VMWARE HYPERCONVERGED INFRASTRUCTURE DELIVERS COMPELLING FINANCIAL BENEFITS DURING A SERVER REFRESH

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Table of Contents

VMware Hyperconverged Infrastructure Provides IT with a Cost-Effective Path for Digital Transformation

For decades, a server refresh was viewed solely through a technical lens: Deploying new hardware provides better performance and capacity. However, that narrow viewpoint must be modified and broadened in the age of digital transformation. Organizations not only want underlying performance; they want better IT economics as well.

Today, a server refresh project offers IT the opportunity to fundamentally improve the economics and operations of the data center by moving to a broad and pervasive use of hyperconverged infrastructure. HCI is a software-defined IT infrastructure that virtualizes all storage and compute resources, making them available as a single pool. In many ways, HCI can enable IT to deliver resources at near economic parity with cloud services.

That's because hyperconverged infrastructure reduces both capital and operating expenses. According to VMware research, HCI can lower total cost of ownership (TCO) by as much as 50% compared with traditional infrastructure.[1] When financial benefits such as these are added to the technical enhancements of a server refresh, the project becomes highly compelling and more likely to receive easy approval. A 50% reduction in TCO is an eye-opener that will get the attention of any CFO.

The cost structure of HCI is also appealing to operating units. In most organizations, the cost of infrastructure is a key component in the chargebacks paid by business units. Lowering the cost of infrastructure lowers these charges. In turn, IT benefits because using this new approach to data center infrastructure—with costs comparable to cloud services and far lower than legacy systems—makes staying with internal IT much more attractive than engaging in shadow IT activities driven by cost considerations.

1   "Lower Your Data Center Costs with vSAN," VMware, 2018

Independent Research Shows VMware Hyperconverged Infrastructure Delivers Compelling Financial and Operational Benefits

Many vendors offer HCI solutions, but there are vast differences among them. One key differentiator between best in class and "just another product" is the financial return and efficiency the solution provides. VMware hyperconverged infrastructure consists of vSphere, the industry-leading virtualization platform; vSAN, the only vSphere-embedded storage for virtual machines and containers; and vCenter Server, a unified and extensible management solution. VMware's HCI offering is a proven leader—both the Gartner Magic Quadrant and Forrester Wave reports name VMware as a leader. The VMware solution delivers real financial benefits, providing savings by improving staff efficiency, IT responsiveness, ROI from current investments in IT, application performance, and efficient use of data center real estate.

A recent IDC study evaluated the VMware HCI solution and identified its compelling financial advantages.[2] The study surveyed many organizations that have deployed VMware HCI and gathered hard data on the results of using it. The benefits are indisputable:

• On average, the users' IT operations costs were as much as 59% lower than with their legacy systems.

• Spending on hardware and related equipment maintenance and power was 22% lower, with reduced demands on data center real estate.

• These savings and others resulted in an overall five-year ROI of more than 600%.

The Financial Benefits on Day Zero, Day One, and Day Two

One interesting method of evaluating the financial benefits of the VMware HCI solution is to look at major project phases: Day Zero, Day One, and Day Two. Using this structure also makes clear how easy it is to integrate the twin tasks of moving to HCI and completing a server refresh. Both use this same fundamental project plan.

Using the Day Zero, Day One, and Day Two terminology to describe project phases has become more prevalent in the industry. (Note that these terms don't denote a single or specific day, but rather are identifiers attached to various phases of a project.) Short definitions of each follow:

Day Zero: When the architecture, requirements and design of the project are built.

Day One: When initial installation, setup and configuration occur.

Day Two: When the operations are optimized and the going-forward benefits are realized.

Day Zero and Day One Financial Benefits

The VMware HCI solution delivers financial benefits at the earliest stages. Important savings result from the ability to leverage existing infrastructure while modernizing it with the HCI platform. Additional savings are gained from using vSAN to eliminate the need to purchase expensive, purpose-built storage infrastructure such as fibre channel networking. Leveraging existing hardware delivers substantial Capex savings, since many competing options require a forklift upgrade of infrastructure. Further, due to vSAN's scale-out architecture, IT can buy only what is needed and add storage and compute resources over time, rather than buy five to seven years of capacity upfront. It should also be noted that the VMware-Intel partnership using vSAN with Intel® Optane™ SSD provides a substantial performance edge over typical all-flash arrays, lowering demand for new storage capacity. The combination of Intel® Optane™ SSD and vSAN is truly a best-in-class, modern HCI solution. Finally, the VMware HCI solution uses data center space much more efficiently, eliminating a considerable storage footprint. According to the Evaluator Group, this provides a 13% operational savings from reduced power and cooling demand.[3] IT can also avoid major re-engineering of the data center physical infrastructure, which eliminates another potential area of capital investment.

From an Opex perspective, the VMware solution provides substantial IT staffing savings for Day Zero and Day One. First, IT staff in most organizations are already well-versed in administering and managing vSphere, the market-leading hypervisor; since vSAN is vSphere-native, it's easy for new users to learn. In fact, more than half of new vSAN users report they're experts within 30 days of adoption. This saves recruitment, training and new-staffing costs. Because of vSAN's scale-out architecture, IT teams can quickly and consistently expand infrastructure to meet growing needs regardless of the underlying hardware, reducing installation and configuration complexity.

Moving toward the Day One activities, VMware HCI provides substantial savings during installation and setup, since the IT team can use many of the existing images and known test routines and processes, leveraging work already built for the current VMware environment. By using these "known good" configurations, organizations get the added benefit of reducing the time necessary for testing. It should also be noted that, according to IDC's findings, the VMware HCI solution can be deployed 56% faster than with legacy systems, reducing the IT staff resources needed for this task.

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3   See "Lab Insight: Latest Intel Technologies Power New Performance Levels on VMware vSAN – 2018 Update," Evaluator Group, Oct. 29, 2018. Tested using IOmark-VM. Performance results are based on testing as of Aug. 20, 2018, and may not reflect all publicly available security updates. See product configuration disclosure details. No product can be absolutely secure. Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Other names and brands may be claimed as the property of others.

Day Two Financial Benefits

Many companies put more focus on the Day Two, post-deployment benefits, since those are recurring, providing Opex savings over the entire lifecycle of the deployment. When coupled with the savings from a server refresh, HCI increases the amount of cost reduction possible. Day Two is where VMware HCI infrastructure truly shines. As noted above, operations costs are lowered by as much as 59%. This allows VMware HCI to deliver cost-effective infrastructure that meets the same level of efficiency as many public cloud services.

An important source of these savings is derived from simplifying operations and increased use of automation via vSAN, including patching and upgrades. The use of policy-based management across both compute and storage infrastructure eliminates many manual and repetitive tasks and delivers large, recurring savings. In an analysis of a recent HCI project, IDC found VMware HCI provided an 81% staff time savings in new storage deployments and the payback period for an entire project was only six months.[4] IT teams often struggle with lifecycle management. Through normal upgrade cycles, expansion and M&A activities, many businesses end up with a patchwork of server and storage products that each require specialized skills to maintain. It's not uncommon to have specialists for each of these vendors in a data center, and just maintaining each piece of equipment can be a real challenge. VMware HCI reduces the burden on IT to maintain these costly systems. vSphere Update Manager, or VUM, automates lifecycle management for both compute and storage in an HCI cluster, and proactive health alerts announce when patches or upgrades are available, simplifying operations even further.

From an infrastructure perspective, the VMware HCI solution has the functionality to deliver savings in many areas. A starting point is savings on system management costs via VMware's single storage control plane, or storage policy-based management, for both vSAN-based hyperconverged infrastructure and traditional, external SAN arrays. The VMware policy-based management approach adds operational efficiency and optimizes storage investments by enabling users to define storage requirements for a VM or VM disk, automatically placing data on the storage tier that matches the new policy and is most appropriate for it, and allowing admins to change storage policies on the fly. Admins can change data protection policies, for instance, moving from RAID 1 to erasure coding with just a few steps, or turn on encryption with a single click. Second, vSAN enables businesses to buy exactly the storage needed, which saves on storage acquisition costs, maintenance fees, software costs and data center real estate. However, the single largest saving may come from the reduction of unplanned downtime. The IDC study found that this solution delivers a 98% reduction in unplanned downtime, which represents another big savings. According to Gartner, unplanned downtime can cost $300,000 per hour.[5]

4 Ibid. footnote 2
5 "The Ugly Truth about Downtime Costs and How to Calculate Your Own," eResources, May 29, 2018

Key Takeaways

Management is demanding more efficiency and cost optimization from internal IT groups. VMware's HCI platform is a best-in-class option for IT teams that want to deliver new levels of efficiency and lower overall costs by using a server infrastructure upgrade as the catalyst for moving to HCI.

Independent research data shows VMware's HCI offering provides better economics than other solutions. Leveraging current IT skills, infrastructure and operational processes creates a foundation for both Capex and Opex savings that will continue for years to come. And increased operational simplicity will allow IT to better respond to business demands.

If you'd like to learn more about how your IT organization can coordinate a server refresh and the move to a VMware HCI platform, please go to: vmware.com/go/hitrefresh.