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INTRODUCTION

Organizations of all sizes need to identify, deploy, and utilize the right technology to survive in a rapidly evolving digital world. In fact, 81% of companies agree that if they don’t embrace IT transformation, their firms will no longer be competitive.\(^1\) A modern IT infrastructure is critical for driving innovation, improving customer experiences, boosting reliability, enhancing security, and enabling sustainable growth.

In spite of this understanding, studies show that 94% of organizations are not yet fully transformed, and there’s much room for improvement.\(^1\) An effective IT transformation strategy needs to address the workloads and applications that drive the business—from the traditional data center to the cloud. When it comes to their existing workloads, IT professionals often wrestle with managing costs and maintaining a reliable, secure environment. In some cases, they can modernize these workloads and/or shift portions of them to run on the cloud. Their environment may also include cloud-native workloads to help set them apart from the competition, along with SaaS versions of packaged applications.

What do IT and business leaders think about all these workloads, and how do they plan their own workload placement? Does the future of IT infrastructure point to hybrid cloud? Spiceworks recently conducted a survey of IT and business decision-makers to find the answers to these questions and more. Respondents were from organizations of all sizes and spanned many industries, including healthcare, manufacturing, financial services, public institutions, and retail.

This white paper explores the results of that survey, providing valuable insights into the state of IT infrastructure and how it is evolving. You’ll also learn why a modern hybrid data center makes sense for many organizations, and how Dell Technologies and Microsoft solutions can help you deploy the right foundation for a successful hybrid cloud infrastructure.
Despite the many promises for simplified IT, the reality is that today's IT infrastructure is more complex than ever. According to the Spiceworks survey, 86% of IT and business leaders say their current IT infrastructure is complex, with 35% saying it is highly or very complex.

One reason for this complexity? Workloads are dispersed across multiple platforms, and that's not expected to change anytime soon. Respondents have current and planned deployments on-premises, as well as in private clouds, public clouds, and hybrid clouds. What's more, hybrid cloud deployments are set to increase by nearly 30% within the next 12 months.
The good news is that respondents are highly satisfied with their IT infrastructure, with 85% saying they are completely or mostly satisfied. Just 11% are completely or mostly dissatisfied. IT decision-makers (ITDMs) are more satisfied than business decision-makers (BDMs), although the difference is relatively minor (89% of ITDMs are completely or mostly satisfied, compared to 81% of BDMs).

What are the most important factors to a successful IT environment? Reliability/uptime (47%), robust backup and disaster recovery (37%), and best-in-class security/threat protection (34%) are at the top of the list. Yet, priorities differ between the IT and business respondents. ITDMs see reliability as being significantly more important than BDMs (53% to 40%) as well as disaster recovery (43% for ITDMs, compared to 30% for BDMs), while BDMs see security as more important (38% to 34%).

Naturally, reliability/uptime is critical in an always-on world. When asked about their mission-critical workloads, respondents said their businesses can only afford between 3 to 5 hours of downtime. About 20% have an average recovery time objective (RTO) and recovery point objective (RPO) of only 20 minutes. Almost 40% have an average RTO and RPO between 4 and 5 hours, while about 20% could tolerate being down 1 to 2 days. Another 20% have no idea—which is another key reason reliability/uptime is so high on the list. Decision makers don’t know what their business can tolerate, and it seems as if many don’t want to find out.
Today’s organizations run their workloads in multiple places: on-premises; in public, private, and hybrid clouds; and in off-premises data centers. But in an ideal world, where would IT pros want their workloads to reside? Currently, most workloads reside on-premises (54%), but ITDMs say their ideal workload distribution would depend more on cloud infrastructure. Ideally, just 33% of workloads would run on-premises, with nearly 60% moving to the cloud.
When it comes to workload placement, the type of workload is a crucial factor. Mission-critical workloads (62%), back-office applications (57%), and backup and recovery applications (53%) are currently supported on-premises. But organizations tend to run their email/productivity applications and public-facing workloads (websites, marketing, etc.) in the public cloud. Nearly all businesses expect to shift more of their workloads to public cloud within the next 2 to 3 years, lowering their on-premises use by up to 14%.

These trends align with what we’ve heard from customers at Dell Technologies and Microsoft. Workload placement has evolved from a question of “What workloads are the best fit for the cloud?” to a deeper analysis of “Where should workloads reside for the best time-to-value?” Often, the answer is that workloads need a mix of both on-premises and public cloud deployment—with secure mobility between locations as needed.
How did these factors show up in our survey results? Across the board, respondents choose to keep their critical workloads on-premises for greater security (30%), cost-efficiency (29%), and reliability (27%). BDMs are more likely to run workloads on-premises for security reasons, while ITDMs are more likely to run them on-premises for cost-efficiency.

In contrast, respondents said they put critical workloads in the public cloud to reduce IT workloads (38%), simplify management (35%), and be more efficient (28%). This efficiency comes from enabling collaboration and accessibility. BDMs are more likely than ITDMs to cite cost savings as a reason to use public cloud (30% vs. 23%). They are also more likely to cite security (27% vs. 16%). ITDMs, however, are more likely to cite reduced IT workloads (42% vs. 33%) and ease of management (39% vs. 29%).
Since many organizations are considering a shift to public cloud, Spiceworks had an additional question: What advice would ITDMs and BDMs give to their peers/colleagues about public cloud migration? The importance of cloud security management was at the top of the list (42%). Their advice also stressed that public cloud costs can be higher than on-premises infrastructure (37%) and full data recovery from the cloud can be expensive and time-consuming (33%). BDMs are more likely to mention regulatory compliance (29% to 19%), while ITDMs are more likely to mention higher costs (41% to 31%). Typically, ITDMs have more visibility into IT budgets than BDMs.

Many organizations are also moving workloads back to on-premises infrastructure for many of the same reasons they kept some workloads on-premises to begin with. Cost savings (37%), security threats (35%), and downtime (34%) are the top reasons for the shift back to on-premises deployments. ITDMs are more likely to cite latency (41% vs. 23%) and downtime (39% to 29%) as top issues with public cloud. In contrast, BDMs are more likely to cite security issues (40% to 30%). This is likely due to ITDMs having more visibility into workload performance.
Organizations are rapidly moving towards multi-cloud environments, but with the hopes that their clouds will be able “talk” to each other. An IDC survey found that 43% of organizations had connected their on-premises private clouds to hosted private clouds, while 29% had connected on-premises private clouds to public clouds.²

What’s more, many environments now include two or more public clouds. This may be the result of deciding to choose different cloud vendors based on their unique services, mitigating risk by not relying on a single vendor, inheriting cloud environments via mergers and acquisitions, or “shadow IT” projects where business units deployed their own clouds. This cloud proliferation creates a lot of complexity, including management and operational silos, complex workload migrations, the need for new skills and processes, and uncertain security postures.

One way to end the complexity of cloud proliferation is by deploying a foundational cloud infrastructure that supports all of your private cloud, public cloud, and edge computing environments. That’s what is commonly referred to as a “hybrid cloud.” With the right hybrid cloud solution, you get the essential infrastructure to support your business-critical applications—compute, storage, networking, and more—backed by consistent tools and operations. Hybrid clouds address the need for unified management, simplified workload migrations, the use of existing skills and processes, and built-in, end-to-end security.
More and more organizations are opting for hybrid cloud environments thanks to their flexibility. Workloads no longer have to stay on or off the cloud—hybrid cloud offers the advantages of both. In fact, hybrid clouds allow organizations to host applications and data across on-premises infrastructure and public cloud resources, which can reduce both risk and cost.

Survey respondents who currently use hybrid cloud are highly satisfied, with 88% saying they are mostly or completely satisfied. Their #1 piece of advice is for their peers to still manage security within the public cloud to combat vulnerabilities.

What does a successful hybrid cloud environment look like? Respondents identified reliability/uptime, best-in-class security/threat protection, and excellent support as the top factors for success.
What matters in cloud products and providers

Where do organizations go to fulfill their hybrid cloud needs? Respondents use a variety of cloud providers—45% use multiple providers for on-premises server technology, while 42% use multiple providers for cloud services.

Here’s what ITDMs and BDMs say they look for in a trusted provider:

AN EXCELLENT REPUTATION
- “We look for a well-known company with a demonstrated track record of the highest security.”
- “Peer experience and recommendations are important.”
- “It should be a proven company that has completed the task for Fortune 1000 companies.”

COMPREHENSIVE SERVICES
- “They should understand our infrastructure and remote office needs.”
- “We want a dedicated contact, rather than access to a pool of technicians.”
- “Warranty and maintenance services should be included.”

SUPERIOR QUALITY
- “Their technology should be built on existing successful products.”
- “We look for better performance and reliability.”
- “They should have state-of-the-art equipment and little downtime.”
When it comes to the benefits offered by different cloud providers, all of them are deemed equally important, but security rises to the top of the list, followed closely by ease of use, support services, enterprise-grade solutions, and joint hardware-software solutions.

### THE IMPORTANCE OF PROVIDER BENEFITS

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Very Important</th>
<th>Somewhat Important</th>
<th>Total Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offers data center solutions that are the industry-leading security standard</td>
<td>71%</td>
<td>25%</td>
<td>96%</td>
</tr>
<tr>
<td>Delivers data center solutions that are easy to set up, manage, and maintain</td>
<td>66%</td>
<td>30%</td>
<td>96%</td>
</tr>
<tr>
<td>Delivers infrastructure support services including current environment evaluation, migration services and post-implementation support</td>
<td>58%</td>
<td>38%</td>
<td>96%</td>
</tr>
<tr>
<td>Offers enterprise-grade data center solutions that are right-sized and easily scalable</td>
<td>67%</td>
<td>28%</td>
<td>95%</td>
</tr>
<tr>
<td>Can deliver a fully-supported hardware and software (OS, database and hypervisor) joint solution</td>
<td>58%</td>
<td>31%</td>
<td>89%</td>
</tr>
</tbody>
</table>
Although organizations are looking for a wide range of features and benefits in their cloud providers, it can still be a struggle to find everything they’re looking for. Dell Technologies and Microsoft have worked together for more than 30 years, engineering an industry-leading portfolio of products and services to meet critical needs across the data center. Dell EMC PowerEdge servers provide a solid foundation for a successful hybrid cloud, jointly developed with native Microsoft Windows Server 2019 technologies, including Microsoft Azure Stack HCI.

Dell EMC PowerEdge servers are a proven, best-of-breed solution for any cloud infrastructure. They offer predictive scalability, allowing you to easily move workloads between on-premises and cloud environments for the best placement strategy. With a single console, you can centrally manage and automate your IT operations across your hybrid cloud infrastructure. What’s more, this trusted hardware foundation integrates with Microsoft Windows Server 2019 native security features—so you can properly secure and control your data and policies, while adhering to compliance requirements.
It's no wonder that so many survey respondents use Dell Technologies for on-premises server hardware and Microsoft Azure for cloud services. When it comes to on-premises server hardware, 59% of ITDMs use Dell Technologies. For cloud services, 60% use Microsoft Azure. In addition, Microsoft SQL Server is the preferred database management solution (82%).

What about future plans for cloud providers? 88% of ITDMs are most likely to consider Microsoft Azure over any other cloud provider.

With Dell Technologies and Microsoft, organizations get the combined strength of two world-class portfolios, a single Dell Technologies line of support (with Microsoft-certified technicians), and a single industry-leading management console for managing a Dell Technologies and Microsoft environment.
Modernize your IT with the right hybrid cloud

Whether you’re running workloads on-premises, in the cloud, or on the edge, Dell Technologies and Microsoft hybrid cloud solutions are a proven foundation for success. In fact, Dell EMC PowerEdge servers are #1 in the world, so you can count on them for superior software-defined compute, storage, and networking technology for your hybrid cloud environment.

Ready to go further in your IT transformation? Learn how Dell Technologies and Microsoft solutions can help you deploy your own consistent, secure, and successful hybrid cloud.

Sources
3. “IDC WW Quarterly Cloud IT Infrastructure Tracker, Q3 2018,” January 2019. Based on vendor revenue from sales of infrastructure products (server, storage, and Ethernet switch) for cloud IT