Get started

VMware workloads

NetApp
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Get started

Learn about NetApp Workload Factory for VMware

NetApp Workload Factory for VMware provides tools to move your data from on-premises systems to Amazon Elastic VMware Service (EVS), VMware Cloud on AWS (VMC) or Amazon EC2.

What is NetApp Workload Factory for VMware?

NetApp Workload Factory for VMware provides a planning center and migration advisors that enable you to analyze your current virtual machine configurations in on-premises vSphere environments. The migration advisors then generate a plan to deploy recommended VM layouts to Amazon EVS, Amazon EC2, or VMware Cloud on AWS vSphere clusters and use customized Amazon FSx for NetApp ONTAP file systems as external datastores. The planning center, acting as the Workload Factory for VMware dashboard, enables you to manage saved VM inventory datasets, and saved migration plans and provision any of the migration plans that you have saved.

Amazon FSx for NetApp ONTAP is an external NFS datastore built on NetApp's ONTAP file system that can be attached to Amazon EVS or Amazon EC2 instances or VMware Cloud on AWS vSphere clusters. There is no need to add more hosts to increase available storage; instead, just use FSx for ONTAP volumes as external datastores to complement vSAN datastores. This provides you with a flexible, high-performance, virtualized storage infrastructure that scales independently of compute resources.

For more information about Workload Factory, refer to the Workload Factory overview.

How the VMware migration advisors work

The migration advisors can help you move on-premises virtual machines (VMs) and their data, running on any VMware supported datastores, to Amazon EVS, Amazon EC2, or VMware Cloud datastores, which includes supplemental NFS datastores on an FSx for ONTAP file system.

Note that you can attach up to four (4) FSx for ONTAP volumes to a single vSphere cluster on VMware Cloud on AWS.

What you can do with the migration advisors

The migration advisors provide the following functionality:

- Analyze current on-premises VM configurations
- Determine which VMs to migrate to Amazon EC2, Amazon EVS, or VMware Cloud on AWS
- Identify the space required on FSx for ONTAP volumes to be used as VM external datastores
- Review resulting report to understand the deployment steps
- Perform the actual deployment

The migration advisor supports configuration planning for a single Amazon EVS or Amazon EC2 instance or VMware Cloud on AWS cluster connected to a single FSx for ONTAP file system.

Benefits of using the migration advisors

Transitioning parts of your current infrastructure to Amazon EC2 or VMware Cloud on AWS using Amazon FSx for ONTAP as external NFS datastores provides the following benefits:

- Cost optimization due to host and storage decoupling and advanced data efficiency
- Ability to grow the storage capacity as needed without the need to purchase additional host instances
- NetApp ONTAP data management capabilities in the cloud, such as space efficient snapshots, cloning, compression, deduplication, compaction, and replication
- Reduction in management of hardware refreshes
- Ability to change data throughput, IOPS, and the size of the file system in addition to increase or decrease the size of volumes
- High availability supporting multiple Availability Zone (AZ) deployments
- Cost and latency reduction from single-AZ configurations that use VPC peering without requiring a Transit Gateway

Tools to use NetApp Workload Factory

You can use NetApp Workload Factory with the following tools:

- **Workload Factory console**: The Workload Factory console provides a visual, holistic view of your applications and projects.
- **NetApp Console**: The NetApp Console provides a hybrid interface experience so that you can use Workload Factory along with other NetApp data services.
- **Ask me**: Use the Ask me AI assistant to ask questions and learn more about Workload Factory without leaving the Workload Factory console. Access Ask me from the Workload Factory help menu.
- **CloudShell CLI**: Workload Factory includes a CloudShell CLI to manage and operate AWS and NetApp environments across accounts from a single, browser-based CLI. Access CloudShell from the top bar of the Workload Factory console.
- **REST API**: Use the Workload Factory REST APIs to deploy and manage your FSx for ONTAP file systems and other AWS resources.
- **CloudFormation**: Use AWS CloudFormation code to perform the actions you defined in the Workload Factory console to model, provision, and manage AWS and third-party resources from the CloudFormation stack in your AWS account.
- **Terraform NetApp Workload Factory provider**: Use Terraform to build and manage infrastructure workflows generated in the Workload Factory console.

Well-architected analysis for EVS environments

The Well-architected tab provides automated daily analysis of your Amazon Elastic VMware Service (EVS) environments to ensure alignment with AWS and NetApp best practices. The tab identifies configuration issues and provides detailed remediation guidance to help you maintain optimal operations, security, and cost efficiency.

Automatic scans are performed using AWS APIs—no vSphere credentials are required. Findings are organized by configuration area, with each finding including status, severity levels, impacted resource details, and step-by-step remediation procedures.

Implement well-architected EVS configurations in Workload Factory. == Cost

There is no cost for using Workload Factory for VMware.

You'll need to pay for AWS resources that you deploy based on the recommendations from the migration advisors.

Licensing

No special licenses are needed from NetApp to use Workload Factory for VMware.

Regions

Workload Factory is supported in all commercial regions where FSx for ONTAP is supported. View supported Amazon regions.

The following AWS regions aren't supported:

- China regions
- GovCloud (US) regions
- Secret Cloud
- Top Secret Cloud

Quick start for migrating to Amazon EVS using the VMware workloads migration advisor

Get started with the VMware migration advisor to move your current infrastructure to Amazon EVS using Amazon FSx for ONTAP as external NFS datastores.

Before you get started, you should have an understanding of the :https://docs.netapp.com/us-en/workload-setup-admin/permissions-reference.html[permissions for NetApp Workload Factory^].

Log in to Workload Factory

You'll need to set up an account with Workload Factory and log in using one of the console experiences.

Add credentials and permissions

Choose the permission policies to meet your needs.

If you choose not to grant permissions, you can start using Workload Factory for Databases to copy partially completed code samples.

If you choose to grant permissions, you'll need to add credentials to an account manually that includes selecting workload capabilities, such as Databases and AI, and creating the IAM policies for the required permissions.

Learn how to add credentials and permissions.

Upload VM inventory data

You can use the planning center to upload inventory details about your current VM environment. Use the data collector script, RVTools, or NetApp Data Infrastructure Insights to capture your current VM configuration and upload the data to the planning center.

Learn how to upload VM inventory data.

4 **Create a deployment plan using the VMware migration advisor**

Launch the VMware migration advisor and manually configure the VM environment you want to create on Amazon Elastic VMWare Service infrastructure using an Amazon FSx for ONTAP file system as external NFS datastores.

Learn how to use the VMware migration advisor to create a deployment plan.

5 **Deploy the recommended FSx for ONTAP file system**

Deploy the new FSx for ONTAP file system that will provide the datastores for your VMs in your Amazon EC2 infrastructure.

Learn how to deploy your new FSx for ONTAP file system.

6 **Review well-architected insights for your EVS environment**

When your EVS environment is discovered, Workload Factory automatically performs daily well-architected scans to identify configuration issues and provide remediation recommendations.

Learn how to implement well-architected configurations.

Quick start for migrating to Amazon EC2 using the VMware workloads migration advisor

Get started with the VMware migration advisor to move your current infrastructure to Amazon EC2 using Amazon FSx for ONTAP as external NFS datastores.

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4 **Create a deployment plan using the VMware migration advisor**

Launch the VMware migration advisor and select the VMs that you want to migrate to Amazon EC2 infrastructure using an Amazon FSx for ONTAP file system as external NFS datastores. You can make some modifications before you save the plan.

Learn how to use the VMware migration advisor to create a deployment plan.

5 **Deploy the recommended FSx for ONTAP file system**

Deploy the new FSx for ONTAP file system that will provide the datastores for your VMs in your Amazon EC2 infrastructure.

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Quick start for migrating to VMware Cloud on AWS using the VMware workloads migration advisor

Get started with the VMware migration advisor to move your current infrastructure to VMware Cloud on AWS using Amazon FSx for ONTAP as external NFS datastores.

Before you get started, you should have an understanding of the :https://docs.netapp.com/us-en/workload-setup-admin/permissions-reference.html[permissions for NetApp Workload Factory^].

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4 **Create a deployment plan using the VMware migration advisor**

Launch the VMware migration advisor and select the VMs that you want to migrate to the new VMware Cloud on AWS infrastructure using an Amazon FSx for ONTAP file system as external NFS datastores. You can make some modifications before you save the plan.

Learn how to use the VMware migration advisor to create a deployment plan.

5 **Deploy the recommended FSx for ONTAP file system**

Deploy the new FSx for ONTAP file system that will provide the datastores for your VMs in your VMware Cloud on AWS infrastructure.

Learn how to deploy your new FSx for ONTAP file system.

6 **Connect your FSx for ONTAP file systems to VMware Cloud on AWS**

Your Software-Defined Data Center (SDDC) offers network options for connecting to the FSx for ONTAP file system by using the VPC Peering capability to extend network connectivity to the external NFS storage volumes.

Learn how to connect your FSx for ONTAP file systems.

7 **Migrate data from your old systems to your new FSx for ONTAP file systems**

Use an external tool such as VMware HCX (Hybrid Cloud Extension) to move your data from your old virtual machine storage to the FSx for NetApp ONTAP volumes connected to your new virtual machines.

Learn more about migrating your data.

Explore the VMware planning center

The VMware planning center enables you to upload new VM inventory data and create new migration plans, as well as manage the VM inventory data and migration plans that you have already saved with NetApp Workload Factory.

Manage VM inventory data

Use the planning center to create and manage VM inventory data.

Upload VM inventory data

You can upload VM inventory data when you are ready to use Workload Factory to explore migration options to Amazon AWS environments. Refer to Upload VM inventory data for instructions.

Rename a dataset

You can change the name of a saved dataset.

Steps

1. Log in to Workload Factory using one of the console experiences.
2. Select the menu and then select **VMware**.

   The planning center is displayed.

3. Select the Actions menu (…) for the dataset you want to rename, and select **Rename**.
4. Enter a new name for the dataset and select **Save**.

Delete a dataset

When a dataset is no longer needed, you can delete it at any time.

Steps

1. Log in to Workload Factory using one of the console experiences.
2. Select the menu and then select **VMware**.

   The planning center is displayed.

3. Select the Actions menu (…) for the dataset you want to delete, and select **Delete**.
4. Select **Delete** to confirm the action.

Manage migration plans

Use the migration center to create and manage migration plans.

Provision a migration plan

You can select a migration plan and provision it so that the VMs are migrated to the Amazon AWS environment of your choice.

Steps

1. Log in to Workload Factory using one of the console experiences.
2. Select the menu and then select **VMware**.

   The planning center is displayed.

3. Select **Migration plans**.

4. Select the Actions menu (…) for the migration plan you want to provision, and select **Provision**.
5. Depending on the migration plan, refer to the instructions to deploy the file system:
    - Deploy the file system for Amazon VMware Cloud plans
    - Deploy the file system for Amazon EC2 plans
    - Deploy the file system for Amazon Elastic VMware Service plans

Edit the comment for a migration plan

If you need to change comment details for a migration plan, edit the comment from within the planning center.

Steps

1. Log in to Workload Factory using one of the console experiences.
2. Select the menu and then select **VMware**.

   The planning center is displayed.

3. Select **Migration plans**.
4. Select the Actions menu (…) for the migration plan you want to edit, and select **Edit comment**.
5. Enter a comment and select **Save**.

Create a PDF or CSV report of a migration plan

Create a PDF or CSV report of the details of a migration plan.

Steps

1. Log in to Workload Factory using one of the console experiences.
2. Select the menu and then select **VMware**.

   The planning center is displayed.

3. Select **Migration plans**.
4. Select the Actions menu (…) for the migration plan for which to create a PDF or CSV report, and select **Download plan (PDF)** or **Download VM report (CSV)**.
5. Enter a name for the report and select **Save**.

Delete a migration plan

When a migration plan is no longer needed, you can delete it at any time.

Steps

1. Log in to Workload Factory using one of the console experiences.
2. Select the menu and then select **VMware**.

   The planning center is displayed.

3. Select **Migration plans**.
4. Select the Actions menu (…) for the migration plan you want to delete, and select **Delete**.
5. Confirm the action by selecting **Delete**.

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