

FlexPod MetroCluster IP with VXLAN Multi-Site Front-End Fabric

Introduction

A FlexPod® converged infrastructure solution includes NetApp® storage, Cisco compute and networking components, and the application stack running on the infrastructure. FlexPod solutions are highly available, highly scalable, and highly flexible by design and they are adopted by companies world-wide for business-critical applications and workloads.

To ensure business continuity, the NetApp MetroCluster IP solution can be implemented between two FlexPod ONTAP® storage clusters for synchronous data replication between sites to meet disaster recovery and business continuity goals. The MetroCluster IP storage network can use a dedicated network, or it can be integrated into the larger data center fabric

using the compliant switches configuration, when the switches and network configuration meet the requirements. Figure 1 illustrates the FlexPod MetroCluster IP solution infrastructure components, a data center interconnect that links the two site network fabrics, and a dedicated MetroCluster IP storage network.

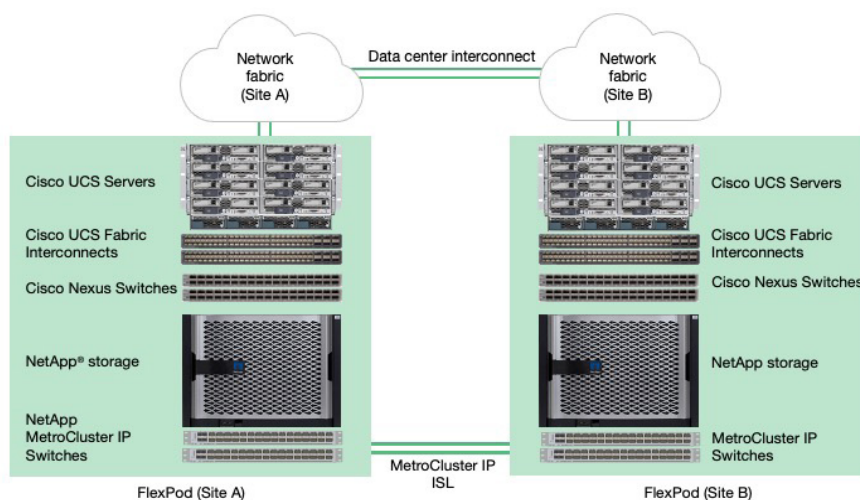


Figure 1. FlexPod MetroCluster IP solution infrastructure.

Solution architecture

The FlexPod Datacenter with Cisco VXLAN, NetApp MetroCluster IP, and VMware vSphere 7.0U1 solution is validated for successful infrastructure configuration, high availability, and business continuity across two sites. A variety of test cases are used to verify solution functions and to simulate partial and complete site failure scenarios. Figure 2 shows a high-level view of the solution with two FlexPod systems deployed at up to 700km apart and connected by a Virtual Extensible LAN (VXLAN) Multi-Site fabric and a dedicated MetroCluster IP storage network. A stretched VMware high availability (HA) cluster provides the virtual infrastructure for applications and workloads. In addition, a NetApp ONTAP Mediator deployed at a third site monitors the solution and enables automated switchover of data services when a site disaster is detected.

The design and implementation ensure business continuity for various single-point-of-failure (SPOF) scenarios as well as a site disaster and achieves zero recovery point objective (RPO) and very low recovery time objective (RTO) to meet business requirements.

Solution benefits

There are three important benefits the solution provides:

- A highly flexible architecture with choices of components to meet your performance, capacity, and cost objectives for your solution.
- A highly scalable active-active data center solution design that supports multiple storage protocols, site distances up to 700km, cloud connected data fabric, zero RPO and very low RTO to ensure business continuity.
- A highly reliable infrastructure with tier-1 enterprise hardware from NetApp and Cisco backed by a cooperative support model.

Summary

The FlexPod MetroCluster IP with VXLAN Multi-Site Front-End Fabric solution interconnects two data centers deployed in separate, geographically dispersed locations. The solution synchronously replicates data between sites to protect business-critical data services against site failure to achieve zero recovery point and low recovery time objectives. The NetApp ONTAP Mediator and VMware vCenter deployed at a third site help you monitor the MetroCluster IP operations and manage the stretched VMware cluster solution. To learn more about how the solution provides resiliency and protection against many SPOF scenarios as well as a site disaster to ensure business continuity, see the paper linked by the QR code below.



FlexPod MetroCluster IP Solution with VXLAN

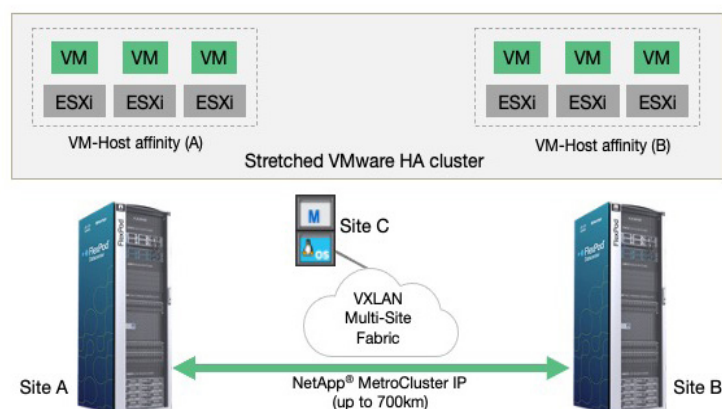


Figure 2. FlexPod MetroCluster IP with VXLAN Multi-Site Front-End Fabric ensures business continuity.

©2021 NetApp, Inc. All rights reserved. No portions of this document may be reproduced without prior written consent of NetApp, Inc. Specifications are subject to change without notice. NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. NA-706-1021