensure competitiveness and a level playing field; and common interests for a public-private sector legislative and policy agenda for ICT.

Creating and Strengthening SMITEs. More than half of all small to medium enterprises (SMEs) do not currently use ICT as a tool for increasing revenues. Empowering the SMEs through ICT translates to bigger earnings for the entrepreneurs as well as government. Turning SMEs into small to medium information technology enterprises (SMITEs) requires increasing the awareness of the SMEs and introduce them to the power of technological advancements. This also requires support activities such as:

- Financing and Incubation to stimulate the formation of SME IT enterprises (SMITEs); and
- Entrepreneurship Education to stimulate the expansion of homegrown companies

Legislative policy agenda for the Philippines ICT sector

An enabling legal, policy and institutional environment to develop, promote and advance information and communications technology (ICT) is a prerequisite for the continued growth of the Philippine economy, the competitiveness of local industries and firms, and the achievement of national development goals. Thus, the Medium-Term Philippine Development Plan 2004-2010 outlines the Philippines' priorities for legal and regulatory reforms that are necessary to promote the country as a global knowledge player and ICT services provider.

Creating a Department for Information and Communications Technology (DICT). The creation of a DICT will ensure effective coordination and implementation of the national ICT agenda. The proposed DICT is envisioned to be the primary policy, planning, coordinating, implementing, and administrative entity of the executive branch of the government responsible for the promotion and development of the country's ICT industry. Its creation is broadly supported by the private sector, which is keen to work closely with government to encourage ICT-related business and investment, enhance the skills of the country's workforce, pursue meaningful legal and regulatory reform, continue to enhance the nation's information infrastructure, and promote e-governance.

NTC Reorganization Bill. The National Telecommunications Commission (NTC), the country's telecommunications regulator must be transformed into a politically independent, fiscally autonomous regulatory body to insulate it from political and other outside pressures. The NTC's role and mandate, particularly in an era of fast changing and converging technologies and services, needs to be clarified. Equally important, it must be given the powers and resources necessary to effectively regulate the whole ICT sector in a manner that promotes free and fair competition in the sector.

Convergence Bill/Revisiting RA 7925. A review of the Public Telecommunications Policy Act of the Philippines (R.A. 7925) is long overdue. New laws and rules that are more in tune with the realities of convergence, new technological developments, new ways of doing business, and the effects of these on universal access goals is necessary to further promote investment capital into the Philippine ICT sector.

Privacy and Data Protection Act. As more government agencies adopt ICT and engage in electronic transactions, there is an increasing

importance to ensure the protection and privacy of the personal data that is being collected by these agencies. Doing so will encourage more citizens to deal with government. From the private sector side, a trustworthy legal environment that ensures privacy of data and other information will result in higher trust and confidence in the Philippine ICT environment especially considering this matter is a major consideration of business process outsourcing and call centers. The importance of being able to assure the privacy and security of confidential data is also particularly important considering how the European Union's 1995 Directive on Data Protection could preclude Philippine companies from tapping into opportunities in the EU.

<u>Freedom of Information Law.</u> A Freedom of Information Law will provide clear guidelines on:

- public access to government data;
- sharing and exchange of information among government agencies; and
- the use of information obtained under such a law by the recipient government agency or private sector.

<u>E-Government Bill</u>. Government efforts to fully exploit the use of ICT as a tool to improve access to and delivery of government services must be supported by laws and policies on e-Governance. A comprehensive e-Government bill will outline how the government would manage, procure and use information technologies to more efficiently deliver services, and institutionalize the e-Government Fund that would help to meet the requirements of major ICT projects of the government. Some of the key policy issues that such a law will address include:

- Data sharing among government agencies
- Interoperability of government systems
- Data privacy in government
- Management of the e-Government Fund, including formalizing the systems and procedures in the management of the e-Government Fund, including the selection, approval and monitoring of projects.

<u>Cybercrime Bill.</u> The Philippines recognizes the importance of protecting and safeguarding the integrity of computer, computer systems, networks, and database, and the confidentiality, integrity, and availability of information and data stored therein, from all forms of misuse, abuse, and illegal access. A Cybercrime and Cyberfraud Prevention law would provide the legal basis for enforcing security measures and protecting the general public interest.

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