

Empowering AI with Scalable Storage Solutions

Seagate and QNAP—on-prem storage or backup server for RAG architecture.

Challenge Summary

As AI continues to advance, small businesses face increasing pressure to manage growing volumes of data with speed, security, and control. On-premises AI infrastructure is becoming a strategic necessity—enabling data privacy, predictable costs, performance tuning, and regulatory compliance that cloud solutions can't always guarantee.

Benefits Summary

- Purpose-built for AI workloads
- Control and compliance made simple
- Scalable architecture for future growth

AI is reshaping industries with unprecedented speed—and data sits at the center of it all. Every image, word, and file that AI generates or learns from requires storage that's scalable, efficient, and secure. As the foundation of modern AI workflows, storage is no longer just infrastructure—it's a key enabler of innovation and competitive advantage.

To fully unlock the power of AI, small businesses need infrastructure that keeps pace with fast-growing, data-heavy workloads. QNAP NAS paired with Seagate IronWolf Pro drives offers a high-performance, on-premises solution ideal for Retrieval-Augmented Generation (RAG) and other emerging AI applications—delivering reliability, control, and scalability without the complexity or costs of the cloud.

Small businesses are increasingly adopting AI—but building the right foundation can be a challenge.

Key concerns include:

- **Data Security & Privacy:** Sensitive data requires local control. On-prem solutions help minimize exposure to third-party risks.
- **Cost Control:** Cloud costs can quickly spiral. On-prem hardware offers predictable, long-term value.
- **Performance Customization:** Shared cloud environments often create latency. On-prem lets teams optimize for speed and efficiency.
- **Regulatory Compliance:** For industries bound by data laws, on-prem infrastructure simplifies compliance without compromise.

Solution Approach

To meet these needs, QNAP NAS with Seagate IronWolf Pro drives creates a robust storage solution for AI and RAG workflows. This infrastructure delivers the performance, flexibility, and control small businesses need to confidently deploy on-prem AI—while staying agile, secure, and cost-effective.

QNAP Solution

QNAP NAS is designed for the demands of AI—delivering petabyte-level scalability, advanced data protection, and native support for high-speed networking. With 25/100GbE connectivity, it ensures rapid data transfer, low latency, and seamless integration with AI computing systems via iSCSI and Samba protocols.

QNAP also supports S3-compatible object storage and direct integration with Seagate Lyve Cloud via Hybrid Mount or Hybrid Backup Sync. This enables intelligent backup strategies and simplified recovery across on-prem and cloud environments.

Container-based virtualization with Docker further enhances flexibility—supporting rapid deployment and migration of vector databases essential for RAG models. The result? An adaptable, high-performance NAS platform built to accelerate AI innovation.



Seagate Solution

Seagate IronWolf Pro drives are built specifically for enterprise NAS use, delivering the durability and responsiveness AI workloads demand. Engineered for 24×7 use in multi-bay environments, these drives leverage CMR technology and rotational vibration sensors for consistent performance under pressure.

AgileArray™ firmware enhances RAID performance and system stability, ensuring seamless operation across high-intensity, data-rich environments. With massive storage capacity and built-in IronWolf Health Management, businesses gain both the scale and proactive drive health monitoring they need to stay ahead.

Every drive also includes 3 years of Rescue Data Recovery Services and a 5-year limited warranty—offering added protection for your most valuable asset: data.



Total Solution

Together, QNAP and Seagate deliver a unified, enterprise-grade platform tailored for AI innovation at the edge. QNAP NAS provides the flexibility and infrastructure to run modern AI workflows—including RAG architecture—while IronWolf Pro drives deliver the endurance, speed, and reliability needed to support round-the-clock performance. The result is a complete, integrated solution that empowers businesses to process, protect, and scale their data with total confidence.

Features & Benefits

- Centralized, on-premises storage with built-in security
- Scalable capacity built to grow with your business
- Optimized for performance in multi-user NAS environments



In conclusion

AI is redefining what's possible—and to compete in this new era, businesses need infrastructure that's as intelligent and agile as their ambitions. With QNAP NAS and Seagate IronWolf Pro, small businesses gain the tools to innovate securely, scale seamlessly, and move forward with confidence—on their terms, at their pace.

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