

ESG Research Insights Brief

The Role of Converged and Hyper-converged Infrastructure in IT Transformation

The Quantified Effects of Organizational Use of CI/HCI

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Introduction

IT Transformation is a concept that resonates with companies even more now than it did 12 months ago. It sounds synonymous with digital transformation, but in actuality, *IT Transformation is the set of enabling technologies, processes, and focus areas that make effective digital transformation possible.*

A company that transforms its IT infrastructure no longer has to rely on rigid, manual, siloed, legacy technologies. It sees a boost in IT operational speed, efficiency, scale, and cost effectiveness—tasks are automated, processes streamlined, and resources are freed up. Those IT-level improvements fuel a larger-scale digital transformation, allowing the company to thrive in today's digital economy. It is able to out-innovate, out-think, and out-pace its competitors—ultimately becoming the disruptor, not the disrupted.

It is possible to categorize a company's degree of IT Transformation according to how extensively it has adopted:

- **Modernized data center technologies**—e.g., converged/hyper-converged infrastructure (CI/HCI), All-Flash storage, software-defined networks and storage, virtualization, scale-out, and modern data protection.
- **Automated IT processes**—e.g., delivering IT as a service in a cloud operations model for cost transparency, efficiency, and responsiveness, automating server change configuration and storage provisioning, and offering self-service capabilities to end-users.
- **Transformed organizational dynamics**—e.g., regularly inspecting IT outcomes for effectiveness and making sure that the IT group has opportunities to contribute proactively to business-strategy decisions.

86% of *Transformed* companies use both converged and hyper-converged infrastructure.

A direct, measurable relationship exists between IT Transformation and better agility and responsiveness, better spending efficiency, more funding for innovation, faster time to market, higher stakeholder satisfaction, and greater competitiveness (see Figure 1).

Figure 1. IT Transformation Outcomes



Source: Enterprise Strategy Group

ESG was able to establish these correlations by conducting a survey commissioned by Dell EMC and Intel of 4,000 IT executives from private- and public-sector organizations across 16 countries.¹ All respondents were familiar with their organizations' IT modernization achievements and plans. ESG asked these respondents more than 60 questions about their IT environments and processes.

Based on their responses, ESG assigned an IT Transformation maturity score to each respondent's organization. ESG then grouped organizations by maturity score into one of four categories: *Legacy*, *Emerging*, *Evolving*, and finally *Transformed*. Only 6% of organizations achieved a *Transformed* ranking, although 81% of all respondents agreed their company will not be competitive if they do not embrace IT Transformation.

To learn more about this research, read [ESG's report here](#).

CI/HCI Supports IT Transformation

CI/HCI holds a well-deserved position as a pillar of the modern data center. Both CI and HCI² are engineered and validated by the vendor before installation, which lowers risk. IT organizations leveraging CI/HCI don't have to architect or integrate any components themselves; they can instead use that time to focus on strategic, innovative projects such as big data or artificial intelligence (AI) to help grow the business.

The legacy approach was to combine disparate IT components, and then work within the limitations associated with traditional siloed management and huge data center footprints. In contrast, CI and HCI offer simplified management through a unified interface offering comprehensive component visibility and a much smaller hardware footprint.

Because components are pre-qualified to work together seamlessly, CI/HCI solutions tend to be more stable and reliable, and upgrades/patches are less likely to introduce compatibility problems. The outcome of that consistent, dependable operation is that IT staff are able to focus on higher-value tasks instead of routine oversight.

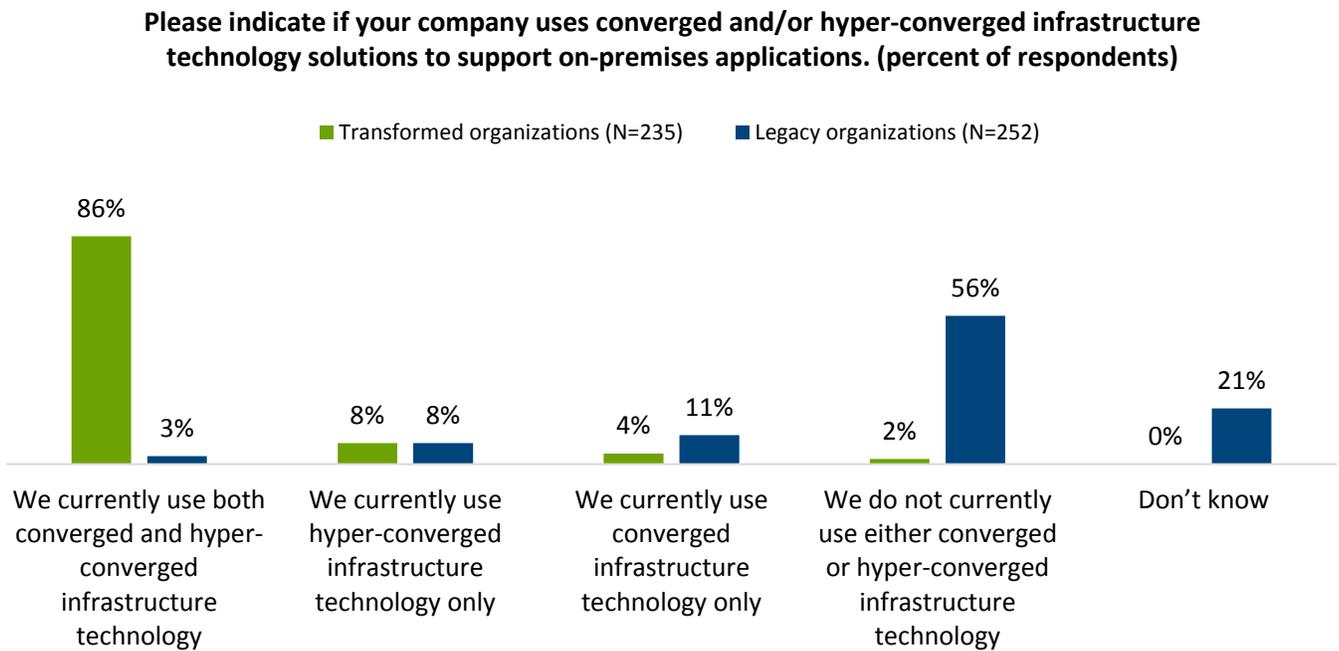
¹ Source: ESG Research Insights Paper, [Research Proves IT Transformation's Persistent Link to Agility, Innovation, and Business Value](#), March 2018.

² A converged infrastructure is a pre-tested, pre-configured, pre-integrated system composed of compute, storage, and networking elements, and it offers ongoing lifecycle management across the stack. A hyper-converged infrastructure goes further by providing still more integration via software-defined capabilities and interfaces.

CI and HCI also typically leverage a scale-out architecture to help organizations right-size procurement costs—growing just by inserting more resource blocks into the environment. Some CI/HCI vendors even offer leasing options that involve no up-front CapEx and feature declining payments over time.

Nearly all of the *Transformed* companies ESG surveyed—98%—are using CI or HCI solutions, and 86% use both. In contrast, most *Legacy* organizations surveyed (56%) have not yet deployed any type of CI/HCI (see Figure 2).

Figure 2. Use of CI/HCI Technologies



Source: Enterprise Strategy Group

At *Transformed* organizations, not only is CI/HCI in use, but it also has become a vital component of the overall IT environment.

In fact, on average, *Transformed* organizations are currently running more than 35% of their applications on CI or HCI platforms.

Using Research Data to Validate the Benefits

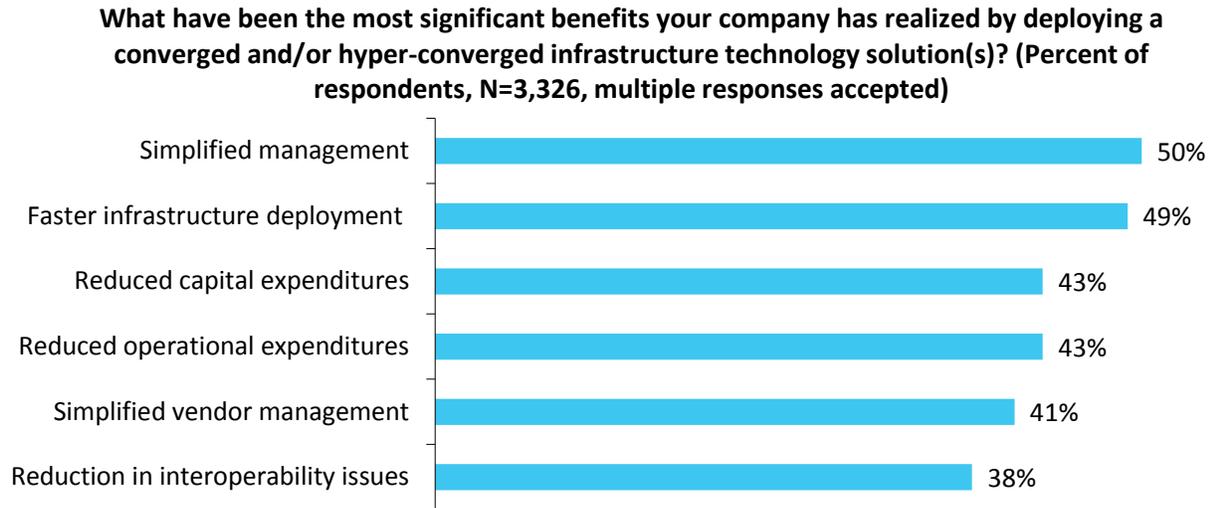
ESG’s research revealed that for the organizations surveyed, CI/HCI solutions appear to be delivering on their marketing promises.

ESG asked respondents to identify the most significant benefits their companies have experienced by using CI/HCI. Simplified management, faster deployment time, and reduced costs were among the most frequently mentioned advantages (see Figure 3).

The Use of CI/HCI Is a Hallmark of a *Transformed* Organization

When analyzing the maturity level and benefits enjoyed by transformed organizations, ESG identified that organizations using CI/HCI:

- Run more than **35%** of their applications on CI/HCI.
- Saw a **25%** reduction in infrastructure operating costs.
- Were **7.5X** more likely to complete most app deployments ahead of schedule (specific to organizations with both CI and HCI).
- Spent **31%** less time on routine system management.
- Saw a **52%** reduction in time spent on infrastructure deployment tasks (specific to organizations supporting more than 50% of workloads with CI).

Figure 3. The Benefits of CI/HCI Technology Solutions

Source: Enterprise Strategy Group

The nature of those responses isn't surprising. With their scale-out architectures and their approach to combining components engineered to work together, CI/HCI technologies are explicitly intended to support simplicity, speed, and cost efficiency. In general, they enable organizations to get up and running faster and require less ongoing management.

Time Savings Improve, and Agility Rises

For the companies using CI/HCI solutions, the benefits are not only apparent, but also significant. For example, the organizations that cited simplified management as a benefit report that they have reduced the time they spend on routine system **management** by an average of 31% since adopting CI/HCI.

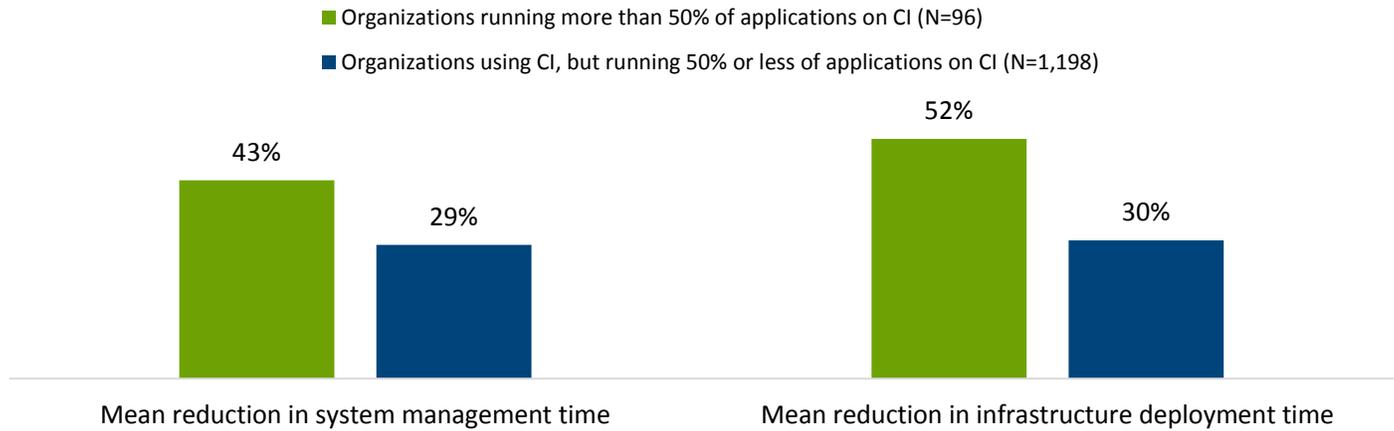
Simplicity improves IT agility. Teams managing pre-architected/pre-engineered infrastructures can be more responsive to business needs. Additionally, modifying these solutions over time (adding nodes to a cluster, for example) is much easier compared to traditional environments.

The survey findings confirmed significant improvements in time savings and agility. ESG asked respondents who had cited management improvements to quantify *how much less time* they spend on infrastructure **deployment** tasks such as installing, configuring, and integrating components. The average reduction reported was 32%.

Perhaps even more notably, there is evidence in the research that shows that the scale of deployment of these technologies is correlated to the scale of benefit. Simply put, the more completely the organization embraces the technology, the bigger its benefit. Respondents whose organizations are supporting more than 50% of their workloads with CI technology report an average 52% reduction in time spent on infrastructure deployment (installing, configuring, integrating, etc.) versus a 30% average reduction observed among lighter users of CI. Those same heavy users report a mean 43% reduction in time spent on system management (monitoring, updating, scaling, etc.) versus a 29% average reduction observed among lighter users of CI.

Figure 4. IT Time Savings Due to the Use of CI

How much less time does your IT team now spend on system management (monitoring, updating, scaling, etc.) compared to before converged/hyper-converged infrastructure was deployed? (mean)



Source: Enterprise Strategy Group

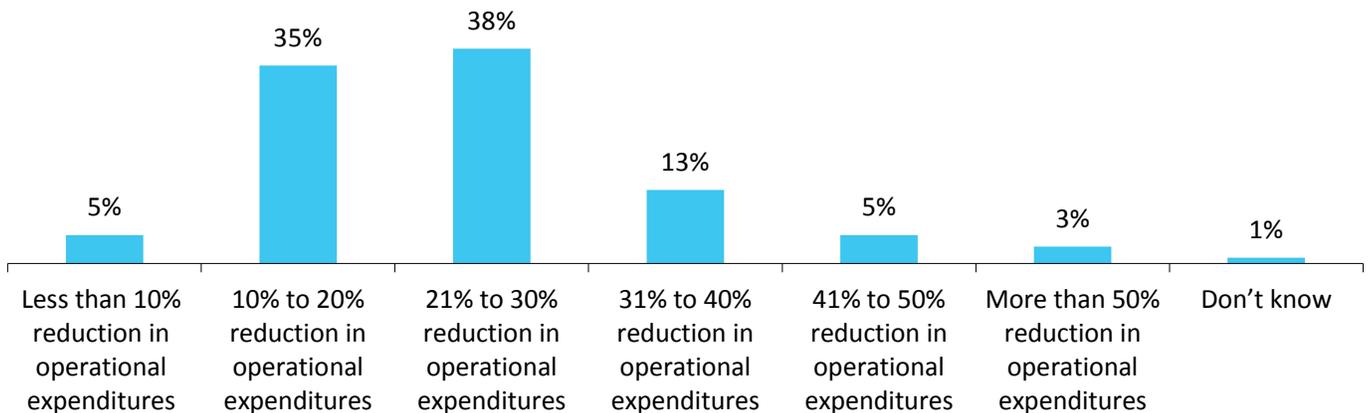
Operational Costs Go Down

The reductions in staff time also factor into the average 25% savings in operational costs that CI/HCI users reported (see Figure 5). Consider that in an organization leveraging CI/HCI, one administrator is able to manage many aspects of the IT infrastructure using a single user interface.

Historically, achieving that level of management-related effectiveness required attention from the storage admin, the virtualization admin, the network admin, and the application admin—all involved in routine upkeep in some manner. Now that staff can be reassigned to work on higher-value projects.

Figure 5. OpEx Savings Due to CI/HCI

How much would you estimate your company has saved on relevant operational expenditures (i.e., labor costs, power and cooling, other overhead) compared to before converged/hyper-converged infrastructure was deployed? (Percent of respondents, N=1,414)



Source: Enterprise Strategy Group

Applications Deploy Faster, So Staying Ahead of the Competition Becomes Easier

While reducing operational burdens is a good thing by itself, the evidence shows that it yields even broader organizational benefits.

In this research, ESG asked respondents to identify the timeframe within which they complete the majority of their application deployments: ahead of schedule, on schedule, or behind schedule. Users of both CI and HCI technologies were more than seven and a half times as likely to report that most of their application deployments finish significantly ahead of schedule versus organizations not using CI/HCI technology.

As organizations become more digitally inclined and technology-dependent, it was not surprising to see that in addition to completing application deployments faster, users of CI/HCI technologies are gaining an advantage on time to market. The research found that companies using CI/HCI were more than two and a half times as likely to be significantly ahead of their competitors in time to market (32% versus 12%).

The Bigger Truth

CI and HCI technology solutions help deliver a cloud experience on-premises, which in turn supports a number of meaningful outcomes for an organization. CI/HCI is one of the fastest, most effective ways an organization can raise its level of IT maturity and eventually make its digital transformation goals come true.

The research showed that CI/HCI helps IT organizations increase responsiveness to the business. Infrastructure provisioning is removed as a bottleneck to the progress of digital initiatives and new application deployments.

CI/HCI is simple to manage: IT staff recoup valuable time, and the whole IT organization achieves greater operational savings.

CI/HCI is simple to deploy, allowing IT to be more responsive to the rest of the business. Companies using CI/HCI even tend to be ahead of their competitors in terms of rolling out products and services to market.

Given those compelling benefits, what are you waiting for? Read the full global study and begin your IT Transformation maturity assessment.

[Read the Full Report](#)[Launch Assessment](#)

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