DATABASES
BUYER'S GUIDE

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INTRODUCTION

Modern databases power mission-critical services, real-time analytics, and transactional systems. As these workloads grow, storage becomes the key factor shaping performance, consistency, and recovery.

Traditional infrastructure often struggles with the I/O intensity and low-latency demands of databases. Organisations need a storage platform designed specifically for heavy, high-concurrency workloads.

This guide highlights the essential capabilities required from a modern storage foundation to support databases effectively and at scale.

TODAY'S DATABASE LANDSCAPE

Database environments now span a wide range of systems such as relational databases (Oracle, SQL Server, PostgreSQL), NoSQL platforms, and analytics engines. These systems place constant pressure on storage with their high transaction rates, mixed I/O patterns, and strict latency expectations.

To maintain reliable operations, organisations require a storage architecture that stays fast, consistent, and durable in all conditions, not just under ideal load.
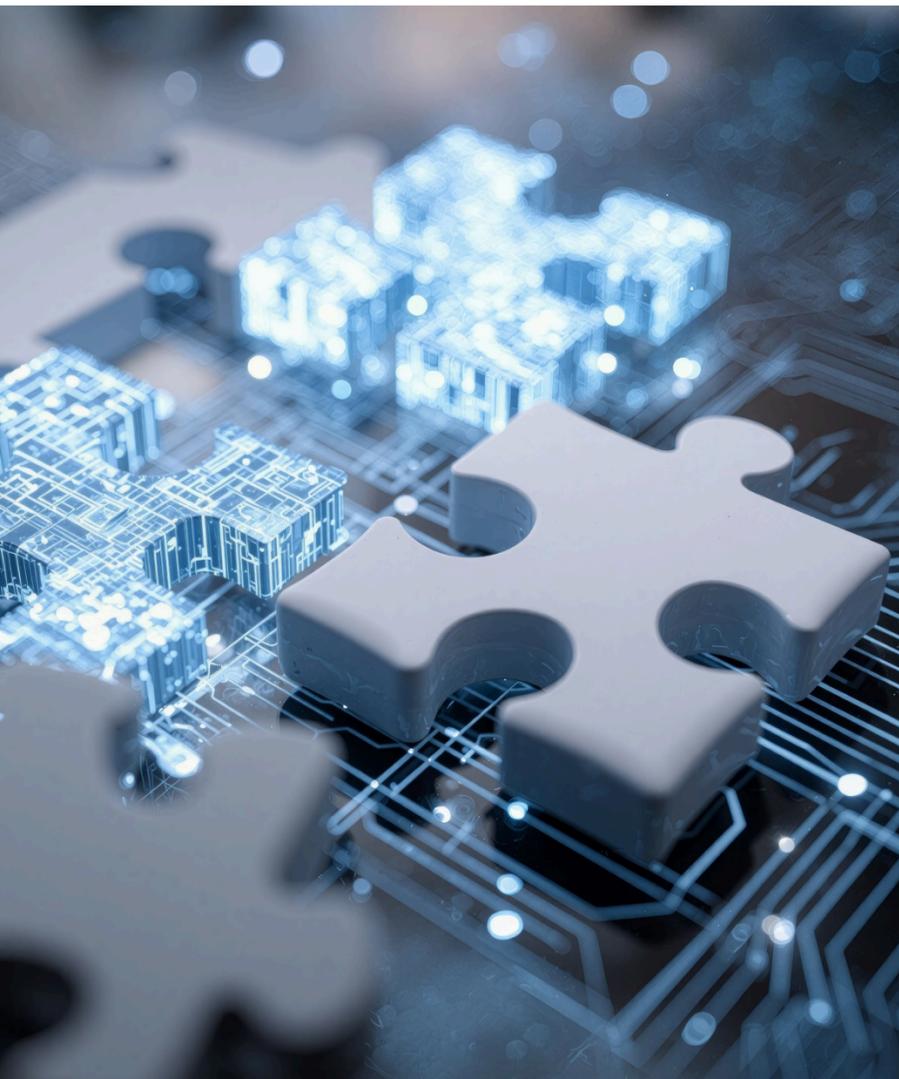
Key Challenges

As database workloads grow, common challenges include:

- Latency spikes affecting queries and transactions
- Slow OLTP performance during peak load
- Limited throughput for analytics jobs
- Disruptive or complex scaling
- Data integrity risks during failures
- Complicated backup and recovery workflows
- Legacy arrays failing under high-concurrency I/O

These challenges highlight the need for storage built for heavy, always-on database workloads.

WHAT TO LOOK FOR

WHEN PICKING THE RIGHT PLATFORM

Before comparing solutions, focus on capabilities that directly influence database consistency and performance:

WHAT TO LOOK FOR

- **Low latency:** Keeps transactions fast and query responses stable.
- **High concurrency:** Handles parallel and mixed workloads.
- **Non-disruptive scaling:** Expand capacity and performance without outages.
- **Strong protection:** Instant snapshots, safe replication, and integrity safeguards.
- **Multi-protocol support:** Block, file and object options for primary database and backup workloads.
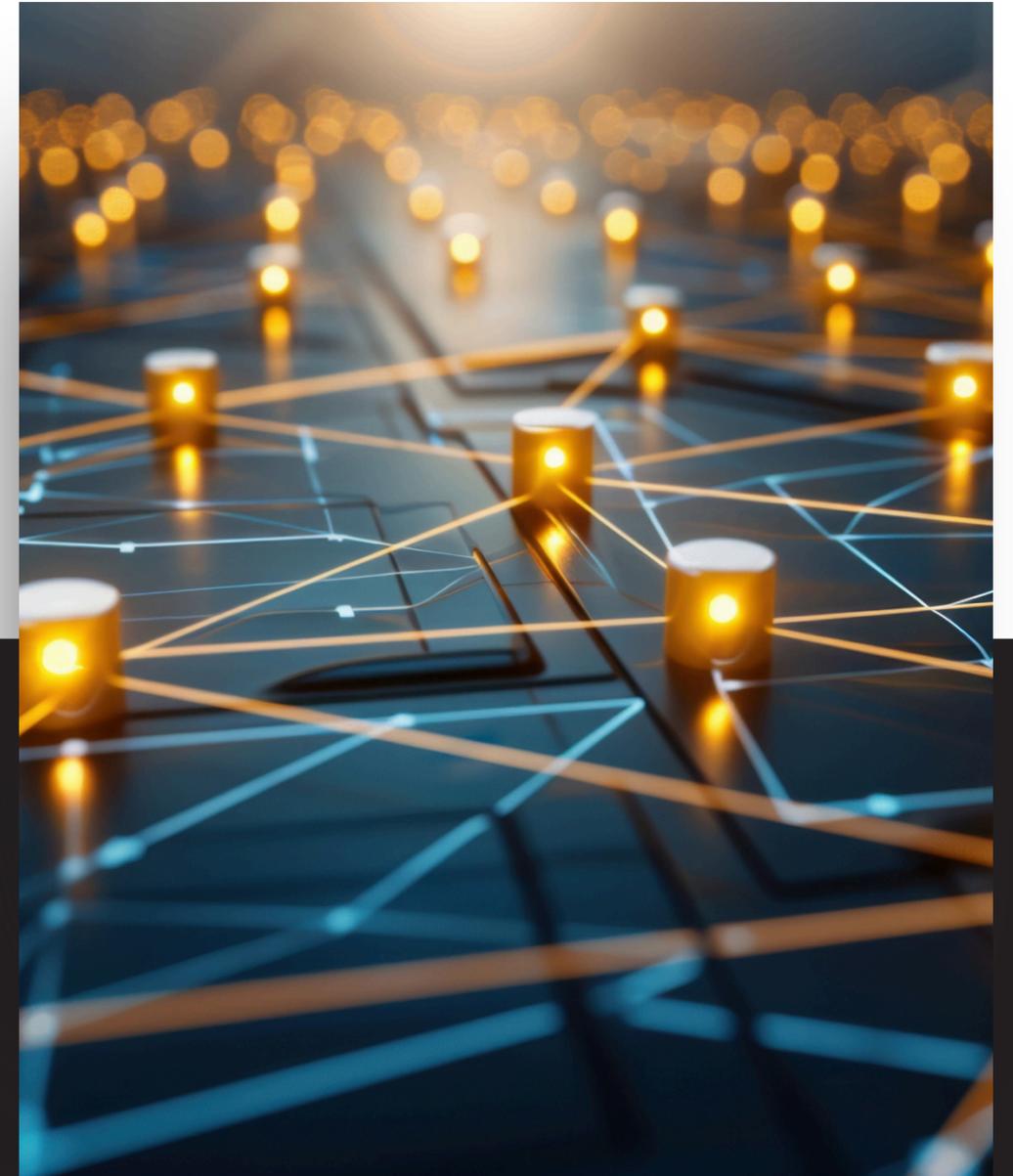- **Data efficiency:** Compression and deduplication for cost-effective growth.

These fundamentals ensure your database environment remains stable and high-performing as your data grows.

WHAT TO MEASURE IN A DATABASE PLATFORM

To evaluate storage suitability for database workloads, track these core metrics:

- ☑ **Latency:** The most critical metric that directly impacts OLTP and query responsiveness

- ☑ **IOPS:** Shows capability to handle small, random database reads/writes

- ☑ **Throughput:** Essential for analytics, reporting, and batch operations

- ☑ **Consistency:** Performance must remain stable under load, not collapse at peak times

- ☑ **Durability:** Ensures data integrity through failures, restarts, and rebuilds

Metrics reveal whether a storage system can support demanding database workloads without performance drops.

![NGX Storage logo]

NGX STORAGE PRODUCTS OVERVIEW

NGX Storage offers two product families **designed to address the full spectrum of database workload requirements**, from high-performance transactional systems to large, cost-efficient data repositories.

For Critical Workloads

For DB Backups

NGX AFA Series

NGX Hybrid Series

NGX STORAGE PRODUCTS OVERVIEW

NGX AFA SERIES: Engineered for mission-critical databases needing ultra-low latency, high concurrency, and fast recovery. Delivers predictable performance for OLTP, real-time analytics, and latency-sensitive workloads.

NGX HYBRID SERIES: Designed for large database repositories, backup targets, and mixed workloads requiring high capacity at lower cost. Provides fast reads, efficient backup performance, and scalable storage growth.

For Critical Databases

NGX AFA Series

- High-core CPUs
- Up to 8TB DRAM cache
- 100GbE / 64Gb FC
- FC / iSCSI / NFS
- Native replication
- MetroScale clustering
- Immutable snapshots
- Deduplication & compression

For DB Backups

NGX Hybrid Series

- Cache-centric design
- Flash tier for fast reads
- FC / iSCSI / NFS / SMB / S3
- Native replication
- Immutable snapshots
- Deduplication & compression

CHOOSING THE RIGHT OPTION

As database environments evolve, organisations typically follow one of three paths. Your priorities (performance, cost, or consolidation) guide the right direction.

1. **Maximise Performance:** For OLTP and real-time workloads that need low-latency consistency.
2. **Increase Flexibility:** For environments using multiple database engines or mixed workloads.
3. **Consolidate Storage:** For organisations unifying databases, reporting systems, and backups.

The best approach depends on your database growth, workload patterns, and long-term plans.

NEXT STEPS

01 Review Database Performance Issues

Identify slow queries, blocking, latency spikes, and time-consuming batch processes.

02 Define Your Priorities

Decide whether your focus is low latency, high throughput, resilience, or cost-efficient scaling.

03 Assess Your Requirements

Match your priorities with the capabilities a storage platform must deliver.

04 Compare Platform Capabilities

Evaluate solutions based on real database performance, consistency, and recovery speed.

05 Validate With a PoC

Run your database workloads to confirm performance and reliability under real conditions.

BEFORE YOU MOVE FORWARD

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A strong database strategy starts with storage built for speed, resilience, and consistency. The key factors are clear: latency, concurrency, protection, and scalability. NGX Storage meets these needs with fast responsiveness, durable integrity, and efficient scaling across AFA and Hybrid systems.

With NGX Storage underpinning your storage layer, long-term database stability becomes a given, not a challenge.

NGX STORAGE

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