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## 2X Better

Price-performance over commodity processor architectures on popular workloads such as MongoDB and EDB Postgres\*

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# Data Center Simplification with IBM Hyperconverged Systems powered by Nutanix

IBM Hyperconverged Systems powered by Nutanix gives IT customers the capability to dramatically simplify their data center operations.

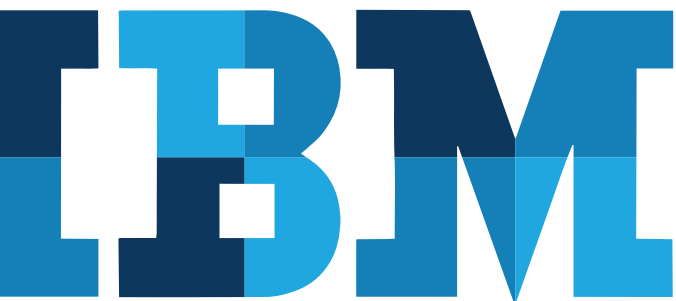
The Nutanix enterprise cloud platform can transform any data center from an unwieldy, expensive, overcomplicated IT infrastructure to an efficient, cost-effective virtualization endeavor, enabling organizations to successfully meet their missions. With the combination of IBM POWER systems and Nutanix software, customers get a high-performance enterprise-class hardware platform and a top-rated on-premises cloud operating system to easily manage IT infrastructure.

A hallmark of the Nutanix offering is choice: in supported processor architectures, hardware generations, operating systems, hypervisors and public cloud integration. By embracing this wide array of choice Nutanix lets customers have IT their way, while at the same time keeping the management experience simple.

With IBM and Nutanix partnering together, customers gain the ability to manage both POWER-based clusters and x86-based clusters from a single pane of glass through the Nutanix management console Prism Central. In other words, one instance of the Nutanix Prism Central management console can manage an endless number of POWER-based and x86-based clusters in one single view. One tool. No complexity. This dramatically eases the administration burden on IT infrastructure staff and thus simplifies the data center infrastructure experience.

## Focus on the Applications, not the Infrastructure

The primary directive for IT is to provide application services that enable the organization to fulfill their mission. Thus the more that the infrastructure can serve as a seamless on-demand resource that appears invisible, then the better for the business. The IBM Hyperconverged System powered by Nutanix software provides this. The IBM POWER architecture delivers superior performance compared to commodity processors, and when combined with Nutanix software it allows application experts to spend more time extracting insight from data. It does this with:



- **Better performance.** More processor threads, larger cache and lower latency design mean faster throughput on transactions and queries.
- **Remarkable price/performance.** Run workloads like EDB and MongoDB at an over 2X price/performance advantage for superior total cost of ownership. Get the same work done with half the number of systems, floorspace, power and cooling.
- **Unlimited scalability.** Applications can run at any scale of total data, size of active data set or compute needed.
- **Higher availability.** Built-in self-healing, backup and disaster recovery capabilities provide better uptime for applications than traditional infrastructure.
- **Simple management.** Installation, deployment, backup and ongoing management can be done with just a few clicks. This speeds up application deployment, administration and capacity expansion.
- **Next generation virtualization.** Designed for the era of unstructured data, Nutanix AHV is a hypervisor that accelerates deployment and eases management. It is included at no extra cost with IBM Hyperconverged Systems powered by Nutanix purchase, eliminating virtualization licensing costs.
- **Self-healing infrastructure.** A Nutanix enterprise cloud is resilient by design. If a drive or node fails, workloads are automatically restarted and full resiliency is restored quickly without operator intervention, protecting applications from unplanned downtime.
- **Built-in availability.** Data protection, disaster recovery, and high availability are integral to the Nutanix environment, delivering higher application availability with less time and effort.
- **One-click management.** With Nutanix Prism, systems administrators easily monitor and manage all infrastructure, gaining full visibility of storage, CPU, and memory resources across IBM Power and Intel x86-based servers from a single pane of glass. One-click software, hypervisor, and firmware upgrades and one-click problem remediation take the pain out of day-to-day operations.
- **Infrastructure fit.** Put your most data intensive workloads on the servers that were born to run them with IBM Hyperconverged Systems powered by Nutanix.

### Eliminate Bottlenecks

Deployments can expand quickly as new users or workloads are added. By using IBM Hyperconverged Systems, you start small and scale out without worrying about the bottlenecks that occur with traditional architectures.

Administrators can scale existing IBM Hyperconverged clusters or deploy new clusters in minutes with less concern for compute, storage and network bottlenecks. Each additional node delivers predictable performance and, because of its distributed architecture, an IBM Hyperconverged Systems powered by Nutanix cluster prevents one workload from starving another, allowing the infrastructure to be shared, if desired.

In concert with POWER performance, the Nutanix cloud OS takes full advantage of server virtualization without the limitations of other solutions.

### Ease of DevOps

- **Data locality.** Nutanix continuously monitors data access patterns and places data in the most appropriate location.

### Increase Security without Adding Silos

To ensure the security of sensitive data, many system administrators find they have no choice but to deploy dedicated infrastructure for each application. However, applications can be deployed securely on a IBM Hyperconverged Systems powered by Nutanix with other workloads, avoiding the need for a separate silo of infrastructure.

Furthermore, Nutanix combines features such as two-factor authentication and data-at-rest encryption with a security development lifecycle. Nutanix systems are certified across a broad set of evaluation programs to ensure compliance with the strictest standards.

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**73% Less**

Time to deploy compute\*

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**61% Less**

Time to manage\*

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**97% Fewer**

Occurrences of downtime\*

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- ✓ Frees you up from managing infrastructure
- ✓ Delivers superior performance
- ✓ Simplifies Resiliency

**For More Information:**

IBM Hyperconverged Systems powered by Nutanix:

<https://www.ibm.com/us-en/marketplace/hyperconverged-systems/details>



Based on IBM internal testing of 4 VM images running Yahoo Cloud Services Benchmark (YCSB) 0.12.0, 1M record workload at 50/50 read/write factor. Results valid as of 9/5/17. Conducted under laboratory condition, individual result can vary based on workload size, use of storage subsystems & other conditions.

Pricing based on single node of 3-node cluster of IBM Hyperconverged System CS822 with 22 cores (2 x 11c chips) / 176 threads, POWER8; 2.89 GHz, 512 GB memory, 8x1.92TB SSD. Competitive stack: Single node of 3-node cluster Dell XC630-10, 24 cores (2 x 12c chips) / 48 threads; Intel E5-2650 v4; 2.2 GHz; 512 GB memory, 10 x 460GB SSD. Both servers running favor performance mode with RHEL 7.2 Guests and MongoDB 3.4. Configurations represent the peak value for specific processor count running 4 VM images: IBM CS822 = 4 vm @ 4 cores and E5-2650 = 4 vm @ 4 cores. HW Pricing is based on: Current market information list pricing, please consult your local Nutanix reseller for more details. For MongoDB information: <https://www.mongodb.com/compare/mongodb-oracle> Page: 6

Based on IBM internal testing of 4 VM images running pgbench Benchmark at scale factor of 300, 20 Gb buffer size. Results valid as of 9/5/17. Conducted under laboratory condition, individual result can vary based on workload size, use of storage subsystems & other conditions.

Pricing based on single node of 3-node cluster of IBM Hyperconverged System CS822 with 22 cores (2 x 11c chips) / 176 threads, POWER8; 2.89 GHz, 512 GB memory, 8x1.92TB SSD. Competitive stack: Single node of 3-node cluster Dell XC630-10, 24 cores (2 x 12c chips) / 48 threads; Intel E5-2650 v4; 2.2 GHz; 512 GB memory, 10 x 460GB SSD. Both servers running favor performance mode with RHEL 7.2 Guests and EDB 9.6. Configurations represent the peak value for specific processor count running 4 VM images: IBM CS822 = 4 vm @ 4 cores and E5-2650 = 4 vm @ 4 cores. HW Pricing is based on: Current market information list pricing, please consult your local Nutanix reseller for more details For information on EDB: <https://www.enterprisedb.com/products-services-training/subscriptions-power>

\*Based on IDC study “Nutanix Delivering Strong Value as a Cost- Effective, Efficient, Scalable Platform for Enterprise Applications”, August 2017.

Nutanix makes infrastructure invisible, elevating IT to focus on the applications and services that power their business. The Nutanix enterprise cloud platform leverages web-scale engineering and consumer-grade design to natively converge compute, virtualization and storage into a resilient, softwaredefined solution with rich machine intelligence. The result is predictable performance, cloud-like infrastructure consumption, robust security, and seamless application mobility for a broad range of enterprise applications. Learn more at [www.nutanix.com](http://www.nutanix.com) or follow us on [Twitter @nutanix](https://twitter.com/nutanix).

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