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# Meeting the Needs of Government Now and in the Future

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### Cloud: What Are You Waiting For?

If there is one technology that has most impacted government IT for the past five years, it is the cloud. Few technologies have the same power to transform government operations, lower costs and improve service delivery.

It's no surprise adoption of cloud technology has been dramatic, given that agencies have struggled financially and no longer have the resources available to invest in on-premises infrastructure and its attendant maintenance costs. For those agencies, the cloud offers modern, flexible capabilities without large upfront capital investments, as well as a more streamlined implementation and little to no upkeep for already overworked staff. According to a recent Center for Digital Government (CDG) survey, 34 percent of government decision-maker respondents said they turned to cloud solutions to improve internal operations and increase efficiencies.[1]

Agencies have also had to contend with an aging workforce. According to a Congressional Research Service report, nearly half of state workers are between 45 and 64 years old.[2] These employees have long been the keepers of institutional knowledge, particularly around the legacy systems and applications on which government has depended. When agencies have on-premises technology infrastructure, it's imperative they have employees with the experience to know how to effectively manage and maintain it. Again, the cloud offers a reprieve by providing agencies with intuitive, user-friendly interfaces and applications that don't require institutional memory.

Still, cloud adoption — particularly in government — has been slower than one would expect, given the benefits. A NASCIO survey released in early October 2014 found that 20 percent of states are now highly invested in cloud-based services.[3] It's not an overwhelming number, but it is significant compared to only 6 percent of states that were highly invested last year.



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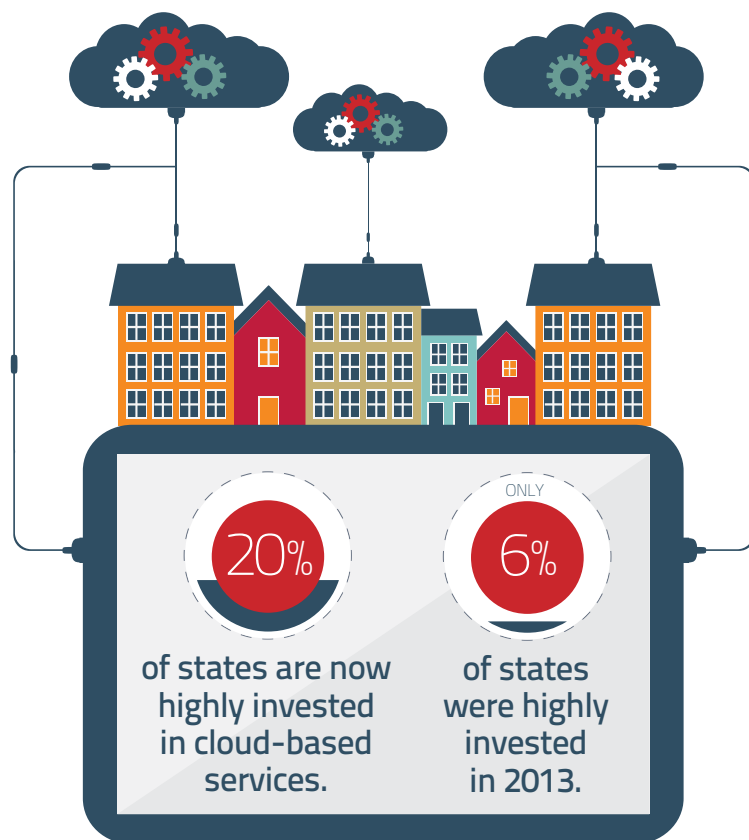
For agencies that have not yet moved to the cloud, or for those that would like to more fully leverage it, this CDG white paper provides a good starting point. It goes into more detail about how the cloud helps government overcome challenges specific to the public sector, highlights the experiences of government agencies that have made the transition and discusses the importance of choosing a provider with a solution purpose-built around public sector needs.

For those that haven't made the jump to the cloud, the question remains: What are you waiting for?

## Mitigating Retirements, Empowering the Workforce

As employees retire, receive promotions or move on to different positions, agencies and organizations need to deal with the dynamics of replacing key contributors to their IT knowledge bases. Losing an employee who has been managing IT servers and systems for years can open a large gap in skills needed to maintain an agency's current service levels.

"We started experiencing retirements with the people that were administrating our system," says Chryste Hofer, deputy CIO at the city of Greensboro, N.C. "That left skills gaps in administering the system, and so that pushed us to move to managed services on premises."[4] This was Greensboro's first step toward moving to cloud technology.

Cloud technology can help alleviate that pain of attrition and retirement by moving the responsibility for handling any or all IT issues — from desktop to mainframe and from email to system maintenance and upgrades — to a provider that has the necessary experience and skills. With more flexibility and virtual accessibility, an agency can eliminate the need to have an in-house employee test upgraded

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environments to ensure business processes are functioning as designed. Instead, an agency can opt to have some or all of the modern technology managed by a provider.

## Boosting Employee Productivity with Increased Functionality

Cloud technology allows agencies to take advantage of more out-of-the-box tools around enterprise asset management (EAM) and enterprise resource planning (ERP) systems.

Out-of-the-box options offer intuitive interfaces for employees. Dashboards simplify system access; social collaboration tools enable business intelligence to reach employees; and self-service options improve employee productivity. "Data is turned into information for the average user, not just the people requesting the reports for decision-making," says Hofer. "It's a big productivity boost."

allowing them to efficiently access their own paycheck, benefits, withholding and other information. "After we finish with the initial upgrade, we will definitely want to work on employee self-service and start our contract management functionality," says Sherri Penn, Guilford County's enterprise application manager.[5]

Another productivity-boosting benefit of the cloud: mobility. Cloud solutions offer employees anytime, anywhere access and provide remote employees with access to the same applications and capabilities as in-office employees. For example, if an employee is in the field, instead of collecting data and submitting it once back in the office, he can access the system remotely through an interface identical to that on his or her office computer and key in the data in real time. Less time is spent traveling back and forth from the field to the office and more time is spent directly serving constituents.

## Reducing IT Maintenance, Upgrades and Repairs

While Guilford County is reaping productivity benefits from the cloud, it first started looking into the cloud as a way to decrease its reliance on on-premises infrastructure and reduce the need for IT staff to manage applications and systems in-house.

To do this, the county first needed to make sure the move was financially prudent. After sending out RFQs, Guilford County analyzed the numbers. "We created a business case that analyzed the cost of staying as we were and the cost of moving to the cloud," says Penn. "And when we looked at all the factors, we found savings to realize by moving to the cloud. Initially, we were just considering hosted solutions, but after looking at that for a while, we realized having a SaaS solution in the cloud was possible and even more attractive."

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Greensboro integrated its cloud applications, business intelligence suite and enterprise asset management system into one clean, sophisticated user interface that also delivers contextual information as users navigate through their business processes. Planned upgrades include performance and compensation management, along with EAM.

"We looked at EAM because as we grow the number of assets in the EAM system, the architecture becomes more complex and the database skills to maintain that architecture are more sophisticated, so it makes sense to integrate in the cloud," says Hofer.

Guilford County, N.C., invested in cloud solutions for its payroll, HR and finance personnel. Eventually, the move to cloud will positively impact all 2,500 county employees,

by the outside provider. Agencies can also avoid continuously updating software, which can be painful and cause disruptions to employee productivity. Guilford County's IT staff no longer needs to scramble to put pieces in place for future upgrades. The agency remains up to date with all application versions and doesn't need to worry about maintenance cycles.

The scalability of a cloud infrastructure also enables agencies to reduce or eliminate silos created by legacy systems that no longer communicate between departments. Due to 24/7 availability of systems and potentially limitless storage capabilities, system performance is optimized and employees save time on daily tasks by having quick access to the information they need.

Guilford County considers having robust back-up and disaster recovery plans great benefits with the cloud. There is peace of mind in knowing the county can quickly recover from a catastrophic failure or disaster situation if one should occur.

## Bending the Cost Curve

Besides the functional and technical benefits mentioned previously, the cloud also offers significant financial benefits. The city of Greensboro estimates that in the next 10 years, it will see a $700,000 savings in technology costs by moving from on-premises to cloud.

"The savings will come from several areas, including eliminating the cost of Unix servers," says Hofer. The city will also no longer have the expense of lease contracts with virtual servers, the cost of terabytes of storage space consumed on SAN or Microsoft Windows server license costs.

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projections. "With our on-premises deployments, we were in a continual maintenance increase and escalation pattern," says Hofer. "We wanted to adjust our current product configurations to meet our current business needs and weren't able to."

Greensboro analyzed the costs of maintaining complex servers for various applications, as well as the complex system administration expenses that went along with it, and started the journey toward the cloud.

Cloud technology enables agencies to repurpose human and technical resources. IT staff resource efforts can be redirected to higher-level priorities, for example. With Greensboro, that equated to 30 percent of one FTE in the administration of operating systems, which it easily redeployed to an understaffed environment.

Lower TCO and the predictability of the long-term cost of cloud technology are financial benefits, as is having a minimal upfront investment, in some cases. When doing a complete total cost of ownership comparison, leaders should consider all possible costs of maintaining on-premises equipment versus cloud applications. On-premises examples include cost of IT resources, hardware servers, equipment leases, software licenses, backup solutions and software, redundant server equipment, and software and system upgrades. Examples of cloud costs are the initial installation and migration and monthly hosting fees.

## Moving the Public Sector Forward and into the Cloud

As an innovative agency that wants to move to the cloud, you want to find an equally innovative provider to work with — most importantly, one that has hands-on

## How to Get Ready to Transition to the Cloud

Whether you choose a gradual rollout or a complete overhaul as you transition to the cloud, following are some steps you can take to get started:

**1** Perform a definitive, thorough cloud assessment.
- Decide which applications or systems to move to the cloud.
- Understand the security of the data and how important that is to the agency.

**2** Develop a strategy for the migration to cloud.
- Look at disaster recovery abilities.
- Consider ability for future expansion.

**3** Encourage adoption in the agency through a controlled, well-communicated message to all stakeholders.

**4** Craft a mission statement to guide the planning and implementation. Know the objectives of migration, relevant metrics and so on.

**5** Address operational concerns, such as data security and information ownership.

**6** Deploy some concepts or pilots and be aware of how deployment will change day-to-day operations, so you can manage the impact on those employees before full implementation.

experience with industry-specific solutions. How do you find that provider?

**Talk with peers that have made the move.** Both Penn and Hofer highly recommend speaking with customers of providers you are considering. Send out RFQs, but go beyond the dollars and details provided in the submissions you receive. Penn suggests investing time in learning the good, the bad and the ugly that is involved with the transition from on-premises to cloud technology.

**Establish a plan and expect setbacks.** "Plan well," Hofer says of her experience with the Greensboro cloud migration. "Understand where you get the biggest ROI and plan for challenges. Know that it is not an exact science; it will be different for every client based on the solution set deployed. Allow time — up to a year — to get through the whole migration process. It can take several months to stand up a full server stack for each development and production instance, then you allow time to configure it, and migrate all of the interfaces and reporting. It is a complex project, but well worth the effort in the long run."

**Find a provider that can handle all your needs now and into the future.** It's important to find a provider that can handle all required technical upgrades going forward — including implementing system version upgrades, applying patches and performing technical administration. Whether you choose to have the provider handle everything for you or not is up to you, but knowing the provider can do it for you if you want can offer peace of mind. Technology is ever changing and you may not want to have to stay on top of it yourself.

**Remember you always have a choice.** Moving to cloud technology doesn't need to be an all-in or all-out decision. You can select a provider that gives your agency choices about which applications go to the cloud, which stay on-premises, and the option to mix and match in the future.

As you probably have some legacy software, another aspect to keep in mind is finding a provider that can connect any type of solution or system you currently have in place, from legacy to new, across all departments, into the cloud.

You also have the choice of when to move to the cloud. Implementation can be gradual. Perhaps your agency wants to start slow and move a single application to the cloud. Maybe the best option is to roll it out in a certain agency or department and build on that as you need to scale, or as resources are available to do so.

An aggressive implementation that moves your entire infrastructure to the cloud at one time may give your organization the best results. It may also have the highest initial cost. Or your agency may find the best fit is having a combination of on-premises and cloud options. You'll want to have variety and flexibility.

**Look for an industry-specific solution.** Find a provider that offers a solution specifically developed for public sector. You do not need to accept a repurposed solution that started out for the private sector. Having an industry-specific solution now will make future expansion easier and more powerful, since you'll be able to benefit from like-minded agencies adding their experience to the mix.

> Moving to flexible cloud solutions allows your agency to improve service delivery by doing more through technology with less expense.

Industry-specific cloud solutions also enable you to take advantage of new innovation when it comes to upgrade paths and new technology. Solutions made for your industry can reduce the need to perform system modifications and minimize customizations needed.

With the rapid growth in cloud technology, you can also have a consumer-grade experience with your cloud solutions. It is possible to get the same simplicity and ease of use you enjoy in personal applications applied to back-office applications. In addition, the look and feel of the solution should be the same on a mobile device as it is at the office.

## The Bottom Line

The best cloud option for your agency will combine modern technology, an industry-specific application and a consumer-grade experience.

The cloud provider and solutions you select need to meet your technology needs today and help maintain an upgrade path in the future. You will be able to reduce personnel costs around IT and deploy those resources to other areas within your agency.

The bottom line: Moving to flexible cloud solutions allows your agency to improve service delivery by doing more through technology with less expense.

## Endnotes

1. CDG Improving Government Performance Research Survey, 2014
2. www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2014/06/states-face-rising-tide-of-retirement
3. www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2014/10/14/states-ascend-into-the-cloud
4. All information and quotes from Chryste Hofer, City of Greensboro, North Carolina, are from interview conducted on October 8, 2014.
5. All information and quotes from Sherri Penn, Guilford County, North Carolina, are from interview conducted on October 9, 2014.

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