



Association of
Information Technology
Professionals

Puerto Rico Chapter

To: Members of Bipartisan Congressional Task Force on Economic Growth in Puerto Rico
("Task Force")

From: Association of Information Technology Professionals ("AITP")
Puerto Rico Chapter

Date: September 2th, 2016

Re: Title 4 - Section 409: Congressional Task Force on Economic Growth in Puerto Rico

This letter is in response to your recent request for recommendations on measures that can help spur sustainable and long-term economic growth on the island. In this connection, the Puerto Rico Chapter of the Association of IT Professionals, a national organization with 55 chapters in United States of America, would like to bring to your attention the urgent need for a major improvement of the management of technology and information by the government of Puerto Rico and technology as an enabler of wealth.

This letter presents recommendations that will help strengthen the Puerto Rican government in the ever expanding IT affairs in the governmental administrative process and to transform technology as a facilitator and catalyst for economic development.

Current Situation

The government of Puerto Rico, over the years, has been subjected to criticisms over its lack of proper management of technology and information procedures. These include:

- Timeliness of financial and other information
- Transparency of information
- Completeness and accuracy of disseminated information
- Accessibility by interested parties (public and private sectors)

From the perspective of the Information Technology Professionals, these problems have been primarily caused by:

- Lack of appropriate technology
- Improper compilation of data and the generation of useless information/reports
- Public service employees and citizens' lack of technology knowledge
- Lack of effective communication among government agencies at all levels
- Problems with willingness to share information on timely basis
- Lack of standardized and integrated systems
- Capacity of networks
- Allocation of proper resources for maintenance of systems
- Lack of user-friendly website design
- Language limitations (Many government websites are Spanish only)
- Ineffective Security and Privacy measures
- Poor/costly technology acquisition procedures

Main Strategies and Recommendations

The following are the main strategies for the Management of Information, Technology, and Telecommunications.

1. **Technology and Information Management Office:** Using Title V, Section 502 of the PROMESA Act, which calls for the creation of the position Revitalization Coordinator. We propose, to use this section as precedent for the creation of the position of Technology and Information Management Coordinator, to be appointed by the Governor of Puerto Rico, with the appropriate support staff, that will be responsible for evaluating and expediting the funding and implementation of major technology and information related projects/systems.

It is also recommended, that a board be created with representation of the academia, nonprofit organizations, and the private sector, with experts in the field of technology to provide input on what specific actions the Puerto Rico government should be taking to address the problems mentioned above and also to identify Federal programs and funding sources that could help improve the local government's management of technology and information systems. The board will set the criteria for determining priority projects with major consideration given to those projects that will have a major socio-economic impact on Puerto Rico.



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Additionally, part of the function of the board is to help design or structure the creation of a permanent agency/office that will continue the effective management of the technology and information service programs.

This office, to be established by Legislative action, will help make technology a central theme of all government action. Its initial functions will include:

1. Establishing specific improvement goals by agency
2. Preparation of a detailed technology improvement Action Plan
3. Obtaining firm commitments from principal stakeholders (Government and Private Sector)
4. Securing the proper management and technical capabilities for the implementation process
5. Acquiring the necessary resources for the proper and timely implementation of the government-wide improvement process

The office should have resources for following:

- Executive Director
 - Chief Knowledge Officer focused on information architecture to simplify, unify and standardize data sources, flows and big data management, as well as embrace the Ten Commandments of the Computer Ethics Institute
 - Chief Security Officer focused on cybersecurity
 - Interagency Management
 - Support Team
 - Contract, Invoice, and Fraud Prevention Team
 - Marketing and Communications
2. **Strategy for Improvement of the Management of Technology Acquisitions:** Improving the government's relationship with key suppliers will result in a boost of economic benefit for both parties and will allow for the government to have greater agility when responding to new needs or using emerging technologies. Leverage Federal Government acquisition programs: GSA Schedule 70, GWACs, SBA's 8(A) and HUB Zone, Minority Set Asides, Federal And State Technology (FAST) Partnership Program, etc.

3. **Integrated Planning:** Effective planning provides the information to make better decisions which are necessary for the coordination and synchronization of technology, human resources, and finances. This allows us to prioritize a portfolio of initiatives with the allocation of resources. Integrated Planning is based on an annual cycle with two fundamental plans:
 - Human Resource Improvement Plan: Aimed at improving the public service employees' knowledge of information technology
 - Reduction of Equipment Purchase Plan with Bring Your Own Device policies: The public service employees may use their own equipment (mobile phones and laptops) in a controlled and secure environment.
4. **Enforce the use of technology in vertical sectors:** All agencies, given the services they provide citizens, have their own technological needs. An implementation strategy should be established based on improving government efficiency and effectiveness. We recommend that the following public service areas in Puerto Rico be given priority attention by the Coordinator for the improvement of their technology and information management procedures due to its impact on economic development, budget expenditure and citizen wellbeing:
 - Department of Treasury
 - Department of Health
 - Department of Education
 - Retirement System
 - Department of Labor
 - Social Services
5. **Government 2.0 and Open Government:** Web 2.0 technologies include the use of complex multimedia web applications, social media tools, blogs, videos, web searches, mashups, tagging and support for mobile applications. Government 2.0 is defined as a derivation of the Web 2.0. Most implementations of Gov 2.0 focus on an open and proactive disclosure of information and data, and support for a two-way communication or collaboration experience over the Internet. Gov 2.0 is used to improve access to public services, reduce government costs and improve the interactive web experience with the government. Open Government is the practice of sharing public data, as government records through digital media over the Internet, it is a complement to the Gov 2.0. It is a key component of providing greater access to public sector data and allows people to access, analyze and reuse data to meet their specific needs and goals. Embrace the strategies of E-Gov throughout the territory, thus enabling public service and citizenship empowerment.

6. **Standards and Guides for the use of technology:** Given the complexity of the variety of solutions implemented by different agencies, and taking into account the diversity of technologies (proprietary and/or open source), defining the architecture and standards is a critical mission for our strategy. An

Interagency Work Team, which will act as a Board of Architecture and Technology Standards, will be put in place to the use of different technologies across all agencies and ensure the vision.

7. **Privacy and Confidentiality of Information:** The government must keep the personal data of the citizens secure while simultaneously providing online services that require the publication of sensitive information. Examples of shared databases are already being implemented in the central government. An analysis is necessary to assess whether there is a balance between the protection of personal information and the citizens' right to obtain public information.
8. **Expand the Capacity of Networks and Telecommunications:** Networking technologies and related services are essential for all online services. Networks are an integral part of the evolution to unified communications. Unified communications is the integration of communication services in real time, such as instant messaging, information telepresence, telephony, video conferencing, etc. and speech recognition communication services not in real time (voicemail, e-mail, SMS and fax). Unified communications help organizations optimize the delivery of information and ensure ease of use.
9. **Strategy for Computer Center:** There are two important trends in data center services, 'Green Data Centers' and Virtualization. The trend emerging technology is the move to the Cloud (Cloud Computing). Large groups of technological components are connected in private or public networks to provide Internet services stored outside the safety net of the Agency. There are a number of computer centers in various government agencies and a cost-effectiveness analysis is necessary to determine the economic impact thereof. Government resources should be centralized in data centers with Backup, Disaster Recovery, Business Interruption, Predictive Analysis, and Preventive Maintenance strategies.
10. **Connectivity:** In small communities, the Internet connection speed and level of service is very different than in large urban areas. The term "digital divide" is the gap between the citizens' access to high speed telecommunications, including training, computers and Internet access to broadband, and those without. The strategic plan of the Puerto Rico Broadband Taskforce provides a comprehensive plan, which aims to boost access to high speed Internet, and the adoption of broadband service and use, all of which will boost the digital future of Puerto Rico. The strategic plan covers both aspects of demand and challenges to expand the supply thereof, with three interrelated objectives: Access, Adoption, and Utilization.



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11. **Security:** Agencies face the challenge of the growing demand for information security, which will continue to grow as more services are offered to the citizens. The easy exchange of information is a prerequisite for the success of any governance. However, the same technologies that facilitate this exchange of information (ie, email, Web, instant messaging, etc.) require the adoption of new technologies such as cloud, social networking and collaboration tools, and the proliferation of mobile devices, which have created new challenges in information security. The development of a security plan which analyzes risk, implements an appropriate strategy, and develops a plan to prevent intrusions is necessary. Become an active participant of the Multi-State Information Sharing & Analysis Center of the Center of Internet Security and the US Department of Homeland Security.

Summary of Project Benefits to Puerto Rico's Economic Growth by the Appointment of Technology and Information Management Coordinator

The benefits of improving the government of Puerto Rico's management of its technology and information systems, as proposed will bring enormous efficiency, quality improvement, and client satisfaction in all of the public services directed to government clients in the areas of health, social services, energy, housing, education, water supply, transportation, and the like.

Savings are also generated by providing managers and administrators of public funds with the appropriate information for better decision making in the management of their fiscal budget, including the digitally enhanced tax collections by using appropriate technology. Other benefits include: a better use and accountability of federal funds, promoting collaboration between government agencies, providing financial and other information on a timely basis, a more effective integrated planning process, increased transparency and accessibility of needed information, and creating a greater capacity to develop innovative technology and information dissemination systems.



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Next Steps

We welcome the opportunity to meet with you or your designee to elaborate on our recommendations that embrace technology as a facilitator and catalyst for economic development and look forward to collaborating with you and other Task Force members or Federal Agency Officials in their implementation.

Cordially,

AITP Puerto Rico Chapter Board

Jack Hirsbrunner, President AITP & Chairman of the Board with Synectics
Jorge Socca-Calderaro, Vice President AITP & President with AXYSNET Technology Governance
Ramón Barquín III, Director AITP & President Barquín International - Puerto Rico
Victor Rivera, Director AITP & Board of Advisors Member with AXYSNET Technology Governance