

Ruckus Wireless™ SmartCell Insight™ Release Notes

Supporting SmartCell Insight™ 3.6.0

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Contents

SCI Introduction.....	6
Compatibility Matrix.....	6
Upgrading To This Version.....	6
Supported Controller and AP Firmware Builds.....	7
New Features and Enhancements.....	8
Resolved Issues.....	9
Caveats, Limitations and Known Issues.....	9
Meltdown Vulnerabilities.....	9
ZoneDirector.....	10
Saved Filters in Schedules.....	10
Hadoop Distributed File System (HDFS).....	10
Migration from SCI 1.x.....	10
Prerequisites.....	10
Migration Procedure.....	11
Monitor the Migration Process.....	12

SCI Introduction

This document provides release information on SmartCell Insight (SCI) Release 3.6.0.

SmartCell Insight (SCI) is a Big Data analytics and reporting engine that provides deep visibility into the performance and operational statistics of your Ruckus Wireless WiFi infrastructure.

This document provides release information about the SCI features with notes on known issues, caveats, and workarounds.

NOTE

Refer to the previous release notes for previously documented enhancements, resolved issues, caveats and limitations.

Additional documentation on SCI 3.6.0, including the SCI Installation Guide, and SCI User Guide, can be found at: <https://support.ruckuswireless.com/>

Compatibility Matrix

The following is the compatibility matrix between SCI and the SmartZone and ZoneDirector controllers.

TABLE 1 Compatibility Matrix

SCI Release	SmartZone (controller) Release		ZoneDirector (controller) Release
Version	Version 3.4 or lower	Version 3.5 or higher	<ul style="list-style-type: none"> Branch 9.5.3.0, build 45 and above All branches starting from 9.7.0.0 and above
1.x	Yes	No	Yes
2.x (Up to 2.4)	Yes	No	Yes
2.5 and above	Yes	Yes	Yes

Upgrading To This Version

The following is the required information to upgrade to this release.

Upgrade from SCI version 2.x to 3.6.0: If SCI version 2.x is connected to the Internet, navigate to **Admin > Status & Update** to upgrade to SCI version 3.6.0.

NOTE

If you first installed this SCI instance at version SCI 2.0 or SCI 2.0.1, please run the following command (*exactly* as shown below, including the back-tick marks) on that instance to receive an accurate display of the Custom Dashboards, even if you periodically updated this instance to later versions of SCI 2. x:

```
`docker-compose up -d --remove-orphans`
```

TABLE 2 Upgrade Information

Release	Previous versions supported for upgrade to this release	Notes
3.6.0	Previous versions of 2.x (except SCI 2.0.0)	Connection to the Internet is mandatory. Navigate to Admin > Status & Update to upgrade to this release.
	SCI 2.2 and above	Can be upgraded using U-pack without Internet connection
	1.4 (migration only)	Refer to Migration from SCI 1.x on page 10
3.5.0	Previous versions of 2.x (except SCI 2.0.0)	Connection to the Internet is mandatory. Navigate to Admin > Status & Update to upgrade to this release.

TABLE 2 Upgrade Information (continued)

Release	Previous versions supported for upgrade to this release	Notes
	SCI 2.2 and above	Can be upgraded using U-pack without Internet connection
	1.4 (migration only)	Refer to Migration from SCI 1.x on page 10
3.2.0	Previous versions of 2.x (except SCI 2.0.0)	Connection to the Internet is mandatory. Navigate to Admin > Status & Update to upgrade to this release.
	SCI 2.2 and above	Can be upgraded using U-pack without Internet connection
	1.4 (migration only)	Refer to Migration from SCI 1.x on page 10
3.1.0	Previous versions of 2.x (except SCI 2.0.0)	Connection to the Internet is mandatory. Navigate to Admin > Status & Update to upgrade to this release.
	SCI 2.2 and above	Can be upgraded using U-pack without Internet connection
	1.4 (migration only)	Refer to Migration from SCI 1.x on page 10
3.0.0	Previous versions of 2.x (except SCI 2.0.0)	Connection to the Internet is mandatory. Navigate to Admin > Status & Update to upgrade to this release.
	SCI 2.2 and above	Can be upgraded using U-pack without Internet connection
	1.4 (migration only)	Refer to Migration from SCI 1.x on page 10
2.5.1	Previous versions of 2.x (except SCI 2.0.0)	Connection to the Internet is mandatory. Navigate to Admin > Status & Update to upgrade to this release.
	SCI 2.2 and above	Can be upgraded using U-pack without Internet connection
	1.4 (migration only)	Refer to Migration from SCI 1.x on page 10
2.5.0	Previous versions of 2.x (except SCI 2.0.0)	Connection to the Internet is mandatory. Navigate to Admin > Status & Update to upgrade to this release.
	SCI 2.2 and above	Can be upgraded using U-pack without Internet connection
	1.4 (migration only)	Refer to Migration from SCI 1.x on page 10
2.4.0	Previous versions of 2.x (except SCI 2.0.0)	Connection to the Internet is mandatory. Navigate to Admin > Status & Update to upgrade to this release.
	SCI 2.2 and above	Can be upgraded using <i>U-pack</i> without Internet connection
	1.4 (migration only)	Refer to Migration from SCI 1.x on page 10
2.3.0	Previous versions of 2.x (except SCI 2.0.0)	Connection to the Internet is mandatory. Navigate to Admin > Status & Update to upgrade to this release.
	SCI 2.2.0	Can be upgraded using <i>U-pack</i> without Internet connection
	1.4 (migration only)	Refer to Migration from SCI 1.x on page 10
2.2.0	Previous versions of 2.x (except SCI 2.0.0)	Connection to the Internet is mandatory. Navigate to Admin > Status & Update to upgrade to this release.
	1.4 (migration only)	Refer to Migration from SCI 1.x on page 10
2.1.1	Previous versions of 2.x (except 2.0.0)	Connection to the Internet is mandatory.
2.1.0	2.0.1	Connection to the Internet is mandatory.
2.0.1		Connection to the Internet is mandatory.
2.0.0		Connection to the Internet is mandatory.

Supported Controller and AP Firmware Builds

This section lists the controller and AP firmware builds supported by SCI in this release.

SCI supports the following controller and AP firmware builds in this release. If you are running a build not included in this list, update your controller/AP firmware to a supported build before connecting to SCI as a data source.

New Features and Enhancements

ZoneDirector

- ZD branch 9.5.3.0, build 45 and above
- All ZD branches starting from 9.7.0.0 and above

SmartZone (SmartZone and SmartCell Gateway)

NOTE

As of release 3.1.1, all Ruckus controller products previously called “RuckOS” is now called “SmartZone” controllers. Therefore, the following applies to existing RuckOS products, which is called “SmartZone” (SmartZone 100, SmartCell Gateway 200 and Virtual SmartZone).

- SmartZone branch 2.1.1.0, build 126 and above
- SmartZone branch 2.1.2.0, build 96 and above
- SmartZone branch 2.1.3.0, build 20 and above
- All SmartZone branches starting 2.5.0.0 and above

SmartZone Access Points

- SZ AP FW branch 2.1.1.0, build 106 and above
- SmartZone branch 2.1.1.0, build 106 and above
- SmartZone branch 2.1.2.0, build 110 and above
- SmartZone branch 2.1.3.0, build 10 and above
- All SmartZone Access Point branches starting 2.5.0.0 and above

New Features and Enhancements

This section lists the new features and enhancements in this release.

New Features

- Improved Smart Analytics section:
 - Anomaly scores introduced. These scores indicate how significantly the metric has deviated from trends. The score ranges from 1-10; 10 being the highest score possible and indicating the highest likelihood of an issue.
 - Ability to sort anomalies based on their scores.
 - Color coding based on anomaly score:
 - › Deep red = a score in the range of 9 to 10
 - › Orange red = a score in the range of 8 to 9
 - › Amber = a score in the range of 7 to 8
 - › Deep yellow = a score in the range of 6 to 7
 - › Bright yellow = a score in the range of 5 to 6
 - Ability to selectively view the any or all of the different categories of anomalies.
 - Short-session-ratio anomalies have been added. An AP is flagged for review when the ratio of short sessions per total sessions becomes unusually high.
 - 30-day anomaly table in AP Details report: This table displays the number of times that an AP was flagged for an anomaly in the past 30 days, the cause for the anomaly, and the anomaly score for that occurrence.
 - More "Did you know?" queries have been added.

- Controller resource usage table in AP inventory report: View the CPU, RAM, and HDD utilization for each controller.
- License utilization table in AP inventory report: View license utilization details for each system associated with SCI.
- Support for Hyper-V VM.
- Support for Azure.

Enhancements

- The KRACK table in the APs & Controllers dashboard contains links to each Access Point Details dashboard.

Refer to the SCI user and installation guides for more information.

Resolved Issues

This section lists previously known issues that have been resolved in this release.

- The "Page does not exist" message was appearing during schedule creation.
- Ability to create schedule with "last day of the month" was not working.
- The exporting of schedules that were stuck in the "Generating" state for more than one day were not retrying the export.
- Saving filters while loading was not selecting the most recently selected APs.
- ZoneDirector reboot counts were not being counted as part of the reboot counts in the AP Inventory and Events data cubes.

Caveats, Limitations and Known Issues

This section lists the caveats, limitations and known issues in this release, along with workarounds if applicable.

- When you upgrade to SCI 3.5 or later, the anomaly list in the Overview page is removed. It becomes available and operates normally starting at 3 a.m. UTC the following day.
- Scheduled reports will be sent out one hour after the scheduled time, even if no data exists.
- CSV export from the Data Explorer (data cubes as well as dashboard CSV downloads) will always export in UTC.
- For raw data export, selection of local time zone for querying data is supported, but the exported data will be in UTC. For example, if you specify time range for export as 11-11-2017 13:00 PST to 11-11-2017 14:00 PST, the data exported will be for this time range, but the timestamps in the exported data will be in UTC, which means that the timestamps will show values between 11-11-2017 21:00 UTC and 11-11-2017 22:00 UTC.
- If you first installed this SCI instance at version SCI 2.0 or SCI 2.0.1, please run the following command (*exactly* as shown below, including the back-tick marks) on that instance to receive an accurate display of the Custom Dashboards, even if you periodically updated this instance to later versions of SCI 2. x:

```
`docker-compose up -d --remove-orphans`
```

Meltdown Vulnerabilities

The kernel in a fresh install of SCI v 3.6.0 has been patched for Meltdown Vulnerabilities. If you are upgrading from an earlier version of SCI, and have not yet patched the SCI VM kernel, run the following commands to update your SCI VM version with the patch:

- `sudo yum update`
- `sudo reboot`

ZoneDirector

- Migration of ZoneDirector data is not supported.
- Airtime utilization: All versions of ZD below 9.12.1 have a known issue whereby the airtime utilization percentages can be above 100%.
Workaround: Ruckus Wireless recommends that you update ZD to version 9.12.1 or later to resolve this issue.
- ZoneDirector PushXML supports up to 200 ZoneDirector controllers.
- ZoneDirector Push XML is supported only by ZD 9.13-MR1 and above and ZD10-MR1 and above.
- In SCI, there is no application data pertaining to the ZoneDirector.

Saved Filters in Schedules

- Selecting a schedule loads the saved filters, but does not preserve the currently selected filters.
- Saved filters created prior to version 2.4 will not be loaded when a schedule is selected.

Hadoop Distributed File System (HDFS)

- HDFS replication factor of existing files is not changed to 2 (remains at 3).

Migration from SCI 1.x

This section describes how you migrate existing data from SCI 1.x to SCI 3.6.0.

As SCI 3.6.0 is built on a different software stack from SCI 1.x series, if there is a need to migrate existing data from SCI 1.x to SCI 3.6.0, a full migration of raw data files with complete re-aggregation of data sources is required. However, do note that data migration is not necessary for the upgrade from SCI 1.x to SCI 3.6.0. Before you start migration, ensure that you have the following pre-requisites and setup.

NOTE

This self-service migration feature has been tested to the best of our ability. However, we may not have covered all cases since it is highly dependent on the environment and SCI 1.x setup . If you have issues during migration, do contact Ruckus Wireless Support at <https://support.ruckuswireless.com/contact-us>.

NOTE

The migration process can take several hours per month of data, based on data volume and time span.

NOTE

Migration of data from SCI 1.4 is currently supported only for Smart Zone (SZ) data.

Prerequisites

Before you start migration, ensure that you have the following prerequisites.

1. SCI 1.4 is installed. Earlier versions of SCI 1.x should first be upgraded to SCI 1.4 before starting the migration process.
2. SCI 3.6.0 is installed.
3. SCI 3.6.0 requires a higher storage capacity - 4 times higher than the raw data in SCI 1.x version in order to be fault tolerant. Adequate storage requirements are necessary before you begin migration.

4. The system for which migration is to be performed is added to the SCI 3.6.0 instance in the **Admin > Settings** section. Ensure that the system name in SCI 3.6.0 matches the name of the system that is being migrated.
5. **Optional:** You can add more data nodes to the SCI 3.6.0 cluster if you want the migration to be faster.

NOTE

- Application report is not supported in SCI 1.x version.
- Migration of ZoneDirector data is not supported.
- Migration can only be performed for one system at a time.
- Time required for migration is dependent on the number of controllers, number of APs, number of days of data to be migrated, and the server resources allocated to the migration cluster.

Migration Procedure

Follow the steps below to successfully migrate from SCI 1.x to SCI 3.6.0.

1. Download the file *migrate.tar.gz* from the support website <https://support.ruckuswireless.com/>. Copy the tar file to the SCI 3.6.0 VM and run the following command: (You can create any directory on the SCI 3.6.0 VM in which to place the tar file; make note of this directory for future reference).

```
tar xvzf migrate.tar.gz
```

This command will create the following scripts in the current directory.

1. step-1-tar.sh
 2. step-2-scp.sh
 3. step-3-list.sh
 4. step-4-migrate.sh
 5. step-5-cleanup.sh
2. Copy the script *step-1-tar.sh* to the SCI 1.4 VM. (You can create any directory on the SCI 1.4 VM in which to place the script; make note of this directory for future reference).
 3. On **SCI 1.4 VM** run the following command to prepare the system data for migration.

```
sudo sh step-1-tar.sh <SCI1.4-System-Name>
```

NOTE

System-Name is the **SCI System Name** as configured in the SCI 1.4 user interface.

This command generates the following tar file, which contains the data for the system in a compressed format.

```
/opt/ruckuswireless/sci/sci1data.tar
```

4. In the SCI 3.6.0 user interface, go to **Admin > Settings**, then configure a controller with a **System ID** that is exactly the same as the *System-Name* that you specified in the previous step.

NOTE

This System ID is the unique identifier for this controller between 1.4 and 3.6.

5. On SCI 3.6.0 VM, run the following command to copy the file from SCI 1.4 VM. If you are prompted for a username and password, provide the credentials for the SCI 1.4 login.

```
sudo sh step-2-scp.sh <SCI1.4-System-Name>
```

Migration from SCI 1.x

Monitor the Migration Process

- On SCI 3.6.0 VM, use the following command to list the dates for which data is available.

```
sudo sh step-3-list.sh <SCI1.4-System-Name>
```

- On completion of the above step, all the dates for which data is available for migration from SCI 1.4 is listed in the file whose absolute path is: `/storage/rsa-master/logs/migration/dates.txt`.

Optional: If you wish to migrate data only for a select period, delete the lines from this file for dates which do not have to be migrated. For example, if the system has data from 2014 to 2016 and only 2016 data is required, then all the lines containing `/2014/` and `/2015/` should be deleted from the file.

NOTE

If you already have a running instance of SCI 2.x, which is collecting data for the system, do delete the overlapping dates from the `dates.txt` file before proceeding with the migration. Otherwise, there will be duplicated data for the overlapping period.

- Once the `dates.txt` is ready, start the migration process by running the following command on SCI 3.6.0 VM

```
sudo sh step-4-migrate.sh <SCI 3.6.0-System-ID>
```

NOTE

Ensure that the **System ID** in SCI 3.6.0 matches the **System Name** that is being migrated from version 1.4.

- When the migration is complete, and you have verified that all data is in the new SCI, run this step to clean up all temporary files created by the migration process:

```
sudo sh step-5-cleanup.sh
```

Monitor the Migration Process

To monitor the progress of the migration job, view the log file `/storage/rsa-master/logs/migration/spark.stdout`. Detailed spark logs are available at <https://< SCI 3.6.0 VM IP:58080/> and indexing logs at <https://< SCI 3.6.0 VM IP>:58090>

The migration process can take several hours per month of data, based on data volume and time span.

To verify that the migration has completed successfully, review the following:

- The last line of the log file (`/storage/rsa-master/logs/migration/spark.stdout`) should read as **Completed Migration**.
- Indexing logs have no entries in **Running Tasks**
- Data is available in SCI 3.6.0 reports.



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