

Cisco Intersight Workload Optimizer Getting Started Guide

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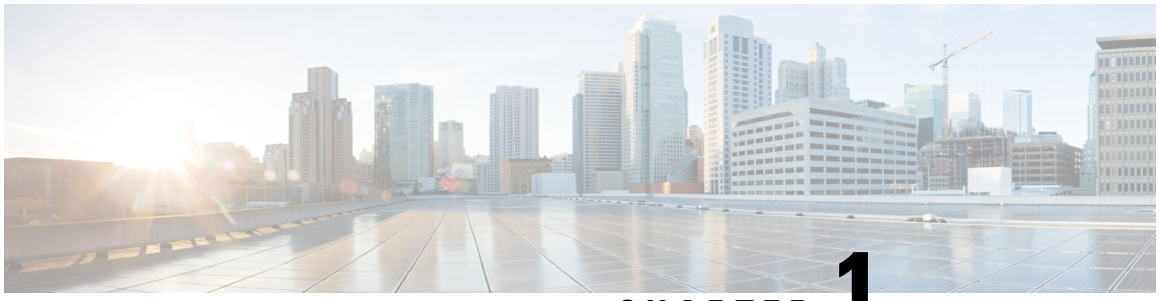
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CHAPTER 1

Overview

- About Cisco Intersight Workload Optimizer, on page 1
- Related Documentation, on page 1
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About Cisco Intersight Workload Optimizer

Cisco Intersight Workload Optimizer can radically simplify application resource management with a single tool that dynamically optimizes resources in real time to ensure application performance. It can continuously optimize critical IT resources, resulting in more efficient use of existing infrastructure and lower operational costs on premises and in the cloud. Intersight Workload Optimizer takes the guesswork out of planning for the future with the ability to quickly model what-if scenarios based on the real-time environment

Intersight Workload Optimizer continuously analyzes workload consumption, costs and compliance constraints and automatically allocates resources in real-time. It assures workload performance by giving workloads the resources they need when they need them. It helps with Capacity planning, workload placement across multiple clouds.

Intersight Workload Optimizer is a real-time decision engine that ensures the health of applications across your on-premises and public cloud environments while lowering costs. The intelligent software continuously analyzes workload demand, resource consumption, resource costs, and policy constraints to determine an optimal balance. Intersight Workload Optimizer has an AIOps toolset that makes recommendations for operators and can trigger workload placement and resource allocations in your data center and the public cloud, fully automating real-time optimization.

With Intersight Workload Optimizer, infrastructure and operations teams are armed with visibility, insights, and actions that ensure SLAs are met while improving the bottom line. Application and DevOps teams get comprehensive situational awareness so they can deliver high-performing and continuously available applications.

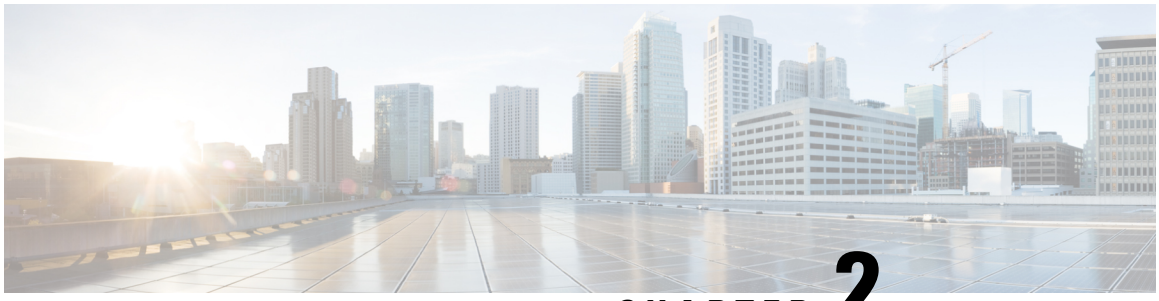
Related Documentation

The Cisco Intersight Workload Optimizer Target Configuration and User Guide is available for Cisco Intersight Workload Optimizer in the Intersight help center and on Cisco.com

Feedback

Feedback

You can share feedback about your experience with Cisco Intersight Workload Optimizer from the appliance UI. Click the **Help** drop-down list (the question mark representation) on the top-right in Intersight, and select **Send Feedback**. You can rate your experience, report a defect, or leave a comment for enhancement of any feature or functionality.



CHAPTER 2

Get Started with Intersight Workload Optimizer

- Log In using Cisco ID, on page 3
- Enable Intersight Workload Optimizer, on page 3
- Deploy Intersight Assist (If Required), on page 4
- Create New Users with Roles And Privileges, on page 5
- Optimize your Workloads, on page 5

Log In using Cisco ID

If you already have an existing Cisco Intersight account or Cisco ID visit https://intersight.com/ to log in.

If you are a new Intersight user, create a Cisco Intersight account:

1. Visit https://intersight.com/ to create your Intersight account. You must have a valid Cisco ID to create a Cisco Intersight account. If you do not have a Cisco ID, create one here.
2. Enter an **Account Name**. Account Name can only contain letters(a-z, A-Z), numbers(0-9) or hyphen(-).

Enable Intersight Workload Optimizer

You can start using Intersight Workload Optimizer either by using Trial license or by purchasing and registering an Intersight Workload Optimizer license.

Use the Trial Intersight Workload Optimize License

To start exploring the features offered by Intersight Workload Optimizer using a Trial license in Intersight, do the following:

Attention You can use the trial license for the product only once.

1. Log into Intersight with Account Administrator privileges.
2. Select **System > Admin > Licensing**.
3. Click **Start Trial**.

4. Choose **Workload Optimizer**.

Purchase and Register Intersight Workload Optimizer Licenses

You can purchase any of the Intersight Workload Optimizer license tiers using the Cisco ordering tool. For more details, see Ordering Information in the Cisco Intersight Data Sheet.

To register an Intersight Workload Optimizer license in Intersight, do the following:

1. Log into Intersight with Account Administrator privileges.
2. From **System > Admin > Licensing**.
3. Select **Actions > Register Smart Licensing**.
4. Enter the **Product Instance Registration Token**. Click **Cisco Smart Software Manager** to obtain your Intersight Registration token. If you do not have a Smart Account, create one here. Click **Next**.
5. In the **Set Product** page, Toggle ON **Workload Optimizer** and select the required license tier (Essentials, Advantage, or Premier). For more information on the Intersight Workload Optimizer licensing tiers, see the *Intersight Workload Optimizer Licensing* section.

Attention Intersight Workload Optimizer provisioning might take up to 15 minutes.

Deploy Intersight Assist (If Required)

Cisco Intersight Assist helps you add endpoint devices to Cisco Intersight. A datacenter could have multiple devices that do not connect directly with Cisco Intersight. Any device that is supported by Cisco Intersight but does not connect directly with it, will need a connection mechanism. Cisco Intersight Assist provides that connection mechanism, and helps you add devices into Cisco Intersight. For more information about deploying Intersight Assist and for the right sizing for other Intersight features, see the About Cisco Intersight Assist.

Resource Requirements for Intersight Assist

You can deploy Cisco Intersight Assist on VMware ESXi 6.5 and higher. This section describes the system requirements to install and deploy Cisco Intersight Assist for Intersight Workload Optimizer.

Attention

- To claim any on-premises target an Intersight Assist of at least size Small is required.
- If Intersight Assist is deployed already, verify the sizing requirements. If required, refer to the Sizing Options section in the Cisco Intersight Virtual Appliance Getting Started Guide for resizing instructions.

Resource Requirement	System Requirements	
	Small	Medium
vCPU	16	24
RAM (GiB)	32	64

Resource Requirement	System Requirements	
Storage (Disk in GiB)	500	500
Deploy Configuration	Up to 1000 Virtual Machines	Up to 30,000 Virtual Machines
Supported Hypervisors	VMware ESXi 6.5 and higher	

**To deploy up to 100,000 Virtual Machines, increase the vCPU to 32 and RAM to 96 GB or more.

Register Targets

To claim new targets, do the following:

1. Log in to Intersight with the Account Administrator, Device Administrator, or Device Technician privileges.
2. From the Service Selector drop-down list, select **System**.
3. Navigate to **ADMIN** > **Targets** > **Claim a New Target**.
4. Choose **Available for Claiming** and select the target type you want to claim.
5. Click **Start**.
6. Enter the required details and click **Claim** to complete the claiming process.

For more information about configuring targets to monitor workloads and execute actions in your environment, see the Cisco Intersight Workload Optimizer Target Configuration and User Guide.

Create New Users with Roles And Privileges

Intersight provides Role-Based Access Control (RBAC) to authorize or restrict system access to a user, based on user roles and privileges. Intersight also enables multi-tenancy in an account through separation of resources through logical entities called Organizations. A user role in Intersight represents a collection of the privileges a user has, to perform a set of operations. These roles can be user or system-defined, and provide granular access to resources. For detailed information about the supported roles, the associated privileges, creating an Organization, a user-defined role, adding a User, User Group, and creating and switching between Roles, see Role Based Access Control in Intersight.

Optimize your Workloads

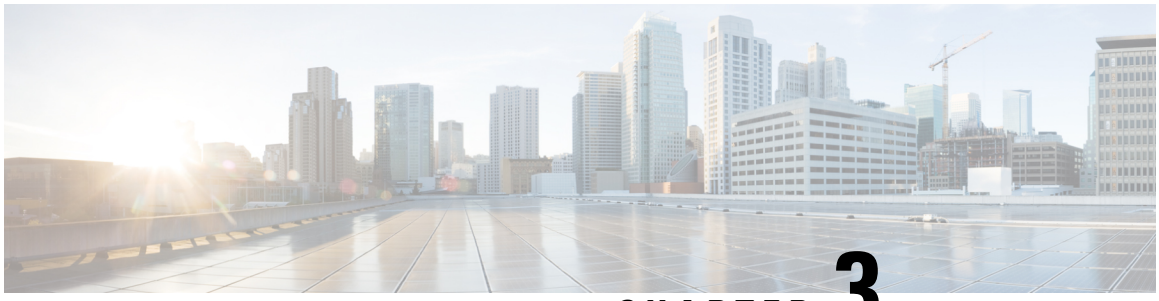
After you log in to Intersight, navigate to **Workload Optimizer** > **Overview** to begin using the features offered by Intersight Workload Optimizer.

From **Overview**, choose a View to see overviews of your environment. Navigate to other Intersight Workload Optimizer pages, including:

- Search—Set the session scope to drill down to details about your environment
- Plan—Run what-if scenarios
- Place—Use Intersight Workload Optimizer to calculate the best placement for workloads, and execute the placement at the time you specify

- Dashboards—Set up custom views with charts that focus on specifics in your environment
- Settings—Configure Intersight Workload Optimizer to set up business rules and policies, define groups, and perform other administrative tasks

For more information about using Intersight Workload Optimizer, see the Cisco Intersight Workload Optimizer Target Configuration and User Guide.



CHAPTER 3

Supported Targets and Licensing Requirements

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- Intersight Workload Optimizer Licensing, on page 7
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Supported Targets

For a list of supported targets and configuration requirements, see Target Configuration in the Cisco Intersight Workload Optimizer Target Configuration and User Guide.

Intersight Workload Optimizer Licensing

Cisco Intersight Workload Optimizer uses a subscription-based license with multiple tiers. You can purchase a subscription duration of one, three, or five years and choose the tier they need for the selected subscription duration. The unit of measure is the number of virtual machines instances or number of virtual desktop instances. Intersight Workload Optimizer is a SaaS-only offer.

You can purchase any of these Intersight Workload Optimizer license tiers using the Cisco ordering tool or initiate a trial from Intersight.

- **Cisco Workload Optimizer Essentials**—Cisco Intersight Workload Optimizer Essentials enables customers to optimize hybrid cloud infrastructure both on-premises and in public clouds.
  - Compute, hyperconverged systems, hypervisors, storage and network devices are supported in this tier.
  - On-going optimization, capacity planning, workload placement and automation of recommendations actions for hybrid cloud infrastructure is supported.
- **Cisco Workload Optimizer Advantage**—In addition to the functionality provided in the Essentials tier, Advantage tier extends the functionality to:
  - Support for containers, packaged applications and databases, workflow integration with full-stack optimization and automation.

- Container (Kubernetes) pod and resource optimization (horizontal and vertical scaling, sizing and placement).
- Databases servers and database services.
- Application servers and Application Performance Management (AppDynamics) integrations.

- **Cisco Workload Optimizer Premier**—In addition to the functionality provided in the Advantage tier, Premier tier extends the functionality to:
  - Ingest, visualize, and correlate data from 3rd party APM tools and open source/API-based proprietary tools to provide an end-to-end view.

Intersight Workload Optimizer License Tiers

The following table lists the Intersight Workload Optimizer features and functionality distributed by the license tiers.

Category	Features	Essentials	Advantage	Premier
Infrastructure	Public Cloud / Instances	✓	✓	✓
	On Premises / Hypervisors Non-UCS Compute	✓	✓	✓
	Hyperconverged - HyperFlex Non-HyperFlex	✓	✓	✓
	Storage	✓	✓	✓
	Network Aware Placement	✓	✓	✓
	VDI	✓	✓	✓

Category	Features	Essentials	Advantage	Premier
Containers, AppDynamics, Packaged Apps and Workflow	Container Pod Horizontal & Vertical Scaling		✓	✓
	Container Rightsizing, Cluster Scaling and Pod Redistribution		✓	✓
	Application Performance Monitoring - AppDynamics • 360-degree perspective for all Staff: Business, App/Dev, SRE, CloudOps and IT • AI-Driven Application Resourcing		✓	✓
	Application Server/JVM, Database Servers, and Database Services like Tomcat, Websphere etc.*		✓	✓
	Workflow Integration like ServiceNow*		✓	✓
Third Party APM and Non-APM (OpenSource)	Application Performance Monitoring (APM) Integration like Dynatrace*			✓
	Application Performance Extensibility (APEX) Ingest, Correlate, Visualize Custom Metrics			✓



Important *Names here are for illustration purposes only. Refer to the Cisco Intersight Workload Optimizer Target Configuration and User Guide for the supported targets.

Intersight Workload Optimizer License Status

Intersight Workload Optimizer account license state could be one of the following depending on your subscription status:

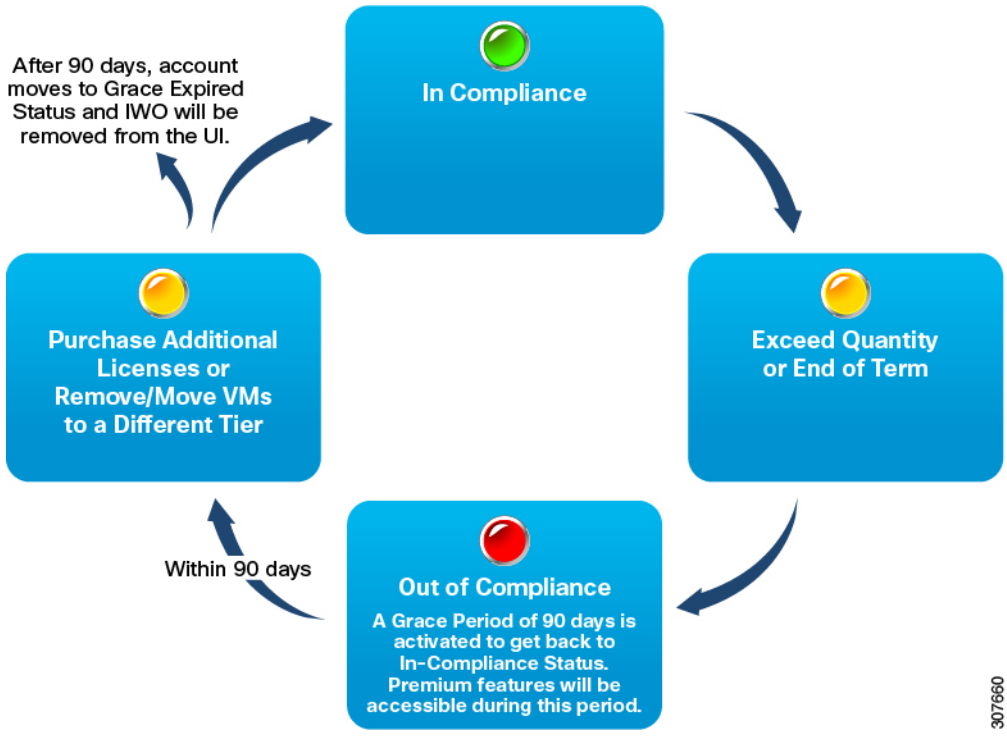
- **Not Used**—This status is displayed when the VM/Workload count in a license tier is 0.
- **In Compliance**—The account licensing state is in compliance and all the supported features are available to the users.
- **Out of Compliance**—The account license status displays Out of Compliance in the following cases:
  - When not enough valid licenses are available because the subscription has reached the end of term or you have more VM/Workloads in the license tier than available licenses.
  - When the grace period of 90 days is active or expired
  - The VM/Workloads are added to the account but not registered in the Smart Licensing account

Attention

- Multiple licensing tiers is not supported for Workload Optimizer.
- After you purchase and activate additional licenses from the Cisco Smart Licensing portal, click the Refresh icon in the Subscription pane to sync the licensing status with that in the portal.

As a new Intersight user, you can evaluate Intersight Workload Optimizer for a period of 45 days without a registered license. During the Trial period, the premier features of Intersight Workload Optimizer are available. You can view details of the Evaluation period in the **License** page under **Settings**. **You can use the trial license for Workload Optimizer once ONLY.** You must activate a valid license before the trial period ends and the status moves to **Trial Expired** to continue using Intersight Workload Optimizer.

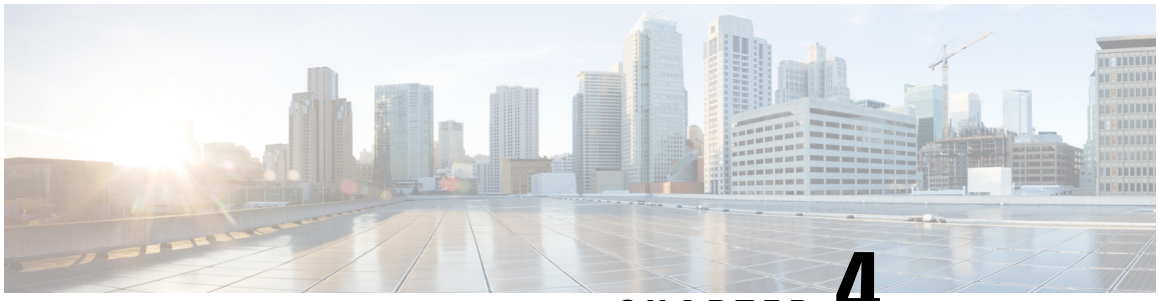
When an account license status moves to Out of Compliance, a **Grace period of 90 days** is triggered. In this period, you can continue to use the premium features, but the account license status remains Out of Compliance. To get back in compliance, you must purchase additional licenses or remove a VM/Workload from the existing tier or move it to a lower tier. If you do not renew your license within the 90 days, the license state moves to **Grace Expired** and the license is downgraded to Base-level functionality and the premium features become unavailable. You must register a valid license again to resume using the features. For example, if an account has a valid license for 20 VM/Workloads and if you claim another VM/Workload into the account, the status moves to Out of Compliance and the grace period is initiated. However, you can continue to access the features as before. To restore the In Compliance status, you can move one of the VM/Workloads to a lower tier (Essentials/Advantage, as required).



Intersight Workload Optimizer Roles and Privileges

Intersight provides Role-Based Access Control (RBAC) to authorize or restrict system access to a user, based on user roles and privileges. A user role in Intersight represents a collection of the privileges a user has to perform a set of operations and provides granular access to resources. Intersight provides role-based access to individual users or a set of users under Groups. For the complete list of roles and privileges in Intersight and details on managing roles and privileges see Role Based Access Control in Intersight.

Intersight Workload Optimizer Roles	Permissions
Workload Optimizer Observer	As a Workload Optimizer Observer, you can view the state of the environment and recommended actions. You cannot run plans or execute any recommended actions.
Workload Optimizer Advisor	As a Workload Optimizer Advisor, you can view all Workload Optimizer charts and data, and run plans. You cannot reserve workloads, or execute any recommended actions.
Workload Optimizer Automator	As a Workload Optimizer Automator, you can execute recommended actions and deploy workloads. You cannot perform administrative tasks.
Workload Optimizer Deployer	As a Workload Optimizer Deployer, you can view all Workload Optimizer charts and data, deploy workloads, and create policies and templates. You cannot run plans or execute any recommended actions.
Workload Optimizer Administrator	As a Workload Optimizer Administrator, you can access all Workload Optimizer features and perform administrative tasks to configure Workload Optimizer.



CHAPTER 4

Known Issues

- Known Issues, on page 13

Known Issues

This section provides information to help troubleshoot common issues when using Intersight Workload Optimizer.

Google Cloud Billing

Issue	Resolution
Under some circumstances, Google Cloud Billing discovery fails with *IllegalStateException*. Logs show the following error. Discovery failed: CRITICAL: IllegalStateException: Failed to access feature flag FF<Enable GCP billing additive discovery=unknown>: no store attached	None.

Intersight Assist

Issue	Resolution
For targets which require the selection of an Intersight Assist 'Claimed By' in the Targets table view is set to the user who claimed the Intersight Assist.	View Audit Logs for details of the correct user who claimed the target.
Deleting Intersight Assist after deleting all the targets may fail.	Click the Help drop-down list (the question mark representation) on the top-right in Intersight, and select **Send Us Feedback** to report the issue.

Targets

Issue	Resolution
Deleting an Amazon Web Services target may fail.	Please retry deleting the Amazon Web Services target.

Issue	Resolution
Deleting a Kubernetes target will not delete the Kubernetes entities in the supply chain automatically.	Click the Help drop-down list (the question mark representation) on the top-right in Intersight, and select **Send Us Feedback** to report the issue.

Intersight Virtual Appliance Recommended Actions

Issue	Resolution
The recommended Actions for Intersight Virtual Appliance might be inaccurate.	Ignore recommended Actions for Intersight Virtual Appliance.

Virtual Machine Count

Issue	Resolution
The number of VMs listed in the License page may not be updated correctly.	Click the Help drop-down list (the question mark representation) on the top-right in Intersight, and select **Send Us Feedback** to report the issue