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Business Storage Jumps Into High Gear with NETGEAR® ReadyDATA™ and ReadyNAS™

NETGEAR®

NETGEAR® ReadyNAS™ and ReadyDATA™ solutions, based on Intel® processors, provide sophisticated storage, file sharing, and data backup capabilities— including continuous replication and central management features. This provides enterprises and SMBs with the tools to operate distributed offices and results in reduced risks and costs.

Organizations of every size must manage data created at headquarters and satellite offices by staff who may be in transit or at remote locations. NETGEAR® ReadyDATA™ and ReadyNAS™ storage solutions provide a simple yet powerful way to centrally manage, share, and synchronize data so that it's up to date and available across the business. These systems also reduce the risk of data loss that could result from a disaster, human error, or other interruption.

NETGEAR ReadyDATA and ReadyNAS devices, powered by multi-core Intel® processors, offer a powerful and cost-effective way to provide an all-in-one file server, storage device, and disaster recovery system. They address many of the common challenges organizations face, including the ability to manage rampant data growth while keeping existing data available and protected. These devices also play an important role in business continuity plans.

Confronting Today's Storage Challenges

Today, businesses require increasingly flexible storage solutions that break down data silos and help IT departments avoid huge investments in hardware and software—particularly at branch offices with minimal IT expertise or resources. Medical offices, law firms, financial services firms, and SMBs that operate in multiple geographies can benefit from a modular storage management approach that incorporates features such as tiered storage, snapshots, and thin provisioning to better match specific business requirements and data management situations. In addition, businesses require solutions that accommodate numerous file types, comprised of both structured and unstructured data.

As organizations look to adapt to more demanding business conditions, the ability to manage and share data efficiently is critical, with a strong and growing need to replicate, synchronize, and manage disparate data sources so that a workforce can share files dynamically. Improved data management can also usher in better governance and compliance as well as advanced capabilities such as big data and analytics.

> "NETGEAR® ReadyDATA™ is an enterprise-level solution with an SMB price point. It comes preinstalled with everything Arafura needs, such as thin provisioning, block-level replication, and deduplication. This means our business can securely store, protect, and share critical data across our network.

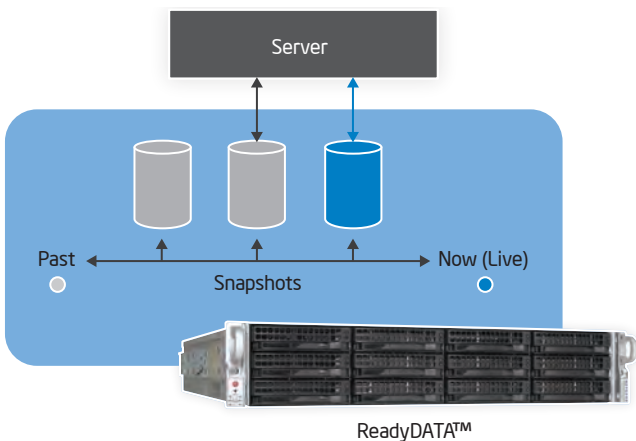*– Michael Feldbauer, Managing Director, Arafura Connect*

Figure 1. NETGEAR® ReadyDATA™ takes continuous, hourly, or daily snapshots of data, all of which can be accessed in case of disaster or human error.

Putting NETGEAR ReadyDATA to Work in the Small-to-Medium Enterprise

ReadyDATA is designed for the requirements of small to medium enterprises. Each device comes standard with technology for deduplication, thin provisioning, and block-level replication—enabling data from multiple offices or across a WAN to be available and manageable from a central location and through the cloud. This solution also simplifies data tiering using SATA, SAS, or solid-state drives (SSDs) so that organizations can match data classification requirements to budgets.

ReadyDATA provides continuous snapshots of the data environment across OSs, including Microsoft Windows*, Mac OS X*, and Linux*. For example, if an employee mistakenly deletes critical slides from a presentation, it's possible to go back to a specific point in time and retrieve a previous version of the file, as shown in Figure 1. A network administrator can establish specific rules and workflows for managing and storing data, including entire data sets residing at a secondary location.

Advantages of ReadyDATA Block-level Replication

ReadyDATA offers block-level replication technology, which operates at a sub-file level and replicates only new or changed data. Because ReadyDATA minimizes the amount of data sent between two systems, it takes less time to replicate files. Older and less efficient tools may update entire files—in some cases multi-gigabyte audio and video files—devouring bandwidth and processing power.

To illustrate this difference, if a video editor updates the final minute of a movie, ReadyDATA replicates only the changed portion of the file. File-level replication, however, resends the entire file—even though most of the movie's contents did not change. For this reason, ReadyDATA's replication technology is beneficial for customers with large files, such as multimedia, virtual servers (VMware, Hyper-V, and Citrix), and databases or e-mail data stores.

For businesses with bandwidth constraints between offices, the ability to replicate only the most granular changes is an important part of a disaster recovery solution. If a replication job is unable to finish because a large amount of data is being sent over a slow connection, the job may not finish, leaving the business exposed to the potential for data loss. This problem is particularly acute at satellite and small offices—including those located in countries with slower Internet connectivity.

Combining Replication with Snapshots

In addition to replicating files and data, ReadyDATA replicates "snapshots"—complete copies of data sets from a specific point in time. This enables IT administrators to retrieve previous versions of files in case of corruption or human error. For example, if an employee
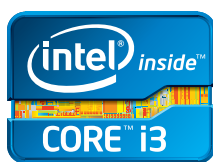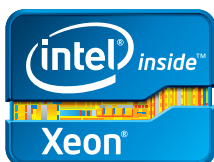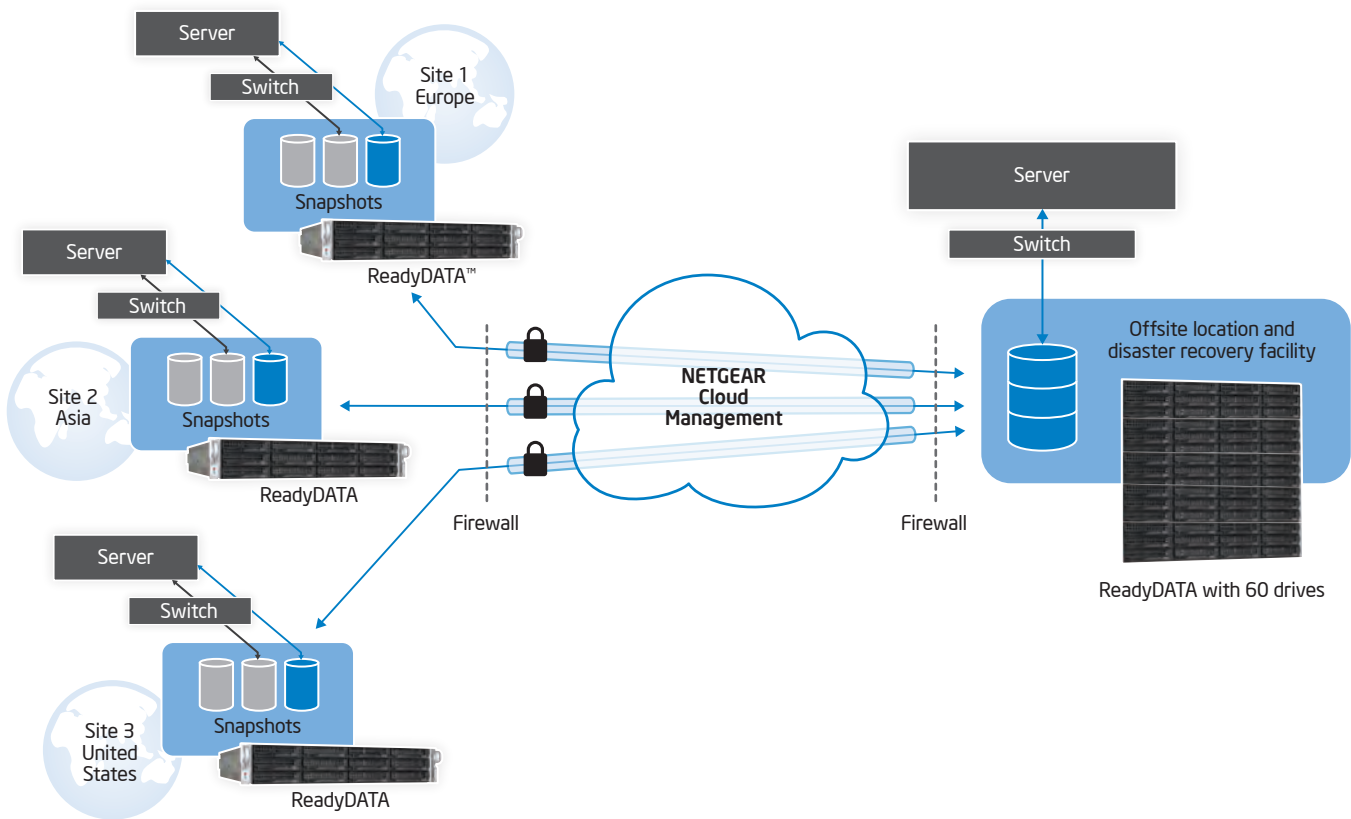
Figure 2. NETGEAR® ReadyDATA™ replication tools provide hourly, daily, or weekly snapshots of data over the Internet or the LAN so that businesses can recover files from nearly any point in the past.

at a remote site mistakenly deletes critical slides from a presentation, it's possible for IT administrators to retrieve a copy of the file from a snapshot containing the deleted slides. Without snapshot replication, IT administrators would have to travel to the employee's site or possibly ask non-IT personnel to attempt to recover the file. With ReadyDATA, IT administrators can retrieve a previous version of the presentation file directly from the ReadyDATA device at their local site. All of this can be done without backup software, reducing IT cost and complexity.

In contrast, file-level replication is usually unable to transfer snapshots. If a file is overwritten or a virus infects the data center, unintended changes are permanent.

Installing and Managing ReadyDATA Replication

ReadyDATA has integrated replication and snapshot capabilities, limiting the need for additional back-up software licenses or add-ons. As shown in Figure 2, replication jobs between ReadyDATA systems are managed through Replicate, NETGEAR's cloud-based management portal. IT administrators can control every aspect of the replication jobs running between units at multiple locations through the cloud-based central management portal, even if one unit

is unattended. They can schedule jobs, immediately back up data, disable and resume jobs, and view consolidated reports from the management portal. ReadyDATA's advanced replication technology combined with the cloud-based Replicate portal is ideal for businesses with remote sites as well as managed service providers (MSPs) looking to create a powerful, easy-to-manage data protection solution.

Availability vs. Reliability

Many organizations focus heavily on data availability and providing a five-9s level of service. Although availability is critical, reliability is often minimized or overlooked. However, human error, a virus, or a software bug can destroy, delete, or render files useless. As a result, data consistency is paramount. NETGEAR® ReadyDATA™ and ReadyNAS™ provide continuous snapshots and replication tools that greatly reduce the odds of a breakdown or loss, and help ensure that data from nearly any point in the past can be recovered.

ReadyData Key Features and Benefits

ReadyDATA offers many benefits for businesses looking to build a more efficient storage infrastructure.

- **Scalability.** ReadyDATA accommodates 4-TB drives, for a maximum capacity of 48 TB on a single ReadyDATA 5200. With expansion trays, it's possible to add as many as 48 additional drives, bringing total capacity to 240 TB. ReadyDATA also works with virtually all third-party software and hardware suppliers.

- **Flexibility.** ReadyDATA supports industry-standard file-sharing protocols, including iSCSI, CIFS, and NFS. It also provides full virtualization support in order to connect physical storage on multiple virtual LANs and virtual adapters. It's then possible to configure options independently—including IP settings, virtual LAN tagging, and performance throttling—for each virtual adapter.

- **Performance.** With 10 gigabit Ethernet (GbE) connectivity, organizations can deploy fast drive options and hybrid storage configurations. ReadyDATA supports SATA, SAS, and SSDs along with data tiering. What's more, these devices offer low latency and fast response times. It's possible to load balance storage protocols using a virtual networking stack in order to deliver throughput of up to 20 GbE.

- **Continuous protection.** ReadyDATA lets IT administrators establish specific data recovery points on an hourly, daily, or weekly basis. This feature allows organizations to roll back to any previous snapshot.

- **Manageability.** Central administration and cloud-managed site-to-site replication deliver a high level of IT efficiency and help organizations adhere to internal governance and external regulatory requirements.

NETGEAR's End-to-End Security Model

Security takes center stage for every organization. NETGEAR® ReadyDATA™ and ReadyNAS™ devices are fully integrated with Microsoft Active Directory* so that IT administrators can assign privileges across an organization.

ReadyNAS and ReadyDATA Replicate software enables IT administrators to create on-demand virtual private connections between ReadyNAS or ReadyDATA units. Setup is not complicated, as can be the case with traditional VPN applications. Simply add ReadyNAS or ReadyDATA devices to a virtual network, and the devices appear to be on the same LAN once connected.

In 95 percent of connections, there is a direct connection between your units. In the few cases where a direct connection cannot be formed, NETGEAR relay servers create the connection. Regardless of whether you have a direct or relayed connection, your data is safe and fully encrypted as it passes across the Internet and between systems using our end-to-end security model. Only the endpoints can decode the data.

Using NETGEAR Replicate Software

To form a connection between ReadyNAS or ReadyDATA units, both devices need to be registered with the NETGEAR Replicate server. Each device uses its unique MAC address as its username, which is available in your Replication network. The connection process can be managed remotely from any web browser

ReadyNAS replication is file-based, while ReadyDATA replication is block-based. The Replicate portal can manage ReadyNAS and ReadyDATA devices simultaneously, however, replication between ReadyNAS and ReadyDATA is not supported.

Once these devices are registered, they log into and form an SSL connection with the Replicate server. Replicate servers are then used to form a control channel and route control messages between devices. The control channel is used to route end-to-end control messages between ReadyNAS or ReadyDATA units. For example, one ReadyNAS might be requesting to connect to another ReadyNAS. In this case, a control message will flow from the caller through the Replicate Servers to the callee. The receiving ReadyNAS can then choose to accept or decline the incoming connection request and send a response back to the caller over the same control channel. If the ReadyNAS allows the connection, setup begins.

During the connection setup phase, NETGEAR's patented NAT traversal technique is used to setup a direct peer-to-peer connection between ReadyNAS or ReadyDATA units so no port-forwarding or dynamic DNS is required. The connection setup phase requires the use of our Replicate server but, once the peer-to-peer connection is formed, data travels directly between ReadyNAS or ReadyDATA devices. As part of the connection setup, 3-DES keys are exchanged, which are only shared between the endpoints so the data flowing between the devices is protected by end-to-end encryption.

Giving SMBs New Tools with NETGEAR ReadyNAS

The ReadyNAS family of network-attached storage (NAS) offers an array of business-class features at a fraction of the traditional cost of business storage. These devices provide powerful yet easy-to-use data-storage and file-sharing features, and the high-performance architecture offers fast data throughput and storage capacity of up to 84 TB. It also provides data protection with auto RAID management and volume expansion, and it works with Microsoft Windows, Mac OS X, and Linux clients across the network. A setup wizard allows easy configuration through a web browser. Like the ReadyDATA solution, these devices deliver continuous snapshots. This simplifies data recovery and provides a more flexible storage and backup environment.

ReadyNAS Key Features and Benefits

ReadyNAS delivers a cost-effective and powerful solution for SMBs and small offices:

- **Scalability.** ReadyNAS devices provide up to 84 TB of unified storage and supports RAID and X-RAID2 technologies. This provides a quick and straightforward way to expand storage while ensuring full data redundancy and high performance. X-RAID2 allows an organization to swap out older drives for newer and larger drives while keeping all data online and available.

- **Class-leading performance.** A multi-core Intel processor provides unparalleled performance across multiple hardware and software platforms. ReadyNAS allows more users to access data simultaneously.

- **Easy deployment.** A web interface allows a network administrator to configure ReadyNAS with minimal time and effort. The system includes built-in e-mail alerts in case of disk failure or a high-temperature incident.

- **Continuous protection.** ReadyNAS provides continuous data protection with unlimited block-based snapshots.

- **ReadyNAS Vault.** ReadyNAS Vault is a reliable, affordable and simple cloud-based backup service embedded on all ReadyNAS systems.

Conclusion

Businesses of every size face the challenge of managing escalating requirements for data storage, back-up, and disaster recover in the face of static or shrinking budgets. NETGEAR ReadyDATA and ReadyNAS storage solutions address the needs of SMBs and small to medium enterprises—especially those operating small satellite or branch offices with minimal IT resources or slow Internet connectivity—by providing a simple yet powerful way to centrally manage, share, and synchronize data so that it's up to date and available across all locations to power the business.

NETGEAR® ReadyNAS™ with 12 bays

"ReadyDATA™ and ReadyNAS™ provide highly affordable and flexible solutions for organizations looking to take their data management capabilities into the 21st century."
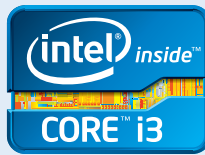
*– Brett Hesterberg, ReadyDATA Product Line Manager, NETGEAR*

To learn more about NETGEAR storage solutions for SMBs and small to medium enterprises, visit **www.netgear.com**.
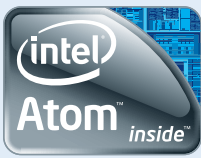
Built from the ground up for low power consumption and innovative designs, the Intel® Atom™ processor provides energy-efficient performance for home and small-office NAS systems.

Intel® Core™ i3 processor with built-in intelligence delivers fast, secure, centralized storage that's always available and helps ensure business continuity.
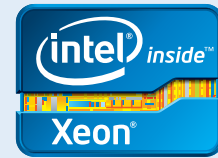
The higher compute performance of Intel® Xeon® processors reduces storage TCO while delivering intelligent storage technologies for thin provisioning, data deduplication, and data compression.

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