Building a Truly Smart Community

Principle One: Digitize All Data

GOVTECH SOLUTIONS SERIES

Our last Calytera GovTech Solutions Series paper explored how smart communities are defined and covered four bedrock principles that can help government CIOs and technology professionals build communities that are truly "smart" – a "must" for an increasing number of governments. This paper expands on the first principle, the importance of "digitizing all data."

A community must digitize all the data they have and will have and combine them to form a standard data set. This means that data from legacy systems cannot be left behind.

Several challenges face today's government technology professionals of today, who are tasked with digitizing all the data held and managed by their governments. These include the following:

Most state and local governments are working with legacy systems that hold valuable data. For example, most of those governments still rely on mainframe computing to support services such as motor vehicle departments and social services. However, this trend is changing. Last year, 79% respondents to the National Association of State Technology Directors' mainframe study observed that they do not see a future demand for mainframe computing power, especially since fewer agencies in their states use the existing mainframe services. These legacy applications, which are being replaced, contain large amounts of incredibly valuable data, all of which cannot be left behind when building a smart community. The first "pre-step" any government professional should take when embarking on smart community projects is to develop a plan to access, migrate and standardize the data residing in older systems.

State and local governments often work with multiple "smokestacks" of technology that may or may not communicate with one another, which can present a challenge in making sure one common data set is accessible to all departments. For many years, governments had to rely on custom-designed IT solutions to meet defined needs and often could not rely on commercial off-theshelf (COTS) solutions. In an era before most governments had CIO and CDO positions, this often led to multiple stacks of technology used by various functions and/or departments that often could not communicate easily with each

other. However, this is changing with time, as governments have greater access to cloud and COTS solutions, but the challenge lies in making sure that the data within those stacks is captured and that the common data set created works with all existing technologies.

Finally, one of the biggest challenges for government IT teams is the increasing growth of data generated and available. At present, IDC estimates that there are 33 zettabytes of data in the global datasphere, which means it would take approximately 53 million years of streaming HD videos to consume that much data! Moreover, according to IDC, the amount of data present in the world will become over fivefold within the next six years. Any digitization effort must account for "historical" data and add the tremendous amount of new data that will be generated, especially as governments begin to deploy Internet of Things (IoT) sensors in order to manage infrastructure as well as public health and safety. While there is a cost to governments to harness, migrate and standardize the data they currently possess, the benefits of the same quickly outweigh its costs, and the investment made in a digitization plan pays off quite speedily.

A common data set removes the chances of duplication of effort between departments and functions inside the same government. There is no reason for two departments to be responsible for maintaining the same data, in order to provide different services. In fact, siloed data generates additional costs and serves as a distraction from providing services effectively.

Accessing and subsequently using both historic and new data provides greater insight into trends, which can help with future planning. Let's take the example of an area in a town that is developing quickly due to the construction of new homes. If this area, historically, had little demand for new buildings, its government could quickly assess whether the infrastructure and utility supplies are adequate for the expected population growth.

The more accessible and useful a government's data set is, the more reliable it can be in order to make strategic decisions pertaining to growth. For instance, data and analysis can help in assessing where to invest funds allocated for the development of new roads. Such decisions, if well made, can be the key to attracting new population and job growth in a community, which are key factors for governments to deliver improved economic opportunities, while preserving public safety and sustainably managing growth.

Today's government CIO will require several factors to successfully standardize, migrate and consolidate their data, which include the following:

- **Leadership ability**: Historical data is likely controlled by several departments of a government, which may or may not be coordinated with the CIO's team and

organization. Ensuring access to all data sources requires the CIO's influence and ability to explain the reason this process is important for the future of the community. The concerned CIO also needs to be capable of managing elected officials' expectations with regard to the fact that the creation of a common data set is a critical first step in creating a smart community.

- Team talent: Data analysis and management skills are quickly becoming one of the primary skills needed by government IT departments, as they wrestle with current technological shifts. A CIO will need to ensure that his/her team possesses the right talent and experience to find and store historical data as well as create a common data set that will remain useful to all of that particular government's departments – at present and in future.
- Resources required: To undertake the digitization challenge, in order to capture decades' worth of historical data, additional resources will be required. While certain costs are involved in this endeavor, the cost/benefit argument is one that can easily be established.

Consider the examples wherein a common data set can help increase the efficiency of government operations and, therefore, play a key role in building safe and prosperous communities.

Home building is one of the significant growth engines for a local government. The said process provides local jobs, adds to the tax base and attracts new residents who invest and spend money in the community. A considerable challenge for any builder (or resident aiming to build or remodel on his/her own) is to navigate the local planning and permitting process. This process is critical for safety and managing growth, and when undertaken more efficiently, it quickly attracts interest from other builders, which can drive additional growth.

Within the said process, a large amount of data collected is required and used by several departments. If the concerned government makes use of a common data set, there is no need to store this data multiple times, which can greatly speed up the overall process. Thus, for example, the building inspectors as well as the local utilities can access common data points such as street address, building plans, contact information and so on. When such data is shared and accessible to multiple departments, it can not only speed up inspection operations but also provide the builder and future residents better insight into the progress of the inspection and approval process.

Furthermore, creation of new small businesses is a strong driver of economic growth for any community. Let's consider the plans made to open a new restaurant within a community. In addition to the licensing requirements of the health department, the restaurant owner will also

likely need to address the licensing and permitting requirements of items ranging from utilities to trash removal, employment, parking, street access, building occupancy, among others. When all of these processes are as efficient as possible for the new restaurant owner (because common data needed for all those services is collected only once), he/she can focus on building a successful new business that creates jobs and adds to the local tax base. Such kind of efficiency also helps in attracting other entrepreneurs to that particular community, thus developing the cycle of community growth.

Creating a smart community can be a rather easy commitment, but achieving it is a challenging, involved process for today's government CIOs. A critical first step that makes a government IT team successful is ensuring that all historic data is stored as well as digitized and a common data set accessible to all concerned departments is created. It's the first bedrock principle for creating a community that is truly smart.

In our future GovTech Solutions Series articles, Calytera will examine the other three principles necessary for creating a truly smart community. If there are topics you would like to hear about, let us know!

If your government is ready to build a smart community, we would love to help. Contact us today to set up a demo of our Amanda Platform, or to take a preview before we talk, visit our short Amanda product overview video.