

# Top 10 Reasons to Partner with Dell EMC for Windows Server 2016

WHITE PAPER

The release of any Microsoft operating system is always an important crossroads for IT decision-makers, and Windows Server 2016 is proving to be no exception. With Windows Server 2016, Microsoft has fully embraced the software-defined data center (SDDC) as the model for the cloud era.

While it's too soon in the product's lifecycle to look at meaningful market share statistics, the early returns are compelling: As of March 2017, more than 80,000 websites were already being served by Windows Server 2016, an increase of nearly 20,000 from the previous month.<sup>1</sup>

It should be no surprise that IT teams are starting to embrace Microsoft's latest server operating system, as Windows Server 2016 addresses one of the fundamental challenges facing IT today: delivering on the vast potential of cloud computing without relying solely on public cloud models.

With Windows Server 2016, Microsoft is delivering major enhancements in compute, networking and storage virtualization to facilitate the evolution to the SDDC. In conjunction with Microsoft System Center 2016 and Azure, organizations can modernize their data centers to seamlessly leverage private, public and hybrid clouds, thereby driving competitive advantage, reducing costs and accelerating application development.

One of the critical aspects of successfully deploying Windows Server 2016 is to choose the right partner for the server, networking, storage and systems management platforms. Dell EMC occupies a unique position in this regard. It has a 30-plus-year history of partnering closely with Microsoft and has worked side by side with Microsoft in developing new releases, with early access to technologies and strategies.

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<sup>1</sup> "March 2017 Web Server Survey," Netcraft, April 2017

What's more, Dell EMC shares with Microsoft a commitment to the SDDC and has developed innovations in software-defined compute, storage, networking and systems management that are helping customers maximize Windows Server 2016 to modernize, automate and transform their infrastructures.

In fact, Dell EMC has designed its 14th generation (14G) PowerEdge servers to be the bedrock of the modern data center, built on three pillars:

1. **Scalable business architecture**
2. **Intelligent automation**
3. **Integrated security**

In addition, Dell EMC has designed technology enhancements to 14G PowerEdge servers that work in concert with Windows Server 2016, including the following: Boot Optimized Storage Solution (BOSS); cyber-resilient architecture for integrated security; increased availability of Non-Volatile Memory Express (NVMe) solid-state drives (SSDs); OpenManage Power Center; Storage Spaces Direct; agent-free integrated Dell Remote Access Controller (iDRAC) with Lifecycle Controller; OpenManage Integration for Microsoft System Center (OMIMSSC); the NVDIMM-N Persistent Memory solution, and more.

By leveraging Dell EMC's integrated solutions across compute, storage, networking and systems management, customers benefit from having a single engagement point for hardware and software acquisition and support, with solutions that are factory configured and installed. This white paper examines 10 key reasons to partner with Dell EMC in deploying Windows Server 2016, focusing on areas that Microsoft and Dell EMC have defined as critical differentiators for successful IT transformation.

## No. 1: A modern data center environment

Organizations of all sizes must modernize their data centers to deliver the service-centric IT model required to enable digital transformation. IDC has said "cloud first" is the new mantra for enterprise IT, predicting that spending on hardware and software to support cloud services, implementations and management will exceed \$500 billion by the end of the decade, more than triple today's spending levels.<sup>2</sup>

Microsoft and Dell EMC share a vision that modernizing the data center for the cloud era involves shifting to a software-

defined model that extends virtualization from the compute infrastructure to servers and networking. This vision of the SDDC as the architectural model for modern data centers is critical to the design of Windows Server 2016. Microsoft describes three key design points for data center modernization:

1. **Provide layered security for emerging threats**
2. **Build the software-defined data center**
3. **Accelerate business agility with apps built on Windows Server**

These factors are reflected in the architecture of Windows Server 2016, which incorporates three planes—data, control and management—that are separated from one another and can be controlled through software. To leverage this model, Microsoft has expanded and enhanced the virtualization, networking, storage, management and security features in Windows Server 2016, which are all discussed in greater detail throughout this paper.

Dell EMC has adopted a similar overall model for modernizing the data center, which makes its product family ideally suited for Windows Server 2016 environments. Dell EMC solutions provide a common infrastructure and integrated model built on the following design imperatives:

- **Modernize:** The objective of modernization is to use modern infrastructure to support new workloads and improve the performance and cost efficiency of existing systems. Modernization helps organizations optimize management, increase deployment speed and scalability, and improve agility. IT can respond faster to the needs of employees, customers and partners. By leveraging modern infrastructure, organizations can maximize the return from IT investments and route the savings into critical business initiatives.
- **Automate:** Automation eliminates manual tasks, reduces bottlenecks and lowers the risk of human error. Automation helps accelerate the speed of business and the delivery of new products and services by reducing the complexity of accessing the infrastructure and services DevOps teams and line-of-business managers need to drive innovation.
- **Transform IT:** To fully embrace digital transformation and other modern initiatives, the people, processes and culture must also be transformed. This transformation should be accomplished in an environment where IT is in control, particularly in areas such as governance, resource utilization, security and compliance.

<sup>2</sup> "IDC Sees the Dawn of the DX Economy and the Rise of the Digital-Native Enterprise," IDC, Nov. 1, 2016

In building a modern data center environment, everything starts with the servers, which are key to building a flexible, efficient and cloud-enabled infrastructure. One of the first considerations in choosing a server for Windows Server 2016 environments is to leverage a scalable business architecture that enables you to use servers optimized for all of your workloads. That is why Dell EMC designed PowerEdge 14G servers to adapt and scale to dynamic business needs, including workloads such as:

- **Real-time analytics** with improved throughput and decreased latency.
- **Software-defined storage** to optimize performance and capacity through mixing drive types, including NVMe and NVDIMM options.
- **Virtual desktop infrastructure** with up to 33% more VDI instances and up to 192 VDI users per server.

## No 2: Resilient compute

Resiliency is one of the areas where Microsoft has focused on delivering major improvements with Windows Server 2016. It is also one of the cornerstones of the Dell EMC product line, including specific features within Dell EMC PowerEdge 14G servers.

The importance of a resilient infrastructure cannot be overstated in the cloud era, with organizations required to deliver 24/7 availability and access to all applications and services. According to 98% of organizations surveyed, an hour of downtime now costs more than \$100,000, with a third of larger enterprises saying hourly downtime costs are \$1 million to more than \$5 million.<sup>3</sup>

Microsoft has introduced at least six important failover clustering improvements in Windows Server 2016, including better cluster logs, the addition of a “cloud witness” quorum type, active memory dumps, network name diagnostics and shared VHDX improvements. One feature of strong interest to organizations migrating to Windows Server 2016 is the Cluster Operating System Rolling Upgrade.

Previously, a cluster administrator had to develop a detailed migration plan to update clusters with a new operating system. As a result, IT teams often waited to move a cluster until new hardware was brought in as part of a system refresh. This could

mean several years without any new capabilities for the cluster, plus planned downtime for moving services between the old and new cluster.

With the Cluster Operating System Rolling Upgrade, upgrades are done in place to each of the nodes. The cluster itself never needs to be stopped or restarted; the work takes place at the cluster node level, and all services remain online during the rolling upgrade process. Unlike typical cluster migration strategies, new clusters do not have to be created. The existing cluster objects, including cluster name and cluster IPs, remain the same and online during the upgrade.

In addition to the Cluster Operating System Rolling Upgrade, additional resiliency features in Windows Server 2016 include:

- **Mixed OS Mode Cluster**, which allows nodes of different versions to exist in the same cluster. For example, Windows Server 2012 R2 cluster nodes can operate with Windows Server 2016 nodes.
- **Fault Domain Aware Clusters**, which enable multiple servers to work together to improve availability through node fault tolerance.
- **VM resiliency**, which is designed for cloud-scale environments to help preserve VM session state in the event of transient storage or network disruptions.

Dell EMC has focused on resiliency as an important attribute across its product line, and has worked closely with Microsoft in delivering resiliency features that leverage the particular strengths of Windows Server 2016. For example, Dell EMC is the first vendor with a Trusted Platform Module (TPM) 2.0 solution that has been tested and certified with Microsoft for Windows Server 2016. In addition, Dell EMC PowerEdge 14G servers improve application performance and availability through an architectural design in which storage has been moved closer to compute resources and is now software-defined.

## No. 3: Flexible and cost-effective storage

Microsoft has described Windows Server 2016 as containing its next evolution of software-defined storage, defined by these three key features:

- **Storage Spaces Direct:** Storage Spaces was a feature introduced in Windows Server 2012 and enhanced in Windows Server 2012 R2. Storage Spaces Direct is a new

<sup>3</sup> “Cost of Hourly Downtime Soars: 81% of Enterprises Say It Exceeds \$300K On Average,” Information Technology Intelligence Consulting, Aug. 2, 2016

feature in Windows Server 2016 Datacenter Edition, enabling organizations to build highly available storage systems using local storage. Storage Spaces Direct enables operators to combine commodity hardware with sophisticated availability software at the operating system level, providing enhanced performance for virtual machines.

- **Storage Replica:** Storage Replica is a new feature in Windows Server 2016 Datacenter Edition that enables IT to set up storage-agnostic, block-level synchronous replication between clusters or servers for disaster recovery. IT can also use Storage Replica to stretch a failover cluster across sites to support high availability.
- **Storage QoS:** This is a new feature in Windows Server 2016 Datacenter Edition that makes it easy to guard against poor performance in a multitenant environment. Previous editions of Windows Server lacked the ability to apply quality of service (QoS) policies in relation to storage traffic. With the Storage QoS feature, IT can now enforce resource fairness or prioritization based on policies configured within storage.

Microsoft has said that the combination of these functions allows organizations to increase performance, lower storage costs and align deployment topology to business scenarios, without introducing risk to operations.

Dell EMC solutions give organizations the most sophisticated and broadest set of options to leverage these new Windows Server 2016 storage capabilities. Dell EMC was the first officially certified and validated platform for Storage Spaces Direct. In addition, Dell is the first vendor to offer pre-configured servers with certified components and validated building blocks to maximize the benefits of Storage Spaces Direct and the advanced feature sets of Windows Server 2016.

By leveraging this solution, called Dell EMC Microsoft Storage Spaces Direct Ready Nodes, customers can leverage software-defined storage solutions that use Microsoft-validated designs and follow engineering best practices for seamless deployment and a steady-state operational experience. Customers can also simplify ordering processes, reduce risk, accelerate deployment and leverage the benefits of a single point of contact for implementation and support services. To learn more about the Dell EMC Ready Nodes configuration, please visit [www.dell.com/storagespacesdirect](http://www.dell.com/storagespacesdirect).

In addition to supporting innovations in Storage Spaces Direct, Dell EMC PowerEdge 14G servers offer a number of critical

features that support cost savings and operations efficiencies in Windows Server 2016 deployments, specifically:

- **PowerEdge Multi-Vendor Cooling:** This brings several innovations to server thermal control, including custom-designed heat sinks and fans, sophisticated system layout and fan zone mapping, and an intelligent closed-loop algorithm that optimizes fan operation in response to a range of parameters, including thermal state, fan power, airflow consumption and acoustics.
- **PowerEdge Unique NVMe Implementation:** This feature leverages an increase in PCI lanes to optimize the performance of as many as eight NVMe drives. Benefits include lower latency, because the drives attach directly to the processor; ability to run the NVMe drives without a host bus adaptor (HBA); and power reduction due to the elimination of the HBA.
- **PowerEdge Boot Optimized Storage Solution:** BOSS was designed in response to customer requests for a simpler, more economical way to segregate operating system and data on server-internal storage. The BOSS solution provides separate hardware RAID functionality for the OS drives, while also freeing up additional drive slots to be used for “data set” devices.

## No. 4: Simplified networking

Microsoft has made a number of enhancements in network virtualization and software-defined networking to provide greater performance and simplified management. Network Controller has been updated and now serves as a central, programmable point of automation to facilitate configuration, maintenance, backup and troubleshooting in the virtualized environment. Other important new networking features include software load balancing, the data center firewall and an updated Web Application Proxy.

With Windows Server 2016, Microsoft enables convergence of the network interface card (NIC), so organizations can consolidate the number of cards required to support remote direct memory access (RDMA) for high-performance computing, as well as non-RDMA protocols. In previous Windows Server editions, IT teams would typically need four NICs to build a solution; now, the same functionality can be delivered on two.

Dell EMC PowerEdge 14G Servers support 25 GbE networking options, as well as RDMA for SDN, RoCE (RDMA over Converged Ethernet) and iWARP (Internet Wide Area RDMA Protocol). Dell

EMC is also the only major vendor that supports convergence on the NIC, meaning customers can drive performance with only two NICs. Network architects can consolidate the physical networking without giving up the higher-level benefits that traditional approaches afford, when storage traffic is segregated in Ethernet topologies.

Combining these capabilities into a single NIC enables power savings, a reduction in the switch port count, NIC cost savings and decreased cabling management. The network operator can also make higher QoS guarantees for the network users.

## No. 5: Integrated systems management

Windows Server 2016 introduces several enhancements to Windows PowerShell Desired State Configuration (DSC), including the Local Configuration Manager (LCM) for both DCS push and pull architecture. Microsoft describes LCM as the heart and brain of DSC and recommends that it be installed on all servers that are managed by DSC within a network.

Dell EMC offers a full suite of platform manageability support for Microsoft System Center, covering Dell EMC servers, storage, business clients and printers. A unique benefit is that Dell EMC PowerEdge server integration is through the server's embedded management, iDRAC with Lifecycle Controller. This enables server management functionality directly through the Microsoft System Center consoles.

Dell EMC system management solutions enable organizations to lower licensing costs, automate deployments and management, and reduce risk and complexity through innovative features and functions plus tight integration with Microsoft System Center. Dell EMC was the first vendor in the industry to offer agent-free management, which is one of the important advantages of partnering with Dell EMC.

With agent-free management, embedded in iDRAC with Lifecycle Controller, administrators can manage Dell EMC servers from any location remotely, without the presence of an operating system or hypervisor. This approach reduces complexity, lowers costs and increases availability for organizations migrating to Windows Server 2016.

**[Dell EMC OMIMSSC Version 7.0 for System Center Configuration Manager \(SCCM\) or System Center Virtual Machine Manager \(SCVMM\)](#)** is the latest addition to the Dell EMC OpenManage Integration for Microsoft System Center Suite, offering a range of features to enhance and simplify Windows Server 2016 deployments.

The solution integrates seamlessly with SCVMM or SCCM to deliver new features for hardware configuration and patching, bare-metal operating system and hypervisor deployments, and the repurposing of Dell EMC PowerEdge IIG-14G servers featuring iDRAC with Lifecycle Controller technology with a newer operating system.

OMIMSSC 7.0 is designed to be deployed as a virtual appliance, automating and simplifying hardware configuration tasks to reduce the number of operational procedures and time required for configurations and deployments. For additional information, please visit <http://www.dell.com/systemcenter> or <http://www.delltechcenter.com/omimssc>.

Another important new management solution is Dell EMC OpenManage Power Center 4.0, which is the first power monitoring and management solution from a tier-one server maker that has Virtual Machine Power Mapping. This allows IT administrators to discover and monitor power consumption on a per-VM basis. With this solution, IT can determine the best placement of workloads and VMs based on power consumption used by the servers and the VMs themselves.

## No. 6: Modern applications

In today's business environment, DevOps teams are under pressure to bring applications and updates to market faster and more frequently than ever before. The "consumerization" of IT means customers and employees have the highest expectations that applications will be mobile, easy to use and current with the latest features.

Cloud-native applications and microservices architecture support rapid innovation and faster time to value. But most businesses struggle to manage and update existing applications while also supporting new development. Windows Server 2016 helps address these challenges by allowing developers to create cloud-ready applications on premises or in any cloud, using containers and a new operating system called Nano Server.

A Nano Server is a small-footprint, headless operating system included in Windows Server 2016 for deployment in containers only. It includes just the functionality required for its use cases and nothing more, minimizing the patch surface area, eliminating restarts and shrinking the footprint. This enables faster deployment and restart time and frees up resources for other uses.



Containers have been an important innovation for DevOps teams, and these teams are particularly advantaged by having this technology available as part of Windows Server 2016. A container is a lightweight, portable approach to running multiple applications on the same operating system kernel. Applications are isolated and packaged only with their unique dependencies, allowing for increased density because containers consume fewer resources than traditional VMs.

The Windows Container technology includes two distinct types of containers: Windows Server Containers and Hyper-V Containers. Both types are created, managed and function identically. The differences between them are based in their levels of isolation versus the host operating system and the other containers running on that host:

- **Windows Server Containers:** Multiple container instances can run concurrently on a host with isolation provided through namespace, resource control and process isolation technologies. Windows Server Containers share the same kernel with the host as well as one another.
- **Hyper-V Containers:** Multiple container instances can run concurrently on a host. However, each container runs inside of a special virtual machine. This provides kernel-level isolation between each Hyper-V container and the container host.

Another important feature in Windows Server 2016 is the availability of the Docker container tool set to manage Windows Server and Hyper-V containers—as well as Linux containers. Microsoft has released a feature called PowerShell Module for Docker that is now open source for community and Docker contributions.

Dell EMC supports container technology and offers features such as Docker Hub, Docker Engine and Docker Composer to simplify the processes involved in deploying applications to manage and monitor Dell infrastructure. For example, Docker technology provides a seamless way for organizations to deploy Dell EMC's OpenManage Server Administrator (OMSA). Dell EMC also offers an OMSA plug-in for Nagios, an open source tool that monitors systems, network services and infrastructure services. With Nagios, administrators can easily monitor and manage the physical health of Dell PowerEdge servers.

Dell EMC PowerEdge 14G servers offer additional features to optimize workload performance and modernize applications. For example, IT teams can leverage a feature called Workload Profile-based Automated Server Configuration to dramatically

simplify the process of BIOS tuning based on the requirements of specific workloads. For example, some servers can be optimized for performance, while others can optimize energy efficiencies.

Another feature that supports application modernization and data center transformation in Dell EMC PowerEdge 14G servers is called VM Power Mapping with OpenManage Power Center 4.0. This capability allows IT teams to be more efficient in balancing workloads, identifying power issues or spikes, and providing accurate power consumption chargebacks to users.

## No. 7: Virtualization and the cloud

Virtualization enhancements to Windows Server 2016 include a new feature called Virtual Machine Groups, which simplifies management of VMs; true VM mobility, enabling migrations into or out of a cluster and to up-level or down-level Windows Server; and a new configuration version, which changes the process of upgrading the VM configuration version from automatic to manual.

Overall, Microsoft has identified Windows Server 2016 as one of the linchpin technologies of the Microsoft Cloud Platform, along with Microsoft Azure and Microsoft System Center 2016. Microsoft has described five pillars of the Cloud Platform:

- Empowering enterprise mobility
- Creating the “Internet of Your Things”
- Fostering application modernization
- Unlocking insights into any data
- Transforming the data center

In choosing the best server platform for Windows Server 2016, IT teams should focus on the important characteristics required to maximize virtualization and cloud features and functionality. These are areas where Dell EMC PowerEdge 14G servers excel, specifically:

- **Platform performance:** Dell PowerEdge 14G servers are available with the fastest Intel processors available, offering performance improvements of 1.65x versus the prior generation.
- **Memory capacity:** Dell PowerEdge 14G servers utilize next-generation memory, with larger memory capacities than ever before.

- **I/O throughput:** Memory bandwidth in Dell PowerEdge 14G servers has been expanded to align to the latest Intel processor updates, ensuring optimal I/O throughput for all applications and workloads.

## No. 8: Extended security

Windows Server 2016 delivers new layers of protection so that the server now becomes an active component in security defenses. These security protections were built with the mindset of how to deal with the overall threat of ongoing attacks inside the data center environment. New features range from threat resistance and enhanced detection to managing privileged identity and protecting VMs from a compromised fabric.

One of the important security innovations in Windows Server 2016 is a new feature called Shielded VMs, which provides protection against inspection, theft and tampering from those with administrator privileges. A Shielded VM, a Generation 2 VM with a virtual TPM, is encrypted using BitLocker and can run only on healthy and approved hosts in the fabric.

In supporting the Shielded VM feature, the server platform should support TPM 2.0, along with BitLocker and Trusted Secure Boot. Dell EMC is the first vendor with TPM 2.0 tested and certified with Microsoft for Windows Server 2016. In addition to TPM 2.0, Dell EMC servers support Secure Boot, Develop Guard, Control Flow Guard, Code Integrity and other important security features in Windows Server 2016.

Dell EMC PowerEdge 14G servers are designed to meet the challenges of today's more sophisticated environment. Dell EMC has long recognized that server infrastructure is key to data center security because cyberattacks targeting hardware and firmware can be persistent, stealthy and damaging. To protect, detect and recover from cyberattacks, Dell EMC builds security protections into the hardware design. Dell EMC PowerEdge servers are designed from the ground up according to the security development lifecycle (SDL), a robust methodology in which servers are conceived, designed, prototyped, set into production, deployed and maintained, with security as a core priority.

Adhering to the SDL, PowerEdge 14G servers feature an enhanced cyber-resilient architecture that provides a hardened server design to protect, detect and recover from cyberattacks. Key aspects of this architecture include:

- **Effective protection,** including silicon-based hardware root of trust, signed firmware updates, system lockdown and secure default passwords.
- **Reliable detection,** including configuration and firmware drift detection, persistent event logging and secure alerting.
- **Rapid recovery,** including automatic BIOS recovery, rapid OS recovery and system erase.

The silicon-based hardware root of trust is an example of Dell EMC's innovation in server security. This feature validates both iDRAC and BIOS firmware as each module is booted in a chain of trust. Firmware for critical components is also validated using cryptographic signatures to ensure that only authentic firmware is running in the server. PowerEdge servers also support UEFI Secure Boot, which checks the cryptographic signatures of UEFI drivers and other code that is loaded before the OS begins running.

## No. 9: Leveraging the Intel platform

The long-term partnership between Intel, Dell EMC and Microsoft has been instrumental in advancing the state of computing for more than 30 years, from the early days of stand-alone PCs, through networking, the Internet and now the cloud.

The migration to a new OS such as Windows Server 2016 is always an important trigger point for a hardware upgrade. The release of Windows Server 2016 is no exception because Dell PowerEdge 14G servers utilize the latest Intel® Xeon® processor family and offer a wide range of improvements versus previous generations.

With Intel Xeon Scalable Processors, Dell PowerEdge 14G servers deliver the industry's highest core and an average of 1.65 greater system-level performance over the prior generation. Intel has said that the Intel Xeon Scalable Processors advance virtually every aspect of the data center platform, including a new mesh on-chip interconnect topology, cache, on-die interconnects, memory controller and more. These represent the biggest advances in platform capabilities in a decade.

Performance is not the only reason to refresh the server platform to Dell EMC PowerEdge 14G servers. Organizations can also achieve significant savings in application management and server administrative costs by upgrading their server infrastructure in a timely manner, according to IDC research.

An organization maintaining a three-year server lifecycle will have a 33% lower net cash flow over six years than an organization with a single six-year server replacement cycle, achieving savings of up to \$14.6 million, according to IDC.<sup>4</sup>

Organizations studied by IDC could repay their initial investments in new server hardware in less than a year through lower operational costs, IT staff time savings and a reduction in unplanned outages impacting employee productivity levels.<sup>5</sup>

## No. 10: The global Dell EMC partnership with Microsoft

Because of its close ties to Intel and Microsoft, Dell EMC is able to provide customers with unique benefits in supporting the use of Windows Server 2016 and transforming their data centers to the SDDC model.

Dell EMC works closely with Microsoft as it develops new solutions and features, developing strategies that help Microsoft and Dell EMC customers achieve their business and IT goals. With this close relationship, Dell EMC has access to technologies well before its own customers, giving enterprises an advantage in knowledge and experience as they move forward in developing their own SDDC solutions.

In addition, Dell EMC has a proven methodology in helping customers migrate to new OS platforms, including transformation planning and design; mapping dependencies and prerequisites; establishing targets for each workload in terms of timing, performance and infrastructure requirements; testing, monitoring and troubleshooting; and ongoing support and professional training.

By partnering with Dell EMC, organizations migrating to Windows Server 2016 can leverage this methodology and the close relationship with Microsoft through Dell EMC's unique advantages, including:

An end-to-end approach, with end-to-end customer support. Leadership within all of the key technologies—compute, networking, storage and systems management. Commitment to customer support, including specific processes for customers to migrate to Windows Server 2016.

Extensive experience in helping customers evolve to next-generation technologies without disrupting their ongoing business.

## Conclusion

IT is in the midst of one of its major transformations. IDC has characterized this paradigm shift as the “third platform,” driven by innovations in cloud, big data, mobility and social technologies. Progressive enterprises are seeking to leverage third-platform technologies to create new business opportunities and competitive differentiation through new products and services, new business models and new ways of engaging customers.<sup>6</sup>

Windows Server 2016 is an important release in enabling IT to deliver on the promise of the third platform. It provides a path to a seamless, integrated cloud environment—incorporating public, private and hybrid models—with the software-defined data center as the hub. In migrating to this next-generation data center model, it is essential that IT leaders choose the right partner for the compute platform, as well as storage, networking and systems management.

Of all the vendors in the market, Dell EMC is uniquely positioned to support customers in deploying Windows Server 2016. Dell EMC is fully committed to the SDDC across its product line, including compute, storage, networking and systems management. In addition, Dell EMC has worked closely with Microsoft to support key features and functions, such as Storage Spaces Direct and TPM 2.0, ahead of other vendors in the market. Dell EMC is an acknowledged leader in providing experienced support and guidance for IT organizations making significant transitions to important new technology platforms.

**Windows Server 2016 has the potential to provide competitive advantage and new business opportunities to businesses of all sizes in the coming years. Don't miss your opportunity to maximize its potential. Learn how Dell EMC can help your organization maximize Microsoft Windows Server 2016. For more information, visit Dell EMC at [www.dellemc.com/servers](http://www.dellemc.com/servers) or at [www.Dell.com/sb/WindowsServer](http://www.Dell.com/sb/WindowsServer).**

<sup>6</sup> Ibid. footnote 2

<sup>4</sup> “Accelerate Business Agility with Faster Server Refresh Cycles,” IDC, May 2017

<sup>5</sup> Ibid.