NetApp ONTAP MetroCluster SDS

Key Benefits

- Continuous data availability for uninterrupted service delivery through site-to-site protection of data up to 10km
- Business-critical data protection: synchronous data replication between sites with zero data loss and zero impact to business operations
- Ease of management with automated failover and zero-touch application failover

ONTAP Select High Availability provides synchronous data replication between two nodes of an HA pair. The HA nodes are typically located in the same datacenter as the distance between them is limited to a very short range. ONTAP MetroCluster SDS, available with ONTAP Select Software-Defined Storage, enables a more flexible solution by extending the range of the HA node pair, allowing them to be located in multisite computing environments up to a distance of 10km apart.

The Challenge

Software-defined storage (SDS) solves many problems for today's enterprise customers. It offers enterprises the scalability, flexibility, and agility to stay competitive and operate efficiently in today's market. However, for any data storage solution, enterprises are faced with two key problems: (1) how to make sure that data is protected with no single point of failure and (2) how to make sure of business-critical data availability so that enterprises can continue to operate in the event of unplanned failures.

The Solution

NetApp® ONTAP® MetroCluster SDS improves upon the existing two-node HA solution by extending the physical distance between HA nodes. HA nodes can now be stretched up to a distance of 10km. It currently supports two nodes connected by Gigabit Ethernet or 10 Gigabit Ethernet in an active-active configuration that doesn't require any special setup procedures beyond the standard two-node HA deployment and requires no upgrade of existing network infrastructure. The solution requires that the latency between the two HA nodes not be greater than 5ms and that jitter not be greater than 5ms. MetroCluster SDS supports both ESXi and KVM, allowing our solution to adapt to our customer's environment and not vice versa.

As part of the two-node HA configuration, a mediator is required to properly identify the active node during a failover and avoid any split-brain scenario where both nodes remain active independently. This operation is identical to the regular two-node HA configuration previously available. To make sure of proper protection and failover during site failure, the mediator should be located in a site different from that of the two HA nodes.

With this solution, enterprise customers can confidently take advantage of the flexibility of a software-defined storage solution on commodity hardware and yet deploy with peace of mind knowing their data is protected with an enterprise-grade, zero-RPO solution.

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ONTAP Select MetroCluster SDS provides multiple benefits:

- MetroCluster SDS enables another dimension (data center to data center) of protection for ONTAP Select. Customers can now take advantage of this extra level of protection in addition to leveraging all the benefits of software-defined storage and ONTAP.
- MetroCluster SDS takes advantage of the existing networking infrastructure to enable stretched resiliency between the HA pair. No additional hardware is required.
- MetroCluster SDS provides fully automated recovery with zero intervention from IT. Both the data storage and application access points (Logical Interfaces) are automatically switched over to the remaining active node. This approach is extremely important to lower the cost of IT and make sure of continuous business operations.

Use Cases
Site-to-site protection
Data is becoming a key part of any business, government office, or university. Organizations simply cannot take the risk of having data go offline or losing data as a result of local catastrophes such as floods, power outage, fire, or any local isolated faults. The issue is that redundant systems are often costly to acquire and maintain. MetroCluster SDS would be an ideal fit for customers looking for a simple solution to protect their data. HA nodes can be configured to be located across a university campus, across government offices located around the city, or in enterprise deployments located in different office buildings. In addition to having the pair provide resiliency, because they are active-active with a synchronous mirror of data, both nodes can be used simultaneously to serve local applications. This solution is ideal for customers looking to simplify their operations and provide data protection at the same time.

Business-critical data protection
Another key aspect to data protection is making sure of continuous data availability and continuous operations of critical applications necessary to the operations of the business. To meet these requirements, downtime of any kind cannot be afforded because it will affect business operations and potentially result in lost revenue and customers. With MetroCluster SDS, if an issue occurs, ONTAP Select provides a zero RPO and fully automated application recovery capabilities. The business will have no impact due to data center failures because switchover to the second data center is fully automated with zero intervention from any IT. The business continues to operate even in the event of unplanned failure or planned maintenance.

Differentiation
ONTAP Select offers a solution that is flexible and scalable. With MetroCluster SDS, ONTAP Select adds another level of resiliency, enabling site-to-site data availability and protecting business-critical data. Customers can leverage their existing hardware and network infrastructure to provide higher resiliency ensuring continuous operation of their business and operating environment.

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 includes the NetApp Oncommand® management suite (OnCommand System Manager and Unified Manager, Oncommand Insight and OnCommand Workflow Automation). From the data protection perspective, ONTAP Select supports SnapMirror®, SnapCenter® and SnapRestore®. Now, adding to the already strong list of solutions for data protection, MetroCluster SDS enables another level of protection for ONTAP Select. This allows ONTAP Select to benefit from a comprehensive ecosystem where data can be moved, protected, and managed with flexibility, efficiency, and security and at the same time take advantage of the technology specific to ONTAP Select.

Learn More About ONTAP Select
To learn more about ONTAP Select and MetroCluster SDS, visit the ONTAP Select homepage.

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