The Converged Infrastructure Payoff for IT

As IT organizations continue to optimize infrastructure management and strive for new ways to support the business, many are finding that converged infrastructure solutions advance those goals by simplifying data center management and freeing up IT resources for innovation efforts. In a recent IDG survey, almost one-third of respondents indicate they have already implemented such solutions, while another third plan to do so within the next two years.

Converged infrastructure solutions aggregate commonly deployed IT infrastructure components—servers, storage, networking, virtualization and software—into pre-packaged or pre-validated systems that are delivered directly from the vendor or reseller channel for streamlined consumption.

Dealing with Complexity Overload

Today, complexity is stifling innovation in the enterprise data center. Many traditional data centers are burdened with a sprawl of disjointed equipment. Running outdated technologies adds to the cost of maintenance, and disparate systems can hinder performance and growth.

IDG Research Services recently surveyed 115 IT professionals—45 percent holding executive-level titles—on market dynamics affecting IT decisions, including the top data center challenges impacting organizations, as well as current and planned installations of converged infrastructure solutions.

Survey respondents indicated that two-thirds of IT time is allocated to maintenance and operations of IT assets, while just one-third is allocated to IT innovation. That focus on what is commonly referred to as “keeping the lights on” stands in the way of the top technology initiative cited by 58 percent of survey respondents: identifying new ways IT can support the business.

While security and budget issues are seen as the top technology challenges over the next 12 months, increasing infrastructure complexity and aging legacy systems were both cited as concerns by 46 percent of survey participants at enterprise-class companies. However, the increase in infrastructure complexity is cited two and a half times more frequently by those who have yet to deploy converged infrastructure than by those who have.

Outdated data centers not only chew up IT budgets, they also often perpetuate silos of information and are a barrier to implementing new consumption models of IT services. In the IDG survey, 45 percent of enterprise respondents said the transition to a new consumption model—whether public, private or hybrid cloud—is a major challenge.

Converged infrastructure solutions combine hardware integration, software orchestration and, in some cases, specific system engineering and configuration into holistic rack architectures designed to operate harmoniously. They can be instrumental in consolidating data center size, improving resource utilization, lowering total cost of ownership and providing a foundation for a future cloud transition.

“IT can be complicated, so during the past few years the idea of an easy-to-deploy, all-in-one compute network and storage appliance has taken hold and been dubbed converged infrastructure,” Network World’s Brandon Butler notes. “What started as a niche market a few years ago has blossomed into a multi-billion dollar business with many of technology’s biggest players involved.”
Blossomed indeed. According to the IDG Research survey, 30 percent of respondents have already implemented converged infrastructure solutions, 21 percent have plans to implement them within the next 12 months, and an additional 14 percent have plans to do so within 24 months. Another 29 percent have no current plans to implement but are interested in converged solutions, leaving a small handful professing no interest at all.

» IT Imperatives
IT has a lot on its plate at the moment. As mentioned, identifying new ways to support the business is the top technology initiative planned for the next 12 months, according to survey respondents. Businesses want IT to enable agility and flexibility, while increasing productivity and cost controls.

The second top technology initiative, cited by 54 percent of respondents, is optimizing infrastructure management. Next on tap, at 48 percent, is improving business decisions and outcomes through the use of analytics, just edging out lowering overall budgets at 47 percent.

Despite the focus on cutting costs, many respondents also cite the need for increasing investment in emerging technologies and innovation. Freeing up resources through implementation of converged infrastructure can help resolve those contradictions while also delivering on IT project delivery improvements, yet another pressing technology initiative cited by those in the survey.

A reality of the data center is that the larger a system grows, the harder it becomes to properly manage. Many businesses have expanded infrastructures in silos, with IT resources deployed to support different lines of business or locations.

An office located in one region may have its own servers, storage devices and networking equipment that are completely different from hardware deployed in another location and supported by different vendors. Even within one location, different departments in a company may have their own servers or security appliances with their own special needs. With different hardware and software trying to run and share information, incompatibilities and problems can become an everyday occurrence, further tying up available IT resources.

» Singing Out Convergence
With a converged infrastructure approach, numerous IT components are combined into a single, optimized solution. These solutions create resource pools that can be used for a variety of applications, allocating resources to each app or service as needed and relinquishing each resource when it is no longer used. Network infrastructure and capacity can be shared among all lines of business, with a single vendor providing a point of contact for IT-related issues.

In most cases, components within a converged infrastructure deployment are designed to work together. At the very least, those components have been extensively tested to ensure that no hardware or software incompatibilities exist within the system. Because of the tight integration of components, most of these systems can be managed from a single point of control regardless of how many lines of business are using the computing resources or what types of applications are running.

Those who have already embarked on the converged infrastructure path are experiencing significant improvement in the traditional focus on maintenance at the expense of innovation, according to the IDG Research survey. While those not using converged solutions are experiencing a 7:3 ratio of maintenance to innovation, those who have already begun the shift are experiencing a 3:2 ratio.
Those who have converted say they have primarily focused on server virtualization (66 percent), mission-critical applications such as Microsoft Exchange and SAP HANA (57 percent) and private cloud (51 percent). For future deployments, those three remain near the top of the list, exceeded only by disaster recovery.

» Matched Solutions
Converged infrastructure solutions can vary from cloud-based tools to virtualized machines to network appliances to various combinations, all within a single, manageable system.

Data center converged infrastructure solutions typically include server and desktop virtualization; network optimization; blade servers; storage virtualization; and management tools and processes. Instead of architecting each service individually and physically provisioning the resources it requires, an organization’s IT department creates resource pools that can be used for a variety of applications.

This more efficient use of resources provides the flexibility to allocate and reallocate resources at will, so that IT can roll out new services quickly, scale on demand and on a moment’s notice decommission systems that are no longer (or not currently) needed.

Of those who have adopted converged infrastructure, the top benefit, cited by 69 percent, was IT administration savings, followed by ease of management. The converged infrastructure system allocates the resource to each app as needed and

WINDOWS 2003 PUTS CONVERGED INFRASTRUCTURE ON FRONT BURNER

The approaching end-of-service date for Microsoft Windows 2003/R2 may provide many organizations with needed incentive to consider converged infrastructure solutions.

After July 14, 2015, Microsoft will no longer develop or release updates for product design or features. An unsupported operating system will not fully meet compliance policies and regulations. No security updates will be provided, leaving virtualized and physical environments vulnerable.

For most, that means reviewing infrastructure needs as migration to a new version of Windows Server nears. By converting to a converged infrastructure solution, organizations can take advantage of the efficiencies and potential cost savings of more tightly integrated systems that pool and allocate resources dynamically, virtually eliminating the need to over provision for application performance and availability.

Current and Planned Use of Converged Infrastructure
Thirty percent of respondents have already deployed converged infrastructure, while an additional 35% plan to within the next two years, just 6% of respondents have no interest in converged.

Total base: 115 qualified respondents; Q5: Which of the following best describes your organization’s deployment, of planned deployment, of converged infrastructure solutions?
In fact, converged infrastructure is uniquely suited for cloud operations. Once the converged infrastructure is in place and the organization needs additional capacity, it can be obtained by using either the popular OpenStack protocol or common hypervisors that allow easy scalability and movement of virtual machines to the cloud.

The converged systems approach is also well suited for solving the mobility management issues that many of today’s enterprises are dealing with. In the survey, 46 percent of respondents indicate they are using these systems for virtual desktop infrastructure (VDI), which gives users a consistent experience across their mobile devices and allows IT to centrally manage client desktops.

Evaluation and deployment

Nobody should go blindly into a converged infrastructure deployment. Success requires a well-planned process for determining needs and evaluating, implementing and operating the right solution.

Poor planning can result in missed goals. The most likely cause of failing to achieve cost savings, for example, is buying a solution that is too large for the organization’s current infrastructure. With physical appliances, laying out too much money for a machine with far more capacity than is needed is a recipe for busting a budget and replicates the over-provisioning typical of legacy infrastructure.

There can also sometimes be reluctance to dispose of existing infrastructure. While the desire to keep older equipment running as long as possible is understandable, doing so alongside a converged solution adds to costs. Planning on decommissioning older systems once the converged systems are up and running is a key element of success.

As convergence relies on a single-source supplier of the converged solution, it’s imperative to find a partner that is an expert in the subject matter and that will evaluate the organization’s needs and is capable of providing ongoing services as needed to support optimal operation and management of the solution.

CDW works with leading systems vendors such as Cisco, EMC, IBM, NetApp and VMware to provide a scalable and more cost-efficient way to quickly deploy a simplified IT infrastructure. To learn more about CDW’s converged infrastructure solutions, contact your CDW account manager, or call 800.800.4239 or visit CDW.com/convergence.

Benefits of Converged Infrastructure

Ease of management and IT administration savings are the top benefits of converged infrastructure, bar none; those who have already deployed converged cite improved application performance significantly higher than those who have not, a validation of its import.

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<th>Benefits of Converged Infrastructure</th>
<th>Total</th>
<th>Currently deployed</th>
<th>Not deployed</th>
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<tr>
<td>Ease of management</td>
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<td>IT administration savings</td>
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<td>Reduced operational expenditures</td>
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<td>Accelerated IT-as-a-service deployment</td>
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<td>Improved hardware integration</td>
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<td>Streamlined support model</td>
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<td>Accelerated time-to-market/time-to-value</td>
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<td>Improved application performance and availability</td>
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<td>Increased user productivity/experience</td>
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<td>Other (please specify)</td>
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<td>None, there are no benefits to converged infrastructure</td>
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Q8. What are the primary benefits of converged infrastructure? These can be benefits realized from a previous implementation, or perceived benefits driving interest and/or investment in converged solutions. Total base: 115 qualified respondents; Currently deployed base: 35; Not deployed base: 80

relinquishes the resource when no longer used. Each individual component can be used to its full capacity, rather than running with a utilization rate that is tied to the workload permanently assigned to it. Of those who have already deployed converged solutions, 54 percent cite improved application performance and availability.

Data center convergence lays the foundation for organizations to make the transition to cloud computing — and makes it easier to implement future upgrades. Converged systems allow easy access to private clouds as well as hybrid cloud environments that combine private and public cloud infrastructure.