Ruckus Wireless™ SmartCell Gateway™ 200

Release Notes for 2.1.1 Release

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About This Release

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The Ruckus Wireless SmartCell Gateway (SCG) appliance combines a WLAN access controller with Wi-Fi traffic aggregation, along with a built-in carrier-grade element management system in a 2U rack-mountable, all-in-one hardware form factor.

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

What's New in This Release

This section describes the key features of this SCG release and supplements the "What's New" document for release 2.1.

Integration with SmartCell Insight to Provide Network Statistics

The SCG 2.1.1 is the first SCG release to integrate with SmartCell Insight (SCI) by providing all raw data for SCI to process and present various network statistics reports. The SCG implements a JSON over HTTP REST interface for bidirectional interaction with SCI. Pull and push methods are supported on the SCG to send the data across.

SCI is a massive scalable application that stores historical raw data from the SCG for multi-year historical analysis It collects, aggregates, correlates data and provides the user with the ability to design custom reports with a browser driven, flexible point-and-click report generation methodology.

SCI is the single point of access into Ruckus Wireless network equipment data and normalizes the data from multiple SCGs or SCG clusters to simplify the integration into an existing OSS infrastructure.

AAA Enhancement: Accounting On and Off

This feature enhances the handling of Accounting On and Accounting Off requests at the SCG. In release 2.1.1, customers have the option of having the SCG sending Accounting On/Off messages to AAA servers. In previous releases, when an Accounting On or Account Off was received from the AP, the SCG did not take any action and sent a dummy acknowledgment for the request back to AP. Some customers use Accounting Off messages to determine the health of the AP and, upon the receipt of the same, take selective actions. SCG release 2.1.1 is capable of forwarding these requests to the AAA servers that are configured for the corresponding WLAN/zone.

List of Release Documentation

Table 1 lists the documents that accompany this release.

Table 1. List of SCG 2.1.1 documents

#	Document Name	Description
1	*These Release Notes*	Provide notes on known issues, caveats, workarounds, and interoperability information
2	Tunneling Interface Reference Guide	Describes the 3rd party networking protocols supported by the access and core networks
3	AAA (RADIUS) Interface Reference Guide	Describes the interface between the SCG and the AAA (Authentication, Authorization, and Accounting) server
4	Administrator Guide	Describes how to configure the SCG and how to use the web interface to manage access points that are reporting to the SCG
5	Charging Interface Reference Guide	Describes the interface between the SCG and the CGF server when the SCG functions as a tunnel termination gateway (TTG)
6	CLI Reference Guide	Provides the syntaxes and commands for configuring and managing the SCG from a command line interface
7	Alarm and Event Reference Guide	Describes the various types of events and alarms that the SCG generates
8	Getting Started Guide	Describes how to set up the SCG appliance on the network. Topics covered in this guide include mounting, installation, and basic configuration.

Table 1. List of SCG 2.1.1 documents (Continued)

#	Document Name	Description
9	Gn Interface Reference Guide	Describes the interface between the SCG and the GGSN
10	HLR Interface (MAP/ SIGTRAN) Reference Guide	Describes the interface between the SCG and HLRs
11	Hotspot Portal Integration Interface Reference Guide	Describes the SCG RESTful-like/JSON interfaces for external web portal servers
12	KPI and Report Reference Guide	Describes statistics, graphs, and reports that can be used to establish key performance indicators (KPIs) for the SCG
13	Parameters Reference Guide	Describes the configuration parameters, including their value types, value ranges, default values (if any), and descriptions
14	RESTful Interface Reference Guide	Describes the features provided by the SCG RESTful interface server
15	S2a Interface (GTPCv2, GTP-U v1) Reference Guide	Describes the interface between the SCG and the PDN Gateway (PGW)
16	SNMP MIB Reference Guide	Describes the SNMP Management Information Bases (MIBs) that the SCG supports. It also describes the overall design of the SCG SNMP agent.
17	Troubleshooting Guide	Provides guidance for troubleshooting issues that may occur when deploying and operating the SCG

SCG Hardware Compatibility and Supported APs

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SCG Hardware Compatibility

This release is compatible with the following SCG hardware models:

- SmartCell Gateway 200 (SCG-200)

Supported Access Point Models

This SCG release version 2.1.1.0.126 consists of control plane software version 2.1.1.0.145 and data plane software version 2.1.1.0.122.

This release supports release build 2.1.1.0.106 on the following AP models:

- SC8800-S
- SC8800-S-AC
- ZF2741
- ZF2942
- ZF7025
- ZF7055
- ZF7321
- ZF7321-U
- ZF7341
- ZF7341-U
- ZF7343
- ZF7343-U
- ZF7351
- ZF7351-U
- ZF7352
- ZF7352-U
- ZF7363
- ZF7363-U

- ZF7372
- ZF7372-E
- ZF7372-U
- ZF7441
- ZF7761CM
- ZF7762
- ZF7762-AC
- ZF7762-S
- ZF7762-S-AC
- ZF7762-T
- ZF7781-M
- ZF7781CM
- ZF7781CM-E
- ZF7781CM-S
- ZF7781FN
- ZF7781FN-E
- ZF7781FN-S
- ZF7782
- ZF7782-E
- ZF7782-N
- ZF7782-S
- ZF7962
- ZF7982

Resolved Issues 3

This section lists the issues in earlier releases that have been resolved in this release.

AAA

- Resolved an issue where accounting statistics are not updated when the SCG is functioning as a RADIUS accounting proxy for open authenticated clients. [SCG-16429]
- Resolved a number of issues in the *SCG AAA (RADIUS) Accounting Reference Guide,* including some incorrect descriptions. [SCG-14763]
- Resolved an issue where authentication timeout may occur when the number of subscribers reaches 50,000. [SCG-14686]

AP Zones

- Resolved an issue where a profile that has been created does not appear on the *Profiles* page until the user uses the search option. Also resolved an issue where the AP registration rule does not appear to be applied to an AP that previously joined the SCG and therefore already has an existing record. Both reported issues are design intent and the documentation has been updated to explain these. [SCG-15598]

CLI

- Resolved an issue where the CLI accepts out-of-range values for the GPS distance setting when creating an AP registration rule. [SCG-15792]
- Resolved an issue where the CLI command
  `show running-config zone-template`
  does not list the existing WLAN groups. [SCG-15863]

Hotspot

- Resolved an issue where a Ruckus Wireless AP-initiated accounting stop does not get proxied to the external AAA for hotspot (WISPr) calls. [SCG-16557]

Reports

- Resolved an issue where the timestamp for generated PM reports is 30 minutes earlier than the actual report generation time.
- Resolved an issue where email notification may not work for any of the reports.
- Resolved an issue where the timestamp for the *Client vs Airtime* report may be incorrect. For example, if the report was generated manually at 15:50, the timestamp may show 13:30. [SCG-15347]

Scaling and Performance

- Resolved an issue where the QinQ to GTPV1+V2:SM process stops responding during a heavy load. [SCG-16270]
- Resolved an issue where an administrator may be unable to log to the SCG web interface during a heavy load in a two-node TTG cluster. [SCG-14895]

Upgrading

- Resolved an issue where upgrading from 2.1.1.0.79 to 2.1.1.0.94 may fail in a two-node cluster. One node may keep the 2.1.1.0.79 image while the other node may be upgraded successfully to 2.1.1.0.94. [SCG-16460]

Web Interface

- Resolved an issue wherein when deleting a 32 L2oGRE /L3oGRE WLAN zone, the corresponding service profile for L2oGRE /L3oGRE cannot be removed. [SCG-16311]
- Resolved an issue where the **Monitor** > **Clients** > **Associated Clients** page may show only 10,000 associated clients, even when the actual number of associated clients is more than 10,000. [SCG-14766]

Caveats, Limitations, and Known Issues

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This section lists the caveats, limitations, and known issues in this SCG release.

- The SCG web interface becomes unreachable after the SCG is upgraded to release 2.1.1.0.126. The workaround to this issue consists of adding a static route to the management interface – using either the web interface (before the upgrade) or the CLI (after the upgrade).

  Workaround 1: Before the upgrade, add the static route using the web interface.

  Before you perform the upgrade, follow these steps to add the static route to the management interface from the web interface.

CAUTION! You must perform this procedure BEFORE you perform the upgrade.

a Log on to the web interface.

b Go to **Configuration** > **SCG System** > **Cluster Planes** > **Static Route**.

c Click **Create New**, and then configure the following static route settings:

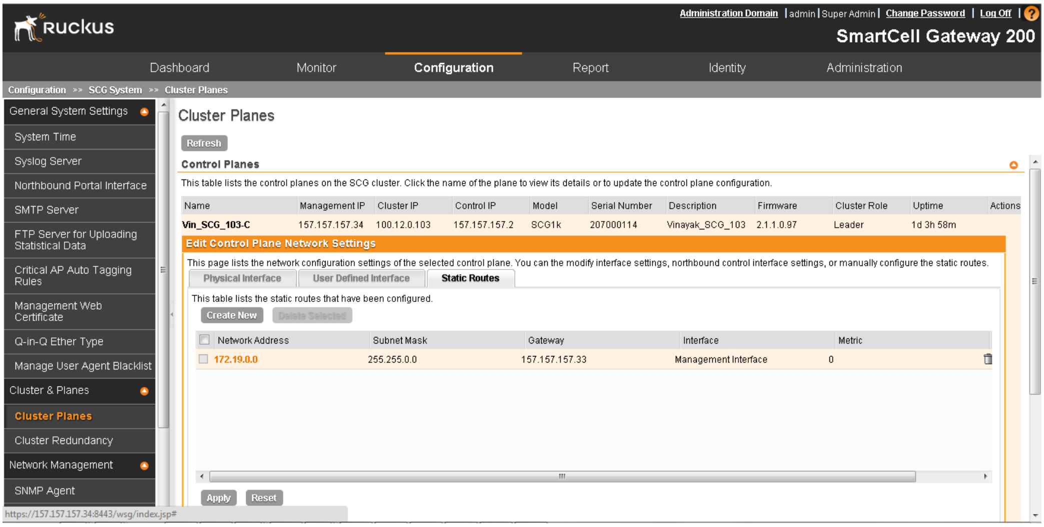
- *Network Address*: Enter the destination IP address of this route. In the screen shot below, `172.19.0.0` is an external subnet where the SCG web interface can be accessed.
- *Subnet Mask*: Enter a subnet mask for the IP address above.
- *Gateway*: Enter the IP address of the gateway router. In the screen shot below, `157.157.157.33` is the gateway router for the management interface.
- *Interface*: Select **Management Interface**.
- *Metric*: This represents the number of routers between the network and the destination.

d Click **Apply** to save the static route.

e Perform the upgrade to release 2.1.1.0.126.

f After the upgrade, access the web interface.

Figure 1. Creating a static route to the management interface using the web interface



This table lists the control planes on the SCG cluster. Click the name of the plane to view its details or to update the control plane configuration.

Name	Management IP	Cluster IP	Control IP	Model	Serial Number	Description	Firmware	Cluster Role	Uptime	Actions
Vin_SCG_103-C	157.157.157.34	100.12.0.103	157.157.157.2	SCG1k	207000114	Vinayak_SCG_103	2.1.1.0.97	Leader	1d 3h 58m	

This page lists the network configuration settings of the selected control plane. You can the modify interface settings, northbound control interface settings, or manually configure the static routes.

This table lists the static routes that have been configured.

□	Network Address	Subnet Mask	Gateway	Interface	Metric
□	172.19.0.0	255.255.0.0	157.157.157.33	Management Interface	0

Workaround 2: After the upgrade, add the static route using the CLI.

If you performed the upgrade without first adding the static route using the web interface, you can still add the static route to the management interface using the CLI. Follow these steps.

a Log on to the SCG CLI.

```
##############################
#       Welcome to SCG                                  #
##############################
Please wait. CLI initializing...
Welcome to the Ruckus SmartCell Gateway 200 Command Line
Interface
Version: 2.1.1.0.126
```

b Switch to enable mode.

```
NMS33> en
Password: ********
```

c Switch to config mode to configure the static route.

```
NMS33# config
```

d Create the static route via the management interface.

```
NMS33(config)# ip route <Destination network IP address>
<Destination network mask> <Next hop IP address>
management
```

You have completed adding the static route to the management interface. Try accessing the SCG web interface again.

- On a standalone SCG, the data blade kernel stops responding during a heavy load in TTG mode. [SCG-15163]
- When the SCG is configured to generate a report on a daily basis, the generated report displays the time element (for example, 08:00), which may confuse some users. [SCG-15923]
- In a two-node cluster, not all existing guest access sessions that are using the same user name are deleted when Disconnect Messages (DMs) are sent from the AAA server (with RADIUS Accounting proxy enabled) for that user name. [SCG-14150]
- Hotspot (WISPr) logoff does not work when a UE roams to different AP and different control blade. [SCG-14011]
- The critical alarm “Data blade disconnected from the network” appears on the *Monitor* page of the SCG web interface, even when the data blade is online and operating normally. [SCG-14232]
- The web interface is inaccessible from Internet Explorer 9 and 10 when compatibility mode is enabled. [SCG-16046]
- Historical client statistics do not list all of the UEs that belong to third party AP zones. [SCG-16337]
- When a Ruckus Wireless AP is rebooted, Accounting On request is not sent for all scenarios. [SCG-15466]
- Manual reboot of the SCG is required for the following scenarios:
  - Changing the Cluster IP/Gateway
  - Changing the Control IP/Gateway [SCG-16877]
- After the SCG is reset to factory default settings, the SCG allows the data blade interface IP address and gateway address to be on different subnets. [SCG-16491]
- Handover between mesh APs generates multiple accounting sessions. [SCG-14826]

- Various issues related to guest pass profile creation and retrieval exist on the SCG web interface and in the *SmartCell Gateway 200 Administrator Guide*. [SCG-15596]
- Unzipping the SCG-AP statistics files generates errors. [SCG-15074]
- The SCG only exports up to 45,000 events to the CSV file, even when more than 45,000 events have been generated. [SCG-8445]
- The framed IP address attribute for Accounting is unsupported for IPv6 clients. [SCG-15660]
- The datablade sends traffic even after GGSN path failure is detected. [SCG-15412]
- An invalid RADIUS authenticator is sent towards the AP when RADIUS reject is initiated by the SCG due to the absence of CUI for a TTG call. [SCG-16864]
- Walled garden services do not provide access to HTTPS web pages. [SCG-13650]
- The SCG allows the same IP address to be assigned to the control blade, data blade, and cluster blade interfaces. [SCG-13702]
- After a node is removed from a cluster, the logon page keeps reloading when an administrator attempts to log on and a high number of APs become disconnected from the SCG. [SCG-15351]
- The SCG fails over to the secondary AAA server even when the primary AAA server responds within the configured response window. [SCG-14528]
- If the response window (in *AAA Health Check Policy*) is set to a value higher than 30 seconds, it automatically reverts to the default setting (30 seconds). [SCG-14527]

  Workaround

  Make sure that the response window is set to a value that is equal or lower than 30 seconds.
- The RADIUS failover mechanism does not function correctly when the NAS failover and health check policy settings are configured incorrectly.

  Workaround

  To ensure that the RADIUS failover mechanism functions correctly, either accept the default values for *Response Window*, *Zombie Period*, and *Revive Interval*, or make sure that the value for *Response Window* is always higher than the value for RADIUS NAS request timeout multiplied by the value for RADIUS NAS max number of retries. [SCG-16092]

- The SCG may display the timestamp of some events and alarms as “2014” (instead of the complete date and time). This issue occurs when an AP is unable to join the SCG and, consequently, unable to synchronize its system time with the NTP server configured on the SCG. Table 2 lists the alarms and events that are affected by this known issue. [SCG-14271]

Table 2. Alarms and events that are affected by SCG-14271

Alarm/Event Name	Severity	Type	Description
apDiscoverySuccess	Informational	AP_Communication	This event occurs when AP sends a discovery request to the SCG successfully.
apJoinedTooManyTimes	Minor	AP_Communication	This event occurs when AP attempts to connect to the SCG session multiple times.
apChangeControlBlade	Informational	AP_State_Change	This event occurs when AP switches from a previous to a new SCG connection.

- The current report system does not support the aggregation of tunnel statistics. [SCG-15346]
- Statistics files may be generated 15 seconds earlier or later than the configured time. [SCG-15346]
- A number of issues related to reports exist, including:
  - The year is not displayed in all of the PDF reports.
  - In the *Client Vs Airtime* report, there is a discrepancy in the Tx, Rx, and Busy values between the 15-minute and hourly reports.
  - In the PDF of the New Client Association report, the numbers are not highlighted. [SCG-15347]

Upgrading to This Release

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For step-by-step instructions on how to upgrade the SCG to this release, refer to the *SmartCell Gateway 200 Administrator Guide*.

Before upgrading the SCG to this release, take note of the following important notes:

- After you obtain the firmware upgrade file, do not modify the firmware file name. It should be `scg-installer_2.1.1.0.126.ximg`.
- This release supports the following upgrade paths:
  - From 1.1.2.0.128 to 2.1.1.0.126
  - From 1.1.2.0.131 to 2.1.1.0. 126
  - From 2.1.0.0.279 to 2.1.1.0.126
  - From 2.1.0.0.295 to 2.1.1.0.126
  - From 2.1.0.0.297 to 2.1.1.0.126
  - From 2.1.0.0.304 to 2.1.1.0.126
  - From 2.1.1.0.107 to 2.1.1.0.126
- If the SCG that you are managing is running on release 1.1.1, you cannot upgrade it directly to this release. Refer to the supported upgrade paths listed earlier.
- This release does not support the Ruckus Wireless 9.3 access point firmware. If there are Ruckus Wireless access points on the network running the 9.3 firmware, make sure you upgrade them to 9.4 firmware (or later) before upgrading the SCG to this release.
- If hotspot/WISPr services are enabled on the SCG, you will need to create a user-defined interface after you upgrade to this release. This will ensure that the hotspot/WISPr services will continue to be available.

Interoperability Information

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Note that a supported ZoneFlex AP configured to currently operate with ZoneDirector will require an upgrade to an SCG-200 approved software release prior to inter operating with a SmartCell Gateway controller. Once an AP switches over to SmartCell Gateway 200, it will no longer be able to communicate with its old ZoneDirector controller.

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