

TURKCELL's NAS Storage Success

TURKCELL is Turkey's leading digital operator, providing mobile, fixed, broadband, and digital services to millions of customers. Established in 1994, it has become one of the region's largest telecom companies, recognised as the leading 5G provider, fibre infrastructure, and broad portfolio of digital services from entertainment to financial technologies. With its rapid growth and expanding customer base, it is critical for TURKCELL to operate on a sound, resilient infrastructure to ensure superior services and prevent disruptions that could impact customer trust.

NGX Storage transformed TURKCELL's unstructured data into a fast, reliable, and cost-efficient asset at massive scale.



Industry

Telecommunication

Region

Türkiye

Products in Use

NGX H2800G2 (Hybrid Series)

Data Migrated

+75 PB

Solution Area

- NAS consolidation
- High-performance file services
- Infrastructure cost reduction
- Massive regulation logs

Challenges

TURKCELL was facing explosive growth in unstructured NAS data, rapidly scaling into tens of petabytes. Managing this massive data set presented multiple challenges. As TURKCELL continued to expand its large-scale data center operations, the company looked for opportunities to further optimize storage efficiency and simplify infrastructure management. Traditional NAS environments presented challenges in areas such as namespace management, storage consolidation, and replication workflows, while requiring significant rack space. By adopting a modern storage architecture, TURKCELL streamlined operations, improved resource utilization, and built a scalable foundation for future growth.

At the same time, TURKCELL needed to replicate tens of petabytes across 10Gbps links in a way that was resilient to network disruptions, ensuring business continuity without impacting operations. All of this had to be achieved while maintaining high performance, providing fast access to both small and large files, and keeping costs under control.

Solution

To address these challenges, TURKCELL deployed NGX Storage, a platform designed to handle extreme capacity, high performance, and simplified management in a single, unified solution. NGX Storage scales seamlessly beyond 75 petabytes, allowing TURKCELL to consolidate their rapidly growing unstructured NAS data into a single, manageable system. Its dedicated FlashTier handles all metadata operations, ensuring sub-millisecond latency and instant responsiveness for both billions of small files and very large files. This capability guarantees that critical workloads and services can access data consistently and efficiently.

NGX's built-in replication, featuring inline encryption and compression, enables secure, bandwidth-efficient transfers across data centers. This allows TURKCELL to replicate tens of petabytes over dedicated wide area links with minimal operational effort, maintaining resilience even during temporary network outages. The platform also includes a predictive operational intelligence system with a call-home feature, alerting support teams to potential issues before they impact workloads. This proactive monitoring reduces unplanned downtime and frees IT staff to focus on strategic initiatives rather than firefighting.

Furthermore, NGX's dense architecture allows TURKCELL to maximize storage efficiency while minimizing rack footprint, simplifying the overall environment and reducing operational complexity. By consolidating workloads on a single, scalable platform, TURKCELL achieved a system that is both cost-effective and performance-optimized, capable of supporting the demands of modern, large-scale unstructured data environments.

Results

With NGX Storage in place, TURKCELL transformed its NAS infrastructure into a high-performance, resilient, and easy-to-manage platform. The company now manages tens of petabytes of unstructured data in a single, unified system, eliminating siloed storage and complexity. Metadata-intensive workloads and mixed file sizes can be accessed almost instantly, keeping critical services highly responsive. Data replication between data centers is seamless and secure, ensuring that critical information is always protected and available, even in the face of network disruptions. Proactive alerts and predictive error detection have significantly reduced operational disruptions, allowing IT teams to focus on strategic priorities. The dense, scalable architecture simplifies expansion and management, enabling TURKCELL to scale efficiently while keeping the environment streamlined.

"What impressed us most was how NGX Storage combined density and performance without adding complexity, making the replication of tens of petabytes seamless and secure."

ÖZGÜR ALTUN
INFRASTRUCTURE OPERATIONS DIRECTOR, TURKCELL