# Release notes

## Cloud Volumes ONTAP

NetApp
February 10, 2026

# Table of Contents

# Release notes

## What's new in Cloud Volumes ONTAP

Learn what's new with Cloud Volumes ONTAP management in the NetApp Console.

The enhancements described on this page are specific to managing Cloud Volumes ONTAP through the Console. To learn what's new with the Cloud Volumes ONTAP software itself, go to the Cloud Volumes ONTAP Release Notes.

### 10 February 2026

#### Cloud Volumes ONTAP 9.18.1 GA

You can now use the NetApp Console to deploy and manage the General Availability version of Cloud Volumes ONTAP 9.18.1 in AWS and Azure. This version is not available for deployment and upgrade in Google Cloud.

Learn more about this release of Cloud Volumes ONTAP.

### 9 February 2026

#### Support for Google Cloud Infrastructure Manager

Cloud Volumes ONTAP 9.16.1 and later now support Google Cloud Infrastructure Manager (IM) instead of Cloud Deployment Manager (DM) for new deployments in Google Cloud. Google will deprecate Deployment Manager as an infrastructure service in the near future for the more advanced Infrastructure Manager.

Now, automatically deploy Cloud Volumes ONTAP to use Infrastructure Manager or switch your existing deployments in Deployment Manager to Infrastructure Manager by running a conversion tool. The conversion is a one-time process, after which your systems will automatically start using Infrastructure Manager. Refer to Configure existing Cloud Volumes ONTAP deployments for Google Cloud Infrastructure Manager for instructions on running the transition tool.

Cloud Volumes ONTAP systems that use Infrastructure Manager use Google Cloud Storage buckets to store data and records in the zone of the first deployment to store deployment records, which are reused for subsequent deployments. You might incur extra costs for these buckets, but do not edit or delete the buckets or their content:

- `gs://netapp-cvo-infrastructure-manager-<project id>/dm-to-im-convert`: for storing Cloud Volumes ONTAP Terraform files
- `<gcp project number>-<region>-blueprint-config`: for storing Google Cloud Terraform artifacts

**Related links**

- Getting started with Cloud Volumes ONTAP in Google Cloud
- NetApp Console Agent 4.2.0 Release Notes
- Permissions required for Google Cloud Infrastructure Manager

### 12 January 2026

### Preferred billing option for Cloud Volumes ONTAP

You can now select a preferred billing option for calculating your Cloud Volumes ONTAP usage and overages. Since the limited availability of the Bring Your Own Licenses (BYOL) licensing model on June 25, 2025, NetApp has added preferred charging methods in the **Licensing and Subscriptions** section of the NetApp Console. You can use either your annual marketplace subscription for billing and overages or the existing BYOL model as the preferred option. This gives you the flexibility to choose the charging method that best fits your organization's financial strategy and usage patterns.

Billing preferences and overages.

## 10 December 2025

### Ability to enhance performance of Premium SSD v2 disks in Azure

You can now enhance the performance of Premium SSD v2 Managed Disks in Azure by modifying the IOPS and throughput parameters. Using this capability, you can optimize the storage performance of your systems based on your workload requirements.

Manage Premium SSD v2 disk performance for Cloud Volumes ONTAP in Azure.

### Overage charging for Essentials licenses simplified

For Cloud Volumes ONTAP marketplace annual contracts/private offers, overage calculations for Essentials licenses is now aligned with Bring Your Own License (BYOL) packages. Previously, overages were billed at hourly marketplace rates for the exact Essentials package. Now, if your marketplace annual contract includes multiple Essentials packages, the NetApp Console charges overages for an Essentials package against the available capacity of a higher-priced Essentials package in your subscription. This simplifies overage calculations for Essentials packages and ensures a smooth transition from BYOL licensing to a subscription-based model.

How overages are charged for Essentials licenses

### Support for Azure Edsv6 sizes series

Beginning with Cloud Volumes ONTAP 9.17.1, you can deploy Azure Edsv6 series VMs through the NetApp Console for new Cloud Volumes ONTAP instances. Cloud Volumes ONTAP 9.17.1 and later will support only Generation 2 VMs for new deployments. These Generation 2 machines are compatible with the latest technologies, such as Unified Extensible Firmware Interface (UEFI), Azure Boost systems, and NVMe. They are ideal for memory-intensive systems and applications that need fast, local storage, such as database servers and analytics engines.

Supported configurations for Cloud Volumes ONTAP in Azure

## 10 November 2025

### Enhanced NVMe-TCP Support

Earlier, when deploying Cloud Volumes ONTAP instances over NVMe-TCP, you would have to to manually obtain and apply NVMe licenses before deployment. With this update, Cloud Volumes ONTAP now automatically installs the required NVMe licenses during deployment, simplifying the setup process.

For existing NVMe-TCP deployments that lack licenses, Cloud Volumes ONTAP applies the licenses automatically. You must restart the system for the licenses to take effect.

For more information, see Supported client protocols for Cloud Volumes ONTAP: NVMe-TCP.

## 17 October 2025

### Cloud Volumes ONTAP in Azure now limited to latest supported versions

Cloud Volumes ONTAP deployments and upgrades in Azure through the NetApp Console are now restricted to the latest supported versions. This ensures compatibility with the latest generation hardware supported by Microsoft and provides the newest features and security enhancements. The Console will prompt you to upgrade to the supported versions.

For more details, refer to:

- Deployment: Supported ONTAP versions for Cloud Volumes ONTAP deployments
- Upgrade: Supported upgrade paths for Azure

## 06 October 2025

### BlueXP is now NetApp Console

The NetApp Console, built on the enhanced and restructured BlueXP foundation, provides centralized management of NetApp storage and NetApp Data Services across on-premises and cloud environments at enterprise grade—delivering real-time insights, faster workflows, and simplified administration, that is highly secure and compliant.

For details on what has changed, see the NetApp Console release notes.

### Simplified Cloud Volumes ONTAP deployment in AWS

You can now deploy Cloud Volumes ONTAP in AWS using a quick deployment method for both single-node and high-availability (HA) configurations. This streamlined process reduces the number of steps compared to the advanced method, automatically sets default values on a single page, and minimizes navigation, making deployment faster and easier.

For more information, refer to Deploy Cloud Volumes ONTAP in AWS using quick deployment.

## 04 September 2025

### Cloud Volumes ONTAP 9.17.1 RC

You can now use BlueXP to deploy and manage the Release Candidate 1 of Cloud Volumes ONTAP 9.17.1 in Azure and Google Cloud. However, this version is not available for deployment and upgrade in AWS.

Learn more about this release of Cloud Volumes ONTAP.

## 11 August 2025

### End of availability of Optimized licenses

Beginning on August 11, 2025, the Cloud Volumes ONTAP Optimized license will be deprecated and will no longer be available for purchase or renewal in the Azure and Google Cloud marketplaces for pay-as-you-go (PAYGO) subscriptions. If you have an existing annual contract with an Optimized license, you can continue to use the license until the end of your contract. When your Optimized license expires, you can opt for Cloud

Volumes ONTAP Essentials or Professional licenses in BlueXP.

However, the ability to add or renew Optimized licenses will be available through the APIs.

For information about licensing packages, refer to Licensing for Cloud Volumes ONTAP.

For information about switching to a different charging method, refer to Manage capacity-based licensing.

## 14 July 2025

### Support for transparent proxy

BlueXP now supports transparent proxy servers in addition to the existing explicit proxy connections. When creating or modifying the BlueXP Connector, you can configure a transparent proxy server to securely manage network traffic to and from Cloud Volumes ONTAP.

For more information about the use of proxy servers in Cloud Volumes ONTAP, refer to:

- Network configurations to support Connector proxy in AWS
- Network configurations to support Connector proxy in Azure
- Network configurations to support Connector proxy in Google Cloud

### New VM type supported for Cloud Volumes ONTAP in Azure

Beginning with Cloud Volumes ONTAP 9.13.1, L8s_v3 is supported as a VM type in Azure single and multiple availability zones, for both new and existing high-availability (HA) pair deployments.

For more information, refer to
Supported configurations in Azure.

## 25 June 2025

### Restricted availability of BYOL licensing for Cloud Volumes ONTAP

Beginning June 25, 2025, NetApp has restricted the bring your own license (BYOL) licensing model for Cloud Volumes ONTAP. The restriction applies to all customers and Cloud Volumes ONTAP deployments in AWS, Azure, and Google Cloud. The only exemptions are the U.S. Public Sector customers and China region deployments.

NetApp support and services will continue until your BYOL contract expires, but your expired licenses will not be renewed or extended. When your BYOL licenses expire, you must replace them with capacity-based licenses purchased through your cloud marketplace subscriptions. A capacity-based licensing model through hyperscaler marketplaces streamlines the licensing experience and delivers greater business benefits. Contact your NetApp accounts team or customer success representatives to discuss your options of conversion.

For more information, refer to this customer communiqué: CPC-00661: Changes to Cloud Volumes ONTAP BYOL Policy.

## 29 May 2025

### Private mode deployments enabled for Cloud Volumes ONTAP 9.15.1

You can now deploy Cloud Volumes ONTAP 9.15.1 in private mode in AWS, Azure, and Google Cloud. Private

mode is enabled for both single-node and high-availability (HA) deployments of Cloud Volumes ONTAP 9.15.1.

For more information about private mode deployments refer to
Learn about BlueXP deployment modes.

## 12 May 2025

### Discovery of deployments made through the Azure marketplace in BlueXP

BlueXP now has the capability of discovering the Cloud Volumes ONTAP systems deployed directly through the Azure marketplace. This means that you can now add and manage these systems as working environments in BlueXP, just like any other Cloud Volumes ONTAP system.

Deploy Cloud Volumes ONTAP from the Azure marketplace

## 16 April 2025

### New regions supported in Azure

You can now deploy Cloud Volumes ONTAP 9.12.1 GA and later in single and multiple availability zones in Azure in the following regions. This includes support for both single-node and high-availability (HA) deployments.

- Spain Central
- Mexico Central

For a list of all regions, refer to the Global Regions Map under Azure.

## 14 April 2025

### Storage VM creation automated through the APIs in Google Cloud

You can now use the BlueXP APIs to automate the storage VM creation in Google Cloud. You have been using this feature in Cloud Volumes ONTAP high-availability (HA) configurations, and now you can also use it in single node deployments. By using the BlueXP APIs, you can easily create, rename, and delete additional data-serving storage VMs in your Google Cloud environment, without the need to manually configure the required network interfaces, LIFs, and management LIFs. This automation simplifies the process of managing storage VMs.

Manage data-serving storage VMs for Cloud Volumes ONTAP in Google Cloud

## 03 April 2025

### Support for China regions for Cloud Volumes ONTAP 9.13.1 in AWS

You can now deploy Cloud Volumes ONTAP 9.13.1 in AWS in China regions. This includes support for both single-node and high-availability (HA) deployments. Only licenses purchased directly from NetApp are supported.

For regional availability, refer to the Global Regions Maps for Cloud Volumes ONTAP.

## 28 March 2025

### Private mode deployments enabled for Cloud Volumes ONTAP 9.14.1

You can now deploy Cloud Volumes ONTAP 9.14.1 in private mode in AWS, Azure, and Google Cloud. Private mode is enabled for both single-node and high-availability (HA) deployments of Cloud Volumes ONTAP 9.14.1.

For more information about private mode deployments refer to
Learn about BlueXP deployment modes.

## 12 March 2025

### New regions supported for multiple availability zone deployments in Azure

The following regions now support HA multiple availability zone deployments in Azure for Cloud Volumes ONTAP 9.12.1 GA and later:

- Central US
- US Gov Virginia (US Government Region - Virginia)

For a list of all regions, refer to the Global Regions Map under Azure.

## 10 March 2025

### Storage VM creation automated through the APIs in Azure

You can now use the BlueXP APIs to create, rename, and delete additional data-serving storage VMs for Cloud Volumes ONTAP in Azure. Using the APIs automates the process of storage VM creation, including the configuration of the required network interfaces, LIFs, and a management LIF, if you need to use a storage VM for management purposes.

Manage data-serving storage VMs for Cloud Volumes ONTAP in Azure

## 06 March 2025

### Cloud Volumes ONTAP 9.16.1 GA

You can now use BlueXP to deploy and manage the Cloud Volumes ONTAP 9.16.1 General Availability release in Azure and Google Cloud. However, this version is not available for deployment and upgrade in AWS.

Learn about the new features included in this release of Cloud Volumes ONTAP.

## 03 March 2025

### Support for New Zealand North region in Azure

The New Zealand North region is now supported in Azure for single node and high-availability (HA) configurations of Cloud Volumes ONTAP 9.12.1 GA and later. Note that the Lsv3 instance type is not supported in this region.

For a list of all supported regions, refer to the Global Regions Map under Azure.

## 18 February 2025

### Introducing Azure marketplace direct deployment

You can now take advantage of Azure marketplace direct deployment to easily and quickly deploy Cloud Volumes ONTAP directly from the Azure marketplace. Using this streamlined method, you can explore the core features and capabilities of Cloud Volumes ONTAP in your environment without the need to set up the BlueXP Connector or meet other onboarding criteria required for deploying Cloud Volumes ONTAP through BlueXP.

- Learn about Cloud Volumes ONTAP deployment options in Azure
- Deploy Cloud Volumes ONTAP from the Azure marketplace

## 10 February 2025

### User authentication enabled for accessing System Manager from BlueXP

As a BlueXP administrator, you can now activate authentication for ONTAP users accessing ONTAP System Manager from BlueXP. You can enable this option by editing the BlueXP Connector settings. This option is available for standard and private modes.

Administer Cloud Volumes ONTAP using System Manager.

### BlueXP Advanced View renamed to System Manager

The option for advanced management of Cloud Volumes ONTAP from BlueXP through ONTAP System Manager has been renamed from **Advanced View** to **System Manager**.

Administer Cloud Volumes ONTAP using System Manager.

### Introducing a simpler way to manage licenses with the BlueXP digital wallet

Now, you can experience simplified management of Cloud Volumes ONTAP licenses by using improved navigation points within the BlueXP digital wallet:

- Access your Cloud Volumes ONTAP license information easily through the **Administration > Licenses and subscriptions > Overview/Direct Licenses** tabs.
- Click **View** on the Cloud Volume ONTAP panel in the **Overview** tab to gain a comprehensive understanding of your capacity-based licenses. This advanced view offers detailed insight into your licenses and subscriptions.
- If you prefer the previous interface, you can click the **Switch to legacy view** button to view license details by type and modify charging methods for your licenses.

Manage capacity-based licenses.

## 09 December 2024

### List of supported VMs updated for Azure to align with the best practices

The DS_v2 and Es_v3 machine families are no longer available for selection on BlueXP when deploying new instances of Cloud Volumes ONTAP in Azure. These families will be retained and supported only in older, existing systems. New deployments of Cloud Volumes ONTAP are supported in Azure only from the 9.12.1 release. We recommend that you switch to either Es_v4 or any other series compatible with Cloud Volumes ONTAP 9.12.1 and later. The DS_v2 and Es_v3 series machines, however, will be available for new

deployments made through the API.

Supported configurations in Azure

## 11 November 2024

### End of availability for node-based licenses

NetApp has planned the end of availability (EOA) and end of support (EOS) of Cloud Volumes ONTAP node-based licensing. Beginning with 11 November, 2024, the limited availability of node-based licenses has been terminated. The support for node-based licensing ends on 31 December, 2024. After the EOA of your node-based licenses, you should transition to capacity-based licensing by using the BlueXP license conversion tool.

For annual or longer-term commitments, NetApp recommends that you contact your NetApp representative prior to the EOA date or license expiration date to ensure that the prerequisites for the transition are in place. If you don't have a long-term contract for a Cloud Volumes ONTAP node and run your system against an on-demand pay-as-you-go (PAYGO) subscription, it is important to plan your conversion before the EOS date. For both long-term contracts and PAYGO subscriptions, you can use the BlueXP license conversion tool for a seamless conversion.

End of availability of node-based licenses
Convert a Cloud Volumes ONTAP node-based license to a capacity-based license

### Removal of node-based deployments from BlueXP

The option to deploy Cloud Volumes ONTAP systems by using node-based licenses is deprecated on BlueXP. Except for a few special cases, you cannot use node-based licenses for Cloud Volumes ONTAP deployments for any cloud provider.

NetApp recognizes the following unique licensing requirements in compliance with contractual obligations and operational needs, and will continue to support node-based licenses in these situations:

- U.S. Public Sector customers
- Deployments in private mode
- China region deployments of Cloud Volumes ONTAP in AWS
- If you have a valid, non-expired by-node bring your own license (BYOL license)

End of availability of node-based licenses

### Addition of a cold tier for Cloud Volumes ONTAP data on Azure Blob storage

BlueXP now enables you to select a cold tier to store the inactive capacity tier data on Azure Blob storage. Adding the cold tier to the existing hot and cool tiers provides you with a more affordable storage option and improved cost efficiency.

Data tiering in Azure

### Option to restrict public access to storage account for Azure

You now have the option to restrict public access to your storage account for Cloud Volumes ONTAP systems in Azure. By disabling access, you can secure your private IP address from exposure even within the same VNet, should there be a need to comply with your organization's security policies. This option also disables data tiering for your Cloud Volumes ONTAP systems, and is applicable to both single node and high-availability

pairs.

Security group rules.

#### WORM enablement after deploying Cloud Volumes ONTAP

You now have the ability to activate write once, read many (WORM) storage on an existing Cloud Volumes ONTAP system using BlueXP. This functionality provides you with the flexibility of enabling WORM on a working environment, even if WORM was not enabled on it during its creation. Once enabled, you cannot disable WORM.

Enabling WORM on a Cloud Volumes ONTAP working environment

## 25 October 2024

#### List of supported VMs updated for Google Cloud to align with the best practices

The n1 series machines are no longer available for selection on BlueXP when deploying new instances of Cloud Volumes ONTAP in Google Cloud. The n1 series machines will be retained and supported only in older, existing systems. New deployments of Cloud Volumes ONTAP are supported in Google Cloud only from the 9.8 release. We recommend that you switch to the n2 series machine types that are compatible with Cloud Volumes ONTAP 9.8 and later. The n1 series machines, however, will be available for new deployments performed through the API.

Supported configurations in Google Cloud.

#### Local Zones support for Amazon Web Services in private mode

BlueXP now supports AWS Local Zones for Cloud Volumes ONTAP high availability (HA) deployments in private mode. The support that was earlier limited to only standard mode has now been extended to include private mode.

AWS Local Zones are not supported when using BlueXP in restricted mode.

For more information on AWS Local Zones with HA Deployments, refer to AWS Local Zones.

## 07 October 2024

#### Enhanced user experience in version selection for upgrade

Beginning with this release, when you try to upgrade Cloud Volumes ONTAP using the BlueXP notification, you will receive guidance on the default, latest, and compatible versions to use. Also, now you can select the latest patch or major version compatible with your Cloud Volumes ONTAP instance, or manually enter a version for upgrade.

Upgrade Cloud Volumes ONTAP software

## 09 September 2024

#### WORM and ARP functionalities are no longer chargeable

The built-in data protection and security features of WORM (Write Once Read Many) and ARP (Autonomous Ransomware Protection) will be offered with Cloud Volumes ONTAP licenses at no extra cost. The new pricing

model applies to both new and existing BYOL and PAYGO/marketplace subscriptions of AWS, Azure, and Google Cloud. Both capacity-based and node-based licenses will contain ARP and WORM for all configurations, including single node and high-availability (HA) pairs, at no additional cost.

The simplified pricing brings you these benefits:

- Accounts that currently include WORM and ARP will no longer incur charges for these features. Going forward, your billing will only have charges for capacity usage, as it was before this change. WORM and ARP will no longer be included in your future bills.
- If your current accounts do not include these features, you can now opt for WORM and ARP at no additional cost.
- All Cloud Volumes ONTAP offerings for any new accounts will exclude charges for WORM and ARP.

Learn more about these features:

- Enable NetApp ransomware protection solutions for Cloud Volumes ONTAP
- WORM storage

## 23 August 2024

### Canada West region now supported in AWS

The Canada West region is now supported in AWS for Cloud Volumes ONTAP 9.12.1 GA and later.

For a list of all regions, see the Global Regions Map under AWS.

## 22 August 2024

### Cloud Volumes ONTAP 9.15.1 GA

BlueXP can now deploy and manage Cloud Volumes ONTAP 9.15.1 General Availability release in AWS, Azure, and Google Cloud.

Learn about the new features included in this release of Cloud Volumes ONTAP.

## 08 August 2024

### Edge Cache licensing packages deprecated

Edge Cache capacity-based licensing packages will no longer be available for future deployments of Cloud Volumes ONTAP. However, you can use the API to avail this functionality.

### Minimum version support for Flash Cache in Azure

The minimum Cloud Volumes ONTAP version required for configuring Flash Cache in Azure is 9.13.1 GA. You can only use ONTAP 9.13.1 GA and later versions for deploying Flash Cache on Cloud Volumes ONTAP systems in Azure.

For supported configurations, see Supported configurations in Azure.

### Free trials for marketplace subscriptions deprecated

The 30-day automatic free trial or evaluation license for pay-as-you-go subscriptions in cloud provider's marketplace will no longer be available in Cloud Volumes ONTAP. The charging for any type of marketplace subscription (PAYGO or annual contract) will be activated from the first use, without any free trial period.

## 10 June 2024

### Cloud Volumes ONTAP 9.15.0

BlueXP can now deploy and manage the Cloud Volumes ONTAP 9.15.0 in AWS, Azure, and Google Cloud.

Learn about the new features included in this release of Cloud Volumes ONTAP.

## 17 May 2024

### Amazon Web Services Local Zones support

Support for AWS Local Zones is now available for Cloud Volumes ONTAP HA deployments. AWS Local Zones are an infrastructure deployment where storage, compute, database, and other select AWS services are located close to large cities and industry areas.

> AWS Local Zones are supported when using BlueXP in standard mode. At this time, AWS Local Zones are not supported when using BlueXP in restricted mode or private mode.

For more information on AWS Local Zones with HA Deployments, refer to AWS Local Zones.

## 23 April 2024

### New regions supported for multiple availability zone deployments in Azure

The following regions now support HA multiple availability zone deployments in Azure for Cloud Volumes ONTAP 9.12.1 GA and later:

- Germany West Central
- Poland Central
- West US 3
- Israel Central
- Italy North
- Canada Central

For a list of all regions, refer to the Global Regions Map under Azure.

### Johannesburg region now supported in Google Cloud

The Johannesburg region (`africa-south1` region) is now supported in Google Cloud for Cloud Volumes ONTAP 9.12.1 GA and later.

For a list of all regions, refer to the Global Regions Map under Google Cloud.

### Volume templates and tags no longer supported

You can no longer create a volume from a template or edit a volume's tags. These actions were associated with the BlueXP remediation service, which is no longer available.

## 08 March 2024

### Amazon Instant Metadata Service v2 support

In AWS, Cloud Volumes ONTAP, the Mediator, and the Connector now support Amazon Instant Metadata Service v2 (IMDSv2) for all functions. IMDSv2 provides enhanced protection against vulnerabilities. Only IMDSv1 was previously supported.

If required by your security policies, you can configure your EC2 instances to use IMDSv2. For instructions, refer to BlueXP setup and administration documentation for managing existing Connectors.

## 05 March 2024

### Cloud Volumes ONTAP 9.14.1 GA

BlueXP can now deploy and manage Cloud Volumes ONTAP 9.14.1 General Availability release in AWS, Azure, and Google Cloud.

Learn about the new features included in this release of Cloud Volumes ONTAP.

## 02 February 2024

### Support for Edv5-series VMs in Azure

Cloud Volumes ONTAP now supports the following Edv5-series VMs starting with the 9.14.1 release.

- E4ds_v5
- E8ds_v5
- E20s_v5
- E32ds_v5
- E48ds_v5
- E64ds_v5

Supported configurations in Azure

## 16 January 2024

### Patch releases in BlueXP

Patch releases are available in BlueXP only for the latest three versions of Cloud Volumes ONTAP.

Upgrade Cloud Volumes ONTAP

## 08 January 2024

### New VMs for Azure multiple availability zones

Starting from Cloud Volumes ONTAP 9.13.1, the following VM types support Azure multiple availability zones for new and existing high-availability pair deployments:

- L16s_v3
- L32s_v3
- L48s_v3
- L64s_v3

Supported configurations in Azure

## 06 December 2023

### Cloud Volumes ONTAP 9.14.1 RC1

BlueXP can now deploy and manage Cloud Volumes ONTAP 9.14.1 in AWS, Azure, and Google Cloud.

Learn about the new features included in this release of Cloud Volumes ONTAP.

### 300 TiB FlexVol volume max limit

You can now create a FlexVol volume up to the maximum size of 300 TiB with System Manager and the ONTAP CLI starting from Cloud Volumes ONTAP 9.12.1 P2 and 9.13.0 P2, and in BlueXP starting from Cloud Volumes ONTAP 9.13.1.

- Storage limits in AWS
- Storage limits in Azure
- Storage limits in Google Cloud

## 05 December 2023

The following changes were introduced.

### New region support in Azure

#### Single availability zone region support

The following regions now support highly-available single availability zone deployments in Azure for Cloud Volumes ONTAP 9.12.1 GA and later:

- Tel Aviv
- Milan

#### Multiple availability zone region support

The following regions now support highly-available multiple availability zone deployments in Azure for Cloud Volumes ONTAP 9.12.1 GA and later:

- Central India
- Norway East
- Switzerland North

- South Africa North
- United Arab Emirates North

For a list of all regions, refer to the Global Regions Map under Azure.

## 10 November 2023

The following change was introduced with the 3.9.35 release of the Connector.

#### Berlin region now supported in Google Cloud

The Berlin region is now supported in Google Cloud for Cloud Volumes ONTAP 9.12.1 GA and later.

For a list of all regions, refer to the Global Regions Map under Google Cloud.

## 08 November 2023

The following change was introduced with the 3.9.35 release of the Connector.

#### Tel Aviv region now supported in AWS

The Tel Aviv region is now supported in AWS for Cloud Volumes ONTAP 9.12.1 GA and later.

For a list of all regions, refer to the Global Regions Map under AWS.

## 01 November 2023

The following change was introduced with the 3.9.34 release of the Connector.

#### Saudi Arabia region now supported in Google Cloud

The Saudi Arabia region is now supported in Google Cloud for Cloud Volumes ONTAP and the Connector for Cloud Volumes ONTAP 9.12.1 GA and later.

For a list of all regions, refer to the Global Regions Map under Google Cloud.

## 23 October 2023

The following change was introduced with the 3.9.34 release of the Connector.

#### New regions supported for HA multiple availability zone deployments in Azure

The following regions in Azure now support highly-available multiple availability zone deployments for Cloud Volumes ONTAP 9.12.1 GA and later:

- Australia East
- East Asia
- France Central
- North Europe
- Qatar Central
- Sweden Central

- West Europe
- West US 2

For a list of all regions that support multiple availability zones, refer to the Global Regions Map under Azure.

## 06 October 2023

The following change was introduced with the 3.9.34 release of the Connector.

### Cloud Volumes ONTAP 9.14.0

BlueXP can now deploy and manage the Cloud Volumes ONTAP 9.14.0 General Availability release in AWS, Azure, and Google Cloud.

Learn about the new features included in this release of Cloud Volumes ONTAP.

## 10 September 2023

The following change was introduced with the 3.9.33 release of the Connector.

### Support for Lsv3-series VMs in Azure

The L48s_v3 and L64s_v3 instance types are now supported with Cloud Volumes ONTAP in Azure for single node and high-availability pair deployments with shared managed disks in single and multiple availability zones, starting with the 9.13.1 release. These instance types support Flash Cache.

View supported configurations for Cloud Volumes ONTAP in Azure
View storage limits for Cloud Volumes ONTAP in Azure

## 30 July 2023

The following changes were introduced with the 3.9.32 release of the Connector.

### Flash Cache and high write speed support in Google Cloud

Flash Cache and high write speed can be enabled separately in Google Cloud for Cloud Volumes ONTAP 9.13.1 and later. High write speed is available on all supported instance types. Flash Cache is supported on the following instance types:

- n2-standard-16
- n2-standard-32
- n2-standard-48
- n2-standard-64

You can use these features separately or together on both single node and high-availability pair deployments.

Launch Cloud Volumes ONTAP in Google Cloud

### Usage reports enhancements

Various improvements to the displayed information within the usage reports are now available. The following are enhancements to the usage reports:

- The TiB unit is now included in the name of columns.
- A new "node(s)" field for serial numbers is now included.
- A new “Workload Type” column is now included under the Storage VMs usage report.
- Working environment names now included in Storage VMs and Volume usage reports.
- Volume type “file” is now labeled “Primary (Read/Write)”.
- Volume type “secondary” is now labeled “Secondary (DP)”.

For more information on usage reports, refer to Download usage reports.

## 26 July 2023

The following changes were introduced with the 3.9.31 release of the Connector.

#### Cloud Volumes ONTAP 9.13.1 GA

BlueXP can now deploy and manage the Cloud Volumes ONTAP 9.13.1 General Availability release in AWS, Azure, and Google Cloud.

Learn about the new features included in this release of Cloud Volumes ONTAP.

## 02 July 2023

The following changes were introduced with the 3.9.31 release of the Connector.

#### Support for HA multiple availability zone deployments in Azure

The Japan East and Korea Central in Azure now supports HA multiple availability zone deployments for Cloud Volumes ONTAP 9.12.1 GA and later.

For a list of all regions that support multiple availability zones, refer to the Global Regions Map under Azure.

#### Autonomous Ransomware Protection support

Autonomous Ransomware Protection (ARP) is now supported on Cloud Volumes ONTAP. ARP support is available on Cloud Volumes ONTAP version 9.12.1 and higher.

To learn more about ARP with Cloud Volumes ONTAP, refer to Autonomous Ransomware Protection.

## 26 June 2023

The following change was introduced with the 3.9.30 release of the Connector.

#### Cloud Volumes ONTAP 9.13.1 RC1

BlueXP can now deploy and manage Cloud Volumes ONTAP 9.13.1 in AWS, Azure, and Google Cloud.

Learn about the new features included in this release of Cloud Volumes ONTAP.

## 04 June 2023

The following change was introduced with the 3.9.30 release of the Connector.

### Cloud Volumes ONTAP upgrade version selector update

Through the Upgrade Cloud Volumes ONTAP page, you can now choose to upgrade to the latest available version of Cloud Volumes ONTAP or an older version.

To learn more about upgrading Cloud Volumes ONTAP through BlueXP, refer to Upgrade Cloud Volumes ONTAP.

## 07 May 2023

The following changes were introduced with the 3.9.29 release of the Connector.

### Qatar region now supported in Google Cloud

The Qatar region is now supported in Google Cloud for Cloud Volumes ONTAP and the Connector for Cloud Volumes ONTAP 9.12.1 GA and later.

### Sweden Central region now supported in Azure

The Sweden Central region is now supported in Azure for Cloud Volumes ONTAP and the Connector for Cloud Volumes ONTAP 9.12.1 GA and later.

### Support for HA multiple availability zone deployments in Azure Australia East

The Australia East region in Azure now supports HA multiple availability zone deployments for Cloud Volumes ONTAP 9.12.1 GA and later.

### Charging usage breakdown

Now you can find out what you're being charged for when you're subscribed to capacity-based licenses. The following types of usage reports are available for download from the digital wallet in BlueXP. The usage reports provide capacity details of your subscriptions and tell you how you're being charged for the resources in your Cloud Volumes ONTAP subscriptions. The downloadable reports can be easily shared with others.

- Cloud Volumes ONTAP package usage
- High-level usage
- Storage VMs usage
- Volumes usage

For more information, refer to Manage capacity-based licenses.

### Notification now displays when accessing BlueXP without a marketplace subscription

A notification now displays whenever you access Cloud Volumes ONTAP in BlueXP without a marketplace subscription. The notification states "a marketplace subscription for this working environment is required to be compliant with Cloud Volumes ONTAP terms and conditions."

### New permissions added to AWS IAM policy for HA mediators

These new AWS permissions have been added to the IAM policy for HA mediators in Cloud Volumes ONTAP high-availability (HA) environments:

- sts:AssumeRole

- ec2:DescribeSubnets

## 04 April 2023

### Support for China regions for AWS

Starting with Cloud Volumes ONTAP 9.12.1 GA, China regions are now supported in AWS as follows.

- Single node systems are supported.
- Licenses purchased directly from NetApp are supported.

For regional availability, refer to the Global Regions Maps for Cloud Volumes ONTAP.

## 3 April 2023

The following changes were introduced with the 3.9.28 release of the Connector.

### Turin region now supported in Google Cloud

The Turin region is now supported in Google Cloud for Cloud Volumes ONTAP and the Connector for Cloud Volumes ONTAP 9.12.1 GA and later.

### BlueXP digital wallet enhancement

The BlueXP digital wallet now shows the licensed capacity that you purchased with marketplace private offers.

Learn how to view the consumed capacity in your account.

### Support for comments during volume creation

This release enables you to make comments when creating an Cloud Volumes ONTAP FlexGroup volume or FlexVol volume when using the API.

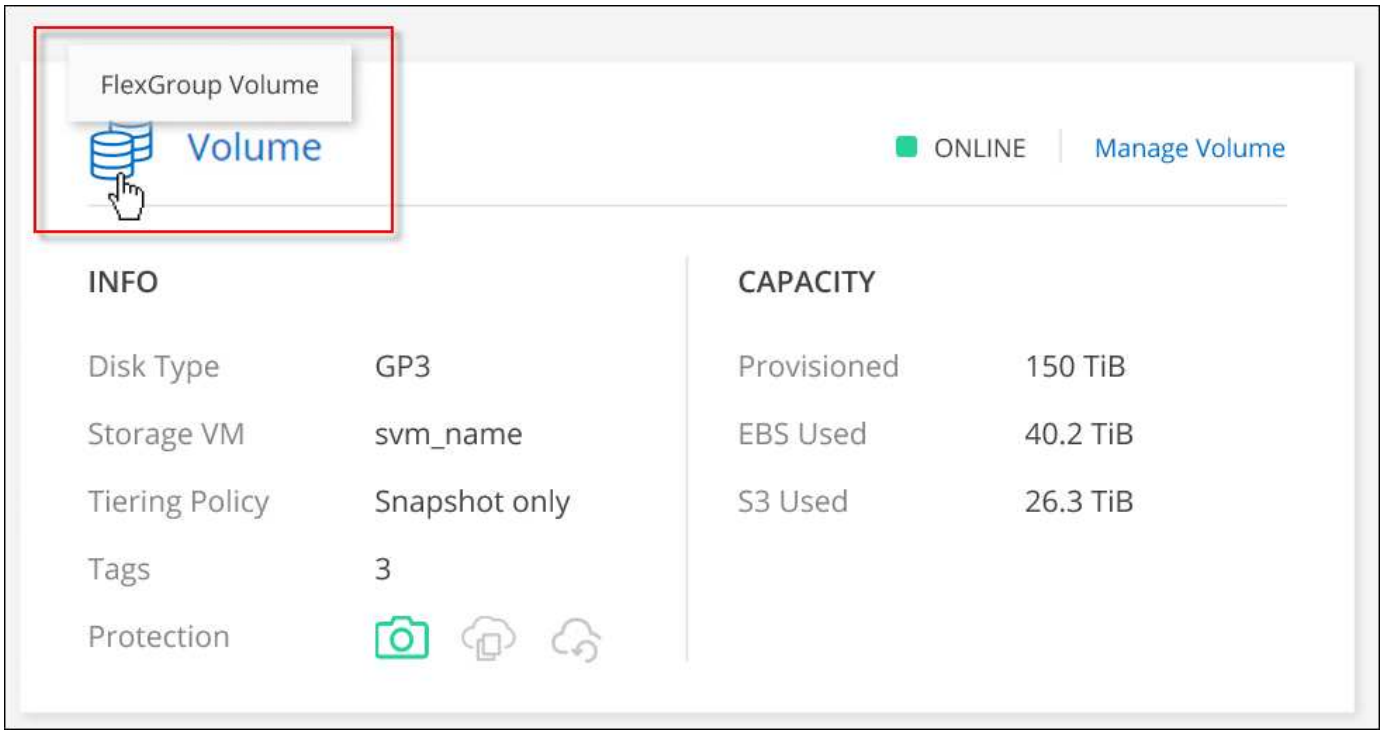
### BlueXP user interface redesign for Cloud Volumes ONTAP Overview, Volumes, and Aggregates pages

BlueXP now has a redesigned user interface for Cloud Volumes ONTAP Overview, Volumes, and Aggregates pages. The tile-based design presents more comprehensive information in each tile for a better user experience.

### FlexGroup Volumes viewable through Cloud Volumes ONTAP

FlexGroup volumes created through ONTAP System Manager or the ONTAP CLI directly are now viewable through the redesigned Volumes tile in BlueXP. Identical to the information provided for FlexVol volumes, BlueXP provides detailed information for created FlexGroup volumes through a dedicated Volumes tile.

Currently, you can only view existing FlexGroup volumes under BlueXP. The ability to create FlexGroup volumes in BlueXP is not available but planned for a future release.




Learn more about viewing created FlexGroup volumes.

## 13 March 2023

### Support for China regions in Azure

China North 3 region is now supported for single node deployments of Cloud Volumes ONTAP 9.12.1 GA and 9.13.0 GA in Azure. Only licenses purchased directly from NetApp (BYOL licenses) are supported in these regions.

Fresh deployments of Cloud Volumes ONTAP in China regions are supported only in 9.12.1 GA and 9.13.0 GA. You can upgrade these versions to later patches and releases of Cloud Volumes ONTAP. If you want to deploy later Cloud Volumes ONTAP versions in China regions, contact NetApp Support.

For regional availability, refer to the Global Regions Maps for Cloud Volumes ONTAP.

## 05 March 2023

The following changes were introduced with the 3.9.27 release of the Connector.

### Cloud Volumes ONTAP 9.13.0

BlueXP can now deploy and manage Cloud Volumes ONTAP 9.13.0 in AWS, Azure, and Google Cloud.

Learn about the new features included in this release of Cloud Volumes ONTAP.

### 16 TiB and 32 Tib support in Azure

Cloud Volumes ONTAP now supports 16 TiB and 32 TiB disk sizes for high-availability deployments running on managed disks in Azure.

Learn more about supported disk sizes in Azure.

### MTEKM license

The Multi-tenant Encryption Key Management (MTEKM) license is now included with new and existing Cloud Volumes ONTAP systems running version 9.12.1 GA or later.

Multi-tenant external key management enables individual storage VMs (SVMs) to maintain their own keys through a KMIP server when using NetApp Volume Encryption.

Learn how to encrypt volumes with NetApp encryption solutions.

### Support for environments without internet

Cloud Volumes ONTAP is now supported in any cloud environment that has complete isolation from the internet. Only node-based licensing (BYOL) is supported in these environments. Capacity-based licensing is not supported. To get started, manually install the Connector software, log in to the BlueXP console that's running on the Connector, add your BYOL license to the BlueXP digital wallet, and then deploy Cloud Volumes ONTAP.

- Install the Connector in a location without internet access
- Access the BlueXP console on the Connector
- Add an unassigned license

### Flash Cache and high write speed in Google Cloud

Support for Flash Cache, high write speed, and a high maximum transmission unit (MTU) of 8,896 bytes is now available for select instances with the Cloud Volumes ONTAP 9.13.0 release.

Learn more about supported configurations by license for Google Cloud.

## 05 February 2023

The following changes were introduced with the 3.9.26 release of the Connector.

### Placement group creation in AWS

A new configuration setting is now available for placement group creation with AWS HA single availability zone (AZ) deployments. Now you can choose to bypass failed placement group creations and allow AWS HA single AZ deployments to complete successfully.

For detailed information on how to configure the placement group creation setting, refer to Configure placement group creation for AWS HA Single AZ.

### Private DNS zone configuration update

A new configuration setting is now available so that you can avoid creating a link between a private DNS zone and a virtual network when using Azure Private Links. Creation is enabled by default.

Provide BlueXP with details about your Azure Private DNS

### WORM storage and data tiering

You can now enable both data tiering and WORM storage together when you create a Cloud Volumes ONTAP 9.8 system or later. Enabling data tiering with WORM storage allows you to tier the data to an object store in the cloud.

Learn about WORM storage.

## 1 January 2023

The following changes were introduced with the 3.9.25 release of the Connector.

### Licensing packages available in Google Cloud

Optimized and Edge Cache capacity-based licensing packages are available for Cloud Volumes ONTAP in the Google Cloud Marketplace as a pay-as-you-go offering or as an annual contract.

Refer to Cloud Volumes ONTAP licensing.

### Default configuration for Cloud Volumes ONTAP

The Multi-tenant Encryption Key Management (MTEKM) license is no longer included in new Cloud Volumes ONTAP deployments.

For more information on the ONTAP feature licenses automatically installed with Cloud Volumes ONTAP, refer to Default Configuration for Cloud Volumes ONTAP.

## 15 December 2022

### Cloud Volumes ONTAP 9.12.0

BlueXP can now deploy and manage Cloud Volumes ONTAP 9.12.0 in AWS and Google Cloud.

Learn about the new features included in this release of Cloud Volumes ONTAP.

## 08 December 2022

### Cloud Volumes ONTAP 9.12.1

BlueXP can now deploy and manage Cloud Volumes ONTAP 9.12.1, which includes support for new features and additional cloud provider regions.

Learn about the new features included in this release of Cloud Volumes ONTAP

## 04 December 2022

The following changes were introduced with the 3.9.24 release of the Connector.

### WORM + Cloud Backup now available during Cloud Volumes ONTAP creation

The ability to activate both write once, read many (WORM) and Cloud Backup features is now available during the Cloud Volumes ONTAP creation process.

### Israel region now supported in Google Cloud

The Israel region is now supported in Google Cloud for Cloud Volumes ONTAP and the Connector for Cloud Volumes ONTAP 9.11.1 P3 and later.

## 15 November 2022

The following changes were introduced with the 3.9.23 release of the Connector.

### ONTAP S3 license in Google Cloud

An ONTAP S3 license is now included on new and existing Cloud Volumes ONTAP systems running version 9.12.1 or later in Google Cloud Platform.

ONTAP documentation: Learn how to configure and manage S3 object storage services

## 06 November 2022

The following changes were introduced with the 3.9.23 release of the Connector.

### Moving resource groups in Azure

You can now move a working environment from one resource group to a different resource group in Azure within the same Azure subscription.

For more information, refer to Moving resource groups.

### NDMP-copy certification

NDMP-copy is now certified for use with Cloud Volume ONTAP.

For information on how to configure and use NDMP, refer to the ONTAP documentation: NDMP configuration overview.

### Managed disk encryption support for Azure

A new Azure permission has been added that now allows you to encrypt all managed disks upon creation.

For more information on this new functionality, refer to Set up Cloud Volumes ONTAP to use a customer-managed key in Azure.

## 18 September 2022

The following changes were introduced with the 3.9.22 release of the Connector.

### Digital Wallet enhancements

- The Digital Wallet now shows a summary of the Optimized I/O licensing package and the provisioned WORM capacity for Cloud Volumes ONTAP systems across your account.

  These details can help you better understand how you're being charged and whether you need to purchase additional capacity.

  Learn how to view the consumed capacity in your account.

- You can now change from one charging method to the Optimized charging method.

  Learn how to change charging methods.

#### Optimize cost and performance

You can now optimize the cost and performance of a Cloud Volumes ONTAP system directly from the Canvas.

After you select a working environment, you can choose the **Optimize Cost & Performance** option to change the instance type for Cloud Volumes ONTAP. Choosing a smaller-sized instance can help you reduce costs, while changing to a larger-sized instance can help you optimize performance.

[A screenshot of the Optimize Cost & Performance option that's available from the Canvas after you select a Cloud Volumes ONTAP system.]

#### AutoSupport notifications

BlueXP will now generate a notification if a Cloud Volumes ONTAP system is unable to send AutoSupport messages. The notification includes a link to instructions that you can use to troubleshoot networking issues.

## 31 July 2022

The following changes were introduced with the 3.9.21 release of the Connector.

#### MTEKM license

The Multi-tenant Encryption Key Management (MTEKM) license is now included with new and existing Cloud Volumes ONTAP systems running version 9.11.1 or later.

Multi-tenant external key management enables individual storage VMs (SVMs) to maintain their own keys through a KMIP server when using NetApp Volume Encryption.

Learn how to encrypt volumes with NetApp encryption solutions.

#### Proxy server

BlueXP now automatically configures your Cloud Volumes ONTAP systems to use the Connector as a proxy server, if an outbound internet connection isn't available to send AutoSupport messages.

AutoSupport proactively monitors the health of your system and sends messages to NetApp technical support.

The only requirement is to ensure that the Connector's security group allows *inbound* connections over port 3128. You'll need to open this port after you deploy the Connector.

#### Change charging method

You can now change the charging method for a Cloud Volumes ONTAP system that uses capacity-based licensing. For example, if you deployed a Cloud Volumes ONTAP system with the Essentials package, you can change it to the Professional package if your business needs changed. This feature is available from the Digital Wallet.

Learn how to change charging methods.

### Security group enhancement

When you create a Cloud Volumes ONTAP working environment, the user interface now enables you to choose whether you want the predefined security group to allow traffic within the selected network only (recommended) or all networks.

[A screenshot that shows the Allow Traffic Within option that's available in the working environment wizard when selecting a security group.]

## 18 July 2022

### New licensing packages in Azure

Two new capacity-based licensing packages are available for Cloud Volumes ONTAP in Azure when you pay through an Azure Marketplace subscription:

- **Optimized**: Pay for provisioned capacity and I/O operations separately
- **Edge Cache**: Licensing for Cloud Volumes Edge Cache

Learn more about these licensing packages.

## 3 July 2022

The following changes were introduced with the 3.9.20 release of the Connector.

### Digital Wallet

The Digital Wallet now shows you the total consumed capacity in your account and the consumed capacity by licensing package. This can help you understand how you're being charged and whether you need to purchase additional capacity.

[A screenshot that shows the Digital Wallet page for capacity-based licenses. The page provides an overview of the consumed capacity in your account and then breaks down the consumed capacity by licensing package.]

### Elastic Volumes enhancement

BlueXP now supports the Amazon EBS Elastic Volumes feature when creating a Cloud Volumes ONTAP working environment from the user interface. The Elastic Volumes feature is enabled by default when using gp3 or io1 disks. You can choose the initial capacity based on your storage needs and revise it after Cloud Volumes ONTAP is deployed.

Learn more about support for Elastic Volumes in AWS.

### ONTAP S3 license in AWS

An ONTAP S3 license is now included on new and existing Cloud Volumes ONTAP systems running version 9.11.0 or later in AWS.

ONTAP documentation: Learn how to configure and manage S3 object storage services

### New Azure Cloud region support

Starting with the 9.10.1 release, Cloud Volumes ONTAP is now supported in the Azure West US 3 region.

View the full list of supported regions for Cloud Volumes ONTAP

### ONTAP S3 license in Azure

An ONTAP S3 license is now included on new and existing Cloud Volumes ONTAP systems running version 9.9.1 or later in Azure.

ONTAP documentation: Learn how to configure and manage S3 object storage services

## 07 June 2022

The following changes were introduced with the 3.9.19 release of the Connector.

### Cloud Volumes ONTAP 9.11.1

BlueXP can now deploy and manage Cloud Volumes ONTAP 9.11.1, which includes support for new features and additional cloud provider regions.

Learn about the new features included in this release of Cloud Volumes ONTAP

### New Advanced View

If you need to perform advanced management of Cloud Volumes ONTAP, you can do so using ONTAP System Manager, which is a management interface that's provided with an ONTAP system. We have included the System Manager interface directly inside BlueXP so that you don't need to leave BlueXP for advanced management.

This Advanced View is available as a Preview with Cloud Volumes ONTAP 9.10.0 and later. We plan to refine this experience and add enhancements in upcoming releases. Please send us feedback by using the in-product chat.

Learn more about the Advanced View.

### Support for Amazon EBS Elastic Volumes

Support for the Amazon EBS Elastic Volumes feature with a Cloud Volumes ONTAP aggregate provides better performance and additional capacity, while enabling BlueXP to automatically increase the underlying disk capacity as needed.

Support for Elastic Volumes is available starting with *new* Cloud Volumes ONTAP 9.11.0 systems and with gp3 and io1 EBS disk types.

Learn more about support for Elastic Volumes.

Note that support for Elastic Volumes requires new AWS permissions for the Connector:

```
"ec2:DescribeVolumesModifications",
"ec2:ModifyVolume",
```

Be sure to provide these permissions to each set of AWS credentials that you've added to BlueXP. View the latest Connector policy for AWS.

### Support for deploying HA pairs in shared AWS subnets

Cloud Volumes ONTAP 9.11.1 includes support for AWS VPC sharing. This release of the Connector enables you to deploy an HA pair in an AWS shared subnet when using the API.

Learn how to deploy an HA pair in a shared subnet.

### Limited network access when using service endpoints

BlueXP now limits network access when using a VNet service endpoint for connections between Cloud Volumes ONTAP and storage accounts. BlueXP uses a service endpoint if you disable Azure Private Link connections.

Learn more about Azure Private Link connections with Cloud Volumes ONTAP.

### Support for creating storage VMs in Google Cloud

Multiple storage VMs are now supported with Cloud Volumes ONTAP in Google Cloud, starting with the 9.11.1 release. Starting with this release of the Connector, BlueXP enables you to create storage VMs on Cloud Volumes ONTAP HA pairs in Google Cloud by using the API.

Support for creating storage VMs requires new Google Cloud permissions for the Connector:

```
- compute.instanceGroups.get
- compute.addresses.get
```

Note that you must use the ONTAP CLI or System Manager to create a storage VM on a single node system.

- Learn more about storage VM limits in Google Cloud
- Learn how to create data-serving storage VMs for Cloud Volumes ONTAP in Google Cloud

## 02 May 2022

The following changes were introduced with the 3.9.18 release of the Connector.

### Cloud Volumes ONTAP 9.11.0

BlueXP can now deploy and manage Cloud Volumes ONTAP 9.11.0.

Learn about the new features included in this release of Cloud Volumes ONTAP.

### Enhancement to mediator upgrades

When BlueXP upgrades the mediator for an HA pair, it now validates that a new mediator image is available before it deletes the boot disk. This change ensures that the mediator can continue to operate successfully if the upgrade process is unsuccessful.

### K8s tab has been removed

The K8s tab was deprecated in a previous release, and has now been removed.

### Annual contract in Azure

The Essentials and Professional packages are now available in Azure through an annual contract. You can contact your NetApp sales representative to purchase an annual contract. The contract is available as a private offer in the Azure Marketplace.

After NetApp shares the private offer with you, you can select the annual plan when you subscribe from the Azure Marketplace during working environment creation.

Learn more about licensing.

### S3 Glacier Instant Retrieval

You can now store tiered data in the Amazon Simple Storage Service (Amazon S3) Glacier Instant Retrieval storage class.

Learn how to change the storage class for tiered data.

### New AWS permissions required for the Connector

The following permissions are now required to create an AWS spread placement group when deploying an HA pair in a single Availability Zone (AZ):

```
"ec2:DescribePlacementGroups",
"iam:GetRolePolicy",
```

These permissions are now required to optimize how BlueXP creates the placement group.

Be sure to provide these permissions to each set of AWS credentials that you've added to BlueXP. View the latest Connector policy for AWS.

### New Google Cloud region support

Cloud Volumes ONTAP is now supported in the following Google Cloud regions starting with the 9.10.1 release:

- Delhi (asia-south2)
- Melbourne (australia-southeast2)
- Milan (europe-west8) - single node only
- Santiago (southamerica-west1) - single node only

View the full list of supported regions for Cloud Volumes ONTAP

### Support for n2-standard-16 in Google Cloud

The n2-standard-16 machine type is now supported with Cloud Volumes ONTAP in Google Cloud, starting with the 9.10.1 release.

View supported configurations for Cloud Volumes ONTAP in Google Cloud

### Enhancements to Google Cloud firewall policies

- When you create a Cloud Volumes ONTAP HA pair in Google Cloud, BlueXP will now display all existing firewall policies in a VPC.

  Previously, BlueXP wouldn't display any policies in VPC-1, VPC-2, or VPC-3 that didn't have a target tag.

- When you create a Cloud Volumes ONTAP single node system in Google Cloud, you can now choose whether you want the predefined firewall policy to allow traffic within the selected VPC only (recommended) or all VPCs.

### Enhancement to Google Cloud service accounts

When you select the Google Cloud service account to use with Cloud Volumes ONTAP, BlueXP now displays the email address that's associated with each service account. Viewing the email address can make it easier to distinguish between service accounts that share the same name.

[A screenshot of the service account field]

## 3 April 2022

### System Manager link has been removed

We have removed the System Manager link that was previously available from within a Cloud Volumes ONTAP working environment.

You can still connect to System Manager by entering the cluster management IP address in a web browser that has a connection to the Cloud Volumes ONTAP system. Learn more about connecting to System Manager.

### Charging for WORM storage

Now that the introductory special rate has expired, you will now be charged for using WORM storage. Charging is hourly, according to the total provisioned capacity of WORM volumes. This applies to new and existing Cloud Volumes ONTAP systems.

Learn about pricing for WORM storage.

## 27 February 2022

The following changes were introduced with the 3.9.16 release of the Connector.

### Redesigned volume wizard

The create new volume wizard that we recently introduced is now available when creating a volume on a specific aggregate from the **Advanced allocation** option.

Learn how to create volumes on a specific aggregate.

## 09 February 2022

### Marketplace updates

- The Essentials package and Professional package are now available in all cloud provider marketplaces.

These by-capacity charging methods enable you to pay by the hour or to purchase an annual contract directly from your cloud provider. You still have the option to purchase a by-capacity license directly from NetApp.

If you have an existing subscription in a cloud marketplace, you're automatically subscribed to these new offerings as well. You can choose by-capacity charging when you deploy a new Cloud Volumes ONTAP working environment.

If you're a new customer, BlueXP will prompt you to subscribe when you create a new working environment.

- By-node licensing from all cloud provider marketplaces is deprecated and no longer available for new subscribers. This includes annual contracts and hourly subscriptions (Explore, Standard, and Premium).

  This charging method is still available for existing customers who have an active subscription.

Learn more about the licensing options for Cloud Volumes ONTAP.

## 06 February 2022

### Exchange unassigned licenses

If you have an unassigned node-based license for Cloud Volumes ONTAP that you haven't used, you can now exchange the license by converting it to a Cloud Backup license, Cloud Data Sense license, or Cloud Tiering license.

This action revokes the Cloud Volumes ONTAP license and creates a dollar-equivalent license for the service with the same expiry date.

Learn how to exchange unassigned node-based licenses.

## 30 January 2022

The following changes were introduced with the 3.9.15 release of the Connector.

### Redesigned licensing selection

We redesigned the licensing selection screen when creating a new Cloud Volumes ONTAP working environment. The changes highlight the by-capacity charging methods that were introduced in July 2021 and support upcoming offerings through the cloud provider marketplaces.

### Digital Wallet update

We updated the **Digital Wallet** by consolidating Cloud Volumes ONTAP licenses in a single tab.

## 02 January 2022

The following changes were introduced with the 3.9.14 release of the Connector.

### Support for additional Azure VM types

Cloud Volumes ONTAP is now supported with the following VM types in Microsoft Azure, starting with the 9.10.1 release:

- E4ds_v4
- E8ds_v4
- E32ds_v4
- E48ds_v4

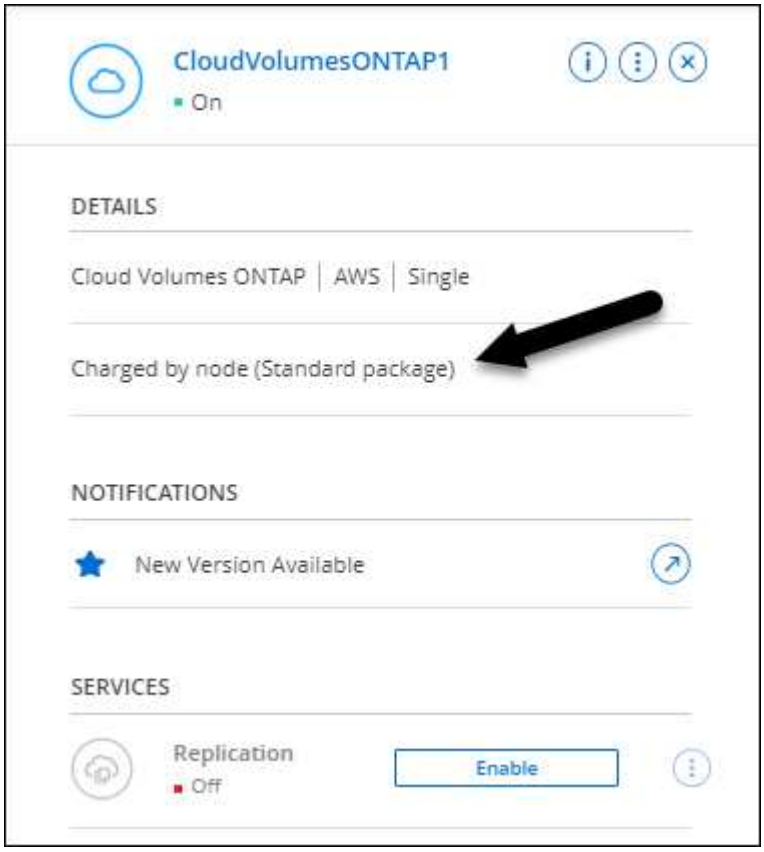
Go to the Cloud Volumes ONTAP Release Notes for more details about supported configurations.

### FlexClone charging update

If you use a capacity-based license for Cloud Volumes ONTAP, you are no longer charged for the capacity used by FlexClone volumes.

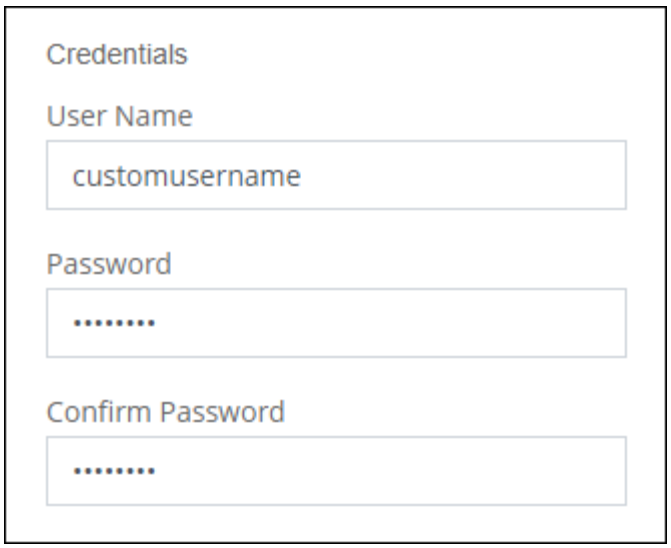
### Charging method now displayed

BlueXP now shows the charging method for each Cloud Volumes ONTAP working environment in the right panel of the Canvas.




### Choose your user name

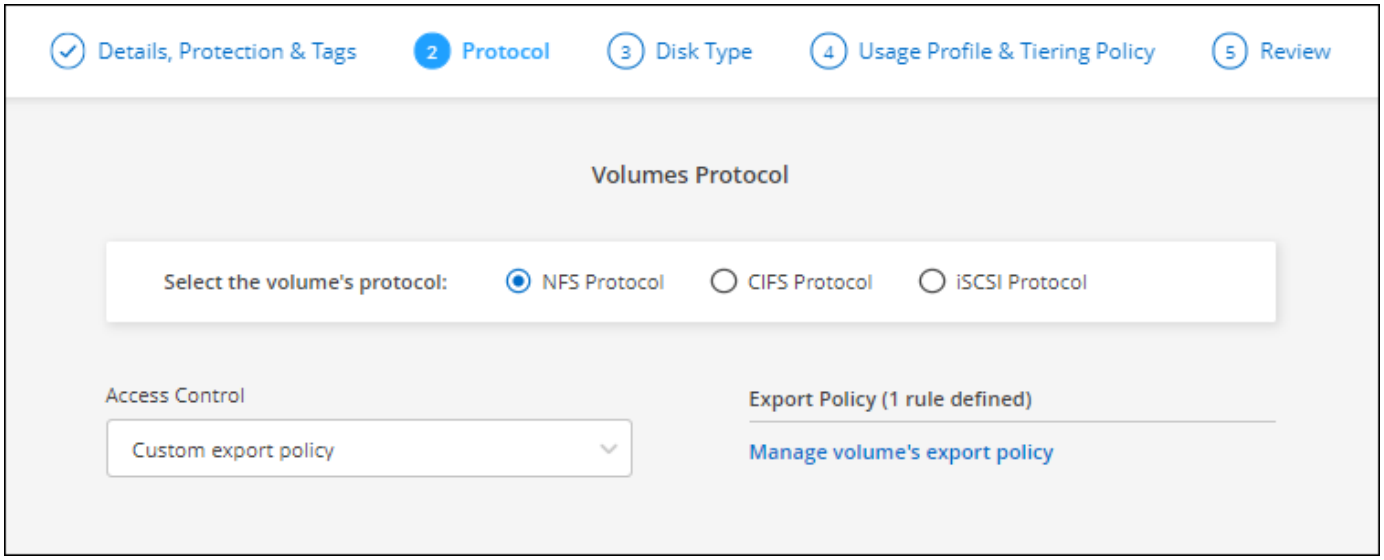
When you create a Cloud Volumes ONTAP working environment, you now have the option to enter your preferred user name, instead of the default admin user name.




**Volume creation enhancements**

We made a few enhancements to volume creation:

- We redesigned the create volume wizard for ease of use.
- You can now choose a custom export policy for NFS.




## 28 November 2021

The following changes were introduced with the 3.9.13 release of the Connector.

**Cloud Volumes ONTAP 9.10.1**

BlueXP can now deploy and manage Cloud Volumes ONTAP 9.10.1.

Learn about the new features included in this release of Cloud Volumes ONTAP.

### NetApp Keystone Subscriptions

You can now use Keystone Subscriptions to pay for Cloud Volumes ONTAP HA pairs.

A Keystone Subscription is a pay-as-you-grow subscription-based service that delivers a seamless hybrid cloud experience for those preferring OpEx consumption models to upfront CapEx or leasing.

A Keystone Subscription is supported with all new versions of Cloud Volumes ONTAP that you can deploy from BlueXP.

- Learn more about NetApp Keystone Subscriptions.
- Learn how to get started with Keystone Subscriptions in BlueXP.

### New AWS region support

Cloud Volumes ONTAP is now supported in the AWS Asia Pacific (Osaka) region (ap-northeast-3).

### Port reduction

Ports 8023 and 49000 are no longer open on Cloud Volumes ONTAP systems in Azure for both single node systems and HA pairs.

This change applies to *new* Cloud Volumes ONTAP systems starting with the 3.9.13 release of the Connector.

## 04 October 2021

The following changes were introduced with the 3.9.11 release of the Connector.

### Cloud Volumes ONTAP 9.10.0

BlueXP can now deploy and manage Cloud Volumes ONTAP 9.10.0.

Learn about the new features included in this release of Cloud Volumes ONTAP.

### Reduced deployment time

We reduced the amount of time that it takes to deploy a Cloud Volumes ONTAP working environment in Microsoft Azure or in Google Cloud when normal write speed is enabled. The deployment time is now 3-4 minutes shorter on average.

## 02 September 2021

The following changes were introduced with the 3.9.10 release of the Connector.

### Customer-managed encryption key in Azure

Data is automatically encrypted on Cloud Volumes ONTAP in Azure using Azure Storage Service Encryption with a Microsoft-managed key. But you can now use your own customer-managed encryption key instead by completing the following steps:

1. From Azure, create a key vault and then generate a key in that vault.
2. From BlueXP, use the API to create a Cloud Volumes ONTAP working environment that uses the key.

Learn more about these steps.

## 07 July 2021

The following changes were introduced with the 3.9.8 release of the Connector.

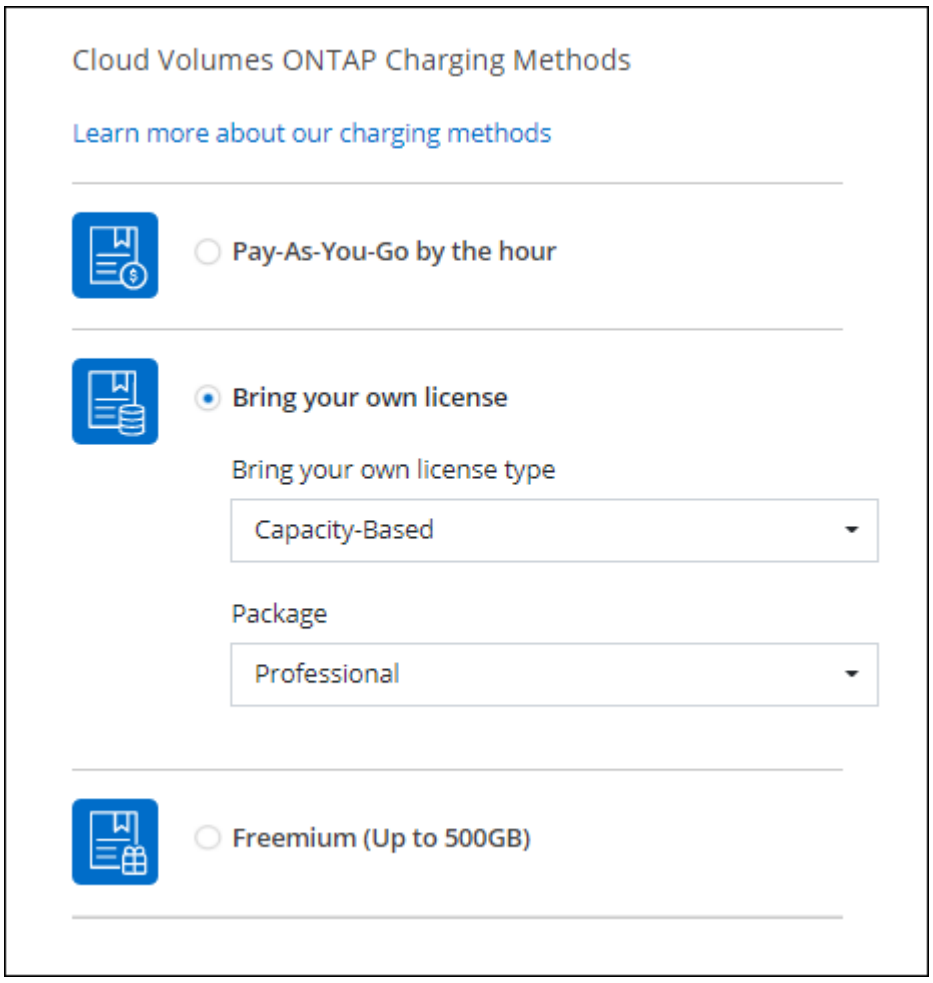
### New charging methods

New charging methods are available for Cloud Volumes ONTAP.

- **Capacity-based BYOL**: A capacity-based license enables you to pay for Cloud Volumes ONTAP per TiB of capacity. The license is associated with your NetApp account and enables you to create as multiple Cloud Volumes ONTAP systems, as long as enough capacity is available through your license. Capacity-based licensing is available in the form of a package, either *Essentials* or *Professional*.
- **Freemium offering**: Freemium enables you to use all Cloud Volumes ONTAP features free of charge from NetApp (cloud provider charges still apply). You're limited to 500 GiB of provisioned capacity per system and there's no support contract. You can have up to 10 Freemium systems.

  Learn more about these licensing options.

  Here's an example of the charging methods that you can choose from:




### WORM storage available for general use

Write once, read many (WORM) storage is no longer in Preview and is now available for general use with Cloud Volumes ONTAP. Learn more about WORM storage.

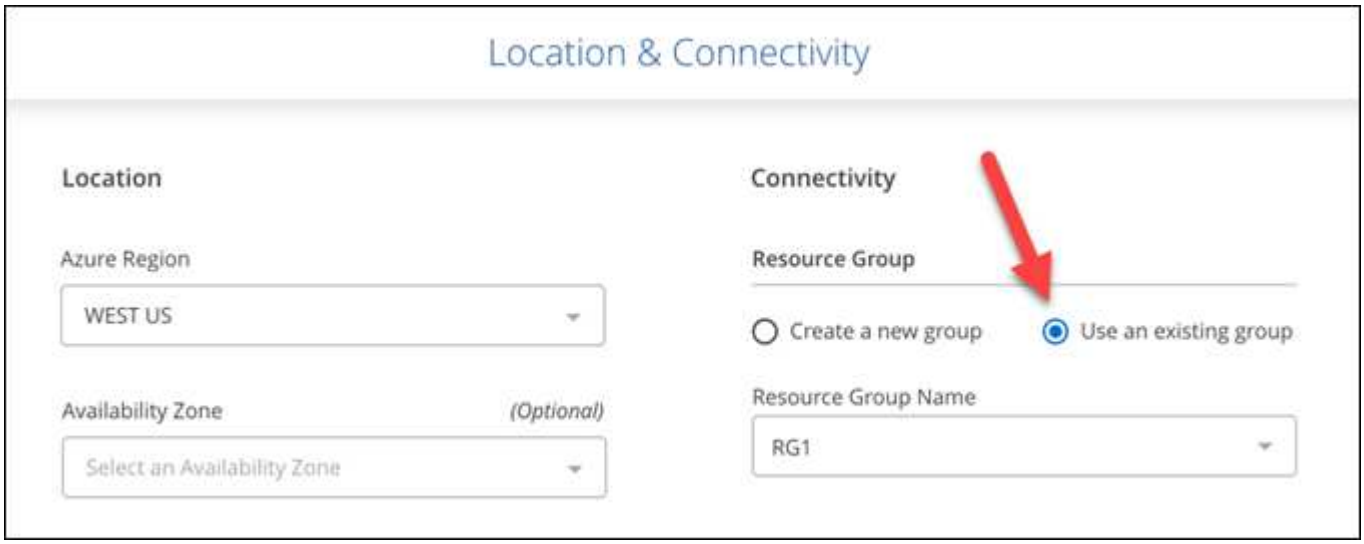
### Support for m5dn.24xlarge in AWS

Starting with the 9.9.1 release, Cloud Volumes ONTAP now supports the m5dn.24xlarge instance type with the following charging methods: PAYGO Premium, bring your own license (BYOL), and Freemium.

View supported configurations for Cloud Volumes ONTAP in AWS.

### Select existing Azure resource groups

When creating a Cloud Volumes ONTAP system in Azure, you now have the option to select an existing resource group for the VM and its associated resources.




The following permissions enable BlueXP to remove Cloud Volumes ONTAP resources from a resource group, in case of deployment failure or deletion:

```
"Microsoft.Network/privateEndpoints/delete",
"Microsoft.Compute/availabilitySets/delete",
```

Be sure to provide these permissions to each set of Azure credentials that you've added to BlueXP. View the latest Connector policy for Azure.

### Blob public access now disabled in Azure

As a security enhancement, BlueXP now disables **Blob public access** when creating a storage account for Cloud Volumes ONTAP.

### Azure Private Link enhancement

By default, BlueXP now enables an Azure Private Link connection on the boot diagnostics storage account for new Cloud Volumes ONTAP systems.

This means *all* storage accounts for Cloud Volumes ONTAP will now use a private link.

Learn more about using an Azure Private Link with Cloud Volumes ONTAP.

### Balanced persistent disks in Google Cloud

Starting with the 9.9.1 release, Cloud Volumes ONTAP now supports Balanced persistent disks (pd-balanced).

These SSDs balance performance and cost by providing lower IOPS per GiB.

### custom-4-16384 no longer supported in Google Cloud

The custom-4-16384 machine type is no longer supported with new Cloud Volumes ONTAP systems.

If you have an existing system running on this machine type, you can keep using it, but we recommend switching to the n2-standard-4 machine type.

View supported configurations for Cloud Volumes ONTAP in Google Cloud.

## 30 May 2021

The following changes were introduced with the 3.9.7 release of the Connector.

### New Professional Package in AWS

A new Professional Package enables you to bundle Cloud Volumes ONTAP and Cloud Backup Service by using an annual contract from the AWS Marketplace. Payment is per TiB. This subscription doesn't enable you to back up on-premises data.

If you choose this payment option, you can provision up to 2 PiB per Cloud Volumes ONTAP system through EBS disks and tiering to S3 object storage (single node or HA).

Go to the AWS Marketplace page to view pricing details and go to the Cloud Volumes ONTAP Release Notes to learn more about this licensing option.

### Tags on EBS volumes in AWS

BlueXP now adds tags to EBS volumes when it creates a new Cloud Volumes ONTAP working environment. The tags were previously created after Cloud Volumes ONTAP was deployed.

This change can help if your organization uses service control policies (SCPs) to manage permissions.

### Minimum cooling period for auto tiering policy

If you enabled data tiering on a volume using the *auto* tiering policy, you can now adjust the minimum cooling period using the API.

Learn how to adjust the minimum cooling period.

### Enhancement to custom export policies

When you create a new NFS volume, BlueXP now displays custom export policies in ascending order, making it easier for you to find the export policy that you need.

### Deletion of old cloud snapshots

BlueXP now deletes older cloud snapshots of root and boot disks that are created when a Cloud Volumes ONTAP system is deployed and every time its powered down. Only the two most recent snapshots are retained for both the root and boot volumes.

This enhancement helps reduce cloud provider costs by removing snapshots that are no longer needed.

Note that a Connector requires a new permission to delete Azure snapshots. View the latest Connector policy for Azure.

```
"Microsoft.Compute/snapshots/delete"
```

## 24 May 2021

### Cloud Volumes ONTAP 9.9.1

BlueXP can now deploy and manage Cloud Volumes ONTAP 9.9.1.

Learn about the new features included in this release of Cloud Volumes ONTAP.

## 11 Apr 2021

The following changes were introduced with the 3.9.5 release of the Connector.

### Logical space reporting

BlueXP now enables logical space reporting on the initial storage VM that it creates for Cloud Volumes ONTAP.

When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also reported as used.

### Support for gp3 disks in AWS

Cloud Volumes ONTAP now supports *General Purpose SSD (gp3)* disks, starting with the 9.7 release. gp3 disks are the lowest-cost SSDs that balance cost and performance for a broad range of workloads.

Size your system in AWS.

### Cold HDD disks no longer supported in AWS

Cloud Volumes ONTAP no longer supports Cold HDD (sc1) disks.

### TLS 1.2 for Azure storage accounts

When BlueXP creates storage accounts in Azure for Cloud Volumes ONTAP, the TLS version for the storage account is now version 1.2.

## 08 Mar 2021

The following changes were introduced with the 3.9.4 release of the Connector.

### Cloud Volumes ONTAP 9.9.0

BlueXP can now deploy and manage Cloud Volumes ONTAP 9.9.0.

Learn about the new features included in this release of Cloud Volumes ONTAP.

### Support for the AWS C2S environment

You can now deploy Cloud Volumes ONTAP 9.8 in the AWS Commercial Cloud Services (C2S) environment.

Deploy Cloud Volumes ONTAP in AWS Secret Cloud or AWS Top Secret Cloud.

### AWS encryption with customer-managed CMKs

BlueXP has always enabled you to encrypt Cloud Volumes ONTAP data using the AWS Key Management Service (KMS). Starting with Cloud Volumes ONTAP 9.9.0, data on EBS disks and data tiered to S3 are encrypted if you select a customer-managed CMK. Previously, only EBS data would be encrypted.

Note that you'll need to provide the Cloud Volumes ONTAP IAM role with access to use the CMK.

Learn more about setting up the AWS KMS with Cloud Volumes ONTAP.

### Support for Azure DoD

You can now deploy Cloud Volumes ONTAP 9.8 in the Azure Department of Defense (DoD) Impact Level 6 (IL6).

### IP address reduction in Google Cloud

We've reduced the number of IP addresses that are required for Cloud Volumes ONTAP 9.8 and later in Google Cloud. By default, one less IP address is required (we unified the intercluster LIF with the node management LIF). You also have the option to skip the creation of the SVM management LIF when using the API, which would reduce the need for an additional IP address.

Learn more about IP address requirements in Google Cloud.

### Shared VPC support in Google Cloud

When you deploy a Cloud Volumes ONTAP HA pair in Google Cloud, you can now choose shared VPCs for VPC-1, VPC-2, and VPC-3. Previously, only VPC-0 could be a shared VPC. This change is supported with Cloud Volumes ONTAP 9.8 and later.

Learn more about Google Cloud networking requirements.

## 04 January 2021

The following changes were introduced with the 3.9.2 release of the Connector.

### AWS Outposts

A few months ago, we announced that Cloud Volumes ONTAP had achieved the Amazon Web Services (AWS) Outposts Ready designation. Today, we're pleased to announce that we've validated BlueXP and Cloud Volumes ONTAP with AWS Outposts.

If you have an AWS Outpost, you can deploy Cloud Volumes ONTAP in that Outpost by selecting the Outpost VPC in the Working Environment wizard. The experience is the same as any other VPC that resides in AWS. Note that you will need to first deploy a Connector in your AWS Outpost.

There are a few limitations to point out:

- Only single node Cloud Volumes ONTAP systems are supported at this time

- The EC2 instances that you can use with Cloud Volumes ONTAP are limited to what's available in your Outpost
- Only General Purpose SSDs (gp2) are supported at this time

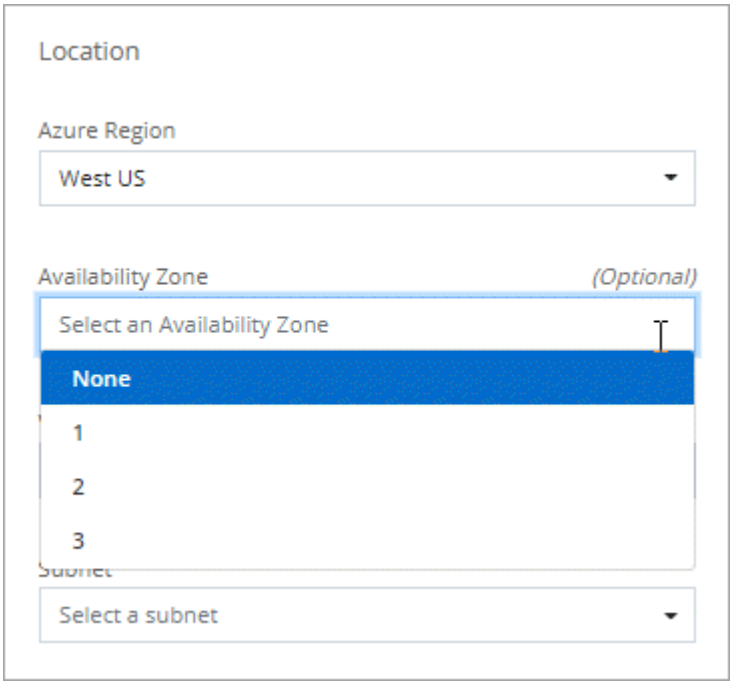
### Ultra SSD VNVRAM in supported Azure regions

Cloud Volumes ONTAP can now use an Ultra SSD as VNVRAM when you use the E32s_v3 VM type with a single node system in any supported Azure region.

VNVRAM provides better write performance.

### Choose an Availability Zone in Azure

You can now choose the Availability Zone in which you'd like to deploy a single node Cloud Volumes ONTAP system. If you don't select an AZ, BlueXP will select one for you.




### Larger disks in Google Cloud

Cloud Volumes ONTAP now supports 64 TB disks in Google Cloud.

The maximum system capacity with disks alone remains at 256 TB due to Google Cloud limits.

### New machine types in Google Cloud

Cloud Volumes ONTAP now supports the following machine types:

- n2-standard-4 with the Explore license and with BYOL
- n2-standard-8 with the Standard license and with BYOL
- n2-standard-32 with the Premium license and with BYOL

### 03 Nov 2020

The following changes were introduced with the 3.9.0 release of the Connector.

#### Azure Private Link for Cloud Volumes ONTAP

By default, BlueXP now enables an Azure Private Link connection between Cloud Volumes ONTAP and its associated storage accounts. A Private Link secures connections between endpoints in Azure.

- Learn more about Azure Private Links
- Learn more about using an Azure Private Link with Cloud Volumes ONTAP

# Known limitations

Known limitations identify platforms, devices, or functions that are not supported by this release of the product, or that do not interoperate correctly with it. Review these limitations carefully.

These limitations are specific to Cloud Volumes ONTAP management in the NetApp Console. To view limitations with the Cloud Volumes ONTAP software itself, go to the Cloud Volumes ONTAP Release Notes.

## Console doesn't support FlexGroup volumes creation

While Cloud Volumes ONTAP supports FlexGroup volumes, the Console does not currently support FlexGroup volume creation. If you create a FlexGroup volume from ONTAP System Manager or the ONTAP CLI, then you should set the Capacity Management mode in the Console to `Manual`. `Automatic` mode might not work properly with FlexGroup volumes.

The ability to create FlexGroup volumes in the Console is planned for a future release.

## Console doesn't support S3 with Cloud Volumes ONTAP

While Cloud Volumes ONTAP supports S3 as an option for scale-out storage, the Console doesn't provide any management capabilities for this feature. Using the CLI is the best practice to configure S3 client access from Cloud Volumes ONTAP. For details, refer to the ONTAP S3 Configuration Power Guide.

Learn more about Cloud Volumes ONTAP support for ONTAP S3 and other client protocols.

## Console doesn't support disaster recovery for storage VMs

The Console doesn't provide any setup or orchestration support for storage VM (SVM) disaster recovery. You must use ONTAP System Manager or the ONTAP CLI.

Learn more about SVM disaster recovery.

# Cloud Volumes ONTAP Release Notes

The Release Notes for Cloud Volumes ONTAP provide release-specific information. What's new in the release, supported configurations, storage limits, and any known limitations or issues that can affect product functionality.

Go to the Cloud Volumes ONTAP Release Notes

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