

Virtualization with Protection for SMBs Using the ReadyDATA™ 5200

For most small-to-medium size businesses, building a virtualization solution that provides scalability, reliability, and data protection is a difficult task that requires managing both cost and complexity. Most SMB IT managers need to reduce infrastructure costs while trying to achieve the same levels of availability and protection that larger businesses can afford.

The NETGEAR® ReadyDATA™ 5200 is an ideal storage platform to provide the right blend of performance and storage capacity for SMB virtualization environments. Using both high-performance SSD and high-capacity SATA drives creates a hybrid storage solution that balances both requirements while reducing cost in comparison with costly SAS storage. 10GbE connectivity allows for low latency connectivity to storage for premium performance when connecting virtualization servers.

ReadyDATA 5200 offers the following features that are especially important in SMB virtualized environments:

- Support and certifications for VMware, Hyper-V, and XenServer
- Support for both iSCSI and NFS over high-performance 10GbE connectivity
- Performance and capacity with hybrid SSD and SATA configurations
- Virtual networking capabilities that reduce connectivity costs
- Built-in protection with continuous snapshots
- Easy disaster recovery and offsite protection with cloud-managed replication

Virtualized environments require storage that offers more than support for iSCSI and NFS; they also require flexibility, scalability, performance, and protection. The ReadyDATA 5200 can address all of these requirements regardless of which hypervisor solution you choose.

FLEXIBILITY

The ReadyDATA 5200's virtual networking features allow flexible configurations when you deploy it in virtualization environments. Virtual networking allows you the ability to present storage on many virtual LANs through one or more physical connections.

You can bond multiple physical network interfaces on the ReadyDATA 5200 to act as fast redundant connectivity. You can then assign virtual adaptors to physical interfaces or bonds to access the network. The ReadyDATA 5200 allows you to configure options independently for each virtual adaptor, including options for IP settings, VLAN tagging, jumbo frames, and even performance throttling.

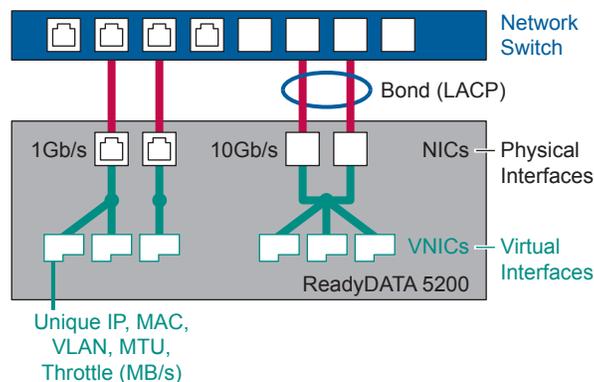


Figure 1. Virtual network interface

Virtualized networking enables the ReadyDATA 5200 to service many separate networks and allows you to control how much bandwidth is used for each storage-related task.

SCALABILITY

Scalability—the ability to expand storage without downtime or risk—is critical when hosting many virtualized servers or desktops. As your data utilization grows, so do your backup storage requirements, meaning that data administrators need storage that is easy to scale. The ReadyDATA 5200's instant expansion capability allows for large amounts of storage capacity expansion without downtime, wait time, or risk. You can add up to 48 drives in one operation without moving any data, meaning that scaling up your backup storage is hassle-free.

PERFORMANCE

The ReadyDATA 5200 ensures excellent performance by offering 10GbE connectivity, fast drive options and hybrid configurations.

The ReadyDATA 5200's dual 10GbE connectivity provides low latency and fast response times. 10GbE connections can loadbalance storage protocols via the virtual networking stack to effectively deliver 20GbE performance.

The ReadyDATA 5200 also supports SATA, SAS, and SSD drives to offer a variety of drive performance options and enabling tiering of data. Volumes consisting of any of these drive types can coexist in a single ReadyDATA 5200 storage system. You can build volumes from any of these drive types to meet your unique needs.



Figure 2. Tiering data with drive types

Another way to balance performance, capacity, and economics is to combine SATA and SSD drives in one volume, which is known as a hybrid configuration. You can configure write-optimized and read-optimized SSD drives to act as a performance cache to boost the performance of low-cost, high-capacity SATA drives.

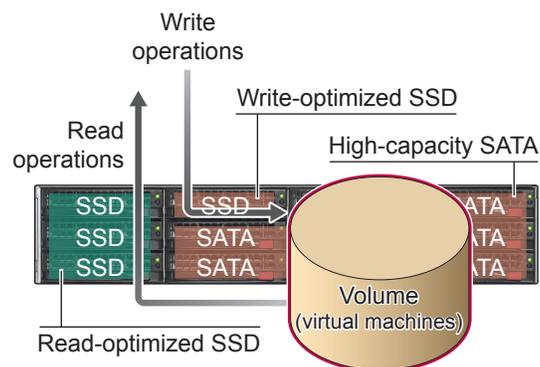


Figure 3. SSD and SATA drives in one volume

CONSTANT PROTECTION WITH SNAPSHOTS

Data loss due to corruption or accidental or malicious deletion is a threat that IT managers must protect against. The ReadyDATA 5200's constant protection technology creates data snapshots on an hourly, daily, or weekly basis. These snapshots allow you to roll back individual virtual machines or groups of virtual machines to any previous snapshot, in case data is lost.

Snapshots are space efficient because they record only block-level changes from one point in time to the next on the ReadyDATA 5200, which automatically prunes snapshots as capacity becomes low. This capability allows for complete use of the storage capacity you purchase, because any space not used for data storage is used for data protection.

For flexibility, you can mount snapshots separately as writable clones, which enables you to access data from the past without permanently rolling back running virtual machines.

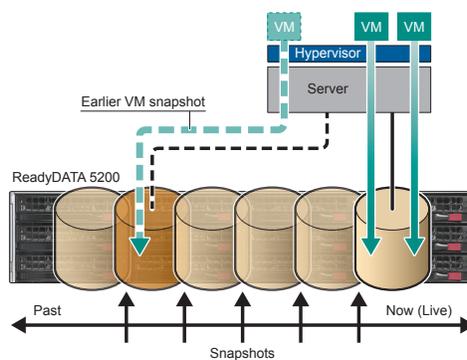


Figure 4. Snapshots mounted separately

CONSTANT PROTECTION AND DISASTER RECOVERY WITH REPLICATION

To provide flexibility to meet your bandwidth constraints and recovery requirements, the ReadyDATA 5200 offers replication features that support a variety of configurations and network topologies. These features also enable robust disaster recovery solutions.

The ReadyDATA 5200 allows periodic and constant replication between two or more ReadyDATA 5200 storage systems. You can locate the systems on a private LAN or separate them using the Internet. When data is replicated over the Internet, the ReadyDATA 5200 automatically encrypts it for secure transmission.

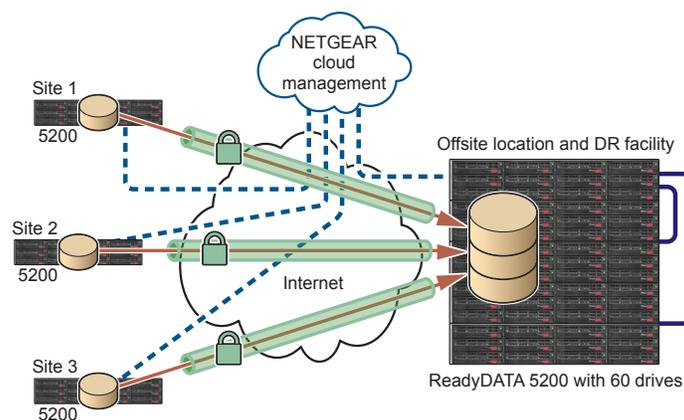


Figure 5. Replication over the Internet

This solution provides granularity by allowing individual shares or iSCSI LUNs to be replicated from one ReadyDATA 5200 system to another. This mirroring technology tracks blocks as they change and replicates incremental changes asynchronously from one ReadyDATA 5200 system to another.

Sending only block-level changes from one system to the next means that only changed data needs to be moved and that the performance requirements on both the source and destination systems are minimal.

BUILDING A COMPLETE VIRTUALIZATION SOLUTION

The ideal virtualization environment consists of virtualization servers connected to a ReadyDATA 5200 by either iSCSI or NFS protocols. In addition, an ideal virtualized environment leverages all of the ReadyDATA 5200's features to provide flexibility, scalability, performance, and protection.

Because it enables constant protection with snapshots and replication, this solution ensures that your data is protected on site and off site, providing you with peace of mind that you can recover from disaster wherever it occurs.

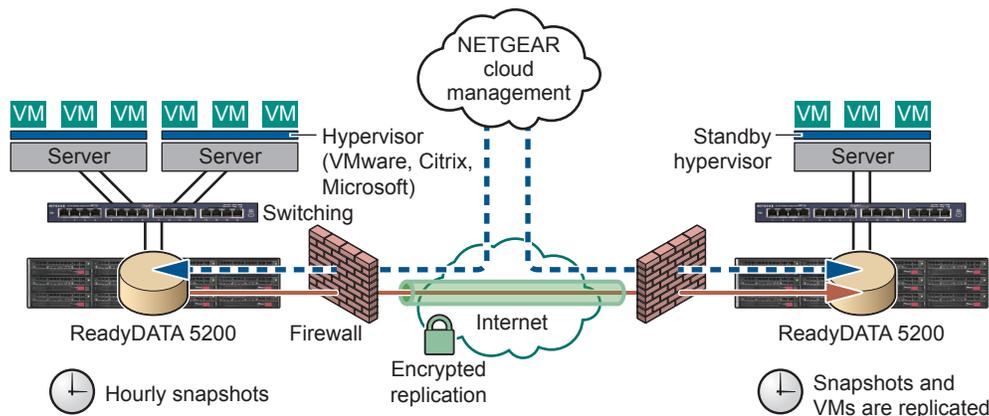


Figure 6. Constant protection with snapshots and replication

CONCLUSION

The NETGEAR ReadyDATA 5200 is an ideal storage platform to provide the right blend of performance and storage capacity for SMB virtualization environments. Using both high-performance SSD and high-capacity SATA drives creates a hybrid storage solution that balances both requirements while reducing cost in comparison with costly SAS storage. 10GbE connectivity allows for low latency connectivity to storage for premium performance when connecting virtualization servers.

In addition, the simple snapshot and replication technologies within the ReadyDATA 5200 provide both data protection and simple offsite disaster recovery for the virtual servers it hosts.

For more information about the NETGEAR ReadyDATA 5200, visit www.netgear.com or contact a NETGEAR channel partner or sales representative.