



## Overview

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## Audience

This guide is for experienced network administrators who want to use Cisco Crosswork Change Automation and Health Insights in their network. This guide assumes that you are familiar with the following topics:

- Networking technologies and protocols (IS-IS, BGP, and so on)
- Network monitoring and troubleshooting
- Familiarity with the different operating systems used on devices that form your network, such as Cisco IOS-XR, IOS-XE, and NX-OS.

## Overview of Cisco Crosswork Change Automation and Health Insights

Cisco Crosswork Change Automation and Health Insights is part of the Cisco Crosswork Network Automation suite of products. Cisco Crosswork Change Automation and Health Insights retrieves real-time information from the network, analyzes the data, and uses APIs to apply network changes. The Cisco Crosswork Change Automation and Health Insights platform brings together streaming telemetry and model-driven application programming interfaces (APIs) to redefine service provider network operations.

Cisco Crosswork Change Automation and Health Insights enables service providers to quickly deploy intent-driven, closed-loop operations. The platform provides a ready-to-use solution supporting the following use cases:

- Monitor Key Performance Indicators (KPIs) and notify of any anomalies.
- Intergration with other Crosswork products such as the Cisco Crosswork Situation Manager.
- Prepare network changes triggered by changes in KPIs and roll out these changes.
- Automate change-impact and remediation.

The data collection functionality is carried out by Cisco Crosswork Data Gateway, a software package that is separated out into its own VM. Cisco Crosswork Data Gateway gathers all the information from the managed devices and it to Cisco Crosswork Change Automation and Health Insights for analysis and processing. Cisco Crosswork Change Automation and Health Insights can then be used by the operator to manage the network or respond to changes in the network. Apart from Cisco Crosswork Change Automation and Health Insights, Cisco Crosswork Data Gateway can also be used for external data collection integration, which requires an additional license.

Cisco Crosswork Change Automation and Health Insights uses Cisco Network Services Orchestrator (Cisco NSO) as the default provider to configure the devices according to their expected functions, including configuring any required model-driven telemetry (MDT) sensor paths for data collection. Cisco NSO is vital in supplying device management and configuration-maintenance services

Cisco WAN Automation Engine (Cisco WAE) providers supply traffic and topology analysis to Cisco Crosswork Change Automation and Health Insights. The foundation software is Cisco WAE Planning, which provides a cross-sectional view of traffic, topology, and equipment state.

This guide explains how to use both Cisco Crosswork Change Automation and Health Insights and Cisco Crosswork Data Gateway.

For more information about the Cisco Crosswork Network Automation platform and Cisco Crosswork Change Automation and Health Insights, see the [Cisco Crosswork Network Automation Product page on Cisco.com](#).

## API Documentation

Advanced users can extend Cisco Crosswork Change Automation and Health Insights functions by using the product APIs.

For more about the product APIs, see the [Cisco Crosswork Network Automation API Documentation on Cisco DevNet](#).

## Licensing

Licenses determine the applications you can use and the numbers of devices that Cisco Crosswork Change Automation and Health Insights can manage.

Change Automation, Health Insights, and Crosswork Zero Touch Provisioning (ZTP) are separately licensed applications. Change Automation license count is incremented each time a playbook is run. Health Insights is licensed based on the number of KPIs you have enabled (via a KPI Profile), with the license count incrementing for each enabled KPI. Crosswork Zero Touch Provisioning license count is incremented each time a device successfully completes the Zero Touch Provisioning process.

Cisco Crosswork Data Gateway license is included in Cisco Crosswork Change Automation and Health Insights license apart from Cisco Crosswork Data Gateway API access for external data collection integration which is separately licensed.

To purchase a Cisco Crosswork Change Automation and Health Insights license, contact your Cisco account representative.

For more about licensing, see the [Cisco Crosswork Network Automation Product Data Sheet on Cisco.com](#).



**Note** For demonstrations and field trials, Cisco Crosswork Change Automation and Health Insights can be used without a license for up to 90 days.

## Log In and Log Out

The Cisco Crosswork Change Automation and Health Insights user interface is browser based. It supports the following browsers:

- Google Chrome, version 70 or later
- Mozilla Firefox, version 60 or later

**Step 1** Open a web browser and enter:

```
https://<Crosswork_VM_management_IPv4_address>:30603/
```

or

```
https://[<Crosswork_VM_management_IPv6_address>]:30603/
```

**Note** Please note that the IPv6 address in the URL must be enclosed with brackets.

When you access Cisco Crosswork Change Automation and Health Insights from your browser for the first time, some browsers display a warning that the site is untrusted. When this happens, follow the prompts to add a security exception and download the self-signed certificate from the server. After you do this, the browser accepts the Cisco Crosswork Change Automation and Health Insights server as a trusted site in all subsequent logins.

**Step 2** The Cisco Crosswork Change Automation and Health Insights browser-based user interface displays the login window. Enter your username and password.



### Crosswork Network Automation

Username

Password

Log In


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**Note** The default Cisco Crosswork Change Automation and Health Insights administrator user name and password is **admin**. This account is created automatically at installation (see [Administrative Users Created During Installation](#)). The initial password for this account must be changed during installation verification, as explained in the *Cisco Crosswork Change Automation and Health Insights Installation Guide*. Cisco strongly recommends that you keep the default administrator credential secure, and never use it for routine logins. Instead, create new user accounts with appropriate privileges and their own credentials (as explained in [Add Users](#)) and use only those accounts for all subsequent user logins.

### Step 3 Click **Log In**.

Note:

- You might need to log in again when you cross-launch from one application to another.
- A cross-launched application might remain open even after you log out of Cisco Crosswork Change Automation and Health Insights.
- If this is your first time logging in using your own user account, you will be prompted to create a new password for your account.

**Step 4** To log out, click  in the top right of the Cisco Crosswork Change Automation and Health Insights main window and choose **Log out**.

## Use the Main Window Controls

The Cisco Crosswork Change Automation and Health Insights main window (also known as the dashboard) provides the controls and dashboard tiles described below.

**Figure 1: Main Window**

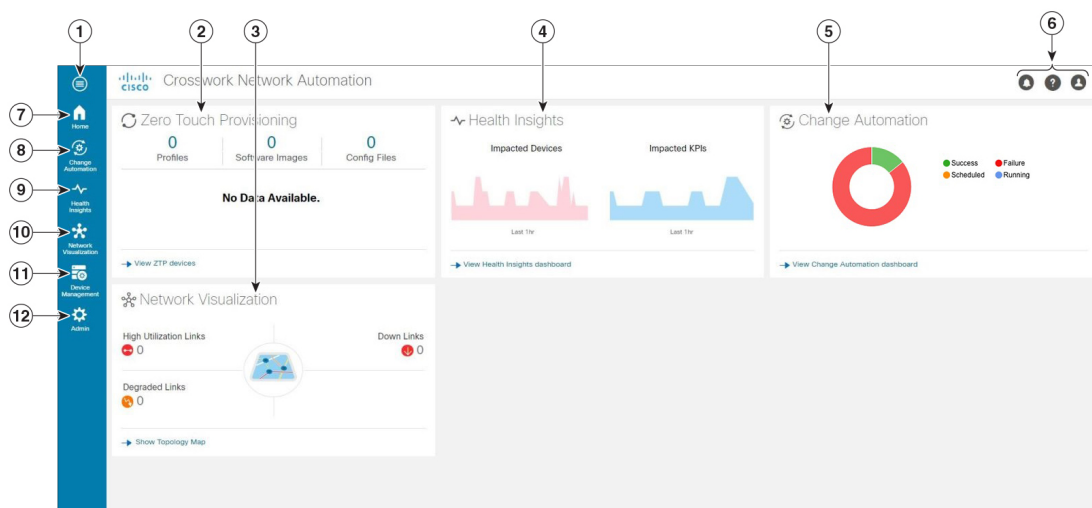





Table 1: Main Window Controls


Item	Description
1	<b>More:</b> Toggles the main menu between compact mode, which requires you to click on each menu icon before you can select the options under it, and expanded mode, which displays the entire menu and lets you pick options directly.
2	<b>Zero Touch Provisioning Tile:</b> Gives you a summary view of current ZTP processing status, with counts for all the devices, images, configuration files and profiles currently in use, and the number of devices in each of the possible ZTP transition states. Click on the <b>View ZTP Devices</b> link at the bottom of the tile to open the Zero Touch Devices application and get more details.
3	<b>Network Visualization Tile:</b> Summarizes overall device and link health across the network, showing the current number of high-use, degraded, or down links. Click on the <b>Show Topology Map</b> link at the bottom of the tile to open the Network Visualization application and get more details.
4	<b>Health Insights Tile:</b> Summarizes the number of affected devices and KPIs reporting problems, as a result of alerts generated over the reporting interval. Click on the <b>View Health Insights Dashboard</b> link at the bottom of the tile to open the Health Insights application and get more details.
5	<b>Change Automation Tile:</b> The ring chart summarizes the state of Playbook execution, showing how many of your playbooks are running, scheduled to run, succeeded, and failed. Click on the <b>View Change Automation Dashboard</b> link at the bottom of the tile to the Change Automation application and get more details.
6	<p>The  icon lets you access the list of current notifications, alerts and messages.</p> <p> The <b>About</b> icon displays the current version of Cisco Crosswork Change Automation and Health Insights.</p> <p> The <b>User Account</b> icon lets you view the currently logged in user's name, change your password, and log out.</p>
7	<b>Home:</b> Returns you to the Dashboard from any other window. The dashboard tiles on this window provide at-a-glance views of the most important data in your network.
8	<b>Change Automation Menu:</b> Lets you select from the options available in the Change Automation application, which automates the process of deploying changes to the network. Click the blue <b>View Change Automation Dashboard</b> link at the bottom of the Change Automation tile to bypass the menu and open the Change Automation application directly.
9	<b>Health Insights Menu:</b> Lets you select from the options available in the Health Insights application, which allows you to view the Alert Dashboard, Manage KPIs and KPI Profiles, enable or disable KPI Profiles on selected devices, and see the KPI Profile Job History. Click the blue <b>Show Health Insights Dashboard</b> link at the bottom of the Health Insights tile to bypass the menu and open the Health Insights application directly.

Item	Description
10	<b>Network Visualization Menu:</b> Lets you select from the options available in the Network Visualization application, which presents both a geographical and a logical map view of the devices in your network, their topology and the links between them, the general condition of those devices and links, and other information. Click the blue <b>Show Topology Map</b> link at the bottom of the Network Visualization tile to bypass the menu and open the Network Visualization application directly.
11	<b>Device Management Menu:</b> Lets you select from the options available in the Device Management application, which lets you add, organize, update and view information about the devices in your network; manage the credential profiles you use; provision and onboard devices to inventory; and view Job History for all device-related tasks.
12	<p><b>Admin Menu:</b> Lets you access the Administrative section of the user interface, where you can:</p> <ul style="list-style-type: none"> <li>• Collect Cisco show-tech and logs</li> <li>• Monitor system activity and restart services</li> <li>• Manage users, roles, AAA TACACS+, and AAA LDAP servers</li> <li>• Manage the providers and tags you use</li> <li>• Change Network Visualization topology map settings</li> <li>• Manage certificates</li> <li>• Manage Cisco Crosswork Data Gateway and collection jobs</li> <li>• Register with Cisco Smart Licensing</li> </ul>

## Set, Sort and Filter Table Data

Many Cisco Crosswork Change Automation and Health Insights windows show database records in tables. For example: You will see tables in the **Devices** and **Credentials** windows accessed directly from Device Management, and also in the **Links** window accessed via the topological map in Network Visualization.


Any window with a table will also provide column selection, sorting, and filter functions that let you control the database records shown in the tables and help you locate particular records quickly.

Click  to display a list of all the fields in the database for the kind of data record displayed in the table. You can choose which fields you want to display as table columns by checking or unchecking the box next to any field in the list. Your choices are enabled immediately and are permanent.


You can also sort all the records displayed in the table according to the data in any one column by clicking that column's title:

- To sort the records in ascending order, click the column title once.
- To sort the records in descending order, click the column title again.

Sorting takes place immediately. You can only have one active sort at a time. The example **Links** window, below, shows an active sort on the **Link Type** field.

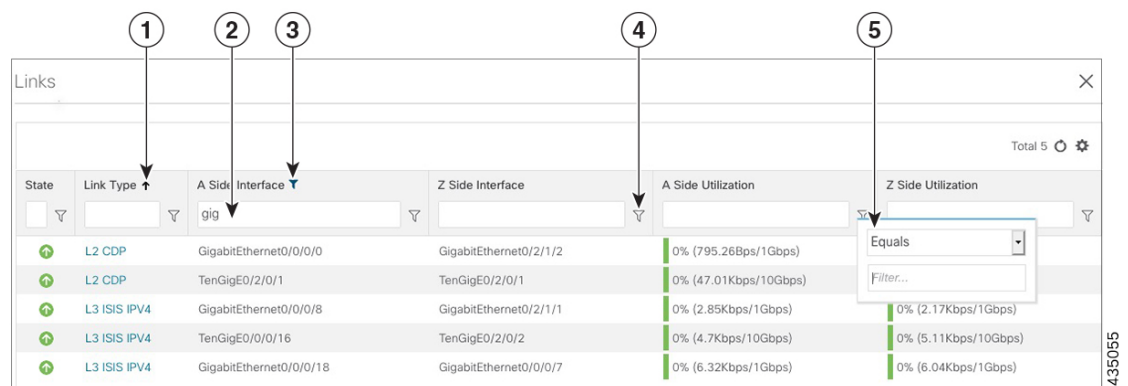
You can also filter the table to show only the records you want, using a quick filter or an advanced filter. Many tables have all these features enabled by default. If you cannot see the quick and advanced filter features displayed on a window with a table, click .



The quick filter displays only the records that match the value you enter above the column in the **quick filter** field (see item 2, below). Filtering takes place immediately, as you type.

The advanced filter (only available in some tables) narrows the content in the table by applying a filter that includes both a value and a logical operator, such as Equals, Starts with, Contains, and so on. Click  in the column header to access the advanced filter (see items 4 and 5, below).

In addition to these quick and advanced filters, you can also use tags to filter the devices shown in the **Devices** window and on the **Network Topology** map (see [Filter Network Devices by Tags](#)).

**Figure 2: Links Window With Active Sort and Filters**



Item	Description
1	<b>Sort active icon:</b> This arrow icon indicates that the user has sorted the links by clicking on the column header. The arrow's direction shows that the table is sorted by <b>Link Type</b> , in ascending order.
2	<b>Quick filter field:</b> Type a text or numeric value in this field to show only the links that match the value you enter. The field shows the values you entered for both quick and advanced filters.
3	<b>Filter active icon:</b> This icon shows that a quick or advanced filter is currently applied to the data in this column.
4	<b>Advanced filter icon:</b> Click  , shown in each column header, to specify an advanced filter on that column, using logical operators as well as alphanumeric values. <b>Note</b> Advanced filtering is not available on all tables.
5	<b>Filter criteria fields:</b> These fields appear in a popup next to the column after you click the  icon. Set the filter criteria by selecting the logical operator from the drop down list in the first field, and then entering the filter value in the second field. Your criteria will be applied immediately. You will then be prompted to enter more operators and values, and to decide if you want to concatenate them using logical AND or OR. The quick filter field shows the values you entered (but not the operators). Logical operators include Equals, Not equal, Starts with, Ends with, Contains, and Not contains.

