

## Issue Brief

# The Next Wave of Digital Government

A roadmap for high-impact technology transformation

## New Expectations for Government Interactions

A few taps, a few swipes, a bit of typing — getting information and taking care of business with whatever device is at hand is the expectation that all constituents now bring to their interactions with government. The public sector is being pushed to deliver more digital and mobile services, yet many government websites, information structures and application development methodologies are not able to meet the challenge. In fact, 59 percent of respondents in a Center for Digital Government (CDG) survey, which queried more than 200 state and local government IT decision-makers, indicated that inadequate IT infrastructures were the reason behind failed or troubled attempts to deploy a new technology.

Clearly, it's time for state and local governments to look at transforming their digital technologies and development processes to enable a more interactive and mobile experience.

## Strategies That Drive Technology Transformation

When developing strategies to accomplish technology transformation, state and local governments can look to the four dimensions defined in the federal Digital Government Strategy.

- **Information-Centric.** Move from managing fixed-form documents to managing discrete pieces of open data and content that can be tagged, shared, secured, mashed up and presented in multiple ways.
- **Shared Platform.** Use IT infrastructure and online services that enable public organizations to collaborate for reduced technology costs, streamlined application development and consistent information standards.
- **Customer-Centric.** Maintain a customer focus for creating, managing and presenting data through websites, mobile applications, raw data sets and other delivery modes.
- **Security and Privacy.** Ensure secure delivery and use of digital services to prevent unauthorized access to information, transactions and applications on government systems.

With the transformation strategy in place, the next step is to evaluate the new technologies that will bring the strategy to reality.

## New Technologies for Digital Government

Three key technologies underlie many digital initiatives today:

1. Open source development platforms
2. A modern content management system

3. Cloud services for application deployment and scalable data storage

These new technologies enable several benefits for an agency's operations and service delivery. Placing more content and transactions online through agile, open source development supports new and more efficient ways of working. A new content management system gives all stakeholders better ways to connect and share information. And with strategic use of the cloud, government IT departments have more flexibility to meet growing demands for online information and transactions.

Yet agile development methodologies, open source software and cloud services are only now being widely considered for adoption by government IT departments. After years of working within a closed framework, it takes a shift in perspectives, practices and processes within IT to "go open."

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## Georgia's Experience

The Georgia Technology Authority's (GTA) experience in using open source and cloud technologies offers insights into the transformation effort. GTA provides infrastructure and development services for 75 websites operated by 55 state agencies and maintains Georgia.gov, a central Web portal. Previously, these sites were developed on a proprietary platform, which required increasingly complex and expensive investments.

Two additional challenges prompted the authority to seek a new development platform. First, a survey indicated that Georgia citizens wanted the ability to complete more transactions online. Second, the state's websites experienced a 700 percent surge in mobile access, which meant developers needed the responsive interfaces and scalability that would support mobile users.

Today, GTA uses a Drupal platform for Web development, which delivers the benefits of a choice of application solutions,



improved stability and lower-cost scalability as the websites grow in traffic and services. "I never set out to be an advocate for open source, but the advantages really turned around my thinking," says Nikhil Deshpande, director of the GeorgiaGov Interactive division.

Another decision by GTA was to move its website hosting from an internal infrastructure to cloud services. This move gives the agency flexibility for deploying websites and applications, the ability to support traffic surges and resources for business continuity.

For other state and local governments, Deshpande notes, "It's easy to get bogged down in the technical details of potential solutions. Open source and cloud may not always be the perfect solution for everything, but they are good for solving many digital government needs."

## Roadmap to a New E-Government

Some state and local governments are already making progress on these new ways of working and managing information. The CDG survey found 18 percent of organizations have already updated IT infrastructures, while two-thirds expect that update to occur in the near future.

But for many governments and agencies, the right technologies and strategies to meet the transformation drivers aren't clear. A roadmap that covers the following five key elements can help guide the way.

**Integrated digital experiences.** Delivering a digital service no longer means fixed forms and applications on a single, traditional website. Instead it means continuous integration across multiple systems, websites, databases and content repositories. This environment requires faster application development and frequent releases, capabilities that are enabled in part by automated development processes and targeted use of cloud services.

**Common operating environment.** Using open source technologies allows IT to work with a common set of tools for developing and maintaining microsites, intranets, mobile sites, social media and mobile apps. Users also benefit from a congruent service experience across their multiple devices.

**Highly repeatable development processes.** Open source, platform-as-a-service solutions allow agencies to create repeatable processes that enable faster and more efficient delivery of new websites, applications and digital services.

## How to Get Started

Andrew Hoppin, former CIO of the New York State Senate, recommends these planning steps for government IT departments:

- Plan on how you will stop using closed, proprietary technologies.
- Look at which applications can be ported to cloud services quickly and for the greatest cost savings.
- Define automated workflows, standard information taxonomies and granular control over user access to online transactions and information.
- Identify new e-government services to offer and new ways to leverage investments in open source development.

**Cloud and software-as-a-service solutions.** Cloud services offer flexibility, cost savings and speed for delivering e-government services. When combined with open source technologies, cloud services give IT "more ability to be nimble and to mitigate the risk of making a big, expensive mistake, which is a significant concern for in-house technology deployments," says Andrew Hoppin, CEO of NuCivic and former CIO of the New York State Senate.

**Agile development methodologies.** Just as websites and online services will become more flexible and responsive, so too must the underlying development processes. By adopting agile methodologies, IT teams can gain the necessary collaboration and iteration capabilities that will support faster development and delivery of online information and services.

## You Can Get There from Here

The digital government vision is to move from relatively static websites that provide only basic information and transactions to supporting dynamic information access and self-service transactions on interactive websites and mobile apps. By strategically applying open source technologies, cloud services and agile development practices, government IT departments can achieve this vision, for the benefit of the organization and the public.

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