



NEC D-Series Finds Success as the “Bread and Butter” of Enterprise SAN Storage

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Management Summary

NEC recently announced the latest updates to its *D-Series* SAN storage family:

- iSCSI host connectivity
- Thin provisioning
- 30-day “no risk” guarantee

They are useful and popular features, and, while not the first to offering iSCSI and thin provisioning, NEC’s thorough 30-day guarantee is exceptional.

NEC also makes an astounding claim: revenue for D-Series systems grew 370% year-over-year in a storage market that declined with the overall economy. A growth rate of 370% is not merely good; it is runaway success. Moreover, the majority of this growth came from new customers. Such growth raises a question about what is making the NEC D-Series so attractive to enterprise customers.

The answer is straightforward as it is unglamorous: **the NEC D-Series is a reliable, low-risk, value-priced enterprise storage system.**¹ When it comes to storing corporate data, many enterprises just want a solid, reliable system at a competitive price. They do not necessarily want the latest, cutting-edge feature or most famous brand if it means they have to pay significantly more. Read on for details about how the NEC D-Series hits the sweet spot of dependability and value pricing – the “bread and butter” of SAN storage.

NEC D-Series Updates

The NEC D-Series enterprise storage family spans the entry level to the high end with a modular, upgradeable storage architecture. It scales from 1 TB to 1.5 PB and supports SAS and SATA drives in the same frame. It upgrades between models with data in place and, for the high-end *D8* model, online and without disrupting data access. The modular architecture scales performance, capacity, and bandwidth independently by adding cache modules, disk port modules, and host port modules. As such, it is suitable for a wide range of application workloads.

The newly announced features include the following.

- **iSCSI host connectivity** – The new *D3i* model offers two or four iSCSI host ports (at 1 Gbps) for connecting servers to SAN storage over IP networks.
- **Thin provisioning** – This space-saving feature on the *D8* presents capacity to host servers while allocating it in thin slices as it is actually consumed. As a result, downtime associated with out-of-space conditions is avoided and capacity is provisioned more efficiently from a common pool.

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¹ See **The Clipper Group Navigator** dated May 9, 2007, entitled *NEC D-Series Storage Line Spans Midrange through High End*, available at <http://www.clipper.com/research/TCG2007060.pdf>.

- **30-day “no risk” guarantee** – A customer can try the D-Series for 30 days and, if not satisfied, NEC will accept the system back and pay for de-installation, shipping, and migrating data off of it. This program has been in place for several months and, due to its positive reception, NEC has extended it indefinitely.

A Plain Attraction

These are useful new features, but the biggest surprise in this announcement is the 370% growth rate of D-Series revenue in a storage market that declined with the overall economy. This is a remarkably fast market share gain, and it compels a closer look at the reasons for the attraction to the NEC D-Series storage platform. The answer seems to lay in the plain characteristics of the D-Series – that it is reliable, low-risk, value-priced enterprise storage.

Reliable

Reliability in enterprise storage means high availability. The data itself has to be protected (i.e., no data loss), and access to data should be continuous (i.e., little or no downtime). The D-Series has a number of features for high availability, some of which are unique.

- **Double redundant cache and power** – The D-Series employs two instances of mirrored cache that communicate with each other in the event of a module failure. Thus, the system can survive multiple cache module failures and avoids slowdowns caused by a failed mirror. The D-Series employs two instances of redundant power supplies, each with fail-over, so the unit can continue operating even with two supply failures.
- **Self-healing disks** – NEC’s *Phoenix* technology monitors disks for abnormalities and fixes correctable errors, reducing drive rebuilds by 30 to 50%.
- **Protection from silent data corruption** – The D-Series employs a checksum field on SATA drive sectors (in addition to SAS disks) and checks data integrity all along the data path to prevent “silent” or undetected data corruption.
- **RAID-TM (triple mirror), RAID 3 double parity, and RAID 6** – To survive multiple drive failures in a RAID group.

Low Risk

In making a storage purchase decision, enterprises consider features and benefits as well as

perceived risks. In other words, what might go wrong? NEC’s 30-day guarantee helps alleviate concerns about taking on what for some may be a new brand of storage, NEC. However, the NEC brand is neither new nor risky. NEC is a \$46 billion company with a 50-year history in data storage. It is actually the fifth-largest disk storage system vendor worldwide.

Value-Priced

Value-priced enterprise storage costs less, and here we mean cost per gigabyte. While there are many technologies that promise to reduce storage costs indirectly – by squeezing more data into a disk drive or simplifying management or cutting back on electricity costs – the cost per gigabyte is the cost per gigabyte. It is the price enterprises pay to acquire a storage system.

According to NEC’s figures, its products sell for \$0.77 to \$2.93 per GB for its enterprise storage, and its big-brand competitors sell for \$1.21 to \$6.15 per GB. NEC’s storage is about half the price on average by these numbers. This is significant and merits a “value-priced” designation. We recommend you confirm this difference yourself by requesting and comparing storage proposals from multiple vendors.

Enterprise Storage

Finally, the D-Series qualifies as “enterprise storage” because of its scalability, reliability, performance, and its software capabilities for data protection, data efficiency, and storage management. It scales to 1.5 PB, 128 GB cache, and 64 FC ports per system. Software capabilities include centralized, browser-based management, performance management, local and remote replication, thin provisioning, snapshot copies, disk drive spin-down for energy conservation, virtual partitioning, and multi-pathing for high availability and load balancing.

Conclusion

Sometimes flash, fame, and glamour come at too high a price, and what people really want are reliability, low risk, and value pricing. We are talking about enterprise storage, of course. NEC seems to understand this well, and it is finding real success by positioning its D-Series as the “bread and butter” of enterprise SAN storage. It could be just what you are seeking.



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