Tech Outlook

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SMB-Friendly Servers

New Dell PowerEdge servers deliver the right performance at the right price for small businesses looking to refresh on-premises hardware.

The cloud computing model delivers undeniable business benefits, typically allowing organizations to reduce costs, boost scalability, increase productivity and more. However, the cloud isn't necessarily the right choice in every circumstance.

For many small and midsize businesses (SMBs), in-house infrastructure continues to offer significant advantages over outsourced IT. Dedicated servers provide local control over data and systems, allow easier customization, and can deliver considerable performance gains over cloud offerings. Custom applications running in the cloud sometimes suffer from browser incompatibility, and Internet connectivity issues can create speed and reliability handicaps.

"Some IT workloads are great for the cloud, but there are times when there is just no substitute for on-premises hardware to do the heavy lifting," said Michael Renner, Business Development Manager, ProSys. "For smaller businesses, it often makes more sense to have accounting packages, security and data analytics applications running onsite. Business-specific custom apps don't migrate to the cloud very well, either. In general, if it is a mission-critical application that requires predictable levels of security, availability and performance, it might make sense to keep it in-house."

Many SMBs recognize the limitations of the cloud and are looking to replace or refresh hardware to improve operational efficiency. While many SMB servers are merely stripped down versions of enterprise offerings, Dell has introduced a new line of

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PowerEdge servers designed to meet the requirements of SMBs.

Clean Machines

In ActualTech Media's 2015 State of SMB IT Infrastructure Survey, roughly half of the 600 IT professionals surveyed said their companies plan to purchase servers in the next 12 months. A big reason for these upgrades is the fact that Microsoft is ending extended support for SQL Server 2005 in April. While new hardware isn't necessarily a requirement for upgrading SQL Server, it makes a lot of sense.

"New servers will obviously have some hardware improvements over older machines, but there are other benefits as well," said Renner. "You're moving to a much cleaner environment, eliminating all the configuration drift that happens over time due to manual updates and ad-hoc changes. You'll also be able to support more advanced firewalls, better network segmentation and stronger intrusion prevention."

Choosing the right server requires careful consideration of business needs and workload demands. Beyond specific memory and CPU requirements, SMBs require server solutions that meet their specific application needs and price points. Additionally, budget and staffing limitations make SMBs particularly sensitive to issues surrounding performance, hardware capacity and IT complexity.

The latest Dell PowerEdge servers address these specific points to help SMBs accelerate performance, adapt to changing application demands and attain greater operational efficiency. The Dell PowerEdge 13G Wave 4 Servers are one-socket rack and tower servers designed specifically for SMBs running distributed applications. Designed for future growth, the Wave 4 servers offer several improvements over their predecessors, including greater memory capacity, more hard drives and I/O slots, and improved data throughput and IOPs performance. One of the key advantages of the PowerEdge architecture is that it features Dell's OpenManage Server Administrator (OMSA) software and OpenManage Essentials (OME) systems management console. Designed for agent-based management deployments, these simple and intuitive tools allow SMBs to reduce deployment time by up to 40 percent and provide streamlined management.

Server Refresh Benefits

Faster backups. Minimize the risk of lost data with quick backups and redundant hard drives.

Control email. Centralize your business email system and help make it easy to manage.

Increase privacy. Protect sensitive files and control who has access to them.

Multilayered protection. Close security gaps in older hardware and improve your ability to filter and block unwanted content.

Share effectively. Share files, printers, contact lists and calendars.

Anytime access. Access server-based files, data and email from virtually anywhere, allowing employees to work remotely.

Manage accessories. Control printers, scanners and other accessories from one centralized location.

Multiple Options

Offering large amounts of internal storage capacity, extensive configuration flexibility, and an expandable memory footprint, the new entry-level PowerEdge servers feature up to four DDR4 memory slots and up to four or eight hard drives depending on the model. The new server lineup includes:

- **Dell PowerEdge R330** — a versatile rack server ideal for small businesses, remote offices of large organizations and OEM customers who are seeking enhanced hardware availability and serviceability. The PowerEdge R330 provides up to 56 percent more internal storage capacity than the previous generation server.
- **Dell PowerEdge R230** — a powerful and efficient rack server excellent for distributed applications in SMBs, hosting companies and OEM customers. This server has 100 percent more memory capacity, three times the maximum internal storage capacity and two times the I/O expansion compared to the previous generation server.
- **Dell PowerEdge T330** — an expandable, rackable tower server for SMBs and departments and remote offices of large organizations that need greater internal storage. The PowerEdge T330 is designed for future growth, with up to four DDR4 memory slots and up to eight 3.5-inch hard drives.
- **Dell PowerEdge T130** — a powerful and reliable tower server for driving collaboration and productivity applications in small offices/home offices (SOHOs). The PowerEdge T130 provides two times the memory capacity compared to the previous generation server.

The need to support critical updates and keep pace with IT workload complexity is compelling many SMBs to consider a server refresh. Without the luxury of a dedicated IT department, these organizations require hardware solutions that help them prepare for future growth, drive application performance and improve operational efficiency — all without busting the budget.

"Dell has a long history addressing the unique needs of small and midsize customers," said Jed Scaramella, Research Director, Enterprise Servers, IDC. "Dell's mainstream server portfolio is growing, and their new entry-level PowerEdge servers will be appealing to additional SMBs around the world who are hoping to save time and money while reducing business risk."

News Briefs

Windows 10 Adoption Accelerating

Worldwide migration to Windows 10 is proceeding rapidly, with analysts from Gartner, Inc., predicting it will be adopted at a faster rate than any previous version of the Microsoft operating system.

Gartner predicts that 50 percent of enterprises will have started Windows 10 deployments by January 2017, with an eye to completing organization-wide migrations by 2019. That is about six months ahead of the pace set by Windows 7, which was previously the fastest upgrade.

Microsoft released Windows 10 in July 2015. Gartner says adoption was sparked by pent-up demand for an OS that would support tablets and 2-in-1 devices following a lukewarm reception to the Windows 8 rollout in 2012. Gartner noted that users didn't care for some key revisions in Windows 8 such as colorful "tiles" loaded with live information, or the removal of the start button at the bottom left of the screen.

By Microsoft's own count, only about 110 million of 1.5 billion Windows users worldwide currently run the latest available version, with many holdouts sticking with Windows 7 or the generations-old Windows XP.

Early testing has shown that users updating from Windows 7 to Windows 10 have few compatibility issues, indicating organizations won't have to spend a burdensome amount of time on application remediation. Additionally, consumers have been quick to take advantage of a free upgrade coupled with broad legacy device support and automatic over-the-air upgrades.

SMBs Cite Lack of Security Resources

Small to midsized businesses (SMBs) report that they lack the resources necessary to protect themselves against a range of security threats, according to a new study by Wakefield Research. Budgetary and staffing constraints were most frequently cited for security shortcomings.

At most SMBs, IT staff must juggle security along with their other IT responsibilities. This leaves employees stretched thin and unable to devote the necessary time to many critical cybersecurity tasks — not an optimal scenario in today's world of zero-day attacks, phishing scams, social engineering attempts, and malicious websites. Nearly 60 percent of respondents think their business is more prone to cyberattacks because they have too few resources for maintaining their defenses.

Almost half (48 percent) cite insider threats as a specific problem, while 45 percent believe they are unprepared for unsecured internal and external networks such as public Wi-Fi, and 40 percent for unsecured endpoints such as computers and mobile devices.

Overall, 81 percent plan to increase their annual IT security budget for 2016, by an average of 22 percent. Respondents are also open to other strategies for improvement, with 81 percent agreeing that an outsourced IT solution, including security, would increase their ability to address important areas of their business.

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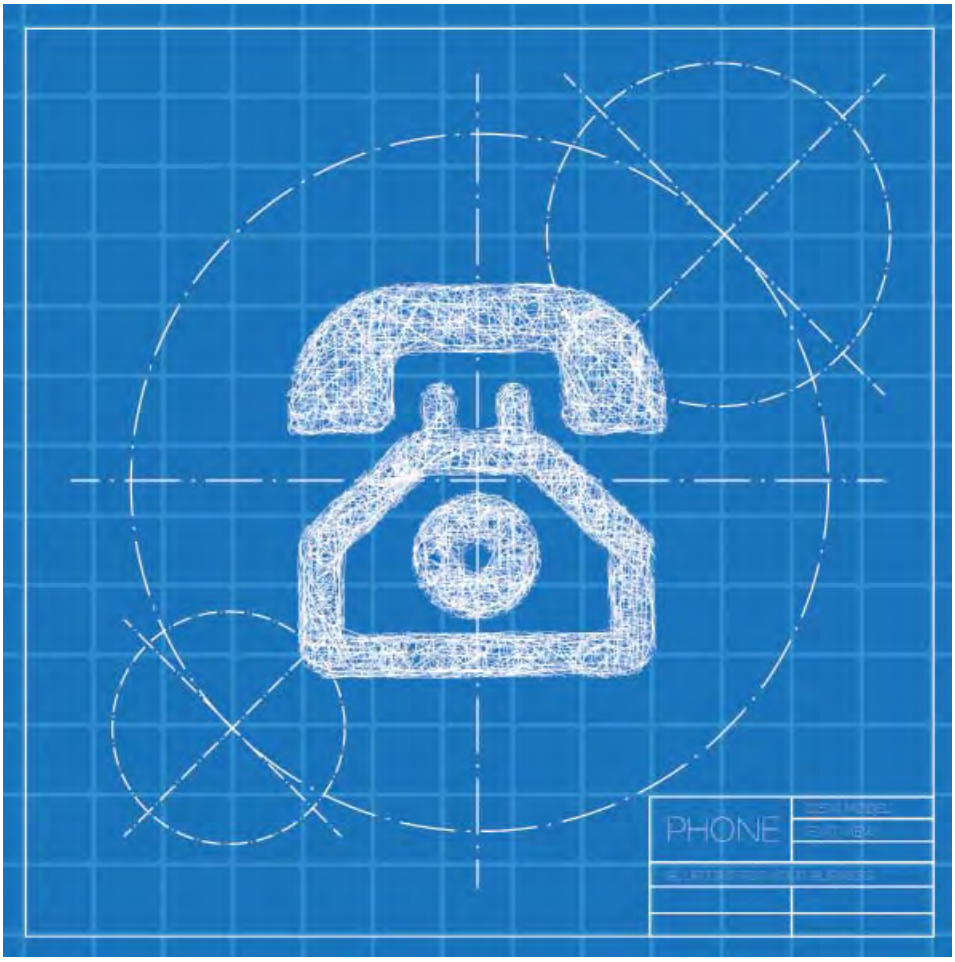
Phone Planning

Migrating to a new business phone system requires a careful, methodical approach.



While organizations of all sizes depend on email, video and social media for conveying information to both internal and external audiences, the telephone remains the undisputed champion of business communication tools. Modern IP phone systems not only deliver the immediacy and contextual clarity of voice, but serve as the foundational technology for most other digital communication channels.

That's why many organizations are making it a priority to replace aging analog systems and older VoIP systems. In a recent Hanover Research survey of small and midsized businesses, 86 percent said they plan to evaluate new phone systems within the next three years.

Migrating to a new phone system can produce undeniable business benefits, but it isn't a simple process. Because a phone system transition touches every member of the organization and can create significant network overhead, it is important to take a measured approach to migration. Following are a few best-practice guidelines for phone system evaluation and implementation.

Assemble a Team

Google searches and word-of-mouth recommendations can't provide the depth of information required to make the right decisions about a phone system. It is important to assemble a team of key stakeholders representing all areas of the organization, including management, end-users and IT. A project manager will oversee the project and help to ensure that key deadlines and benchmarks are met.

Define Business Goals

It is important to clearly identify specific objectives. These may include standardizing business units on a single platform, enhancing customer service, integrating communication channels, improving productivity, enabling mobility and more.

Define User Needs

Today's IP phone systems offer a spectacular array of user features. However, surveys indicate that as many as 75 percent of these features regularly go unused. It is important to survey end-users to discover what features they need and want. Four-digit extension dialing, three-way calling, voicemail-email integration, find-me/follow-me call routing, and conference call bridges typically are quite popular. A mobile client for the desk phone is increasingly a must-have feature.

Define Network Requirements

Bandwidth demands, switching and routing capacities, network interfaces,

firewall security, cabling and many other factors can affect the delivery of voice packets across a data network. Organizations must collect an array of metrics to assess the voice readiness of wired and wireless networks, and then determine where additional equipment or upgrades are needed.

Define Support Requirements

Organizations may have network specialists on staff, but IP telephony requires a unique set of skills. In addition to expertise in LAN/WAN implementation, configuration and support, operating the voice network requires understanding of major routing protocols, voice gateways, Quality of Service measures and more.

Identify Partners

Once functional requirements have been identified and documented, it is time to solicit and evaluate vendor proposals to determine which product is the best fit. Once a choice is made, evaluate and chose a solutions provider with demonstrated expertise in the procurement, configuration and implementation of that particular system. A trusted provider will not only streamline the implementation, but can provide critical training and troubleshooting during the cutover phase.

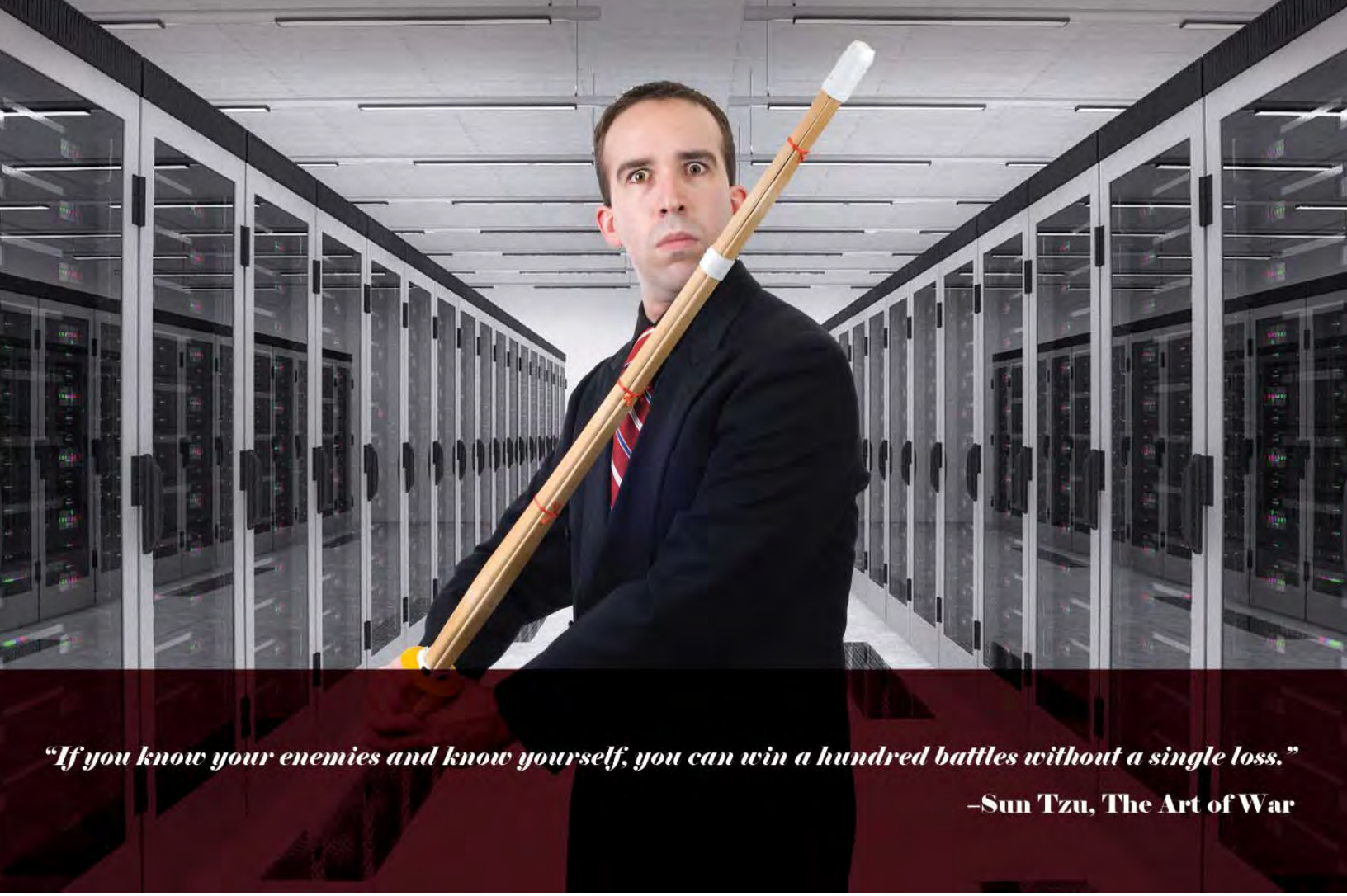
Implementation

Follow the 80/20 rule — 80 percent preparation and 20 percent installation. Working from a current network diagram, document the optimal configuration of all devices to be added — including detailed plans for resolving any potential compatibility issues. Check that the site is fully prepared for new gear, including power and cabling requirements.

Once preparation is complete proceed with hardware installation and software configuration. This is when your team will establish key protocols for prioritizing voice traffic on the network, establishing QoS metrics, setting routing requirements and extending security measures to voice traffic.

Testing and Cutover

To avoid propagating configuration errors throughout the organization, set up a pilot program to stress test the network before going live. Once problems have been identified and corrected, begin with an initial deployment limited to IT staff and key users so they can get accustomed to the new system before moving on to an organization-wide migration.



The Art of Network Security

Security assessments can help organizations win the war against cyberattacks by identifying and remediating vulnerabilities.

Sometime in the sixth century B.C., Chinese general Sun Tzu wrote one of the most successful books on military strategy. In it, he states that strong leadership and sound planning can result in victory over a superior force. Conversely, he explains that overconfidence can lead to stunning defeat.

The Art of War offers sage advice for organizations battling IT security threats. General Sun understood that assessing risks and developing a plan of attack are more important than engaging the enemy head on. He also warned that failing to identify your own weaknesses can give your opponent the opportunity to gain the upper hand.

Hackers operate by exploiting network vulnerabilities, and the number of vulnerabilities that threaten any given organization continues to grow exponentially. In this climate, organizations must start by gaining greater visibility into the type and number of threats they are facing. A comprehensive security assessment can help organizations identify vulnerabilities, prioritize actions and move more quickly to mitigate those risks.

"The art of war is of vital importance."

General Sun recognized that war exacts a high cost, both in human and monetary terms. As a result, The Art of War empha-

sizes the importance of understanding how the enemy operates in order to win the war while avoiding the high cost of direct conflict insofar as possible.

The cost of a network security breach can also be substantial. According to the Ponemon Institute, the average total cost of a data breach reached $3.8 million in 2015, a 23 percent increase over 2013. Even where sensitive data is not compromised, organizations can experience costly downtime, lost reputation and reduced morale.

In the past, network security depended upon a hardened perimeter to keep intruders outside of the network boundaries. Today, networks have become more fluid, extending to growing numbers of remote and mobile users and cloud-based applications. The so-called "attack surface" has grown dramatically, with numerous points where an intruder might be able to penetrate the network.

This makes it increasingly difficult for organizations to examine every avenue for network access as a potential security gap. Vulnerability assessments, penetration tests and regulatory compliance audits are key to the development of a sound security strategy.

"If the enemy is superior in strength, evade him."

Vulnerability assessments involve running internal and external scan on an organization's network to find known weaknesses. Security experts recommend using multiple, professional-grade tools — a scan using off-the-shelf shareware won't find very much and may have a 40 percent false positive rate. Using a variety of tools and techniques enables IT teams to validate the results and minimize false positives.

Depending upon the size of the network, a vulnerability assessment can take anywhere from a couple of hours to a couple of days to complete. But the real work takes place before and after the scan itself. Prior to the scan organizations should inventory the IT infrastructure and tailor the scan to target potential vulnerabilities.

When the scan is complete, a detailed report is generated that includes a definition of the found vulnerabilities, how they might be exploited, and how that might affect the organization's security posture. Using that report, security experts can develop a plan that shows how to remediate the vulnerabilities.

"Seizing the enemy without fighting is the most skillful."

Penetration tests utilize some of the same processes as a vulnerability assessment validation, but go much deeper. The information gathered is used to launch strategic attacks — the types of attacks hackers would launch based upon their eavesdropping over a period of time. The goal is to gain the perspective of what a hacker would see and what the hacker could do to penetrate the network.

The penetration testing report is focused on the systems that the IT team was actually able to penetrate. It is often very eye-opening. It helps organizations understand their level of exposure and what needs to be done to reduce that exposure.

Penetration testing is used to determine the effectiveness of the technical, operational and physical controls in place in the organization, as well as the organization's vulnerability to a particular threat. As such, penetration testing is particularly important for customers facing regulatory compliance audits. The internal and external scan, coupled with a review of security policies, can help organizations improve their security posture, adopt compliance best practices and ultimately pass compliance audits.

"Security against defeat lies in our own hands."

A security assessment is essentially a superset of these services. It generally consists of an internal and external scan as well as an audit of all of the network and security devices in the customer's infrastructure. A primary goal is to ensure that devices and operating systems are configured such that no open, unneeded services could be exploited.

However, there remains a lot of confusion in the industry regarding security assessments, and a lot of these buzzwords are used very loosely. It is important to ensure that IT security teams have the tools and expertise to dig deeper and find the vulnerabilities that threaten the organization.

The sharing of critical applications and data with customers, suppliers, and remote and mobile workers can open up the network to malware, denial of service attacks and other malicious threats. At the same time, a growing number of federal, state and industry regulations require that organizations take measures to protect data from destruction, loss, alteration or other unauthorized use.

While every organization is at risk, there is no one-size-fits-all security solution. Because every IT environment is unique, each organization needs to understand its specific strengths and weaknesses in order to implement the right tools and policies. A thorough security assessment is an important first step in the development of a security plan.

The Dell PowerEdge R230

The power to do more.

Dell PowerEdge servers were designed from the ground up to provide small businesses with the right combination of value, reliability and data protection features. They are engineered to handle the most demanding business applications and designed with specific features to better run workloads such as virtualization, collaboration, business processing and decision support.

Combined with the innovative OpenManage™ systems management portfolio and powered by Intel, PowerEdge servers provide technology that is intelligent, yet simple, giving you the power achieve game-changing innovation that will carry your organization into the future.

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