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Ruckus Virtual SmartZone Quick Setup Guide

This *Quick Setup Guide* provides basic instructions for setting up Ruckus Virtual SmartZone (vSZ) on the network.

For information on advanced configuration and management options, see the *vSZ Getting Started Guide* and other appropriate documents, which are available for download from the Ruckus Support website:

https://support.ruckuswireless.com/documents

This Guide in Other Languages

请从以下网站获得该指南的简体中文版 https://support.ruckuswireless.com.

Vous trouverez la version française de ce guide à l'adresse suivante https://support.ruckuswireless.com.

このガイドの日本語版は https://support.ruckuswireless.com でご覧ください。

이 가이드의 한국어 버전은 웹 사이트 (https://support.ruckuswireless.com) 에서 확인하시기 바랍니다.

Veja a versão em português (Brasil) deste guia em https://support.ruckuswireless.com.

Puede ver la versión en español (América Latina) de esta guía en https://support.ruckuswireless.com.

Licensing Information

The Right to Use (RTU) license of the vSZ controller comes with one (1) instance license for 90 days from when the vSZ is first set up and must be activated to be eligible for future software updates beyond 90 days. In SmartZone release 3.2 and later, you get up to one (1) permanent and four (4) temporary AP licenses. To manage more APs, you must purchase additional AP Capacity Licenses and they must be activated to become valid.

Using the LiMAN (license management) portal on the Ruckus Support website, you can assign licenses to or from a SmartZone controller to another purchased SmartZone controller (see a summary of LiMAN features in Table 1).

To physically manage the distribution of licenses from the Ruckus Support website to vSZ, you must connect vSZ directly to the Internet. In the event that vSZ is disconnected from the Internet,

you can download the licenses from the Support Portal and manually upload to the specific vSZ.

For instructions on how to activate the vSZ licenses, see Step 5: Activate the vSZ Licenses on page 2.

TABLE 1 Activating LiMAN Features on the vSZ

LiMAN Features	vSZ Online (Connected to the Internet)	vSZ Offline (Disconnected from the Internet)
• Register the vSZ RTU instance license, support entitlement. • Add capacity licenses to SmartZone controllers. • Remove licenses from SmartZone controller and add to another.	No action required. The SmartZone controller syncs with LiMAN automatically once every 24 hours and applies the appropriate licenses.	Three steps required: 1. Download the license file from LiMAN. 2. Log in to the vSZ web interface, and upload the license file from LiMAN. 3. Download the license response file from the vSZ, and upload it to LiMAN.

To activate licenses on the SmartZone controller, you will need the following:

- vSZ 5.2 image
- This *Quick Setup Guide*

Before You Begin

The minimum memory and CPU requirements have changed in this release. You may need to upgrade your infrastructure before upgrading. Please read carefully. This is the minimum requirement recommended. Refer to the *Release Notes* or the *Getting Started Guide*.

Before deploying Ruckus products, please check for the latest software and the release documentation.

- *Release Notes* and other user documentation are available at http://support.ruckuswireless.com/documents.
- Software upgrades are available at http://support.ruckuswireless.com/software.
- Software license and limited warranty information are available at http://support.ruckuswireless.com/warranty.

What You Will Need

- A hypervisor on which to install vSZ (see the following supported hypervisor table).
- The vSZ distribution package (.OVA file), which is available for download from the Ruckus Networks Support website.
- The IP address, netmask, gateway and DNS server addresses assigned to the SmartZone controller—if it has a static network address (recommended).
- A virtual machine (VM) that meets the recommended system resources for the number of APs and wireless clients that you plan to manage (see the *vSZ Getting Started Guide*).

TABLE 2 vSZ-Supported Hypervisors

Vendor	Hypervisor	Version
VMware	ESXi	5.5 and later (6.7 or later recommended)
Windows	Windows Server Hyper-V	Windows Server Hyper-V (2012 R2)
KVM	CentOS	7.4 (64 bit)

NOTE: vSZ also supports Google Compute Engine (GCE) and Amazon Web Services (AWS).

Important Notes

NOTE: vSZ reserves subnets 10.255.0.0/16 and 10.254.1.0/24 for inter-process communications between the controllers and data planes. These subnets must not be used. Subnets are configurable using the CLI command.

Step 1: Install vSZ on the Hypervisor

Using the .OVA file that you downloaded from the Ruckus Networks Support website, install an instance of vSZ on the hypervisor. For step-by-step instructions, see the *vSZ Getting Started Guide*.

Step 2: Power On the vSZ Virtual Machine and Configure Its Interfaces

After you power on the vSZ virtual machine, you must configure its interface or interfaces. For step-by-step instructions, see the *vSZ Getting Started Guide*.

Choose one of the following two options before proceeding to the initial setup mentioned in the next task, "Step 3: Start and Complete the Setup Wizard."

- Use the VM CLI Console and go through the setup wizard. This will provision operating profile interfaces, network settings, and

other details. You can complete the setup using the Web UI wizard specified in the next task.

- Reboot the system using default network settings. This action obtains an IP address using DHCP on the Management Interface. You can use this IP address to go through the Web UI and complete the setup wizard outlined in the next task without using the CLI.

Step 3: Start and Complete the Setup Wizard

1. Start your web browser, and enter the following in the address bar: `https://{management-IP-address}:8443`, where *management-IP-address* is the address you assigned to the management interface.

2. Select your preferred language, and click **Next**.

3. Select the profile configuration (High Scale or Essentials) that corresponds to the virtual SmartZone (vSZ) license that you purchased.

4. Under **Profile Tool**, click **Use Tool** to choose the correct SZ profile based on the number of APs and switches.

5. In the **SmartZone Profiles** page, configure the profile settings by entering the number of APs and switches, and type of SmartZone network controller, and click **Submit**.

6. Configure the management IP settings, and click **Apply**.

7. Configure the cluster settings by selecting whether you are creating a new cluster with this vSZ or this vSZ is joining an existing cluster. Click **Next**.

8. Set the administrator password for the web interface and the enable password, which lets you enter the privileged EXEC mode of the command line interface. Click **Next**.

   The next wizard page displays all of the settings that you configured on the previous pages.

9. Verify that all of the settings are correct, and click **Finish** to apply the settings and activate the vSZ on the network.

   The CPU and IO performance are measured at setup stage to assure a stable vSZ service. If the performance is lower than the threshold, the fall-back mechanism retries up to three times after which the setup flow is blocked and the system goes to failed state. The user must then shutdown the VM, re-manage the VM resources and then turn on the system to setup again.

A progress bar displays the progress of applying the settings, starting the vSZ services, and activating vSZ on the network. When the process is complete, the progress bar shows the message "100% Done." The page also shows the IP address through which you can access the vSZ web interface to manage the controller.

> **NOTE:** vSZ uses the default certificate.

> **NOTE:** Take note of this IP address. You will need this IP address to log in to the vSZ web interface.

FIGURE 1 IP Address of the vSZ Web Interface
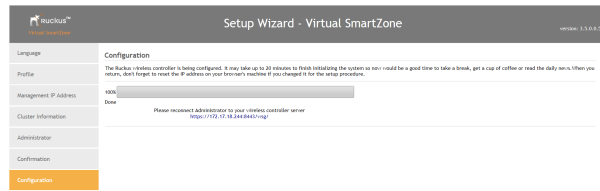
Step 4: Connect the APs to the Network

1. Distribute the APs around your worksite.

2. Record the Ethernet MAC address of each AP (printed on the bottom of every AP), and note the exact worksite of each device.

3. Connect the APs to a local power source.

4. Using an Ethernet cable, connect the APs to the switch or router on the same network as the vSZ.

   Some APs are PoE-capable. If connected to a Power over Ethernet switch, the APs can draw power through the Ethernet cables.

When the APs are powered on, they discover vSZ on the network.

The AP must have some way of obtaining an IP address (IPv4 DHCP or IPv6 Auto Configuration).

Step 5: Activate the vSZ Licenses

Activate and assign the AP and Tunnel licenses using the LiMAN (license management) portal on the Ruckus Networks Support website.

You must have a Ruckus Support Portal account (including user name and password). You can use this account to access general Support website content including software upgrades, knowledge base articles and technical documents. If you do not have a Ruckus Support Portal account, you will be required to register for one before continuing with your product and license activation.

Every capacity and support license that you have purchased will have its own unique activation code and each must be activated for the license to become valid. You will receive the activation code in a separate Support Purchase Acknowledgment (SPA) email message for each license and support license.

For the vSZ product, you may receive multiple SPA email messages for all your licenses. The first three characters of the activation code indicate the license type to which the code is applicable:

- RTU: Right to Use License

- LIC: AP Capacity License
- LIC: AP Tunnel License
- SUP: Support License

Activating a vSZ or RTU Support License

Activate and assign the AP and Tunnel Licenses using the LiMAN (license management) portal on the Ruckus Networks Support website.
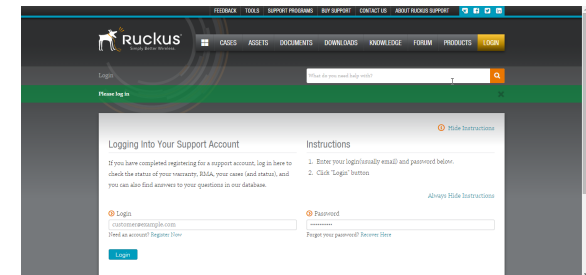
1. Open the SPA email message that you received from Ruckus Networks.

   FIGURE 2 SPA Email Message from Ruckus

2. Log in to https://support.ruckuswireless.com.

   FIGURE 3 Ruckus Support Portal Login

3.
> **NOTE:** Have the serial number of your virtual SmartZone (vSZ) installation ready.

   Click the link in the SPA email message.

4. Follow the onscreen instructions to activate the licenses purchased. When required, you will be prompted for the serial number of your vSZ (28 characters in length).

5. Repeat steps 1 through 5 for all licenses that you have purchased. This is important because it will simplify the workflow of the following step.

6. After you complete activating all of your licenses, you must assign them to your LiMAN account. Click the **LiMAN** button (see Figure 4), which appears after a license has been successfully activated. If your device is listed, click its serial number and proceed to the next step. If your device is not listed, click the **Register Smart Device** button (see Figure 5), enter your device's serial number, and then click the **Register Smart Device** button (see Figure 6).
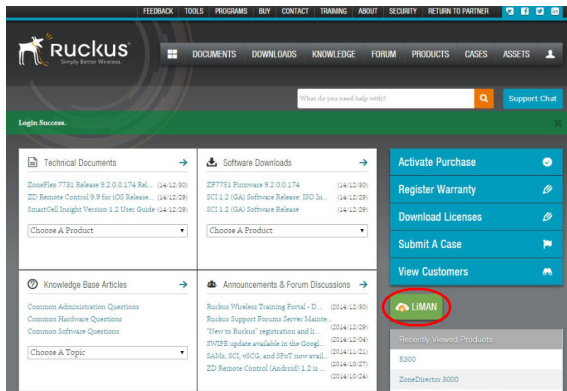
FIGURE 4 LiMAN Button

FIGURE 5 Selecting Serial Number or Register Smart Device Button
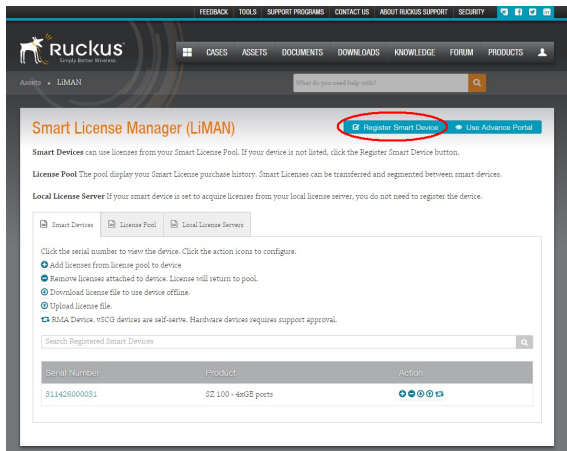
FIGURE 6 Entering Serial Number
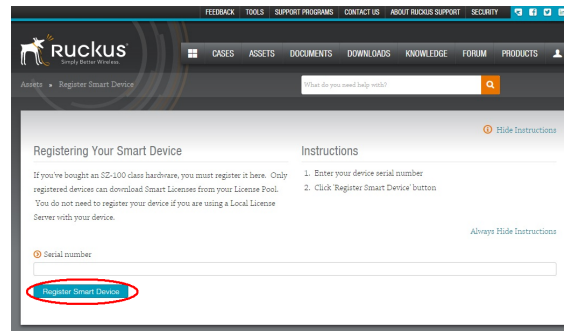
7. Click the **+ License** button (see Figure 7), enter the number of licenses to add in **Qty to Add**, and click the **Add License** button (see Figure 8). Repeat for all licenses.
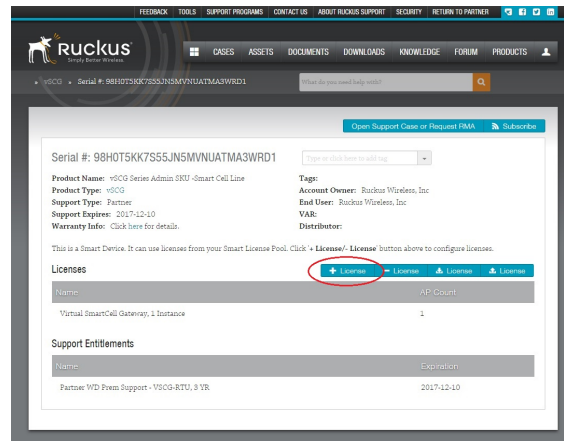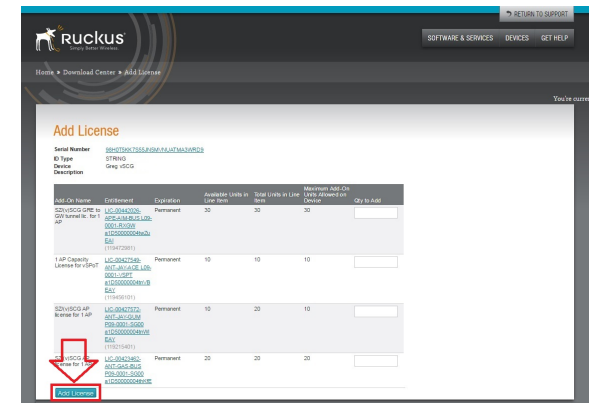
FIGURE 7 + License Button


FIGURE 8 Add License Button

Step 6: Sync the vSZ with LiMAN

After you have activated the virtual SmartZone (vSZ) licenses on the Ruckus Support Portal, the vSZ must be synced with the SmartLicense server. This will enable the user ability to assign licenses to and back from a SmartZone controller or assign them to another vSZ.

To manage the distribution of licenses from the Ruckus Support Portal to the vSZ, do one of the following:

- On the vSZ web interface, go to **AdministrationLicenses**, and click the **Sync Now** button to sync the vSZ with the SmartLicense server.

FIGURE 9 Sync Now Button
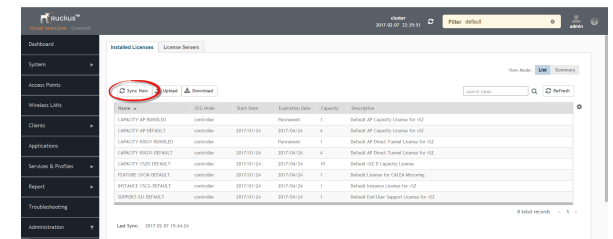
- In the event that the vSZ is disconnected from the Internet, download the licenses from the Ruckus Support Portal and manually upload them to the specific vSZ. See Syncing Licenses on an Offline vSZ on page 4.

Syncing Licenses on an Offline vSZ

1. On the **Add License** page of LiMAN, click the vSZ serial numbers. The **View Device** page displays, as shown in the following figure.

FIGURE 10 View Device page
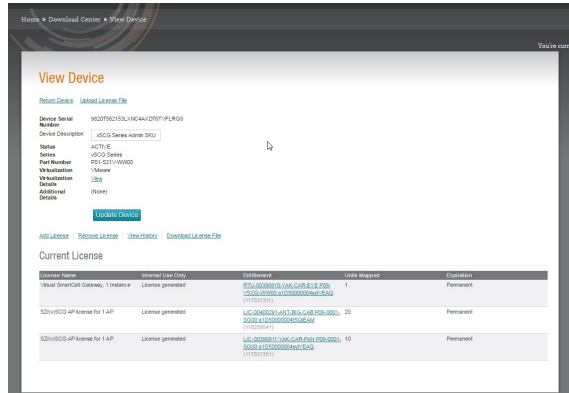
2. Click **Download License File**. The license file is saved to the client.

3. On the vSZ web interface, go to **Administration** > **License**. In the **Upload License** section, click the **Browse** button, and select the license file from your client to upload it to the vSZ.

4. On the vSZ web interface, go to **Administration** > **License**. In the **Download License** section, click the **Browse** button, and select the license file from your client to download to the vSZ.

5. Go back to the LiMAN portal on the Ruckus Networks Support website, and do the following:

   a. Go to the **View Device** page (see Figure 10).

   b. Click **Upload License File**.

   c. Click the **Choose File** button (see Figure 11), and select the license file from your client.

   d. Click **Send** to complete the offline license synchronization.

FIGURE 11 Choose File Button
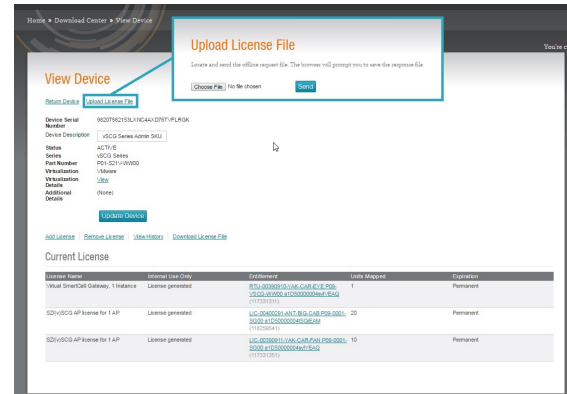
vSZ Deployment Requirements

Hypervisor Hardware Performance Requirements

vSZ requires adequate hardware resources to sustain its services. vSZ does not support deployment in a low-performance hypervisor. Refer to the *vSZ Getting Started Guide*.

- vSZ must be deployed on a dedicated hardware resource to avoid different VM instances grabbing the CPU/IO resources and impacting vSZ stability in one hypervisor, especially while deploying thousands of APs per node.

- vSZ must meet all CPU and IO requirements. Measure the hypervisor hardware performance before deploying vSZ.

- Disk IO is most important in a vSZ cluster. Disk IO is the slowest subsystem in a server, which means that write-heavy clusters can easily saturate their disks, which in turn becomes the logjam of the cluster.

- Avoid network-attached storage (NAS). The general belief is that a NAS solution is faster and more reliable than local drives. However, NAS is often slower, displays larger latencies with a wider deviation in average latency, and is a single point of failure.

Cloud Platform Resource Profile Limitation

- Azure Platform need select D-series above CPU level. A-series and B-series are not capable to be used for vSZ.

- Any CPU with Credit limitation type is not capable to support. For example, AWS T2 instance, Azure B-series.

- Different disk sizes offer different disk IO performance levels. Select the proper disk size to run vSZ.

CPU/IO Requirements

Benchmarking vSZ CPU/IO performance.

Use `sysbench_0.ksp` released by Ruckus to measure vSZ run in hypervisor performance and get result. It provides the benchmark result and measure if the performance qualify to run vSZ on CPU and IO.

Related Documentation

If you need more information about the vSZ or the SmartLicense platform, refer to the following documents, which are available for download on the Ruckus Networks Support website:

- For information on how to install the vSZ and how to complete the essential configuration tasks, refer to the *vSZ Getting Started Guide* for this release.

- For information on how to perform advanced configuration tasks and AP management and monitoring, refer to the corresponding *vSZ Administrator Guide* for this release.

- For a complete list of documentation available for the vSZ, refer to the *Release Notes*.

- For more information on how to manage your vSZ licenses, refer to the *SmartLicense User Guide*.