

REVIEWS Enterprise

Netgear ReadyDATA 516

The 516 packs business-friendly storage features and disaster-recovery capabilities into a desktop chassis

» **PRICE** Diskless, £965 exc VAT
» **SUPPLIER** www.broadbandbuyer.co.uk

Netgear's ReadyDATA 516 claims to be the world's most advanced desktop storage device. It takes many of the features of the ReadyDATA 5200 rack appliance (web ID: 379219) and transplants them into a compact desktop case.

It uses the same chassis as the ReadyNAS 516 (web ID: 385654), but memory has been beefed up to 16GB. The only physical differences are that the expansion slot at the back can't be used for 10GbE upgrades, and the USB and eSATA ports are all disabled.

The ReadyDATA 516's long list of talents includes NAS and IP SAN capabilities, compression, data deduplication and thin provisioning. Using copy-on-write, its ZFS file system offers fast, unlimited snapshots and supports SSD read and write caching. Block-level replication and failback also make the grade, and can be managed locally or via Netgear's Replicate cloud portal.

For testing, we installed a quartet of 2TB SATA drives. Installation is swift. To create an array, simply choose your drives and select an array type from the list. To create NAS shares, pick a volume, turn on compression and deduplication if desired, and enable SMB, NFS, AFP and FTP protocols. The same interface is

used for iSCSI target creation, but deduplication is disabled for thinly provisioned LUNs because space savings aren't achievable.

You can schedule snapshots, and the only limit on their number is the amount of available storage. For each NAS share and iSCSI LUN, you select the continuous protection option and choose hourly, daily or weekly intervals.

Replication is a key feature. It's possible to deploy low-cost 516 boxes to remote offices as shared storage resources, and replicate to a central ReadyDATA 5200 or 516. We set up a second 516 appliance and registered both with our Replicate cloud account. From the portal, we could see both systems and create scheduled and continuous replication jobs.

Where both source and target devices are on the same LAN, you can use the local replication job setup. You exchange certificates between appliances via their web interfaces and from the primary appliance, pick a source share or LUN, choose the destination volume and opt for scheduled or continuous replication. However, jobs created locally can't be managed from the Replicate cloud portal.

To test disaster recovery, we powered off the primary unit and made the secondary unit's replicated share

available to users where they created new files and folders. After powering on the primary unit, we ran a reverse replication job on the secondary unit, which swiftly copied the changed data back to the original share.

We then created a new replication job on the primary unit using the Resume option. A big advantage is that if the original share or LUN is intact, it only needs to resync them by copying back the differences.

We used the Binary Testing deduplication test suite to determine data-reduction ratios. We teamed this with CA's ARCserve Backup r16, which was set up to use a mapped share as a disk-based backup device. Using a 4GB dataset of 1,000 files, we ran a standard backup strategy consisting of daily incrementals and weekly full backups.

After the first full backup had run, 2% of data was modified in 40% of files prior to each subsequent backup. At the end of a four-week simulation, we saw a low reduction ratio of 3.04:1. Netgear clearly hasn't updated its deduplication algorithms – this is the same ratio we saw a year ago with the ReadyDATA 5200.

To test real-world copy speeds, we used a Broadberry rack server with dual 2.6GHz E5-2670 Xeons, 48GB of DDR3 and Windows Server 2012 R2. The appliance delivered average read

and write speeds of 113MB/sec with a 50GB test file copied to and from a mapped share, and our 22.4GB folder of 10,500 files copied to a share at an average of 70MB/sec. IP SAN speeds were on the money, too, with Iometer reporting a raw sequential read throughput of 113.5MB/sec for a 500GB target.

You can add SSDs as read or write caches to a selected volume at any time. Speed improvements are modest, however: as we found with the ReadyDATA 5200, adding SSDs to a SATA drive array increases throughput only to near-SAS speeds.

For a compact desktop appliance, the ReadyDATA 516 is jam-packed with useful storage features. The deduplication engine delivers only modest capacity savings, but with support for unlimited snapshots and intelligent replication functions, the Netgear ReadyDATA 516 is ready to provide solid backup and disaster recovery. **DAVE MITCHELL**

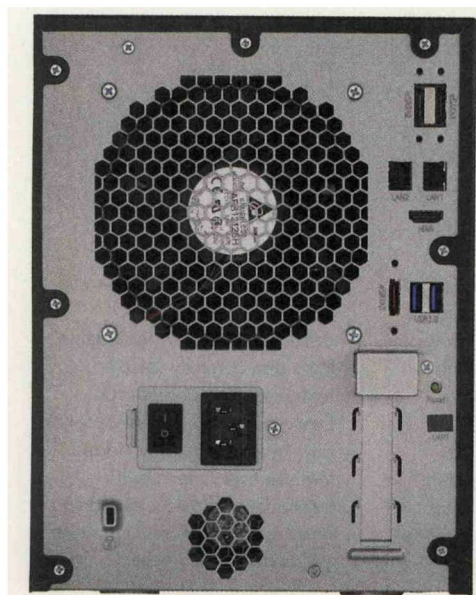
KEY SPECS

Desktop chassis • 3.3GHz Intel Core i3-3220 • 16GB ECC DDR3 RAM • 6 x hot-swap 2.5/3.5in SATA drive bays • supports RAID0, 1, 5, 6, 10, 50, 60, hot-spare, JBOD • 2 x Gigabit Ethernet • internal 200W PSU • 192 x 288 x 259mm (WDH) • 5yr RTB warranty

OVERALL ★★★★★
PERFORMANCE ★★★★★
FEATURES & DESIGN ★★★★★
VALUE FOR MONEY ★★★★★



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◉ The ReadyDATA 516's backup speeds are on the money, although deduplication hasn't improved