



NETAPP LEARNING SERVICES

NETAPP CERTIFICATION PROGRAM

Reference Document List

- Version: 5.6
- Date: February 19, 2021

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Thank you for your understanding and please contact ncp@netapp.com if you have any questions.

Shortcuts

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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 (NS0-303)

- [AWS Documentation Website](#)
- [Azure NetApp Files Blog Entry \(Andrew Chen\)](#)
- [Azure NetApp Files Documentation \(Microsoft\)](#)
- [Cloud.netapp.com](#)
- [Cloud Central website for Cloud Volumes](#)
- [Cloud Manager Setup Guide](#)
- [Docs.netapp.com](#)
 - Topics to review: Choosing a Replication Policy, Cloud Insights; NetApp Virtual Desktop Service, Cloud Sync, Cloud Volumes ONTAP, Cloud Manager, Cloud Volumes Service
- [Fabric Pool Best Practices in ONTAP 9](#)
- [Get started with Google Cloud](#)
- [Group and bucket access policies](#)
- [Managing workloads and apps with NetApp Cloud Volumes Service](#)
- [NetApp Community Website](#)
- [NetApp SANtricity Cloud Connector TR-4658](#)
- [NetApp Support Site](#)
- [OCCM Documentation](#)
- [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](#)
- [SaaS Backup](#)
- [StorageGRID Webscale 11.2 Administrator Guide](#)



Cisco and NetApp FlexPod Design (NS0-175)

- NetApp Documentation Site – <https://www.netapp.com/support-and-training/documentation/>
- [NetApp Hardware Universe](#)
- [NetApp Intersight Connector Blog](#)
- NetApp Knowledgebase – www.kb.netapp.com
- NetApp support site – <https://mysupport.netapp.com>
- NetApp Interoperability Matrix Tool (IMT) – <https://mysupport.netapp.com/matrix/#welcome>
- [FlexPod Datacenter for AI/ML with Cisco UCS 480 ML for Deep Learning Design Guide](#)
- [FlexPod Datacenter with VMware vSphere 7.0, Cisco UCS C125 M5, and NetApp ONTAP 9.7](#)
- [Testing VMkernel network connectivity with the vmkping command \(1003728\)](#)
- TR-4036: FlexPod Datacenter Technical Specification – <https://www.netapp.com/media/12424-tr4036.pdf>
- TR-4293: FlexPod Express Technical Specification – <https://www.netapp.com/media/12425-tr4293.pdf>
- [ONTAP 9 Release Notes](#)
- Cisco Hardware Compatibility List (HCL) – <https://ucshcltool.cloudapps.cisco.com/public/>
- [Cisco Intersight Data Sheet](#)
- [Cisco MDS 9705 Multilayer Datasheet](#)
- [Cisco Nexus 5000 NX-OS Software Configuration Guide \(Cisco\)](#)
- [Cisco Nexus 9500 Series Switches Data Sheet](#)
- [Cisco UCS Manager Network Management Guide, Release 4.1 \(Cisco\)](#)
- [Assessing Your Converged Infrastructure Options: Five Criteria for Making an Informed Investment](#)
- [Best Practices for Scalable SAN](#)
- [Designing and Deploying a Cisco Unified Computing System SAN Using Cisco MDS 9000 Family Switches \(Cisco\)](#)



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 \(Cisco\)](#)
- [Hardware universe – <https://hww.netapp.com>](#)
- [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 \(Cisco\)](#)
- [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 – <https://hwu.netapp.com>](#)
- [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](#)

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- [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 (NS0-516)

- NetApp Documentation Site – <https://www.netapp.com/support-and-training/documentation/>
- Interoperability Matrix Tool (IMT) – <https://mysupport.netapp.com/matrix/#welcome>
- NetApp Support – <https://mysupport.netapp.com>
- Hardware universe – <https://hwu.netapp.com>
- Fusion: <https://fusion.netapp.com>
- Fiber Cables – <https://www.fibercables.com/pages/picking-out-fiber-optic-cable>
- [TR4737: Automatic Load Balancing NetApp SANtricity Feature Description and Implementation](#)
- [TR4712: NetApp SANtricity Management Security Feature Details and Configuration Guide](#)
- [TR4724: Introduction to NetApp E-Series E5700 Feature Overview with SANtricity 11.60.2](#)
- [TR4725: Introduction to NetApp E-Series E2800 Arrays Feature Overview with SANtricity 11.60.2](#)
- [TR4726: Introduction to NetApp EF-Series EF570 Feature Overview with SANtricity 11.60.2](#)
- [TR4727: Introduction to NetApp EF-Series EF280 Feature Overview with SANtricity 11.60.2](#)
- [TR4736: SANtricity Web Services API Built-In and Central Management Capabilities](#)
- [TR4658: NetApp SANtricity Cloud Connector 4.0](#)
- [TR4652: SANtricity OS Dynamic Disk Pools Feature Description and Best Practices](#)
- [TR4656: SANtricity Synchronous and Asynchronous Mirroring \(11.61 and Earlier\) Feature Descriptions and Deployment Guide](#)
- [TR4813: Managing Certificates for NetApp E-Series Storage Systems](#)
- [TR4800: Introduction to NetApp EF600 Array Feature Overview with SANtricity](#)
- [E-Series Site Preparation Guide](#)



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. 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](#)
- TR-4517 - ONTAP Select Product Architecture and Best Practices

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- [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](#)



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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](#)

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- [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](#)
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- [Storage Subsystem Configuration Guide](#)
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- [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](#)

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- [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](#)
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- [Performance Monitoring Express Guide](#)
- [Physical Storage Management Guide](#)
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- [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](#)
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- [SVM Disaster Recovery Express Guide](#)
- [SVM Disaster Recovery Preparation](#)
- [SVM Root Volume Protection Express Guide](#)
- [System Administration Reference](#)
- [System-Level Diagnostics Guide](#)
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- [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](#)

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- [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 troubleshoot network issues in clustered Data ONTAP](#)
- [How to troubleshoot the 'Autolocation' feature in Clustered Data ONTAP](#)
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- [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](#)
- [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: 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 wafiron](#)



- [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](#)
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- [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](#)
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- [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)

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- [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](#)
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- [Ansible: Template a file out to a remote server](#)
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