

# Tech Outlook

September 2017

PROSYS



## Simplified Software Management

*Cisco Enterprise Agreement removes complexity from portfolio-wide software licensing.*



**T**ech pioneer Marc Andreessen famously wrote a few years ago that “software is eating the world,” and his assessment has proven to be on target. Organizations today are reducing dependence on hardware by virtualizing the entire technology stack — network, compute, storage and security — in what is often referred to as “software-defined everything.” This approach helps drive digital transformation by allowing organizations to pivot to new technologies swiftly and efficiently.

However, software-centric IT also introduces some significant challenges. Software purchasing is notoriously complex, involving a tangle of different options and usage rules.

“Understanding and managing the contractual obligations of software licenses is a huge job,” said Michael Hritz, Vendor Alliance Manager, ProSys. “Problems with license compliance, duplication or expiration can lead to potentially devastating fines, fees and costs.”

Licenses set limits on the use, distribution and modification of software, and all major software companies conduct regular audits to identify improper usage. If more instances of the software

*continued on page 2*

TECH OUTLOOK

PRSRRT STD  
U.S. POSTAGE  
PAID  
Tulsa, OK  
Permit No. 2146

are installed than the license allows, organizations can be hit with unbudgeted “true up” fees as well as being billed for the cost of the audit. ZK Research has found that software license complexity causes companies to exceed their IT budgets by an average of 28 percent every year.

## Easy Does It

Cisco is removing much of the complexity from software purchasing with its Cisco Enterprise Agreement (EA), which creates a consistent pricing model and simplifies the use of Cisco apps throughout the organization. The new, enterprise-wide software agreement allows customers to use the tools and services they need today, and rewards growth by enabling customers to seamlessly scale and add capabilities without penalty.

It is a significant development for a company that at one time became the most valuable company in the world by selling routers, switches and other data center hardware. Cisco — like Andreessen — anticipated the looming shift to software-driven infrastructure years ago, and has since developed an impressive portfolio of software solutions designed to accelerate network digitization.

“To encourage adoption of its portfolio, Cisco understood the need to make it easier for customers to purchase, use and renew software licenses,” said Hritz. “It’s an issue that has confounded companies for decades, and it has only been getting worse as we transition to software-centric computing models. Cisco recognized that this new model required a new approach to software licensing.”

## Growing Confusion

Companies once used spreadsheet-based manual processes to track their software purchases and licensing, but that’s just not practical anymore. In the mobile computing era, users often download mobile apps and sign up for cloud-based solutions without the knowledge of IT or management. In addition, software licenses today often involve complex calculations for virtual machines, virtual desktops and the number of processor cores.

In a recent Express Metrix survey of IT professionals, respondents noted that software compliancy has become increasingly challenging because license agreements have become too difficult to understand and interpret. Additionally, the increased complexity of the overall IT environment makes it difficult to reconcile what is installed with what is actually being used.

More than half (57 percent) of participants reported owing money in true-up costs, settlements or other penalties ranging from \$50,000 to \$5 million at the conclusion of an audit. Additionally, the audit process itself was often an extreme burden for IT staff, with 45 percent reporting the audits lasted three months or more.

With its EA, Cisco gives customers a simple, flexible way to manage their software investments. It provides a mechanism for deploying Cisco software on-premises, in the cloud and in hybrid environments with a single streamlined contract.

## Keeping It Simple

Available in three- and five-year contract terms, the Cisco EA currently covers infrastructure, security and collaboration portfolios, and Cisco says other software capabilities will be added over time. The collaboration portfolio includes the Cisco Unified Communications Suite, Cisco Spark and Cisco WebEx among others. The infrastructure portfolio includes Cisco’s flagship infrastructure and data center technologies delivered through Cisco ONE suites. Security products covered include Email Security Suite, Cloud and Web Security Suite, Policy and Visibility Suite, and Security Essentials Suite.

Software can be added and licenses transferred to new hardware as needed. All software purchases and deployments will be visible through an online portal. It includes a 20-percent growth allowance, which entitles organizations to 20 percent more software and support services to account for unexpected growth without additional purchases.

There is also a “True Forward” provision, which states that organizations that grow beyond the 20-percent allowance will not be billed retroactively for surpassing software usage limits. The contract is adjusted for the next billing period instead. This is in contrast to the traditional model in which companies are reviewed and retroactively billed for overuse.

If software is eating the world, then traditional software licensing is eating technology budgets. With EA, Cisco is removing many of the “gotchas” from traditional licensing arrangements. As the company continues to develop applications that drive the transition to flexible, software-defined architecture, the Cisco Enterprise Agreement will help customers focus on innovation and efficiency rather than contract management.

## News Briefs

### 'Massive' Infrastructure Shift Expected

The growth of cloud and industrialized services and the decline of traditional data center outsourcing indicate a massive shift toward hybrid infrastructure services, according to Gartner, Inc. The research firm predicts that 90 percent of organizations will adopt hybrid infrastructure management capabilities by 2020.

"As the demand for agility and flexibility grows, organizations will shift toward more industrialized, less-tailored options," said DD Mishra, research director at Gartner. "Organizations that adopt hybrid infrastructure will optimize costs and increase efficiency. However, it increases the complexity of selecting the right toolset to deliver end-to-end services in a multi-sourced environment."

Gartner says the market for traditional data center outsourcing (DCO) is shrinking, with worldwide spending expected to decline from \$55.1 billion in 2016 to \$45.2 billion in 2020. Over the same period, the firm says, cloud compute services spending will grow from \$23.3 billion to \$68.4 billion, and colocation and hosting spending will rise from \$53.9 billion to \$74.5 billion.

Infrastructure utility services (IUS) will grow from \$21.3 billion in 2016 to \$37.0 billion in 2020, and Storage-as-a-Service will increase from \$1.7 billion in 2016 to 2.7 billion in 2020. Gartner also predicts that through 2020, data center and relevant "as-a-Service" pricing will continue to decline by at least 10 percent per year.

### Server Revenues Dip Ahead of Major Refresh

Worldwide server market revenue declined 4.6 percent year over year to \$11.8 billion in the first quarter of 2017 (1Q17), according to IDC's Worldwide Quarterly Server Tracker. The research firm expects the overall server market growth will remain slow until the second half of the year as most hyperscale service providers await the deployment of Intel's new Skylake processors.

High-end server sales continue to be a drag on overall market performance. The market has also been negatively affected by DRAM pricing issues. Worldwide server shipments increased 1.4 percent year over year to 2.21 million units in 1Q17.

One customer accounted for more than 10 percent of the servers shipped in 1Q17, with approximately 250,000 servers deployed. IDC speculates that organization is preparing for a major transition to cloud services.

Volume server revenue declined by 3.4 percent to \$9.5 billion, while midrange server revenue grew 16.5 percent to \$1.3 billion. Demand for high-end systems experienced a year-over-year revenue decline of 29.0 percent to \$1.0 billion. IDC expects continued long-term declines in high-end system revenue.

"The server market continues to struggle to find growth," said Kuba Stolarski, research director, Computing Platforms at IDC. "As the market prepares for the switch to Intel's Skylake this year, we may be witnessing a shift in how workloads are deployed in the future, and what architectural choices will be made around modularity, operating environments, software and cloud services."

## Tech Outlook

Copyright © 2017 CMS Special Interest Publications. All rights reserved.

### Editorial Correspondence:

10221 E. 61st Street  
Tulsa, OK 74133  
Phone (800) 726-7667  
Fax (918) 270-7134

**Change of Address:** Send corrected address label to the above address.

Some parts of this publication may be reprinted or reproduced in nonprofit or internal-use publications with advance written permission. Tech Outlook is published monthly by CMS Special Interest Publications. Printed in the U.S.A. Product names may be trademarks of their respective companies.

## ProSys locations

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

**Atlanta, GA**  
(Integration Center)  
Phone: 678-268-9000  
Toll Free: 888-337-2626  
[info@prosysis.com](mailto:info@prosysis.com)

**Austin, TX**  
Phone: 512-658-5847  
Toll Free: 888-337-2626  
[jwestmoreland@prosysis.com](mailto:jwestmoreland@prosysis.com)

**Birmingham/Montgomery, AL**  
Phone: 205-314-5746  
Toll-Free: 800-863-9778  
[info@prosysis.com](mailto:info@prosysis.com)

**The Carolinas**  
Toll-Free: 888-337-2626  
[chash@prosysis.com](mailto:chash@prosysis.com)

**Indianapolis, IN**  
Phone: 317-688-1283  
[Bill.sanders@prosysis.com](mailto:Bill.sanders@prosysis.com)

**Knoxville, TN**  
Phone: 865-310-8843  
Toll-Free: 800-863-9778  
[info@prosysis.com](mailto:info@prosysis.com)

**Louisville, KY**  
Phone: 502-719-2101  
Toll-Free: 800-863-9778  
[info@prosysis.com](mailto:info@prosysis.com)

**Mexico City**  
Phone: +52 (55) 3601 3755  
[info@prosysis.com](mailto:info@prosysis.com)

**Miami, FL**  
Phone: 305-256-8382  
Toll-Free: 800-891-8123  
[lspivot@prosysis.com](mailto:lspivot@prosysis.com)

**Mid-Atlantic**  
Phone: 800-634-2588 ext 2  
[info@prosysis.com](mailto:info@prosysis.com)

**Nashville, TN**  
Phone: 615-301-5200  
Toll-Free: 800-863-9778  
[info@prosysis.com](mailto:info@prosysis.com)

**New England**  
Toll Free: 800-634-2588 ext 1  
[info@prosysis.com](mailto:info@prosysis.com)

**Seattle, WA**  
Phone: 425-939-0342  
[sballantyne@prosysis.com](mailto:sballantyne@prosysis.com)

**Tampa, FL**  
Phone: 813-440-2410  
800-891-8123  
[lspivot@prosysis.com](mailto:lspivot@prosysis.com)



# Data Center Building Blocks

*Hyper-converged infrastructure accelerates deployments and relieves management headaches through modular approach.*

**T**he first known prefabricated house was developed by London carpenter Henry Manning in 1833 for his son who was emigrating to Australia. Based upon that prototype, Manning developed several models of various sizes and costs, advertising them as “Portable Colonial Cottages.” Anyone capable of using a wrench could erect one of Manning’s houses quickly and easily. That made them ideal for the British colonies, where skills and tools were in short supply.

Manning’s 19th-century concept is seeing something of a renaissance in the 21st-century data center. Increasingly, organizations are implementing hyper-converged infrastructure (HCI) solutions — “prefabricated” IT systems that tightly integrate compute, storage, networking and virtualization resources

along with management software. Pre-configured, tested and ready to deploy, they eliminate the need to design, implement and integrate data center infrastructure from scratch, reducing IT complexity, streamlining operations and accelerating time-to-value.

Those benefits have made HCI one of the hottest technologies on the market. Research firm IDC says the global HCI market surpassed \$2.2 billion in revenue in 2016, an increase of 110 percent over 2015.

Even more impressive: a recent 451 Research survey found that HCI is currently in use at 40 percent of organizations, and analysts expect that number to rise substantially over the next two years.

“Loyalties to traditional, stand-alone servers are diminishing in today’s IT ecosystems as managers adopt inno-

vative technologies that eliminate multiple pain points,” said Christian Perry, Research Manager at 451 Research. “Innovation inherent in hyper-converged infrastructure in particular is driving process efficiencies and agility that are increasingly tangible.”

## A New Architecture

In the traditional data center model, servers, storage devices and network gear are deployed and configured independently and managed manually by teams of specialists. While this approach enables organizations to leverage “best-of-breed” solutions, it creates a siloed IT environment that often becomes unsustainable as more and more boxes are added.

To relieve the complexity and bloat, vendors developed integrated infrastructure solutions with pre-integrated components certified to work together. This approach shortens deployment time, reduces risk and provides one-throat-to-choke support.

There are drawbacks, however. Integrated infrastructure solutions are built from separate hardware components, which can lead to vendor lock-in. In addition, rigid configurations can severely limit provisioning and expansion. Many integrated infrastructure products come in standard form factors with a maximum number of disks, CPUs and RAM and no way to deviate from those configurations.

HCI overcomes these limitations through a software-defined approach that collapses core storage and compute functionality into a single, highly virtualized solution. While integrated infrastructure solutions can be separated into their component parts, HCI solutions cannot. Compute and storage functions are delivered through the same x86 server resources with automated provisioning and single-pane-of-glass management.

Another distinguishing characteristic of HCI is a scale-out architecture that enables capacity to be increased by adding modules. This building-block

approach increases efficiency and helps organizations move toward a software-defined data center.

“We are seeing strong growth from products with new architectures, increased levels of automation and heavy use of software-defined technologies,” said Eric Sheppard, IDC research director, Enterprise Storage & Converged Systems.

## Streamlined Approach

Although server virtualization provides greater flexibility and resource utilization, the traditional “three-tier” data center architecture essentially ties applications to specific servers. Virtual machines (VMs) can be spun up and moved on demand, but changes to storage and networking often require days or even weeks. That’s a major drag on operations at a time when IT departments are facing increased demands from an explosion of applications, mobile devices and cloud services.

HCI helps to resolve this dilemma through resource pooling. The entire IT stack is delivered as one shared resource pool, increasing agility and providing built-in resilience.

Because it integrates server and storage resources into one simple component, HCI offers a scalable and low-cost replacement for traditional storage-area networks and network-attached storage. Some HCI solutions also ship with integrated local backup and replication, further simplifying the environment by reducing the need for separate backup infrastructures.

Centralized management increases IT efficiency, reduces operational costs and minimizes planned downtime when performing patches and updates. Because it gives IT the ability to patch and upgrade software and manage the environment from one location, HCI is ideal for multisite operations.

The simplified management of hyper-convergence can also benefit

small and midsize businesses (SMBs) with limited IT staff. A 2016 study by Techaisle found that 10 percent of small and 27 percent of midmarket companies planned to adopt HCI, and the research firm expects those numbers to increase rapidly as more SMBs become familiar with hyper-convergence.

## Meeting Today’s Demands

The dramatic rise of HCI isn’t just changing the technological makeup of IT environments. It’s also changing the personnel who manage the technology. The larger the enterprise, the more prevalent the change — 41.3 percent of very large enterprises (10,000 or more employees) surveyed by 451 Research plan to alter their IT team layouts as a result of HCI adoption.

More than one-third (35.5 percent) of enterprises say they’ve added more VM specialists to support their HCI environments. This is more than double the number of organizations actively adding specialists in hardware-specific areas such as servers, storage and networking.

“Today’s businesses expect the same flexibility from their internal IT that a public cloud service can provide,” Perry said. “[HCI is] transforming the technology that underpins today’s business and the teams that manage it. As a result, we’re rapidly approaching the day when the generalist-driven infrastructure administrator emerges as the key cog in business operations.”

Henry Manning developed an innovative solution to meet the booming demand for colonial housing in the 19th century. HCI builds upon Manning’s concept, with “prefab” data center infrastructure that accelerates deployment, simplifies the IT environment and improves agility. The ability to deliver applications and services quickly to meet changing business requirements gives HCI an important role in the modern enterprise.

## SEVEN MYTHS OF HCI

Technologies as hot as hyper-converged infrastructure (HCI) often come with a lot of hype and misinformation. Gartner dispels seven of the most common myths to help organizations make more-informed buying decisions.

**Myth 1: All implementations are based upon standard and open architectures.** In the software-defined world of HCI, the levels of standardization and openness depend increasingly on the codebase. One vendor’s management tools may not work with another vendor’s hardware, for example.

**Myth 2: HCI cannot meet the requirements of mission-critical applications.** HCI implementations will vary widely in robustness, scalability and security. For example, some HCI clusters scale only to eight nodes, while others claim to scale to hundreds or even thousands.

**Myth 3: HCI is the least expensive deployment model.** HCI can be scaled easily by adding nodes but the cost of this incremental approach can add up over time in use cases where demand increases regularly.

**Myth 4: The ideal use case is virtual desktop infrastructure (VDI).** While VDI has become the “celebrity” use case for HCI, many general-purpose workloads are now a good fit.

**Myth 5: HCI spells the demise of traditional storage arrays.** HCI has huge potential to replace smaller, general-purpose disk arrays in highly virtualized environments. However, it may be less effective for large, mission-critical applications that require predictable behavior and proven reliability.

**Myth 6: HCI eliminates data center silos.** On the contrary, HCI lacks tight integration with existing traditional infrastructures, which positions it in silo deployments. HCI enables organizations to switch from hardware stack management models to simple-to-deploy virtualized platform delivery.

**Myth 7: Traditional vendor selection preferences will remain the same.** Many organizations are willing to look at innovative HCI solutions rather than sticking with known vendors. The commodity pricing of parts and infrastructure alleviate some of the risk of engaging with vendors that lack a solid track record.



# Finding Value

*Managed services providers deliver efficiency, innovation and more.*

As the role of business technology steadily evolves, small to midsize businesses (SMBs) have become increasingly comfortable with a managed services approach to their technology requirements. Organizations that once turned to outside help only for occasional project support now see ongoing managed services arrangements as a way to control spending, efficiently allocate limited resources and access advanced expertise in the latest technologies.

Industry surveys illustrate that a growing number of smaller businesses are working with managed services providers (MSPs) to achieve both cost savings and business growth. According to MSPmentor, more than 70 percent of SMBs outsource parts of their IT infrastructure, up from just 12 percent in 2011. In a new Microsoft survey of 1,700 small, midsize and large organizations, 74 percent reported that managed services had enabled them improve their overall product and service quality.

Demonstrated top- and bottom-line benefits are driving this shift.

In a recent survey of SMB technology buyers in the U.S., TechAisle found that 54 percent reported improved bot-

tom-line benefits through reduced IT costs. In addition, they said that managed services give them greater control over the IT environment, allow them to maintain a leaner business, and make costs, performance and the user experience more predictable.

Almost half (46 percent) said that managed services contribute to business growth through faster resolution of IT issues. SMBs are able to increase revenue by optimizing system availability and performance, enhancing productivity and enabling staff to focus on core competencies.

## Focused Resources

TechAisle notes that MSPs play an increasingly important role for SMBs because they directly address key business and IT challenges. For instance, SMBs are looking to roll out new applications and services to support digital transformation initiatives, but they typically lack the manpower and resources necessary. Day-to-day tasks often overwhelm in-house IT staff, preventing businesses from adequately linking their IT operations with business processes. MSPs facilitate digital transformation by bringing experience and manpower to bear on high-priority initiatives.

Analysts say the MSP model works for SMBs primarily because organizations understand that technology is an important business driver, but they lack the resources to keep up with the latest trends. In fact, smaller organizations may not actually have a dedicated technology team. In many cases, IT responsibilities simply fall to the employees with the most technical knowledge. The unintended consequence is that when employees are distracted from their core areas of expertise to work on technical tasks, it slows productivity and prevents the business from being able to grow.

A collaborative arrangement with an MSP lets key people focus on primary responsibilities. What's more, many recurring network issues will be corrected when these tasks are properly managed and IT infrastructure is properly monitored. The TechAisle survey found that managed services helped companies boost revenue through optimized productivity and reduced downtime.

According to CompTIA, network monitoring, backup and recovery, email hosting, customer relationship management (CRM) applications, and storage are among the functions commonly turned over to providers. However, MSPs can also help drive leading-edge technologies into the business, allowing employees to further enhance their efficiency and productivity. MSPs have the focus and expertise to introduce their customers to emerging technologies such as cloud, mobile and analytics solutions.

## Access to Expertise

Cloud-based solutions and services are becoming a particularly important element of the managed services portfolio. In a recent Frost & Sullivan survey, 52 percent of IT decision-makers cited a lack of in-house expertise as hampering their cloud implementations. One-quarter said that simply keeping up with new technology makes managing their cloud environments difficult. A full 91 percent said they plan to seek cloud implementation assistance.

By serving as "cloud orchestrators," CompTIA says, MSPs can make it easier for customers to migrate workloads to the cloud, optimize existing cloud services and implement new services such as predictive analytics and data mining.

"Just as they remotely manage on-premises devices and applications, they can manage what a customer has in the cloud," said Carolyn April, senior director of industry analysis for CompTIA. "It's a natural spot for an MSP."

Technology has evolved from a supporting role to become a strategic business driver, capable of delivering a range of cost and operational benefits. However, SMBs must efficiently use their limited resources to realize those benefits. Working with a managed services provider with broad and deep expertise, SMBs can focus resources on high-value projects that increase efficiency, productivity and innovation.



# Accelerate Digital Transformation with Cisco DNA



Build a digital-ready network that is simple, automated, intelligent and secure with Cisco Digital Network Architecture. Cisco DNA is an open, extensible and software-driven architecture designed for automation to make network services easy to deploy, manage and maintain — fundamentally changing the approach to network management. Cisco DNA allows you to virtualize your entire technology stack, giving you the freedom to run any service anywhere, independent of the underlying platform — physical or virtual, on premises or in the cloud. **Contact ProSys to learn more about digitizing your network with Cisco DNA.**



[www.prosysis.com](http://www.prosysis.com)  
888-337-2626

© 2017 Cisco. All Rights Reserved. CIS-134

# Simplify software purchasing and management

Software is evolving to drive digital transformation initiatives, and software purchasing must evolve with it. Cisco Enterprise Agreement removes the complexity of software licensing, enabling you to digitize your entire organization with a single, simple agreement for multiple suites of best-in-class products and services. The Cisco Enterprise Agreement can support your environment end-to-end for infrastructure, collaboration and security with built-in growth. **Contact ProSys to learn more about how to build your Cisco Enterprise Agreement.**

