



Puerto Rico Digital Service

The path forward for Puerto Rico

The Puerto Rico Digital Service

Executive Summary

Puerto Rico faces serious challenges. The recent enactment of the Puerto Rico Oversight, Management and Economic Stability Act (PROMESA) creates an unparalleled opportunity to build new digital institutions that will transform Puerto Rico's government operations. The way to do so is through the creation of a **Puerto Rico Digital Service** modeled after the highly successful United States Digital Service implemented during President Barack Obama's Administration.

A Puerto Rico Digital Service (PRDS) is a fundamental step in providing what Puerto Rico needs: transparency, efficiency, and economic development. The PRDS will be a cadre of highly talented digital teams who will be in charge of transforming Puerto Rico to a "native digital" government, so that it can better serve its citizens at a significantly more efficient and at a much lower cost than how it serves citizens today.

PROMESA's success depends on its ability to establish a Puerto Rico Digital Service with top-caliber talent and a government-wide coordination of IT investment and implementation that ensures proper delivery of information and services. Puerto Rico's long-term success requires the PROMESA Board and the local Government to work together and use US Digital Service best practices in E-Government as an opportunity to reinvent government services, with a focus on responsiveness and user collaboration to ensure much needed transparency, savings and efficiency, while providing a foundation for economic development in "native digital" form.

The Puerto Rico Digital Service, in short, will allow Puerto Rico to leapfrog into a brighter future by leveraging the experience and wisdom of the USDS to implement a test bed for the use of digitally-enabled government services throughout the entire island.

I. Background

On April 27, 2011, President Obama issued Executive Order 13571 (Streamlining Service Delivery and Improving Customer Service), requiring executive departments and agencies (agencies) to, among other things, identify ways to use innovative technologies to streamline their delivery of services to lower costs, decrease service delivery times, and improve the customer experience. As the next step, he tasked the Federal Chief Information Officer (CIO) with developing a comprehensive Government-wide strategy to build a 21st century digital Government that delivers better digital services to the American people.

The result was the creation of the US Digital Service, a startup at the White House that pairs the country's top technology talent with the best public servants, to improve the usefulness and reliability of the country's most important digital services.

...what we realized was that we could potentially build a SWAT team, a world-class technology office inside of the government that was helping agencies. We've dubbed that the U.S. Digital Service...they are making an enormous difference...

- President Barack Obama, March 2016

II. Vision

Puerto Rico requires a Digital Service with top-level talent and a government-wide coordination of IT investment and implementation that prioritizes user-centered design to maximize efficiency and transparency in operations, using E-Government as an opportunity to reinvent government services, with a focus responsiveness, user collaboration and US Digital Service best practices.

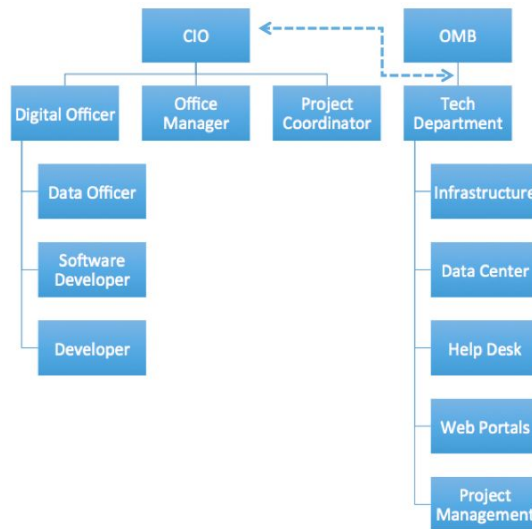
The success of PROMESA is directly correlated to establishing a proper Puerto Rico Digital Service which will serve as a foundation for economic prosperity. Quoting Tom Loosemore from the UK Digital Service:

"The first nation to create new institutions that make the most of the internet will win BIG! If you genuinely reshape government to have institutions of the internet era, they will provide a new foundation and digital infrastructure for your whole nation to support new enterprise, new cultures, new organizations that were previously unimaginable."

III. Current Situation

A. Office of the CIO

The Office of the Chief Information Officer was created by Governor Luis Fortuño through Executive Order 2009-09.¹ The intent was to establish the Office of the CIO as a legal entity within the government of Puerto Rico, but an impasse with the legislature interfered in approving such legislation. The office structure was composed of the CIO and a core staff of 4-5 people, with administrative support from the Office of Management and Budget's IT Department.



In 2013, the new administration made the commitment to create the Office of the CIO as a legal entity with proper authority and structure,² and after promising results by the core CIO staff, bill PS614 was introduced to create the Office of Government Information Technology (OGIT). PS614 was approved in the Puerto Rico Senate in early 2014, but the bill bogged down in the House of Representatives. For the remainder of 2014, the office would not receive any additional support, and a decision was made to limit the scope of CIO operations to the Department of Economic Development, severely limiting its effectiveness.

All 50 States and territories have a CIO with a formal structure, wide range of technical staff and legal authority. The state-level CIOs collaborate through NASCIO, the National Association of State CIOs, whose mission is to foster government excellence through quality business practices, information management, and technology policy. Puerto Rico is the only jurisdiction with no CIO structure and without formal representation in NASCIO.

¹ <https://www2.pr.gov/GobiernoAGobierno/Documents/OE-2009-09.pdf>

² http://www.caribbeanelections.com/eDocs/manifestos/pr/ppd_programa_gobierno_2012.pdf

IV. Proposed Solution

A. The Puerto Rico Digital Service

The proposed way to address the current shortcomings in Puerto Rico's governance and management of its IT function is the creation of a Puerto Rico Digital Service which will enable the transformation of the technical infrastructure used by the Executive Branch of the government of Puerto Rico. The PRDS will enable information sharing and facilitate inter-agency collaboration, supporting the implementation of public policy in a reliable, effective, and efficient manner. Puerto Rico needs an entity to ensure public services are delivered in effective digital form to its users, at a reasonable cost, and in a reasonable timeframe.

Feedback collected by the Office of the CIO on specific digital services revealed that Puerto Rico's citizens do not trust or are dissatisfied with the government's digital services.³ Several efforts were made to transform this perception, starting with the delivery of successful services by top-level government talent, such as the Puerto Rico Police's Good Standing Certificate. This service was delivered following the US Digital Service Services Playbook and generated over \$5 million in annual savings. The technical team that led this project is now working for President Obama at the USDS, instead of expanding and continuing to build/consolidate services and generate efficiencies in the government of Puerto Rico.

Currently, there are three former Puerto Rico Office of the CIO employees who are now working at the US Digital Service. These USDS employees were not empowered to deploy their considerable talent during their time with the Puerto Rico Office of the CIO. This has resulted in a significant loss of talent that was responsible for highly successful digital services currently operating in Puerto Rico.⁴ These were the first set of government services built based on the US Digital Services Services Playbook. These people are:

1. Andres Colón Perez - USDS HQ - serving as Digital Service Lead USDS at SBA.
2. Alberto Colón Vera - USDS HQ - serving as Data Lead USDS at SBA.

The PRDS will also ensure government agencies communicate via open API's, cultivating an ecosystem that makes alternate apps, websites, and services that work with the same data and the same transactions for current and future needs - including ensuring proper transparency and access to data.

³ <http://www.primerahora.com/noticias/policia-tribunales/nota/chanchullosconcertificadosdeantecedentespenales-966918/>

⁴ The Office of the CIO was eliminated, and with it, the best technological talent in Puerto Rico, which delivered a 340 slide presentation to transition the digital strategy behind the services built.
<http://www.slideshare.net/AndrsColnPrez/good-standing-certificate-knowledge-transfer-presentation-by-andres-colon>



The US Digital Service celebrates its second year, with Andres Colón (tallest person standing in the back) and Alberto Colón (bottom right corner on his knees).

B. Leveraging PROMESA

PROMESA provides the necessary tools to assist in creating the PRDS in a cost-effective manner. The Puerto Rico Fiscal Board may detail a combination of local public employees and federal talent from the USDS with significant knowledge of local government operations and USDS best practices.

Tom Steinberg, from mySociety, a British-based international NGO that develops civic tech tools, said it best:

“You can no longer run a country properly if the elites don’t understand technology in the same way they grasp economics or ideology or propaganda. What good governance and the good society look like is now inextricably linked to an understanding of the digital.”

This doesn’t mean we need our Fiscal Board Members to be software engineers, but it’s important they have a high Technology Quotient (TQ) team that is empowered and can provide this digital-savvy strategy to the table, and allow this group to follow through with initiatives by working with as few obstacles as possible. This will enhance goodwill and faith in the Puerto Rico Fiscal Board and its overall governance of the island’s finances and the economy.

V. Establishing a “Native Digital” Government

The following is a set of principles to establish a “Puerto Rico Digital Service”:

A. Focus on Agile

Effective “native digital” operations require an Agile approach and an Agile mindset. Successful implementation includes introduction to Agile for managers and agencies,⁵ requiring training on Agile adoption for government staff, viewing webinars that USDS, HHS, and 18F did on Agile Acquisition⁶, and establishing these as the core principles that drive operations, management and procurement in every government agency.

A recent Harvard Business Review article titled “Embracing Agile” noted that most detailed predictions and planning derived from conventional project management practices as applied to software development are a waste of time and money. Although teams should create a vision and plan, they should only plan those tasks that won’t have changed by the time the project team gets to execute them. In addition, the project team should be happy to learn things that alter the overall direction of the project, even late in the development process. Such changes in the direction of the project will put them closer to the customer and facilitate better results. The article highlights that projects should be built around motivated individuals who are given the support they need and are trusted to get the job done. Teams should abandon the assembly-line mentality in favor of a fun, creative environment for problem solving, and should maintain a sustainable pace.⁷ **This is precisely the type of environment that must be fostered, practiced and preached.**

Agile Procurement

A NASCIO 2015 survey indicates a clear split in opinion over procurement. Roughly one-half of CIOs (47%) exhibit negative outlooks towards IT procurement processes. On the flip side, the same number of CIOs are very or moderately satisfied with the current system of IT procurement in their state.⁸ Puerto Rico needs support in radically reforming procurement.

NASCIO state CIO comments on government procurement:

“The current system purchases IT the same way it purchases cars, copiers, etc. This is problematic for IT purchases particularly as we move to Agile.”

⁵ <http://aspetraining.com/subjects/agile>

⁶ https://www.fai.gov/media_library/items/show/81

⁷ <https://hbr.org/2016/05/embracing-agile>

⁸ <http://www.nascio.org/Publications/ArtMID/485/ArticleID/279/2015-State-CIO-Survey-The-Value-Equation>

Federal IT projects with larger budgets correlate with a particular approach: extensive requirements gathering followed by an enormously detailed RFP for a multi-year waterfall project handled by a traditional systems integrator. This approach is highly correlated with both outright project failure and the kinds of software that no one likes using, neither public servants nor the public.

Jennifer Pahlka from Code for America says: *“Budgets certainly are a problem when it comes to tech in government, but the fix isn’t to make them bigger, it’s to make them different. We need to be able to let projects start small and iterate based on real user needs (not to be confused with requirements!), and we need budgeting, oversight, and contracting mechanisms that allow for that process, and then kick in ongoing funds only as the project proves itself.”*

Puerto Rico needs a structure that ensures we embrace Agile and effective validation of potential solutions to serious problems. This structure needs to be efficient, and pay commodity prices for commodities, like cloud computing, and take much broader advantage of platforms like cloud.gov that make the cloud government-compliant.

USDS member Traci Walker led the implementation of an “Agile procurement transformation” for IT in the federal government through USDS. She was one of the speakers at TechSummit 2016⁹ in Puerto Rico, highlighting some of what needs to be done¹⁰. Through PROMESA, Traci Walker could easily be detailed to assist Puerto Rico and advise the Fiscal Control Board.

Action Plan	Planned Completion Date
<p>Recommend legislation to create the Puerto Rico Digital Service</p> <p>Detail federal personnel to assist in the process</p> <p>Support Agile contracting practices for Puerto Rico Tech Operations</p> <ul style="list-style-type: none"> - Recommend trainings such as Aspetraining.com for local officials. - Detail USDS personnel specialized in government procurement, such as Traci Walker, USDS 	

⁹ <http://news.techsummitpr.com/techsummit-2016-top-presentations/>

¹⁰ <http://www.slideshare.net/techsummitpuertorico/agile-technology-contracting-in-federal-government>

B. New business models in GovTech

The Puerto Rico government has had several alternative business models implemented in government agencies, only to see these initiatives fail because of a lack of understanding of Agile principles and inconsistency in tech governance. The Revitalization Coordinator is in a position to support such opportunities in Puerto Rico.

There is a lot of opportunity to innovate through alternative models, thanks in part to a number of trends including government adoption of the cloud, budget constraints and an open data movement that enables “app development”. These have all helped create an openness on the part of government agencies to embrace new technologies and a dramatically shortened sales cycle. There is a growing number of companies in this space, offering government customers:

- a) Software as a Service in the cloud at 10-100x less than existing solutions.
- b) Single-point solution for a specific problem, not a platform trying to do everything for different departments.
- c) Engineering-centric startup culture with computer science backgrounds.

These new models and services will not succeed if there is not a proper tech governance structure that understands the potential these new models offer and which can enable proper execution and operation of such models.

Action Plan	Planned Completion Date
Support a “Digital Strategy” for the Revitalization Coordinator	
Review case studies on current and potential business models	
Review services that are “quick wins” and easy to implement	

C. Attract the workforce

Properly defining the roles and responsibilities, skill requirements, leadership characteristics, and reporting structures right are necessary steps towards identifying and recruiting the right person or people for a specific job. Ideally, the process of figuring out all of those would start before the recruitment process has begun.

The US House of Representatives recently passed, in a 400-8 vote, HR 5658, known as the Tested Ability to Leverage Exceptional National Talent (TALENT) Act. If passed by the Senate and signed by the President, it would encode into law the Presidential Innovation Fellows, a program designed to attract the best and brightest minds to

work on the toughest problems and most important citizen-facing initiatives in the Federal government. ¹¹

Presidential Innovation Fellows are the types of people and employees PROMESA could bring to the island, and the Fiscal Control Board has the power to do so by requesting the US Digital Service detail members to work with the Fiscal Board. Beyond the CPAs, lawyers and economists that will work for the Fiscal Control Board, we need people who can connect the conversation to the solution, people who know how to make technology that works for people at a fraction of what government currently pays. These people understand what users need and how to make services more efficient. US CTO Megan Smith says to these folks “go where you are rare”, meaning that what is normal for them in Silicon Valley will not be the norm in government, but that is where they are needed most.

Action Plan	Planned Completion Date
<p>Recruit USDS level talent to the Puerto Rico Fiscal Control Board to help in a proper tech governance structure.</p> <p>Establish a specific goal (e.g. deliver better real-time financial reports) and assign a group of Presidential Innovation Fellows to collaborate on the project.</p> <p>Recommend the Puerto Rico government to adopt a local version of the Presidential Innovation Fellows program as part of the Puerto Rico Digital Service.</p> <p>Recommend that the Puerto Rico government to adopt USDS recruitment practices for tech talent in government agencies to ensure success in digital services.</p>	

D. Supporting the Ecosystem -

Economic Development is enabled by the Tech sector, these are some ways that we can enable its growth.

1. Broadband Adoption

A centralized technology operation is fundamental in supporting broadband adoption in Puerto Rico, highlighted by the Puerto Rico Office of the CIO’s work with the Broadband



¹¹ <https://www.congress.gov/bill/114th-congress/house-bill/5658>

Strategic Plan in 2012 and the updated Gigabit Island Plan in 2015.

A NASCIO state CIO survey in 2015 asked CIOs to characterize the role of the Office of the CIO in the deployment of broadband networks in their states. The question was framed to include all public sector broadband and the approaches being used in the state. State CIOs are most active in promoting public-private partnerships to deliver broadband services (69%) and in planning and sourcing public sector networks (78%)¹².

Puerto Rico’s lack of a proper CIO structure significantly limits execution of the Gigabit Island Plan.

Action Plan	Date of Completion
<p>Request the FCC to make Puerto Rico one of the first five states or jurisdictions in which US Administrative Company (USAC) will implement streamlined eligibility, income verification and enrollment process for the Lifeline program.¹³</p> <p>Detail an “e-rate specialist” at the Federal level to leverage infrastructure for increased broadband adoption in Puerto Rico.</p> <p>Review possible PPP for e-books and associated legislation which will increase broadband adoption through education.</p> <p>Recommend waiving property taxes for deployment of broadband infrastructure investment that is capable of delivering 1 Gbps download speeds in “Broadband Opportunity Zones”¹³</p>	

2. Skills Gap

As Code for America founder Jennifer Pahlka says, *“Give the top technology job in your city/state/agency to a back office or infrastructure person, and no matter how great that person is (and we should all value the ones who are good at this a lot more), you are very unlikely to make great digital services. Which is a problem, because the cost-savings that great digital services will bring to the operations of your city/state/agency are going to be needed to support your IT infrastructure.”*¹⁴

There is no easy answer to the “skills gap” problem, but let us consider for a second at what others have been doing to recognize and address this issue. In

¹² <http://www.nascio.org/Publications/ArtMID/485/ArticleID/279/2015-State-CIO-Survey-The-Value-Equation>

¹³ Puerto Rico Telecommunications Regulatory Board proposal.

¹⁴ <https://medium.com/code-for-america/the-cio-problem-part-1-678ae2e9d0bf>

the UK, the Cabinet Minister in 2010 called for the Government to appoint a new CEO for Digital with Cabinet Level authority over user interaction across all government services and the power to direct all government contracting. They appointed Mike Bracken, who had previously been head of digital for The Guardian, and they established a model which clearly gives one person full authority for digital services, but with control over all government online spending, as well as some control over mission IT and infrastructure. This is the model required for Puerto Rico Digital Service to broach the “skills gap” across all government agencies.

3. The SSO Citizen Platform

The Puerto Rico government has over 42 different user-logins for digital services offered by individual agencies, resulting in wasteful programming, decentralized data and inconvenient citizen integrations.¹⁵ A single sign-on (SSO) is a user authentication service that permits a user to use one set of login credentials (e.g. username and password) to access multiple applications.

The UK successfully implemented SSO to enable faster development of citizen services and achieving significant savings. An SSO structure operated through the PRDS will save millions in process cycle times, cost savings across social services, health, education and public security sectors, provide for increased security – reducing the potential for data loss or theft, and increase adoption of digital and broadband services for young and older people alike.¹⁶

Action Plan	Planned Completion Date
<ul style="list-style-type: none"> - Detail USDS personel involved in the SAM.gov SSO registry. - Recommend the Puerto Rico government to perform an SSO “discovery sprint” to establish a roadmap for implementing an SSO platform. 	

E. The Revitalization Coordinator

There is a digital opportunity directly correlated to economic development - digital is the infrastructure of the future. Innovation is dependent on proper understanding and enablement of such opportunities.

¹⁵ <https://www.youtube.com/watch?v=foWEsMNFnkQ>

¹⁶ http://www.ponemon.org/local/upload/file/Imprivata_SSO_FINAL_9.pdf

An example highlighted by Jennifer Pahlka: *“Innovation today is not needing to own a car because now I can summon one whenever I need it with a tap of a button via Uber or Lyft. Eventually I’ll summon a car that will drive itself. And government will need to innovate to deal with the consequences of changes like these, both through new policies and through tech-enabled implementation of policy. How, for example, might a city respond to on demand services like Uber and Lyft, other than with regulations written dozens of years ago in a world with different challenges? New data sharing agreements with these services could monitor their compliance with the city’s goals — for example, providing fair access to these services from traditionally under-served neighborhoods or reducing peak hour congestion. How might a city provide or enable digital infrastructure that would enable the self-driving cars of the future to reduce congestion or the need for parking?”*

It is essential the Revitalization Coordinator to have a strong technology quotient (TQ) to move forward new digital infrastructure opportunities.

VI. Transparency

The Puerto Rico Legislative Assembly created the Puerto Rico Statistics Institute (IEPR) by enacting Law 209 of August 28 of 2003. The IEPR’s charter is to promote a transformation of the government’s data collection and analysis capabilities in order to generate state government-level statistical reporting that is complete, accurate, reliable, timely, and universally accessible. Despite recent legislative efforts to bolster the IEPR’s transparency in terms of how it collects data and publishes government statistics, results have been difficult to come by because of the lack of proper technology and knowing how to leverage its potential.

In the end, publishing reliable statistics is a technology problem. Most agencies in the Puerto Rico government lack the necessary technical staff to perform database administration tasks that facilitate data management as well as data governance frameworks that facilitate data capture and promote data quality. The Puerto Rico Office of the CIO developed an initiative to create a government-wide data management platform (data.pr.gov), which provides tools to access data and reports and includes database definitions for dozens of key government databases. The intention was to implement a data sharing platform that would promote the development of API’s and promote transparency in terms of government data and statistics. This increase in transparency will ultimately provide improved visibility into the challenges the Puerto Rico government faces and the overall state of the economy, among other vital aspects. Ultimately, the data.pr.gov project is about empowering citizens as part of our democracy.

The data.pr.gov project was transferred to the IEPR in 2015, but development and adoption have slowed down because the IEPR and the Puerto Rico government agencies lack the “USDS type” structure to empower the project forward. The data.pr.gov project would benefit

significantly from having a PRDS to help continue delivering on the project’s vision, support integration of new data sources, drive technical operations, and achieve results.

Action Plan	Planned Completion Date
<p>Ensure the Revitalization Coordinator has a high TQ</p> <p>Recommend the Revitalization Coordinator detail USDS personnel to evaluate digital infrastructure proposals.</p> <ul style="list-style-type: none"> ● To guarantee success on such proposals, the Revitalization Coordinator will need a well functioning Puerto Rico Digital Service to collaborate with. <p>Empower the Statistics Institute as a central repository of data collection via API’s, maximizing on data.pr.gov technology already in place.</p>	

VII. Conclusion

Puerto Rico is at a historical juncture where the Fiscal Control Board implemented as a result of PROMESA can truly transform the island by reforming the public sector’s administrative framework, straightening out the government’s finances, putting forth policies that can promote economic development, and promoting transparency. All of these measures will ultimately create a positive impact on the island and its citizens. A key component in the transformation that the Fiscal Control Board can potentially achieve will be the creation of a Puerto Rico Digital Service, modeled after the US Digital Service.

The PRDS will consist of a cadre of highly talented digital teams who will be in charge of transforming Puerto Rico to a “native digital” government, so that it can better serve its citizens at a significantly more efficient and at a much lower cost than how it serves citizens today. Given the scope of the PRDS and the need to collaborate closely with a variety of stakeholders, including citizens, the PRDS must be led by an effective relationship manager and communicator. The PRDS lead must use these skills to keep the organization’s services relevant to its customers (mostly Puerto Rico government agencies) and citizens.

Therefore, it is imperative that the Fiscal Control Board use its statutory authority to detail Federal employees from the USDS resources to the PRDS that can contribute toward ensuring that the nascent organization shares its DNA with the USDS. This includes the adoption of policies and procedures, methods and practices, and tools. This will be the best way to ensure the PRDS can deliver on its promise as a transformational element resulting from PROMESA.