



Solution Brief

NetApp ONTAP Select Remote Office Branch Office Solution

Enabling remote management of low-cost HA, DR, and backup services in ROBO locations

Key Benefits

- Enable users to deploy low-cost HA solutions with unified storage
- Remotely manage data replication and backup services to a centralized location

The Challenge/Opportunity

Managing storage in remote office or branch office (ROBO) deployments is particularly challenging. ROBO locations require solutions that can provide low-cost, highly available (HA) storage. Centralized data replication and backup capabilities are needed as well to enable users to enforce consistent management policies across sites without relying on on-site IT resources.

Low-cost HA storage

With multiple ROBO locations per customer, it's important for ROBO storage solutions to provide HA services with the lowest TCO possible. To achieve this goal, ROBO solutions must focus not only on minimizing the hardware required per site, but also on providing licensing options that align with the ROBO cost profile.

Unified storage solutions

Having limited resources means making the most of what is available. In the case of ROBO deployments, solutions must provide unified compute and storage, with a simple and easy-to-use set of deployment and management tools.

Centralized data replication and backup managed remotely

Without access to experienced IT resources on site or effective backup and replication tools, ROBO locations can be very difficult to manage. Having access to remote management resources and solid data replication tools can greatly reduce the risk of data and revenue loss.

The Solution

NetApp® ONTAP® Select is an ideal solution for ROBO deployment. With Select, remote branch or remote offices can provide a cost-optimized and low-touch enterprise-class file services. ONTAP Select is NetApp's SDS solution in which the software storage management is separated from the hardware. This approach allows our customers to use ONTAP storage management software with commodity hardware and storage of their choice. ROBO customers can take advantage of the best-in-class data protection and data management feature set running on the hardware of their choice. In addition, ONTAP Select can be collocated with application VMs. This approach helps customer optimize the usage of the hardware in a ROBO site, resulting in a solution that not only is cost efficient but also addresses all the needs of ROBO customers.

Data protection and backup are important parts of the ROBO solution. ONTAP Select provides a full suite of capabilities such as SnapMirror® and SnapVault®, used to back up data to a central location. ONTAP Select can be deployed in HA pairs to increase the operational availability of the solution. Two-node clusters in particular are well suited for ROBO use cases. Similar to other two-node solutions, the two-node ONTAP Select cluster requires a mediator to avoid network partitions. ONTAP Select uses the ONTAP Deploy VM as its mediator, and the mediator placement can be done in a central location. The same ONTAP Deploy instance can be the mediator for multiple two-node ONTAP Select clusters. For customers looking for protection against local site failures, MetroCluster™

SDS is defined as a two-node ONTAP Select cluster where the two nodes are separated by more than 200 meters and less than 10km. In this configuration, each node provides protection against hardware, software failures, and data center failures. Due to the distance limitation, the MetroCluster SDS is a very capable campus cluster solution.

The ONTAP Select ROBO solution also expands the previous VMware vSphere licensing support to include all vSphere licenses currently available, delivering a cost profile that better matches the ROBO use case.

For commodity servers that have local SSD storage without a RAID controller, ONTAP Select for KVM hypervisors now supports software RAID. This feature increases the flexibility of the solution and addresses those architectures that have deprecated the use of hardware-based RAID controllers.

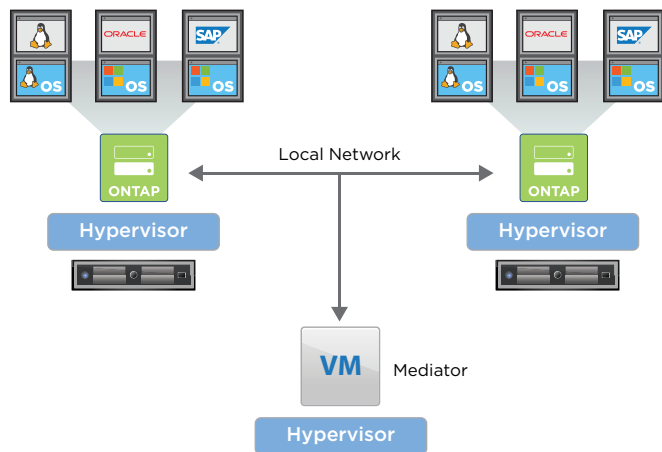


Figure 1) Two-node HA cluster with local mediator

Benefits

The ONTAP Select ROBO solution provides the following benefits to ROBO deployments.

Low-cost HA solution

The ONTAP Select ROBO solution offers HA redundancy while decreasing hardware and software licensing needs to a minimum. This reduction is achieved by limiting the number of commodity servers required to deploy a two-node HA configuration. The ROBO solution also supports both Red Hat Enterprise Linux and CentOS KVM, as well as ESXi hypervisors. In the case of ESXi, all VMware vSphere licenses are supported, including the vSphere Remote Office Branch Office license, so users can choose whichever vSphere license is best for them. Check the [Interoperability Matrix Tool](#) to learn more about the hypervisor supported versions.

Remote management

Because the ONTAP Select Deploy Utility can be placed in the main data center, installation and management of two-node HA clusters can now be centralized. This allows users to free

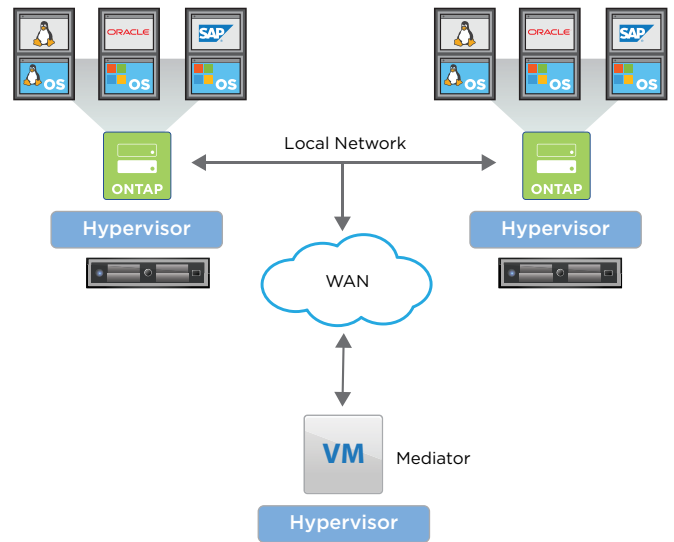


Figure 2) Two-node HA cluster with remote mediator

up resources in the ROBO location. It also enables experienced IT personnel to manage deployment, replication, and backup remotely, for up to 100 different locations, with only one ONTAP Deploy Utility instance.

Unified storage with simplified management

ONTAP Select simplifies data management from two main perspectives. As a unified platform, it allows users to consolidate NFS/CIFS and iSCSI applications and workloads on local and remote hosts.

Also, ONTAP Select makes it easy to manage remote data throughout its lifecycle. ONTAP Select data protection tools greatly simplify the configuration, backup, replication, and restore processes.

Differentiation

Data management and protection

Because ONTAP Select is based on ONTAP 9, it supports the same data management and data protection tools used by engineered appliances. This eliminates the need to retrain employees who are already familiar with the NetApp ecosystem. With the ROBO solution, all of the storage management layer can be moved to the main data center, greatly reducing the need for on-site IT resources.

The ONTAP Select ROBO solution leverages its NetApp SnapMirror and SnapVault support, enabling ONTAP Select to replicate, back up, and recover data seamlessly and reliably across the NetApp Data Fabric. SnapMirror and SnapVault also minimize the backup data footprint on disk and improve storage efficiency over the network, directly benefiting ROBO locations that have limited bandwidth.

Storage efficiency

Storage efficiency features include deduplication, compression, and compaction, working both inline and in the background. ONTAP Select can leverage storage efficiency features in ROBO

locations to reduce the amount of physical storage capacity required and to make better use of limited bandwidth across remote sites during replication and backup procedures.

Encryption

ONTAP Select takes advantage of data-at-rest encryption through NetApp Volume Encryption. This standard feature across FAS and AFF uses 256-bit AES keys. Data-at-rest encryption allows data to remain private and protected from unauthorized access, even if a server is completely removed from the ROBO location.

Learn More About ONTAP Select

To learn more about ONTAP Select and its ROBO solution, visit the [ONTAP Select page](#).

About NetApp

NetApp is the data authority for hybrid cloud. We provide a full range of hybrid cloud data services that simplify management of applications and data across cloud and on-premises environments to accelerate digital transformation. Together with our partners, we empower global organizations to unleash the full potential of their data to expand customer touchpoints, foster greater innovation and optimize their operations. For more information, visit www.netapp.com. #DataDriven