

Stratusphere[™] FIT & Stratusphere[™] UX

Migrating to Stratusphere 6.6.x Appliances Guide

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Liquidware Labs, Inc.

3600 Mansell Road Suite 2000 Alpharetta, Georgia 30022 U.S.A. Phone: 678-397-0450

Web: www.liquidware.com

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Overview

This document is meant for Stratusphere Administrators who need to perform a migration of their existing Stratusphere 5.8.6 or higher appliances to the latest 6.6.x version. Prior versions of Stratusphere appliances cannot be upgraded through the Web UI to the latest 6.6.x version due to underlying operating system related upgrades.

This document provides instructions to migrate settings, certificates, and data from the old appliances to the new appliances. To do so, they are required to be temporarily configured as new appliances prior to migrating and assuming the identities of the older appliances. Acquire temporary IP addresses, network masks, default gateway IP addresses etc. prior to proceeding. These instructions assume that the new appliances will use the same IP network settings as the older appliances.

The existing 5.8.6 or higher version CID Keys and Network Stations already deployed will continue to function and upload data to the new Stratusphere 6.6.0 appliances. The CID Keys, in turn, could be configured to auto-upgrade themselves to the 6.6.0 version through a simple configuration option within the Administration Web UI. The 5.8.x Network Stations cannot be upgraded to 6.6.0 Collectors but are still compatible with Stratusphere 6.6.0 Hubs and can be replaced in a phased manner. After migrating the Hub and Database appliances, Liquidware recommends making a note of the IP addressing of existing Network Stations or Collectors, then turning them off and deleting them from the Stratusphere Web UI. When that is done, you should add new Stratusphere 6.6.0 Collector appliances to the installation. For instructions on how to add Collector appliances to the Stratusphere 6.6.x Hub, refer to the *Stratusphere Installation & Configuration Guide*, which can be found in the Stratusphere Document Repository.

Due to differences on how Stratusphere's Cloud appliances on AWS, Azure, and GCP handle password security and require certificates for access to appliances, Liquidware has created separate instructions for its cloud-based Stratusphere appliances, compared to the standard instructions for VMware ESX, Microsoft Hyper-V, Nutanix AHV, and Citrix Hypervisor based appliances.

Supported Migrations

Platform	Migrate From Ver- sion	Migrate to Version	Status
VMware	5.8.6 and higher	6.6.0	GA
Hyper-V	5.8.6 and higher	6.6.0	QA
Nutanix	6.1.3 and higher	6.6.0	QA
Citrix**	6.1.5 and higher	6.6.0	Dev
AWS	6.1.3 and higher	6.6.0	QA
Azure	6.1.4 and higher	6.6.0	QA

**Citrix

- 1. Only CID Key Collectors are supported at this time. Neither the "Network Collector" nor the "Both" (CID Key and Network) mode is supported.
- 2. NTP Time Servers are not populated correctly and might need to be set manually.
- 3. Roll-up data from versions earlier than 6.1.5 does not come over correctly, so only migrations from 6.1.5 are supported.

Estimating Time for Migrating Data

Migrating data from 5.8.6 and higher to 6.6.x involves streaming data from an older version of Postgres to the latest version at Postgres 12. Streamed data could be larger in size compared to the native database storage format. Rate of transfer depends on the performance of your storage and networking. The following guidelines will help you estimate the time data migration will take:

- 1. Log in to the Stratusphere 5.8.6 or higher Web UI's Administration section.
- 2. Navigate to the Hub Administration > Data Retention > Status tab.
- 3. Determine the size of the database by referring to the **Current audit size** field. In the image below, for example, it is 165.1 GB.



4. When the Migration Wizard begins data transfer, it will provide an average rate of transfer in MB/s as seen in the image below where it is listed as **18 Meg/Sec**.



- 5. So, to calculate the time it will take to migrate the data, you divide the total size of the database by the transfer rate:
 - Total database size = 165.1 GB = 165.1 x 1024 = 169,062.4 MB.
 - At a transfer rate of 18 MB/s, the 169,062.4 MB will take 9,392.35 seconds.
 - 9,392.35 seconds divided by 3600 seconds in an hour = 2 hours, 36 minutes.
 - After the data is transferred, the bytes transferred counter will stop incrementing and the database starts internal operations, such as indexing and schema updates. This will take additional time, so be patient until the Migration Wizard completes the migration.

Migrating On-Premises Appliances

If your current Stratusphere installation is an on-premises version, such as VMware ESX, Microsoft Hyper-V, Nutanix AHV, or Citrix Hypervisor, this section provides instructions on how to migrate your installation for the following scenarios:

- Scenario 1: A single Stratusphere Hub appliance (that is, one with no separate Stratusphere Database appliance)
- Scenario 2: A Stratusphere Hub with no prior Database migrating to a Hub with a new Database appliance
- Scenario 3: A Stratusphere Hub and a Database appliance
- Scenario 4: Multiple sets of Stratusphere Hub and Database appliances

In addition, this section provides instructions on how to migrate and upgrade the CID Keys that have been deployed as well as how to migrate the Network Stations and Collectors that have been deployed.

Scenario 1: Migrating a Single Stratusphere Hub Appliance

In this scenario, you will move data from a 5.8.6 or higher Stratusphere Hub appliance into a new 6.6.x Stratusphere Hub appliance and then update the Connector ID Key agents to the 6.6.x versions as well.

Preparation for Migration

- 1. Download the latest version of the Stratusphere 6.6.x Hub appliances from https://www.liquidware.com/download. Use the online Stratusphere Sizing Guide to size the appliances appropriately.
- 2. Get the credentials for the **ssconsole**, **friend**, and **root** users for the existing Stratusphere 5.8.6 or higher Hub appliance. The default password for these users is *sspassword*. Use PuTTY to test and validate if the passwords for these users still work prior to proceeding.
- 3. This document assumes that a valid DNS name is defined and configured within the Stratusphere 5.8.6 or higher Hub Web UI, which in turn is used by CID Keys to call back to the Stratusphere Hub. If this is the case, get a new temporary static IP address for the new 6.6.x Hub.
- 4. Make sure the remote (old 5.8.6 or higher) Stratusphere Hub is using static IP addressing and is not on DHCP. In order to temporarily configure the new Stratusphere Hub

appliance with static IP addressing as well, provide the following information:

- IP Address
- Network Mask
- Default Gateway IP Address
- IPv6 Address
- DNS Server Addresses
- DNS Search Suffixes
- NTP Servers
- 5. Check if there are any upgrades or hot fixes available for the version of Stratusphere Hub you have downloaded and are migrating to. <u>If there are, apply the upgrades or hot fixes</u> <u>BEFORE attempting the migration</u>.

Migration Instructions

- 1. (Recommended best practice) Take a snapshot of the existing Hub appliances for safety.
- If you do not have any Network Stations or Collectors deployed, jump to the next step. If older Network Stations or Collectors are deployed, complete the following sub-steps to get IP addressing and turn off the appliance:
 - a. Open the appliance consoles for each of the existing older Network Stations or Collectors. Press the Enter key within the console and log in to the console with the username ssconsole and the password sspassword.
 - b. Type N for the **Network Configuration** option and take a screenshot of the network configuration of the appliance so that it can be reused on the new 6.6.x version of Collectors.
 - c. Type Q to quit the Network Configuration wizard.
 - d. Type s to shut down and power off the appliance.
- 3. Before powering up your new Stratusphere 6.6.x Hub appliance, use the online Stratusphere Sizing Guide to properly size the new Stratusphere 6.6.x Hub appliance. Based on the sizing guideline, edit settings of the Stratusphere Hub appliance and provide the requisite resources for vCPUs, RAM, and storage for the Hub.

- 4. On the new Stratusphere 6.6.x Hub appliance, complete the following sub-steps:
 - a. Power on the new Stratusphere 6.6.x Hub appliance.
 - b. Open a local console of the Stratusphere Hub appliance and click into it. Use the instructions in the Stratusphere Installation & Configuration Guide under the Configuring Stratusphere Hub Appliances > Using the Console UI section to set up the Hub appliance. Stop configuring the appliance after that section and do not proceed to joining the database just yet.

Note: Apply NTP settings on the console as these are <u>not</u> migrated from the older appliance.

- 5. After the appliance is configured, the appliance console shows a status screen. Press the **Enter** key within the console and log in to the console with the username ssconsole and the password sspassword.
- 6. Type M for the Migrate certs, settings, and data from remote appliance option.
- 7. Follow the prompts on the screen to enter the IP address of the old 5.8.6 or higher Stratusphere Hub.
- 8. The console then tests to see if the default credentials for **friend** and **root** users can be used to connect to the remote 5.8.6 or higher Hub. If not, it prompts you to enter the correct credentials.
- 9. The new 6.6.x appliance proceeds to copy the network configuration, data, and certificate materials from the remote (older 5.8.6 or higher) Hub to the local (new 6.6.x) Hub. As it copies, it provides a running counter for the volume of data (in MB) that is being copied. When it has finished copying all the data from the remote (older 5.8.6 or higher) appliance, the data transfer counter stops and only the time counter keeps incrementing. This is expected, as the local appliance database is creating new tables and indexes during this time. Wait until the Migration Wizard completes.
- 10. After all information is migrated, the remote Hub shuts down. The network configuration, data, and certificate materials are then applied to the new 6.6.x Hub.
- 11. After the migration is completed, the appliance reboots itself.
- 12. After the appliance reboots, wait for **at least 15 minutes** before using the same DNS name or IP address of the Hub to try to access the Stratusphere Web UI in your favorite browser.

- 13. When the login page becomes available, verify that it has been updated and displays version 6.6.x in the ribbon at the bottom of the screen.
- 14. Take a screenshot of your login page and send it to Licensing@Liquidware.com to request an updated License Code and instructions to update your license. You have full access to Stratusphere for 21 days, after which access to the UI is restricted to the license page only. The CID Key and Network data collection will continue despite the restricted UI access.
- 15. Migrate and Upgrade CID Keys: Any currently deployed 5.8.6 or higher CID Keys will continue to work and upload their data to the new Stratusphere 6.6.x Hub. However, Stratusphere introduced Collector Appliances starting with version 6.0. To complete the migration, follow the instructions listed in the *Stratusphere Installation & Configuration Guide* to install the Collector appliances recommended by the Stratusphere Sizing Guide for your new environment. Collectors can be managed and grouped according to function, location, and so on from the Stratusphere Hub Administration module by navigating to the Collector Administration > Collectors tab. To upgrade the CID Key to the 6.6.x version, complete the following sub-steps:
 - a. Log in to the Administration section of the Web UI and navigate to the Hub Administration > Connector ID Keys > Connector ID Key Properties tab.
 - b. Under the main **Properties** section, select a Machine Group and enable the **Auto**matically update Connector ID Keys when new software versions are installed in the Stratusphere Hub option.
 - c. When the CID Keys call back at their callback frequencies, they recognize that there is an update available and download the new 6.6.x installer for the CID Key. The CID Keys then update themselves to the latest version in session with no reboot required. To update any gold or master images with CID Key built in, download the relevant CID Key installer from the **Connector ID Key Software** tab and update your master images as needed.
- 16. **Migrate Network Stations and/or Collectors**: If you <u>do not</u> have any Network Stations or Collectors deployed, jump to the next step. If older Network Stations or Collectors are deployed, the administrator should make plans to replace 5.8.6 or higher Network Station appliances with 6.6.x Network Collector appliances in a phased manner. Complete the following sub-steps to begin this process:
 - a. Log in to the Administration section of the Stratusphere Web UI and navigate to the **Collector Administration > Collectors** tab.

- b. Select the checkbox next to each old Network Station or Collector you want to migrate, then click the **Delete** button to remove them from the installation.
- c. Use the instructions within the *Stratusphere Installation & Configuration Guide* to set up the Collector appliances. Use the information from the screenshots that you took to enter all of the necessary IP addresses.
- After the CID Keys have been upgraded to the 6.6.x version, those assigned to a particular Machine Group can be assigned to report back to a particular CID Collector Group. Each Collector then reports back to the newly migrated Hub.

The migration process is now complete.

Scenario 2: Migrating a Stratusphere Hub with No Prior Database to a Hub with a New Database Appliance

In this scenario, you will move data from a single 5.8.6 or higher Stratusphere Hub appliance to a new 6.6.x Stratusphere Hub with a new Database appliance. Although the 5.8.6 or higher CID Keys continue to work with the 6.6.x Hub, these instructions explain how to upgrade CID Keys from the older version to the new 6.6.x version. Similarly, the 5.8.6 or higher Network Stations continue to work and upload their network metrics to the new 6.6.x Hub. However, 5.8.6 or higher Network Stations cannot be upgraded in place to the 6.6.x version. Administrators can devise a phased plan to install new 6.6.x Collector appliances for collecting CID Key metrics and/or network metrics as part of the Stratusphere 6 Architecture.

Preparation for Migration

- 1. Download the latest version of the Stratusphere 6.6.x Hub and Database appliances from https://www.liquidware.com/download. Use the online Stratusphere Sizing Guide to size the appliances appropriately.
- 2. Get the credentials for the **ssconsole**, **friend**, and **root** users for the existing Stratusphere 5.8.6 or higher Hub appliance. The default password for these users is *sspassword*. Use PuTTY to test and validate if the passwords for these users still work prior to proceeding.
- 3. This document assumes that a valid DNS name is defined and configured within the Stratusphere 5.8.6 or higher Hub Web UI, which in turn is used by CID Keys to call back to the Stratusphere Hub. If this is the case, acquire new temporary static IP addresses for the new 6.6.x Hub and Database.
- 4. Make sure the remote (old 5.8.6 or higher) Stratusphere Hub is using static IP addressing and is not on DHCP. In order to temporarily configure the new Stratusphere Hub

appliance with static IP addressing as well, provide the following information:

- IP Address
- Network Mask
- Default Gateway IP Address
- IPv6 Address
- DNS Server Addresses
- DNS Search Suffixes
- NTP Servers
- 5. To temporarily configure the new Stratusphere Database appliance with static IP addressing and DHCP disabled, provide the following information:
 - ° IP Address
 - Network Mask
 - Default Gateway IP Address
 - DNS Server Addresses
 - IPv6 Address
 - NTP Servers
- 6. Check if there are any upgrades or hot fixes available for the version of Stratusphere Hub you have downloaded and are migrating to. If there are, apply the upgrades or hot fixes <u>BEFORE attempting the migration</u>.

Migration Instructions

- 1. (Recommended best practice) Take a snapshot of the existing Hub appliance for safety.
- If you do not have any Network Stations or Collectors deployed, jump to the next step. If older Network Stations or Collectors are deployed, complete the following sub-steps to get IP addressing and turn off each Network Station or Collector appliance:
 - a. Open the appliance consoles for each of the existing older Network Stations or Collectors. Press the Enter key within the console and log in to the console with the username ssconsole and the password sspassword.

- b. Type N for the **Network Configuration** option and take a screenshot of the network configuration of the appliance so that it can be reused on the new 6.6.0 version of Collectors.
- c. Type Q to quit the Network Configuration wizard and then type S to shut down and power off the appliance.
- 3. Before powering up your new Stratusphere Hub & Database appliances, use the online Stratusphere Sizing Guide to properly size the new Stratusphere appliances. Based on the sizing guideline, edit the settings of the Stratusphere appliances and provide the requisite resources for vCPUs, RAM, and storage for the Hub and Database.
- 4. On the new Stratusphere 6.6.x Database appliance, complete the following sub-steps:
 - a. Power on the new Stratusphere 6.6.x Database appliance.
 - b. Open a local console of the Stratusphere Database appliance and click into it.
 - c. Follow the instructions in the Stratusphere Installation & Configuration Guide under the Using the Stratusphere Database Appliance > Configuring the Stratusphere Database Appliance section to set up the Database appliance. Stop configuring the appliance after that section and do not proceed to the Connecting the Hub and Database appliances section yet.

Note: Apply NTP settings on the console as these are <u>not</u> migrated from the older appliance.

- d. After the configuration is complete, the appliance console displays a status screen. Press the Enter key within the console and log in to the console with the username ssconsole and the password sspassword.
- e. Type D for the Database Appliance Utilities option.
- f. Type c for the Copy Database from remote Hub/Database option.
- g. Follow the instructions to enter the IP address of the old 5.8.6 or higher Stratusphere Hub. The console then tests to see if the default credentials for **friend** and **root** users can be used to connect to the remote 5.8.6 or higher Hub. If not, it prompts you to enter the correct credentials.

- h. The new 6.6.x appliance then copies only the data from the remote (older 5.8.6 or higher) appliance to the local (new 6.6.x) Database appliance and displays a running counter for data being copied in MB. When it has finished copying all of the data from the remote (older 5.8.6 or higher) appliance, the data transfer counter stops and only the time counter keeps incrementing. This is expected, as the local appliance database is creating new tables and indexes during this time. Wait until the data copy completes and returns you to the menu prompt.
- 5. On the new Stratusphere 6.6.x Hub appliance, complete the following sub-steps:
 - a. Power on the new Stratusphere 6.6.x Hub appliances. The old Stratusphere Hub is already on.
 - b. Open a local console of the Stratusphere Hub appliance and click into it. Use instructions in the Stratusphere Installation & Configuration Guide under the Configuring Stratusphere Hub Appliances > Using the Console UI section to set up the Hub appliance. Stop configuring the appliance after that section and do not proceed to joining the database just yet.

Note: Apply NTP settings on the console as these are <u>not</u> migrated from the older appliance.

- c. After the configuration is complete, the appliance console displays a status screen. Press the Enter key within the console and log in to the console with the username ssconsole and the password sspassword.
- d. Type D for the Database Utilities option.
- e. Type G for the Get Configuration from a Hub option.
- f. At the prompt to enter credentials for the **friend** user, press the **Enter** key to accept the default password sspassword or enter custom credentials.
- g. The wizard then tests to see if the credentials for **friend** and **root** users can be used to connect to the local (new) Hub. If not, it prompts you to enter the correct credentials.
- h. Enter the IP address of the remote (old 5.8.6 or higher) Stratusphere Hub. The console then tests to see if the default credentials for **friend** and **root** users can be used to connect to the remote (old 5.8.6 or higher) Hub. If not, it prompts you to enter the correct credentials.

- i. The new 6.6.x appliance proceeds to copy the network configuration and certificate materials from the remote (older 5.8.6 or higher) Hub to the local (new 6.6.x) Hub. Wait until the **Get Configuration from a Hub** completes and asks you if you want to shut down the remote (older 5.8.6 or higher) Hub. Type yes.
- j. The remote (older 5.8.6 or higher) Hub shuts down after one minute. At the prompt, press the **Enter** key to continue and return to the **Database Utilities** screen.
- k. Type P for the **Put Configuration on a Hub** option.
- I. At the prompt to enter credentials for the **friend** user, press the **Enter** key to accept the default password sspassword or enter custom credentials.
- m. The wizard then tests to see if the credentials for **friend** and **root** users can be used to connect to the local (new) Hub. If not, it prompts you to enter the correct credentials.
- n. Enter the IP address of the local (new 6.6.x or higher) Stratusphere Hub, which by default is displayed by its loop back address 127.0.0.1. Press the **Enter** key to accept this default.
- o. At the prompt whether to apply migration files found to the local (new) Hub, type $_{\mbox{yes.}}$
- p. The wizard proceeds to stop the local backend services, delete some files, and apply all the network configuration and certificate materials copied above from the remote (older 5.8.6 or higher) Hub on the local (new 6.6.x) Hub. Wait until **Put Configuration on a Hub** completes and prompts you to reboot the local Hub. Type yes to reboot the Hub after a default timer of 1 minute.
- q. After the wizard completes, press the **Enter** key to continue and return to the options.

Note: In some cases, the URL address on the console status screen might not match the IP or DNS address of the migrated Hub. Liquidware recommends rebooting the local (new) Hub appliance again by pressing the **Enter** key and logging in to the console with the username ssconsole and the password sspassword. Then type R for the **Reboot Server** option. After the appliance reboots, wait for the console status screen to refresh a couple of times and then verify that the URL has the right IP or DNS address.

- 6. Go back to the new Stratusphere 6.6.x Database appliance console and complete the following sub-steps:
 - a. Join the new Database to the new Hub. Press the **Enter** key within the console and log in to the console with the username ssconsole and the password sspassword.
 - b. Type D for the **Database Appliance Utilities** option.
 - c. Type J for the Join this Database to a Hub option.
 - d. Follow the instructions of the wizard to provide all the information it needs to join the new Database appliance to the new Hub appliance.
 - e. After the appliances are joined, they might reboot. Wait for 15 minutes before using the same DNS name or IP address of the Hub to access the Stratusphere Web UI.
- 7. Take a screenshot of your login page and send it to Licensing@Liquidware.com to request an updated License Code and instructions to update your license. You have full access to Stratusphere for 21 days, after which access to the UI is restricted to the license page only. The CID Key and Network data collection will continue despite the restricted UI access.
- 8. **Migrate and Upgrade CID Keys**: Any currently deployed 5.8.6 or higher CID Keys will continue to work and upload their data to the new Stratusphere 6.6.x Hub. To upgrade the CID Key to the 6.6.x version, complete the following sub-steps:
 - a. Log in to the Administration section of the Web UI and navigate to the Hub Administration > Connector ID Keys > Connector ID Key Properties tab.
 - b. Under the main Properties section, and for a selected Machine Group, enable the Automatically update Connector ID Keys when new software versions are installed in the Stratusphere Hub option.
 - c. When the CID Keys call back at their callback frequencies, they recognize that there is an update available and download the new 6.6.x installer for the CID Key. The CID Keys are then able to update themselves to the latest version in session with no reboot required. To update any gold or master images, with CID Key built in, download the relevant CID Key installer from the **Connector ID Key Software** tab and update your master images as needed.
- 9. **Migrate Network Stations and/or Collectors**: Any currently deployed 5.8.6 or higher CID Keys will continue to work and upload their data to the new Stratusphere 6.6.x Hub. However, Stratusphere introduced Collector Appliances starting with version 6.0. Based

on the number of machines being monitored, the Stratusphere Sizing Guide might recommend installation of Collectors. To complete the installation, follow the instructions within the *Stratusphere Installation & Configuration Guide* to install the Collector appliances recommended by the Stratusphere Sizing Guide. If you do not have any Network Stations or Collectors deployed nor recommended by the Sizing Guide, jump to the next step. Collectors can be managed and grouped according to function, location, and so on from the Stratusphere Hub Administration module by navigating to the Collector Administration > Collectors tab. If older Network Stations or Collectors are deployed, the administrator should make plans to replace 5.8.6 or higher Network Station appliances with 6.6.x Network Colector appliances in a phased manner. Complete the following sub-steps to begin this process:

- a. Log in to the Administration section of the Stratusphere Web UI and navigate to the Collector Administration > Collectors tab.
- b. Select the checkbox next to each old Network Stations or Collectors you want to migrate, then click the **Delete** button to remove them from the installation.
- c. Use the instructions within the *Stratusphere Installation & Configuration Guide* to set up the Collector appliance(s) using the information from the screenshots taken that contain all the necessary IP addressing.
- 10. After the CID Keys have been upgraded to the 6.6.x version, those assigned to a particular Machine Group can be assigned to report back to a particular CID Collector Group. Each Collector then reports back to the newly migrated Hub.

The migration process is now complete.

Scenario 3: Migrating a Stratusphere Hub and a Database Appliance

In this scenario, you will move the data from a single 5.8.6 or higher Stratusphere Hub and Database appliance to a new 6.6.x Stratusphere Hub and Database appliance. Although the 5.8.6 or higher CID Keys continue to work with the 6.6.x Hub, these instructions also walk you through how to upgrade CID Keys from the older version to the new 6.6.x version. Similarly, the 5.8.6 or higher Network Stations continue to work and upload their network metrics to the new 6.6.x Hub. However, 5.8.6 or higher Network Stations cannot be upgraded in place to the 6.6.x version. Administrators can devise a phased plan to install new 6.6.x Collector appliances for collecting CID Key metrics and/or network metrics as part of the Stratusphere 6 Architecture.

Preparation for Migration

- 1. Download the latest version of the Stratusphere 6.6.x Hub and Database appliances from https://www.liquidware.com/download. Use the online Stratusphere Sizing Guide to size the appliances appropriately.
- 2. Get the credentials for the **ssconsole**, **friend**, and **root** users for the existing Stratusphere 5.8.6 or higher Hub appliance. The default password for these users is *sspassword*. Use PuTTY to test and validate if the passwords for these users still work prior to proceeding.
- 3. This document assumes that a valid DNS name is defined and configured within the Stratusphere 5.8.6 or higher Hub Web UI, which in turn is used by CID Keys to call back to the Stratusphere Hub. If this is the case, get new temporary static IP addresses for the new 6.6.x Hub and Database.
- 4. In order to temporarily configure the new Stratusphere Hub appliance with static IP addressing as well, provide the following information:
 - IP Address
 - Network Mask
 - Default Gateway IP Address
 - IPv6 Address
 - DNS Server Addresses
 - DNS Search Suffixes
 - NTP Servers
- 5. In order to temporarily configure the new Stratusphere Database appliance, provide the following information:
 - IP Address
 - Network Mask
 - Default Gateway IP Address
 - DNS Server Addresses
 - IPv6 Address
 - NTP Servers

6. Check if there are any upgrades or hot fixes available for the version of Stratusphere Hub you have downloaded and are migrating to. If there are, apply the upgrades or hot fixes BEFORE attempting the migration.

Migration Instructions

- 1. (Recommended best practice) Take a snapshot of the existing Hub and Database appliances for safety.
- 2. Before powering up your Stratusphere Hub & Database appliances, use the online Stratusphere Sizing Guide to properly size the new Stratusphere appliances. Based on the sizing guideline, edit settings of the Stratusphere appliances and provide the requisite resources for vCPUs, RAM, and storage for the Hub and Database.
- 3. If you do not have any Network Stations or Collectors deployed, jump to the next step. If older Network Stations or Collectors are deployed, complete the following sub-steps to get IP addressing and turn off each Network Station or Collector appliance:
 - a. Open the appliance consoles for each of the existing older Network Stations or Collectors. Press the Enter key within the console and log in to the console with the username ssconsole and the password sspassword.
 - b. Type N for the **Network Configuration** option and take a screenshot of the network configuration of the appliance so that it can be reused on the new 6.6.x version of Collectors.
 - c. Type Q to quit the **Network Configuration** wizard, then type S to shut down and power off the appliance.
- 4. Power down the existing Stratusphere 5.x Hub appliance to maintain data integrity and consistency by preventing it from receiving any new data from the CID Keys and Network Stations. The CID Keys and Network Stations then queue up their data onboard until the new Hub comes online.
- 5. On the new Stratusphere 6.6.x Database appliance, complete the following sub-steps:
 - a. Power on the new Stratusphere 6.6.x Database appliance.
 - b. Open a local console of the Stratusphere Database appliance and click into it. Follow the instructions in the *Stratusphere Installation & Configuration Guide* under the Using the Stratusphere Database Appliance > Configuring the Stratusphere Database Appliance. Stop configuring the appliance after that section and do not proceed to the Connecting the Hub and Database appliances section yet.

Note: Apply NTP settings on the console as these are <u>not</u> migrated from the older appliance.

- c. After the appliance is configured, the appliance console shows a status screen. Press the Enter key within the console and log in to the console with the username ssconsole and the password sspassword.
- d. Type M for the Migrate certs, settings, and data from remote appliance option.
- e. Follow the instructions to enter the IP address of the old 5.8.6 or higher Stratusphere Database. The console then tests to see if the default credentials for **friend** and **root** users can be used to connect to the remote 5.8.6 or higher Database. If not, it prompts you to enter the correct credentials.
- f. The new 6.6.x appliance proceeds to copy the network configuration, data, and certificate materials from the remote (older 5.8.6 or higher) Database to the local (new 6.6.x) Database and provides a running counter for data being copied in MB. When it has finished copying all the data, the data transfer counter stops and only the time counter keeps incrementing. This is expected as the local appliance database is creating new tables and indexes during this time. Wait until the Migration Wizard completes and prompts you to continue.
- g. After all information is migrated, the remote Database shuts down. Then the network configuration, data, and certificate materials are applied to the new 6.6.x Database.

After the process finishes, the appliance reboots itself.

- 6. As the Database appliance is rebooting, complete the following sub-steps on the new Stratusphere 6.6.x Hub appliance:
 - a. Power on the old 5.x Stratusphere Hub and the new Stratusphere 6.6.x Hub appliances.
 - b. Open a local console of the Stratusphere Hub appliance and click into it. Use instructions in the Stratusphere Installation & Configuration Guide under the Configuring Stratusphere Hub Appliance Settings > Using the Console UI section to set up the Hub appliance. Stop configuring the appliance after that section and do not proceed to joining the database just yet.

Note: Apply NTP settings on the console as these are <u>not</u> migrated from the older appliance.

- c. After the appliance is configured, the appliance console shows a status screen. Press the Enter key within the console and log in to the console with the username ssconsole and the password sspassword.
- d. Type M for the Migrate certs, settings, and data from remote appliance option.
- e. Follow the instructions to enter the IP address of the (old 5.8.6 or higher) Stratusphere Hub. The console then tests to see if the default credentials for **friend** and **root** users can be used to connect to the remote 5.8.6 or higher Hub. If not, it prompts you to enter the correct credentials.
- f. The new 6.6.x appliance proceeds to copy the network configuration, data, and certificate materials from the remote (older 5.8.6 or higher) Hub to the local (new 6.6.x) Hub and provides a running counter for data being copied in MB. When it has finished copying, the data transfer counter stops and only the time counter keeps incrementing. This is expected as the local appliance database is creating new tables and indexes during this time. Wait until the Migration Wizard completes and prompts you to continue.
- g. After all information is migrated, the remote Hub shuts down. Then the network configuration, data, and certificate materials are applied to the new 6.6.x Hub.

After the migration is completed, the appliance might reboot itself.

- 7. After the appliance reboots, wait for **at least 15 minutes** before using the same DNS name or IP address of the Hub to try to access the Stratusphere Web UI in your favorite browser.
- Take a screenshot of your login page and send it to Licensing@Liquidware.com to request an updated License Code and instructions to update your license. You have full access to Stratusphere for 21 days, after which access to the UI is restricted to the license page only. The CID Key and Network data collection will continue despite the restricted UI access.
- 9. Migrate and Upgrade CID Keys: Any currently deployed 5.8.6 or higher CID Keys continue to work and upload their data to the new Stratusphere 6.6.x Hub. To upgrade the CID Key to the 6.6.x version, complete the following sub-steps:

- a. Log in to the Administration section of the Web UI and navigate to the Hub Administration > Connector ID Keys > Connector ID Key Properties tab.
- b. Under the main Properties section, and for a selected Machine Group, enable the Automatically update Connector ID Keys when new software versions are installed in the Stratusphere Hub option.
- c. When the CID Keys call back at their callback frequencies, they recognize that there is an update available and download the new 6.6.x installer for the CID Key. The CID Keys are then able to update themselves to the latest version in session with no reboot required. To update any gold or master images, with CID Key built in, download the relevant CID Key installer from the **Connector ID Key Software** tab and update your master images as needed.
- 10. Migrate Network Stations and/or Collectors: Any currently deployed 5.8.6 or higher CID Keys continue to work and upload their data to the new Stratusphere 6.6.x Hub. However, Stratusphere introduced Collector Appliances starting with version 6.0. Based on the number of machines being monitored, the Stratusphere Sizing Guide might recommend installation of Collectors. To complete the installation, use instructions within the *Stratusphere Installation & Configuration Guide* to install the Collector appliances recommended by the Sizing Guide. If you do not have any Network Stations or Collectors can be managed and grouped according to function, location, and so on from the Stratusphere Hub Administration module by navigating to the Collector Administration > Collectors tab. If older Network Stations or Collectors are deployed, the administrator should make plans to replace 5.8.6 or higher Network Station appliances with 6.6.x Network Collector appliances in a phased manner. Complete the following sub-steps to begin:
 - a. Log in to the Administration section of the Stratusphere Web UI and navigate to the **Collector Administration > Collectors** tab.
 - b. Select the checkbox next to each old Network Stations or Collectors you want to migrate and click the **Delete** button to remove them from the installation.
 - c. Use the instructions within the *Stratusphere Installation & Configuration Guide* to set up the Collector appliances using the information from the screenshots taken that contain all the necessary IP addressing.
- After the CID Keys have been upgraded to the 6.6.x version, those assigned to a particular Machine Group can be assigned to report back to a particular CID Collector Group. Each Collector then reports back to the newly migrated Hub.

The migration process is now complete.

Scenario 4: Migrating Multiple Sets of Hub and Database Appliances

This scenario references environments with two or more sets of Stratusphere Hub and Database appliances installed. With its highly scalable architecture including Collector appliances, Stratusphere 6.x can be used to consolidate multiple older Hubs into a single Hub providing a true single pane of glass that supports monitoring of up to 20,000 machines calling back every 60 minutes.

In this scenario, you will consolidate and monitor all machines in a single set of Stratusphere 6.6.x Hub and Database appliances. To do this, complete the following steps:

- In Stratusphere 6.6.x, Liquidware can only support migrating data from a single Hub & Database set. It cannot consolidate historical data from multiple Hubs into a single 6.6.x Hub. So, Liquidware recommends selecting the set of Stratusphere Hub and Database appliances that have the most machines with CID Keys calling back to start the migration to a consolidated Hub. The historical data from this Hub is then migrated and made available for reporting.
- 2. The remaining sets of Hub and Database appliances that are not consolidated could still live on for reporting purposes. However, no new CID Key data should be uploading to these older historical Hubs.
- 3. Install new Stratusphere Collector appliances, organized by Collector Groups, to receive CID Key metrics to facilitate and support consolidated capability.
- 4. All CID Keys, regardless of which Hubs they were calling back to before, are migrated to the new 6.6.x consolidated Stratusphere Hub and Database. The 5.8.6 or higher CID Keys that were reporting to the other set of Hubs are then configured through a registry change to point to the new 6.6.x consolidated Hub. The 5.8.6 or higher CID Keys then call back to the new 6.6.x Hubs, register, and start uploading metrics to the 6.6.x Hub. After they are migrated, the 5.8.6 or higher CID Keys can be configured to upgrade to 6.6.x by selecting a checkbox under the Administration Web UI. If they are part of a master or gold image, they can be updated to the latest version using the 6.6.x installer within the Administration Web UI.
- 5. Existing Stratusphere 5.8.6 or higher Network Stations continue to call back to the consolidated 6.6.x Hub. Network Stations on the other set of 5.8.6 or higher Hubs must be replaced by new 6.6.x Network Collector appliances because Network Station appliances cannot be upgraded to 6.6.x Collector appliances.

Preparing for the Migration

- 1. Download a brand-new version of the Stratusphere 6.6.x Hub and Database appliances from https://www.liquidware.com/download.
- 2. Use the online Stratusphere Sizing Guide to size the appliances appropriately.
- 3. Get the credentials for the **ssconsole**, **friend**, and **root** users for the existing Stratusphere 5.8.6 or higher Hub appliances. The default password for these users is *sspassword*. Use PuTTY to test and validate if the passwords for each user still work prior to proceeding.
- 4. This document assumes that a valid DNS name is defined and configured within the Stratusphere 5.8.6 or higher Hub Web UI, which in turn is used by CID Keys to call back to the Stratusphere Hub. If this is the case, acquire new temporary static IP addresses for the new 6.6.x Hub and Database.
- 5. In order to temporarily configure the new Stratusphere Hub appliance, provide the following information:
 - IP Address
 - Network Mask
 - Default Gateway IP Address
 - IPv6 Address
 - DNS Server Addresses
 - DNS Search Suffixes
 - NTP Servers
- 6. In order to temporarily configure the new Stratusphere Database appliance, provide the following information:
 - IP Address
 - Network Mask
 - Default Gateway IP Address
 - DNS Server Addresses

- IPv6 Address
- NTP Servers
- 7. Provide the following information for each new Stratusphere Collector appliance:
 - Host Name
 - IP Address
 - Network Mask
 - Default Gateway IP Address
 - DNS Server Addresses
 - IPv6 Address
 - NTP Servers
- 8. Check if there are any upgrades or hot fixes available for the version of Stratusphere Hub you have downloaded and are migrating to. <u>If there are, apply the upgrades or hot fixes</u> <u>BEFORE attempting the migration</u>.
- 9. Use your tool of choice to to push a registry key to all the CID Keys that report to the set of Stratusphere Hub and Database appliances that are not going to be consolidated into the 6.6.x Hub. Liquidware recommends using its product, ProfileUnity, to accomplish this task. After the registry key is updated with the DNS address of the consolidated 6.6.x Hub, the CID Keys are then able to register themselves with the new 6.6.x consolidated Hub

Migration Instructions

- 1. (Recommended best practice) Take a snapshot of the existing Hub and Database appliances for safety.
- 2. Before powering up your Stratusphere Hub & Database appliances, use the online Stratusphere Sizing Guide to properly size the new Stratusphere appliances. Based on the sizing guideline, edit settings of the Stratusphere appliances and provide the requisite resources for vCPUs, RAM, and storage for the Hub and Database.
- If you do not have any Network Stations or Collectors deployed, jump to the next step. If older Network Stations or Collectors are deployed, complete the following sub-steps to get IP addressing and turn off each Network Station or Collector appliance:

- a. Open the appliance consoles for each of the existing older Network Stations or Collectors. Press the Enter key within the console and log in to the console with the username ssconsole and the password sspassword.
- b. Type N for the **Network Configuration** option and take a screenshot of the network configuration of the appliance so that it can be reused on the new 6.6.x version of Collectors.
- c. Type \circ to quit the Network Configuration wizard, then type s to shut down and power off the appliance.
- 4. Power down the existing Stratusphere 5.x Hub appliance to maintain data integrity and consistency by preventing it from receiving any new data from the CID Keys and Network Stations. The CID Keys and Network Stations then queue up their data onboard until the new Hub comes online.
- 5. Complete the following sub-steps on the new Stratusphere 6.6.x Database appliance:
 - a. Power on the new Stratusphere 6.6.x Database Appliance.
 - b. Open a local console of the Stratusphere Database appliance and click into it. Use instructions in the Stratusphere Installation & Configuration Guide under the Using the Stratusphere Database Appliance > Configuring the Stratusphere Database Appliance appliance. Stop configuring the appliance after that section and do not proceed to the Connecting the Hub and Database appliances section yet.

Note: Apply NTP settings on the console as these are <u>not</u> migrated from the older appliance.

- c. After the appliance is configured, the appliance console shows a status screen. Press the Enter key within the console and log in to the console with the username ssconsole and the password sspassword.
- d. Type M for the Migrate certs, settings, and data from remote appliance option.
- e. Follow the instructions to enter the IP Address of the old 5.x Stratusphere Database. The console then tests to see if the default credentials for **friend** and **root** users can be used to connect to the remote 5.x Database. If not, it prompts you to enter the correct credentials.

- f. The new 6.6.x appliance proceeds to copy the network configuration, data, and certificate materials from the remote (older 5.x) Database to the local (new 6.6.x) Database and provides a running counter for data being copied in MB.
- g. When it has finished copying all the data, the data transfer counter stops and only the time counter keeps incrementing. This is expected as the local appliance database is creating new tables and indexes during this time. Wait until the Migration Wizard completes and prompts you to continue.
- h. After all information is migrated, the remote Database shuts down. Then the network configuration, data, and certificate materials are applied to the new 6.6.x Database.

After the migration is complete, the appliance might reboot itself.

- 6. As the new Database appliance is rebooting, complete the following sub-steps on the new Stratusphere 6.6.x Hub appliance:
 - a. Power on the old Stratusphere 5.x Hub and the new Stratusphere 6.6.x Hub appliances.
 - b. Open a local console of the Stratusphere Hub appliance and click into it. Use instructions in the Stratusphere Installation & Configuration Guide under the Configuring Stratusphere Hub Appliance Settings > Using the Console UI section to set up the Hub appliance. Stop configuring the appliance after that section and do not proceed to joining the database just yet.

Note: Apply NTP settings on the console as these are <u>not</u> migrated from the older appliance.

- c. After the appliance is configured, the appliance console shows a status screen. Press the Enter key within the console and log in to the console with the username ssconsole and the password sspassword.
- d. Type M for the Migrate certs, settings, and data from remote appliance option.
- e. Follow the instructions to enter the IP address of the old 5.8.6 or higher Stratusphere Hub that has been selected to be migrated to 6.6.x and the one that will serve as the consolidated 6.6.x Hub.

- f. The console then tests to see if the default credentials for **friend** and **root** users can be used to connect to the remote 5.8.6 or higher Hub. If not, it prompts you to enter the correct credentials.
- g. The new 6.6.x appliance then proceeds to copy the network configuration, data, and certificate materials from the remote (older 5.8.6 or higher) Hub to the local (new 6.6.x) Hub and provides a running counter for data being copied in MB.
- h. When it has finished copying all the data, the data transfer counter stops and only the time counter keeps incrementing. This is expected as the local appliance database is creating new tables and indexes during this time. Wait until the Migration Wizard completes and prompts you to continue.
- i. After all information is migrated, the remote Hub shuts down and then the network configuration, data, and certificate materials are applied to the new 6.6.x Hub.

After the migration is completed, the appliance might reboot itself.

- 7. After the appliance reboots, wait for **at least 15 minutes** before using the same DNS name or IP address of the Hub to try to access the Stratusphere Web UI in your favorite browser.
- 8. Take a screenshot of your login page and send it to Licensing@Liquidware.com to request an updated License Code and instructions to update your license. You have full access to Stratusphere for 21 days, after which access to the UI is restricted to the license page only. The CID Key and Network data collection will continue despite the restricted UI access.
- 9. **Migrate and Upgrade CID Keys**: Any currently deployed 5.8.6 or higher CID Keys will continue to work and upload their data to the new Stratusphere 6.6.x Hub. To upgrade the CID Key to the 6.6.x version, complete the following sub-steps:
 - a. Log in to the Administration section of the Web UI and navigate to the Hub Administration > Connector ID Keys > Connector ID Key Properties tab.
 - b. Under the main **Properties** section, and for a selected Machine Group, enable the **Automatically update Connector ID Keys when new software versions are installed in the Stratusphere Hub** option.
 - c. When the CID Keys call back at their callback frequencies, they recognize that there is an update available and download the new 6.6.x installer for the CID Key. The CID Keys are then able to update themselves to the latest version in session with no reboot required. To update any gold or master images, with CID Key built in,

download the relevant CID Key installer from the **Connector ID Key Software** tab and update your master images as needed.

- 10. Migrate Network Stations and/or Collectors: Any currently deployed 5.8.6 or higher CID Keys continue to work and upload their data to the new Stratusphere 6.6.x Hub. However, Stratusphere introduced Collector Appliances starting with version 6.0. Based on the number of machines being monitored, the Stratusphere Sizing Guide might recommend installation of Collectors. To complete the installation, follow the instructions within the *Stratusphere Installation & Configuration Guide* to install the Collector appliances recommended by the Stratusphere Sizing Guide. If you do not have any Network Stations or Collectors can be managed and grouped according to function, location, and so on from the Stratusphere Hub Administration module by navigating to the Collector Administration > Collectors tab. If older Network Stations or Collectors are deployed, the administrator should replace 5.8.6 or higher Network Station appliances with 6.6.x Network Collector appliances in a phased manner. Complete the following sub-steps to begin:
 - a. Log in to the Administration section of the Stratusphere Web UI and navigate to the **Collector Administration > Collectors** tab.
 - b. Select the checkbox next to each old Network Stations or Collectors you want to migrate and click the **Delete** button to remove them from the installation.
 - c. Use the instructions within the *Stratusphere Installation & Configuration Guide* to set up the Collector appliances using the information from the screenshots taken that contain all the necessary IP addressing.
- After the CID Keys have been upgraded to the 6.6.x version, those assigned to a particular Machine Group can be assigned to report back to a particular CID Collector Group. Each Collector then reports back to the newly migrated Hub.
- 12. All other CID Keys that were reporting to other Hubs should now be migrated to the consolidated 6.6.x Hub. Use any mechanism, including PSTools, to push out a new registry key to the machines that run the CID Keys reporting to other Hubs. Refer to the knowledge base article entitled Can I reassign the Connector ID Key on a desktop to report to a new HUB or HUB Address? for further information on how to push a registry key to migrate the CID Key from one Hub to another Hub. All of these migrated CID Keys start calling to the consolidated Hub and can then be upgraded over time to the 6.6.x version.
- 13. If data from the older, non-consolidated set of Hubs and Database appliances is no longer required, the appliances should be shut down and their resources reused for new virtual machines.

The migration process is now complete.

Migrating Cloud-Based Appliances

Note: These instructions are meant for Administrators that have knowledge and experience working with Cloud environments, IT infrastructure such as DNS, and Linux operating systems.

If your current Stratusphere installation is a Stratusphere Cloud appliance version, such as Amazon Web Services or Microsoft Azure, this section provides instructions for a Cloud Platform Administrator to migrate your installation for the following scenarios:

- A single Stratusphere Hub appliance (that is, one with no separate Stratusphere Database appliance)
- A Stratusphere Hub and a Database appliance

In addition, this section provides instructions on how to migrate and upgrade the CID Keys that have been deployed as well as how to migrate the Collectors that have been deployed.

Stratusphere Cloud appliances can be migrated to newer versions of appliances using the processes as on-premises appliances with slight changes before and after migration. There are some differences in what can be migrated within Cloud environments compared to onpremises appliances.

Differences Between On-Premises and Cloud Appliance Migrations

The following are the key differences between on-premises and cloud appliance migrations:

- Cloud platforms mostly advocate using SSH Key pairs as the default mechanism to
 provide secure access to computing environments when accessing Linux-based consoles. The Stratusphere Migration Wizard still uses password-based mechanism to connect and migrate settings, configurations, certificates, and database information. Each
 Cloud platform appliance has a script that can temporarily enable password-based
 authentication on appliances that have disabled password-based authentication and use
 only SSH Key pairs. If your Stratusphere Cloud appliances use SSH Key pairs only, these
 scripts must be downloaded and executed before beginning a migration to temporarily
 enable password-based authentication and <u>after</u> the migration to disable passwordbased authentication.
- All Stratusphere Cloud appliances are assigned pre-created IP addresses automatically. So, the following network configuration items are not migrated from the old appliance to the new appliance:

- Hostname
- IP address
- Network mask
- Default Gateway IP address
- DNS servers
- NTP servers
- Administrators must update DNS entries of their Hub and CID Key Callback addresses to point to the new appliance IP addresses manually.
- Browser based SSL certificates might need to be redone since the Hub appliance now has a different host name and IP address.

Supported Migrations

Platform	Migrate From Version	Migrate to Version
AWS	6.1.3 and higher	6.6.x
Azure	6.1.4 and higher	6.6.x

Scenario 1: Migrating a Single Stratusphere Hub Appliance

In this scenario, you will move data from a 6.1.x or higher Stratusphere Hub appliance into a new 6.6.x Stratusphere Hub appliance and update the Connector ID Key agents to the 6.6.x versions as well.

Preparation for Migration

- Create a new instance of the Stratusphere 6.6.x Hub appliances from the Marketplace of the cloud platform of your preference. Use the online Stratusphere Sizing Guide to size them appropriately. Depending on your Cloud platform, use the instructions in the Stratusphere Installation & Configuration Guide within the Installing Stratusphere Appliances on Microsoft Azure or Installing Stratusphere Appliances on Amazon Web Services sections.
- 2. Get the credentials for the users for the existing Stratusphere 6.1.x or higher Hub appliance, then check that the credentials for the user still work prior to proceeding.

- Azure: az-user or azureuser
- AWS: ec2-user
- If you are using SSH Key Pairs to connect to instances of Liquidware appliances on AWS and Azure, Liquidware strongly recommends using Microsoft Windows 10 Command Prompt as the SSH client.
- 4. These instructions are for Administrators and assume that a valid DNS name is defined and configured within the Stratusphere 6.1.x or higher Hub Web UI, which in turn is used by CID Keys to call back to the Stratusphere Hub. If this is the case, get the necessary permissions to associate a new IP with these DNS entries with the new 6.6.x Hub's new static IP address.
- 5. Check if there are any upgrades or hot fixes available for the version of Stratusphere Hub you have downloaded and are migrating to. *If there are, apply the upgrades or hot fixes* before attempting the migration.

Migration Instructions

- 1. (Recommended best practice) Take a snapshot of the existing Hub appliances for safety.
- If you <u>do not</u> have any Collectors deployed, jump to the next step. If older Collectors are deployed, complete the following sub-steps to get DNS/IP addressing and turn off the appliance:
 - a. Open an SSH connection using Microsoft Windows 10 Command Prompt as an SSH client to the Collector appliance consoles for each of the existing older Collectors. Enter the following command at the prompt to connect to your appliance using the relevant user's credentials and SSH Key pairs (Azure: az-user, azureuser; AWS: ec2-user).

```
ssh -i <path-to-private-key> username@ip.or.dns.addr
```

b. After you have logged in, enter the following command to launch the Liquidware Labs Hub Appliance menu:

sudo lwl

c. Type N for the **Network Configuration** option and make a note of the DNS resolvable Hostname assigned to each Collector. This DNS entry needs to point to the IP address of the new 6.6.x version of Collector appliances after the migration.

- d. Type Q to quit the Network Configuration wizard and then type S to shut down and power off the appliance.
- 3. Use the online Stratusphere Sizing Guide to properly size the new Stratusphere 6.6.x Hub appliance. Based on the sizing guideline, provide the recommended resources for vCPUs, RAM, and storage for the Hub.
- 4. On the new Stratusphere 6.6.x Hub appliance, complete the following sub-steps:
 - a. Power on the new Stratusphere 6.6.x Hub appliance.
 - b. After it powers on, determine the IP address of the appliance from your Cloud Instance page.
 - c. Open an SSH connection to the appliance console. Use Microsoft Windows 10 Command Prompt to SSH into your appliance using the relevant user's credentials and SSH Key pairs (Azure: **az-user**, **azureuser** or AWS: **ec2-user**) using the following command on the Windows Command Prompt:

ssh -i <path-to-private-key> username@ip.or.dns.addr

- 5. If Password-based Authentication is enabled on your <u>old and new</u> Hub appliances, log in to the new Hub appliance using your preferred SSH client and jump to the next step. However, if any one of the appliances involved in the migration, old or new, was created using SSH Key pairs, then there is a preparatory step at the beginning of a migration and then another step at the end that must be performed on the appliance where passwordbased authentication is disabled. On each of those old and new Hub appliances, complete the following sub-steps:
 - a. Before performing any migrations, open the consoles to the <u>old and new</u> Stratusphere Hub appliances. Log in to each of the consoles with Microsoft Windows 10 Command Prompt as an SSH Client using the SSH Key pairs credentials for the user account it was created with (Azure: **az-user**, **azureuser** or AWS: **ec2-user**) using the following command:

ssh -i <path-to-private-key> username@ip.or.dns.addr

b. Execute the following commands to download the migrate script using the wget command and give it permission to be executable:

```
sudo wget https://cdn.liquidware.com/6.6.0/migrate.sh
sudo chmod 755 migrate.sh
sudo bash migrate.sh -pre
```

Note: If the appliance is isolated from the Internet, download the relevant migrate script from a machine that has access to the Internet, and then use an SCP client to copy the script to the home folder of the user account (Azure: **az-user**, **azureuser** or AWS: **ec2-user**) on the Hub appliance.

- c. On executing the script, it checks if it is running on the right platform and whether it can acquire the settings to check if password-based authentication is enabled or not. If it is enabled, the script exits immediately, and you can continue the migration steps below. If password-based authentication is disabled, it then acquires the current Admin Username automatically or uses the platform defaults (Azure: az-user, azureuser; AWS: ec2-user), temporarily enables password-based authentication on the appliance, and sets the password to sspassword.
- 6. On the command line prompt, use the following command to launch the Liquidware Labs Hub Appliance menu:

sudo lwl

- 7. Enter M for the Migrate certs, settings, and data from remote appliance option.
 - a. Follow the instructions to enter the IP address of the old 6.1.x or higher Stratusphere Hub. It then tests to see if the default credentials for Azure (az-user, azureuser) or AWS (ec2-user) and root users can be used to connect to the remote 6.1.x or higher Hub. If not, it prompts you to enter the correct credentials.
 - b. The new 6.6.x appliance then proceeds to copy the data and certificate materials from the remote (older 6.1.x or higher) Hub to the local (new 6.6.x) Hub. It provides a running counter for data being copied in MB. When it has finished copying all the data from the remote (older 6.1.3 or higher) appliance, the data transfer counter stops and only the time counter keeps incrementing. This is expected as the local appliance database is creating new tables and indexes during this time. Wait until the Migration Wizard completes. After all information is migrated, the remote Hub shuts down and the network configuration, data, and certificate materials are applied to the new 6.6.x Hub. After that is complete, the appliance reboots itself.
- 8. If **Password-based Authentication** is enabled on your <u>old and new</u> Hub appliances, jump to the next step. However, if any one of the appliances involved in the migration, old or new, was created using **SSH Key pairs**, you have to perform an additional step at the end of the process: you must disable password-based authentication again. To disable password-based authentication on each of the old and new Hub appliances,

complete the following sub-steps:

- a. After performing any migrations, open the consoles to the <u>old and new</u> Stratusphere Hub appliances.
- b. Log in to each of the consoles with Microsoft Windows 10 Command Prompt as an SSH Client using the SSH Key pairs credentials for the user account it was created with (Azure: **az-user**, **azureuser**; AWS: **ec2-user**) using the following command:

```
ssh -i <path-to-private-key> username@ip.or.dns.addr
```

Note: The old appliance might have to be powered on again as it was automatically shut down after completing the migration. After the command below is executed on the old appliance as well, it must be shut down again.

c. Execute the following command:

sudo bash migrate.sh -post

- d. On executing the script, it checks if it is running on the right platform and whether it can acquire the settings to check if password-based authentication is enabled or not. If it is enabled, the script exits immediately, and you can continue the migration steps below. If password-based authentication was temporarily disabled, it then acquires the current Admin Username automatically or uses the defaults (Azure: az-user, azureuser; AWS: ec2-user) and disables password-based authentication on the appliance. From that point on, only SSH Key pairs can be used to access the console of these appliances.
- 9. Regarding DNS, depending on your Cloud platform, complete the following sub-steps:
 - a. Update the DNS entry of the Hub and Connector ID Key Callback address to point to the IP address of the new 6.6.x Hub.
 - b. Disassociate the DNS resource from the old IP address of the old Hub and update the DNS entry associated with the new 6.6.x Hub.
 - c. After it is updated, allow some time for the DNS propagation to take effect.
- 10. Wait for **at least 15 minutes** before using the same DNS name or IP address of the Hub to try to access the Stratusphere Web UI in your favorite browser. When the login page becomes available, verify that it displays 6.6.x in the blue ribbon at the bottom of the web page to confirm the migration to the new version.
- 11. If using a BYOL License, the login page displays a message telling you that because the underlying appliance has been changed, you need a new license. Take a screenshot of your page and send it to Licensing@Liquidware.com to request an updated License Code and instructions to update your license. You have full access to Stratusphere for 21 days, after which access to the UI is restricted to the license page only. The CID Key data collection continues despite the restricted UI access.
- 12. **Migrate & Upgrade CID Keys**: Any currently deployed 6.1.x or higher CID Keys continue to work and upload their data to the new Stratusphere 6.6.x Hub. To upgrade the CID Key to the 6.6.x version, complete the following steps:
 - a. Log in to the Administration section of the Web UI and navigate to the Hub Administration > Connector ID Keys > Connector ID Key Properties tab.
 - b. Under the main Properties section, and for a selected Machine Group, enable the Automatically update Connector ID Keys when new software versions are installed in the Stratusphere Hub option.
 - c. When the CID Keys call back at their callback frequencies, they recognize that there is an update available and download the new 6.6.x installer for the CID Key. The CID Keys are then able to update themselves to the latest version in session with no reboot required. To update any gold or master images, with CID Key built in, download the relevant CID Key installer from the **Connector ID Key Software** tab and update your master images as needed.
- 13. **Migrate Collectors**: If you <u>do not</u> have any Collectors deployed, jump to the next step. If older Collectors are deployed, the administrator should replace 6.1.x or higher Collector appliances with 6.6.x Collector appliances in a phased manner. Complete the following sub-steps to begin:
 - a. Log in to the Administration section of the Stratusphere Web UI and navigate to the Collector Administration > Collectors tab.
 - b. Make a note of which Collector Group each Collector belongs to, then select the checkbox next to each old Collector you want to migrate and click the **Delete** button to remove them from the installation.
 - c. Use the instructions within the *Stratusphere Installation & Configuration Guide* to set up the new Collector appliances on your Cloud platform.
 - d. To ensure existing CID Keys deployed continue calling back, make sure the DNS resolvable Hostnames of the old Collectors are pointed to the IP address of the new 6.6.x Collectors.

14. After the CID Keys have been upgraded to the 6.6.x version, those assigned to a particular Machine Group can be assigned to report back to a particular CID Collector Group.

The migration process is now complete.

Scenario 2: Migrating a Stratusphere Hub and a Database Appliance

In this scenario, the instructions will walk you through moving the data from a single 6.1.3 or higher Stratusphere Hub and Database appliance to a new 6.6.x Stratusphere Hub and Database appliance. Although the 6.1.x or higher CID Keys continue to work with the 6.6.x Hub, these instructions will also walk you through how to upgrade CID Keys from the older version to the new 6.6.x version. Similarly, the 6.1.x or higher Collectors continue to work and insert their data into the Stratusphere Database. However, 6.1.x or higher Collectors cannot be upgraded in place to the 6.6.x version. Administrators can devise a phased plan to install new 6.6.x Collector appliances for collecting CID Key metrics as part of the Stratusphere 6 Architecture.

Preparation for Migration

- Create a new instance of the Stratusphere 6.6.x Hub and Database appliances from the Marketplace of the cloud platform of your preference. Use the online Stratusphere Sizing Guide to size them appropriately. Depending on your Cloud platform, use the instructions in the Stratusphere Installation & Configuration Guide within the Installing Stratusphere Appliances on Microsoft Azure or Installing Stratusphere Appliances on Amazon Web Services sections.
- 2. Get the credentials for the users for the existing Stratusphere 6.1.x or higher Hub appliance, then check that the credentials for the user still work prior to proceeding.
 - Azure: az-user or azureuser
 - AWS: ec2-user
- If you are using SSH Key Pairs to connect to instances of Liquidware appliances on AWS and Azure, Liquidware strongly recommends using Microsoft Windows 10 Command Prompts as the SSH client
- 4. These instructions are for Administrators and assume that a valid DNS name is defined and configured within the Stratusphere 6.1.x or higher Hub Web UI, which in turn is used by CID Keys to call back to the Stratusphere Hub. If this is the case, get the necessary permissions to associate a new IP with these DNS entries with the new 6.6.x Hub's new static IP address.

5. Check if there are any upgrades or hot fixes available for the version of Stratusphere Hub you have downloaded and are migrating to. *If there are, apply the upgrades or hot fixes* before attempting the migration.

Migration Instructions

- 1. (Recommended best practice) Take a snapshot of the existing Hub appliances for safety.
- If you <u>do not</u> have any Collectors deployed, jump to the next step. If older Collectors are deployed, complete the following sub-steps to get IP addressing and turn off the appliance:
 - a. Open an SSH connection using Microsoft Windows 10 Command Prompt as an SSH client to the Collector appliance consoles for each of the existing older Collectors. Enter the following command at the prompt to connect to your appliance using the relevant user's credentials and SSH Key pairs (Azure: az-user, azureuser; AWS: ec2-user).

```
ssh -i <path-to-private-key> username@ip.or.dns.addr
```

b. After you have logged in, enter the following command to launch the Liquidware Labs Hub Appliance menu:

sudo lwl

- c. Type N for the **Network Configuration** option and make a note of the DNS resolvable Hostname assigned to each Collector. This DNS entry needs to point to the IP address of the new 6.6.x version of Collector appliances after the migration.
- d. Type Q to quit the **Network Configuration** wizard and then type S to shut down and power off the appliance.
- 3. Use the online Stratusphere Sizing Guide to properly size the new Stratusphere appliances. Based on the sizing guideline, provide the recommended resources for vCPUs, RAM, and storage for the Hub and Database.
- 4. Power down the old/existing Stratusphere 6.1.x Hub appliance to maintain data integrity and consistency. This prevents the Hub from receiving any new data from the CID Keys. The CID Keys then queue up their data onboard until the new Hub comes online.
- 5. On the new Stratusphere 6.6.x Database appliance, complete the following sub-steps:
 - a. Power on the new Stratusphere 6.6.x Database appliance, then determine the IP address of the appliance from your Cloud Instance page and prepare to use SSH to

that address.

b. Open an SSH connection to the appliance console using Microsoft Windows 10 Command Prompt to SSH into your appliance. Enter the following command at the prompt to connect to your appliance using the relevant user's credentials and SSH Key pairs (Azure: az-user, azureuser; AWS: ec2-user):

ssh -i <path-to-private-key> username@ip.or.dns.addr

- 6. If **Password-based Authentication** is enabled on both <u>old and new</u> Database appliances, jump to the next step. However, if any one of the appliances involved in the migration, old or new, was created using **SSH Key pairs**, you have to perform an additional step at the beginning and another one at the end of the migration process on appliances where password-based authentication is disabled. To enable password-based authentication on each of the old and new Database appliances, complete the following sub-steps:
 - a. Before performing any migrations, open the consoles to the <u>old and new</u> Stratusphere Database appliance.
 - b. Log in to each of the consoles with Microsoft Windows 10 Command Prompt as an SSH Client. Enter the following command at the prompt to connect to your appliance using the relevant user's credentials and SSH Key pairs (Azure: az-user, azureuser; AWS: ec2-user).

ssh -i <path-to-private-key> username@ip.or.dns.addr

c. Execute the following commands to download the migrate script using the wget command and give it permission to be executable:

```
sudo wget https://cdn.liquidware.com/6.6.0/migrate.sh
sudo chmod 755 migrate.sh
sudo bash migrate.sh -pre
```

Note: If the appliance is isolated from the Internet, download the relevant migration script from a machine that has access to the Internet, and then use an SCP client to copy the script to the home folder of the user account (Azure: **az-user**, **azureuser**; AWS: **ec2-user**) on the appliance.

d. On executing the script, it checks if it is running on the right platform and whether it can acquire the settings to check if password-based authentication is enabled or not. If it is enabled, the script exits immediately, and you can continue the migration

steps below. If password-based authentication is disabled, it then acquires the current Admin Username automatically or uses the platform defaults (Azure: **az-user**, **azureuser**; AWS: **ec2-user**), temporarily enables password-based authentication on the appliance, and sets the password to sspassword.

7. On the command prompt, run the following command to launch the **Liquidware Labs Database Appliance** menu:

sudo lwl

8. Use the instructions in the *Stratusphere Installation & Configuration Guide* under the **Configuring the Stratusphere Database Appliance** section to set up the appliance. Stop configuring the appliance after that section and <u>do not</u> proceed to the next section.

Note: Apply DNS and NTPS settings only. Other network configuration settings—such as host name and IP address, network mask, and default gateway settings—are assigned to the appliance and should not be changed within the console.

- 9. Type M for the Migrate certs, settings, and data from remote appliance option.
 - a. Follow the instructions to enter the IP address of the old 6.1.x or higher Stratusphere Database. It then tests to see if the default credentials for az-user, azureuser, or ec2-user and root users can be used to connect to the remote 6.1.x or higher Database. If not, it prompts you to enter the correct credentials for those users.
 - b. The new 6.6.x appliance then proceeds to copy the data and certificate materials from the remote (older 6.1.x or higher) Database to the local (new 6.6.x) Database. It provides a running counter for data being copied in MB. When it has finished copying all the data from the remote (older 6.1.x or higher) appliance, the data transfer counter stops and only the time counter keeps incrementing. This is expected as the local appliance database is creating new tables and indexes during this time. Wait until the Migration Wizard completes and prompts you to continue. After all information is migrated, the remote Database shuts down and the network configuration, data, and certificate materials are applied to the new 6.6.x Database. After the process completes, the appliance reboots itself.
- 10. As the Database appliance is rebooting, on the new Stratusphere 6.6.x Hub appliance, complete the following sub-steps:

- a. Power on the new Stratusphere 6.6.x Hub appliance. After it powers on, determine the IP address of the appliance from your Cloud Instance page and prepare to use SSH to that address.
- b. Open an SSH connection to the appliance console. Use Microsoft Windows 10 Command Prompt to SSH into your appliance using the relevant user's credentials and SSH Key pairs (Azure: az-user, azureuser; AWS: ec2-user). Enter the following command on the Windows Command Prompt:

```
ssh -i <path-to-private-key> username@ip.or.dns.addr
```

- 11. If **Password-based Authentication** is enabled on both old and new Hub appliances, log in to the new Hub appliance using your preferred SSH client and jump to the next step. However, if any one of the appliances involved in the migration, old or new, was created using SSH Key pairs, then there is a preparatory step at the very beginning of a migration and then another step at the very end after completing migration that must be performed on the appliance where password-based authentication is disabled. On each of those old and new Hub appliances:
 - a. Before performing any migrations, open the consoles to the <u>old and new</u> Stratusphere Hub appliance. Log in to each of the consoles with Microsoft Windows 10 Command Prompt as an SSH Client using the **SSH Key pairs** credentials for the user account it was created with (Azure: **az-user**, **azureuser**; AWS: **ec2-user**) using the following command:

```
ssh -i <path-to-private-key> username@ip.or.dns.addr
```

b. Execute the following command:

```
sudo wget https://cdn.liquidware.com/6.6.0/migrate.sh
sudo chmod 755 migrate.sh
sudo bash migrate.sh -pre
```

Note: If the appliance is isolated from the Internet, download the relevant migrate script from a machine that has access to the Internet, and then use an SCP client to copy the script to the home folder of the user account (Azure: **az-user**, **azureuser**; AWS: **ec2-user**) on the Hub appliance.

c. On executing the script, it checks if it is running on the right platform and whether it can acquire the settings to check if password-based authentication is enabled or

not. If it is enabled, the script exits immediately, and you can continue the migration steps below. If password-based authentication is disabled, it then acquires the current Admin Username automatically or uses the platform defaults (Azure: **az-user**, **azureuser**; AWS: **ec2-user**), temporarily enables password-based authentication on the appliance, and sets the password to sspassword.

12. On the command line prompt, use the following command to launch the Liquidware Labs Hub Appliance menu:

sudo lwl

- 13. Type M for the Migrate certs, settings, and data from remote appliance option.
 - a. Follow the instructions to enter the IP address of the old 6.1.x or higher Stratusphere Hub. It then tests to see if the default credentials for Azure (az-user, azureuser) or AWS (ec2-user) and root users can be used to connect to the remote 6.1.x or higher Hub. If not, it prompts you to enter the correct credentials.
 - b. The new 6.6.x appliance then proceeds to copy the data and certificate materials from the remote (older 6.1.x or higher) Hub to the local (new 6.6.x) Hub. It provides a running counter for data being copied in MB. When it has finished copying all the data from the remote (older 6.1.x or higher) appliance, the data transfer counter stops and only the time counter keeps incrementing. This is expected as the local appliance database is creating new tables and indexes during this time. Wait until the Migration Wizard completes. After all information is migrated, the remote Hub shuts down and the network configuration, data, and certificate materials is applied to the new 6.6.x Hub. After that is complete, the appliance reboots itself.
- 14. You have now migrated settings, data and certificates for each Hub and Database appliance. Before you can join the Hub and Database to talk to each other, you still need to establish trust between the Hub and Database appliances. Refer to the instructions in the *Stratusphere Installation & Configuration Guide* under the following sections:
 - **Amazon Web Services**: Installing Stratusphere Appliances on Amazon Web Services > Establish Trust Between Stratusphere Hub and Database
 - **Microsoft Azure**: Installing Stratusphere Appliances on Microsoft Azure > Establish trust between Stratusphere Hub and Database
- 15. After you have established trust between the Hub and Database appliances, you can join the Database to the Hub. Return to the new Stratusphere 6.6.x Database appliance console and complete the following sub-steps:

a. Open an SSH connection to the appliance console. Use Microsoft Windows 10 Command Prompt as an SSH Client to connect to your appliance using the relevant user's credentials and SSH Key pairs (Azure: az-user, azureuser; AWS: ec2-user) with the following command:

```
ssh -i <path-to-private-key> username@ip.or.dns.addr
```

b. On the command prompt, run the following command to launch the **Liquidware** Labs Database Appliance menu:

sudo lwl

- c. Type D for the Database Appliance Utilities option.
- d. Type J for the Join this Database to a Hub option.
- e. Follow the instructions of the wizard to provide all the information it needs to join the new Database appliance to the new Hub appliance.
- f. After it has joined, the appliances might reboot. Wait for **15 minutes** before using the same DNS name or IP address of the Hub to access the Stratusphere Web UI.
- 16. If **Password-based Authentication** was enabled on your <u>old and new</u> Hub and Database appliances, jump to the next step. However, if any one of the appliances involved in the migration, old or new, was created using **SSH Key pairs**, then there is a step at the very end after completing migration that must be performed on the appliance where password-based authentication was temporarily disabled. On each of those old and new Hub and Database appliances, complete the following sub-steps:
 - a. Open an SSH session to the consoles of the old AND new Stratusphere Hub and Database appliances. Log in to each of the consoles with Microsoft Windows 10 Command Prompt as an SSH Client using the SSH Key pairs credentials for the user account it was created with (Azure: az-user, azureuser; AWS: ec2-user) using the following command:

```
ssh -i <path-to-private-key> username@ip.or.dns.addr
```

Note: The old appliances might have to be powered on again as they were automatically shut down after completing the migration. After the command below is executed on the old appliances as well, all the old appliances must be shut down again.

b. Execute the following command:

sudo bash migrate.sh -post

- c. On executing the script, it checks if it is running on the right platform and whether it can acquire the settings to check if password-based authentication is enabled or not. If it is enabled, the script exits immediately, and you can continue the migration steps below. If password-based authentication was temporarily enabled, it then acquires the current Admin Username automatically or uses the platform defaults (Azure: az-user, azureuser; AWS: ec2-user), and disables password-based authentication on the appliance. From that point on, only SSH Key pairs can be used to access the console of these appliances.
- 17. Regarding DNS, depending on your Cloud platform, complete the following sub-steps:
 - a. Update the DNS entry of the Hub and Connector ID Key Callback address to point to the IP address of the new 6.6.x Hub.
 - b. Disassociate the DNS resource from the old IP address of the old Hub and update the DNS entry associated with the new 6.6.x Hub.
 - c. After it is updated, allow some time for the DNS propagation to take effect.
- 18. Wait for **at least 15 minutes** before using the same DNS name or IP address of the Hub to try to access the Stratusphere Web UI in your preferred browser.
- 19. The login page displays a message telling you that because the underlying appliance has been changed, you need a new license. Take a screenshot of your page and send it to Licensing@Liquidware.com to request an updated License Code and instructions to update your license. You have full access to Stratusphere for 21 days, after which access to the UI is restricted to the license page only. The CID Key and Network data collection continues despite the restricted UI access.
- 20. **Migrate & Upgrade CID Keys**: Any currently deployed 6.1.x or higher CID Keys continue to work and upload their data to the new Stratusphere 6.6.x Hub. To upgrade the CID Key to the 6.6.x version, follow the instructions below:
 - a. Log in to the Administration section of the Web UI and navigate to the Hub Administration > Connector ID Keys > Connector ID Key Properties tab.
 - b. Under the main Properties section, and for a selected Machine Group, enable the Automatically update Connector ID Keys when new software versions are installed in the Stratusphere Hub option.

- c. When the CID Keys call back at their callback frequencies, they recognize that there is an update available and download the new 6.6.x installer for the CID Key. The CID Keys are then able to update themselves to the latest version in session with no reboot required. To update any gold or master images, with CID Key built in, download the relevant CID Key installer from the **Connector ID Key Software** tab and update your master images as needed.
- 21. **Migrate Collectors**: If you do not have any Collectors deployed, jump to the next step. If older Collectors are deployed, the administrator should replace 6.5.x and earlier Collector appliances with 6.6.x Collector appliances in a phased manner. Complete the following sub-steps to begin:
 - a. Log in to the Administration section of the Stratusphere Web UI and navigate to the Collector Administration > Collectors tab. Make a note of which Collector Group each Collector belongs to, then, select the checkbox next to each old Collector you want to migrate and click the Delete button to remove them from the installation.
 - b. Use the instructions within the *Stratusphere Installation & Configuration Guide* to set up the new Collector appliances on your Cloud platform.
 - c. After a Collector is installed and registered with the Hub, log back in to the Administration section o fthe Stratusphere Web UI and navigate to the Collector Administration > Collectors tab. Select the newly registered Collector and move it to the same Collector Group the deleted Collector above belonged to. Do this for each Collector that needs to be migrated to the latest version.
- 22. After the CID Keys have been upgraded to the 6.6.x version, those assigned to a particular Machine Group can be assigned to report back to a particular CID Collector Group.

The migration process is now complete.

Getting Help with Stratusphere

If you have questions or run into issues while using Stratusphere, Liquidware is here to help. Our goal is to provide you with the knowledge, tools, and support you need to be productive.

Using Online Resources

Liquidware maintains various kinds of helpful resources on our Customer Support Portal. If you have questions about your product, use these online resources. The Support Portal includes product forums and a searchable knowledge base, among other items. You can visit our website at https://www.liquidware.com. For product documentation, refer to our Liquidware Document Repository. use the search field above or the sidebar on the left of this screen to locate the information you need.

Contacting Support

If you need to contact our Support staff for technical assistance, log a request on the Liquidware Customer Support Portal or call us. Prior to logging a case you should review these helpful tips:

- Check the Product Documentation included with your Liquidware Product.
- Try to see if the problem is reproducible.
- Check to see if the problem is isolated to one machine or more.
- Note any recent changes to your system and environment.
- Note the version of your Liquidware product and environment details such as operating system, virtualization platform version, etc.

To speak directly with Support, call one of the following numbers:

Main Line	1-678-397-0460
Toll Free in US & Canada	1-866-914-9665
Europe/Middle East/Africa	+44 800 014 8097
Toll Free in Europe	
UK	0800 014 8097

Netherlands	0800 022 5973
Switzerland	0800 561 271