

ESG Research Insights Brief

The Network's Foundational Role in IT Transformation

The Quantified Impacts of the Use of Software-defined Networking

Date: May 2018 **Authors:** Bob Laliberte, Practice Director and Senior Analyst; Adam DeMattia, Director of Research; and Monya Keane, Senior Research Analyst

Introduction

IT Transformation is a concept that resonates with companies even more now than it did 12 months ago. It sounds like another current term, “digital transformation.” But in fact, *effective digital transformation doesn't 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., software-defined networking and storage, server virtualization, All-Flash storage, scale-out and converged/hyper-converged infrastructure, and modern data protection.
- **Automated IT processes**—e.g., delivering IT as a service in a cloud operating model for cost transparency, efficiency, and responsiveness, automating infrastructure configuration and 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.

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 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 Does Software-defined Networking Advance IT Transformation Maturity?

One finding from the research is that software-defined networking (SDN) is a modern data center technology that can measurably affect an organization's IT maturity. These days, both data and workers are more distributed than they were in the past, and that has made network connectivity far more important and relevant.

Various technologies are available to help organizations implement SDN—the first disaggregates networking hardware from OS software to let users choose the software that best meets their environment's needs. The second separates control and data plane functions and centralizes the network controller device. The third overlays a network virtualization layer above the physical network. Some organizations combine aspects of the three approaches. In any case, they are all **open networking** solutions—centered on standards-based

SDN Accelerates IT Transformation

When analyzing the maturity level and benefits enjoyed by transformed organizations, ESG found that:

- **97%** of *Transformed* companies are committed to SDN and **77%** have actually begun to implement them.
- SDN users are **3.5X** more likely to be significantly ahead of their competitors in time to market (49% versus 13%).
- SDN users are nearly **2X** more likely to execute most of their application deployments ahead of schedule (42% versus 22%).
- SDN users are nearly **2X** more likely to typically recover VMs in less than 30 minutes (32% versus 18%).
- SDN users are **2.5X** as likely to have made excellent progress enabling a rapidly elastic data center environment (46% versus 18%).

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

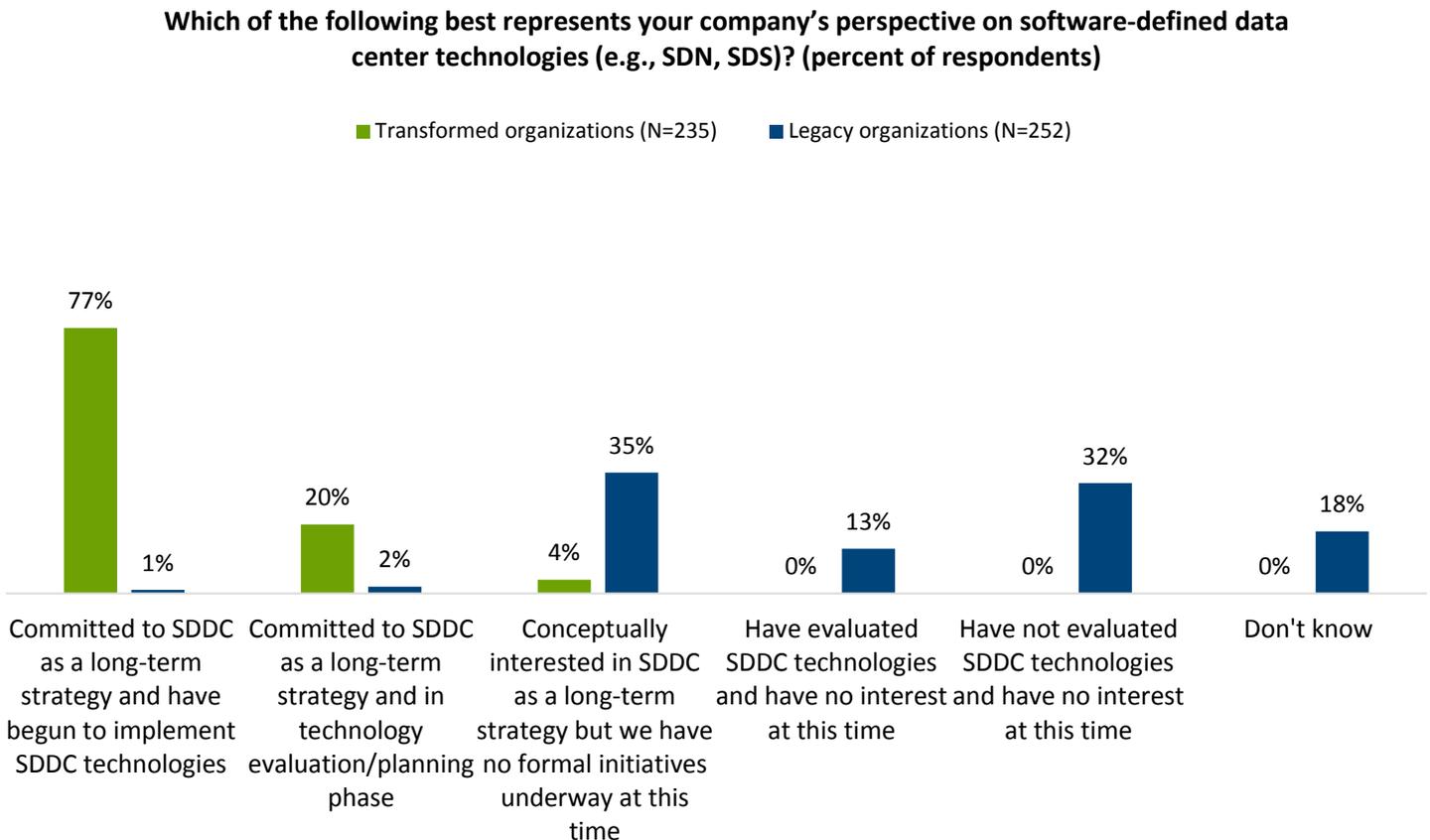
hardware, software, and management orchestration and automation. An open network is more programmable, flexible, and automated, which in turn enables:

- Agile, centralized administration. Network provisioning is no longer a bottleneck, so adopting a cloud service delivery model becomes easier, application deployments become faster, and VM recoveries happen sooner to minimize application downtime.
- IT staff to focus less on routine network management and more on strategic-level IT advancement.
- Higher levels of scalability, allowing the network to meet traffic demands of workloads as they grow and fluctuate over time.

Nearly all (97%) of the *Transformed* companies surveyed by ESG are committed to software-defined data center (SDDC) technologies including SDN (see Figure 2).² And 77% of them have begun implementing those technologies. In contrast, just 1% of the *Legacy* organizations have implemented SDDC technologies such as SDN.

When transitioning to SDN, organizations should opt for open networking technologies instead of locking themselves into proprietary vendor solutions. Open APIs are a must: They ensure compatibility within a heterogeneous IT environment and allow access to a wide range of orchestration engines.

Figure 2. Transformed Companies Are Committing to SDDC Technologies, Including SDN



Source: Enterprise Strategy Group

² Totals in figures throughout this report may not add up to 100% due to rounding.

ESG found that organizations operating highly virtualized server environments are also twice as likely to have implemented SDN. Similarly, ESG expects organizations preparing for Internet of Things (IoT) initiatives and connecting to the cloud will have to explore a software-defined approach to networking. SDN helps meet high-bandwidth needs and accommodates the evolving traffic patterns of a modern digital business.

Research Data Validates the IT Transformation Benefits of SDN

ESG research confirmed the transformational promise of SDN, validating that it increases automation and flexibility. That's important, considering that organizations everywhere are more digital now, and in some cases, their products are actually applications. These organizations need to offer a positive digital experience via their websites, online storefronts, and mobile applications. SDN can help. ESG found that companies adopting SDN are achieving quicker application deployment times and even launching more innovative products and services.

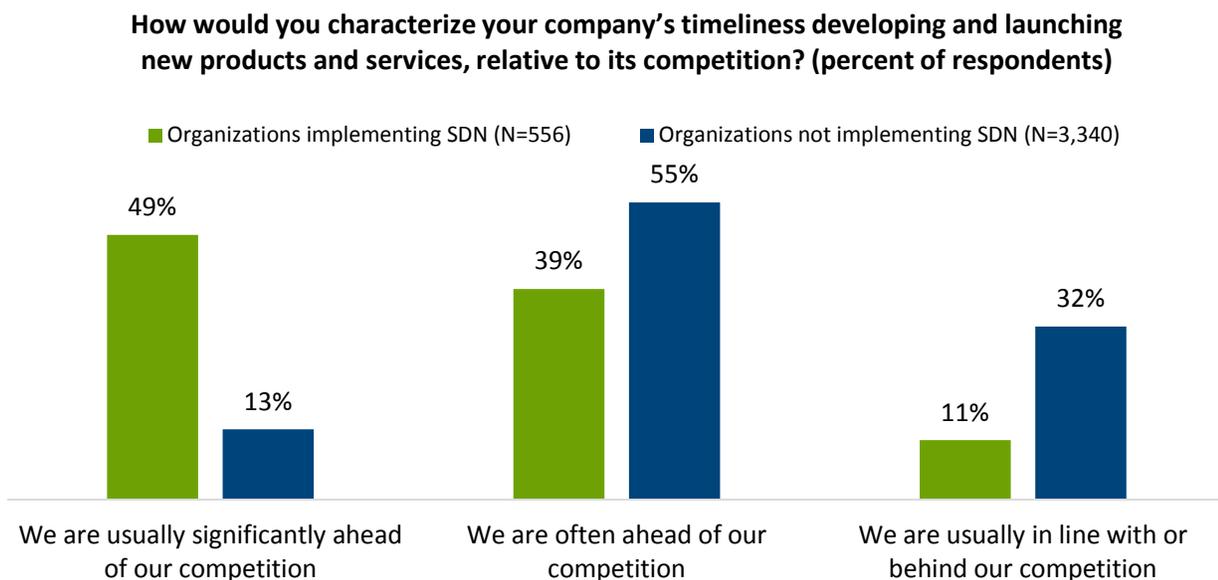
Applications and Products 'Go Live' Faster

For example, 42% of SDN implementers told ESG that most application deployments at their organizations finish ahead of schedule. They are nearly twice as likely to deploy apps ahead of schedule than the 22% of companies that haven't implemented SDN who reported the same level of success. It appears that highly automated network provisioning facilitates application rollouts.

A similar outcome was apparent in a more business-level metric. ESG asked respondents to characterize the success their organizations experience when developing and launching products and services. As Figure 3 shows, nearly half (49%) of SDN users reported they are usually significantly ahead of their competition—a frequency more than three and a half times higher than among non-users (13%).

That outcome could be particularly advantageous for organizations that develop digital products/services to be sold via web-based consumption or through online storefronts/app stores. In those cases, SDN seems to have a strong influence on how fast the company progresses from product creation to actual selling. SDN also is fueling the growing field of DevOps, which ties development groups to operations groups to accelerate application development.

Figure 3. Time to Market



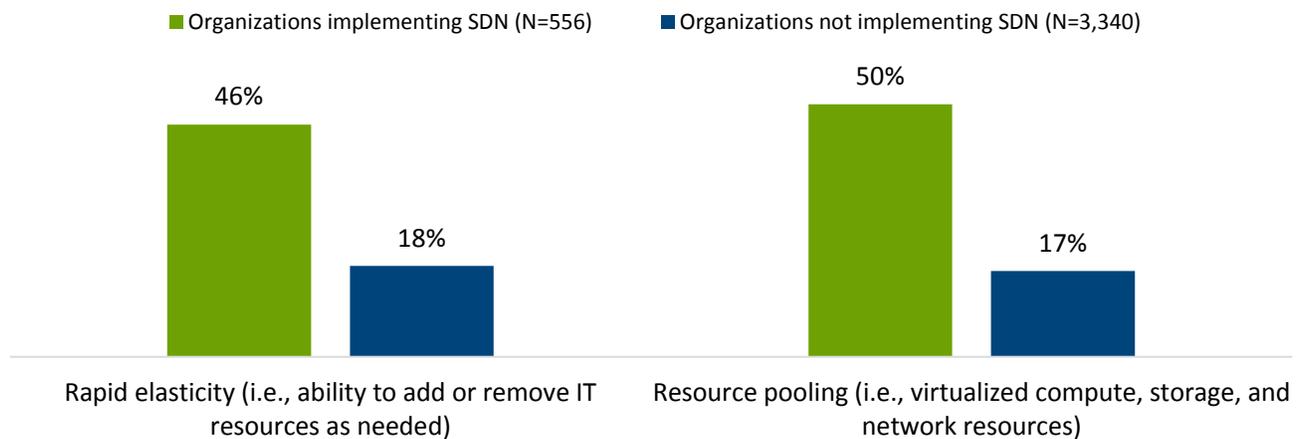
Source: Enterprise Strategy Group

Private Cloud Infrastructures Get Easier and More Agile

SDN technology use also positively correlates with private cloud success. ESG asked respondents to rate the progress they've made in operating a rapidly elastic, on-premises data center environment. As Figure 4 shows, SDN users were more than two and a half times more likely (46%) to report excellent progress in enabling rapid elasticity versus SDN non-users (18%). Similarly, SDN users were more than three times as likely (50%) to report excellent progress in virtually pooling their infrastructure resources versus SDN non-users (17%).

Figure 4. Elasticity and Resource-pooling Progress

Percent of organizations that have made "excellent progress" on enabling rapid elasticity (i.e., ability to add or remove IT resources as needed) and resource pooling (i.e., virtualized compute, storage, and network resources)



Source: Enterprise Strategy Group

Business Continuity (BC) and Disaster Recovery (DR) Get Faster and Less Expensive

SDN-related agility enhancements also appear to positively affect BC/DR. ESG asked respondents how long, on average, their VM restorations take to complete. Only 18% of SDN non-users reported that their restores typically took less than 30 minutes versus 32% for SDN users.

A direct relationship exists between timely VM recovery and saving money: Downtime-related costs shrink or, in best-case scenarios, disappear. Customer churn is dramatically reduced because external users accessing the organization's digital services don't take their business elsewhere after becoming frustrated with a lack of service or application availability. Revenue and shareholder value aren't put at risk. For the largest and/or most high-profile enterprises, it is reasonable to speculate that they would not only save millions of dollars in downtime costs, but also avoid negative press and social media coverage, which is costly in its own way.

IT Staff Get More Productive

SDN users surveyed by ESG allocate about 2% less IT staff time to overseeing routine/manual IT operations than their SDN non-using counterparts. A 2% improvement doesn't seem drastic at first blush. But consider that even in a moderately sized corporation's 100-person IT department, 2% represents the productivity of two full-time employees.

The SDN advantage reveals itself as soon as those two employees begin reallocating their time away from routine management/monitoring (i.e., "keeping the lights on") and toward more meaningful, high-value tasks such as application development, IT architecture planning, or digital enablement.

SDN Is a Natural Fit at Scale

SDN is an IT approach especially well-suited to large, complex, distributed environments. The average SDDC-implementing company in ESG's survey sample supports 27% more applications than the average SDDC non-implementer (892 versus 705). They also support 52% more *business-critical* applications (217 versus 143).

The Bigger Truth

Based on ESG's research findings, the data points to the following conclusion: Organizations that deploy SDN as part of their IT Transformation and digital transformation initiatives *are gaining real benefits*.

They are increasing their agility, allowing them to bring their products to market faster than competitors. They are reducing their downtime costs and simultaneously keeping their external audiences happy. They are enabling their staff to focus on more high-value work. And they are progressing more smoothly on their private cloud journeys by activating resource elasticity and abstraction from physical devices.

Basically, organizations that put in the effort to *Transform*—which includes deploying SDN—are faster, more profitable, more cost-efficient, and in general, are running effectively. Furthermore, ensuring that open network solutions are deployed will provide a suitable foundation and the flexibility to enable the network environment to scale and transform effectively and efficiently.

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](#)[Networking: Learn More](#)

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