liquidware™

Stratusphere™ FIT & Stratusphere™ UX

Upgrade Instructions

Introduction

This guide has been authored by experts at Liquidware to provide information and guidance concerning the upgrade procedures of Stratusphere™ FIT and Stratusphere™ UX appliances for version 6.5.0 and higher.

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Overview

This document is meant for Stratusphere Administrators who need to perform an upgrade of their existing Stratusphere 6.5.0 to the latest version of 6.5.x or higher. Use the Migration Guide to migrate 5.8.x or higher versions of Stratusphere to the latest 6.5.0 version.

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 6.5.x appliances. The CID Keys, in turn, could be configured to auto-upgrade themselves to the 6.5.x version through a simple configuration option within the Administration Web UI. The 5.8.x Network Stations cannot be upgraded to 6.5.x Collectors but are still compatible with Stratusphere 6.5.x Hubs and can be replaced in a phased manner. Liquidware recommends using the new Stratusphere CID Key Collector appliances for higher scale installations.

In case of issues, please refer to the Troubleshooting section at the end of this release section.

Order of Upgrading Stratusphere Appliances

Beginning with Stratusphere 6.5.0, the high-level process for upgrades is as follows:
1. The user powers down all Stratusphere appliances to:
    a. Reevaluate and reallocate resources such as CPU, RAM, and Storage based on your latest monitoring and diagnostic requirements by using the Stratusphere Sizing Guide.
    b. Take strongly recommended snapshots of the appliance(s).
2. Power on only the Hub and Database appliances.
3. The user navigates to the **HUB ADMINISTRATION > UPGRADES** tab within the **ADMINISTRATION** section within the Web UI or login to the Hub Console. Once logged in, the user initiates an upgrade that automatically does the following:
    a. Halts all CID Key and Network Collector data receiving services on the Hub,
    b. The Hub then upgrades and reboots itself.
    c. Once rebooted, the Hub initiates software upgrades and schema updates on the database. This may take time.
    d. The Database appliance, after completing upgrades may reboot itself.
4. The user then needs to upgrade the Collector Appliances using the command line console. The Collectors will reboot themselves once upgraded.
    Note: Liquidware considers legacy 5.8.x Network Stations to be disposable appliances. In any event, when you want to replace legacy Network Stations with 6.5.x Collector appliance, OR where some Collectors do not upgrade, they can be powered off, then deleted from the Web UI, and a brand-new 6.5.x Collector appliance can be downloaded and installed in its place with the same IP Address, hostname, and DNS names. Please make sure the legacy Network Station is deleted from the Web UI, prior to trying to add a replacement 6.5.x Collector with the same network configuration and host name back to the Stratusphere installation.
5. For persistent machines, enable the Auto-upgrade option under the Stratusphere **HUB ADMINISTRATION > CONNECTOR ID KEY PROPERTIES**. For non-persistent machines, download the updated CID Key agent installer within the Web UI & use the appendices within Stratusphere Installation Guide to update agents on master images.

Upgrading Stratusphere Appliances

Preparation

1. The following section applies specifically to Stratusphere appliances running **6.5.0 and higher ONLY**. If your appliances are on an earlier version like 5.8.x, please refer to the *Migrating from 5.8.5 or Higher to 6.5.0 Appliances* documentation. Apply the following instructions on each **6.5.0 and higher** appliance in order.
2. Please acquire administrative credentials to the Stratusphere Web UI, Hub, and Database consoles for the '`friend`' and '`root`' superuser accounts.
3. On a local desktop with access to the Internet, please download the Stratusphere upgrade image by clicking on the following link:
   a. http://cdn.liquidware.com/stratusphere/releases/stratusphere-6.5.1.img file.
4. Liquidware strongly recommends using the online **Stratusphere Sizing Guide** to resize your Stratusphere appliances appropriately and prevent any chances of **data loss**.
   a. Power down all your Stratusphere appliances (Hub, Database, and Collectors).
   b. Edit the appliance settings for each appliance and update them based on the Stratusphere Sizing Guide recommendations.
   c. Due to recently published vulnerabilities such as *Spectre* & *Meltdown*, VMware recommends upgrading the virtual machine hardware version to the latest available version supported by your vSphere infrastructure. When the Stratusphere appliances have been powered down, please upgrade their virtual machine hardware versions to 10 or higher, as supported by the vSphere infrastructure. Here is a KB article from VMware for upgrading virtual machine hardware versions.
5. Take a snapshot of the Hub and Database appliances.
6. Now, power up your Stratusphere Hub and Database appliances. **Leave the Collectors powered OFF**.
7. Liquidware recommends keeping the local appliance consoles of the Stratusphere Hub, Database, and Collector open during the upgrade process. It is helpful because the user can observe the upgrade status, reboot activity, and uptime on the console status screens.

Upload Update

- Log into the **ADMINISTRATION** section of the Stratusphere Hub Web UI.
  - Navigate to the **HUB ADMINISTRATION > UPGRADES > OFFLINE** tab.
  - It will display a page with a BROWSE or CHOOSE FILE button depending on your browser. Click the BROWSE or CHOOSE FILE button to navigate to the location where the `stratusphere_6.5.x.img` file is stored, select it, and open it.
  - Click on the **UPLOAD UPDATE** button. On clicking, a blue progress bar with the message "UPLOAD IN PROGRESS (THIS MAY TAKE SEVERAL MINUTES)" will be displayed. The upgrade image is now being uploaded to the Hub. This is a ~1.1GB file, so depending on your network connection it will take some time to upload this large file.
  - Once finished uploading, a green progress bar with the message "DOWNLOAD COMPLETED. VERIFYING IMAGE." will be displayed. Here the Hub is verifying the integrity of image file uploaded. Once verified, it will display "UPLOAD COMPLETED SUCCESSFULLY" at the top of the page.

Update Hub

- In the **HUB ADMINISTRATION > UPGRADES > OFFLINE** tab, click the **INSTALL UPDATE** button to now install the 6.5.x upgrade on the Stratusphere Hub. The UI will display a green progress bar with the message "**INSTALL IN PROGRESS (THIS MAY TAKE SEVERAL MINUTES)**". The update is being installed on the Hub now.

- On starting the upgrade, all services on the appliance are turned off. The UI will display the following message "Stratusphere is being upgraded after which the Hub will be rebooted. You will be logged out in 10 seconds. Please wait at least 15 minutes to log back in." The user will be logged out of the Web UI automatically. Once the services are unavailable, a generic "Stratusphere is down" message will be display. After the upgrade and subsequent reboot, when all services are available again, this generic message automatically goes away, and the Stratusphere Web UI's Login page is displayed again.

- The Hub will upgrade itself and reboot.

- PLEASE DO NOT MANUALLY REBOOT THE APPLIANCE. Please observe the appliance console windows and wait for the appliance to reboot on its own before trying to refresh the Stratusphere Web UI Login page as the appliance reboots itself. The Hub appliance in some cases will perform **two (2) reboots** to finish the upgrade.

Update Database

- If this installation of Stratusphere has a Database Appliance attached with default password (`sspassword`) for the `friend` and `root` users, the Hub will automatically upgrade the Database Appliance to 6.5.x. Once the Database software upgrade is complete, the Database may reboot as well.
  Note: If **ENHANCED SECURITY** is enabled or the default passwords have been changed due to security protocols and/or best practices, please upgrade the Database through the console-based upgrade process.
  - **Before upgrading the Database through the console**, we need to stop services on the Hub using the Hub's console.
  - Log into the command line console of the Hub Appliance using credentials of User ID: `ssconsole`. The default credential for this user is Password: `sspassword`. If the default password has been changed, please use the modified password.
  - On the `Liquidware Stratusphere Hub Appliance Main Menu`, enter `S` for `S) Software Services` option.
  - Enter `B` for `B) Toggle (stop) Back-end Application Services (Running)` option to stop services that have active connections to the database.
  - Leave this console window open as we will come back to it once the Database appliance has upgraded and rebooted itself.
  - Now, open the Database Appliance console. Log into the command line console of the Database Appliance using credentials of User ID: `ssconsole`. The default credential for this user is Password: `sspassword`. If the default password has been changed, please use the modified password.
  - On the `Liquidware Stratusphere Database Appliance Main Menu`, enter option `U` for the `'U) Update Software Menu'` option.
  - Enter option `U` for the `'U) Update'` option to apply the update on the appliance. It will prompt you `'Do you really want to update?'` to confirm. Enter `'Y'`.
  - After performing an upgrade, the Database Appliance should automatically reboot itself after waiting for a minute or so. If it does not reboot on its own, please enter `Q` for the `Q) Quit` option to return to the previous menu and enter `R` for the `'R) Reboot Server'` option.
  - After the Database appliance has rebooted and you see the database service running on the console, navigate to the Hub appliance console that we left running above. If the console has timed out due to inactivity, you

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may need to log in again and navigate back to `Liquidware Stratusphere Hub Software Services Menu`.

- o Enter `B` for `B) Toggle (start) Back-end Application Services (Stopped)` option to start services on the Hub again.
- o The Stratusphere Hub initiates all schema updates within the database. Schema updates take time depending on the extent of the changes and the size of your database - so please give it at least 10 minutes to start services and perform all schema upgrades required since the last version.
- If the entire upgrade has taken more than 20 minutes, please refresh the Login page of the Web UI and verify if the Hub displays the latest version "VERSION: 6.5.x" on the left in the bottom blue ribbon. Use a hard refresh within your browser (example: SHIFT+F5 in Chrome) to fetch the latest version of the page instead of the cached version.
- Log into the **Stratusphere FIT or Stratusphere UX** section of the Stratusphere Hub Web UI.
  - o Check the Web UI for standard functionality.
  - o Navigate through the various Advanced tabs.
  - o Navigate to any other tabs you use the most to ensure full functionality.

Update Collectors

- Skip this section if there are no Collectors installed.
- If you have any Collector appliances, power them all up now.
- Use the Collector's console-based upgrade process. The Web UI based upgrades are NOT supported for Collectors in this release.
- Log into the console using 'ssconsole' and 'sspassword' as default credentials. If the default passwords have been changed, please use the modified credentials.
  - o On the `Liquidware Stratusphere Collector Main Menu`, enter option `U` for the 'U) Update Software Menu' option.
  - o Enter option `U` for the 'U) Update' option to apply the update on the appliance. It will prompt you 'Do you really want to update?' to confirm. Enter 'Y'.
  - o In most cases, the appliance may reboot automatically after an upgrade. In case it does not, use the `Q` option to return to the previous menu and select `R` for the 'R) Reboot Server' option.
  - o Once the appliance reboots, give it a few minutes to start all required services.
- Log into the **ADMINISTRATION** section of the Stratusphere Hub Web UI.
  - o Navigate to the **COLLECTOR ADMINISTRATION > COLLECTORS** tab.
  - o Verify if each Collector now is at 6.5.x version.

Update Connector ID Key Agents

- For persistent machines, navigate to **HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEYS PROPERTIES** tab in the **ADMINISTRATION** section of the Stratusphere Hub Web UI:
  - o Select the appropriate machine group under the **CONFIGURE PROPERTIES FOR:** drop down box.
  - o Scroll down to enable the **AUTOMATICALLY UPDATE CONNECTOR ID KEYS WHEN NEW SOFTWARE VERSIONS ARE INSTALLED IN THE STRATUSPHERE HUB** check box.
  - o Scroll down and click the **SAVE** button. The CID Keys will then automatically download the installer for the updated version and upgrade themselves on their next callback.
- For non-persistent machines, their master or gold images need to be updated with the new CID Key software.
  - o Navigate to the **HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEY SOFTWARE** tab in the **ADMINISTRATION** section of the Stratusphere Hub Web UI and download the appropriate installer for your environment.

- o Open your master image as an administrator and follow instructions outlined within the appendices in the Stratusphere Installation Guide to update agents on master images.

Validate & Complete Update

- Before completing the upgrade and removing the snapshots, Liquidware recommends:
  - o Waiting for a few hours to ensure that the CID Keys round-robin through their list of Collectors.
  - o New data is being collected and saved within the database.
  - o New data is visible within the Web UI.
  - o On verification that the installation has upgraded and is working properly, please remove the snapshots on the Stratusphere appliances.
- Upgrade is now complete.

Note: VMware vSphere Virtual Machine Hardware Version

Based on some recently published vulnerabilities, VMware has recommended using higher virtual machine hardware versions. Please make sure to upgrade the Stratusphere appliance virtual machine hardware version to at least 10 and higher as supported by your infrastructure. Please reference this Knowledge Base article from VMware for additional information on how to upgrade virtual machine hardware versions.

Troubleshooting

No new data from CID Keys after the upgrade

- Please make sure the Collectors have been upgraded and have rebooted.
- If the Collector appliances did not reboot themselves, please reboot them as we paused their services prior to beginning the update.
- Verify each Collector's version number by logging into the **ADMINISTRATION** section's **COLLECTOR ADMINISTRATION > COLLECTORS** tab.
- If ENHANCED SECURITY was enabled on the Hub and/or the Database appliances, please execute the following on the command line console of the Database appliance:
  - Log into the console using 'friend' and 'sspassword' as default credentials.
  - Enter the following command 'sudo bash' and 'sspassword' as default credentials.
  - Execute the following command:

    `/opt/tnt/etc/iptables-filter && /sbin/iptables-save -t filter >/etc/sysconfig/iptables`

  - Log out of the command line console by entering CTRL+D twice.
  - This should allow the Collectors to connect directly into the database again and save data.

SCP fails to log into the appliance

- The Stratusphere appliance is a security hardened appliance. If Enhanced Security is enabled, it has policies whereby passwords will expire after a certain amount of time. An expired password may be preventing the user from logging into the appliance.
- Log into the local command line console and it will prompt you to change and update your password immediately. Once updated, you should be able to use the SCP tool again to upload files to the appliance.

"Please select a file to upload" message while uploading file in offline mode

- The browser may have cached some of the code and thus may not be running the latest version of the page. Please log out of the UI, clear the cache in the browser, and start over. If the problem persists then depending on your browser do the following:
  - In Firefox, right-click anywhere within the yellow warning message bar and choose THIS FRAME -> RELOAD FRAME menu option.
  - In Chrome, right-click anywhere within the yellow warning message bar and choose RELOAD FRAME menu option.
  - In Internet Explorer, right-click anywhere within the yellow warning message bar and choose REFRESH menu option.

Hub upgraded but there are some errors while using the Web UI

- In most cases, the default password (sspassword) for the friend or root users may have been changed on the Database Appliance, thus causing the connection failures between the Hub and Database.
  - Log into the command line console of the Database Appliance using User ID: `ssconsole` and Password: `sspassword` as credentials.
  - Enter option U for the 'U) Update Software Menu' option.
  - Enter option S for the 'S) Software Update Site' option.

- The update site should be set to the Stratusphere Hub IP or DNS such as `https://Hub.IP.or.DNS/upgrades/latest`. Hub.IP.or.DNS needs to be the actual IP or DNS of the Stratusphere Hub. If it does NOT match and is still pointing to `http://download.liquidwarelabs.com/upgrades/yum/` then press Y and edit it to match `https://Hub.IP.or.DNS/upgrades/latest` and hit, ENTER. It will update the site and ask again if you want to make a change – press N and ENTER to finish. If it matches, press N and ENTER to proceed.
- Enter option U for the 'U) Update' option to apply the update on the appliance. It will prompt you 'Do you really want to update?' to confirm. Enter 'Y'.
- Use the Q option to return to the previous menu and select R for the 'R) Reboot Server' option if it is not scheduled automatically.
- Once the appliance reboots, give it at least **10-15 minutes** to start all required services.

Hub upgraded but the Database is still showing the old version

- In most cases, the default password (`sspassword`) for the friend or root users may have been changed on the Database Appliance, thus causing the connection failures between the Hub and Database.
  - Log into the command line console of the Database Appliance using User ID: `ssconsole` and Password: `sspassword` as credentials.
  - Enter option U for the 'U) Update Software Menu' option.
  - Enter option S for the 'S) Software Update Site' option.
  - The update site should be set to the Stratusphere Hub IP or DNS such as `https://Hub.IP.or.DNS/upgrades/latest`. Hub.IP.or.DNS needs to be the actual IP or DNS of the Stratusphere Hub. If it does NOT match and is still pointing to `http://download.liquidwarelabs.com/upgrades/yum/` then press Y and edit it to match `https://Hub.IP.or.DNS/upgrades/latest` and hit, ENTER. It will update the site and ask again if you want to make a change – press N and ENTER to finish. If it matches, press N and ENTER to proceed.
  - Enter option U for the 'U) Update' option to apply the update on the appliance. It will prompt you 'Do you really want to update?' to confirm. Enter 'Y'.
  - Use the Q option to return to the previous menu and select R for the 'R) Reboot Server' option if it is not scheduled automatically.
  - As the database appliance reboots, log into the Stratusphere Hub appliance console using credentials for User ID: `ssconsole`. The default credentials for this user is Password: `sspassword`.
  - Enter option W for the 'W) Restart Web Services' option. The Stratusphere Hub initiates all schema updates within the database and thus restarting services restarts schema updates that may have failed before. Schema updates take time depending on the size of your database - so please give it at least **15-30 minutes** to start services and perform all schema upgrades required since the last version.

Collectors did not upgrade through the UI, still showing the old version

- In some cases, when ENHANCED SECURITY is enabled, the Collectors fail to upgrade to the latest version. In these cases, please use the Collector's console-based upgrade process.
  - Ensure the Collectors are all powered ON.
  - Log into the console using '`ssconsole`' and '`sspassword`' as default credentials.
  - Enter option U for the 'U) Update Software Menu' option.
  - Enter option S for the 'S) Software Update Site' option.

- o The update site should be set to the Stratusphere Hub IP or DNS such as `https://Hub.IP.or.DNS/upgrades/latest`. Hub.IP.or.DNS needs to be the actual IP or DNS of the Stratusphere Hub. If it does NOT match and is still pointing to `http://download.liquidwarelabs.com/upgrades/yum/` then press Y and edit it to match `https://Hub.IP.or.DNS/upgrades/latest` and hit, enter. It will update the site and ask again if you want to make a change – press `N` and enter to finish. If it matches, press `N` and enter to proceed.
  - o Enter option `U` for the 'U) Update' option to apply the update on the appliance. It will prompt you 'Do you really want to update?' to confirm. Enter 'Y'.
  - o In most cases, the appliance may reboot automatically after an upgrade. In case it does not, use the `Q` option to return to the previous menu and select `R` for the 'R) Reboot Server' option.
  - o Once the appliance reboots, give it a few minutes to start all required services.
- Log into the **ADMINISTRATION** section of the Stratusphere Hub Web UI.
  - o Navigate to the **COLLECTOR ADMINISTRATION > COLLECTORS** tab.
  - o Verify if each Collector now is at 6.5.x version.

Stratusphere Web UI displays 404 Error or fails to authenticate after upgrade

- Liquidware is investigating why this 404 error may occur, but the easiest workaround is to restart the Hub's Web Services.
  - o Log into the command line console of the Hub Appliance using credentials of User ID: ssconsole. The default credential for this user is Password: sspassword. If the default password has been changed, please use the modified password.
  - o On the `Liquidware Stratusphere Hub Appliance Main Menu,` enter `S` for `S) Software Services` option.
  - o Enter `A` for `A) Restart All Services` option to restart all services.
  - o If there is no option `S) Software Services` available above, it may not have upgraded to the latest version and may still be on the prior 6.5.0 version. If so, enter option `W` for the 'W) Restart Web Services' option.
  - o Use the Q option to quick the console session and exit. The Upgrade must be attempted again – if this persists, please contact Liquidware Support.
  - o Give the services a few minutes to start and then go back into the browser to see if the Stratusphere Web UI is now available.

Error related to 'lwl_rollup.sr_wifi_stats_da' within Advanced tab

- Liquidware added Wi-Fi stats to 6.1.5. Depending on the time frame being queried, the UI requests data from roll-up or summarized tables. These new metrics are in new tables, and if requested right after the upgrade, it may display SQL related errors. Here are the reasons and associated workarounds for the issue:
  - o Select a short time frame such as Last Hour, or Last 6 hours or set Roll-ups = Off and rerun the query. The error should not appear now.
  - o The roll-up summarization of data may NOT have been completed within the database. Please wait for an hour to query for the longer time frames (Today, Yesterday, or multi-day queries) which may automatically select rolled up summary tables.

Getting Help with Stratusphere

If you have questions or run into issues while migrating or 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, please use these online resources to your full advantage. The Support Portal includes product forums, a searchable Knowledge Base, documentation, and best practices among other items. You can visit our website at https://www.liquidware.com/.

Contacting Support

If you wish to contact our Support staff for technical assistance, please either log a request on the Liquidware Customer Support Portal or give us a call. Prior to Logging a Case you may want to 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, please use 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