

EXECUTIVE SUMMARY

# Cloud Trends and Survey Results

- Before adopting cloud-based services, state and local governments need to better understand the cloud and how it works.
- The cloud is a combination of processes, methodologies, and technologies.
- Misconceptions about the cloud are common.
- To sell the cloud to internal decision makers, it is essential to develop the business case and a backout strategy.
- Microsoft's Azure Cloud Platform is ideal and economical for many government IT workloads.

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Bill Wolpin, Editorial Director, *American City & County*, *American School & University*,  
*Government Product News*; *Government Procurement*, *Rental Equipment Register*;  
*Urgent Communications*

Rod Trent, IT Community Manager, *Windows IT Pro*

Steve Read, Cloud Solutions Sales Director, Microsoft – State & Local Government

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## Overview

While many local and state governments have moved services into the cloud, others remain skeptical, but still want to know more about its potential value. As government agencies become more educated about the cloud, they must consider whether public, private, or hybrid cloud environments will best suit their needs.

Selling a cloud migration initiative to internal decision makers requires a solid business case. Microsoft's Azure Cloud Platform is a good option, based on hardware cost savings, elastic capacity provisioning, managed environment, and robust data center network. It can be an effective alternative for virtual machines, deployment of packaged applications, website hosting, data storage, and more.

## Context

Bill Wolpin, Rod Trent, and Steve Read discussed cloud adoption in the state and local government sector, as well as how Microsoft's Azure Cloud for Government can ease that migration.

## Key Takeaways

**Before adopting cloud-based services, state and local governments need to better understand the cloud and how it works.**

*American City & County* recently conducted a cloud survey which received the highest

response of any survey in the last 18 months. Respondents represented:

- Municipalities, towns, and boroughs: 61%
- Counties: 20%
- States: 12%
- Special districts: 6%

Bill Wolpin discussed the survey's major findings:

- **Government agencies see the cloud growing in importance, but want to learn more about how it can help them do their jobs.** When asked what cloud topics they were most interested in, close to two thirds of respondents (63%) said they wanted to learn more about cloud basics and 36% indicated wanting to understand how the cloud could improve delivery of citizen services. A concern for 29% of respondents was cloud security and compliance standards.
- **Many organizations are hesitant about moving services to the cloud.** Almost half of survey respondents (47%) said their organizations haven't yet moved any services to the cloud and an additional 30% said they were unsure.
- **Government agencies that have moved services to the cloud have seen clear benefits.** Among respondents using the cloud, the most common services are email and unified communications (48%), data storage (46%), and application hosting (39%). Adopters are seeing benefits like greater accessibility on different devices

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(62%), decreased costs of building and maintaining the IT infrastructure (42%), and improved management efficiency and response (33%). Over one third of respondents (38%) have been using cloud services for more than a year and 39% have been using them for 6 to 12 months.

These findings are encouraging for government agencies that are considering the cloud, since their primary reasons for interest are cost savings (50%), accessibility (39%), and manageability (35%). Their top reasons for avoiding the cloud have been security and data privacy concerns (53%), cost and budget issues (45%), legal and liability issues (27%), and lack of executive support (27%).

- **Respondents need more education about the cloud.** When asked what type of service their organizations were most seriously considering for cloud deployment, over half (56%) said they didn't know. In addition, 61% indicated that they didn't know what methods of implementing cloud service their organizations were currently considering.

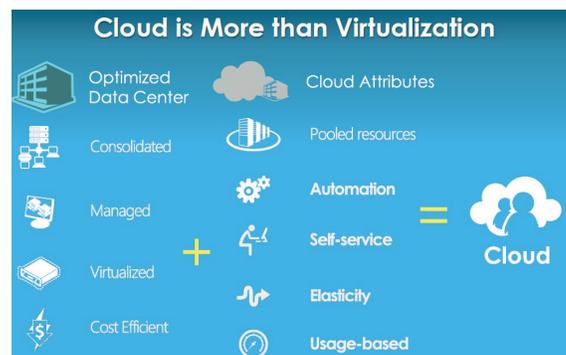
*Employees at state and local governments want to be part of the decision to move services to the cloud. However, before that can occur they need to better understand the cloud and its value.*

Bill Wolpin

## The cloud is a combination of processes, methodologies, and technologies.

The cloud has its roots in virtualization. Virtualization is the ability to run multiple server instances and applications on a single piece of hardware. Virtualization saves organizations money because they no longer have to buy multiple servers to support their applications. In the past, as virtual machines ran they continually consumed additional computing resources and IT pros had to manage the workloads. Over time, however, those processes became automated, which relieved the IT burden.

Although many people envision the cloud as a place where requests or data go, it is really about the processes and methodologies that have been created to efficiently manage virtualized environments. The cloud is more than virtualization. It is an optimized data center that incorporates orchestrated cloud attributes.



Rod Trent discussed three types of cloud environments:

1. **Public clouds.** These are clouds that are 100% hosted and can be broadly accessed. One example is the Microsoft Office 365

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subscription service which is completely hosted at Microsoft data centers. In many cases, public clouds mirror what exists on-premise. Windows Azure, for instance, mirrors almost exactly what an on-premise data center can do. Advantages of public clouds include reduced hardware and software licensing costs. These expenses are incorporated into subscription costs.

2. **Private clouds.** Private clouds are on-premise data centers that run with the same processes, methodologies, and economies of scale as public clouds. Organizations with private clouds achieve cost savings through automation, but still incur the costs associated with server hardware and software licensing.
3. **Hybrid clouds.** Hybrid clouds are composed of at least one private and one public cloud. As a result, resources are both in-house and hosted. Since Microsoft owns the majority of the market for on-premise servers and client operating systems, it is no surprise that they are one of the only vendors offering a special conduit between internal data centers and public clouds.

Hybrid clouds allow organizations to take full advantage of public cloud resources, while retaining control over processes internally until it makes sense to migrate them. Trent noted that when companies purchase hardware, they usually expense it over a three- to five-year period. It may not make sense to migrate completely to the cloud until on-premise hardware is completely expensed. Hybrid clouds allow

organizations to make the most of hardware investments, while expanding their internal network capacity at a moment's notice with a public cloud.

## Misconceptions about the cloud are common.

Since the cloud is relatively new, it is not surprising that government agencies often don't have a complete understanding of what it is and how it works. Rod Trent clarified five misconceptions about the cloud:

1. **The cloud is a place.** The cloud is not a specific place. It could be anywhere. The cloud is about processes.
2. **The cloud will always save money.** Organizations must decide which parts of their IT infrastructure make economic sense to move to the cloud. In most cases, organizations won't migrate everything from their data centers to the cloud.
3. **The cloud is not secure.** Although no system (even on-premise data centers) are 100% secure, companies like Microsoft have spent considerable resources to ensure that their cloud services are highly secure and meet regulatory requirements.
4. **The cloud is data blackmail.** Some hosting companies make organizations sign agreements that give away access to their data. However, not all do. Microsoft is one of the only companies that encrypts cloud data and allows customers to retain complete ownership over the data.

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5. **The cloud will kill IT.** There is little doubt that the cloud will change IT and IT pros must adapt. However, it will certainly not make IT obsolete.

*IT pros must learn cloud processes so they can serve as a mediator for their organizations and recommend what makes sense and what doesn't.*

Rod Trent

**To sell the cloud to internal decision makers, it is essential to develop the business case and a backout strategy.**

Cost is always the deciding factor for winning over decision makers. When it comes to the cloud, it is important to develop a strong business case that demonstrates the economic benefit.

IT professionals may need to partner with colleagues on the business side to develop that plan. In addition, it is essential to develop a backout strategy. There must be a viable Plan B, if the cloud option doesn't work out.

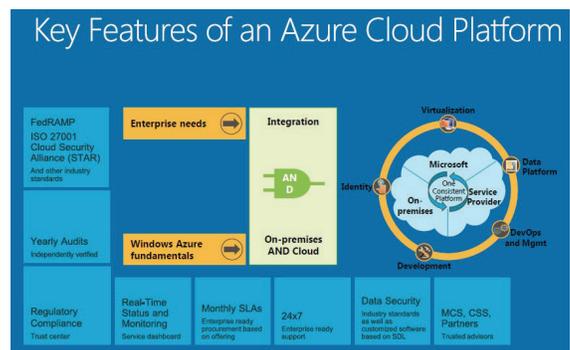
**Microsoft's Azure Cloud Platform is ideal and economical for many government IT workloads.**

Microsoft's Azure Cloud Platform is designed around five cloud principles:

1. **Economics.** Hardware cost savings are usually the biggest driver for moving to the

cloud. As soon as IT teams buy hardware, it starts obsolescing and requires maintenance. The cloud eliminates that problem.

2. **Usage based.** Computing, network, and storage resources are allocated on an as-needed basis.
3. **Automated and elastic.** Windows Azure resources grow automatically to meet demand and shrink when demand decreases. Users no longer have to buy expensive hardware that is oversized to accommodate worst-case demand scenarios.
4. **Managed.** Windows Azure provides many metrics to quantify usage of computing resources, storage, and networking capacity.
5. **Always up, always on.** Windows Azure is designed to inherently provide failover, business continuity, and disaster recovery. Organizations can choose the deployment data center for their solution and can failover to a different data center in the Microsoft network.



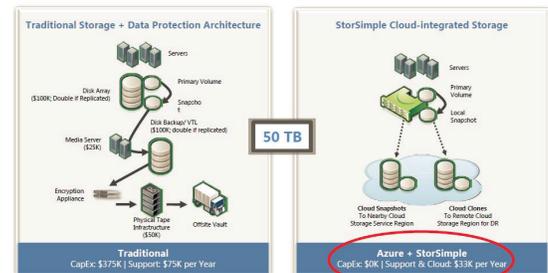
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Steve Read explained how Windows Azure can support four common government IT workloads:

- Virtual machines (VMs) on demand.** Windows Azure is a fast, simple way to port VMs inexpensively to the cloud and eliminate on-premise hardware. It can take three to four months to set up hardware for dev-test environments. With Windows Azure, this can be done in less than an hour, and once users are done with the VM, it can be torn down. This approach is becoming the norm for dev-test environments. Organizations can use Windows Azure-provided virtual hard disks (VHDs) or their own. Both Windows and Linux are supported. Windows Azure Virtual Network connection costs are just \$0.05 per hour.
- Deploying packaged solutions.** With Windows Azure, there is no need to wait for central IT to deploy packaged solutions. In addition, IT resources become an operating expense, rather than a capital expense. This can be an economical approach if an organization is running out of data center space.
- Moving a website to the public cloud.** With state and local government websites, traffic usually spikes around events like elections or storms. Windows Azure scales up when traffic increases and then scales back. Windows Azure Web Sites allows 10 free websites and paid sites range from \$0.02 to \$0.40 per hour. Websites can run in their own VM if desired and can use other Windows Azure services, such as blob storage.

- Data storage.** As government data volumes grow, the cloud offers fault tolerance and data redundancy. Primary data storage, as well as archive, backup, and DR, can be consolidated through seamless integration with Windows Azure. StorSimple is a cloud-integrated storage appliance that connects Windows and VMware servers to Azure storage in minutes without application modification. Windows Azure becomes an almost unlimited hard drive for an organization's IT needs. Windows Azure and StorSimple reduce enterprise storage total cost of ownership by 60% to 80%.

## Compelling Economics: Traditional Storage vs. StorSimple



*Maybe you want to start downsizing some aspects of your data center, or put entire workloads in the cloud and leave other ones on premise. . . . The nice story with Microsoft's Windows Azure Cloud is you have that ability.*

Steve Read

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It's easy and economical to get started with the Microsoft Cloud. Organizations can choose the StorSimple 7020 device plus Azure Cloud resources, deployment planning services, and a Concierge Onboarding service, which includes consultation with a Cloud Solutions Architect. All of this is available at affordable levels for all sizes of governments. To learn more, contact your Microsoft Account Manager or email [slgazure@microsoft.com](mailto:slgazure@microsoft.com).

## Biographies

### Bill Wolpin

Editorial Director, *American City & County*, *American School & University*, *Government Product News*; *Government Procurement*, *Rental Equipment Register*; *Urgent Communications*

Bill Wolpin is the Associate Publisher and Editorial Director of *American City & County*, *Government Product News* and *Government Procurement* magazines. Bill has judged several national magazine and engineering award competitions, and has been a speaker at the magazine industry's leading conference as well as several solid waste and government association events. His magazines have won more than 80 national, regional and state awards for excellence, including a 2001 Jesse H. Neal Award for his editorials in *Waste Age*, four Folio Gold Editorial Excellence Awards and a Gold Ozzie. He also was a 2005 Neal Award finalist for his editorials in *American City & County*.

Bill has received an employee excellence award, a CEO Award and was a finalist for employee of the year. In 2003, he was the recipient of the Lawrence Lecture award, the highest honor bestowed by the Solid Waste Association of North America. In 2006 Magazine Association of the Southeast, where he served as president and member of the executive board, selected him for its Hall of Fame.

### Rod Trent

IT Community Manager, *Windows IT Pro*

Rod Trent is the IT Community Manager for *Windows IT Pro*. He is a leading expert on Microsoft System Center technologies and has more than 25 years of IT experience, with over 20 years dedicated to System Center. Rod has written many books, thousands of articles, and speaks at various conferences and user groups. His professional focus is evangelizing technical community on the web and in person. Rod was a Microsoft MVP for 10 years and is a charter member of the Dell TechCenter Rockstar program. He's an avid gadget fan, a die-hard old television show and cartoon buff, a health and exercise freak, and a part-time missionary to the Chinese people.

### Steve Read

Cloud Solutions Sales Director, Microsoft – State & Local Government

Steve Read is the Director of the Microsoft State and Local Government Solution Architect Team. This team focuses on developing and driving cloud solutions for State and Local Government customers centered around Justice and Public Safety, eGovernment, and Health and Human Services. Steve has been with Microsoft for over 14 years in various roles. He has been working with Microsoft's Cloud Application Platform (Microsoft Azure) for 5 years. Before that Steve worked for 10 years as a Data Platform/Integration Architect for Microsoft.

Prior to joining Microsoft Steve worked for 17 years as a developer/architect in the Banking, Healthcare, and Government industries.