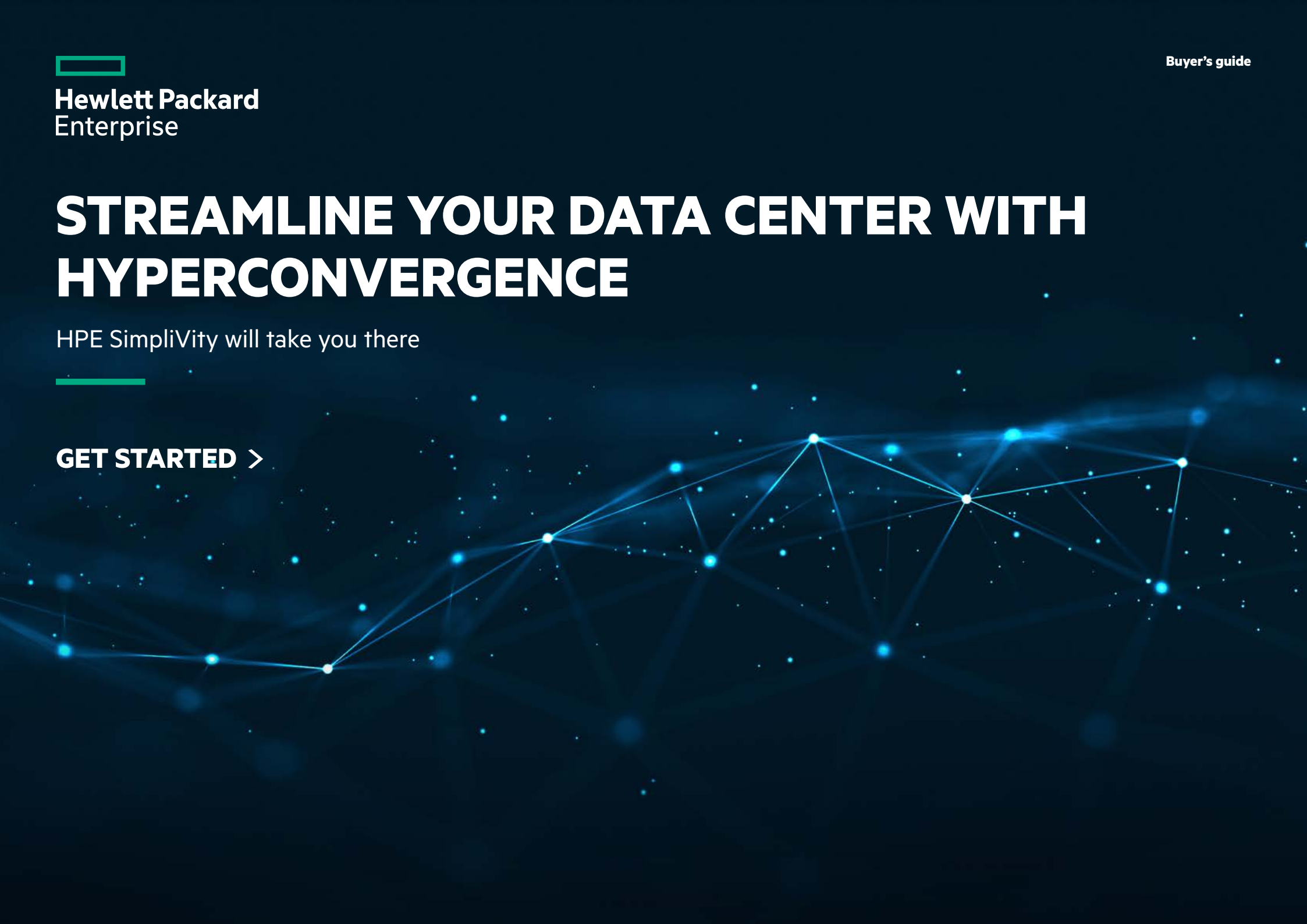
Hewlett Packard Enterprise

Buyer's guide

STREAMLINE YOUR DATA CENTER WITH HYPERCONVERGENCE

HPE SimpliVity will take you there

GET STARTED >



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HPE SimpliVity drives your costs down:

- **Reduces TCO by 69% with global VM-centric management**
- **Facilitates ROI of up to 192% with a short 7-month payback**

HPE SIMPLIVITY, A POWERHOUSE HYPERCONVERGED INFRASTRUCTURE

From being a popular boardroom buzzword to acquiring mainstream status, hyperconverged infrastructure has come a long way in the last few years. Today, it's one of the fastest-growing segments of the global integrated systems market. According to Gartner, the hyperconverged integrated systems market is expected to reach $8.5 billion in revenue by 2023.[1]

Looking ahead, there seems to be no letup in this growth. Join the hyperconvergence revolution with HPE SimpliVity, a powerhouse hyperconverged infrastructure that can reduce your TCO by 69%[2] with global virtual machine (VM)-centric management and built-in resiliency and data protection. The cost savings enable a 192% ROI with a short seven-month payback.[3]

[1] How I&O Leaders Should Leverage New dHCI Solutions, Gartner Research, September 2019

[2, 3] The total economic impact of HPE SimpliVity hyperconverged infrastructure, Forrester, May 2019

EVEN WITH VIRTUALIZATION, DATA CENTERS ARE MORE COMPLEX THAN EVER

Virtualization has radically transformed data center infrastructure, driving unprecedented levels of availability, performance, and agility. But, while the vast majority of data centers are now virtualized, most are structured in a way that leaves them reliant on inefficient and expensive silos.

Consequently, OPEX is at an all-time high, which means that the amount of money spent on power, cooling, and managing a data center asset far exceeds the actual cost of buying the asset. Sample this: In 1995, for every $1 spent on a physical server just $0.5 was spent to power, cool, and manage the server. Today, for every $1 spent on a server, $4 is spent on power, cooling, and managing the server.[4] To make matters more challenging, fluctuations in month-to-month OPEX costs make it difficult to predict IT budget requirements.

[4] Datacenters Leverage HPE SimpliVity to Drive Operational Simplicity, Improved Performance, and Other Critical Datacenter Benefits, IDC, August 2018

HYPERCONVERGENCE SIMPLIFIES YOUR DATA CENTER

Hyperconvergence eliminates traditional IT management issues by seamlessly combining data center services with servers, storage, and networking into compact building blocks that can be managed through a single interface. The software-defined infrastructure decouples operations from the system hardware, reducing inefficiencies, and streamlining overall operations.

With the introduction of intelligence and predictive analytics, we're entering a new era for hyperconverged infrastructure. The cost-effective and efficient platform rises to a new level of performance, one that is key to creating an intelligent foundation for your data center.

Hyperconverged infrastructure offers many benefits to your IT and business.

- **Data efficiency:** Reduces storage requirements, and can reduce bandwidth and input/output operations per second (IOPS) requirements
- **Flexibility:** Makes it easy to scale resources as the business demands
- **Workload centricity:** Enables focus on the workload as the cornerstone of enterprise IT, with all supporting constructs focused on applications
- **Data protection and availability:** Helps to ensure data restoration in the event of loss or corruption
- **VM mobility:** Facilitates greater application/workload mobility
- **Predictability:** Simplifies deployment, management, and troubleshooting through artificial intelligence (AI)
- **Cost efficiency:** Brings in a sustainable step-based economic model that helps eliminate waste

FIVE COMPELLING USE CASES FOR HYPERCONVERGED INFRASTRUCTURE

The combination of tight hardware component integration and virtualized architecture makes hyperconverged solutions an ideal fit for a wide variety of use cases. Here are the top five contenders.

1 **VIRTUAL DESKTOP INFRASTRUCTURE (VDI)** »

2 SUPPORTING EDGE COMPUTING »

3 TIER 1/DEDICATED APPLICATION SUPPORT »

4 DATA CENTER CONSOLIDATION »

5 TEST AND DEVELOPMENT ENVIRONMENTS »

With easy scalability, excellent performance capabilities, and great data protection features, hyperconverged infrastructure is a natural choice for VDI environments. It enables linear resource scalability—a necessity for VDI environments to keep pace with growth.

Performance is one of the biggest VDI challenges, particularly relating to storage. To address this challenge, hyperconverged infrastructure systems leverage all flash storage or a combination of flash storage and spinning disk in a hybrid storage configuration. Hyperconverged systems that offer deduplication and compression at the storage layer offer even more benefits—allowing you to store more VMs on each hyperconverged node. The ability to efficiently cache deduplicated desktop systems can virtually eliminate system slowdowns during boot and login storms.

VDI environments also benefit from hyperconverged data protection and availability. In a hyperconverged infrastructure with comprehensive data protection capabilities, VDI-based desktop systems enjoy backup and replication for users' persistent desktops. For example, even if you suffer a complete loss of your primary data center, your users can pick right up where they left off because their desktops were replicated to a secondary site.

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Hyperconverged infrastructure solutions can potentially transform remote office/branch office (ROBO) environments and how these are managed. With an intelligent hyperconverged platform, you instantly gain visibility and centralized administrative capabilities that encompass every site with the deployment of just one or two nodes per site. Predictive analytics helps you make informed decisions about scaling IT at remote sites. A simple building block architecture provides increased data capacity and performance with every node. The data reduction feature available in some solutions helps eliminate the need to constantly add storage capacity.

A hyperconverged infrastructure solution that can fully compress and deduplicate data and work with it in its reduced form helps you replicate branch office data to other branches or headquarters—even over slow WAN connections. This kind of data protection infrastructure also eliminates the need for on-site staff to perform specific IT maintenance tasks and increases the potential for successful recovery in the event of a disaster.

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Hyperconverged infrastructure helps you virtualize Tier 1 mission-critical applications while ensuring that you have sufficient resources to operate these workloads. Scalability is at its core and now AI can help you determine when and where you need to scale. When you need to grow, you can simply add nodes, which adds more storage capacity, storage performance, CPU, and RAM simultaneously. What's more, you gain data protection capabilities to help you recover quickly in the event of a disaster and inherit the ability to manage the hyperconverged environment from a single administrative console.

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At the most basic level, hyperconverged infrastructure consolidates storage, compute, and hypervisor, enabling you to eliminate monolithic SAN architecture and reduce complexity in your IT environment. Hyperconverged solutions such as HPE SimpliVity provide data reduction through deduplication and compression—that means overall less capacity and hardware utilization. Constant data reduction allows you to avoid the use of WAN accelerators and separate backup software, deduplication appliances, and SD arrays. With fewer components to manage, you can focus more on your business.

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Hyperconverged infrastructure is an ideal platform for test and development. It helps you keep pace with business by quickly turning around incremental tasks in a production-like environment. In addition, it can add test/dev capabilities to organizations where there were none. In an HPE SimpliVity environment, no special management skills are required, allowing you to concentrate on application development. You can clone production and integration environments in minutes, push changes to production, and gain cloud-like elasticity.

HPE SIMPLIVITY—AN INTELLIGENT HYPERCONVERGED INFRASTRUCTURE

Enterprises have long wanted to accelerate everything—their apps, data, and innovation. Yet getting there requires new levels of performance, from infrastructure agility and resource fluidity to greater IT insights and visibility.

HPE SimpliVity's strength lies in its unmatched data virtualization platform and simplified software-defined experience that streamlines IT operations, enables VM management and mobility, as well as provides built-in data efficiency and protection.

We are entering a new era in hyperconverged infrastructure—shifting the focus from software-defined infrastructure to intelligent AI-driven operations. By infusing AI into hyperconverged infrastructure environments, HPE SimpliVity has dramatically simplified and changed how you can manage and support your infrastructure.

HPE InfoSight for HPE SimpliVity is an intelligent, AI-driven hyperconverged infrastructure platform that offers global visibility, analytics, and wellness alerts for your infrastructure. It gives you critical insights to predict and prevent issues before they happen. These new intelligence features, combined with HPE SimpliVity advanced data services, elevates hyperconverged infrastructure to a new level of performance, one that is key to creating an intelligent foundation for hybrid cloud.

How does HPE InfoSight help?

- Uses telemetry and machine learning to equip HPE SimpliVity environments with the ability to predict and prevent infrastructure problems before they happen
- Includes features such as system details at the federation, cluster, and node level, using predictive analytics for insights into capacity consumption and predictions to full, proactive wellness alerts to alleviate support
- Resolves 86% of problems before you become aware of them[5]

"The extra efficiency that HPE InfoSight brings to HPE SimpliVity is awesome. InfoSight predicts and reports on metrics that my team cares about, where capacity is being used in clusters, hosts, even at the VM level, and when we might run out of space. That saves us lots of time."

– Warwick Brown, Infrastructure Architecture & Security Lead, Carlisle Homes

[5] HPE Business White Paper: Redefining the standard for system availability, August 2017

HPE SimpliVity lets you experience intelligent hyperconverged infrastructure with simplicity, efficiency, edge optimization, and cloud connectivity. Here's how:

Intelligently simple

- Simple deployment, management, scale, and troubleshooting through software-defined infrastructure with policy-based automation and AI
- Global unified management manages data center and edge sites from a single interface
- Includes global federations, infrastructure, hypervisor, and data protection
- HPE InfoSight predictive analytics and proactive wellness alerts resolve 86% of infrastructure issues before they happen[6]
- One-click software, hypervisor, and firmware upgrades simplify lifecycle management
- Rapid, non-disruptive node deployment enables fast scaling to meet changing demands
- Smaller footprint, reduced power/cooling expenses, and fewer licenses reduce costs by 69%[7]

Hyper efficient

- Built-in backup, disaster recovery, and secondary storage—no third parties required
- Superior data efficiency deduplicates all data at inception and writes unique data to disk
- 90% (or 10X) capacity savings is achieved across storage and backup combined[8]
- Built-in resiliency, data protection, and disaster recovery mitigates data loss, collapses the stack, and removes silos
- Data protection guarantees backup of a 1 TB VM in 60 seconds or less[9]

Edge optimized

- Tuned for edge and ROBO deployments to reduce complexity and lower overhead
- High availability achieved with only two nodes in a small footprint
- Centralized management simplifies edge site control where staff resources are scarce
- Built-in backup and automated, edge to core, off-site failover for disaster recovery

Cloud connected

- Geared up for private, public, or hybrid cloud deployment
- Available to deploy container-based architectures using innovative solutions such as Google™ Cloud Anthos
- Public cloud data protection with Veeam securely sends VM backups to off-site public cloud providers such as Amazon, Microsoft, and other managed service providers
- As-a-service consumption offering with HPE GreenLake to address a wide set of hybrid cloud initiatives

[6] Based on installed base data and third-party research of HPE Nimble Storage, 2019

[7] The total economic impact of HPE SimpliVity hyperconverged infrastructure, Forrester, May 2019

[8, 9] hpe.com/us/en/integrated-systems/simplivity-guarantee.html

"With HPE SimpliVity, we can add capacity in seconds. We can fire up a virtual desktop from an image in minutes. Adding storage is a snap. If a server goes down, we can restore it right away with a single click."

– Chris Topp, CTO, Luther College

At the heart of the HPE SimpliVity solution lies HPE Data Virtualization Platform, the foundational technology that is essential to delivering data efficiency in line with no performance impact. It masks complex integration and operational tasks from the IT administrator, simplifying your IT environment. And as the complex tasks occur behind the scenes, an IT administrator with no specialized training can manage an entire infrastructure from a single interface.

Integrate your HPE SimpliVity solution with an intent-based network fabric, HPE Composable Fabric, and you can achieve true hyperconvergence. Intelligence and application awareness are centralized in this type of software-defined networking (SDN) fabric, where a master controller maintains a view of everything connected to the network. An intelligently engineered SDN solution, such as HPE Composable Fabric, automatically detects and configures new components as they are introduced to the environment. All components within the SDN fabric are interconnected, allowing any given module to connect to the rest of the fabric with minimal hops. Together with HPE SimpliVity, the comprehensive hyperconverged solution provides end-to-end software-defined automation—all managed through a familiar single user interface.

What makes HPE SimpliVity so unique?

Unlike other hyperconverged infrastructure solutions, HPE SimpliVity includes built-in data protection features, making backup/recovery and disaster recovery simple. HPE SimpliVity customers have achieved:[10]

- 54.5% improvement in backup/recovery and disaster recovery operations
- 44% reduction in time spent on backup operations
- 33.4% reduction in downtime and improved application availability

HPE SimpliVity at work

- One communications provider, experienced nearly 33:1 data efficiency and projected a 25% reduction in overall data center footprint
- W.R. Grace & Co. spent 20% less time on maintenance and administration tasks and reduced bandwidth and storage consumption by a factor of 10:1
- The IT team at the school district of Janesville, can now backup a 500 GB VM in seconds, saving countless hours on the back end

[10] Using HPE SimpliVity hyperconverged infrastructure to improve data protection and recovery effectiveness, IDC, April 2019

TAKE THE NEXT BIG STEP WITH HYPERCONVERGENCE

Hyperconvergence—it's the next step in the evolution of IT architectures. Capitalize on the power and potential of hyperconvergence with HPE SimpliVity and gain enterprise-grade performance, resiliency, and data protection with agility and cloud economics.

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hpe.com/info/simplivity

Hyperconverged infrastructure for Dummies

Hyperconvergence Redefined—Top Choice for Customers

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