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NETAPP CERTIFICATION PROGRAM

Reference Document List

- Version: 4.7
- Date: March 19, 2019

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

Shortcuts

[NetApp Certified Hybrid Cloud Architect \(NS0-600\)](#)
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[NetApp Certified Implementation Engineer – SAN, ONTAP \(NS0-509\)](#)
[NetApp Certified Technology Associate \(NS0-002\)](#) (replaced NCSA-Hybrid Cloud NS0-146)
[NetApp Certified Storage Installation Engineer, ONTAP \(NS0-181\)](#)
[NetApp Certified Support Engineer \(NS0-192\)](#)
[NetApp Certified Support Engineer - ONTAP Specialist \(NS0-591\)](#)



NetApp Certified Hybrid Cloud Architect (NS0-600)

- NetApp Cloud Volumes Service for AWS documentation
- Azure NetApp Files Documentation
- Cloud Sync Documentation
- Adopting Hybrid Cloud Becomes a Strategic Imperative (Harvard Business Review Analytics Service Survey)
- NetApp Data Fabric Architecture Fundamentals. WP7218
- Cloud Volumes ONTAP AWS TCO Calculator
- Cloud Volumes ONTAP Azure TCO Calculator
- NetApp StorageGRID Webscale Object-based Storage Software
- Performance Characterization of ONTAP Cloud in Amazon Web Services with Application Workloads
- Performance Characterization of ONTAP Cloud in Azure with Application Workloads
- Cloud Sync Swagger API Documentation
- Getting Started with the Cloud Sync Service
- ONTAP 9 Documentation Center
- Storage as a Service Blueprint for IT Providers (Rich O'Connor and Owen Hughes, NetApp)
- StorageGRID Webscale 11.1 Simple Storage Service Implementation Guide
- Cloud Volumes ONTAP
- Configuration Management
- Provision Storage like a Service Provider with NetApp Service Level Manager (Priya Munshi)
- Cloud Volumes ONTAP managing encryption keys
- The Importance of I/O Density in Delivering Storage as a Service (Eduardo Rivera)
- Bandwidth Pricing Details (Microsoft)
- NetApp AltaVault Cloud Integrate Storage Administration Guide
- Deciding whether to use the Disks and Aggregate Power Guide
- Deciding whether to use the Data Protection Power Guide
- StorageGRID Webscale 11/1 Tenant Administration Guide
- Trident Documentation
- Cloud Docs
- Getting started with SaaS Backup for Office 365
- Storage tiering
- The Cost of Non-Compliance for Financial Service
- Data Governance
- StorageGRID Webscale 11.1 Documentation
- Amazon S3 Storage Classes
- Azure Storage Replication
- NetApp XCP migration tool
- ONTAP Select Deployment guide
- OnCommand Insight Monitoring product page
- FabricPool Best Practices
- The Self Healing Data Fabric
- Edge to Core to Cloud Architecture for AI (Sundar Ranganathan)
- The Phoenix Project: A Novel about IT, DevOps, and Helping Your Business Win (Gene Ki and Kevin Behr)
- Data sovereignty (wikipedia)
- Hadoop on Data Fabric Enabled by NetApp
- A Refresher on Net Present Value (Amy Gallo)
- ONTAP 9.4 Release Notes
- Known limitations for Cloud Volumes ONTAP 9.4
- ITIL Service Design (UK Office of Government Commerce)
- Replication data to and from the cloud



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- Manage Encryption Setting for Cloud Volumes ONTAP
- Cloud migration strategy framework (Suledjo Tjahjdi)

NetApp Certified Hybrid Cloud Administrator (NS0-300)

- Industry/Product Knowledge
- NetApp Product Documentation Website (<https://docs.netapp.com>)
- NetApp Cloud Docs, Cloud Manager, Cloud Manager FAQ
- NetApp Community Website (community.netapp.com)
- AWS Documentation Website (docs.aws.amazon.com)
- Cloud Volumes Service for AWS user documentation
- Cloud Docs 1.1
- ONTAP 9 Cluster Management Using OnCommand System Manager
- Fabric Pool Best Practices in ONTAP 9
- Cloud Central website for Cloud Volumes
- Azure NetApp Files Documentation (Microsoft)
- Azure NetApp Files Blog Entry (Andrew Chen)
- Cloud Manager and Cloud Volumes ONTAP Documentation
- NetApp Cloud Docs, Granting permissions when Cloud Manager is not launched from Cloud Central
- Cloud Manager Setup Guide
- StorageGRID Webscale 11.1 Administrator Guide
- NetApp Support Site
- NetApp SolidFire Element OS User Guide Version 10.3
- Performance Characterization of ONTAP Cloud in Amazon Web Services with Application Workloads
- Performance Characterization of ONTAP Cloud in Azure with Application Workloads
- ONTAP 9.4 Data Protection Power Guide
- ONTAP 9.4 Logical Storage Management Guide
- NetApp SANtricity Cloud Connector 3.1 User Guide
- Cloud Volumes ONTAP Getting Started Guide
- Selecting the service level and the quota
- Group and bucket access policies
- Cloud Volumes 9.4 Known Limitations
- Choosing a Replication Policy
- Scheduling Cloud Volumes ONTAP
- Provisioning and Mounting NFS Volumes

Cisco and NetApp FlexPod Design (NS0-173)

- Industry/Product Knowledge
- ONTAP 9 SAN Configuration Guide
- ONTAP 9 SAN Administration Guide
- ONTAP 9 Logical Storage Management Guide
- High-Availability Configuration Guide
- ONTAP 9 Network Management Guide
- Interoperability Matrix Tool – IMT
- Best Practices for Scalable SAN
- Datasheet NetApp Converged Systems Advisor
- FlexPod Express with Cisco UCS C-Series and NetApp FAS2500 Series
- FlexPod Datacenter with Microsoft Applications and NetApp AFF A-Series
- FlexPod Express with Microsoft Windows 2016 Hyper-V and FAS2600
- FlexPod Express Technical Specifications
- FlexPod Datacenter Technical Specifications
- Configuring the Fabric Interconnects (Cisco)
- ONTAP 9 Data Protection Power Guide
- FlexPod Datacenter with Docker Enterprise Edition for Container Management (Cisco)
- Design FlexPod Datacenter with NetApp MetroCluster NVA Design Guide
- Cisco UCS Manager Infrastructure Management Guide, Release 3.1 (Cisco)
- NetApp Hardware Universe
- FlexPod Datacenter with VMware vSphere 6.5 NetApp AFF A-Series, and IP-Based Storage
- Assessing Your Converged Infrastructure Options: Five Criteria for Making an Informed Investment
- MDS Command Reference Guide (Cisco)
- ONTAP 9 System Administration Reference
- Configuring IPspaces
- Cisco Nexus 5000 NX-OS Software Configuration Guide (Cisco)
- VMware vSphere Virtual Machine Encryption (white paper, December 2017)
- Cisco UCS Manager (Cisco)
- ONTAP 9 SMB/CIFS Configuration
- Cisco UCS Manager Administration Management Guide 3.1 (Cisco)
- Cisco UCS Manager Troubleshooting Reference Guide (Cisco)
- ONTAP 9 Release Notes
- FlexPod Datacenter with VMware vSphere 6.5 Update 1 and NetApp AFF A-series with Cisco UCS Manager 3.2 Design Guide (Cisco)
- Cisco UCS 6200, 6332, and 6324 Series Configuration Limits for Cisco UCS Manager (Cisco)
- Virtual PortChannel Quick Configuration Guide (Cisco)
- UCS Appliance Port Connectivity and Troubleshooting (Cisco)
- Cisco Nexus 9000 Series NX-OS VXLAN (Cisco)
- Cisco UCS Manager Network Management Guide, Release 3.2 (Cisco)
- vCenter Server and Host Management VMware vSphere 6.5 (VMware)
- FlexPod Datacenter with VMware vSphere 6.5, NetApp AFF A-Series and Fibre Channel
- Cisco UCS Manager Server Management Guide, Release 3.1
- SANtricity Storage Manager 11.42, SANtricity OS 8.40 and SANtricity OS 11.40
- Cisco UCS Manager Getting Started Guide, Release 3.2 (Cisco)
- Cisco UCS Director Data Sheet (Cisco)
- Small Computer System Interface over IP and Fibre Channel over Ethernet: A Comparison (Cisco)
- UCS B-series Teaming and Bonding Options with Cisco VIC Card (Cisco)
- Designing and Deploying a Cisco Unified Computing System SAN Using Cisco MDS 9000 Family Switches (Cisco)
- Cisco UCS 6300 Series Fabric Interconnect Hardware Installation Guide (Cisco)
- All Flash FAS SAN-optimized Configuration
- FlexPod Datacenter with Cisco UCS Mini and VMware vSphere 6.0 with IP-Based Storage (Cisco)
- Red Hat OpenStack Platform 10 Product Guide (OpenStack Team)
- MetroCluster for Clustered Data (Nabile Fares)
- Cisco UCS Central Software

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- Clustered Data ONTAP 8.3
- Cisco UCS 5100 Series Blade Server Chassis Data Sheet (Cisco)
- Classic Network Design Using Cisco Nexus 9000 Series Switches (Cisco)
- Cisco UCS Manager Storage Management Guide, Release 3.2 (Cisco)
- Cisco Unified Computing System Ethernet Switching Modes (Cisco)
- SnapCenter Software 4.0 Installation and Setup Guide
- FlexPod Datacenter FedRAMP Readiness with VMware vSphere 6.0 HyTrust
- Host requirements for link aggregation for ESXi and ESX (VMware)
- Getting Started with Cisco Application Centric Infrastructure (ACI) in the Small-to-Midsize Commercial Data Center
- Cisco UCS C-Series Server Integration with Cisco UCS Manager 3.1 (Cisco)
- Cisco UCS 6300 Series Fabric Interconnects Data Sheet (Cisco)
- Managing Licenses (Cisco)

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

- Industry/Product Knowledge
- NVA FlexPod Express with VMware 6.0 Large Configuration (Karthick Radhakrishnan, Arvind Ramakrishnan)
- FAS26xx Series Systems Installation and Setup Instructions
- Cisco UCS Manager GUI Configuration Guide, Release 1.3 (Cisco)
- FlexPod Express with Microsoft Windows 2016 Hyper-V and FAS2600 (Melissa Palmer, Lindsey Street)
- Technical Overview of FlexPod Solutions
- FlexPod Datacenter with VMware vSphere 6.5 UI and Cisco ACI 3.1 (John George, Dave Derry)
- FlexPod Datacenter Technical Specifications TR-4036 (Lindsey Street, Melissa Palmer, Karthick Radhakrishnan)
- Cisco UCS Manager GUI Configuration Guide, Release 2.2 (Cisco)
- SpecsSheet B200mx (Cisco)
- Testing VMkernel network connectivity with the vmkping command (vmware)
- 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 Update 1 and NetApp AFF A-series with Cisco UCS Manager 3.2 Design Guide (Cisco)
- Installation and Setup Instructions AFF A300 System
- Cisco Application Centric Infrastructure Data Sheet (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)
- Software Download by Cisco (Cisco)
- Cisco ACI Multi-Site Hardware Requirements Guide (Cisco)
- ACI Reference Design RD-03, Rev. 1 (Cisco)
- FlexPod Express with Cisco UCS Mii and VMware vSphere 5.5 with IP-Based Storage (Cisco)
- FAQ: Vservers/SVMs
- FlexPod Datacenter with Fibre Channel Storage using VMware vSphere 6.5 Update1, NetApp AFF A-series, and Cisco UCS Manager 3.2 (Cisco)
- FlexPod SolidFire with Red Hat OpenStack Platform Design Guide (Cisco)
- Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide (Cisco)
- Cisco UCS Manager Server Management Guide, Release 3.2 (Cisco)
- FlexPod Express Technical Specifications – TR-4293
- FlexPod Datacenter Technical Specifications – TR-4036
- ONTAP 9 Network Management Guide
- Cisco UCS Fabric Interconnect 6454 Data Sheet (Cisco)
- UCS Hardware and Software Compatibility (Cisco)
- Cisco Unified Computing System Adapters (Cisco)
- FlexPod Datacenter with IP-Based Storage using VMware vSphere 6.5 Update1, NetApp AFF A-Series, and Cisco UCS Manager 3.2
- NetApp Converged Systems Advisor
- ONTAP 9 SAN Administration Guide
- Installing the NetApp NFS Plug-in 1.1.2 for VMware VAAI
- How to modify the home port and/or home node of an existing clustered ONTAP logical interface serving a SAN/block protocol
- Cisco UCS Power Tool Suite (Cisco Community)
- VMware vSphere with ONTAP (Karl L. Konnerth)
- FlexPod Datacenter with IP-Based Storage using VMware vSphere 6.5 Update1, NetApp AFF A-Series, and Cisco UCS Manager 3.2
- FlexPod Datacenter with VMware vSphere 6.5, NetApp AFF A-Series and IP-Based Storage (Cisco)
- NetApp Hardware University
- Workflow Automation 4.2 Documentation Center
- ONTAP 9 High Availability Configuration Guide
- FlexPod Datacenter with Microsoft Hyper-V Windows Server 2016 Arvind Ramakrishnan
- FlexPod Express with VMware vSphere 6.0U2, NetApp E-Series and Cisco UCS Mini (Arvind Ramakrishnan)
- Virtual Storage Console, VASA Provider, and Storage Replication Adapter for VMware vSphere Deployment and Setup Guide for 7.2 Release

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- Cludter Management Using OnCommand System Manager
- Cisco UCS 6324 Farbric Interconnect Data Sheet (Cisco)
- NetApp Converged Systems Advisor
- vSphere Virtual Machine Administration (VMware)
- UCS B-Series Blad Server Software (Cisco)
- Best Practives for Scalable SAN (Michael Peppers)



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NetApp Certified Data Administrator, ONTAP (NS0-160)

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

- Industry/Product Knowledge
- 7-Mode Transition Tool – Copy Based Transition
- 7-Mode Transition Tool – Copy Free Transition
- 7-Mode Transition Tool – SAN Host Transition
- 7-Mode Transition Tool - Installation and Setup Guide
- 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)
- Copy-Based Transition Guide For Transitioning to ONTAP
- Copy-Free Transition Guide For Transitioning to ONTAP
- Commands: Manual Page Reference for ONTAP 9.5
- Cluster Expansion Express Guide
- Cluster Peering Express Guide
- Command Map for 7-Mode Administrators
- Cluster Management Using OnCommand System Manager
- Cluster Management Workflows for OnCommand System Manager
- Cluster and SVM Peering Power Guide
- Cluster Management Using OnCommand System Manager
- Commands: Manual Page Reference for ONTAP 9.3
- Data Protection Power Guide
- Data Protection Tape Backup and Recovery Guide
- Disks and Aggregates Power Guide
- EMS Configuration Express 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
- Fabric-attached MetroCluster Installation and Configuration Guide
- FlexArray Virtualization Implementation Guide for Third-Party Storage
- FlexArray Virtualization Implementation Guide for NetApp E-Series Storage
- FlexArray Virtualization Installation Requirements and Reference
- Hardware Universe HWU
- High-Availability Configuration Guide
- Interoperability Matrix Tool
- Inventory Collect Tool 3.3.1 Host and Storage Information Collection Guide
- Infinite Volumes Management Guide
- Installation and Cabling Guide For DS460C, DS224C and DS212C
- iSCSI Configuration for ESXi using VSC Express Guide
- iSCSI Configuration for Red Hat Enterprise Linux Express Guide
- iSCSI Configuration for Windows Express Guide
- Logical Storage Management Guide
- Learning About Cloud Manager and ONTAP Cloud
- Migrating to a two-node cluster with Cisco Nexus 3132Q-V
- MetroCluster IP Installation and Configuration Guide
- MetroCluster Service and Expansion Guide
- MetroCluster Management and Disaster Recovery Guide
- Migrating to a two node cluster with Cisco Nexus 3132 Q-V
- Multifactor Authentication in ONTAP 9.3: Best Practices and Implementation Guide
- NFS Configuration for ESXi® using VSC Express Guide
- NFS Client Configuration with VAAI for ESX Express Guide
- NFS Configuration Express Guide

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- NFS Configuration Power Guide
- NFS Reference
- Network Management Guide
- NDMP Configuration Express Guide
- OnCommand Unified Manager 7.2 Workflow Guide for Managing Cluster Performance
- OnTap Select Product Architecture and Best Practices
- ONTAP Select 9 Installation and Cluster Deployment Guide
- ONTAP 9 Administrator Authentication and RBAC
- ONTAP 9 Release Notes
- ONTAP 9 Command Reference Manual
- 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 9 Concepts
- Performance Monitoring Express Guide
- SAN Host Transition and Remediation Guide
- SAN Administration Guide
- SAN Configuration Guide
- SMB/CIFS Configuration Express Guide
- SMB/CIFS Configuration Guide for Microsoft Hyper-V and SQL Server
- SMB/CIFS Reference
- SMB/CIFS and NFS Auditing and Security Tracing Guide
- SMB/CIFS and NFS Multiprotocol Configuration Express Guide
- Stretched MetroCluster Installation and Configuration Guide
- System Administration Reference
- SMB/CIFS Configuration Power Guide
- SNMP Configuration Express Guide
- Stretched MetroCluster Installation and Configuration Guide
- SVM Disaster Recovery Preparation Express Guide
- Scalability and Performance Using FlexGroup Volumes Power Guide
- Software Setup Guide
- SolidFire to ONTAP Backup Power Guide
- T10.org Thin Provisioning
- TR-4476: NetApp Data Compression, Deduplication and Data Compaction Data ONTAP 8.3.1 and Later
- Tiebreaker Software 1.2 Installation and Configuration Guide
- TR-4598: FabricPool Best Practices
- Upgrade Express Guide
- Upgrade and Revert/Downgrade Guide
- Using All Flash FAS with ONTAP Software
- Volume Disaster Recovery Express Guide
- Volume Backup Using SnapVault 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 (NS0-513)

Note: These documents and the exam encompass ONTAP up to version 9.3.

- Industry/Product Knowledge
- Data Protection Power Guide
- NDMP Configuration Express Guide
- Archive and Compliance Using SnapLock Technology Power Guide
- ONTAP 9 Concepts
- NetApp Encryption Power Guide
- SolidFire to ONTAP Backup Power Guide
- MetroCluster IP Installation and Configuration Guide
- Disks and Aggregates Power Guide
- TR-4598: FabricPool Best Practices
- Tiebreaker Software 1.21 Installation and Configuration Guide
- Fabric-attached MetroCluster Installation and Configuration Guide
- MetroCluster Management and Disaster Recovery Guide
- ONTAP_9_SVM_Disaster_Recovery_Express_Guide.pdf
- ONTAP_9_SVM_Disaster_Recovery_Preparation.pdf
- TR-4648 Security in the Cloud: The NetApp Private Storage for Cloud Solution
- Data Protection Guide for VMs and Datastores Using the SnapCenter Plug-in for VMware vSphere
- NetApp Cloud Docs Deploying ONTAP Cloud, Planning Your Configuration, Choosing a License Type
- Commands: Manual Page Reference for ONTAP 9.3
- Logical Storage Management Guide
- SAN Administration Guide
- Data Protection Power Guide
- Cluster Management Using OnCommand System Manager
- TR-3920: CommVault IntelliSnap for NetApp Solution Overview
- Volume Backup Using SnapVault Express Guide
- Infinite Volumes Management Guide
- Scalability and Performance Using FlexGroup Volumes Power Guide
- OnCommand Unified Manager 7.3 Workflow Guide for Managing Cluster Health
- SnapCenter Software 4.0 Administration Guide
- TR-4476: NetApp Data Compression, Deduplication and Data Compaction
- TR-4526: Compliant WORM Storage Using NetApp Snaplock
- FlexPod Datacenter with NetApp MetroCluster NVA Design Guide
- MetroCluster 8.2.1 Best Practices for Implementation
- OnCommand Workflow Automation 4.1 Workflow Developers Guide
- Managing Clustered Data ONTAP Using GUI
- Volume Disaster Recovery Preparation Express Guide
- Hardware Universe
- Interoperability Matrix Tool
- Volume Restore Using SnapVault Express Guide
- Data Fabric Solution for Cloud Backup Workflow Guide
- ONTAP 9 SMB/CIFS Reference
- Virtual Storage Console, VASA Provider, and Storage Replication Adapter for VMware vSphere
- TR-4517: ONTAP Select Product Architecture
- TR-4015: SnapMirror Configuration and Best Practices Guide for ONTAP 9.1, 9.2
- SnapCenter Software 4.0 Data Protection Guide for Microsoft SQL Server



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NetApp Certified Implementation Engineer – SAN, ONTAP (NS0-509)

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

- Industry/Product Knowledge
- Active IQ... But Wait, There's More!
- Active IQ User Guide
- Best Practices for Scalable SAN – TR4080 v8
- Brocade SAN Health
- Brocade SAN Design and Best Practices Guides
- Config Advisor V5.5
- Cluster Management Using OnCommand System Manager
- Cisco MDS 9000 Family NX-OS Interfaces Configuration Guide Release 6.2
- Cloud Manager and ONTAP Cloud Documentation
- Disks and Aggregates Power Guide
- Data Protection Power Guide
- Ethernet Storage Best Practices
- FlexArray Virtualization Implementation Guide for Third-Party Storage
- 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
- High-Availability Configuration Guide
- Hardware Universe
- IMT FAQ
- iSCSI Configuration for ESXi using VSC Express Guide
- iSCSI Configuration for Red Hat Enterprise Linux Express Guide
- iSCSI Configuration for Windows Express Guide
- Implementing and Configuring Modern SANs with NVMe/FC TR-4684
- IMT FAQ
- Logical Storage Management Guide
- Linux Unified Host Utilities 7.1 Release Notes
- Linux® Unified Host Utilities 7.1. Installation Guide
- Network Management Guide
- NetApp Interoperability Matrix Tool
- NetApp Memory Accelerated Data ds-3953
- ONTAP 9 docs.netapp.com
- ONTAP 9 Protection Power Guide
- ONTAP 9 SAN Administration – Provisioning
- ONTAP 9 SAN Configuration – Provisioning
- ONTAP 9 FlexArray Virtualization – FlexArray Virtualization Implementation for Third-Party Storage
- ONTAP 9 FC Express Configuration for ESXi – Provisioning for SAN protocols
- ONTAP 9 Express FC Configuration for Red Hat Enterprise Linux – Provisioning for SAN protocols
- ONTAP 9 Cluster Administration
- 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
- SnapCenter Software 4.1 Installation and Setup Guide
- System Administration Reference
- SAN Migration Using Foreign LUN Import
- SAN Administration Guide
- SAN Configuration Guide
- SAS Disk Shelves Installation and Cabling Guide For DS460C, DS224C, and DS212C
- T11 – Fiber Channel Interfaces
- TR-4684 Version 2.0: Implementing and Configuring Modern SANs with NVMe/FC

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- TR-4476 - NetApp Data Compression, Deduplication and Data Compaction Data
- TR-4517 - ONTAP Select Product Architecture and Best Practices
- Upgrade Advisor in ActiveIQ
- Volume Move Express Guide
- Windows HUK

NetApp Certified Technology Associate (NS0-002)

- Industry/Product Knowledge
- AWS website <https://aws.amazon.com>
- Build your Data Fabric with NetApp HCI, ONTAP and Converged Infrastructure TR-4748
- Docker website
- Google Cloud website
- Kubernetes Documentation site <https://kubernetes.io/docs/>
- National Institute of Standards and Technology (NIST)
- NetApp Product Documentation
- NetApp Knowledgebase
- NetApp Blog
- NetApp website
- NetApp Information Center
- NetApp Datasheet
- NetApp Technical Report
- NetApp Product Page
- NetApp Cloud Blog
- NetApp Solution Brief
- NetApp Cloud Documentation
- NetApp StorageGRID Documentation
- NetApp White Paper
- NetApp Cloud Central
- NetApp Kubernetes Hub
- NetApp IO
- NetApp Library
- NetApp MySupport
- NetApp Forums
- VMware



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NetApp Certified Storage Installation Engineer, ONTAP (NS0-182)

- [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 sdiag command on the interconnect for FAS32xx and FAS62xx](#)
- <http://npulse.netapp.com/npulse/cdp.xwic>
- [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](#)
- [ONTAP 9 Release Notes](#)
- [ONTAP 9: System Administration Reference](#)

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- [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 (NS0-192)

Note: These documents and the exam encompass ONTAP up to version 9.3.

- Industry/Product Knowledge
- Copy-Based Transition Guide For Transitioning to ONTAP
- Copy-Free Transition Guide For Transitioning to ONTAP
- Installation and Setup Guide
- SAN Host Transition and Remediation Guide
- FlexArray Virtualization Implementation Guide for NetApp E-Series Storage
- FlexArray Virtualization Implementation Guide for Third-Party Storage
- FlexArray Virtualization Installation Requirements and Reference
- Host and Storage Information Collection Guide
- MetroCluster IP Installation and Configuration Guide
- MetroCluster Service and Expansion Guide
- Tiebreaker Software 1.2 Installation and Configuration Guide
- 7-Mode Data Transition Using SnapMirror Technology
- Administrator Authentication and RBAC Power Guide
- Antivirus Configuration Guide
- Archive and Compliance Using SnapLock Technology Power Guide
- Cluster Expansion Express Guide
- Cluster Peering Express Guide
- Command Map for 7-Mode Administrators
- Data Protection Tape Backup and Recovery Guide
- Disks and Aggregates Power Guide
- EMS Configuration Express 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
- Fabric-attached MetroCluster Installation and Configuration Guide
- High-Availability Configuration Guide
- Infinite Volumes Management Guide
- Logical Storage Management Guide
- MetroCluster Management and Disaster Recovery 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
- Network Management Guide
- Performance Management Power Guide
- Performance Monitoring Express Guide
- SAN Administration Guide
- SAN Configuration Guide
- SMB/CIFS Configuration Express Guide
- SMB/CIFS Configuration Guide for Microsoft Hyper-V and SQL Server
- SMB/CIFS Reference
- SMB/CIFS and NFS Auditing and Security Tracing Guide
- SMB/CIFS and NFS Multiprotocol Configuration Express Guide
- SVM Disaster Recovery Express Guide
- SVM Disaster Recovery Preparation
- SVM Root Volume Protection Express Guide
- Stretch MetroCluster Installation and Configuration Guide
- System Administration Reference
- Upgrade Express Guide
- Upgrade and Revert/Downgrade 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
- iSCSI Configuration for ESXi using VSC Express Guide
- iSCSI Configuration for Red Hat Enterprise Linux Express Guide
- iSCSI Configuration for Windows Express Guide
- Cluster Management Using OnCommand System Manager
- Cluster Management Workflows for OnCommand System Manager
- Cluster and SVM Peering Power Guide
- 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
- Data Protection Power Guide
- NDMP Configuration Express Guide
- NetApp Encryption Power Guide
- Release Notes
- SMB/CIFS Configuration Power Guide
- SMB/CIFS Configuration Express Guide
- Scalability and Performance Using FlexGroup Volumes Power Guide
- Software Setup Guide
- SolidFire to ONTAP Backup Power Guide
- T10.org Thin Provisioning
- ONTAP Select 9 Installation and Cluster Deployment Guide
- NFS Reference
- TR-4476: NetApp Data Compression, Deduplication and Data Compaction Data ONTAP 8.3.1 and Later
- Ontap Select Product Architecture and Best Practices
- Hardware Universe HWU
- Workflow Guide for Managing Cluster Health
- Installation and Cabling Guide For DS460C, DS224C and DS212C
- Migrating to a twonode cluster with Cisco Nexus 3132Q-V
- BR8952: Break Fix: Troubleshooting Workflow: DC not responding (CIFS)
- TR-4598: FabricPool Best Practices
- OnCommand Unified Manager 7.2 Workflow Guide for Managing Cluster Performance
- Learning About Cloud Manager and ONTAP Cloud
- Multifactor Authentication in ONTAP 9.3: Best Practices and Implementation Guide
- Workflow Guide for Managing Cluster Performance
- Interoperability Matrix Tool
- Migrating from a switchless cluster to a switched Cisco® Nexus 5596, Nexus 5020, or Nexus 5010 cluster environment
- NetApp Knowledge Base
- Physical Storage Management Guide
- OnCommand Unified Manager Performance Advisor Administration Guide
- TR-4080: Best Practices for Scalable SAN
- TR-4211: Storage Performance Primer
- Using Aggregate Relocation to Upgrade Controller Hardware
- SnapDrive® 7.1 for Windows® Administration Guide
- Snap Drive 7.1 for Windows Installation Guide
- SnapDrive for Windows for Clustered Data ONTAP Used in SAN Environments, December 2015
- SnapDrive for Windows for Clustered Data ONTAP Used in SAN Environments, December 2014
- System Administration Reference
- SnapCenter Software 4.0 Concepts Guide



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- SnapManager® 7.2.2 for Microsoft® SQL Server® Installation and Setup Guide
- SnapCenter Software 4.0 Data Protection Guide For Microsoft SQL Server
- NetApp KB: How to collect performance data when Perfstat8 fails by using preset files and manual data collection
- TR-3966: NetApp Data Compression and Deduplication Deployment and Implementation Guide
- KB: What is deswizzler or deswizzling?
- OnCommand Workflow Automation 4.1 Workflow Developer's Guide
- Service Guide for DS460C, DS224C and DS212C
- TR-3832: Flash Cache Best Practice Guide
- ONTAP 9.2 EMS Event Catalog
- System-Level Diagnostics Guide
- Data ONTAP 8.2 System Administration Guide For 7-Mode
- Datasheet: OnCommand Unified Manager and Performance Manager
- Unsupported ONTAP 9 Features

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- [Advanced Performance Analysis](#)
- [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](#)
- [Clustered Data ONTAP® CIFS Auditing Quick Start Guide](#)
- [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](#)
- [FAQ: Consistency Point](#)
- [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 vserver](#)
- [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 vsan server](#)
- [INTERNAL: Troubleshooting Workflow: Mroot recovery process](#)
- [List of supported privileges](#)
- [MCC Config Advisor FCVI port setting errors](#)
- [MetroCluster fabric FCVI port reset](#)
- [MetroCluster® Management and Disaster Recovery Guide](#)
- [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](#)
- [NFS Best Practice and Implementation Guide](#)
- [NFSv4 Enhancements and Best Practices Guide: Data ONTAP Implementation](#)
- [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](#)

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- [OEM: What protocol errors are given to clients by RAID Error Propagation?](#)
- [ONTAP 9.3: Command Man Page](#)
- [ONTAP 9 CIFS and NFS Multiprotocol Configuration Express Guide](#)
- [ONTAP 9 Release Notes](#)
- [ONTAP 9 Volume Move Express Guide](#)
- [ONTAP 9 Documentation: Improving client response time by providing SMB automatic node referrals with Auto Location](#)
- [ONTAP 9 SMB/CIFS reference](#)
- [ONTAP 9 CIFS/SMB Configuration guide for Hyper-V and SQL Server](#)
- [ONTAP 9: Logical Storage Management Guide](#)
- [Overflow of waflliron](#)
- [Restoring databases from other SQL Server backups](#)
- [SAN configuration guide](#)
- [SAN Administration 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](#)
- [Storage Performance Primer Clustered Data ONTAP 9.2](#)
- [TCP Congestion Control](#)
- [The Write-Anywhere-File-Layout \(WAFL\)](#)
- [Troubleshooting CIFS or SMB Access Denied](#)
- [Troubleshooting Workflow: Aggregate relocation in clustered Data ONTAP](#)
- [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](#)
- [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?](#)