



**NETAPP UNIVERSITY**

# NETAPP CERTIFICATION PROGRAM

## Reference Document List

- Version: 5.4
- Date: July 13, 2020

## **PLEASE NOTE**

This document is provided as a courtesy to assist in preparing for NetApp Technical Certifications. While all of the links were accurate when initially published, these links may change over time. This document is NOT actively monitored.

Most links listed here require that you have a login to [netapp.com](https://netapp.com). If you find that the link is no longer valid, it is recommended that you search for the document name on either [netapp.com](https://netapp.com), the [NetApp Knowledgebase](#), the [NetApp Documentation Center](#) or even by just searching the internet.

Thank you for your understanding and please contact [ncp@netapp.com](mailto:ncp@netapp.com) if you have any questions.

## **Shortcuts**

[NetApp Certified Hybrid Cloud Architect \(NS0-602\)](#)  
[NetApp Certified Hybrid Cloud Administrator \(NS0-302\)](#)  
[Cisco and NetApp FlexPod Design \(NS0-173\)](#)  
[Cisco and NetApp FlexPod Implementation and Administration \(NS0-174\)](#)  
[NetApp Certified Data Administrator, ONTAP \(NS0-161\)](#)  
[NetApp Certified Implementation Engineer, Data Protection \(NS0-526\)](#)  
[NetApp Certified Implementation Engineer - SAN Specialist, E-Series \(NS0-515\)](#)  
[NetApp Certified Implementation Engineer – SAN, ONTAP \(NS0-519\)](#)  
[NetApp Certified Technology Associate \(NS0-002\)](#)  
[NetApp Certified Storage Installation Engineer, ONTAP \(NS0-182\)](#)  
[NetApp Certified Support Engineer \(NS0-194\)](#)  
[NetApp Certified Support Engineer - ONTAP Specialist \(NS0-592\)](#)  
[NetApp Certified Hybrid Cloud - Implementation Engineer \(NS0-402\)](#)



## NetApp Certified Hybrid Cloud Architect (NS0-602)

- [A Refresher on Net Present Value](#)
- [AWS Docs](#)
- [Cloud Assessment Page](#)
- [Cloud Central, My Services](#)
- [Cloud Computing Benefits and Risks](#)
- [Cloud Insights Documentation](#)
- [Cloud Manager 3.6 for Docs, High-availability pairs in AWS](#)
- [Cloud Manager Documentation](#)
- [Cloud Manager Release Notes](#)
- [Cloud Secure Product Page](#)
- [Cloud Sync Documentation](#)
- [Cloud Tiering Product Page](#)
- [Cloud Volumes ONTAP](#)
- [Cloud Volumes ONTAP AWS TCO Calculator](#)
- [Cloud Volumes ONTAP Azure TCO Calculator](#)
- [Cloud Volumes ONTAP Managing Encryption Keys](#)
- [Cloud Volumes ONTAP Storage Limitation](#)
- [ConfigBuilder](#)
- [Data Governance](#)
- [Data Sovereignty](#)
- [Disks and Aggregates Power Guide](#)
- [IBM- Microservices for fast time to market and improved app quality](#)
- Industry/ Product Knowledge
- [ISO/IEC 17788: Information Technology—Cloud Computing—Overview and Vocabulary](#)
- [Load Balancer](#)
- [NetApp Cloud Volumes Service for AWS documentation](#)
- [NetApp Cloud Volumes Service for AWS Product Page](#)
- [NetApp Data Fabric Architecture Fundamentals](#)
- [NetApp HCI Private Cloud](#)
- [NetApp HCI SnapMirror Blog](#)
- [NetApp In-Place Analysis: Solution Brief](#)
- [NetApp In-Place Analytics Module TR-4715](#)
- [NetApp Private Storage for Cloud](#)
- [NetApp StorageGRID Webscale Object-Based Storage Software Data Sheet](#)
- [OnCommand Insight Monitoring Product Page](#)
- [ONTAP Data Security](#)
- [Right to Erasure](#)
- [SB-3949](#)
- [Storage Tiering with Cloud Volumes ONTAP](#)
- [StorageGRID 11.2 Documentation Center](#)
- [StorageGRID Webscale 11.1 S3 \(Simple Storage Service\) Implementation Guide](#)
- [StorageGRID Webscale 11.2 Documentation Center](#)
- [TCO Azure Calculator](#)
- [The Importance of IO Density in Delivering Storage as a Service](#)
- [TR4383 Performance Characterization of ONTAP Cloud in Amazon Web Services with Application Workloads](#)
- [TR4569- Security Hardening Guide for NetApp ONTAP 9](#)
- [TR-4598 FabricPool Best Practices](#)
- [TR-4641](#)
- [TR4654 Storage as a Service Blueprint for IT Providers](#)
- [Trident Documentation](#)
- [WP-7271: Edge to Core to Cloud Architecture for AI](#)



## NetApp Certified Hybrid Cloud Administrator (NS0-302)

- [AWS Documentation Website](#)
- [Azure NetApp Files Blog Entry \(Andrew Chen\)](#)
- [Azure NetApp Files Documentation \(Microsoft\)](#)
- [Choosing a Replication Policy](#)
- [Cloud Central website for Cloud Volumes](#)
- [Cloud Docs 1.1](#)
- [Cloud Manager and Cloud Volumes ONTAP Documentation](#)
- [Cloud Manager Setup Guide](#)
- [Cloud Volumes 9.4 Known Limitations](#)
- [Cloud Volumes ONTAP Getting Started Guide](#)
- [Cloud Volumes Service for AWS user documentation](#)
- [Database Storage Tiering with NetApp FabricPool TR-4695](#)
- [Fabric Pool Best Practices in ONTAP 9](#)
- [Group and bucket access policies](#)
- [HCI File Services Powered by ONTAP Select](#)
- Industry/Product Knowledge
- [Managing workloads and apps with NetApp Cloud Volumes Service](#)
- [NetApp Cloud Docs, Cloud Manager, Cloud Manager FAQ](#)
- [NetApp Cloud Docs, Granting permissions when Cloud Manager is not launched from Cloud Central](#)
- [NetApp Cloud Volume Services for AWS](#)
- [NetApp Community Website](#)
- [NetApp Element Software User Guide v. 11](#)
- [NetApp Product Documentation Website](#)
- [NetApp SANtricity Cloud Connector TR-4658](#)
- [NetApp SolidFire Element OS User Guide Version 10.3](#)
- [NetApp Support Site](#)
- [OCCM Documentation](#)
- [ONTAP 9.4 Data Protection Power Guide](#)
- [ONTAP 9.4 Logical Storage Management Guide](#)
- [Performance Characterization of ONTAP Cloud in Amazon Web Services with Application Workloads](#)
- [Performance Characterization of ONTAP Cloud in Azure with Application Workloads](#)
- [Private Storage for Amazon Web Services \(AWS\)](#)
- [Provisioning and Mounting NFS Volumes](#)
- [Scheduling Cloud Volumes ONTAP](#)
- [Selecting the service level and the quota](#)
- [StorageGRID Webscale 11.2 Administrator Guide](#)



## Cisco and NetApp FlexPod Design (NS0-173)

- [All Flash FAS SAN-optimized Configuration](#)
- [Assessing Your Converged Infrastructure Options: Five Criteria for Making an Informed Investment](#)
- [Best Practices for Scalable SAN](#)
- [Cisco Nexus 5000 NX-OS Software Configuration Guide \(Cisco\)](#)
- [Cisco Nexus 9000 Series NX-OS VXLAN \(Cisco\)](#)
- [Cisco UCS 5100 Series Blade Server Chassis Data Sheet \(Cisco\)](#)
- [Cisco UCS 6200, 6332, and 6324 Series Configuration Limits for Cisco UCS Manager \(Cisco\)](#)
- [Cisco UCS 6300 Series Fabric Interconnect Hardware Installation Guide \(Cisco\)](#)
- [Cisco UCS 6300 Series Fabric Interconnects Data Sheet \(Cisco\)](#)
- [Cisco UCS Central Software](#)
- [Cisco UCS C-Series Server Integration with Cisco UCS Manager 3.1 \(Cisco\)](#)
- [Cisco UCS Director Data Sheet \(Cisco\)](#)
- [Cisco UCS Manager \(Cisco\)](#)
- [Cisco UCS Manager Administration Management Guide 3.1 \(Cisco\)](#)
- [Cisco UCS Manager Getting Started Guide, Release 3.2 \(Cisco\)](#)
- [Cisco UCS Manager Infrastructure Management Guide, Release 3.1 \(Cisco\)](#)
- [Cisco UCS Manager Network Management Guide, Release 3.2 \(Cisco\)](#)
- [Cisco UCS Manager Server Management Guide, Release 3.1](#)
- [Cisco UCS Manager Storage Management Guide, Release 3.2 \(Cisco\)](#)
- [Cisco UCS Manager Troubleshooting Reference Guide \(Cisco\)](#)
- [Cisco Unified Computing System Ethernet Switching Modes \(Cisco\)](#)
- [Classic Network Design Using Cisco Nexus 9000 Series Switches \(Cisco\)](#)
- [Clustered Data ONTAP 8.3](#)
- [Configuring IPspaces](#)
- [Configuring the Fabric Interconnects \(Cisco\)](#)
- [Datasheet NetApp Converged Systems Advisor](#)
- [Design FlexPod Datacenter with NetApp MetroCluster NVA Design Guide](#)
- [Designing and Deploying a Cisco Unified Computing System SAN Using Cisco MDS 9000 Family Switches \(Cisco\)](#)
- [FlexPod Datacenter with Cisco UCS Mini and VMware vSphere 6.0 with IP-Based Storage \(Cisco\)](#)
- [FlexPod Datacenter FedRAMP Readiness with VMware vSphere 6.0 HyTrust](#)
- [FlexPod Datacenter Technical Specifications, TR-4036](#)
- [FlexPod Datacenter with Docker Enterprise Edition for Container Management \(Cisco\)](#)
- [FlexPod Datacenter with Microsoft Applications and NetApp AFF A-Series](#)
- [FlexPod Datacenter with VMware vSphere 6.5 NetApp AFF A-Series, and IP-Based Storage](#)
- [FlexPod Datacenter with VMware vSphere 6.5 Update 1 and NetApp AFF A-series with Cisco UCS Manager 3.2 Design Guide \(Cisco\)](#)
- [FlexPod Datacenter with VMware vSphere 6.5, NetApp AFF A-Series and Fibre Channel](#)
- [FlexPod Express Technical Specifications, TR-4293](#)
- [FlexPod Express with Cisco UCS C-Series and NetApp FAS2500 Series](#)
- [FlexPod Express with Microsoft Windows 2016 Hyper-V and FAS2600](#)
- [Getting Started with Cisco Application Centric Infrastructure \(ACI\) in the Small-to-Midsize Commercial Data Center](#)
- [High-Availability Configuration Guide](#)
- [Host requirements for link aggregation for ESXi and ESX \(VMware\)](#)
- [Industry/Product Knowledge](#)
- [Interoperability Matrix Tool – IMT](#)
- [Managing Licenses \(Cisco\)](#)
- [MDS Command Reference Guide \(Cisco\)](#)
- [MetroCluster for Clustered Data, TR-4375 \(Nabile Fares\)](#)
- [NetApp Hardware Universe](#)
- [ONTAP 9 Data Protection Power Guide](#)
- [ONTAP 9 Release Notes](#)
- [ONTAP 9 SMB/CIFS Configuration](#)
- [ONTAP 9 System Administration Reference](#)
- [ONTAP 90 Logical Storage Management Guide](#)

© 2018 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 Go further, faster are trademarks or registered trademarks of NetApp, Inc., in the United States and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such.



- [ONTAP 90 Network Management Guide](#)
- [ONTAP 90 SAN Administration Guide](#)
- [ONTAP 90 SAN Configuration Guide](#)
- [Red Hat OpenStack Platform 10 Product Guide \(OpenStack Team\)](#)
- [SANtricity Storage Manager 11.42, SANtricity OS 8.40 and SANtricity OS 11.40](#)
- [Small Computer System Interface over IP and Fibre Channel over Ethernet: A Comparison \(Cisco\)](#)
- [SnapCenter Software 4.0 Installation and Setup Guide](#)
- [UCS Appliance Port Connectivity and Troubleshooting \(Cisco\)](#)
- [UCS B-series Teaming & Bonding Options with Cisco VIC Card \(Cisco\)](#)
- [vCenter Server and Host Management VMware vSphere 6.5 \(VMware\)](#)
- [Virtual PortChannel Quick Configuration Guide \(Cisco\)](#)
- [VMWare vSphere Virtual Machine Encryption \(white paper, December 2017\)](#)



## Cisco and NetApp FlexPod Implementation and Administration (NS0-174)

- [ACI Reference Design RD-03, Rev. 1 \(Cisco\)](#)
- [Best Practices for Scalable SAN \(Michael Peppers\)](#)
- [Cisco ACI Multi-Site Hardware Requirements Guide \(Cisco\)](#)
- [Cisco Application Centric Infrastructure Data Sheet \(Cisco\)](#)
- [Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide \(Cisco\)](#)
- [Cisco UCS 6324 Fabric Interconnect Data Sheet \(Cisco\)](#)
- [Cisco UCS Fabric Interconnect 6454 Data Sheet \(Cisco\)](#)
- [Cisco UCS Manager GUI Configuration Guide, Release 1.3 \(Cisco\)](#)
- [Cisco UCS Manager GUI Configuration Guide, Release 2.2 \(Cisco\)](#)
- [Cisco UCS Manager Server Management Guide, Release 3.2 \(Cisco\)](#)
- [Cisco UCS Power Tool Suite \(Cisco Community\)](#)
- [Cisco Unified Computing System Adapters \(Cisco\)](#)
- [Cluster Management Using OnCommand System Manager](#)
- [FAQ: Vservers/SVMs](#)
- [FAS26xx Series Systems Installation and Setup Instructions](#)
- [FlexPod Datacenter Technical Specifications TR-4036 \(Lindsey Street, Melissa Palmer, Karthick Radhakrishnan\)](#)
- [FlexPod Datacenter with Fibre Channel Storage using VMware vSphere 6.5 Update1, NetApp AFF A-series, and Cisco](#)
- [FlexPod Datacenter with IP-Based Storage using VMware vSphere 6.5 Update1, NetApp AFF A-Series, and Cisco UCS Manager 3.2 \(Ramesh Isaac, Melissa Palmer, John George, Aaron Kirk\)](#)
- [FlexPod Datacenter with Microsoft Hyper-V Windows Server 2016 Arvind Ramakrishnan](#)
- [FlexPod Datacenter with VMware vSphere 6.5 UI and Cisco ACI 3.2 \(John George, Dave Derry\)](#)
- [FlexPod Datacenter with VMware vSphere 6.5 Update 1 and NetApp AFF A-series with Cisco UCS Manager 3.2 Design Guide \(Cisco\)](#)
- [FlexPod Datacenter with VMware vSphere 6.5, NetApp AFF A-Series and IP-Based Storage \(Cisco\)](#)
- [FlexPod Express Technical Specifications – TR-4293](#)
- [FlexPod Express with Cisco UCS Mii and VMware vSphere 5.5 with IP-Based Storage \(Cisco\)](#)
- [FlexPod Express with Microsoft Windows 2016 Hyper-V and FAS2600 \(Melissa Palmer, Lindsey Street\)](#)
- [FlexPod Express with VMware vSphere 6.0U2, NetApp E-Series and Cisco UCS Mini \(Arvind Ramakrishnan\)](#)
- [FlexPod SolidFire with Red Hat OpenStack Platform Design Guide \(Cisco\)](#)
- **Industry/Product Knowledge**
- [Installation and Setup Instructions AFF A300 System](#)
- [Installing the NetApp NFS Plug-in 1.1.2 for VMware VAAI](#)
- [NetApp Converged Systems Advisor](#)
- [NetApp Hardware University](#)
- [NVA FlexPod Express with VMware 6.0 Large Configuration \(Karthick Radhakrishnan, Arvind Ramakrishnan\)](#)
- [ONTAP 9 High Availability Configuration Guide](#)
- [ONTAP 9 Network Management Guide](#)
- [ONTAP 9 SAN Administration Guide](#)
- [Software Download by Cisco \(Cisco\)](#)
- [Specsheet B200mx \(Cisco\)](#)
- [Technical Overview of FlexPod Solutions](#)
- [Testing VMkernel network connectivity with the vmkping command \(vmware\)](#)
- [UCS B-Series Blad Server Software \(Cisco\)](#)
- [UCS Hardware and Software Compatability \(Cisco\)](#)
- [UCS Manager 3.2 \(Cisco\)](#)
- [Virtual Storage Console, VASA Provider, and Storage Replication Adapter for VMware vSphere Deployment and Setup Guide for 7.2 Release](#)
- [VMware vSphere with ONTAP \(Karl L. Konnerth\)](#)
- [vSphere Virtual Machine Administration \(VMware\)](#)
- [Workflow Automation 4.2 Documentation Center](#)



## NetApp Certified Data Administrator, ONTAP (NS0-161)

Note: The exam encompasses ONTAP up to version 9.7

- [7-Mode Data Transition Using SnapMirror Technology](#)
- [7-Mode Transition Tool – Copy Based Transition](#)
- [7-Mode Transition Tool – Copy Free Transition](#)
- [7-Mode Transition Tool - Installation and Setup Guide](#)
- [7-Mode Transition Tool – SAN Host Transition](#)
- [Administrator Authentication and RBAC Power Guide](#)
- [Antivirus Configuration Guide](#)
- [Archive and Compliance Using SnapLock Technology Power Guide](#)
- [BR8952: Break Fix: Troubleshooting Workflow: DC not responding \(CIFS\)](#)
- [Cluster and SVM Peering Power Guide](#)
- [Cluster Expansion Express Guide](#)
- [Cluster Management Using OnCommand System Manager](#)
- [Cluster Management Workflows for OnCommand System Manager](#)
- [Cluster Peering Express Guide](#)
- [Command Map for 7-Mode Administrators](#)
- [Commands: Manual Page Reference for ONTAP 9.3](#)
- [Commands: Manual Page Reference for ONTAP 9.5](#)
- [Copy-Based Transition Guide For Transitioning to ONTAP](#)
- [Copy-Free Transition Guide For Transitioning to ONTAP](#)
- [Data Protection Power Guide](#)
- [Disks and Aggregates Power Guide](#)
- [EMS Configuration Express Guide](#)
- [Fabric-attached MetroCluster Installation and Configuration Guide](#)
- [FC Configuration for ESXi® using VSC Express Guide](#)
- [FC Configuration for Red Hat Enterprise Linux Express Guide](#)
- [FC Configuration for Windows Express Guide](#)
- [FC SAN Optimized AFF Setup Guide](#)
- [FlexArray Virtualization Implementation Guide for NetApp E-Series Storage](#)
- [FlexArray Virtualization Implementation Guide for Third-Party Storage](#)
- [FlexArray Virtualization Installation Requirements and Reference](#)
- [Hardware Universe HWU](#)
- [High-Availability Configuration Guide](#)
- [Infinite Volumes Management Guide](#)
- [Installation and Cabling Guide For DS460C, DS224C and DS212C](#)
- [Interoperability Matrix Tool](#)
- [Inventory Collect Tool 3.3.1 Host and Storage Information Collection Guide](#)
- [iSCSI Configuration for ESXi using VSC Express Guide](#)
- [iSCSI Configuration for Red Hat Enterprise Linux Express Guide](#)
- [iSCSI Configuration for Windows Express Guide](#)
- [Learning About Cloud Manager and ONTAP Cloud](#)
- [Logical Storage Management Guide](#)
- [MetroCluster IP Installation and Configuration Guide](#)
- [MetroCluster Management and Disaster Recovery Guide](#)
- [MetroCluster Service and Expansion Guide](#)
- [Migrating to a two node cluster with Cisco Nexus 3132 Q-V](#)
- [Multifactor Authentication in ONTAP 9.3: Best Practices and Implementation Guide](#)
- [NDMP Configuration Express Guide](#)
- [Network Management Guide](#)
- [NFS Client Configuration with VAAI for ESX Express Guide](#)
- [NFS Configuration Express Guide](#)
- [NFS Configuration for ESXi® using VSC Express Guide](#)
- [NFS Configuration Power Guide](#)
- [NFS Reference](#)

© 2018 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 Go further, faster are trademarks or registered trademarks of NetApp, Inc., in the United States and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such.





- [OnCommand Unified Manager 7.2 Workflow Guide for Managing Cluster Performance](#)
- [ONTAP 9 Administrator Authentication and RBAC](#)
- [ONTAP 9 Command Reference Manual](#)
- [ONTAP 9 Concepts](#)
- [ONTAP 9 Release Notes](#)
- [ONTAP 9 SVM Disaster Recovery Express Guide](#)
- [ONTAP 9 SVM Disaster Recovery Preparation Express Guide](#)
- [ONTAP 9 SVM Root Volume Protection Express Guide Performance Management Power Guide](#)
- [ONTAP Select 9 Installation and Cluster Deployment Guide](#)
- [OnTap Select Product Architecture and Best Practices](#)
- [Performance Monitoring Express Guide](#)
- [SAN Administration Guide](#)
- [SAN Configuration Guide](#)
- [SAN Host Transition and Remediation Guide](#)
- [Scalability and Performance Using FlexGroup Volumes Power Guide](#)
- [SMB/CIFS and NFS Auditing and Security Tracing Guide](#)
- [SMB/CIFS and NFS Multiprotocol Configuration Express Guide](#)
- [SMB/CIFS Configuration Express Guide](#)
- [SMB/CIFS Configuration Guide for Microsoft Hyper-V and SQL Server](#)
- [SMB/CIFS Configuration Power Guide](#)
- [SMB/CIFS Reference](#)
- [SNMP Configuration Express Guide](#)
- [Software Setup Guide](#)
- [SolidFire to ONTAP Backup Power Guide](#)
- [Stretched MetroCluster Installation and Configuration Guide](#)
- [SVM Disaster Recovery Preparation Express Guide](#)
- [System Administration Reference](#)
- [T10.org Thin Provisioning](#)
- [Tiebreaker Software 1.2 Installation and Configuration Guide](#)
- [TR-4476: NetApp Data Compression, Deduplication and Data Compaction Data ONTAP 8.3.1 and Later](#)
- [TR-4598: FabricPool Best Practices](#)
- [Upgrade and Revert/Downgrade Guide](#)
- [Upgrade Express Guide](#)
- [Using All Flash FAS with ONTAP Software](#)
- [Volume Backup Using SnapVault Express Guide](#)
- [Volume Disaster Recovery Express Guide](#)
- [Volume Disaster Recovery Preparation Guide](#)
- [Volume Move Express Guide](#)
- [Volume Restore Using SnapVault Express Guide](#)
- [Workflow Guide for Managing Cluster Health](#)
- [Workflow Guide for Managing Cluster Performance](#)



## NetApp Certified Implementation Engineer, Data Protection (NS0-526)

Note: These documents and the exam encompass ONTAP up to version 9.7.

- [Archive and Compliance Using SnapLock Technology Power Guide](#)
- [Cluster Management Using OnCommand System Manager](#)
- [Commands: Manual Page Reference for ONTAP 9.3](#)
- [Commvault Complete Backup and Recovery V11 Documentation](#)
- [Data Fabric Solution for Cloud Backup Workflow Guide](#)
- [Data Protection Guide for VMs and Datastores Using the SnapCenter Plug-in for VMware vSphere](#)
- [Data Protection Power Guide](#)
- [Disks and Aggregates Power Guide](#)
- [Fabric-attached MetroCluster Installation and Configuration Guide](#)
- [FlexPod Datacenter with NetApp MetroCluster NVA Design Guide](#)
- <https://docs.netapp.com>
- [Hardware Universe](#)
- Industry/Product Knowledge
- [Infinite Volumes Management Guide](#)
- [Interoperability Matrix Tool](#)
- [Logical Storage Management Guide](#)
- [Managing Clustered Data ONTAP Using GUI](#)
- [MetroCluster 8.2.1 Best Practices for Implementation](#)
- [MetroCluster IP Installation and Configuration Guide](#)
- [MetroCluster Management and Disaster Recovery Guide](#)
- [NDMP Configuration Express Guide](#)
- [NetApp Cloud Docs Deploying ONTAP Cloud, Planning Your Configuration, Choosing a License Type](#)
- [NetApp Encryption Power Guide](#)
- [OnCommand Unified Manager 7.3 Workflow Guide for Managing Cluster Health](#)
- [OnCommand Workflow Automation 4.1 Workflow Developers Guide](#)
- [ONTAP 9 Concepts](#)
- [ONTAP 9 SMB/CIFS Reference](#)
- [ONTAP 9 SVM Disaster Recovery Express Guide.pdf](#)
- [ONTAP 9 SVM Disaster Recovery Preparation.pdf](#)
- [SAN Administration Guide](#)
- [Scalability and Performance Using FlexGroup Volumes Power Guide](#)
- [SnapCenter Software 4.0 Administration Guide](#)
- [SnapCenter Software 4.0 Data Protection Guide for Microsoft SQL Server](#)
- [SolidFire to ONTAP Backup Power Guide](#)
- [Tiebreaker Software 1.21 Installation and Configuration Guide](#)
- [TR-3920: CommVault IntelliSnap for NetApp Solution Overview](#)
- [TR-4015: SnapMirror Configuration and Best Practices Guide for ONTAP 9.1, 9.2](#)
- [TR-4476: NetApp Data Compression, Deduplication and Data Compaction](#)
- [TR-4517: ONTAP Select Product Architecture](#)
- [TR-4526: Compliant WORM Storage Using NetApp Snaplock](#)
- [TR-4598: FabricPool Best Practices](#)
- [TR-4648 Security in the Cloud: The NetApp Private Storage for Cloud Solution](#)
- [TR-4832 Three-Way Data Center Disaster Recovery Using NetApp SnapMirror for ONTAP 9.7](#)
- [VEEAM Backup and Replication 10 User Guide for VMware vSphere](#)
- [Virtual Storage Console, VASA Provider, and Storage Replication Adapter for VMware vSphere](#)
- [Volume Backup Using SnapVault Express Guide](#)
- [Volume Disaster Recovery Preparation Express Guide](#)
- [Volume Restore Using SnapVault Express Guide](#)



## NetApp Certified Implementation Engineer – SAN Specialist, E-Series (NS0-515)

- [Automatic Load Balancing NetApp SANtricity Feature Description and Implementation, TR4737](#)
- [Brocade Fabric OS Troubleshooting and Diagnostics User Guide, 8.2.1](#)
- [Brocade SUPPORT DOCUMENTS AND DOWNLOADS page](#)
- [E-Series Site Preparation Guide](#)
- [Fiber Cables](#)
- [Hardware Universe](#)
- Industry/Product Knowledge
- [Interoperability Matrix Tool – IMT](#)
- [Introduction to NetApp EF-Series E2800 Arrays, TR4725](#)
- [Introduction to NetApp EF-Series EF280, TR4727](#)
- [Introduction to NetApp EF-Series EF570, TR4726](#)
- [Introduction to NetApp EF-Series EF5700, TR4724](#)
- [Knowledgebase](#)
- [NetApp Documentation Site](#)
- [NetApp SANtricity Cloud Connector 3.1, TR4658](#)
- [NetApp SANtricity Management Security Feature Details and Configuration Guide, TR4712](#)
- [SANtricity OS 11.40.1 Dynamic Disk Pools Feature Description and Best Practices, TR4652](#)
- [SANtricity Snapshot Feature Overview and Deployment Guide, TR4747](#)
- [SANtricity Web Services API Built-In and Central Management Capabilities, TR4736](#)



## NetApp Certified Implementation Engineer – SAN, ONTAP (NS0-519)

Note: These documents and the exam encompass ONTAP up to version 9.7.

- [Active IQ User Guide](#)
- [Active IQ... But Wait, There's More!](#)
- [Best Practices for Scalable SAN – TR4080 v8](#)
- [Brocade SAN Design and Best Practices Guides](#)
- [Brocade SAN Health](#)
- [Cisco MDS 9000 Family NX-OS Interfaces Configuration Guide Release 6.2](#)
- [Cloud Manager and ONTAP Cloud Documentation](#)
- [Cluster Management Using OnCommand System Manager](#)
- [Config Advisor V5.5](#)
- [Data Protection Power Guide](#)
- [Data Storage Tiering with NetApp FabricPool](#)
- [Disks and Aggregates Power Guide](#)
- [Ethernet Storage Best Practices](#)
- [FC Configuration for ESXi® using VSC Express Guide](#)
- [FC Configuration for Red Hat Enterprise Linux Express Guide](#)
- [FC Configuration for Windows Express Guide](#)
- [FC SAN Optimized AFF Setup Guide](#)
- [FlexArray Virtualization Implementation Guide for Third-Party Storage](#)
- [Hardware Universe](#)
- [High-Availability Configuration Guide](#)
- [Implementing and Configuring Modern SANs with NVMe/FC TR-4684](#)
- [IMT FAQ](#)
- Industry/Product Knowledge
- [iSCSI Configuration for ESXi using VSC Express Guide](#)
- [iSCSI Configuration for Red Hat Enterprise Linux Express Guide](#)
- [iSCSI Configuration for Windows Express Guide](#)
- [Linux Unified Host Utilities 7.1 Release Notes](#)
- [Linux® Unified Host Utilities 7.1. Installation Guide](#)
- [Logical Storage Management Guide](#)
- [NetApp Interoperability Matrix Tool](#)
- [NetApp Memory Accelerated Data ds-3953](#)
- [Network Management Guide](#)
- [ONTAP 9 Cluster Administration](#)
- [ONTAP 9 docs.netapp.com](#)
- [ONTAP 9 Express FC Configuration for Red Hat Enterprise Linux – Provisioning for SAN protocols](#)
- [ONTAP 9 FC Express Configuration for ESXi – Provisioning for SAN protocols](#)
- [ONTAP 9 FlexArray Virtualization – FlexArray Virtualization Implementation for Third-Party Storage](#)
- [ONTAP 9 Protection Power Guide](#)
- [ONTAP 9 SAN Administration – Provisioning](#)
- [ONTAP 9 SAN Configuration – Provisioning](#)
- [ONTAP 90 FC Configuration for Windows Express](#)
- [ONTAP 90 Logical Storage Management Guide](#)
- [Performance Management Power Guide](#)
- [Performance Monitoring Express Guide](#)
- [Planning your ONTAP Cloud configuration](#)
- [SAN Administration Guide](#)
- [SAN Configuration Guide](#)
- [SAN Migration Using Foreign LUN Import](#)
- [SAS Disk Shelves Installation and Cabling Guide For DS460C, DS224C, and DS212C](#)
- [SnapCenter Software 4.1 Installation and Setup Guide](#)
- [System Administration Reference](#)
- [T11 – Fiber Channel Interfaces](#)
- [TR-4476 - NetApp Data Compression, Deduplication and Data Compaction Data](#)

© 2018 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 Go further, faster are trademarks or registered trademarks of NetApp, Inc., in the United States and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such.



- [TR-4517 - ONTAP Select Product Architecture and Best Practices](#)
- [TR-4598 FabricPool Best Practices in ONTAP 9.7](#)
- [TR-4684 Version 2.0: Implementing and Configuring Modern SANs with NVMe/FC](#)
- [Upgrade Advisor in ActiveIQ](#)
- [Volume Move Express Guide](#)
- [Windows HUK](#)



[www.netapp.com](http://www.netapp.com)

© 2018 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 Go further, faster are trademarks or registered trademarks of NetApp, Inc., in the United States and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such.

## NetApp Certified Technology Associate (NS0-002)

- [AWS website](#)
- [Build your Data Fabric with NetApp HCI, ONTAP and Converged Infrastructure TR-4748](#)
- [Docker website](#)
- [Google Cloud website](#)
- [Kubernetes Documentation site](#)
- [National Institute of Standards and Technology \(NIST\)](#)
- [NetApp Blog](#)
- [NetApp Cloud Blog](#)
- [NetApp Cloud Central](#)
- [NetApp Cloud Documentation](#)
- [NetApp Datasheet](#)
- [NetApp Forums](#)
- [NetApp Information Center](#)
- [NetApp IO](#)
- [NetApp Knowledgebase](#)
- [NetApp Kubernetes Hub](#)
- [NetApp Library](#)
- [NetApp MySupport](#)
- [NetApp Product Documentation](#)
- [NetApp Product Page](#)
- [NetApp Solution Brief](#)
- [NetApp StorageGRID Documentation](#)
- [NetApp Technical Report](#)
- [NetApp website](#)
- [NetApp White Paper](#)
- [VMware](#)



## NetApp Certified Storage Installation Engineer, ONTAP (NS0-183)

**Note:** Not all content is accessible by customers given the nature of the job role.

- [Additional tasks after installing and testing an ONTAP configuration with array LUNs](#)
- [Advanced Drive Partitioning FAQ](#)
- [AFF A300 Systems: Installation and Setup Instructions](#)
- [AFF and FAS System Documentation Center](#)
- [Broadcast-domain configured with ports from multiple VLANs](#)
- [BUG Tool](#)
- [Clustered Data ONTAP 8.3: Express Setup Guide for 80xx Systems](#)
- [Cluster Installation Workshop](#)
- [CN1601 and CN1610 Switch Setup and Configuration Guide](#)
- [Completing the cluster setup worksheet](#)
- [Config Advisor 5.0: Quick Start Guide](#)
- [Configuring failover settings on a LIF](#)
- [Configuring iSCSI protocol on SVMs](#)
- [Converting from RAID-DP to RAID-TEC](#)
- [Creating a cluster](#)
- [DataMotion for Volumes: NetApp clustered Data ONTAP 8.2 and 8.3](#)
- [Decommissioning the old system](#)
- [Evaluation Licenses](#)
- [Factory configuration default values](#)
- [FAS26xx Series Systems Installation and Setup Instructions](#)
- [Hardware Universe](#)
- [How to modify flow control on cluster LIF in clustered Data ONTAP](#)
- [How to perform a disruptive head upgrade \(head swap\) for clustered Data ONTAP](#)
- [How to run diagnostics using the sldiag command on the interconnect for FAS32xx and FAS62xx](#)
- <http://npulse.netapp.com/npulse/cdp.xwic>
- [IMT](#)
- [In-Band ACP Setup and Support](#)
- [Industry/Product Knowledge](#)
- [Installation and Cabling Guide: For DS460C, DS224C, and DS212C](#)
- [Installation and Setup Instructions FAS2552 Systems](#)
- [Installing FASTPATH software and RCFs on a NetApp cluster switch](#)
- [Installing NX-OS software and RCFs on Cisco® Nexus 3132Q-V cluster switches](#)
- [Installing the 16-port Cisco unified port expansion module in Nexus 5596 cluster switches](#)
- [Interface group types](#)
- [License types and licensed method](#)
- [Managing AutoSupport](#)
- [Managing clusters](#)
- [Managing the cluster time \(cluster administrators only\)](#)
- [Migrating to a two-node switched cluster with NetApp CN1610 cluster switches](#)
- [NetApp Community Site](#)
- [NetApp Knowledgebase](#)
- [NetApp KB 1033620](#)
- [NetApp Fusion](#)
- [NetApp 10G Cluster-Mode Switch Installation Guide](#)
- [NetApp CN1610 Cluster Switch Software Download Instructions](#)
- [NetApp CN1610 Switch Administrator's Guide](#)
- [NetApp Global Services Contacts](#)
- [NetApp ONTAP 9 Documentation Center](#)
- [NetAppDocs 3.1P1](#)
- [Netbooting and setting up ONTAP on the new controller module](#)
- [Network Interfaces on your storage system](#)
- [ONTAP 9 Concepts](#)

© 2018 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 Go further, faster are trademarks or registered trademarks of NetApp, Inc., in the United States and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such.



- [ONTAP 9 Release Notes](#)
- [ONTAP 9: System Administration Reference](#)
- [ONTAP® 9: EMS Configuration Express Guide](#)
- [Recommended Data ONTAP releases on the NetApp Support Site](#)
- [Requirements for cabling HA pair](#)
- [Requirements for using AutoSupport](#)
- [SAS cabling issue: Both SAS connections from one controller go to the same shelf](#)
- [SAS Disk Shelves- Installation and Cabling Guide: For DS460C, DS224C, and DS212C](#)
- [SAS Disk Shelves- SAS and ACP Cabling Guide: For DS4243, DS2246, DS4486, and DS4246](#)
- [Software Licenses](#)
- [Software Version Support](#)
- [Step-by-step guide to configuring new NetApp installations using the ConfigBuilder tool](#)
- [Storage Subsystem Configuration Guide](#)
- [Storage Virtual Machines](#)
- [Support Case Submittal Process Quick Reference Guide](#)
- [Support for triple parity RAID protection](#)
- [Using aggregate relocation to upgrade controller hardware on a pair of nodes running ONTAP 9.x](#)
- [What is a Service Processor and how do I use it?](#)





## NetApp Certified Support Engineer (NS0-194)

**Note:** These documents and the exam encompass ONTAP up to version 9.5.

- [7-Mode Data Transition Using SnapMirror Technology](#)
- [Administrator Authentication and RBAC Power Guide](#)
- [Antivirus Configuration Guide](#)
- [Archive and Compliance Using SnapLock Technology Power Guide](#)
- [BR8952: Break Fix: Troubleshooting Workflow: DC not responding \(CIFS\)](#)
- [Cluster and SVM Peering Power Guide](#)
- [Cluster Expansion Express Guide](#)
- [Cluster Management Using OnCommand System Manager](#)
- [Cluster Management Workflows for OnCommand System Manager](#)
- [Cluster Peering Express Guide](#)
- [Command Map for 7-Mode Administrators](#)
- [Commands: Manual Page Reference for ONTAP 9.0](#)
- [Commands: Manual Page Reference for ONTAP 9.1](#)
- [Commands: Manual Page Reference for ONTAP 9.2](#)
- [Commands: Manual Page Reference for ONTAP 9.3](#)
- [Concepts](#)
- [Copy-Based Transition Guide For Transitioning to ONTAP](#)
- [Copy-Free Transition Guide For Transitioning to ONTAP](#)
- [Data ONTAP 8.2 System Administration Guide For 7-Mode](#)
- [Data Protection Power Guide](#)
- [Data Protection Tape Backup and Recovery Guide](#)
- [Datasheet: OnCommand Unified Manager and Performance Manager](#)
- [Disks and Aggregates Power Guide](#)
- [EMS Configuration Express Guide](#)
- [Fabric-attached MetroCluster Installation and Configuration Guide](#)
- [FC Configuration for ESXi® using VSC Express Guide](#)
- [FC Configuration for Red Hat Enterprise Linux Express Guide](#)
- [FC Configuration for Windows Express Guide](#)
- [FC SAN Optimized AFF Setup Guide](#)
- [FlexArray Virtualization Implementation Guide for NetApp E-Series Storage](#)
- [FlexArray Virtualization Implementation Guide for Third-Party Storage](#)
- [FlexArray Virtualization Installation Requirements and Reference](#)
- [Hardware Universe HWU](#)
- [High-Availability Configuration Guide](#)
- [Host and Storage Information Collection Guide](#)
- [Industry/Product Knowledge](#)
- [Infinite Volumes Management Guide](#)
- [Installation and Cabling Guide For DS460C, DS224C and DS212C](#)
- [Installation and Setup Guide](#)
- [Interoperability Matrix Tool](#)
- [iSCSI Configuration for ESXi using VSC Express Guide](#)
- [iSCSI Configuration for Red Hat Enterprise Linux Express Guide](#)
- [iSCSI Configuration for Windows Express Guide](#)
- [KB: What is deswizzler or deswizzling?](#)
- [Learning About Cloud Manager and ONTAP Cloud](#)
- [Logical Storage Management Guide](#)
- [MetroCluster IP Installation and Configuration Guide](#)
- [MetroCluster Management and Disaster Recovery Guide](#)
- [MetroCluster Service and Expansion Guide](#)
- [Migrating from a switchless cluster to a switched Cisco® Nexus 5596, Nexus 5020, or Nexus 5010 cluster environment](#)
- [Migrating to a two-node cluster with Cisco Nexus 3132Q-V](#)
- [Multifactor Authentication in ONTAP 9.3: Best Practices and Implementation Guide](#)
- [NDMP Configuration Express Guide](#)

© 2018 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 Go further, faster are trademarks or registered trademarks of NetApp, Inc., in the United States and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such.



- [NetApp Encryption Power Guide](#)
- [NetApp KB: How to collect performance data when Perfstat8 fails by using preset files and manual data collection](#)
- [NetApp Knowledge Base](#)
- [Network Management Guide](#)
- [NFS Client Configuration for ESX Express Guide](#)
- [NFS Client Configuration with VAAI for ESX Express Guide](#)
- [NFS Configuration Express Guide](#)
- [NFS Configuration Power Guide](#)
- [NFS Reference](#)
- [OnCommand Unified Manager 7.2 Workflow Guide for Managing Cluster Performance](#)
- [OnCommand Unified Manager Performance Advisor Administration Guide](#)
- [OnCommand Workflow Automation 4.1 Workflow Developer's Guide](#)
- [ONTAP 9.2 EMS Event Catalog](#)
- [ONTAP Select 9 Installation and Cluster Deployment Guide](#)
- [Ontap Select Product Architecture and Best Practices](#)
- [Performance Management Power Guide](#)
- [Performance Monitoring Express Guide](#)
- [Physical Storage Management Guide](#)
- [Release Notes](#)
- [SAN Administration Guide](#)
- [SAN Configuration Guide](#)
- [SAN Host Transition and Remediation Guide](#)
- [Scalability and Performance Using FlexGroup Volumes Power Guide](#)
- [Service Guide for DS460C, DS224C and DS212C](#)
- [SMB/CIFS and NFS Auditing and Security Tracing Guide](#)
- [SMB/CIFS and NFS Multiprotocol Configuration Express Guide](#)
- [SMB/CIFS Configuration Express Guide](#)
- [SMB/CIFS Configuration Guide for Microsoft Hyper-V and SQL Server](#)
- [SMB/CIFS Configuration Power Guide](#)
- [SMB/CIFS Reference](#)
- [Snap Drive 7.1 for Windows Installation Guide](#)
- [SnapCenter Software 4.0 Concepts Guide](#)
- [SnapCenter Software 4.0 Data Protection Guide For Microsoft SQL Server](#)
- [SnapDrive for Windows for Clustered Data ONTAP Used in SAN Environments, December 2014](#)
- [SnapDrive® 7.1 for Windows® Administration Guide](#)
- [SnapManager® 7.2.2 for Microsoft® SQL Server® Installation and Setup Guide](#)
- [Software Setup Guide](#)
- [SolidFire to ONTAP Backup Power Guide](#)
- [Stretch MetroCluster Installation and Configuration Guide](#)
- [SVM Disaster Recovery Express Guide](#)
- [SVM Disaster Recovery Preparation](#)
- [SVM Root Volume Protection Express Guide](#)
- [System Administration Reference](#)
- [System-Level Diagnostics Guide](#)
- [T10.org Thin Provisioning](#)
- [Tiebreaker Software 1.2 Installation and Configuration Guide](#)
- [TR-3832: Flash Cache Best Practice Guide](#)
- [TR-3966: NetApp Data Compression and Deduplication Deployment and Implementation Guide](#)
- [TR-4080: Best Practices for Scalable SAN](#)
- [TR-4211: Storage Performance Primer](#)
- [TR-4476: NetApp Data Compression, Deduplication and Data Compaction Data ONTAP 8.3.1 and Later](#)
- [TR-4598: FabricPool Best Practices](#)
- [Unsupported ONTAP 9 Features](#)
- [Upgrade and Revert/Downgrade Guide](#)
- [Upgrade Express Guide](#)

© 2018 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 Go further, faster are trademarks or registered trademarks of NetApp, Inc., in the United States and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such.



- [Using Aggregate Relocation to Upgrade Controller Hardware](#)
- [Using All Flash FAS with ONTAP Software](#)
- [Volume Backup Using SnapVault Express Guide](#)
- [Volume Disaster Recovery Express Guide](#)
- [Volume Disaster Recovery Preparation Express Guide](#)
- [Volume Move Express Guide](#)
- [Volume Restore Using SnapVault Express Guide](#)
- [Workflow Guide for Managing Cluster Health](#)
- [Workflow Guide for Managing Cluster Performance](#)



## NetApp Certified Support Engineer – ONTAP Specialist (NS0-592)

- [After re-seating or replacing an IOM shelf module shelf serial numbers are displayed instead of shelf IDs in sysconfig -a](#)
- [Alert LED turned ON a Shelf without any other observed fault or DC UNDER VOLTAGE messages](#)
- [AutoSupport Message: Health Monitor Process CSHM](#)
- [AutoSupport Message: MAXIMUM EXITS THRESHOLD OF A PROCESS MANAGED BY SPM IS REACHED](#)
- [AutoSupport Message: ROOT VOLUME NOT WORKING PROPERLY: RECOVERY REQUIRED](#)
- [Broadcast-domain configured with ports from multiple VLANs](#)
- [Can I upgrade a controller without moving its volumes?](#)
- [Clustered Data ONTAP 8.3: Network Management Guide](#)
- [Clustered Data ONTAP cluster interconnect issues between HA pairs](#)
- [Clustered Data ONTAP® 8.3 File Access Management Guide for NFS](#)
- [Creating an Infinite Volume with small constituents](#)
- [df reports incorrect information while running Infinite Volume Space Accounting](#)
- [DS4243, DS2246, DS4486, and DS4246 Disk Shelf SAS and ACP Cabling Guide](#)
- [Enabling or disabling pNFS](#)
- [Enabling Storage Efficiency on transitioned volumes from 7MTT](#)
- [FAQ: Handling watchdog resets](#)
- [FAQ: Troubleshooting LACP port channel/ interface groups](#)
- [FCP/FCoE LIF reports operationally down](#)
- [File Access Management Guide for CIFS](#)
- [FlexVol: Flexible, Efficient File Volume Virtualization in WAFL](#)
- [General HA issues in clustered Data ONTAP](#)
- [High Protocol Latency on FAS 25xx with clustered Data ONTAP for remote LIF traffic](#)
- [How to collect additional information from FAS22xx/ FAS32xx/ FAS62xx/FAS8xxx series storage systems for panics related to NMI/ Watchdog/ Uncorrectable Machine Check events](#)
- [How to collect data for an RCA of a SAN event that occurred in the past](#)
- [How to collect rolling pktt trace files \(from clustered Data ONTAP 8.3.2 \)](#)
- [How to configure DNS per SVM for versions later than clustered Data ONTAP 8.2.1](#)
- [How to give a client full control to a junctioned volume over NFS, but no access \(not even read access\) to the root volume of a vservers](#)
- [How to replace a disk drive in AFF configurations](#)
- [How to troubleshoot network issues in clustered Data ONTAP](#)
- [How to troubleshoot the 'Autolocation' feature in Clustered Data ONTAP](#)
- [How to verify Windows fibre channel configurations with multipathing I/O \(MPIO\)](#)
- [How a two-node MetroCluster configuration provides nondisruptive operations](#)
- [Identifying CIFS latency in clustered Data ONTAP due to a client's vscan server](#)
- [INTERNAL: Troubleshooting Workflow: Mroot recovery process](#)
- [List of supported privileges](#)
- [MCC Config Advisor FCVI port setting errors](#)
- [MetroCluster fabric FCVI port reset](#)
- [Name Services Best Practices Guide](#)
- [Name services fail due to multiple default gateways with the same metric](#)
- [New Cluster Filer is being Set up The Root Volume is Damaged](#)
- [NetApp FlexGroup Best Practice and Implementation Guide](#)
- [NetApp Cloud Documentation](#)
  
- [OEM: A node is out of quorum](#)
- [OEM: Cannot log into the Cluster Mode node using admin as the user ID](#)
- [OEM: Network interface show reports: This table is currently empty](#)
- [OEM: RAID Error Propagation in Data ONTAP 7.3.1- FAQ](#)
- [OEM: What protocol errors are given to clients by RAID Error Propagation?](#)

- [ONTAP 9 CIFS and NFS Multiprotocol Configuration Express Guide](#)
- [ONTAP 9 Volume Move Express Guide](#)
- [ONTAP 9 Documentation: Improving client response time by providing SMB automatic node referrals with Auto Locationv](#)
- [ONTAP Select Documentation](#)
- [Overflow of wafliiron](#)
- [Restoring databases from other SQL Server backups](#)
- [SAN configuration guide](#)
- [SAS adapter connected to misconfigured SAS domain](#)
- [SAS ACP Cabling Guide](#)
- [SAS Disk Shelves Installation and Service Guide](#)
- [SAS: Shelf ID is not set or is in conflict with an existing shelf](#)
- [scsiblade.out.of.quorum error seen immediately after giveback completes](#)
- [Services Partners: CLAM Functionality in clustered Data ONTAP and how it determines nodes to be out of CLAM quorum](#)
- [SERVICES PARTNERS: Host performs excessive Active Non-Optimized Path IO in Data ONTAP 8.3](#)
- [Services Partners: PANIC: nested machine check exception detected on CPU #, no coredump will be generated PCI NMI](#)
- [Services Partners: RAID Error Propagation and RAID Error Propagation Tools - FAQ](#)
- [Services Partners: WAFL inconsistent: volume xxxx has a corrupted user data block](#)
- [Simultaneous loss of both node mailbox disks causes system disruption](#)
- [Snapshot autodelete fails on deduped volumes when dedupe is running](#)
- [Storage auto-reclamation does not occur](#)
- [TCP Congestion Control](#)
- [The Write-Anywhere-File-Layout \(WAFL\)](#)
- [Troubleshooting CIFS or SMB Access Denied](#)
- [Troubleshooting Workflow: CIFS Authentication failures](#)
- [Troubleshooting Workflow: Most common issues with multi-domain search for usermapping](#)
- [Troubleshooting Workflow: Not enough aggregates to create an Infinite Volume](#)
- [Troubleshooting Workflow: Staging volume full for onbox CIFS auditing](#)
- [Troubleshooting Workflow: Stale file handle error \(NFSv3 and NFSV4\)](#)
- [Troubleshooting Workflow: Takeover not possible](#)
- [Troubleshooting Workflow: User and the user group displayed as 'nobody' in NFS v4](#)
- [Troubleshooting Workflow: vol move command failure](#)
- [Troubleshooting Workflow: vol move start command failure](#)
- [TR-4684 Implementing and Configuring Modern SANs with NVMe/FC](#)
- [Unable to join a second node to cluster with error: Remote ping test failed](#)
- [VPD mismatch on DS4243, DS4246, and DS2246](#)
- [What is a MailBox disk?](#)
- [What is CIFS Max Multiplex and how to increase maximum number of simultaneous outstanding Windows client requests that a controller allows?](#)
- [Why do NFSv4 and NFSv4.1 I/O stop while a takeover/giveback, an aggregate relocation occur, or a Vfiler Migration?](#)
- [Why is a warning displayed when attempting to create one or more data volumes in the root aggregate in Data ONTAP Cluster-Mode?](#)

## NetApp Certified Hybrid Cloud – Implementation Engineer (NS0-402)

- [Ansible Documentation](#)
- [Automated Data Cloning for Cloud-Based Testing of Software Applications](#)
- [AWS Documentation](#)
- [Cloud Central](#)
- [CloudShip Hybrid Cloud Reference Architecture](#)
- [Docker Documentation](#)
- [Encrypting volumes with NetApp Volume Encryption](#)
- [GIT Documentation](#)
- [GIT Hub](#)
- [Grid Primer](#)
- [How To Guide: NetApp Cloud Insights: A New Way to Monitor Your Cloud Infrastructure](#)
- [Kubernetes Documentation](#)
- [Kubernetes: Production-Grade Container Orchestration](#)
- [Microsoft Documentation](#)
- [NetApp Homepage](#)
- [NetApp KnowledgeBase](#)
- [NetApp TR](#)
- [NetApp.io](#)
- [ONTAP 9.6 REST API Developers Guide](#)
- [OpenStack](#)
- [Product Documentation](#)
- [Puppet Documentation](#)
- [RESTFUL API](#)
- [StorageGRID® 11.2 Administrator Guide](#)
- [StorageGRID® NAS Bridge 2.2 Administration Guide](#)
- [Terraform](#)
- [The Linux Juggernaut](#)
- [The Twelve-Factor App](#)
- [Trident Documentation](#)
- [w3schools JSON Syntax](#)
- [WORM Storage](#)
- [YAML](#)
- [GIT Hub Pull Requests](#)
- [The Linux Juggernaut: What is Source Code Management or Version Control?](#)
- Industry/ Product Knowledge
- [Application Lifecycle Management: Applications \(Supported Languages\)](#)
- [Continuous integration vs. continuous delivery vs. continuous deployment](#)
- [NIST Cloud Computing Standards Roadmap](#)
- [Elasticity in Cloud Computing: What It Is, and What It Is Not](#)
- [Application Lifecycle Management for Kubernetes](#)
- [Application Lifecycle Management: Quickstart Guide](#)
- [Improving protection against ransomware](#)
- [Encryption of Data at Rest](#)
- [Encrypting volumes with NetApp Volume Encryption](#)
- [Outbound Internet Access](#)
- [Replicating Data to and from the Cloud](#)
- [ONTAP 9.6 REST API Developers Guide](#)
- [Enabling SnapMirror on the Element Cluster](#)
- [FlexCache in NetApp ONTAP ONTAP Version 9.6](#)
- [Amazon Lightsail Instance and Block Storage Service Level Agreement](#)
- [NetApp Technical Report 4598: FabricPool Best Practices in ONTAP 9](#)
- [SnapMirror Synchronous Disaster Recovery Basics](#)
- [Replicating Data To and From the Cloud](#)



- [Deployment Overview](#)
- [Restoring Cloud Manager](#)
- [About Point-to-Site VPN](#)
- [General AWS Networking Requirements for Cloud Volumes ONTAP](#)
- [Getting Started: AWS](#)
- [How Cloud Sync Works](#)
- [Data Tiering Overview](#)
- [NetApp Service Connector](#)
- [Tiering Data from Additional Clusters](#)
- [Types of Replication Policies](#)
- [Discovering and Managing ONTAP Clusters](#)
- [NetApp HCI Requirements](#)
- [Authentication with NetApp Cloud Central](#)
- [Getting Started with Cloud Volumes ONTAP in Azure](#)
- [Modifying Cloud Volumes ONTAP Systems](#)
- [Changing Sync Schedules](#)
- [API Documentation](#)
- [Azure NetApp Files](#)
- [Cloud Sync Service](#)
- [Cloud Backup Service](#)
- ["Using FlexCache Aolumes to Accelerate Data Access"Provisioning iSCSI LUNs](#)
- [AWS Networking Requirements for Cloud Volumes ONTAP HA in Multiple AZs](#)
- [Quickstart: Set up Azure NetApp Files and create an NFS volume](#)
- [What is Cloud Sync?](#)
- [Register Your VMware Environment With NKS](#)
- [NKS Requirements](#)
- [Create a New Set of AWS Credentials](#)
- [GRID Primer: Network Topologies](#)
- [StorageGRID® NAS Bridge 2.2 Administration Guide: NAS Bridge Storage Environment](#)
- [StorageGRID® 11.2 Administrator Guide: Managing Platform Services](#)
- [NetApp HCI for Private Cloud with Red Hat NVA Design](#)
- [FlexPod Converged Infrastructure](#)
- [Automated Data Cloning for Cloud-Based Testing of Software Applications](#)
- [OpenStack: Image Service Overview](#)
- [HTTP Methods](#)
- [ONTAP REST API](#)
- [Getting Started with Kubernetes](#)
- [Understanding the ONTAP REST API](#)
- [Kubernetes Concepts](#)
- [JSON Syntax Rules](#)
- [Ansible Documentation: Using Variables](#)
- [ONTAP® 9 REST API Developers Guide](#)
- [JSON Arrays](#)
- [Getting Started with NetApp and Ansible: First Playbook Example](#)
- [Managing Volumes: On-Demand Volume Snapshots](#)
- [Consuming WFA Resources from Ansible: "Getting the UUID of the Workflow"](#)
- [JSON Data Types](#)
- [JSON Syntax Rules](#)
- [Getting Started with NetApp and Ansible: First Playbook Example](#)
- [Dealing with the Unexpected](#)
- [Ansible Documentation: Loops](#)
- [ONTAP Port Usage on a Storage System](#)
- [AUTOMATING NETAPP WITH ANSIBLE](#)
- [Ansible: Template a file out to a remote server](#)
- [na\\_ontap\\_gather\\_facts – NetApp information gatherer](#)

© 2018 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 Go further, faster are trademarks or registered trademarks of NetApp, Inc., in the United States and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such.



- [na\\_ontap interface – NetApp ONTAP LIF configuration](#)
- [Trident for Kubernetes](#)
- [Kubernetes Design and Architecture Guide: Concepts and Definitions](#)
- [StatefulSets](#)
- [Kubernetes Persistent Volumes](#)
- [Kubernetes Storage Concepts](#)
- [Kubernetes and Trident Objects: Object Overview](#)
- [ONTAP \(AFF/FAS/Select/Cloud\)](#)
- [Volume Operations: 8.5.1. Modifying Persistent Volumes](#)
- [Upgrading Trident on Kubernetes?](#)
- [Kubernetes: Element \(HCI/SolidFire\)](#)
- [Virtual Storage Pools](#)
- [Choosing a Driver](#)
- [Trident installation modes](#)
- [Volume Cloning](#)
- [Virtual Storage Pools](#)
- [Backend configuration](#)
- [Cloud Insights Documentation](#)
- [NetApp Cloud Docs: Roles](#)
- [GitHub: Default Port Allocations](#)
- [Application Lifecycle Management: Projects](#)
- [Kubernetes Data Collector](#)
- [Data Replication Requirements](#)
- [Cloud Manager policies for AWS, Azure, and GCP](#)
- [Guidelines for Azure NetApp Files network planning](#)
- [Trident with NKS on HCI: Considerations and Known Issues](#)
- [Network Security and Access Controls](#)

