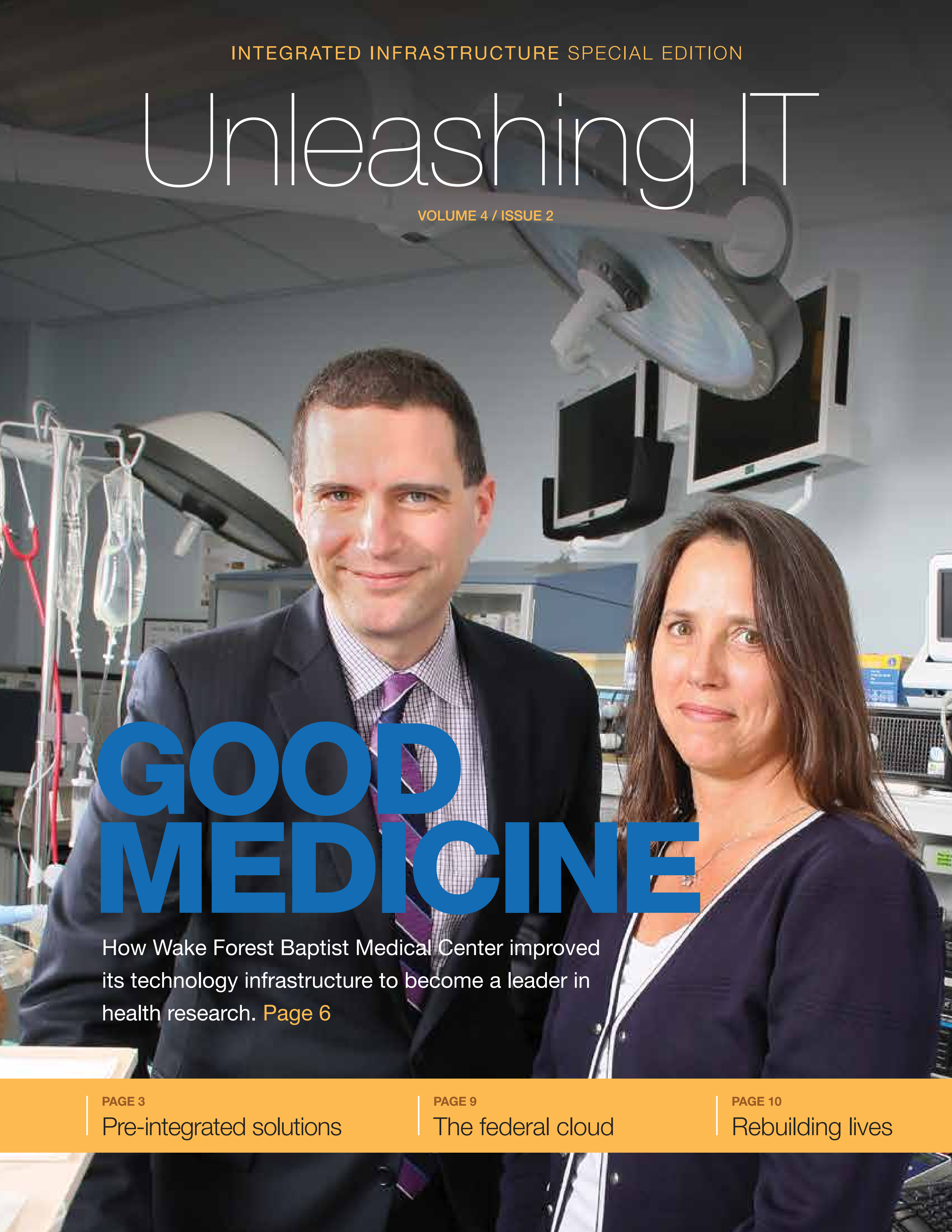
INTEGRATED INFRASTRUCTURE SPECIAL EDITION

Unleashing IT

VOLUME 4 / ISSUE 2



GOOD MEDICINE

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IN COLLABORATION WITH INTEL®

Unleashing IT

VOLUME 4 / ISSUE 2

INTEGRATED. OPTIMIZED. READY.

In today's ultracompetitive and fast moving business world, there is little time to piece together a technology environment from scratch. And there is no tolerance for hiccups along the way. That's why demand continues to grow for integrated systems—those that bring together computing, networking, and storage building blocks for faster deployments, less risk, simplified management, and seamless scalability.

This edition of *Unleashing IT* showcases a variety of companies that are taking advantage of Intel® Xeon® processor-based Cisco UCS integrated infrastructure solutions.

Wake Forest Baptist Medical Center (page 6) and Purdue Pharma (page 8), for example, are using VCE Vblock Systems to advance their research capabilities. Wildhorse Resort & Casino and Breckenridge Grand Vacations are utilizing Nimble Storage SmartStack solutions to minimize risk and maximize uptime (page 12). Madonna Rehabilitation Hospital is taking advantage of FlexPod to expand its patient services and use of data (page 10). Agro-Culture Liquid Fertilizers is using Cisco solutions for VSPEX to support dramatic growth and changing customer demands (page 15). And CGI Federal is streamlining public sector cloud migrations with the Hitachi Unified Compute Platform (page 9).

All of these integrated infrastructure solutions are validated and optimized. And they are ready to work for you.

For more information, follow the links inside or contact Cisco at 1-800-553-6387 and select option 1 to speak with a Cisco representative. We welcome your feedback on the articles in this publication at UnleashingIT.com.

Sincerely,

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Cover Photo:
Wake Forest Baptist Medical Center's Dee Emon and Chad Eckes

THE VALUE OF PRE-INTEGRATED, PRE-VALIDATED INFRASTRUCTURE

Removing the time, cost, and headache of data center integration and management.

A recent report by Gartner revealed 73 percent of IT budgets is dedicated to keeping current data center systems up and running[1]. If nearly three-quarters of spending is earmarked for maintaining the status quo, how can companies innovate? How can they transition from a treadmill scenario into forward business progress?

Integrated infrastructure solutions—which bring together computing, networking, storage, and automation into a single, validated system—are quickly becoming the answer. Easily deployed, centrally managed, and ready to scale, integrated systems remove many of the complexities, costs, and growing pains of running a data center.

"Companies have traditionally purchased hardware and software separately and done their own integration in-house. But that requires expertise across a range of solutions, it increases the time and cost of administration, and the probability of failure and downtime is higher," says Jay Cambron, account manager at Intel. "With integrated solutions, however, companies can select best-of-breed hardware and software components that are built to work well together, increasing efficiency and reliability while lowering costs."

While such systems are not exactly new—Cisco UCS integrated infrastructure-based solutions, for example, have been around for five years—more and more companies are beginning to understand their value. Hence the 30 to 50 percent year-over-year growth in a relatively flat IT spending market.

CHOICE IS IMPORTANT

Because there is no "one size fits all" when it comes to IT deployments and organizations often have vendor preferences, Cisco and its storage and software partners offer a variety of reference architectures for integrated infrastructure systems.

Some are focused on popular business use cases, such as private cloud, big data, and virtual desktop infrastructure, while others are based on mission-critical software deployments like Microsoft, SAP, and Oracle. Organizations can select from a range of integrated systems and storage options, including FlexPod (with NetApp), VCE Vblock Systems, Hitachi Unified Compute Platform Select, Nimble Storage SmartStack, VersaStack (with IBM), and EMC VSPEX.

"The most common use cases, applications, and storage platforms are all covered," says Marcus Phipps, senior marketing manager for data center solutions at Cisco. "And they all simplify IT operations for better orchestration, automation, and TCO (total cost of ownership)."

In addition to providing choice and flexibility, integrated infrastructure systems simplify IT deployments by dramatically reducing the time and cost of planning, designing, sizing, building, testing, stabilizing, and optimizing a data center environment from scratch. What typically takes months can be shaved down to weeks or even days.

"The goal is to lower the complexity and overall cost of ownership in the data center and then, most importantly, to accelerate the deployment of new applications and services that drive the business forward," says Phipps.

The benefits of these systems are extremely compelling. Integrated infrastructure solutions based on the Intel® Xeon® processor-powered Cisco Unified Computing System™ (Cisco UCS®), for example, help reduce deployment times by 84 percent, cabling costs by 77 percent, power and cooling costs by 54 percent, and management costs by 61 percent on average.

"They increase the speed and reduce the cost of IT operations immediately," says Phipps, "and many of them come with fully integrated support, so there is only one number to call when you have a question or issue."

Integrated infrastructure systems also offer a roadmap for ongoing growth and enhancement, he adds.

"We've designed Cisco UCS with the future in mind," says Phipps. "It's ready for the next phase of Application Centric Infrastructure and hybrid cloud deployments, extending the value of integration and orchestration from mission-critical applications to globally connected cloud environments."

[1] Gartner—Cisco IT, "Data Center Cost Portfolio"

For a white paper on the evolution and focus areas of Cisco UCS integrated infrastructure, visit the resource center at UnleashingIT.com.

VCE + ACI: BUILT FOR THE HYBRID CLOUD

VCE, a pioneer of converged infrastructure systems, recently announced a major expansion to its portfolio, focused on speeding and simplifying hybrid cloud deployments.

Key to the announcement is a new family of converged infrastructure solutions, called VxBlock Systems, which include application and cloud functionality along with traditional hardware elements. The first VxBlock System will offer Cisco® Application Centric Infrastructure (ACI) for software-defined networking (SDN), the Intel® Xeon® processor-based Cisco Unified Computing System™, EMC storage, and VMware virtualization.

ACI is built on a network fabric that delivers a highly flexible, scalable, and resilient architecture of low-latency, high-bandwidth links. The ACI fabric is designed to support the industry move to management automation, programmatic policy, and dynamic "workload anywhere" models.

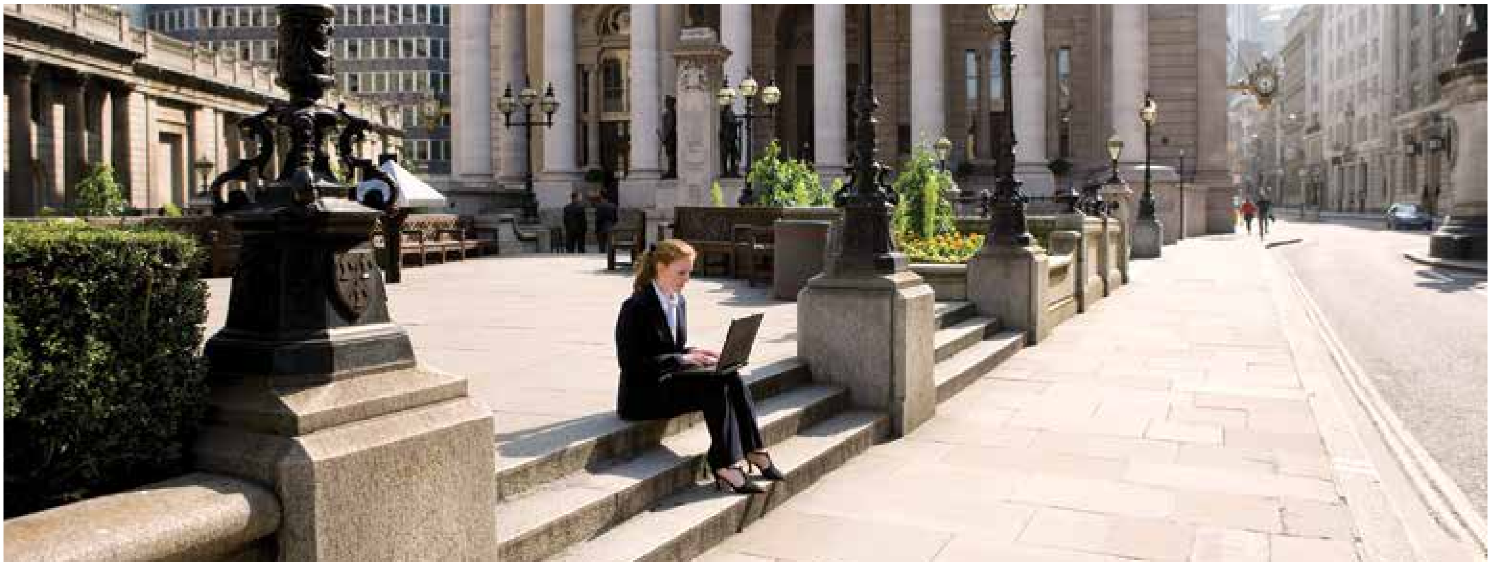
"With the emergence of virtualized data centers and hybrid cloud environments, workloads must become portable and security, governance, and compliance policies must be able to move with them in an automated fashion," says Marcus Phipps, senior marketing manager for data center solutions at Cisco. "ACI was designed for this new reality, and it works hand-in-hand with integrated infrastructure solutions like VxBlock."

"Applications are driving new demands for our customers' data centers, whether they are physical, virtual, bare metal, or in the cloud," adds Ish Limkakeng, vice president of marketing for Cisco's Insieme Business Unit. "To move at the speed of business, our customers must deliver applications at scale and in a highly secure manner wherever and whenever they are needed. We believe Vblock and VxBlock systems with ACI will create a new gold standard for application-centric converged infrastructure, delivering more value to our customers and accelerating data center and cloud build-outs."

VCE VxBlock Systems will receive the same "VCE Experience" of factory-based pre-integration, pre-testing, and pre-validation, with seamless component-level updates, ongoing lifecycle assurance, and single-call support.

For a solution brief on Cisco ACI and VCE Vblock integration, visit the resource center at UnleashingIT.com.

CISCO VALIDATED DESIGNS: BLUEPRINTS FOR SUCCESS



Piecing together a technology infrastructure—including compute, network, and storage systems along with management and application software—is a complex process. Fortunately, there are blueprints that can help.

Known as Cisco Validated Designs (CVDs), these blueprints answer the most common questions, highlight best practices, and provide step-by-step instruction for setting up an infrastructure environment.

"The more complex things are, the more people need help," says Siva Sivakumar, director of Cisco Unified Computing System™ (Cisco UCS®) solutions engineering for Cisco. "CVDs help our customers bring the foundational elements of an infrastructure together for a faster, more reliable, and fully predictable deployment."

They also give guidance for a number of different situations, needs, and use cases. Some CVDs are focused on mission-critical software optimization. Others provide configurations for private cloud, virtual desktop infrastructure, big data, and branch office computing.

"There's a lot of choice and multiple options depending on the hardware and software being utilized," says Sivakumar, noting there are more than 50 CVDs for the Intel® Xeon® processor-based Cisco UCS alone.

"It's all based on customer needs," adds Chris O'Brien, technical engineering manager at Cisco. "For example, security is one of the biggest concerns for those considering private cloud, so we've developed three or four CVDs focused specifically on private cloud security."

It takes four to six months and roughly 2,000 hours to produce a CVD, so customers can have confidence that the designs are carefully engineered, fully tested, and thoroughly documented.

"Every environment is unique, and IT architects still get to be IT architects," says O'Brien. "CVDs just remove the complexity and confusion associated with setting up the base platform."

VISIT THE DESIGN ZONE

To see all of the available Cisco Validated Designs (CVDs), visit the Design Zone at cisco.com/go/cvd.

GETTING OUT OF THE BEST-OF-BREED WORLD

Dee Emon (left) and Chad Eckes led the charge for infrastructure change at Wake Forest Baptist Medical Center.

Wake Forest Baptist Medical Center replaced an aging technology infrastructure and moved to the forefront of medical research.

When Chad Eckes joined Wake Forest Baptist Medical Center as vice president and chief information officer in early 2014, he found a variety of aging and loosely connected systems. Eight different storage area networks had created rigid silos, data security was not being handled uniformly, and available capacity was largely underutilized.

"We have a very lean IT team," Eckes explains, "so we needed better standardization and administrative efficiency before we could advance our capabilities."

Wake Forest Baptist also had to remove the specter of downtime. With legacy equipment that had been poorly architected, the availability of the medical center's IT systems was well below industry standards and even further below the department's service level agreement.

"Recent industry research shows that downtime costs $480 per hour per physician, and we have nearly 1,000 physicians on staff," says Dee Emon, chief clinical information officer at Wake Forest Baptist. "Downtime is very, very costly."

It also has a direct impact on patient safety. With electronic health records, patient monitoring, medication scanning, and other clinical systems all tied to Wake Forest Baptist's data center, any amount of downtime pushes clinical staff back to the manual processes of the 1980s.

"From a clinical standpoint," says Eckes, "anything less than 100 percent uptime is unacceptable."

To update and solidify the medical center's technology infrastructure, Eckes recently overhauled Wake Forest Baptist's data center with six Vblock Systems. Featuring the Intel® Xeon® processor-based Cisco Unified Computing System™, Cisco Nexus® switches, EMC storage, and VMware virtualization software, the pre-integrated, tested, and validated Vblock Systems deliver exceptional performance and reliability and can be deployed quickly.

"We needed to make large platform moves and get out of the best-of-breed world," says Eckes. "Vblock immediately solved our primary challenges of uptime, security, and manageability. And it gave us a solid foundation on which we can build new capabilities and do new things."

ADVANCING MEDICAL RESEARCH

Wake Forest Baptist is a nationally recognized, fully integrated academic medical center and health system based in Winston-Salem, North Carolina. The institution comprises a school of medicine, a renowned children's hospital, a research and technology center, and a network of affiliated hospitals, physician practices, outpatient services, and other medical facilities.

With its new integrated infrastructure, Wake Forest Baptist has been able to take advantage of the latest cloud technologies. The medical center is building an internal cloud on top of its Vblock Systems that offers self-service provisioning tools. This will be particularly useful for researchers who need to spin up compute and storage resources for the duration of projects. What used to take two months and required capital investments will soon be accomplished in hours with systems that are already in place.

Wake Forest Baptist's new state-of-the-art data center.

The medical center is also creating a new data lake that will integrate various silos of previously unconnected data. Taking advantage of the new hybrid cloud infrastructure, the data lake represents an opportunity to centralize both structured and unstructured information sources. Highly technical users will be able to utilize tools such as Hadoop to mine the data directly. For other users, analytics will be supported by classic data mart and warehouse systems that are connected to the data lake.

"The data lake puts us at the forefront of medical research, and gives our researchers expanded capabilities for data mining and analytics," says Emon. "They can conduct analyses much faster than before, and they can access data from all of our applications, even the ones we are no longer actively using. We couldn't do this without a centralized, cloud-based architecture."

Wake Forest Baptist is currently in the process of exploring new clinical services like wireless patient monitoring, telemedicine, and telehealth. The medical center is also aligning its new technology systems and business operations with clinics, health plans, and providers in rural areas.

"We want to provide the best care to patients, no matter where they are," says Eckes. "With a pre-integrated, pre-validated infrastructure, we were able to shore up our technology foundation and quickly move on to new clinical, research, educational, and business opportunities."

MEASURING THE VALUE OF VBLOCK

According to IDC, enterprises and service providers leveraging Vblock Systems are well positioned to drive data center modernization, enable more effective launch and expansion of private clouds, and maintain ongoing benefits in terms of speed, savings, and simplicity.

To learn more, get the IDC white paper at the UnleashingIT.com resource center.

GIVING TIME BACK TO THE IT DEPARTMENT

How Purdue Pharma shifted its focus from IT maintenance to business enablement.

In a what-have-you-done-for-the-business-lately world, technology tinkering is rarely the best answer. And yet, when infrastructure environments are cobbled together, tinkering and problem solving can become the norm. Purdue Pharma L.P., a privately held pharmaceutical company founded by physicians more than 60 years ago, is just one example.

It wasn't long ago that Purdue was running out of space and power in its Stamford, Conn., data center, and running out of people to fight the proverbial—and all too common—fires. Too much time and too many resources were being spent keeping everything up and running, leaving little for business progress.

"We had a lot of engineers sitting in the lab, tinkering and figuring out how to make things work. If servers would crash, we'd track down the problems and fix them," recalls Stephen Rayda, chief technology officer at Purdue. "But these efforts didn't move our company forward, and our business wasn't seeing any value."

STARTING WITH CONSOLIDATION

Rayda saw an opportunity to reduce Purdue's data center footprint as well as the time and cost of systems maintenance by migrating to a pre-integrated, pre-validated infrastructure. He selected a VCE Vblock System, which brings together the Intel® Xeon® processor-based Cisco UCS integrated infrastructure, EMC storage, and VMware virtualization software.

By migrating to Vblock, Purdue reduced its 10,000 square-foot data center footprint to only 3,000 square feet. The environment is 99 percent virtualized. And all updates and changes are managed by VCE, making the infrastructure as hands-off as possible.

"With the power and support for virtual environments we get from Cisco and Vblock," says Manish Gupta, senior IT lead at Purdue, "we're improving application performance even as we consolidate the environment."

Numerous enterprise applications, including SAP software, Oracle databases, and Microsoft SharePoint, support Purdue's complex operations. Running on the new Vblock System, Gupta says the performance of these applications has gone "through the roof," with 70 percent better response time.

FREEING UP RESOURCES

"This environment changes the game for us," Rayda claims.

IT capital expenses have been slashed by well over 50 percent, he notes, representing millions of dollars that can be diverted back to the business. It also represents a huge amount of IT engineering resources that can be dedicated to new services and capabilities.

"Our biggest inhibitor is time," Rayda explains. "The less time we spend on infrastructure maintenance, the more we can spend on business-facing advancements."

So far, these advances include new mobile devices and applications for the Purdue sales force; new collaboration capabilities that help company employees interact with customers and each other; and a new analytics platform that is helping direct research, development, and sales activities.

"In the past, new capabilities like these would have required additional systems, staff, and processes that our data center and IT budget couldn't accommodate," Rayda says. "Now we have room to grow, on a number of levels."

To learn more about Vblock Systems, get the solution brief at the UnleashingIT.com resource center.

NAVIGATING THE FEDERAL CLOUD

Moving workloads to the cloud is more than a lift and shift exercise to cut costs. It's a total makeover that requires a trusted partner.

Much like the promise of the latest diet fad, there's a perception among government agencies that moving to the cloud delivers immediate benefit. If only it were that simple, says John Nemoto, director and Cloud Practice lead at CGI Federal Inc., a wholly-owned U.S. operating subsidiary of CGI Group Inc.

"It's interesting how many times we see disappointment from legacy system owners when they realize they don't automatically gain access to all of the benefits of cloud computing just by migrating," says Nemoto. "The reality is, applications must be architected to take advantage of cloud features such as elasticity, and all of the existing operational services—like compliance, governance, and security—still need to be addressed."

CGI Federal was the first large systems integrator to obtain a Provisional Authority to Operate (P-ATO) from the Federal Risk and Authorization Management Program (FedRAMP℠) Joint Authorization Board, and therefore among the first to start migrating U.S. government workloads to a cloud meeting the FedRAMP security requirements. It currently has dozens of federal and state agencies residing in its hosted federal cloud environment, including the General Services Administration, Department of Homeland Security, Environmental Protection Agency, and Federal Trade Commission.

One reason for the company's early success is its decision to use "mission-critical" as its baseline for every cloud service it provides. To do that, it uses the Hitachi Unified Compute Platform that blends Cisco UCS integrated infrastructure, Hitachi Data Systems storage and provisioning, and VMware virtualization platforms into a single solution.

"Having a pre-validated, integrated solution really gives us comfort that security and managed services are already embedded in our federal cloud, allowing us to more quickly obtain certification and deliver the benefits customers are expecting," says Nemoto.

NO SURPRISES WITH CGI CLOUD

CGI's approach includes a readiness assessment to determine what changes are required to existing applications before migrating them to the cloud. The company also capitalizes on features of the Intel® Xeon® processor-based Cisco Unified Computing System™ (Cisco UCS®) to embed IT operational services like patching, scanning, and monitoring into its base cloud offering, so there are no surprise costs for customers.

"It is important to remember that cloud doesn't completely change the IT operational model. It's a new mechanism for delivering IT," says Nemoto. "Federal users need to gain confidence and it happens when they partner with a cloud provider to do more than lift and shift applications, to really architect them in a manner that takes advantage of the cloud."

Initially, government cloud deployments targeted public-facing websites and other "low-hanging fruit." More recently, agencies are moving toward mission-critical applications.

"As we start to obtain higher levels of security, required for the Department of Defense for example, it's even more important to make sure we have a very streamlined support model in place that minimizes risk to customers," Nemoto says. "Our integrated infrastructure gives us that."

SOLUTION PROFILE

For a solution profile on the Hitachi Compute Platform Select for VMware vSphere with Cisco UCS, visit the resource center at UnleashingIT.com.

BUILDING AN IT INFRASTRUCTURE THAT HELPS REBUILD LIVES

Madonna's IT management team, including (from left) Bob Heydon, C. David Rolfe, and Roberta Steinhauser, has adopted cutting-edge technologies to improve patient care.

With a standardized, validated infrastructure, Nebraska's Madonna Rehabilitation Hospital is expanding its business—and its ability to treat patients.

Located in America's heartland, Madonna Rehabilitation Hospital offers a residential, park-like setting for patients recovering from traumatic brain injury, spinal cord injury, stroke, and pulmonary conditions. But amidst the tranquil flower gardens, sunny courtyards, and pastoral walking paths on the 23-acre campus in Lincoln, Nebraska, is a host of cutting-edge technology.

"Our investment in groundbreaking technology and progressive treatments is changing the face of rehabilitation," says C. David Rolfe, vice president and CIO at Madonna. "We give people's lives back to them."

Over the past 50 years, Madonna has evolved from a modest nursing home to a nationally recognized leader in specialized rehabilitation programs and research. The hospital treats children and adults with physical disabilities, helps injured workers return to their jobs quickly, and develops collaborative relationships with hospitals in the region and across the nation. In addition to direct patient care, Madonna's Institute for Rehabilitation Science and Engineering is dedicated to finding ways to improve medical rehabilitation through new methods and technologies.

All of this work necessitates a rock solid IT infrastructure. One that not only supports current business and clinical operations, but also forthcoming business expansion, enhanced rehabilitation and research capabilities, and new patient services.

STANDARDIZING ON FLEXPOD

Madonna has standardized its IT infrastructure using FlexPod, an integrated computing, networking, and storage solution that features the Intel® Xeon® processor-based Cisco Unified Computing System™ and NetApp storage.

"With FlexPod, there are so many things we can do now that we couldn't do before, from clinician mobility and medical applications to data privacy and security to patient monitoring and response," says Roberta Steinhauser, director of hospital applications at Madonna.

The infrastructure is supporting all business and clinical operations, she explains, including an advanced electronic medical record (EMR) system that coordinates patient care among nursing, physical therapy, and occupational therapy teams. It also sustains assistive technology that helps patients with speaking and communicating, a gait and motion lab for rehabilitation research and advancement, and specialty equipment that can make a significant difference in patient outcomes.

"Our IT infrastructure is the foundation on which we improve patient monitoring and response, advance our research and rehabilitation methods, and do the right things at the right time for each and every patient," says Rolfe. "Everything is centered on the patient."

BUSINESS AND CAPABILITY EXPANSION

With increasing demand for its expertise and services, Madonna is in the process of building a new rehabilitation hospital campus in Omaha, scheduled to open in fall 2016. A matching FlexPod installed at the new hospital will enable applications and data to be leveraged collectively. And new video capabilities will allow clinicians to work collaboratively from both locations without travelling back and forth between Lincoln and Omaha.

Madonna's new Omaha campus will open in fall 2016.

"With two campuses, we will need seamless coordination between the sites," says Bob Heydon, director of technology services for Madonna. "Having FlexPods at both locations will align our business and clinical operations and enable us to share resources and expertise between the two hospitals."

"Everything is centered on the patient," says Madonna's C. David Rolfe.

That will lead to better care and better patient outcomes. It also expands the amount of data that can be culled and analyzed.

"There are countless opportunities to capture information and use it to continually adjust and improve the care we provide," Steinhauser says. "We will soon be using data for predictive analysis and proactive care, which is a huge step forward."

Madonna is also exploring new capabilities like 24x7 patient monitoring via video, and new partnerships with providers that don't have acute rehabilitation care capabilities.

"Our infrastructure is going to help with business expansion, new clinical applications, and new patient services," says Heydon. "It allows us to be more adaptive. We don't always know what is going to be needed from a business or clinical standpoint, but it's important to respond quickly when we get the call. We can do that now."

"As a nonprofit hospital, we can't afford a big IT staff," Rolfe adds. "Our infrastructure has allowed us to advance our capabilities and improve patient care with a small team."

And that means more hospital technologies, better research and data analytics, and new services—all focused on giving independence back to patients.

GET THE ANALYST INSIGHTS

For a Forrester Total Economic Impact Report and an ESG white paper on FlexPod, visit the resource center at UnleashingIT.com.

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MULTI-VENDOR COMBINATIONS STACK UP

Nimble's integrated infrastructure approach simplifies management without compromising component efficiency.

When Melodie Lente joined the IT department at Wildhorse Resort & Casino in Pendleton, Oregon, she bet on a responsive network that could gather customer information, support mission-critical systems, and provide the ultimate entertainment experience. The odds led her to an integrated infrastructure and today her small IT team of six is winning big.

"Our requirement is no downtime and that really was the driving factor when we started to consider and evaluate integrated infrastructure solutions," says Lente, director of information systems at Wildhorse, noting the resort never closes.

Nestled in the foothills of Oregon's Blue Mountains, Wildhorse offers a 300-room hotel, 18-hole golf course, five-screen Cineplex, RV park, five restaurants, and 24-hour, Vegas-style casino. Everything from slot machines to point-of-sale and back-office applications to voice-over-IP phones and digital signage to casino management and television systems is supported by the computer network.

To deliver high-speed, high-capacity storage and agile virtual servers required to support the company's business systems, Lente selected the Nimble Storage SmartStack solution featuring the Intel® Xeon® processor-based Cisco Unified Computing System™ (Cisco UCS®).

"We needed a powerful solution that could keep up with our demands, yet something very simple to run so that any member of our team, whether a network or application specialist, can jump over and configure storage," says Wildhorse network manager Andy Dougherty. "We have a very small staff here that takes care of a lot; we're able to do that because we buy good equipment that doesn't go down and is easy to manage."

ACCELERATING TIME TO VALUE

Wildhorse is among a growing number of enterprises gravitating toward pre-integrated, pre-validated infrastructure solutions as a way to reduce "heavy lifting," says Nimble CEO Suresh Vasudevan.

"The approach is resonating with customers because we're addressing their requirement for simplified management while not compromising the efficiency of each component," he says.

The core SmartStack building blocks include Nimble adaptive flash storage arrays and Cisco UCS integrated infrastructure. Nimble then partners with industry leading vendors to tailor solutions according to specific workloads, such as desktop virtualization, server virtualization, private cloud, business-critical applications, data protection, and Oracle databases.

A key benefit for mid-sized customers is that they no longer have the burden of paying for integration expertise. Large enterprises, meanwhile, are looking to integrated infrastructures as a way to reduce risk associated with support, and cloud service providers benefit from a cookie-cutter approach to deploying services.

Overall, customers are finding the approach speeds up deployment time, improves IT productivity, and enables them to independently scale performance and capacity without downtime, one of the key differentiators between the SmartStack approach and a hyper-converged infrastructure.

According to a recent report by technology management consultant Keith Townsend, the inability to tweak a hyper-converged system is a major drawback.

"Storage growth and performance tuning are pain points for most organizations," he writes. "If a cluster runs low on storage but not compute, you must still upgrade overall compute capability by adding another appliance[1]."

Nimble SmartStack solutions, on the other hand, maintain independent storage, compute, network, and virtualization layers, while providing converged management.

"What started off as a collaboration is now a very real technical integration between Nimble and Cisco that combines engineering and support in a seamless way," says Vasudevan.

SEAMLESS SUPPORT

Breckenridge Grand Vacations in Colorado, a timeshare developer operating four independent vacation properties, recently transitioned to a Nimble SmartStack with Cisco UCS and VMware. Everything is running so smoothly, IT operations manager Scott Britz says finger-pointing between vendors is a non-issue.

"It's a well-oiled solution. We've been really happy with how the products tie in with each other," says Britz.

The company's "heavy hitter" application is its property management software suite, designed specifically for shared-ownership resorts. It also runs Microsoft Exchange and a host of web services supported by a SQL back-end.

Since moving to the integrated infrastructure, Breckenridge's five-member IT team is finding it easier to scale storage and CPU "without any interruption to users," says Britz. "We're able to spin up new servers, add horsepower or grow storage within a matter of minutes."

[1] http://www.techrepublic.com/article/hyper-converged-systems-what-you-need-to-know-about-this-hot-virtualization-topic/

ACCELERATE INFRASTRUCTURE DEPLOYMENTS, IMPROVE SCALABILITY

By adopting a modular building block approach with integrated compute, fabric, storage, and virtualization, IT teams can speed up infrastructure deployments and scale over time, supporting thousands of virtual desktops and hundreds of virtual servers as needs grow.

To learn more, get the SmartStack solution brief at the UnleashingIT.com resource center.

SPEEDING UP DATA CENTER TRANSFORMATION

As cloud, big data, and the Internet of Things drive the modernization of the data center, Cisco and IBM recently announced VersaStack, a new solution that combines the Intel® Xeon® processor-based Cisco UCS integrated infrastructure with IBM's Storwize tiered storage solution.

"There's been a big drive, especially over the last couple of years, for things to be easier to implement," says Ian Shave, storage business unit executive for VersaStack, big data, and analytics at IBM Corp.

Rather than forcing IT departments to buy separate server, storage, and network equipment and spend months pulling them together, integrated infrastructure systems like VersaStack can be deployed extremely quickly. And there is often considerable cost savings. Shave says VersaStack can deliver 62 percent lower total cost of ownership (TCO) over five years compared to traditional environments.

"That frees up budget to do those things that didn't look affordable before," he notes.

IMPROVING PERFORMANCE AND UTILIZATION

Powerful computing and networking platforms combined with the latest storage technologies don't just speed up implementations and reduce costs. They can also boost performance.

"Today's faster storage technologies like flash work hand-in-glove with compute and networking systems for higher performance," says Shave. "And with analytics-based management capabilities, data placement can be automated for additional performance gains."

Utilization of storage assets—traditionally around 35 percent, on average—can be improved as well.

"Through a combination of real-time compression and storage virtualization, Storwize addresses utilization inefficiency," says Shave. "It stores up to five times the data on the same infrastructure, which is a significant contributor to lower TCO."

"VersaStack will help our mutual customers streamline deployment and operation of their IT infrastructure," adds Satinder Sethi, vice president of data center solutions at Cisco. "It will also provide a foundation for innovation between Cisco and IBM—from mobility and data analytics to Intercloud and application centric infrastructure."

LEARN MORE

To learn more about VersaStack, get the solution brief at the UnleashingIT.com resource center.

FERTILIZING BUSINESS GROWTH

Agro-Culture Liquid Fertilizers is using a new integrated infrastructure to support ongoing growth and advance its business capabilities and customer services.

Agro-Culture Liquid Fertilizers' business has been booming for the past 15 years. With 20 percent annual growth during that span, the Michigan-based company has had to rely on advanced technology to support a new Gold LEED certified headquarters facility, a multi-state expansion, and one of the leading agricultural research facilities in the nation.

"Our owners have always been progressive with technology," says Tracy Dunn, network manager at AgroLiquid. "We pride ourselves on staying on top of technology trends and finding ways to improve productivity and communications across all of our locations."

Doing so requires a fundamentally sound core infrastructure. With the help and guidance of its service provider Sentinel Technologies, AgroLiquid recently installed VSPEX Converged Infrastructure systems in its data center and disaster recovery site.

LESS COST, MORE BUSINESS CAPABILITIES

Featuring the Intel® Xeon® processor-based Cisco Unified Computing System™, Cisco Nexus® switches, EMC storage, and VMware virtualization software, the VSPEX systems have increased virtualization to nearly 100 percent within the AgroLiquid IT environment. As a byproduct, the company has cut its data center footprint by 75 percent, as well as related power, cooling, and cabling costs.

"VSPEX was an attractive option for us because we knew that we could create an environment that could easily scale and be replicated as our business grows," says Dunn.

It has also enabled a number of new services and capabilities. AgroLiquid has made a companywide migration to virtual desktops, and is also taking advantage of Cisco voice, video, and telepresence solutions for enhanced collaboration. In addition, the company is advancing its customer services through a self-service portal that includes product ordering, account details, and reporting functionality.

"In the agriculture industry," says Dunn, "we are a leader in the use of technology."

The company is also a leader in liquid fertilizer research and development. AgroLiquid runs one of the largest agricultural research farms in the United States, and the new VSPEX systems provide an opportunity to boost the facility's data management and analytics capabilities.

"We've already achieved so much with VSPEX and transformed how we manage our data center," says Dunn. "We're also confident that we have a solid IT platform and strong vendor partnerships to keep pace with our aggressive growth and changing customer demands."

GET THE SOLUTION BRIEF

To learn more about Cisco Solutions for EMC VSPEX, visit the resource center at UnleashingIT.com.

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