

Hierarchical HiveManager Configuration Guide



This guide explains how to enable and use HHM (Hierarchical HiveManager) in HiveManager NG. You will learn how to create and manage organizations, view data and configure objects within different organizations, add organization administrators, and add and reassign devices to organizations. Finally, it explains how to generate reports for one or more organizations.

Document Revision History

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Introduction

HHM (Hierarchical HiveManager) allows Aerohive channel partners to provide fully managed enterprise-level wired and wireless services for multiple customers, from a single HiveManager NG instance. HHM can also be used for large corporate customers who need to manage the networks of different corporate entities separately; for example, different subsidiaries or regions.

HHM supports grouped devices and policies, which offers the most flexible management and entitlement capabilities in the market.

The HHM administrator can create separate fully managed organizations within HHM, and can create new accounts using role-based-access-control for new organization admins.

Because HHM administrators have access to global- and organization-level accounts, HHM also allows them to manage entitlement keys, add devices, deploy network policies, and monitor the health status of deployed networks for every organizational-level network they manage.

In addition to global access to customer accounts, the HHM administrator can easily reassign and move devices between organizations. This feature can help with inventory management tasks. The HHM reporting feature allows administrators to generate and share different reports, including a usage report that summarizes information about deployed devices by organization.

Also, using the organization filter feature, an HHM administrator can view aggregated information presented on the Dashboard page for one or more organizations.

About HHM Administrator Management

An HHM admin can access the accounts and networks of all their direct customers' organizations. In contrast, an organization admin can only access and manage devices in his own organization. The HHM admin has full read-write access to his local organization and to all organization networks.

Note: A HHM account is enabled with a single HiveManager entitlement key that allows the movement of devices between organizations


HiveManager NG organizes the two types of admin accounts as follows:

- An organization admin of a specific organization belongs to only that organization.
- No organization admin can belong to more than one organization.
- An HHM admin can add and delete organization admins, and can suspend or delete any organization.

About Organization Administrator Management

The organization admin can only access and manage devices in his own organization, while an HHM admin can access the accounts and networks of all their direct customers' organizations. In addition, the organization admin has the role-based capabilities and limitations as assigned by the HHM admin. For instance, if the HHM admin has defined the role as observer, the organization admin can only view the status of the organization. Conversely, if the organization admin has been assigned the operator role, he has almost all the same access rights as the HHM admin, except for not being able to manage accounts and licensing.

The organization admin operates HiveManager NG the same way as any other HiveManager NG admin.



Enabling HHM

HHM is disabled by default. Enabling it does not require any special license or extra fees. Simply log in to HiveManager NG as a VHM administrator and navigate to `admin-name/company` > Global Settings > Account Details and toggle **Enable HHM** from **OFF** to **ON**.

Note: Enabling HHM is a permanent action and cannot be undone. It also deletes all backups of the VHM.

Organization Information

Organization Name	AEROHIVE NETWORKS
Industry	Technology
Address	CA, United States
Enable HHM	OFF

After you toggle **Enable HHM** to **ON**, the following confirmation message appears:

Please Confirm

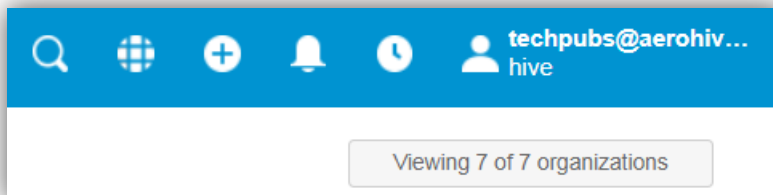
Enabling Hierarchical HiveManager (HHM) is a permanent change and cannot be undone. If you wish to proceed, all prior backups of this VHM will be deleted. You will be temporarily unable to access the VHM while the process is completed.

Cancel **Enable**

To continue, click **Enable**. HiveManager NG logs you off and displays the HHM login page.

After you log back in, you will see the normal HiveManager NG interface with two changes:

- A Manage Organizations icon appears in the GUI menu bar next to the Search icon.
- A *Viewing x of y organizations* button appears in the upper right of the GUI just below menu bar.




Note: This icon and button are not visible to individual organization administrators, who are only aware of their own administrative domain.

Managing Organizations

The following sections contain information about adding, modifying, and removing organizations as well as how to search for organizations and select them for viewing and configuring.

Adding, Modifying, and Removing an Organization

To add a new organization:

1. Navigate to  *admin-name/company* > Global Settings > Organizations.
2. On the *Organizations* page, click **Add**.

HiveManager NG displays the *Add new organization* page.



3. Enter the following and then click **Add**:

Name: Enter a name for the organization.

Color: Either select a color to associate with the organization from the drop-down list or define a custom color.


4. Click **Add**. HiveManager NG saves your choices and returns you to the *Organizations* page.

To change an organization name or color:

1. Navigate to  *admin-name/company* > Global Settings > Organizations.
2. On the *Organizations* page, select the check box next to the organization that you want to modify, and then click .
3. You can change the organization name and its associated color, and then click **Save**.



HiveManager NG saves your choices and returns you to the *Organizations* page.


To remove an organization:

1. Navigate to  *admin-name/company* > Global Settings > Organizations.
2. Select the check box for the organization you want to remove and then click .
3. Click **Yes** in the confirmation dialog box.


Viewing and Searching for Organizations

There are several ways to view the HHM organizations table:

- Navigate to  *admin-name/company* > Global Settings > Organizations.
- Click the  icon at the top of the GUI.
- Click the **Viewing x of y organizations** button in the upper right corner of HiveManager NG pages.

When you click the  icon or **Viewing x of y organizations** button, HiveManager NG displays the *Organizations* panel on the right side of the screen. The *Organizations* panel shows all the organizations that you can manage. Search for required organizations by entering a text string in the search text box at the top of the *Organizations* panel.

Selecting Organizations to View and Configure

When you click the  icon or **Viewing x of y organizations** button, HiveManager NG displays the *Organizations* panel on the right side of the screen. The *Organizations* panel shows all the organizations that you can manage. Because HHM allows you to share devices across multiple organizations, you can select any or all organizations to view by clicking the required boxes in the View column.


Click a round option button in the Configure column to select which organization you want to configure.

Note: You cannot change the organization you are configuring while defining a configuration object or generating a report. You must first exit that context first and then switch to configure another organization.

Adding an Organization Admin Account

After you create a new HHM organization, you must add one or more administrators for the organization. Each organization admin can be assigned to only one organization, but each organization can have multiple administrators.

To add an organization admin account:

1. Navigate to  *admin-name/company* > Global Settings > Account Management.
HiveManager NG displays the *Admin Accounts* page.
2. On the *Admin Accounts* page, click Add.
3. In the *Add New Admin* page, enter the following and then click **Save & Close**:

Create a new admin account: (select)

Email Address: Enter the organization administrator's email address. It must be an email address that no other admin account is using.

Name: Enter the organization administrator's name.

Organization: Choose an existing HHM organization from the drop-down list.

*Note: Choose **All Organizations** to create a VHM admin account with access to all organizations. For an organization administrator, choose a specific organization.*

Idle Session Timeout: Enter the number of minutes before an idle administrative session times out. The default is 30 minutes, and the range is from 5 to 240 minutes.


Choose a Role: Select the admin role for this account. Your choices are Administrator, Operator, Monitor, Help Desk, Guest Management, and Observer. To see a description for each role, select it.

Location: Except for Administrator, which has access to all locations in an organization, you can select specific areas that the admin is allowed to access.

Configuring an Organization as a HHM Admin

An HHM admin has access rights to all the organizational accounts he manages and can configure and deploy a configuration on behalf of an organization. In addition, an HHM admin can edit all existing organization configurations.

To configure something within the context of an organization while logged in as a VHM admin:

1. Click  or the **Viewing x of y organizations** button to display the *Organizations* panel.
2. Select the radio button in the Configure column and the check box in the View column for the organization for which you want to configure something.
3. Click **Close** to collapse the *Organizations* panel.

As long as the Configure radio button for a specific organization is selected, any configurations you make will be confined to that organization.


4. When you are finished with your configurations within one or more organizations and want to return to the master VHM, open the *Organizations* panel and select the radio button in the Configure column and the check box in the View column for **Your Organization**.

Using the Filter Feature

On pages where you add new user accounts or devices, the filtering feature allows you to select the specific organization to which to add. On pages where data is presented, the filtering feature allows you to select what data is presented.

Note: If you are logged in as an HHM administrator, you can view the information gathered from networks across all the organizations you are managing. If you are logged in as an organizational admin, you can only filter data gathered from your own network

Filtering Device Information on the Monitor > Devices Page


Navigate to the Monitor > Devices page, click  or the **Viewing x of y organizations** button. In the *Organizations* panel that appears, select the check boxes in the View column of the organizations whose devices you want to view.

You can also search for organizations by entering a text string in the search field. If a name becomes visible below the search box, highlight it, and then device information for just the selected organization appears on the *Devices* page.

Click **Close** to exit the *Organizations* panel. HiveManager NG saves your selection.

Filtering Information Presented by Dashboard Data Widgets

As an HHM administrator, you can filter how data appears by the data widgets on the *Dashboard* page. HiveManager NG presents the combined information gathered from all the devices managed by the HHM account holder according to which organization names you select.

Click  or the **Viewing x of y organizations** button and select the check boxes in the View column of organizations to filter the data presented. If you have a large list of organizations, begin entering the name of the organization in the search field. After names appear in the list below, click to select one or drag-select to select multiple organization names. Then select the check boxes in the View column of the organizations whose data you want to view.

If you select the check box of a single organization, the data widget only presents information gathered from devices in that organization.


If you select more than one organization, the TOP APPLICATION GROUPS widget aggregates and presents only information gathered from devices belonging to those organizations.

Example: How data appears when you select two organizations

As an HHM admin, you manage the networks of two customers: Organization Blue and Organization Red. If you click the TOP 20 tab in TOP APPLICATIONS, it is possible that Organization Blue dominates the list and the data widget displays 15 Organization Blue applications versus only five for Organization Red. It is also possible that the data widget displays the top 20 applications, and they all belong to Organization Red.

Adding Devices to an Organization

To add devices to an organization:

1. Click **Monitor > Devices > Add** or click  in the menu bar at the top of the GUI.
2. Choose an organization from the drop-down list that appears, and then click **Continue**.
3. Follow the instructions in the onboarding wizard to add real or simulated devices to the chosen organization.

Note: If you do not choose a specific organization before adding a device, then it is added to the HHM admin account by default.

Reassigning Devices

When logged in as an HHM administrator, you can reassign a device owned by one organization to another. An HHM administrator can use this feature in a few scenarios:

- Assign devices from the inventory of the HHM administrator to customer organizations as part of services provided.
- An HHM administrator takes over the device inventory belonging to a specific organization.
- An HHM administrator reassigns a device and moves it from one organization to another.

As an example of the third scenario, if Organization Blue has two unused devices in inventory, you can redeploy them to Organization Red's network.

Note: HiveManager NG automatically resets a device to its factory default settings during the reassignment process.

To reassign a device to a different organization:

1. In the *Organizations* panel, select the check box in the View column for the organization containing the devices you want to reassign.
2. Navigate to Monitor > Devices and select those devices.
3. Click the **Actions** button at the top of the table and then click **Assign to Organization**.

4. In the dialog box that appears, select the organization to which to reassign the devices, and then click **Assign**. HiveManager NG moves the reassigned devices to the new organization.
5. Open the *Organizations* panel again select the check box in the View column for the organization to which you just reassigned the devices and clear the check box for the organization from which you moved them. You can now see the new device assignments on the *Devices* page in the new organization.

Generating and Filtering Reports

You can generate new reports and view previously generated reports on the *Reports* page by clicking **Dashboard > Reports**. On this page, you can add, modify , share , stop , delete , and view generated reports that appear in the *Reports* table.

To generate a report, click **Add**. On the *My Reports* page that appears, you can choose four types of reports in the ORGANIZATION drop-down list. They are Network Summary, PCI DSS 3.1, WIPS History, and Usage Based reports (only available for HHM accounts). To configure a report, click one of the report tabs.

Reports Type Overview

The Network Summary Report gathers statistics and provides visibility into how the network is used; for example, the top applications and wireless clients in a given time period, the top 20 access points by usage, and the radio protocol used by connecting clients. This information can help you plan and scale your network as your organization grows.

The WIPS History Report provides information that can help network administrators to physically locate and remove rogue and unauthorized APs. The WIPS History Report also provides an intruder detection history list that can help you perform regular security assessments. This can help your organization adhere to PCI DSS 3.1 record keeping requirements.

The PCI DSS 3.1 Compliance Report identifies which device configurations are not in compliance with PCI DSS and provides detailed recommendations on how to be in compliance. This is important because network infrastructures that support customer payment card transactions are required by law to adhere to PCI DSS whenever cardholder data is stored, processed, or transmitted. For example, to be compliant with PCI DSS, device configurations must not use vendor-supplied default passwords or open SSIDs.

The Usage Report, available only to HHM account holders, provides a list of access points and switches that have been added and is managed by an organization. By default, the report displays all the organizations that are managed by the HHM administrator. You can use the filter feature on the page to generate reports for only the organizations you choose. In the report, column titles include Host Name, Model, Serial Number, Deployed, Country Code, and Location. A filter feature also appears in the report page that allows you to filter host names by location.

Note: The Usage Report is only available for HHM administrators and is not visible from the Report Type drop-down list for organization account holders.

Usage Based Report

The Usage Based Report provides a list of access points and switches that are currently deployed for selected organizations. Use the filter feature on the *New Report* page to generate reports only for the organizations you choose. The generated report column titles include Host Name, Model, Serial Number, Deployed, Country Code, and Location. A filter feature in the generated report allows you to filter host names by location.

Note: The Usage Report is only available for Hierarchical HiveManager administrators and is not visible from the Report Type drop-down list.

To configure a Usage Based Report:

1. While logged in as a VHM admin to Your Organization, click **Dashboard > Reports > Add > Usage Based**.
2. In the *FILTER BY* section in the left panel, expand **Organizations** and select one or more organizations in the drop-down list. (If you do not see the Organizations filter, expand **Managed Service Provider**.)

*Note: Device usage information for a specific organization appears in a report after you select the check box for that organization. If you select **All**, devices belonging to all the organizations the HHM administrator has access to are displayed, each in its own section, in the generated report.*


Optional: To save a filter for future use, click **Save**, enter a filter name, and then click **Save**.


3. Enter the following to define the parameters of the report:


Title: Enter a name for the report.

Recurrence of Report: Select from the following options:

Once: Select this button to generate this report one time.

Daily: Select this button to generate the report every day. Click  to select the time of day to generate the report. You can also drag the handles in the timeline that appears in the thumbnail to set this time.

Weekly: Select this button to generate the report on a weekly basis. You can then select the day of the week, and click  to select the time of day to generate the report.

Monthly: Select this button to generate the report on a monthly basis. Select the day of the month on which you want to generate the report, and click  to select the time of day to generate the report.

Share With: Enter one or more valid email addresses, separated by commas, for the people with whom you want to share this data.

Time Range for Report: Select the time window for the data in your report by choosing from the Show and Select Range options, or by dragging the timeline handles.

- If you select **Day**, you can set a time range for the report by dragging the handles on the timeline.
- If you select **Week**, you can designate separate time windows for each day of the week, or for a span of 1 day, 2 days, or 7 days.
- If you select **Month**, you can designate a window for 2 days, 1 week, or 2 weeks. You can also drag the timeline handles to any position in the time window to display data for that period.

Note: To cover an entire month of recorded data, you must drag the handles on the timeline to select a 31-day period. For months that have only 28, 29, or 30 days, HiveManager NG automatically generates reports covering the first day of the prior month to the first day of the current month.

4. When you are finished, click **Send Report**.

The report, which can take up to a minute to generate, appears in the *Reports* table.

5. Click the name of the report to view it.