
10 Things Every Local Government Should Know about SaaS (Software as a Service)



Author's Note

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Overview

Software as a Service (SaaS) is changing the technology landscape in government. With the official endorsement of cloud computing by the US Federal Government, the adoption rate of SaaS will continue to increase at all levels of government.

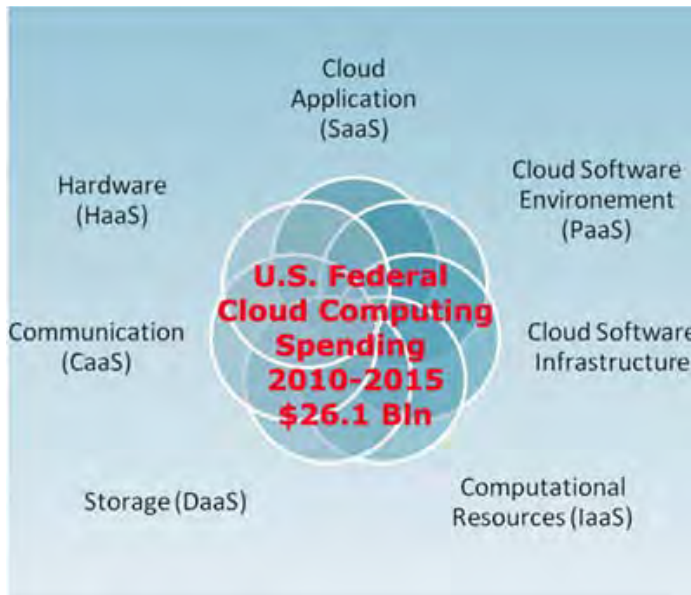


Figure 1 - Cloud Computing Elements and Forecast

Many of the world's leading technologists forecast that within five to 10 years, between 80% and 90% of global computing and data storage will occur "in the cloud". Market Research Analysts forecast that the US Federal Government will spend \$26.1 Billion on cloud computing from 2010-2015 (see figure 1). At the state and local levels, INPUT, a government market research and analysis company based in Virginia, forecasts show that SaaS solutions will grow by nearly 300% from \$170 million in 2008 to approximately \$640 million by 2013.

As local governments explore SaaS technology, they are asking BasicGov a variety of questions about how to incorporate SaaS into their decision making and purchasing processes. This white paper is designed to help city officials, planners and IT staff understand the benefits of SaaS by answering 10 common questions:

- Part 1: What Is SaaS?
- Part 2: Why Choose a SaaS Solution Over Traditional Enterprise Software?
- Part 3: Why SaaS for Local Government?
- Part 4: How Do I Compare SaaS Costs?
- Part 5: How Do SaaS Vendor Evaluations Work?
- Part 6: What Are SaaS Implementation Best Practices?
- Part 7: What Are SaaS Training and Support Benefits?
- Part 8: Does SaaS Improve My System Security?
- Part 9: What Impact Does SaaS Have On My Privacy Policy?
- Part 10: Does SaaS Impact My Data Availability?

Part 1: What is Software as Service or SaaS?

For the City Officials and Planners, SaaS is simply hosted software that requires only an internet connection and a browser. There is no need to install software on a server or on your local machine to use SaaS solutions – you just need to sign up for the service, and access it via the internet. You may have heard the terms ‘on-demand software’, ‘hosted software’, or ‘Cloud Computing’: for the non-technical person these are all similar terms that mean roughly the same thing, in that you require only an internet connection and a browser to access the software applications. A technical person will know the differences.



Figure 2 - Cloud Computing

In a SaaS deployment, the software and the data is hosted and accessed via the Internet. When you access your SaaS solution and save your information it is stored in a remote location so that you can access it anywhere you have an internet connection.

SaaS solutions have been on the market for many years for common software such as word processing and spreadsheets and it is now displacing traditional wired communications with products such as Skype and Go To Meeting and many more industries are being transformed. With leadership from companies such as SalesForce.com and Amazon.com, SaaS is evolving into a broad industry with 1000's of companies delivering solutions, including BasicGov, who is providing on-demand software for local government.

For the IT person, The National Institute of Standards and Technology, Information Technology Laboratory defines SaaS as one of three possible service delivery models within the broader scope of Cloud Computing, specifically:

The capability provided to the consumer is to use the vendor's applications running on a cloud infrastructure. The applications are accessible from various client devices through a thin client interface such as a web browser (e.g., web-based email). The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, storage, or even individual application capabilities, with the possible exception of limited user-specific application configuration settings.

Part 2: Why Choose a SaaS Solution Over Traditional On-Premise Software?

As traditional software has grown in complexity and computing power, the process for selecting a software solution has become increasingly complex for local and municipal government. The SaaS delivery model reverses that trend and enables city planners and decision makers to focus on what their staff and citizens need and not how they will support and install software. There are many benefits to SaaS, but it also important to understand the challenges as it relates to your organization. To help shed some light on this process, there are five main reasons to consider a SaaS solution:

If you are cost-conscious, need a highly secure and accessible environment, in as fast a time frame as possible, then a SaaS solution may be the best solution for you.

Time: SaaS solutions can be implemented in a manner of days or weeks, instead of the months (or years in some cases) that it usually takes to implement an in-house solution. The BasicGov standard implementation is five weeks. If you don't have IT staff, don't worry: SaaS vendors will usually work with you to configure the software and get you up and running as quickly as possible. If you have IT staff, they can provide guidance, but they do not need to become singularly focussed during the implementation, and most deployments are done without involvement by IT staff.

Cost: Traditional in-house solutions are often an order of magnitude more expensive than SaaS solutions, given the amount of effort required from your internal resources and from the vendor to design, configure, develop, test, and support the systems. SaaS solutions are priced at a reasonable monthly cost per user, on a pay-as-you-go basis (see Part 4 for more comparison). Salesforce.com, a leader in SaaS based software and BasicGov partner says their customers do things 5X faster at ½ the cost of enterprise based solutions. This is supported by research from the International Data Company (IDC). IDC is a subsidiary of [IDG](#), the world's leading technology media, events and research company.

System accessibility: All you need to use SaaS is an internet connection and a web browser. This means that you can use it in your office, on the road, or anywhere else where you have an internet connection. You also don't need to buy additional servers, purchase annual maintenance

contracts, or install software updates. Unique to the Salesforce.com's Force.com platform and BasicGov is the "5 minute upgrade" which means during updates to the system, you will never be without access to your data for more than five minutes. This is important when considering the importance of government data.

Data security: Many SaaS vendors comply with industry defined best practices for securing access to your system and your data. Your data is backed up regularly and stored in a secure location, using the latest security procedures. Cloud providers such as Force.com, Google and Amazon set these industry standards for online security and physical access to their hosted servers is literally impossible. This means that in the event of an emergency in your city, you would have access to your system and your data as soon as you have an internet connection (see Part 8 for more information about SaaS security and Part 10 about data availability).

Flexibility: Many SaaS vendors work with you to configure your system to reflect your business needs, and are still able to implement your system in a very short period of time. This means that you can get a fully configured system for a low cost.

As you evaluate your next software purchase, consider the information provided above in the software decision making process. In some cases, SaaS is not always the best solution, especially if you do not have a reliable internet connection. Also, if you need highly specialized components for your application and have very specific requirements and little flexibility, then you may need to consider in-house solutions.

Part 3: Why SaaS for Local Government?

Software reduces paper work and requirements for physical storage with improved data management and scheduling. As a result, your organization and staff are more efficient. Software as a Service cuts additional costs by reducing maintenance and infrastructure investments. Overall, the advantages of SaaS software for local government are as follows:

- **Affordable monthly subscription per user and no capital expenditure cost.** The subscription based model of SaaS allows managers to add or decrease users depending upon the workload.

- **Less demand for in-house IT resources.** The SaaS supplier provides the implementation, training and support as part of the monthly subscription and no additional servers are required.
- **Information is easily shared across the departments and teams.** All users can check on the status from any department.
- **SaaS integrates with other systems.** For example, BasicGov Permits & Inspections software integrates with Citizen Portal, Code Enforcement, Planning and GIS software for complete integration.
- **Improved Accessibility.** SaaS can be accessed from the office or remotely in the field with a laptop computer and Internet connection. For example, Code Enforcement Officers can access BasicGov software and print out a letter in the field without having to return to the office.
- **Improved reliability of data back-up and recovery.** SaaS information is stored and protected at multiple high security locations.
- **Improved reporting capabilities.** Data is stored remotely and is easily accessed and reports can be easily configured for local requirements.

Part 4: How do I compare SaaS costs?

The debate regarding Total Cost of Ownership between traditional on-premise software vendors and SaaS vendors is a popular debate between the “old way” and the “new way”. The movement of major IT purchasers, such as the federal government, towards cloud computing and SaaS provides a clear indication of what is fact and fiction. Recent studies by IDC provide data showing that SaaS provides cost reductions of five times (5X), while speeding task completion by two times (2X) over traditional solutions. The table below summarizes the comparison.

IT Solution	Acquisition Cost	Time to Implement	Cost of Upgrades
SaaS, Cloud computing, Web-Based Software	Low \$119 per user per module. 5-10 times less expensive than on-premise.	Short Days to weeks.	None Upgrades included with monthly service fees.
On-Premise Software	High \$45,000 – \$250,000 Includes hardware, IT support and infrastructure.	Long Months or longer.	High Cost of license upgrades and maintenance.

Table 1 - Comparison of SaaS and On-premise software costs

It is this kind of comparison that led to the Federal Government establishing the Cloud Computing Initiative and has leading industry analysts predicting no-growth for on-premise software and high growth levels for SaaS. The debate over cost is far from over, but the case for SaaS is clearly way ahead.

Part 5: How Do SaaS Vendor Evaluations Work?

Organizational evaluation of a SaaS vendor and a needs evaluation by the SaaS vendor of the customer is essentially the same process. Evaluating SaaS software vendors requires the same level of due diligence as enterprise vendors. You need to establish a level of trust that your product and support needs will be taken care of. This is actually easier with a SaaS vendor that uses Salesforce.com's Force.com platform such as BasicGov. Salesforce.com supports over 70,000 customers and over 600,000 users across 3 data centers in the United States. Uptime of 99.99% is part of the Force.com package. Additionally, the time to deploy for five (5) users on Force.com is the same time for the vendor to deploy 50, or 500. When choosing a SaaS vendor it is recommended to understand the hosting environment they use.

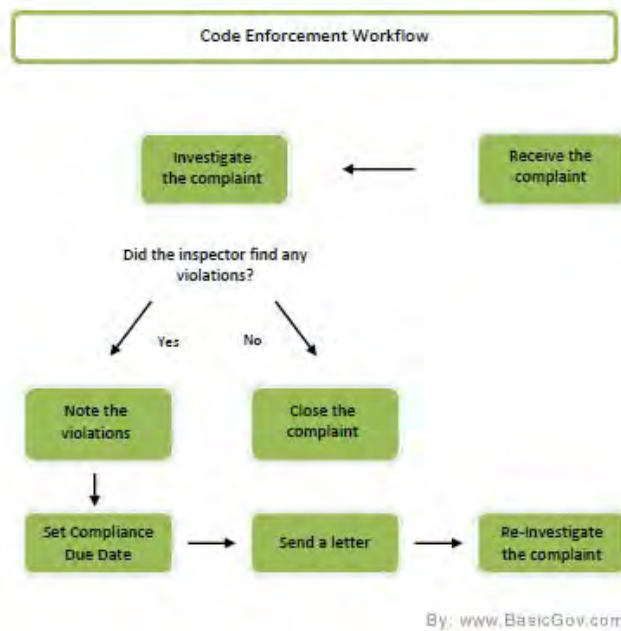
BasicGov follows best practices in order to evaluate the needs of a prospective client. The typical scenario involves a conference call between a product sales specialist and local government staff inquiring about software. These are the types of questions explored during an evaluation call:

1. Tell me about your city/town and department; what is the workflow; how many staff?
2. How do you currently run your work processes?
3. Are you currently using a software product? If yes, why the interest in changing?
4. Give me an example of your typical application process from start to finish?
5. What could you manage better if you had the proper tools?
6. How much time do you think you spend on a "normal" task?
7. How do you communicate with other departments?
8. When a task is assigned to your co-worker and has been completed, how are you informed?
9. How do you keep track of evidence and documents?
10. How many steps does it take for you to create a report and how much time does that take?

After the evaluation call, BasicGov's evaluation process involves a demonstration of the SaaS software, tailored to the municipalities' needs. The evaluation phase for local government typically takes three to six (3-6) months. Once a decision is made and the organization commits to implementation, the time to deploy is much faster for SaaS than on-premise software (see Part 6 below).

Part 6: What are SaaS Implementation Best Practices?

Once a contract is signed, SaaS implementation starts with a more detailed analysis of the current workflow and terminology used in your organization. Once the configuration and implementation is complete the real advantages of SaaS come into play as there are no subsequent IT headaches around software installation and testing processes on multiple computers. The SaaS vendor takes the analysis and quickly configures the application to meet your needs. Time to rollout is reduced; and staff are up and running faster, in a familiar “browser” environment.



As an example, Figure 3 to the left provides a simplistic view of a code enforcement workflow required for implementation. Once there is agreement between client and BasicGov that the workflow represents client needs, this workflow can be configured.

Figure 3 - Sample Code Enforcement Workflow

Part 7: What are SaaS Training and Support Benefits?

SaaS vendors typically provide training and support that is more affordable than on-premise software. This is possible for a variety of reasons.

First of all, the customer no longer needs to maintain hardware infrastructure to keep up with the software upgrades over time and it no longer matters what hardware is on site. Vendor support reps also do not need to constantly verify hardware capabilities and they no longer can attribute software issues to locally supported hardware. A computer with a browser is all that is needed and if there are issues, there is no gray area as to whether it is a vendor issue or a training issue.

Secondly, the customer no longer has to track versions or purchase maintenance contracts to keep pace with feature enhancements. SaaS upgrades are instant and free so this ongoing maintenance effort is no longer required; there is no need to maintain, or purchase additional software upgrades to keep pace with feature enhancement or wholesale software upgrades. Also eliminated from traditional software support is the annoying need to version check to see if software is currently supported under the existing contract.



Figure 4 - BasicGov Go To Meeting training session

Finally, companies that use a platform such as Force.com (as BasicGov does) have an additional advantage in that the vendor also does not have to maintain their own infrastructure to support their customers. This maintenance is carried out by Salesforce.com and it allows the applications to scale automatically to usage demands. This basically eliminates the need for onsite IT staff to support hardware or applications during upgrades or modifications to the software. BasicGov has an additional advantage of being on the Force.com platform as we do not have to incur incremental costs of servers which allows us to keep our pricing low and consistent.

Training is also more efficient for the reasons mentioned above. SaaS vendors do not need to cover upgrade processes, or train based on the particular version that was purchased. This means that remote training is possible with web tools such as Go To Meeting that allows the trainer to walk through the system, workflows, and answer questions. This method also allows for the customer to show the trainer how they are doing tasks, which the trainer can then provide direct feedback and suggest ways to improve the workflow.

SaaS software allows for the customer to appoint a single point person that actually uses the software to be the primary contact with the vendor to help validate and verify the configuration. This is a best practice for training and support that BasicGov follows.

Part 8: Does SaaS Improve My System Security?

The world-class Force.com Platform for SaaS hosted by Salesforce.com achieves the highest data security for the reasons outlined below.

Authenticate everyone: Entering a unique user name and password for user *authentication* grants you access to your portion of the cloud. When logging in, Salesforce creates a cookie for this session to record successful authentications. The session “cookie” does not include either the username or password of the user.

Salesforce.com does not use “cookies” to store other confidential user and session information, but instead implements more advanced security methods based on dynamic data and encoded session IDs. The standards used include SSL 3.0 / TLS 1.0.

Authorize access computers: If the user logs in for the first time from that particular computer, we want to make sure that someone else can’t pretend they are you – that they are *authorized* to access your SaaS. We also need to check that even if someone knows your username and password they also need to have access to your email and to your computer to gain access to your software solution. At this stage we can be confident that this is really you.

Encrypt Data transmission: When you send your secret username and password to Salesforce and read/write information to your software solution, you want to ensure that no one listening to your browser “conversation” with the server can understand what you are saying – in fact it’s a whole other complex language that requires complex keys to decode the conversation – keys that are only known by the server and your browser.

At the heart of the Force.com platform is one of the key innovations of salesforce.com: the idea of multi-tenant applications. In contrast to their single-tenant counterparts, such as client/server enterprise applications or email mail servers, multi-tenant applications are designed so that users share the same physical instance and version of the application.

This multi-tenant design makes possible the quick deployment, low costs, and rapid innovation for which salesforce.com has become known.

Source:

http://wiki.developerforce.com/index.php/Creating_Applications_with_the_Force.com_Platform

This is called data transmission *encryption*. When you access our site using Microsoft Internet Explorer version 5.5 or higher, Secure Socket Layer (SSL) technology is used (you'll notice an https your browser address). This ensures that your data is safe, secure, and available only to registered Users in your organization. Your data will be completely inaccessible to your competitors.

Protected Network and Secure Physical Location: After the data is transmitted securely, the data is *protected* from unwanted intrusions and unnecessary visits. These include internal firewalls and segregation with intrusion detection. The databases and networks are also located in *physically secure* locations. The data is stored in 24 hour manned security centers. The facilities are engineered to withstand seismic activates, storms, floods with on site generators for constant power.

3rd party auditing: Finally just because someone thinks they are secure and did their best to do so, you'd want to know if security experts also think so. Therefore Salesforce has a 3rd party provider continuously auditing its network and is also regularly certified through SaaS Type II. This certification is quite extensive and a much too long to describe here today, but you can find out more what this entails here.

Part 9: What Impact does SaaS have on my Privacy Policy?

What's the difference between privacy and security?

1. Security is all about who can access your data.
2. Privacy is about what people can do with the data they do have access to.

Personal data is handled and stored by your SaaS application vendor, therefore you want to know that they hold your data in as high or higher regard than you do. A privacy policy is what governs and restricts how, when, what can be done with your own contact data and your municipalities' constituent data (it *is* your data). Reputable SaaS vendors will understand your privacy requirements and implement them as their own.

SaaS vendors with a Salesforce.com partnership not only have their privacy policy aligned with those of [TRUSTe](#), the internet privacy giant boasting the strongest and most trusted privacy policy model in the business, but with Salesforce.com it is actually **certified by TRUSTe**.

This ensures that subscribers enjoy privacy protections in accordance with TRUSTe's strict privacy principles and that all customer information is respectfully treated as though it were sensitive and *not* made available to 3rd parties for their own use. Data is managed responsibly, while ownership of the data remains firmly assigned to the municipality.

Part 10: Does SaaS Impact My Data Availability?

As part of the process of selecting software for local and municipal governments, it is important to consider data availability, backups, and redundancy. This is especially important in case of a natural disaster, where you could lose access to your computers and/or data center. You should ask your software vendor where your data will be stored, how often it is backed up, and whether there is geographic redundancy. You will want to be sure that the data is frequently backed up, and stored in multiple locations separated by enough distance depending on what disaster you are mitigating. For example, fire, floods and earthquakes are more regional, while hurricanes can affect entire coast lines.



Figure 5 - Local fire and disasters do not impact Data Accessibility with SaaS

One of the advantages of some SaaS applications is that the data is hosted externally, backed up frequently, and stored in multiple redundant locations. In the case of a disaster both your application and data will still be available to you. All that is required is power in your location, a computer and browser, and an internet connection without the hassle of having to reinstall anything or having an IT professional restore backups.

Some of the key considerations in evaluating SaaS applications and data availability for local and municipal governments are:

- **Data Storage:** The SaaS vendor should be hosting your data in a remote location, and this location should provide secure access to your data. Some SaaS vendors receive third-party certification for data and application security, ensuring that your data is stored in a secure location.
- **Data Backups:** In planning for disaster recovery, it is important that the SaaS vendor have a multi-tiered approach to backups. Data backups should at least occur daily, and there should be secondary backups in a secure offsite location. If your data is physically stored in multiple secure locations, then you can be confident that you will have access to your data and your application in the event of a natural disaster.
- **Application Availability:** SaaS vendors should be able to ensure high availability for your application. The SaaS vendor should be hosting your application in an environment with reliable power and network infrastructure, a full high-availability infrastructure, and redundancy.

All aspects of the service are redundant from the location, network, servers, storage devices, databases and backups. This ensures that you will have access to your application and your data at all times.

Summary

In summary SaaS have these business benefits which are advantageous for local governments:

- Reduces IT costs: no need for expensive servers, only need a computer and internet connection; and IT staff do not need to hand-hold implementations.
- Saves staff time: eliminates maintenance and management of software and hardware.
- Improves productivity: faster implementation and training
- Access to best in class software at a fraction of the cost.
- Instant upgrades: new or improved functionality rolled out free of cost
- Affordable, pay as you go pricing: monthly subscription fees with flexibility to scale up and down as needed.