

# IBM DB2 pureScale

*Extreme capacity with continuous availability*



In today's business environment, agility is everything. Business is never closed in a globalized world—even a small gap in availability for critical systems can impact customer satisfaction and result in lost revenue. What's more, capitalizing on opportunities often depends on the ability to scale key applications rapidly and reliably.

Designed for organizations that run online transaction processing (OLTP) applications, IBM® DB2® pureScale® offers clustering technology that helps deliver high availability and exceptional scalability, transparent to applications. DB2 pureScale leverages the industry standard for OLTP scalability and reliability set by IBM DB2 for z/OS® and its IBM Parallel Sysplex® architecture and brings best-of-breed architecture to the distributed platform. DB2 pureScale is available as an option on IBM DB2 Enterprise Server Edition and Advanced Enterprise Server Edition.

### Grow with your business

DB2 pureScale enables the database to continue processing through unplanned outages and provides extreme capacity for any transactional workload. Scaling your system is simply a matter of connecting a host and issuing two simple commands. The cluster-based, shared-disk architecture of DB2 pureScale also helps reduce costs through efficient use of system resources. With DB2 pureScale, organizations can scale their OLTP systems to meet the most demanding business needs while controlling data management costs.

### Scale up transparently without complex application tuning

As application usage grows, the databases must grow in step with application usage to ensure that the business continues operating smoothly and without bottlenecks. But adding servers to a critical database can be tricky, as applications must often be adapted to take advantage of new resources and then tuned to achieve maximum efficiency.

Unlike other distributed shared-disk database cluster technologies, DB2 pureScale does not require administrators to perform complex tuning or update application code when scaling the database. DB2 pureScale's flexible application workload balancing and grouping capabilities allow multiple servers to appear as a single database, and new hosts can be used immediately. This helps reduce deployment complexity and helps cut costs.

### Avoid downtime

Just a few minutes of downtime for critical applications can significantly damage an organization's bottom line. Avoiding downtime is an important component of building competitive advantage in an on demand world.

Some distributed shared-disk database clusters can take minutes to resume processing after host failure—but DB2 pureScale is designed to continue operating even in case of host failure and to maintain data consistency without performance degradation. Centralized locking and cache management allows the remaining hosts in the cluster to access critical information promptly and quickly absorb the additional workload. No incoming workloads are rejected because the cluster is able to automatically adjust within seconds. During planned outages, administrators can perform rolling maintenance on individual hosts without affecting the availability of the cluster.

## Support performance with a clustering architecture designed for scalability

Designed for high-use clustered servers, the DB2 pureScale architecture helps ensure that applications do not hit a scalability wall after the workload is distributed across more than a few hosts. It can deliver near-linear scalability and maximum throughput, helping to reduce software licensing costs and power and cooling expenditures.

## DB2 pureScale delivers enhanced performance by leveraging IBM servers

IBM offers this efficient and highly reliable scaling capability across three leading business computing platforms: IBM System z®, IBM Power Systems™ and IBM System x®. Plus, DB2 pureScale runs on Power Systems. From reliability and virtualization features inspired by IBM's success in mainframe systems to unique energy-saving capabilities, Power Systems helps you build a cost-effective infrastructure with around-the-clock availability.

DB2 pureScale is also available on x86-based System x servers running SUSE Linux Enterprise Server and Red Hat Enterprise Linux. This expanded platform support further strengthens the IBM portfolio of Smarter Systems and makes DB2 pureScale technology available to a larger client base. By making DB2 pureScale available on System x, IBM has reinforced its commitment to clients who use the x86 architecture for their business systems.

Running Linux on System x servers provides clients with a cost-effective, reliable and secure IT environment that can scale with mission-critical workload demands. In fact, with DB2 pureScale running on System x, IBM achieved the first clustered database result published for the SAP Transaction Banking standard application benchmark in September 2011.<sup>1</sup> The system processed more than 56 million posting transactions per hour and more than 22 million balanced accounts per hour while simultaneously supporting banking industry system availability requirements (see Figure 1).

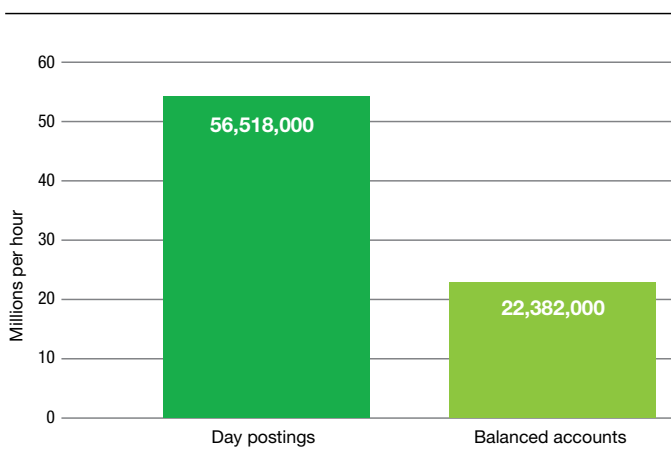


Figure 1: IBM DB2 pureScale technology delivered 56 million day postings per hour and 22 million balanced accounts per hour on the SAP TRBK benchmark.

## The power of RDMA and low-latency interconnect

Remote data memory access (RDMA) is a network transport protocol that enables direct memory access from one computer to another without utilizing operating system cycles and context switching. DB2 pureScale supports both RDMA over InfiniBand and RDMA over Converged Ethernet (RoCE).

InfiniBand is an industry-standard, powerful network interconnect protocol that delivers high-speed I/O connectivity between servers in a cluster. It offers a lossless connectivity solution for extreme performance by providing the highest throughput at the lowest latency available. RoCE enables the benefits of RDMA over an Ethernet network, supporting low latency and high-bandwidth communications.

## Simplify database management with streamlined installation and monitoring

In addition to supporting outstanding scalability, availability and performance, DB2 pureScale is designed to simplify database and clustering administration. Hosts can be added to and removed from the cluster easily, enabling IT staff to scale the cluster up or down quickly to meet changing business requirements.

DB2 pureScale also features a single installation process for all software components: one bundle contains all the tools necessary for setup, which is automated at install.

## Smooth scaling is key to an outstanding customer experience

The ability to grow transactional databases along with customer demand is imperative for companies trying to capitalize on new business opportunities. DB2 pureScale can help deliver this scalability and lower costs through extreme capacity, application transparency and continuous availability.

## For more information

To learn more about IBM DB2 pureScale, please contact your IBM representative or IBM Business Partner, or visit [ibm.com/db2/pureScale](http://ibm.com/db2/pureScale)



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1 [ibm.com/db2/performance](http://ibm.com/db2/performance)



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