ESG Research Insights Brief

Transform Your IT with Modern Server Infrastructure

The Quantified Impacts of Operating an Advanced Server Environment

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Introduction

IT Transformation is a concept that resonates with companies even more now than it did 12 months ago. Although not synonymous with digital transformation, the two concepts are fundamentally linked together, as *digital transformation cannot happen without IT Transformation*.

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., server virtualization, All-Flash storage, scale-out and converged/hyper-converged infrastructure, software-defined networking and storage, and modern data protection.
- Automated IT processes—e.g., delivering IT as a service in a cloud-like model for cost transparency, efficiency, and responsiveness, automating server management tasks like provisioning, patching, and problem resolution, 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.

A direct, measurable relationship exists among IT Transformation and better agility, superior responsiveness, greater 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 ascribed 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.

How a Modern Server Environment Advances IT Transformation Maturity

The research showed that a modern server environment measurably affects an organization's IT maturity—improving a spectrum of IT- and business-related performance indicators. A true modern server environment addresses several areas. Servers must have the performance to run distributed and rapidly scaling workloads. At the same time, the environment must be efficient enough to minimize the organization's capital and operational costs. And servers should have security baked in—embedded into the hardware and firmware of the device itself—preventing unauthorized changes or updates and adding a foundational layer to an organization's defense-in-depth security posture.

Essentially, a modern server environment focuses on operational cost efficiency and puts automation at the forefront. ESG asked survey respondents to describe how manual or automated their server deployment, monitoring, and troubleshooting efforts are. If the respondents reported those tasks as more automated than manual, then we considered them to be operating a modern server environment.

Organizations operating modern server environments:

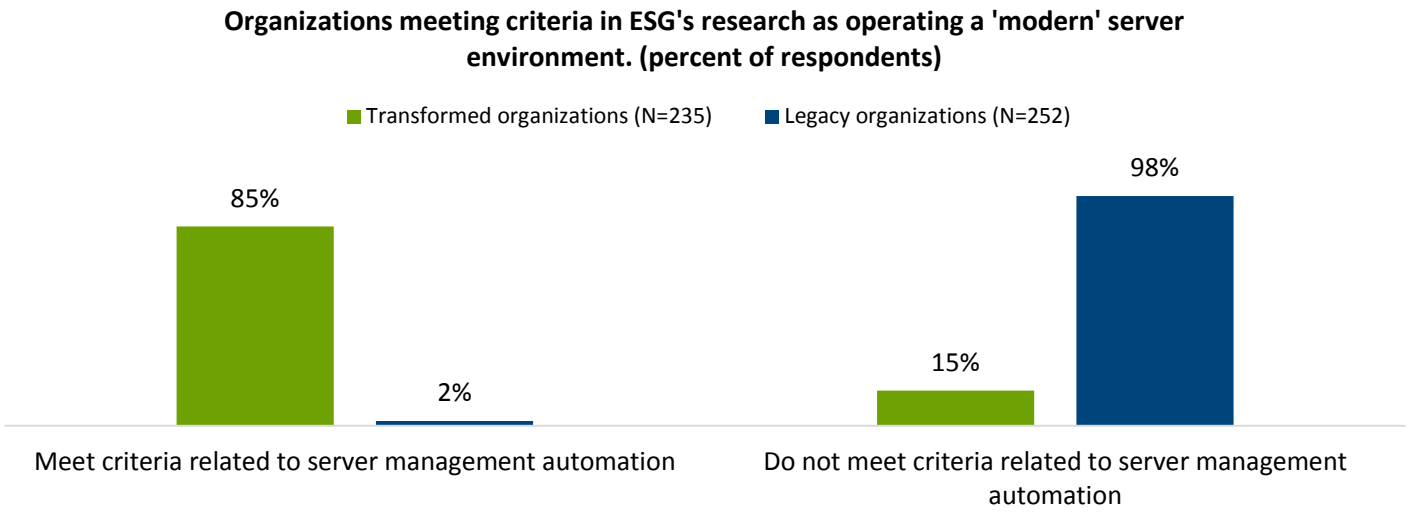
- Enjoy faster application deployments and are more responsive to the rest of the business.
- Are able to move staff away from routine management to focus on more strategic IT projects.

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

- Operate compute environments they believe are as good as or better than public cloud services in terms of cost, agility, scalability, and security.

In general, 85% of the *Transformed* companies surveyed by ESG met the criteria for a modern server environment. As Figure 2 shows, the *Transformed* organizations were 42.5 times more likely to operate a modern server environment than *Legacy* organizations (85% versus 2%).

Figure 2. Transformed Companies Operate Modern, Automated Server Environments



Source: Enterprise Strategy Group

The high degree of automation observed in *Transformed* organizations has a direct and quantifiable impact on server administrator productivity. When ESG looked into the average number of server administrators and VMs running, it found that the typical administrator at a *Transformed* organization manages 241.5 VMs—82% more than the 132.6 VMs admins working at *Legacy* organizations oversee. The operational cost per VM at *Transformed* organizations is much lower, which means those organizations can instead focus on mitigating problems (such as rectifying unauthorized IT deployments, i.e., controlling "shadow IT") or on other strategic initiatives.

Research Data Validates the Benefits of Server Management Automation

Automation Saves Time

Automation is a means to an end; it exists to bring other benefits to an organization. By removing human error, it minimizes lost productivity and lowers risk. For example, during manual server provisioning, an administrator may inadvertently deploy a misconfigured VM. But perhaps more importantly, for as long as the misconfigured server is running, it could be vulnerable to exploits. At best, the admin will later have to

A Modern Server Environment Supports IT Transformation

When analyzing the maturity level and benefits enjoyed by transformed organizations, ESG found that companies with modern, highly automated server infrastructures:

- Completed **14%** more IT projects ahead of schedule.
- Were **2.5X** more likely to run an onsite compute environment that is cost-competitive with the public cloud.
- Were more than **2.5X** as likely to be more secure than public cloud services.
- Managed **82%** more VMs per admin.
- Saw a **39%** reduction in time spent on routine management.
- Were more than **3.5x** as likely to operate an onsite compute environment matching or exceeding the agility of public clouds.
- Were **2.5X** more likely to execute most application deployments ahead of schedule.

spend extra time re-provisioning the VM. At worst, the security team will have to spend time on remediation, and the underperforming server will not meet required SLAs. *Transformed* organizations avoid those outcomes by using automated server provisioning tools that leverage "gold copy" configuration benchmarks and remove risk by automating routine maintenance.

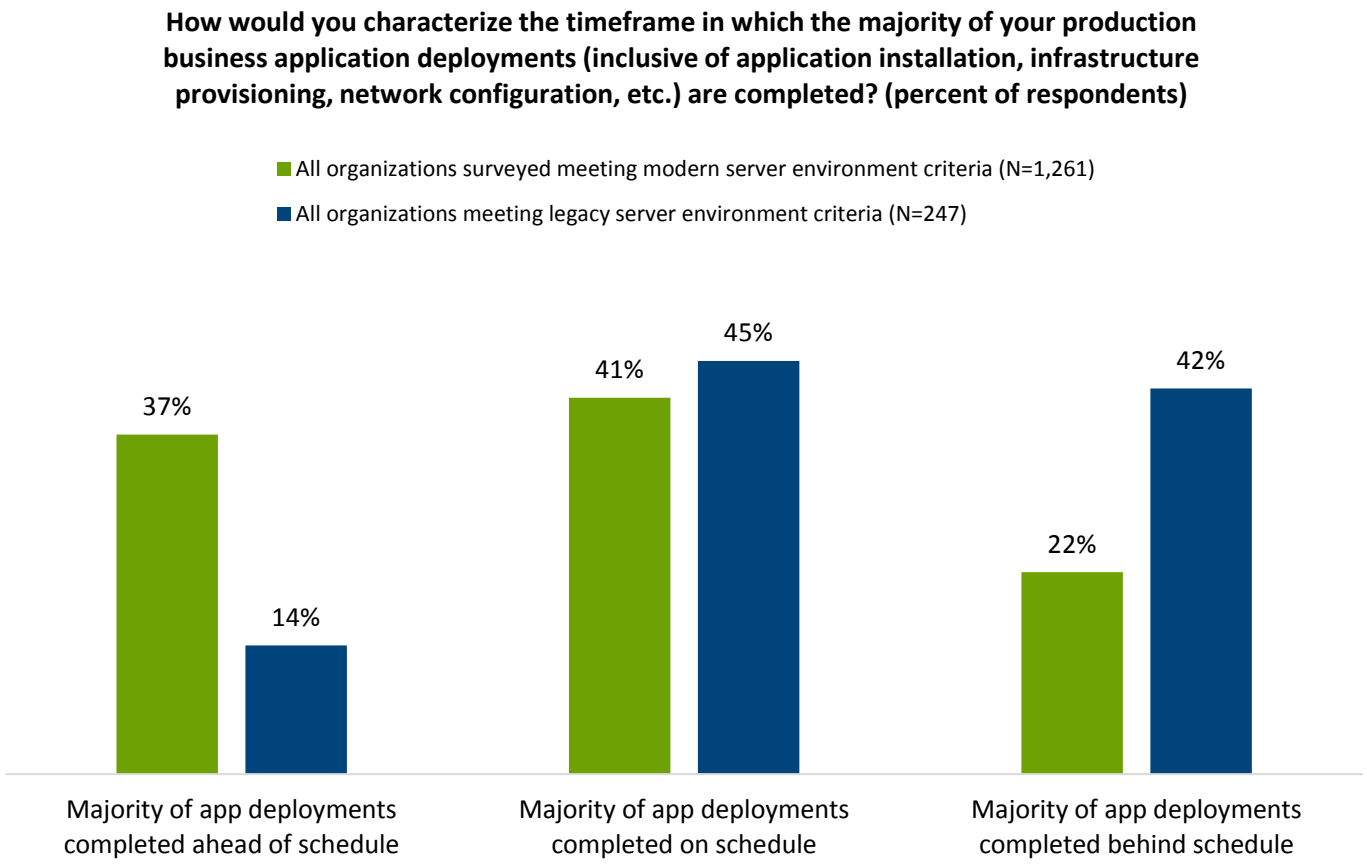
ESG asked organizations that had automated one or more server management tasks how much time they saved by doing so. Respondents reported automation reduces the time spent on routine server management tasks by 39%, on average.

Organizations with Modern Server Infrastructures Operate with More Agility

Organizations are increasingly moving to a DevOps model, which allows them to enhance their applications frequently, and then quickly roll out the new versions to users. Some of these organizations may be ISVs or service providers whose products *are* software. Others may be businesses exploring new models for digital engagement with customers and employees through enhanced applications. The common denominator is that IT cannot be the bottleneck; it slows digital transformation efforts and hinders rapid application development.

Organizations save time by automating server management. But another connection also exists—between automation and application deployment agility. ESG asked respondents to describe the timeframe their organization typically needs to put applications into production (see Figure 3). Respondents running modern server environments were 2.5 times more likely to deploy applications ahead of schedule due to automation (37% versus 14% for organizations with legacy server environments).

Figure 3. Organizational Timeliness Deploying Applications to Production

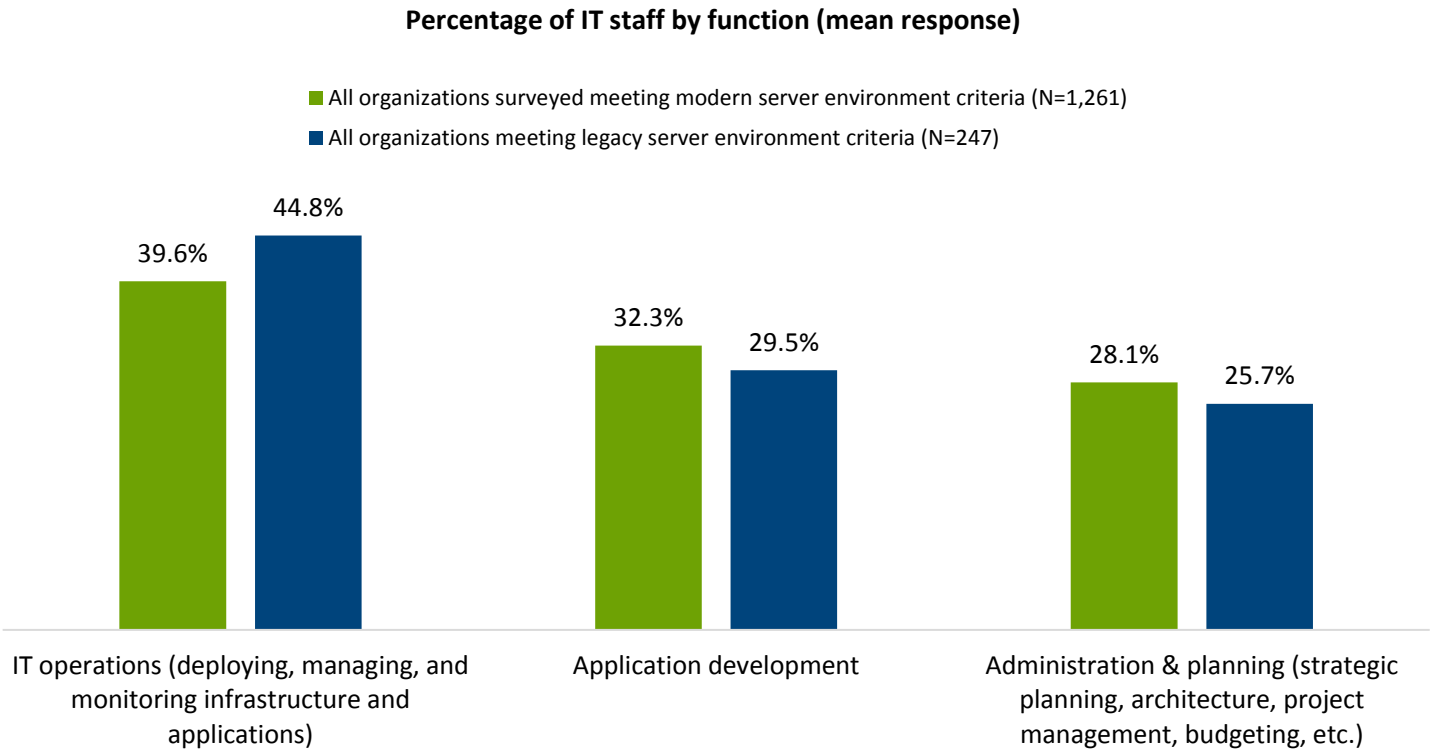


Source: Enterprise Strategy Group

ESG also asked respondents representing all maturity levels to estimate the staff time dedicated to IT operations, application development, and strategic planning and architecture. Compared with organizations running legacy server environments, the organizations operating modern server environments need 5% fewer people on average to deploy, manage, and monitor infrastructure and applications (see Figure 4).

Even in a relatively small 100-person IT department, that improvement equates to five full-time employees who are freed up to focus on more meaningful activities such as application development and strategic planning.

Figure 4. Organizational IT Staff Allocation



Source: Enterprise Strategy Group

Organizations with Modern Server Infrastructures Put Their Compute Resources Where They Fit Best

The IT environment of the future is likely to be hybrid, with organizations selecting the right private or public cloud environment for various workloads based on workload-specific requirements. At many organizations, this approach of weighing the pros and cons of different infrastructure environments according to the individual workload is happening already.

On-premises environments may not keep pace with what the public cloud can offer. If line-of-business executives and application owners believe the on-premises IT infrastructure is not comparable, they may elect to bypass IT and go to the public cloud themselves—potentially a poor decision that could harm the business.

For example, the owner of an application with dynamic, unpredictable data patterns might decide to engage in some "shadow IT" by moving that app to the public cloud because the OpEx costs seem lower. But then, data ingress/egress costs neutralize any savings, and even more costs arise when IT has to migrate the workload back onsite where it belongs.

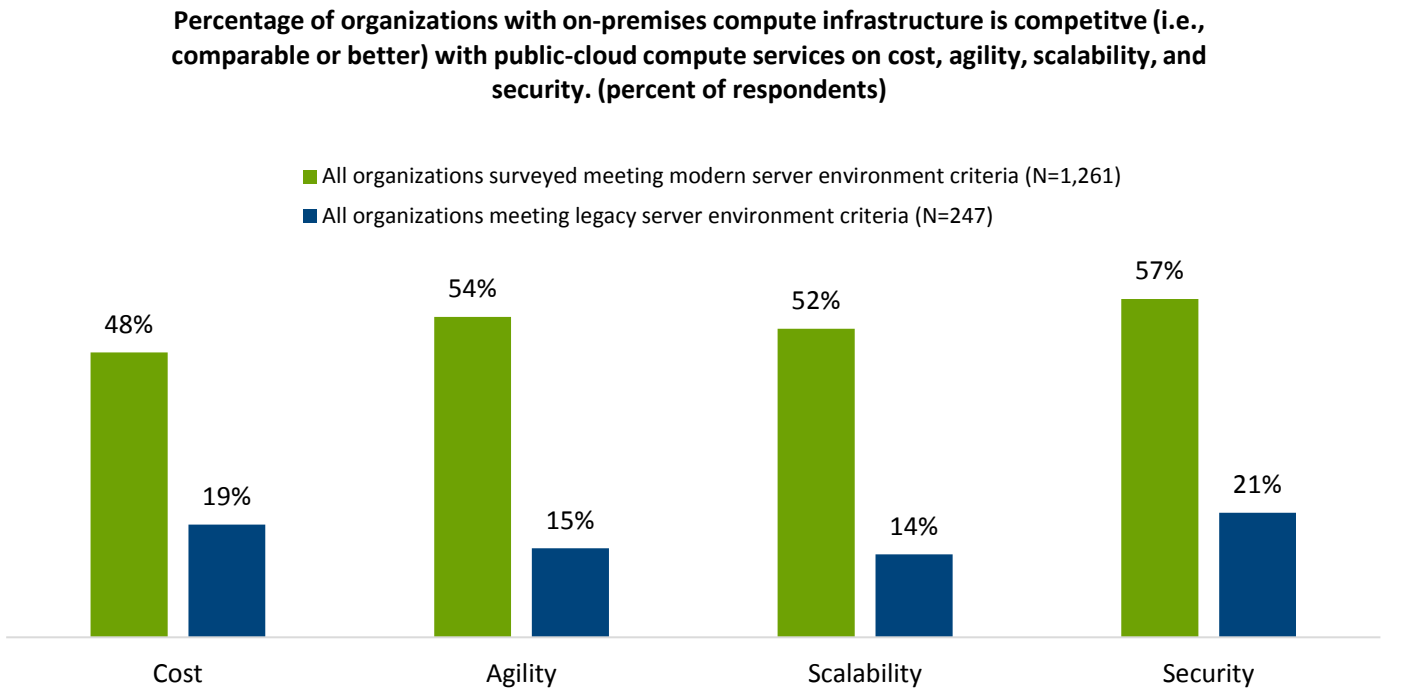
Or an organization may move a rapidly growing ecommerce application to a public cloud service because its on-premises environment cannot keep pace during peak hours. But if the cloud provider hasn't been properly vetted on its ability to adhere to compliance mandates and SLAs, the decision could expose the organization to risk.

ESG asked respondents to characterize how their organizations' on-premises compute environments compared to public cloud services in terms of cost, agility, scalability, and security (see Figure 5). Respondents at organizations operating modern server environments were much more likely than those operating legacy environments to believe their environments are as good as or better than offsite/third-party cloud alternatives.

For example, organizations with modern server environments were more than 3.5 times as likely to report that their on-prem compute infrastructure is as good as or better than what is available from public cloud service providers in terms of agility, compared to organizations with legacy server environments (54% versus 15%).

Of particular note is security. The task-automation capabilities of a modern server infrastructure reduce the potential for human error and related security vulnerabilities—such as servers running on out-of-date firmware or operating with expired patches. It is not surprising to note that organizations with modern server environments were more than 2.5 times as likely to report that their on-prem compute infrastructure is as good as or better than what is available from public cloud service providers in terms of security, compared to organizations with legacy server environments (57% versus 21%).

Figure 5. Parity with the Public Cloud



Source: Enterprise Strategy Group

The Bigger Truth

A modern, automated server environment is a key component of IT Transformation. Automation and scalable, high-performing servers with integrated security are essential to creating a modern data center. So is the ability to manage the environment using the least possible capital and the fewest operational staff resources. That money and time could be reallocated toward digital innovation.

From operating a portfolio of applications with greater agility, to allocating more resources to strategic projects, to outperforming public cloud alternatives on criteria such as cost and security, the gap between those that underpin their server environment with a high degree of automation and those that do not is wide. That chasm is likely to leave legacy organizations unable to keep pace in the modern digital economy.

For more information, please read the full global study and begin your IT Transformation maturity assessment.

Read the Full Report

Launch Assessment

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