# EDB Postgres with IBM Hyperconverged Systems Powered by Nutanix

NUTANIX

EDB POSTGRES

## 2.2x Better

Price-performance over commodity processor architectures for EDB Postgres

EDB Postgres is the industry's leading open source operational database. It is enterprise grade, relational, compatible with leading commercial database technology, and capable of supporting mixed data types. Users get a high-performance enterprise-class database management system that can save significantly in licensing and support costs.

EDB offerings have the native ability to run PL/SQL, a process-based SQL language that runs on Oracle database products, and include automated migration tools to help save time and minimize uncertainty in the migration process. Together, these features make migrating to EDB Postgres from Oracle PL/SQL database tools quick and reliable.

While there are many open source relational databases available today, EDB Postgres is one of the few capable of supporting mission-critical enterprise applications, both from a data protection and performance standpoint. These are top criteria for any operational database.

To keep up with these demands, organizations need an IT infrastructure that is self-healing, secure and scales performance simply. Enter IBM Hyperconverged Systems powered by Nutanix.

## Focus On Postgres Data, Not Postgres Infrastructure

The platform of IBM Hyperconverged Systems powered by Nutanix easily enables performance and resiliency for Postgres, allowing Postgres experts to spend more time extracting insight from data. It does this through the following:

- **Superior performance**. Lower latency design means faster response time on transactions and queries.

- **Endless 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 databases than traditional infrastructure.
- **Simple management**. Installation, deployment, backup and ongoing management can be done with just a few clicks. This speeds up database deployment, administration and capacity expansion.

IBM® Power Systems™ and the POWER® microprocessor are designed for data-intensive workloads, providing more threads per core and an addressable cache size beyond what is found on commodity processor-based systems. These benefits translate into superior performance for Postgres running on POWER.

## Eliminate Bottlenecks

Postgres deployments can expand quickly as new users or workloads are added. By using IBM Hyperconverged Systems powered by Nutanix you start small and scale out without worrying about bottlenecks that occur with traditional architectures:

- **Higher performance**. 77% more throughput per server.
- **Lower acquisition cost**. 75% of the price of comparable x86 processorbased appliances.
- **Scale incrementally**. Start small and grow linearly by adding nodes one at a time.

Administrators can scale existing Nutanix clusters or deploy new clusters in minutes with less concern for compute, storage and network bottlenecks. A Nutanix enterprise cloud provides linear scaling, so Postgres deployments can grow without worry. Each additional node delivers predictable performance to support Postgres search heads, indexers, and other shared workloads. Because of its distributed architecture, a Nutanix enterprise cloud prevents one workload from starving another, allowing the infrastructure to be shared, if desired.

## Ease of DevOps

- **Lifecycle management**. With the Nutanix Distributed Storage Fabric (DSF), Postgres indexers access data locally. Postgres data is automatically stored on the right media—SSD for hot data, HDD for cold data—and the resources allocated to each indexer can be changed effortlessly.
- **Data locality**. Nutanix continuously monitors data access patterns and places data in the most appropriate location, complementing the Postgres lifecycle.
- **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 purchases of IBM Hyperconverged Systems powered by Nutanix eliminating virtualization licensing costs.
- **One-click management**. With Nutanix Prism, Postgres administrators easily monitor and manage all infrastructure used by Postgres, gaining full visibility of storage, CPU, and memory runway. One-click software, hypervisor, and firmware upgrades and one-click problem remediation, take the pain out of day-to-day operations.

## Increase Security without Adding Silos

To ensure the security of sensitive data, many database architects find they have no choice but to deploy dedicated infrastructure for just the database. However, Postgres can be deployed securely on a Nutanix-based cluster with other workloads, avoiding the need for a separate silo of infrastructure.

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.

**73% Less**
Time to deploy compute

**61% Less**
Time to manage

**97% Fewer**
Occurrences of downtime

- ✓ 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

EDB Postgres on Power Systems:
https://www.ibm.com/power/solutions/modern-data-platformpostgressql

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: http://www.enterprisedb.com/products-servicestraining/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 or follow us on Twitter@nutanix.



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