

# Cisco Crosswork Change Automation and Health Insights 5.0 Release Notes

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This document provides an overview of Cisco Crosswork Change Automation and Health Insights, new functionalities, compatibility information, usage guidelines and any limitations for this release.

## Product Overview

The Cisco Crosswork Change Automation and Health Insights application enables service providers to quickly deploy intent-driven, closed-loop operations monitoring and change management.

Cisco Crosswork Change Automation and Health Insights provides a ready-to-use solution supporting the following use cases:

- Monitor Key Performance Indicators (KPIs) and notify operators of any anomalies.
- Prepare network changes triggered by changes in KPIs and roll out these changes under operator control or automatically.
- Automate change impact and issue remediation.

## Functionality added in Cisco Crosswork Change Automation and Health Insights 5.0

This section lists new functions delivered in this release of Cisco Crosswork Change Automation and Health Insights.

### Cisco Crosswork Change Automation

Starting with this release, Cisco Crosswork Change Automation permits automatic execution of Change Automation Playbooks triggered via alerts generated by linked Health Insights KPIs. For details, see the topic "Link KPIs to Playbooks and Run Them Automatically" in the [Cisco Crosswork Change Automation and Health Insights 5.0 User Guide](#).

### Cisco Crosswork Health Insights

Starting with this release, Cisco Crosswork Health Insights enables users to link a Health Insights Key Performance Indicator (KPI) to one or more Change Automation Playbooks, and have those Playbooks automatically remediate network problems based on alerts generated by the linked KPI. For details, see the topic "Link KPIs to Playbooks and Run Them Automatically" in the [Cisco Crosswork Change Automation and Health Insights 5.0 User Guide](#).

## Compatibility Information

The following table lists hardware and software versions that have been tested and are known to be compatible with Cisco Crosswork Change Automation and Health Insights. For *complete* installation requirements, see the [Cisco Crosswork Network Controller 5.0 Installation Guide](#).

Hardware/Software	Supported Version
Hypervisor and vCenter	<ul style="list-style-type: none"> <li>• VMware vSphere 6.7 or above.</li> <li>• VMware vCenter Server 7.0 and ESXi 7.0.</li> <li>• VMware vCenter Server 6.7 (Update 3g or later) and ESXi 6.7 (Update 1 or later).</li> </ul>
Browsers	<ul style="list-style-type: none"> <li>• Google Chrome—100 or later</li> <li>• Mozilla Firefox—100 or later</li> </ul>
Cisco Crosswork Infrastructure	Version 5.0
Cisco Crosswork Data Gateway	Version 5.0
Cisco Network Services Orchestrator (Cisco NSO)	<ul style="list-style-type: none"> <li>• 6.1.0</li> </ul>
	<b>Cisco Network Element Driver (NED)</b> <ul style="list-style-type: none"> <li>• Cisco IOS XR:               <ul style="list-style-type: none"> <li>• CLI: 7.46.3</li> <li>• NETCONF: 7.3.2, 7.315, 7.4.2, 7.5.2, 7.6.2, 7.7.2, 7.8, 7.9</li> </ul> </li> <li>• Cisco IOS:               <ul style="list-style-type: none"> <li>• CLI: 6.86.6</li> </ul> </li> </ul>
Function Packs	<ul style="list-style-type: none"> <li>• <a href="#">Cisco Crosswork Change Automation NSO Function Pack 5.0.0 Installation Guide</a></li> <li>• <a href="#">Cisco Crosswork NSO Telemetry Traffic Collector Function Pack 5.0.0-62 Installation Guide</a></li> <li>• <a href="#">Cisco Network Services Orchestrator DLM Service Pack 5.0.0 Installation Guide</a></li> <li>• <a href="#">Cisco NSO Transport SDN Function Pack Bundle 5.0.0 Installation Guide</a></li> <li>• <a href="#">Cisco NSO Transport SDN Function Pack Bundle 5.0.0 User Guide</a></li> </ul>

# Usage Guidelines and Important Notes

This section provides guidelines and important notes to consider when using this release of Cisco Crosswork Change Automation and Health Insights.

## Cisco Crosswork Change Automation

For information on how to use Cisco Crosswork Change Automation, see the chapter [Automate Network Changes](#) in the [Cisco Crosswork Change Automation and Health Insights 5.0 User Guide](#).

For information about using flexible Playbook development tools, see the [Writing Custom Playbooks](#) tutorial in the [Cisco Crosswork Network Automation Developer Guides on Cisco DevNet](#).

## Cisco Crosswork Health Insights

For information on how to use Cisco Crosswork Health Insights, see the chapter [Monitor Network Health and KPIs](#) in the [Cisco Crosswork Change Automation and Health Insights 5.0 User Guide](#).

- Group the KPIs within a KPI Profile for monitoring relevant device metrics. For best results, limit to 10 KPIs per KPI Profile. Maximum number of KPIs that can be supported within a KPI profile is 50.

The KPIs vary in the amount of data they collect. Although the system allows for up to 50 KPIs/KPI profiles, care must be taken to ensure that you have both license and Crosswork Data Gateway capacity in place before deploying the KPIs. For more information, see the topic [Enable KPI Profiles on Devices](#) in the [Cisco Crosswork Change Automation and Health Insights 5.0 User Guide](#).

- For optimal performance, enable a KPI Profile in batches of no more than 100 devices.

When you are enabling KPI profiles on devices, ensure that sufficient capacity is available on Cisco Crosswork Data Gateway. If sufficient capacity is not available, it may cause overload and outage. For more information, see the the topic [Enable KPI Profiles on Devices](#) in the [Cisco Crosswork Change Automation and Health Insights 5.0 User Guide](#).

- For best system performance, use the default KPI cadence.

KPI cadence is set based on the nature of the KPI. Any decisions about using a lower cadence (for example, as low as 10 seconds) should be reviewed with Cisco Professional Services.

## Known Issues and Limitations

The following are known issues, limitations, and workarounds in Cisco Crosswork Change Automation and Health Insights.

### Cisco Crosswork Change Automation

- Playbook run fails with "access error" messages indicating failure "to set device override credentials in NSO". To avoid this, ensure that "admin" is a member of the **ncsadmin** user group in Cisco NSO.
- Sometimes, under certain load conditions, the execution of a Playbook times out.
  - If it continues to fail, try changing the time out for the job.
  - If it fails because of the device being locked, try changing the device state to DOWN and UP again.

- While scheduling playbooks across a dynamic group tag, the corresponding job set screen for the job in the Job History page will not display the relevant devices, until the job is scheduled for execution.
- Running a Playbook on multiple devices at the same time with different *collection\_type* parameter values may result in failure. Re-executing the failed Playbook will resolve the issue.
- With SWIM APIs, when you execute the remove flow, it deactivates the image and then removes it.

## Cisco Crosswork Health Insights

- If you apply to a device a KPI profile that has alerting disabled for all of the KPIs in the profile, alerts still may be sent. This can happen if the KPI profile's ID shares a substring with other KPI profile IDs that have alerting enabled. For example: In a set of three KPI profiles with the IDs "L2", "L2SNMP" and "L2GRPC", all three profiles IDs contain the substring "L2". To avoid this problem, ensure that KPI profile names are unique and do not share substrings with other KPI profiles.
- Operation timeouts can occur when adding a new KPI to an existing and enabled KPI Profile and then editing the newly added KPI. Write times for KPI edits can take up to five minutes, so the edited KPI in the profile will be enabled eventually. If you find the timeout message a problem, you may want to disable the KPI profile until the write delay has passed, as suggested in the following item.
- After a KPI Profile is enabled, editing the cadence and threshold parameter for any of the associated KPIs can be achieved using one of the three methods below:
  - Create a custom KPI with the required cadence and threshold parameters and associate it with the existing KPI Profile.
  - Create a new KPI Profile with the relevant KPIs associated. Update the cadence and alert parameters before enabling this new KPI Profile.
  - Disable the KPI Profile and perform the modifications on the relevant associated KPIs. Then re-enable the KPI Profile.
- For custom KPIs:
  - While creating a custom KPI that makes direct use of APIs, you must select the full sensor path to the leaf sensors (not a partial sensor path) up to a certain hierarchy (gather path).
  - All leaf sensor paths are reserved for that KPI's use only.
  - For more information on custom KPIs, see the chapter "Monitor Network Health and KPIs" in the *Crosswork Change Automation and Health Insights User Guide*.

## Related Documents

The following table lists the documents provided for the current release of Cisco Crosswork Change Automation and Health Insights. You can access all Cisco Crosswork Change Automation and Health Insights end user documentation at <https://www.cisco.com/c/en/us/support/cloud-systems-management/crosswork-change-automation/model.html> and <https://www.cisco.com/c/en/us/support/cloud-systems-management/crosswork-health-insights/model.html>.

An [Information Portal](#) is now available for Cisco Crosswork Network Controller 5.0. Information is categorized per functional area, making it easy to find and easy to access.

Documentation Title	What is included
Cisco Crosswork Change Automation and Health Insights 5.0 Release Notes	This document
<a href="#">Cisco Crosswork Network Controller 5.0 Installation Guide</a>	Shared installation guide for all the Cisco Crosswork applications and their common infrastructure. Covers: <ul style="list-style-type: none"> <li>• System requirements</li> <li>• Installation prerequisites</li> <li>• Installation instructions</li> <li>• Upgrade instructions</li> </ul>
<a href="#">Cisco Crosswork Network Controller 5.0 Administration Guide</a>	Shared administration guide for all the Cisco Crosswork applications and their common infrastructure. Covers: <ul style="list-style-type: none"> <li>• Managing clusters and data gateway</li> <li>• Data collection</li> <li>• High availability</li> <li>• Backup and restore</li> <li>• Onboard and manage devices</li> <li>• Zero touch provisioning</li> <li>• Set up maps</li> <li>• Managing users, access and security</li> <li>• Maintain system health</li> </ul>
<a href="#">Cisco Crosswork Change Automation and Health Insights 5.0 User Guide</a>	<ul style="list-style-type: none"> <li>• Getting started</li> <li>• Automating the process of deploying changes to the network</li> <li>• Monitoring network health</li> <li>• Performing real-time key performance indicator (KPI) monitoring, alerting, and troubleshooting</li> <li>• Collecting and managing telemetry data in a multivendor environment</li> </ul>
<a href="#">Open Source used in Cisco Crosswork Change Automation and Health Insights</a>	Lists of licenses and notices for open source software used in Cisco Crosswork Change Automation and Health Insights

Documentation Title	What is included
<a href="#">Cisco Crosswork API References</a>	Advanced users can extend Cisco Crosswork functionality using the APIs. API documentation and tutorials on how to use the APIs are available on the <a href="#">Cisco Crosswork Devnet Site</a> .

### Additional Related Documentation

This section provides links to documentation for products related to Cisco Crosswork Change Automation and Health Insights:

- [Cisco NSO Transport SDN Function Pack Bundle 5.0.0 Installation Guide](#)
- [Cisco NSO Transport SDN Function Pack Bundle 5.0.0 User Guide](#)
- [Cisco Network Services Orchestrator DLM Service Pack 5.0.0 Installation Guide](#)
- [Cisco Crosswork NSO Telemetry Traffic Collector Function Pack 5.0.0 Installation Guide](#)
- [Cisco Crosswork Change Automation NSO Function Pack 5.0.0 Installation Guide](#)
- [Open Source Used in Element Management Functions 5.0.0](#)

You can access documentation for all Cisco Crosswork products at [Cisco Crosswork Network Automation Documentation](#).

## Open Bugs in Cisco Crosswork

If you encounter problems while working with Cisco Crosswork, please check this [list of open bugs](#). Each bug ID in the list links to a more detailed description and workaround.

You can use the Cisco Bug Search Tool to search for a specific bug or to search for all bugs in a release.

1. Go to the [Cisco Bug Search Tool](#).
2. Enter your registered Cisco.com username and password, and click **Log In**.

The Bug Search page opens.




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**Note** If you do not have a Cisco.com username and password, you can [register here](#).

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3. Use any of these options to search for bugs, and then press Enter (Return) to initiate the search:
  - To search for a specific bug, enter the bug ID in the Search For field.
  - To search for bugs based on specific criteria, enter search criteria, such as a problem description, a feature, or a product name, in the Search For field.
  - To search for bugs based on products, enter or choose the product from the Product list. For example, enter **Cisco Crosswork Change Automation** or **Cisco Crosswork Health Insights**.

— To search for bugs based on releases, in the Releases list choose whether to search for bugs affecting a specific release, bugs that were fixed in a specific release, or both. Then enter one or more release numbers in the Releases field.

4. When the search results are displayed, use the filter tools to narrow the results. You can filter the bugs by status, severity, and so on.




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**Tip** To export the results to a spreadsheet, click **Export Results to Excel**.

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## Open Source

A list of open source software used in Cisco Crosswork can be found in [Open Source Used in Cisco Crosswork Change Automation and Health Insights](#).

## Security

Cisco takes great strides to ensure that all our products conform to the latest industry recommendations. We firmly believe that security is an end-to-end commitment and are here to help secure your entire environment. Please work with your Cisco account team to review the security profile of your network.

For details on how we validate our products, see [Cisco Secure Products and Solutions](#) and [Cisco Security Advisories](#).

If you have questions or concerns regarding the security of any Cisco products, please open a case with the Cisco Customer Experience team and include details about the tool being used and any vulnerabilities it reports.

## Accessibility Features

All product documents are accessible except for images, graphics, and some charts. If you would like to receive the product documentation in audio format, braille, or large print, contact the [Cisco Accessibility Team](#) on the Web or send email to [accessibility@cisco.com](mailto:accessibility@cisco.com).

## Obtain Documentation and Submit a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see [What's New in Cisco Product Documentation](#).



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**Note** For licensing related issues, check the Smart Licensing site. For more information, see [Smart Software Manager Guide](#). To purchase new or additional licenses, contact your Cisco account representative (sales) or the partner from whom the product was purchased.

For non-service impacting issues, open support cases through the support portal and upload all relevant logs or screenshots.

For more urgent issues, open a service request and use appropriate keywords to get your request routed to proper team.

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