

Do More with Less

How Service Providers Can Help Consolidate IT Expenses

Executive Overview

CTOs know that today, when it comes to IT, more is no longer better. IT departments in every industry are faced with static or shrinking budgets and the mounting pressure to do more with less. To reduce operating expenses and network spending, they must find ways to maximize their current investments rather than make new ones. Opportunities for outsourcing infrastructure and applications management, WAN optimization, cloud hosting and software as a service (SaaS) are now available, and can help IT departments meet their budgetary requirements.

Trends in Technology

CTOs are under increasing pressure to accomplish a lot with very little. They must find ways to balance user needs for performance and services like mobility and access with tight budgets and minimal resources:

- Users want anytime, anywhere access to simplified service offerings over a broad range of endpoint devices.
- Services must be always available; business continuity has become a part of corporate culture, and downtime is unacceptable in the competitive business environment.
- IT departments are under the gun to comply with increasingly strict regulatory and legal requirements.

As they address these and other pressing challenges, CTOs are beginning to shift their focus to four emerging technologies, including infrastructure and application management, WAN optimization, cloud hosting and SaaS. These technologies help consolidate and manage IT infrastructure more efficiently. Outsourcing these key capabilities to trusted partners can help offload some of the burden on IT while cutting capital expenses and meeting changing business needs and user demands. This paper examines each of these key IT trends and offers best practices for how to implement them successfully for cost savings and increased efficiency across a company's IT infrastructure.

Infrastructure and Application Management

As a network grows, applications like voice and video, VoIP gateways and other complex elements proliferate and require skilled staff for monitoring and maintenance. New anti-virus and scanning software becomes necessary to protect the network, posing additional expenses. Consolidating the infrastructure through outsourcing of network resources saves space, power and cooling, and reduces management requirements in the datacenter. Furthermore, service providers can turn unpredictable operating expenses into a predictable, affordable expense, while offering a rich array of services that the IT department would otherwise be unable to implement. This is called infrastructure and application management.

The top pressures driving the adoption of managed services are to reduce operational costs and complexity, and to make up for a lack of internal management resources.



According to Insight Research, the managed LAN is the fastest-growing part of the IT infrastructure services market. Why? Because infrastructure and application management providers can deliver the tools to provision, monitor and manage assets; perform software patching and CPE maintenance; deliver routine vulnerability assessments. They are equipped with a dedicated staff and security personnel that monitor devices 24/7 and can alert IT staff in real-time to problems or suspicious activity. They take on the day-to-day needs of protecting and managing the network, so IT staff can focus their attention on other critical business activities. Customers benefit from proactive network alarming, continuous monitoring, compliance reporting and a staff of skilled technicians available to sort out incidents.

A typical service portfolio may also include the following:

- Policy management
- Backup and restore
- Data protection
- Desktop management
- Log storage
- Disaster preparation
- Portal creation

WAN Optimization

One of the top challenges that IT departments face today is improving performance of business applications over the WAN, or WAN optimization. Most networks must carry a variety of traffic types with different characteristics, and maintaining high performance levels is no easy task. Applications are increasingly complex and their performance can degrade over time for a number of reasons.

Running your company's mission-critical applications over a blind WAN is no longer an option. Often, IT departments will simply throw bandwidth at the problem, assuming the network is the culprit. Few IT organizations have a good handle on the flow of information inside an application and cannot evaluate alternative solutions. However, bandwidth is expensive, and may not always solve the problem. To guarantee application performance, around-the-clock

monitoring is necessary. Determining the cause of the degradation requires a level of technical skill that many organizations don't have or can't afford to maintain in-house. Leveraging a WAN optimization service provider's infrastructure helps to reduce costs and relieve the strain on internal IT resources.

The top pressures driving IT departments to outsource WAN optimization to a service provider are to reduce operational costs and complexity, and to make up for a lack of internal management resources. Providers that offer rules-based root cause analysis as well as services and tools for analyzing packet flow can help IT departments cut the costs of downtime and troubleshooting, and reduce unnecessary bandwidth build-up. IT departments should also look to process improvements in the areas of application development and support as a way to further reduce costs and maximize application performance.

Cloud Hosting

Sometimes called utility computing, cloud computing or platform-as-a-service, cloud hosting is a style of computing whereby massively scalable IT-enabled capabilities are delivered as a service to customers over the Internet. A traditional datacenter can cost \$1,000 per square foot to build, and requires a full-time staff for monitoring and control. Multiple servers are expensive to buy and run, and they typically operate at less than 5% of their maximum load. To protect the network, redundancy of network connections and elements is also required, driving costs even higher. Cloud computing offers a dynamic infrastructure that allows even small businesses to benefit from the functionality of an enterprise-class datacenter. It brings infrastructure management up to the application layer and makes many services and applications affordable for a broader range of businesses.

Cloud computing infrastructure consists of reliable services delivered through datacenters and built on servers using virtualization technology. The services are accessible from any device that has access to networking infrastructure, and the cloud becomes the single point of access for some or all of a company's computing needs. Resources are shared and can be used on a pay-as-you-go basis.



The cloud hosting or cloud computing provider manages resource utilization, so companies benefit from superior resiliency and disaster recovery capabilities without having to invest in redundant hardware infrastructure or off-site dedicated disaster recovery datacenters. Companies can also easily and quickly ramp up CPU assets, memory and operating systems as business needs change. The cloud computing provider employs best practices to simplify datacenter management and regulatory compliance, and the customer benefits from the economics of virtualization, including reduced power and cooling needs and space savings.

A cloud computing provider performs the following key functions:

- Maintains, manages and upgrades all elements hosted in the cloud.
- Provides physical and virtual customer service.
- Provides physical resources, such as people, servers and power.
- Ensures high availability, performance and security.

SaaS

Software as a Service (SaaS) is a new software deployment approach in which the application runs on a provider's servers, and customers access the software over the Internet. SaaS applications are built on a multi-tenant architecture, which enables multiple customers to securely access a single instance of software. This one-to-many software distribution approach is highly scalable and flexible. It provides economies of scale because companies share infrastructure with many other tenants.

The SaaS model enables customers to benefit from a software vendor's latest technological features, cost-effectively. According to Yankee Group, the SaaS market is expected to grow 20% annually, with total spending at \$20 billion by 2011.¹

Using this model of software delivery, customers no longer need to install and operate applications on their own IT infrastructures. SaaS also removes the resource obligations and ongoing expense associated with hardware and software maintenance, software version control and

evolving requirements. SaaS typically reduces upfront expenses of software purchases with an on-demand, pay-as-you-go subscription pricing model. Customers are adopting the SaaS model to eliminate additional infrastructure and staff costs, accelerate deployment of new applications, simplify upgrades and enable IT staff to focus on more strategic projects.

SaaS providers deliver, manage and support the software on an ongoing basis on a highly available cloud computing infrastructure. Top applications in the SaaS environment² include:

- Collaboration (messaging and web conferencing)
- Customer Relationship Management (CRM)
- Payroll
- Travel Services
- Human Resources
- Finance
- Business Intelligence (BI) and Corporate Performance Management
- Procurement
- Enterprise Resource Planning (ERP)
- Supply Chain Management (SCM)
- Compliance and Risk Management

Outsourcing for Efficiency and Cost Savings

Clearly, IT departments face tremendous challenges as they work to adapt to increasing user demands despite shrinking budgets, and it's essential that they begin to re-evaluate network strategies. Reactive capacity upgrades are no longer adequate. New WAN applications all require demanding, consistent and differentiated performance. Ethernet and Internet VPNs require changes in architecture because all users are demanding mobile anytime, anywhere access to business information and applications. These are large hurdles for IT staff to tackle alone. As companies continue to attempt to do more and spend less, outsourcing to a service provider can be an ideal solution, enabling them to meet these challenges while maximizing their current investments and minimizing new expenditures.

¹ SaaS Will Swim the SMB Channel, Yankee Group, January 2008.

² SaaS and the Third Wave: Preliminary Findings on SaaS Survey Research 2008, Saugatuck Technology, February 2008.



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CenturyLink is focused on helping you work smarter, with services that leverage the latest technology and award-winning support. Here are a few solutions that can address the issues covered in this solutions brief:



CenturyLink Connect

Networking. Converge your legacy frame, ATM and private line data networks to a single MPLS or VPLS-based meshed, fast re-route environment. iQ Networking includes public Internet ports, private and mobile/remote connections, security and management options. Reduce maintenance and management expenses while improving the performance of your network, and transition to new technology at your pace.

Hosting Solutions. Augment your datacenter space and IT infrastructure capabilities with CenturyLink's Colocation and Managed Hosting services. Locate some or all of your servers in secure, state-of-the-art CenturyLink CyberCenter facilities with direct connections to the OC-192 CenturyLink[®] Macro Capacity fiber network. From basic colocation and managed hosting to storage and managed backup, CenturyLink can ensure your data is secure and always available.

Contact Center Solutions[®]. Increase customer satisfaction while reducing costs with CenturyLink's Hosted Contact Center Solutions[®]. From simple web-based Interactive Voice Response (IVR) menus, to multi-location integrated assisted service strategies, CenturyLink's services integrate with your existing systems, so you can avoid large capital outlays and system maintenance costs.

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CenturyLink Simplify

Managed VoIP. CenturyLink Managed VoIP is an IP application that provides real-time, two-way voice capability in IP over a broadband connection (purchased separately). CenturyLink delivers a carrier-grade service over our OC-192 IP network.



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Managed Services. Provides expert support and systems to help you focus on running your business, with services such as Infrastructure Management, Managed Security and Transition Management.



Why CenturyLink

CenturyLink delivers reliable, scalable data and voice networking solutions across one of the largest U.S. fiber footprints. CenturyLink serves businesses of all sizes, ranging from small business to 95 percent of Fortune 500 companies, with industry-leading SLAs and world-class customer service.

Learn More

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1 SaaS Will Swim the SMB Channel, Yankee Group, January 2008.

2 SaaS and the Third Wave: Preliminary Findings on SaaS Survey Research 2008, Saugatuck Technology, February 2008

