

IT Services

Gain the most value from your IT infrastructure through services that boost productivity, improve efficiencies and save money

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Executive Summary

Government IT departments face tremendous pressures. They have to stave off security attacks, guard against outages and keep essential services running 24x7. But at the same time, they must stay current with technology and pursue new tech projects that improve services to constituents and make government more streamlined and effective. And they have to do it all with tight budgets.

An IT service provider can help.

Highly trained specialists from an IT service company can assist local, state and federal governments in many areas, including assessing their IT needs, designing a customized solution and configuring new purchases to meet their specific requirements. They can also install the equipment, and even monitor, manage and support the technology to ensure that IT operations are up 24x7.

The bottom line is that your IT department can save time and resources if you farm out certain day-to-day tasks, allowing your staff to focus on more strategic areas.

This white paper will explain in detail the technology and offerings that IT service vendors offer in six key areas: infrastructure optimization, security management, unified communications, continuity of operations, mobility and desktop lifecycle management. But before diving into these areas, let's first lay out the benefits and basic IT services you can expect from a service provider.

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An Introduction to IT Services

If your government agency is contracting out or looking to contract out some IT services to outside firms, you're not alone. Organizations are now typically spending more money on IT services annually than they do on hardware and software, and the biggest percentage of their IT services spending is from outsourcing IT management.

A service vendor can help you save money by reducing labor and technology costs. It can augment your staff and give you access to skills or expertise not available in-house. Service vendors typically have a diversity of knowledge and a wide range of experiences with IT issues, and they are proficient with industry best practices. This provides them with the skills and know-how to give you sound advice and take care of your IT needs with solid, cost-effective solutions.

In recent years, some governments (particularly at the city level) have outsourced all their IT functions to service providers, from data center and network management to disaster recovery services. But government agencies can also engage service providers on a project basis, such as a wireless network installation, or have them take over and manage an operations function, such as help desk support.

There are four basic categories of IT services that are provided by most service vendors: assessment, planning and design; configuration and installation; product lifecycle support; and managed and hosting services.

Outsourcing Trends

62%: The percentage of organizations that have outsourced IT services.

34%: The percentage of these organizations that outsource for cost savings.

66%: The percentage of these organizations that outsource for cost efficiency.

Here's a breakdown of the average cost savings from outsourcing IT, broken down by technology focus:

27%: The amount of savings from outsourcing infrastructure management.

20%: The amount of savings from outsourcing application development.

16%: The amount of savings from outsourcing applications support.

13%: The amount of savings from outsourcing the help desk.

Source: 2007 survey by Info-Tech Research Group

Assessment, planning and design: IT service vendors can assist you from the very beginning of your IT project. They can assess your needs, evaluate your existing technology and then recommend or design a solution that fits your current and future requirements. Some service vendors specialize in particular manufacturers while others can provide you with vendor-neutral recommendations.

Configuration and installation: After you purchase your products, service providers can configure the products, go onsite to help you implement the equipment or software and test it out to make sure it works. They can do everything from configuring routers to setting up RAID clustering on servers. They can also save your IT staff from performing menial tasks, such as setting up new PCs by loading customized images.

Product lifecycle support: Service vendors offer everything, from maintenance contracts where parts under warranty are shipped immediately to onsite staff support including systems engineers, network technicians, and PC and printer repair technicians. Offerings range from four-hour response times for emergencies to next-day, onsite service.

IT service companies can provide you with permanent, semi-permanent or temporary IT staffers. They also offer end-user and IT staff training, either through classroom or web-based courses. And they can assist with asset management and help you coordinate the disposal of hardware at the end of its life.

Managed and hosting services: Service providers that own their own data centers can offer a range of managed and hosting services. Hosting services include web and server hosting and remote backup services. Managed services include managing and patching applications that are housed in your own data center, remote vulnerability assessments and remote monitoring and troubleshooting of your IT systems.

Six Key Technology Areas for Services

Local, state and federal government IT departments have six key areas where there are great opportunities to utilize IT services: infrastructure optimization, security management, unified communications, continuity of operations, mobility and desktop lifecycle management. Implementing them correctly can save money, protect data, keep services up and running, and allow an increasingly mobile workforce to stay in touch.

Here are more details on the six key technology areas. For each, this white paper will highlight their benefits, the technologies involved and the types of service offerings by IT service companies.

1. Infrastructure Optimization

With so many government agencies facing the prospect of reduced budgets and an aging IT infrastructure, going to a vendor for optimization services is a smart choice. Infrastructure optimization is an IT initiative that aims to improve the performance and operational efficiencies of your IT infrastructure, from the data center to the desktop, so you can better control costs.

Through data center optimization, you consolidate servers, storage, networks and cooling systems to create an energy-efficient data center that is easier to manage, better utilizes hardware resources and reduces power consumption. The result is space savings, reduced electricity bills and an infrastructure well positioned to meet future demands.

There are four focal areas for data center optimization.

- **Server virtualization:** To maximize processing power, run multiple virtual machines, each with its own operating system and application, on a single server.
- **Blade servers:** Migrate from rack-mount servers to blades, which are thin servers that share power, cooling and network cabling on a chassis.
- **Data storage management:** Move data from direct-attached storage on servers to networked storage, such as storage area networks (SANs). This way, data is consolidated and centralized, which improves storage utilization and makes the data easier to manage and back up.
- **Power and cooling management:** Take advantage of uninterruptible power supply (UPS) units to ensure uptime and properly design data centers with power distribution units and cooling systems.

Data Center Optimization Services

Service vendors can identify data center inefficiencies and help you lower the cost and complexity of the infrastructure. There are two key assessments for data center optimization.

- **Virtualization assessment:** An IT service company can leverage software tools to analyze your existing servers and applications and determine which are good candidates to be virtualized. In this assessment, technicians evaluate your infrastructure and determine if you need to upgrade to new servers and purchase more storage.
- **Data assessment:** Through software tools, a service vendor will examine your storage environment and identify duplicate data. Data deduplication technology deletes multiple copies, keeping one copy for staff access. The assessment also identifies data that

is nonessential or dormant, allowing you to pursue a tiered storage strategy in which the infrequently accessed data is moved to secondary, lower-cost storage devices.

A service provider can assist you with one portion or all facets of data center optimization. In many cases, you won't want to do one without the other. For example, to pursue server virtualization, you may want to couple it with more powerful, energy-efficient blade servers. To further optimize, you may want to ensure that the SAN supporting your virtualized server environment is optimized.

After you consolidate both servers and storage, you will likely need to reconfigure your data center. Service providers have technical specialists that are experts in IT and facilities management, so they can design your data center for peak performance and maximum energy efficiency.

Equipment manufacturers and service providers can offer services such as inspecting the electricity wiring of a new data center or even bringing project managers onsite to manage the entire data center construction. They can also install environmental sensors that measure temperature and humidity and offer remote monitoring to ensure uptime.

Data Center Optimization Adoption

A survey on server virtualization and consolidation revealed where organizations were regarding implementation of this technology initiative:

- 28%:** Piloting or implementing now
- 24%:** Implementation in less than 12 months
- 23%:** Fully implemented
- 15%:** Implementation in more than 12 months
- 10%:** Not planning to

A survey on storage consolidation revealed where organizations were regarding implementation of this technology initiative:

- 29%:** Piloting or implementing now
- 28%:** Fully implemented
- 25%:** Implementation in less than 12 months
- 11%:** Implementation in more than 12 months
- 7%:** Not planning to

Source: 2009 survey by Info-Tech Research Group

Other services include preventative maintenance visits, full-blown cooling analyses to analyze overall airflow, thermography evaluations to look for hotspots at the rack level and circuit tracing, which examines power distribution throughout a data center.

Desktop Optimization

Besides the data center, organizations can optimize their desktops, specifically with technology called client virtualization. This is a thin-client computing model where all the processing power, operating system and applications come from the data center and are delivered to the user through thin-client devices, desktop PCs, notebooks or even mobile devices.

Different architectures exist and a service vendor can help you determine which one best fits your needs. For example, blade PCs are actual computers housed in the data center.

Virtual Desktop Infrastructure (VDI) partitions servers into different virtual machines, giving each user a “virtual computer” with an operating system and applications. Another architecture delivers the OS and applications from the servers to the end user’s computing device, where the applications run locally during a session.

The benefits are the same: easier IT management, improved security and more eco-friendly computing (because the technology consumes less power). IT staff can manage the computing infrastructure in one central location, the data center, and use management software to manage user settings and install and upgrade software.

Security is improved because the data is stored centrally and not on users’ own hard drives. Therefore, IT managers don’t have to worry about unauthorized users copying files from desktop PC hard drives. And if notebooks are lost or stolen, data is not at risk. For added security, you can deploy smartcard readers, biometric scanners and two-factor authentication tokens.

2. Security Management

Government agencies are constantly bombarded by security threats: hackers, viruses and malware, computing devices that are lost or stolen, and even inappropriate staff access. As threats continue to evolve, a service provider can help government agencies increase their security and take advantage of the latest technologies.

Within the security services market, there are five typical areas of focus.

Data loss prevention (DLP): Secure your most sensitive data with DLP technology, which encrypts data on an array of devices, including computers, mobile devices, networked systems and removable media and storage devices. DLP software and appliances allow you to create

security policies and classify what data is sensitive. The technology then monitors the network and users’ devices and prevents the transfer of that data over e-mail, instant messaging and removable storage devices.

IP surveillance: You can protect your workers and safeguard offices and parking lots with IP surveillance cameras. The technology, which operates on local area networks (LANs) and wireless networks, offers more features and is less expensive than traditional closed circuit TV systems.

Through management software, staffers can view the cameras live from web browsers. And if a crime occurs, archived footage stored on servers or other storage devices can help authorities capture the culprits. Some IP-based cameras have built-in motion detectors, can detect audio, and can connect to alarms and access control systems.

Risk assessment and compliance: A service vendor can perform a comprehensive risk assessment to identify and document the vulnerabilities in your environment and then recommend a remediation plan to secure your infrastructure.

Secure remote access: With more government staff working remotely or teleworking, remote access technologies, such as virtual private networks (VPNs), are critical for allowing workers to securely connect to network resources.

Other remote access technologies include network access control (NAC) software and hardware, which ensure that user devices are in compliance and have the latest security patches and virus definitions before they are allowed onto the network. In addition, IT departments can deploy hardware tokens for two-factor authentication, such as key fobs that randomly generate one-time passwords.

Desktop Virtualization Reduces Support Costs

Of IT managers that have deployed desktop virtualization, a survey revealed what kind of cost savings have been achieved as a result:

41%: Have seen savings of 16 to 40 percent

27%: Have seen savings of 5 to 15 percent

27%: Have seen soft savings

5%: No savings at all

Source: Q1 2009 survey of 204 IT managers, Info-Tech Research Group

Threat prevention: This multilayer security strategy uses a suite of products to minimize security risks, safeguard data and block access to questionable websites. Technologies include firewalls; intrusion detection systems and content-filtering appliances on the network; and personal firewalls, antivirus and antispyware software on desktops.

Security Services Offerings

Security specialists at IT service companies maintain the highest security certifications and offer best-of-breed tools to assist you with every phase of your security deployment.

Service provider technicians can offer remote vulnerability assessments and use software tools to remotely probe your network and systems to identify holes and vulnerabilities. They can also offer more in-depth onsite assessments that review your overall security posture, including physical security.

3. Unified Communications

Unified communications adoption in government is skyrocketing, and for good reason. It saves money, allows mobile workers or staff in different offices to easily stay in touch and aids in operations continuity. Implementation can be a challenge. A service provider can guide you through the process and rearchitect and optimize the network to ensure good quality of service.

Unified communications breaks down the silos that previously existed between different communications technologies, such as e-mail and phone, and brings them all together with voice, video and data traffic converged on one network. As a result, staff are empowered with new ways to communicate and collaborate, resulting in improved worker productivity and a lower total cost of ownership.

Video conferencing, for example, lets workers in different locations hold meetings without having to travel, which not only reduces travel costs, but also helps government agencies' green efforts by cutting down on carbon emissions. In addition, unified communications allows government agencies to reduce maintenance and energy costs because they are only operating and managing one network.

Unified communications' features come in four categories.

Telephony and Voice over IP (VoIP): By routing voice calls over the network, calls between offices are now internal, saving government agencies on long distance charges. Staffers can now take advantage of Find Me/Follow Me services, meaning they can route their office calls to their cell phones or their computers when working remotely.

Security Threats from Workers on the Rise

A survey looking at the growth of security threats from within organizations between 2007 and 2009 revealed some interesting trends:

- Copied confidential information onto USB memory stick

2009: 61% of staff have done it

2007: 51% of staff have done it

- Accessed web-based e-mail from a workplace computer

2009: 52% of staff have done it

2007: 45% of staff have done it

- Downloaded Internet software

2009: 53% of staff have done it

2007: 45% of staff have done it

- Lost a mobile data-bearing device

2009: 43% of staff have done it

2007: 39% of staff have done it

- Turned off security software

2009: 21% of staff have done it

2007: 17% of staff have done it

Source: 2009 survey of 967 people, Ponemon Institute

Workstaff can launch phone software on their computers to securely dial and receive phone calls with their office phone numbers. VoIP also allows IT staffers to deploy new phone lines faster and more cost effectively.

Conferencing and collaboration: Through a user interface, workers can check their colleagues' online presence, and if they're available, they can instant message, talk, hold video conferences and edit documents together.

At large offices, agencies can deploy enterprise-class video conferencing, allowing staff to see each other on large high-definition televisions. Smaller locations can deploy smaller tabletop video conferencing units.

Messaging: This technology includes e-mail, instant messaging and unified messaging, giving workers the ability to check their work voicemail on their smartphones or their computers' e-mail program, a helpful feature when workstaff are working remotely.

Call center management: For agencies that run call centers, call center technologies integrate phone, e-mail, instant messaging, web collaboration software and customer relationship management tools on one unified system, which improves customer service.

Unified Communications Offerings

There are many excellent unified communications vendors and manufacturers available. Some service providers specialize in one vendor's unified communications technology. But there is value in finding a service provider that has expertise in multiple vendors to give you the best, most appropriate and cost-effective solution for your specific needs.

For example, some systems can run on a hybrid model of old PBX technology coupled with new VoIP technology. A service provider well-versed in multiple vendors can help you determine whether you can accomplish your unified communications goals through a staged upgrade of your existing phone system, rather than ripping and replacing your infrastructure with an entirely new system. This option allows you to migrate at a pace that suits your needs.

Service vendors will also check to see if your network can handle the extra bandwidth requirements. And if not, they will make recommendations to build up your network. Service providers can also perform proof-of-concept deployments, which are small deployments of 10 users or fewer that allow IT departments to test the technology. They can also do the implementation work and provide post-sales support.

4. Continuity of Operations

Government agencies are under tremendous pressure to keep IT services running 24x7. But natural disasters, security breaches, system failures and human error can take down IT systems at any time.

A service company can help you implement a comprehensive disaster recovery plan that includes a failover data center site and the backup and archiving of data, so you can restore services quickly or even keep them up and running in the event of emergencies.

With disaster recovery planning, many of the technologies mentioned in the data center optimization section are critical. Server virtualization, for example, allows organizations to quickly transfer virtual machines to other hardware. Data in SANs can be mirrored to a secondary data center. Service provider specialists can help you architect a secondary data center and build redundancy into your server, network and storage environment.

Specialists can also help you design and implement data backup and archiving. Technology solutions include data backup software, data deduplication technology, disk-to-disk-to-tape solutions and

UC Benefits

What benefits of unified communications are very important to organizations?

- Increased productivity: **61%**
- Reduced operating costs: **56%**
- More reliable communication: **48%**
- Improved cross-functional communication: **44%**
- More effective use of remote/mobile workers: **41%**
- Improved customer service: **34%**
- Reduced business travel: **33%**
- Continuity of operations: **30%**

Source: Survey of 766 IT professionals in government, business, education and healthcare, CDW's 2009 unified communications tracking poll

archiving software, which allows you to define data retention policies, automate the movement of data through various tiers of storage during its lifecycle and even delete files at the end of their retention period.

Service providers offer several managed and hosting solutions to aid with disaster recovery, backup and archiving. If your agency doesn't have a second data center, you can use a service vendor's collocation facilities.

5. Mobility

Many government workers today utilize smartphones and notebook computers, and they want wireless access to network resources wherever they are — in the office, at home or on the road. Service providers offer services for wireless mobile devices and wireless networks. Here's a closer look at both.

Wireless Mobile Devices

With telecommunications becoming one of the top budget allocations for organizations, many government agencies are struggling with how to manage the billing, rate plans and activation processes — not to mention the enormous task of asset tracking devices and plans. And to complicate it further, many government agencies support multiple carriers and thus manage multiple carrier bills.

A service provider can manage the entire process for you.

Service provider mobility specialists can figure out which carrier offers the best service in your area nationwide and negotiate the best possible prices and contracts for you. They can also activate the

phones and deploy them to your users. Such services can be provided via a recurring monthly order or a large-scale refresh.

A mobility practice can also handle the activation, configuration and deployment of notebook computers with embedded or slot data cards.

Service companies can offer installation services for smartphone server software on your premises, allowing your users to access their e-mail, calendar, contacts and other applications. Service providers can also provide help desk support for mobile users, perform asset management and even help you write security policies to better manage the mobile devices.

Wireless Networks

IT service organizations also help government agencies install wireless networks in their offices using enterprise-class Wi-Fi equipment.

Networking specialists can perform site surveys to determine how many access points are needed and where to locate them to minimize interference from materials (such as metal or steel) and ensure that the building has full wireless coverage. They can implement your network and secure it using the latest encryption and authentication technology.

6. Desktop Lifecycle Management

Managing PCs, software and peripherals is not easy. Users have different hardware and software configurations, and every PC needs regular software updates and patches. Service providers can help IT organizations manage desktop technology effectively by deploying a lifecycle management strategy that includes asset management, the purchase and tracking of warranties and maintenance agreements, and end-user training.

This effort — from the moment of purchase to disposal — allows IT departments to efficiently manage their technology, reduce help desk calls, cut costs, and meet security and compliance requirements. Service vendors typically offer a handful of services that helps your agency manage your PCs and peripherals throughout their entire lifecycle.

Configuration: The service provider handles hardware setup and installation, including software imaging, BIOS customization, application installation, VPN setup and asset tagging. Once configured, the staff tests the hardware to ensure it works properly.

Onsite installation: A service firm can install the computers and deploy them throughout your office. During the installation, technicians run tests to make sure each user's setup works.

Warranties: Service vendors offer affordable warranties that extend or upgrade the standard manufacturer warranties. This minimizes risk, reduces downtime and farms out repair work to the service company so you don't have to worry about it. These extended warranties are for onsite or mail-in repairs.

Maintenance/break-fix agreements: If extended warranties are not enough, service companies also offer contracts that cover the repair or replacement of in- or out-of-warranty equipment. Support is available at whatever level you want, including same-day or next-day service.

Staff augmentation: Service providers can provide highly skilled IT staffers to augment your staff, whether it's for a temporary project or on a full-time basis to help manage your day-to-day tasks. This allows you to quickly fill specific skill sets that you might not have in-house, such as an expert in server virtualization.

Training and education: A service provider can train your IT staff and your users through classroom training, self-paced online learning courses or live web-based courses. Training your staff how to use new applications reduces help desk calls and optimizes worker productivity. It's also important to teach users about security or acceptable use policies to reduce security risks.

Asset disposition: If you need to retire equipment, service providers can coordinate asset disposition. This includes wiping hard drives and sending the materials to a reputable recycler that dismantles the equipment and recycles the parts.

IT Services Integration

There are several steps to successfully integrate an IT service company into your organization. The governance process is crucial. To avoid confusion, your IT leadership and the service provider must define roles and responsibilities and develop formal processes for communication and decision making.

A service provider must meet with you to establish performance expectations by defining service scope and service level agreements — and revise them when necessary. Meeting regularly to discuss progress on projects can help ensure success.

Services Resources

When it comes to technology, you need an expert partner who can guide and support you. CDW•G provides a full spectrum of IT services aimed at helping you meet your IT goals, from designing and configuring solutions to implementation, onsite technical support and managed and hosting services.

CDW•G has in-house specialists and engineers, and we augment our staff with a comprehensive partner network that can provide you with all the services you need.

CDW•G offers all the services discussed in the six key technology areas of this white paper. Our offerings include the following services.

Infrastructure optimization: CDW•G performs virtualization assessments to determine how virtualization-ready your data center is and data assessments to consolidate your storage.

Security: We can perform a Rapid Vulnerability Assessment. Through software tools, we probe your network and systems to look for vulnerabilities, and produce a detailed report and make suggestions to solve your security issues. CDW•G's new DLP assessment team can help you assess the readiness of your infrastructure to handle DLP and help you with the installation.

Unified communications: CDW•G offers a team of specialists and architects that can assist with solutions from the leading technology vendors in this market. The team works closely together (and with vendor partners) to ensure that you get the solution that best fits your requirements.

CDW•G's UC specialists can evaluate your current and future UC needs, design a UC solution to meet those needs, provide proof-of-concept deployments, post-implementation support, maintenance and software insurance.

Continuity of operations: CDW•G can help design and build a secondary site with backup servers and storage. Or, we can host and manage it for you at one of our three data centers.

Mobility: CDW•G's mobile wireless team can manage the entire lifecycle of your smartphones and notebook computers with wireless Internet data cards, from finding the most cost-effective contracts to

activating, configuring, imaging and deploying the devices. CDW•G can also help manage software installations, provide help desk services (through 24-hour support, 4-hour response and more) and manage telecom expenses.

This last item is done through a unique expense management service where you can view your carrier bill on CDW•G's secure extranet site. You can click on specific users and phone numbers to determine which users are going over their minutes. No longer do you have to wade through and struggle to decipher a paper bill that can run hundreds of pages long.

Desktop lifecycle management: CDW•G can handle all facets of PC lifecycle management, from configuration and deployment to maintenance and disposal referral when computers have reached the end of life.

In addition, CDW•G's state-of-the-art configuration centers can modify and configure your products to meet your specifications, so you can plug-and-play your new IT purchases on delivery. Services include configuring hardware with components, such as memory and hard drives, and configuring networking equipment and servers into a rack structure with all of the cabling ready to go.

At CDW•G, we understand every customer is unique. If you're not sure what specific technology you want, we will evaluate your existing technology and help you map the right technology to your operations objectives.

Local VARs may have expertise in one area; and there are plenty of options for hosting and managed services. But CDW•G has the breadth of services and depth of knowledge in every technology field. If a project requires it, we can leverage our experts in multiple areas, such as servers, storage, networking and security, to meet your needs.