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Better Branch-Office IT

ProSys Branch-in-a-Box services enable strategic procurement, deployment and maintenance of branch-office technologies.

Many organizations are choosing to grow geographically by opening new branch-office locations. According to data from the Census Bureau's Business Dynamics Statistics program, the number of branch locations has increased steadily in recent years while the number of new businesses has seen relative decline.

There are myriad reasons for this trend. In many cases, successful companies have saturated their existing markets and need to expand into new areas to sustain growth. Others seek to take advantage of new opportunities that leverage the company's expertise, establish deeper relationships with local customers, or broaden the pool of available talent.

Branch offices have much to contribute in terms of productivity, innovation and customer service. However, reaping those benefits requires a thoughtful approach to technology procurement, deployment and management.

"Branch offices typically play a key role in serving customers, facilitating operations and driving top- and bottom-line growth. As a result, branch-office employees need the same technology tools and services as their headquarters counterparts. The branch-office IT environment must also be agile enough to meet changing

Cover Story

customer expectations and business demands while keeping capital and operational expenses in check," said Tommy Whatley, VP of Advanced Services, ProSys.

"Unfortunately, many organizations struggle to achieve those objectives. In-house IT teams often lack the resources to design, implement and manage complex technology environments at far-flung branch locations. Procurement, asset tracking and maintenance contract management add to the headaches."

The ProSys Branch-in-a-Box service addresses these challenges. Through the advanced capabilities of its state-of-the-art Integration Center, ProSys helps customers optimize the procurement, configuration, integration, delivery and deployment of multivendor IT solutions for branch locations.

The Branch-Office IT Conundrum

Organizations tend to put a lot of thought into the location of branch offices, studying demographics, competition and many other metrics. However, the IT environment garners less attention. As a result, many branch offices have lower-performing IT infrastructure than headquarters, and technology is refreshed less frequently.

"Equipment is often added to solve specific problems, creating a patchwork environment that is difficult to manage and troubleshoot," Whatley said. "Organizations that expand through acquisition face even greater challenges, inheriting diverse hardware, operating systems, applications and configurations that add to branch-office complexity and support challenges."

The ProSys Branch-in-a-Box solution features full-lifecycle services that relieve the burdens associated with acquiring, implementing and maintaining branch-office IT. ProSys can help organizations design an end-to-end branch-office IT environment that ensures consistency across the enterprise, with the flexibility to meet location-specific requirements.

The ProSys Integration Center serves as a one-stop resource for hardware, software, A/V equipment, end-user devices and more, fully configured and integrated in field-ready solution kits. ProSys handles the procurement and delivery of IT assets at scale, rolling out fully customized branch-office solutions according to proven best practices. Streamlined deployments minimize business disruption while enabling a rapid time-to-value on the technology investment.

"ProSys has developed proven processes that enable fast, accurate delivery of fully integrated, multivendor solutions," said Whatley. "No matter how basic or comprehensive your requirements may be, our Integration Center team will ensure each solution is delivered on time, within budget, and with the highest levels of consistency and accuracy. We will also help maximize business agility with updates, upgrades, migrations and technology refresh services."

Optimizing Resources

The ProSys Branch-in-a-Box solution enables branch-office workers to take advantage of state-of-the-art solutions from industry-leading vendors — without increasing IT

complexity or adding to the management burden. ProSys helps ensure that organizations achieve economies of scale across the enterprise through standardized IT architectures that deliver consistent, high-quality services. Performance, availability, security and compliance are enhanced through optimized deployment and asset tracking.

Leveraging the just-in-time-delivery capabilities of the ProSys Integration Center, Branch-in-a-Box can also reduce the cost of acquiring branch-office equipment, software licenses and maintenance contracts. ProSys can procure, inventory and warehouse equipment until ready for deployment, enabling organizations to gain the price benefits of volume purchasing.

"By taking a strategic approach to the design and implementation of branch-office IT, ProSys can help you reduce total cost of ownership, increase utilization, right-size software licenses and gain greater control over maintenance contracts," Whatley said. "The ProSys Integration Center enables you to gain the price benefits of volume purchasing while adopting a delivery model tuned to your business strategy."

Branch-in-a-Box grew from ProSys' experience supporting large enterprise customers with thousands of locations. Scalable to any size environment, Branch-in-a-Box has obvious applications for retail stores and financial institutions. It is also suitable for healthcare facilities, warehouse and distribution centers, and many other operations.

"The ProSys Branch-in-a-Box solution addresses common challenges organizations face when expanding geographically, integrating acquired locations or simply ensuring that branch offices have an efficient, easy-to-manage IT infrastructure," said Whatley. "Using a flexible approach based upon proven processes, we can help you optimize the delivery of branch-office IT while reducing costs and operational bottlenecks."

Tech Outlook

ProSys locations

Atlanta, GA
(Headquarters)
Phone: 678-268-1300
Toll-Free: 888-337-2626
chash@prosysis.com

Atlanta, GA
(Integration Center)
Phone: 678-268-9000
Toll Free: 888-337-2626
twheless@prosysis.com

Austin, TX
Phone: 512-658-5847
Toll Free: 888-337-2626
jwestmoreland@prosysis.com

Birmingham/Montgomery, AL
Phone: 205-314-5746
Toll-Free: 800-863-9778
birminghamsales@prosysis.com

The Carolinas
Toll-Free: 888-337-2626
chash@prosysis.com

Knoxville, TN
Phone: 865-310-8843
Toll-Free: 800-863-9778
pmadden@prosysis.com

Lexington, KY
Phone: 859-887-1023
Toll-Free: 800-863-9778
dclemmons@prosysis.com

Louisville, KY
Phone: 502-719-2101
Toll-Free: 800-863-9778
dclemmons@prosysis.com

Miami, FL
Phone: 305-256-8382
Toll-Free: 800-891-8123
lspivack@prosysis.com

Mid-Atlantic
Phone: 800-634-2588 ext 2
midatlantic@prosysis.com

Nashville, TN
Phone: 615-301-5200
Toll-Free: 800-863-9778
dclemmons@prosysis.com

New England
Toll Free: 800-634-2588 ext 1
newengland@prosysis.com

New York/Metro
Toll Free: 800-634-2588 ext 3
nymetro@prosysis.com

Seattle
Phone: 425-939-0342
sballantyne@prosysis.com

Tampa, FL
Phone: 813-440-2410
800-891-8123
lspivack@prosysis.com

Sounds Phishy

Despite obvious errors, email scammers still manage to reel in victims.

Given the comical levels of poor grammar and spelling in many phishing emails, one might say those taking the bait are falling hook, line and stinker.

"We wanted Automatically," a recent email, purportedly from PayPal, urgently announces. It claims that there is a problem with the recipient's account and wishes to determine "if you your cheeks exchange agreement with thesis." Recipients are asked to click on a link to gain details about "our exchange Updates Regulations."

Cyber security experts say there are several reasons for the notoriously high level of mistakes in spoofed emails. For one, most originate in countries where English is not the native language — particularly Eastern Europe and China. Scripts are written in the phisher's native language and then run through online translation engines with predictably peculiar results. However, researchers also say that some of these errors are actually deliberate attempts to slip past spam filters and attract only the most gullible.

Whatever the reason, it would be a mistake to assume that all phishing attacks are clumsy and easy to spot. Recent headlines indicate that phishing lures can actually be quite sophisticated.

Phishers mimic the logos and websites of legitimate organizations, and pose as friends, business partners, clients, bank officials or IT staff. They hook their targets by fooling people into clicking malicious links or opening attachments that automatically engage and activate viruses and malware. Then, these criminals can use these compromised accounts to spread the misery to others.

Bigger Fish

In August, U.S. authorities charged an international band of criminals with using phishing techniques to acquire logins and passwords that were used to steal confidential corporate press releases before they became public. Trading on that information, the criminals illegally netted more than $100 million on Wall Street, authorities charged.

An even more sinister attack was uncovered in May when a former Department of Energy employee launched a phishing attack targeting dozens of DoE employee e-mail accounts. Authorities allege Charles Harvey Eccleston was attempting to deliver a viral payload that would extract sensitive information related to nuclear weapons — information he intended to sell to a foreign government.
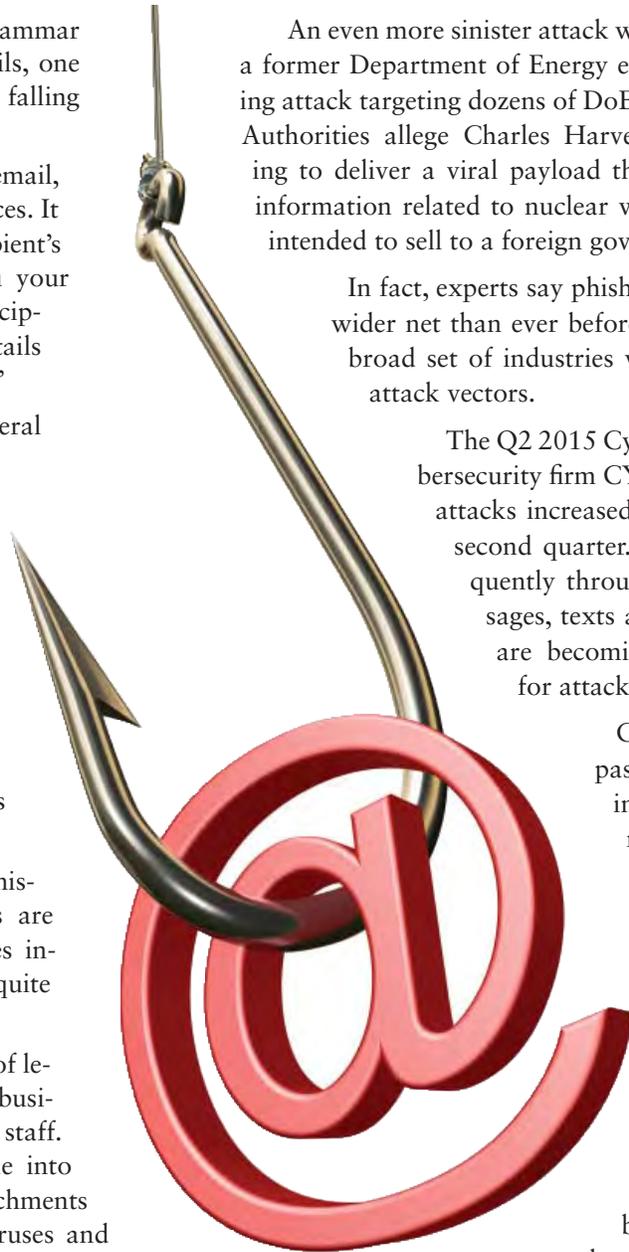
In fact, experts say phishing scammers are casting a wider net than ever before, targeting an increasingly broad set of industries with a growing number of attack vectors.

The Q2 2015 Cyber Threat Report from cybersecurity firm CYREN reveals that phishing attacks increased 38 percent overall during second quarter. Phishing occurs most frequently through email, but instant messages, texts and social networking sites are becoming more popular avenues for attack.

CYREN says usernames and passwords, financial account information, social security numbers and basic contact information are the most common targets of phishing attacks. Consumers with PayPal, Apple and Gmail accounts are frequent victims of phishing. Common phishing scams include phony requests to verify bank account or billing information, bogus alerts of stolen credit cards or overdue payments, malicious e-cards, job listings and prize-winning notifications, and fake charities or political campaigns requesting donations.

Staying Off the Hook

For its Q2 2015 report, CYREN looked beyond these types of attacks to examine phishing campaigns that seek intelligence or financial gain from businesses. The security ana-

lyst grouped these sophisticated attacks into two categories — indirect and direct.

With indirect phishing attacks, cybercriminals use a series of emails to gain the organizational information needed for a broader phishing campaign. For example, an employee using a personal Apple device might be tricked into revealing iTunes credentials, which would give the attacker access to the contact information of other staff. Or by successfully phishing an employee using cloud-based company email (such as Office 365 or branded Gmail accounts), an attacker would gain access to a platform for sending malicious emails that appear safe.

Cybercriminals use direct phishing attacks to gain login credentials for actual business systems such as Microsoft Outlook. Because these credentials are frequently used for domain logins as well as email access, this could enable the attacker to access far more than just email. Credentials for cloud-based services such as Dropbox or Salesforce can also provide an attacker with direct access to company data.

There are simple ways to protect against phishing attacks:

• Never email personal or financial data. Financial institutions and government agencies will never request this information by email.

• Don't click links or open attachments from unknown or suspicious senders, and don't click suspicious links from anyone. Hovering the mouse arrow over a link will reveal the true destination of the link.

• Educate employees about what types of emails are dangerous.

• Make sure all security software is automatically updated.

• Use centralized management tools for monitoring email threats.

Poor grammar, bad spelling and faulty logic are telltale signs of a phishing scam. Unfortunately, not all cybercriminals provide such obvious clues. With phishing attacks reaching epidemic proportions, it is clear that scammers are getting smarter and more sophisticated. Vigilance, common sense and a healthy dose of skepticism combined with properly managed security systems are key to being the one that gets away.

Super-Sized Computing

The latest high-performance computing systems deliver the power, availability and reliability to support mission-critical workloads.

Supercomputers once were large, monolithic, data-crunching machines generally associated with organizations that were similarly large and monolithic, such as NASA, the U.S. Army or the Los Alamos National Laboratory. Today, however, almost any size organization can achieve super-computer-level performance utilizing off-the-shelf components and the latest system management tools.

Although the term "supercomputer" technically refers to an elite class of machines, high-performance computing (HPC) systems are capable of delivering the processing power required by compute-intensive applications. Historically designed using proprietary technologies, the latest HPC solutions use x86 chips in highly scalable architectures based upon the Linux operating system. So-called "hard partitioning" techniques ensure maximum reliability and performance for mission-critical applications.

No longer just for calculation-intensive tasks such as weather forecasting, seismic analysis and fluid mechanics, affordable HPC systems now support a wide range of workloads, including financial modeling, R&D and big data. Organizations are using HPC systems to replace aging proprietary platforms, reduce server sprawl and gain business benefits such as high availability and improved manageability.

"Leading commercial companies in a variety of market segments are turning to HPC technologies for challenging big data analytics workloads that enterprise IT technology alone cannot tackle effectively. HPC systems can handle more complex queries, more variables and faster turnaround requirements," said Steve Conway, IDC Research Vice President for High Performance Computing/Data Analysis. "We estimate that the move to HPC … is saving tens of millions of dollars per year for commercial companies, on top of the benefits report-

ed by established HPC users in government, academia and industry."

Off the Rack

High-end servers running a version of the Unix operating system were once the mainstay of mission-critical applications. More than a decade ago organizations began replacing these costly proprietary systems with a "scale-out" deployment model, using commodity servers to add incremental capacity as workloads increased. Trouble is, much of this server and storage capacity was wasted — sometimes as little as 25 percent was actually used — and management costs skyrocketed.

Virtualization has enabled organizations to reduce this overhead by consolidating multiple workloads onto fewer, more powerful servers. But because virtualized apps compete for the memory and processing resources of the host, performance can be unpredictable. As a result, many organizations remain reluctant to virtualize mission-critical applications despite continued improvements in virtualization technology.

Although organizations are investing in "scale-up" HPC systems, that's not to say they are returning to proprietary servers. According to data from IDC, spending on non-x86 servers dropped 12.8 percent in the second quarter of 2014 — the 12th consecutive quarter of decline — while demand for x86 servers increased 9.6 percent.

The increased capabilities of Intel's Xeon processors have played a key role in this market trend. While some organizations have invested in Unix systems based upon the Itanium chip, demand for those solutions continues to decline in favor of HPC systems based upon Xeon processors and the Linux operating system.

Performance and Reliability

The latest HPC solutions deliver significantly improved scalability compared to typical low-end servers. When the processing capacity of these low-end servers is reached, more servers must be added, increasing management headaches. Costs can quickly mount with per-server software licenses, backup and recovery solutions and other necessary add-ons.

However, the latest HPC systems scale to 16 sockets for nine times the performance of eight-socket servers. Memory can also scale up to 12TB to handle a growing number of data analytics and other in-memory applications. Although the initial capital cost of an HPC server tends to be higher than commodity servers, the TCO benefits of a scale-up en-

vironment become evident over the lifecycle of the system. Fewer systems also means less demand for resources such as power, cooling and network interconnects, further reducing costs and improving data center efficiency.

Improved reliability, availability and serviceability (RAS) has long been a benefit of scalable high-performance servers. Sophisticated failover capabilities help maintain data integrity and business continuity during planned and unplanned downtime. The latest HPC solutions combine fault-tolerant server architectures with the RAS features of the Xeon E7 v2 processor. The result is 20 times more reliability and 60 percent less downtime than commodity servers.

Isolated yet Integrated

Hard partitioning also helps boost reliability. It enables the system to be configured as one large server or several smaller ones, each with its own dedicated processor, memory resources and operating environment, effectively isolating mission-critical applications from other application failures and reboots.

Affordable HPC systems now support a wide range of workloads, including financial modeling, R&D and big data.

Electrically isolated hard partitions enable near bare-metal performance and stronger application and OS fault tolerance while increasing overall system availability. Additionally, hard partitioning delivers the flexibility benefits of virtualization. Although each hard partition acts like an individual server, it is integrated into the overall environment. It is possible to scale the physical resources of a partition through software even while it's running.

Industry analysts say the advantages of multiple parallel processing and big-data analytics are driving sustained growth in the HPC market. IDC forecasts an 8.2 percent compound annual growth rate over the next five years, with the HPC market reaching $15 billion by 2019.

Moreover, U.S. business leaders have become convinced that HPC is of strategic importance. The Council on Competitiveness, a Washington, D.C.-based non-profit that works to boost U.S. economic interests, sponsored a six-month study of U.S. business attitudes toward HPC in 2014. During that study, 76 percent of business leaders interviewed said they consider improving their computational methods through HPC to be a matter of "competitive survival."

The concept of supercomputing has changed over the years as servers based upon commodity components have become more powerful. HPC systems give organizations the scalability, reliability and performance to support mission-critical applications in a flexible, cost-effective package.

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888-337-2626