

## Stratusphere™ Release Notes

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## Stratusphere™ Release Notes

*Version 6.5.1, released June 2<sup>nd</sup>, 2021.*

### What's New?

- **LETOS THIN CLIENTS:** Stratusphere 6.5.1 Connector ID Key agents now support Lenovo thin clients running LeTOS operating systems.

### Enhancements

- **ADVANCED > INSPECTORS:**
  - Enhanced security auditing and awareness by introducing a **NETWORK SECURITY RISK SCORE** of a machine by quantifying the risk associated with the configuration and findings of a machine's **FIREWALL**, **ANTI-VIRUS**, and **ANTI-SPYWARE**. The risk score increases if any of these components are disabled, or do not have signature updates, or literally have active threat counts. This score is available under **ADVANCED > INSPECTORS > USERS** and **MACHINES** tabs under **UX EXPERIENCE | WORKSPACE NET RISK%, SUMMARY | USER | USER, MACHINE, OS NET RISK %, SUMMARY | MACHINE | USER, MACHINE, OS NET RISK %, and SUMMARY | DOMAIN | USER, MACHINE, OS NET RISK % INSPECTOR VIEWS**.
  - Enhanced visibility by introducing a new **WORKSPACE IMPACT SCORE** of a machine by quantifying whether a user's Workspace is performing optimally or is impacting their productivity. This score quantifies metrics such as **PACKET LOSS %**, **LATENCY TEST RESPONSE TIMES**, **WI-FI SIGNAL STRENGTH** as well as **NETWORK LATENCY** from the machine to the Stratusphere Hub or Collector. It also **CONSIDERS CPU QUEUE, DISK QUEUE, and PAGE FILE usage** while calculating the score. The higher the negative impact, the higher the **Workspace Impact Score**. This score is available under **ADVANCED > INSPECTORS > USERS** and **MACHINES** tabs under **UX EXPERIENCE | WORKSPACE IMPACT %, SUMMARY | USER | USER, WORKSPACE IMPACT %, SUMMARY | MACHINE | USER, WORKSPACE IMPACT %, AND SUMMARY | DOMAIN | USER, WORKSPACE IMPACT % INSPECTOR VIEWS**.
  - Enhanced visibility by adding new **Lookup and Basis** items for **DISK ENCRYPTION, ANTI-VIRUS** and **ANTI-SPYWARE** data into the **ADVANCED > INSPECTORS > USERS** and **MACHINES** tabs.
  - Enhanced visibility into application process network performance by displaying **NETWORK JITTER PERCENT** metric as a percentage of latency. So higher the percentage of jitter more erratic the network and worse the user experience. This metric is available under **IO | PROCESS NETWORK LATENCY INSPECTOR VIEW** under the **ADVANCED > INSPECTOR > APPLICATIONS & PROCESS NAME** tabs.
  - Enhanced visibility to provide reference and context of statistical values for each metric where we can compare each user's data against the overall **MIN/AVG/MAX/STD. DEV** across all user data returned. This enhancement will be more in preparation for the next version of **ADVANCED > INSPECTORS**.
  - Enhanced the performance of the **ADVANCED > INSPECTORS > INVENTORY** tab and API for much faster retrieval of data.

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- Enhanced consistency by now reporting all forms of unknowns within the data as 'UNKNOWN'.
  - **ADVANCED > DASHBOARDS:**
    - Enhanced intuitive useability of the WIDGETS > EDIT page by adding column headers for showing AVAILABLE COLUMNS and SELECTED COLUMNS and moving the SELECT ALL and DESELECT ALL action buttons below the list boxes.
    - Enhanced flexibility for SCORECARD, BAR CHARTS, AND LINE CHARTS widgets by allowing end users to customized labels for thresholds such GOOD/FAIR, FAIR/POOR, HIGH/LOW, STANDARD/PREMIUM, etc.
    - Enhanced ease of publishing dashboards to others as well as choosing which Dashboards should be loaded and displayed by enabling or disabling a DISPLAY check box within the ADVANCED > DASHBOARDS > DASHBOARDS tab's list view. This functionality was within PREFERENCES before which has now been moved to the DASHBOARDS list view.
  - **STRATUSPHERE API:**
    - Enhanced performance of the INVENTORY INSPECTOR to retrieve data much faster than before.
    - Enhanced useability by adding support for asking for data ONLY WHEN A USER IS LOGGED INTO A MACHINE.
  - **CONNECTOR ID KEY:**
    - Enhanced the ease of use and fault tolerance of handling CID Key installation and registration issues within virtual environments. The CID Key will now register with the Stratusphere Hub or Collector when it detects the machine's hostname has changed. So, in the event of Administrators not following procedures to prepare the master image or failure of the post synchronization scripts to run, the CID Key will still detect a change in the machine's hostname, check its registration information, and then if needed clean its current settings and automatically register the machine with the new hostname.
    - Added an AMAZONWORKSPACES\_MASTERIMAGEPREP.BAT file that includes a call to install and register the counters for 32bit and 64bit PCoIP Performance Counters.
    - Added an MICROSOFTWVD\_MASTERIMAGEPREP.BAT file that allows the end user to prepare the master image file for Microsoft WVD.
    - Enhanced the CID Key to handle custom shells to properly record the login delay and breakdown process. The CID Key can read in the Windows standard registry key and a custom registry key for shells to read in a comma separated list of shell names. The CID Key reads these registry keys and automatically starts scanning for those shell file names to stop the login delay timer and breakdown process.
    - Enhanced visibility around which end user is on a machine using Nutanix Frame. Frame uses the same generic "Frame" user for all users and that makes it hard to determine who the real user is on that machine – the CID Key now provides that visibility by identifying the logged in user.
    - Enhanced the CID Key on macOS to support Big Sur and notarization on newer Apple macOS versions.

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- Enhanced availability of CID Key data by modifying the CID Key to try to upload its callback data to the next Collector in its list when one fails to respond. This causes the CID Key to try all available Collectors to upload its data instead of waiting for the next callback interval to try the next Collector in its list.
  - **WEB UI:**
    - Enhanced ease of troubleshooting where the logs from the Hub, Database and Collectors are pulled automatically when downloading logs from the Web UI.
    - Enhanced user awareness while configuring HUB ADMINISTRATION > DIRECTORIES sync to warn end users from importing all users, user groups, machines, and machine groups from AD/LDAP Directories. Importing all users and user groups may cause tens or hundreds of thousands of items to be imported that could adversely affect performance of the system.
  - **HUB, DATABASE & COLLECTORS:**
    - Enhanced efficiency & security by allowing the Collectors to handle CID Key registrations as well providing CID Key upgrade installers to auto-upgrade to the next version. This enhancement reduces the load on the Stratusphere Hub which was the only appliance which performed these functions before. It also enhances security of the installation as the Web UI on the Hub need not be exposed to the Internet anymore and allowing end users to put the Collectors on the DMZ.
    - Enhanced the ability for the CID Key to receive its intended CID Key Properties on its first registration callback itself instead of having to wait for the next callback. Based on its group membership(s), if the machine belongs to one or more smart groups, and one of those machine groups has custom properties defined, the CID Key will receive those custom properties on registration. If the machine belongs to multiple groups with multiple groups having custom CID Key Properties defined, the CID Key will receive general or Global CID Key Properties as there is no way to determine which should be applied automatically.
    - Enhanced ease of use by adding cascading menu options to allow toggling individual services and change of passwords on all the appliance consoles.
    - Enabled High Throughput Performance settings on CentOS 8 for all Stratusphere appliances.
    - Enhanced visibility of software update availability as soon as the Stratusphere Hub appliance boots up. The Database and Collector appliances need to be joined to the Hub appliance before they can determine whether updates are available.
    - Enhanced data consistency by cleaning up stale machines from group memberships.
    - Enhanced the ability of the CID Key Collector to measure Network Latency, Connection Duration, and Incomplete Connections from the CID Key calling back to the Collector just like the Hub.

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## Bug Fixes

- **ADVANCED > INSPECTORS:**
  - Fixed an issue where SESSION ID was not being included when displaying all columns within the ADVANCED > INSPECTORS > REMOTE DISPLAY tab.
  - Fixed an issue with the FBC RATE column has a typo and was incorrectly labelled FCB RATE within the ADVANCED > INSPECTORS > REMOTE DISPLAY tab's PROTOCOL | BLAST INSPECTOR VIEW.
- **ADVANCED > SPOTCHECKS**
  - Fixed an issue when importing a modified and exported SpotCheck would not work as expected.
- **STRATUSPHERE API:**
  - Fixed an issue within the API where it displayed an error when the API contained a call that included the AVERAGE DISTANCE TO BSSID IN METERS column within Wi-Fi stats.
  - Fixed an issue where the API call would fail when choosing CSV ONLY output with HTML CONTENT-TYPE APPLICATION/JSON.
- **ADVANCED > DASHBOARDS:**
  - Fixed and enhanced intuitiveness to create new and editing Widgets and Datasources by providing a CANCEL and SAVE option on creating new widgets and datasources and just CLOSE and SAVE options while editing existing widgets and datasources.
  - Fixed an issue where an end user with a "USER" role was unable to see "USE LOCAL CACHE" option under ADVANCED > DASHBOARDS tab under PREFERENCES > GENERAL tab.
  - Fixed an issue where some custom dashboards were not loading for end users with "USER" role due to some legacy meta data related to groups. In some cases, this can be addressed by adding users to the "DASH\_USERS" user group as well.
  - Fixed an issue where the UI would display an error message "API TITLE COLUMN REQUIRED" while creating a new Data Block widget.
  - Fixed an issue where a user could not delete user created dashboards when the "PROTECT SYSTEM DEFAULT" option was enabled.
- **CONNECTOR ID KEY:**
  - Fixed an issue where the CID Key would take time enumerating printers on a Print server or VPN server.
  - Fixed an issue where the CID Key would not be able to receive an ID from the Hub/Collector for an observed User if the machine host name were modified resulting in no username being displayed for that machine.
  - Fixed an issue where the CID Key was either inaccurately measuring or not measuring the APPLICATION WINDOW FOREGROUND DURATION under some circumstances.
  - Fixed an issue with the APPLICATION INSTALL DATE TIME in the CID Key for MacOS where the date format is different for different regions and that was causing issues with the Hub or Collector being able to parse the data properly and inserting it into the database.
  - Fixed an issue with CID Key upgrade on IGEL thin clients.

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- Fixed an issue with the CID Key where it would incorrectly report SECURE BOOT as Not Configured.
  - Fixed an issue where the CID Key would generate an information level event that “A SERVICE WAS INSTALLED IN THE SYSTEM” for WinRing0\_1\_2\_0. The CID Key will only do this once on startup instead of every sampling period.
  - Fixed an issue where the GPU MEMORY AVAILABLE would not always be reported correctly.
  - Fixed an issue with the CID Key taking a long time to initialize WMI on Citrix 2019 server.
  - Fixed an issue with the CID Key reporting longer APPLICATION LOAD TIMES for certain applications like Microsoft Edge and some applications that might have a tray component as well such as OneDrive, Photos, etc.
  - Fixed an issue where the CID Key would not collect the REMOTE IP address for a Citrix ICA Session using Citrix Receiver through HTML.
  - Fixed an issue where the CID Key was incorrectly reporting 2 second LOGIN DELAYS in some cases.
  - Fixed an issue where the CID Key was not honoring the “...CALLBACK SOON AFTER A USER LOGIN...” setting under HUB ADMINISTRATION > CONNECTOR ID KEY > CONNECTOR ID PROPERTIES tab.
  - Fixed an issue where the CID Key was being blocked to access hard drive dr0 by Windows Security because the CID Key was incorrectly using Read/Write mode to only Read information out.
  - Fixed an issue related to security around CID Key registration process by adding a new registration call to make sure that the registration process uses the public key within the mgrcert.pem to register to the URL within the mgrcert.pem. This change ensures that an official mgrcert.pem was obtained from a Hub after following some security procedures instead of just using an existing mgrcert.pem and changing the address resolving mechanism. The CID Key uses the Hub’s public key within the mgrcert.pem to encrypt the registration information it sends to the Hub/Collector. If the Hub/Collector can decrypt the registration information, then the mgrcert.pem was obtained officially. If the URL or DNS/IP was manually changed to point to a different Hub/Collector, it will be unable to decrypt the registration and thus fail to register as expected. Also, since this is a new registration call, the CID Key added a fallback to existing registration calls if a new CID Key is communicating with an older version of the Hub. This change does NOT affect registering to a new Hub by changing the HUBADDRESS registry key on Windows machines.
  - WEB UI:
    - Fixed an issue where an end user with “USER” role could incorrectly access the Inventory tab and delete or edit items.
    - Fixed an issue with Nutanix Prism import and sync while running on any hypervisor other than Nutanix.

- Fixed an issue where the Nutanix Prism import would time out as it would not connect to the configured port 9440 but try to connect to 443 instead when the USE SECURE CONNECTION check box was enabled.
- Fixed an issue where the LAST LOGIN FROM column would not sort as expected under the INVENTORY > USERS tab.
- Fixed an issue with a bad link when clicking on EXAMPLE GROUP POLICY TEMPLATE from HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEY SOFTWARE tab's OTHER section would result in displaying the Connector ID Keys page instead of downloading the template.
- Fixed an issue within the OBSERVED USERS widget on HUB ADMINISTRATION > OVERVIEW page where it would show more than 100% users in some cases.
- Fixed an issue on the Web UI's LOGIN page where the lock icon that denotes a secure connection to the DOMAIN was incorrectly showing an unlocked icon for a secure connection.
- Fixed an issue within HUB ADMINISTRATION > DATA RETENTION > STATUS & SETTINGS tabs where some details related to number of days of data collected and its size was missing from the prior version.
- Fixed an issue within INVENTORY > MACHINES where the UPTIME and TYPE column would not sort as expected.
- Fixed an issue within INVENTORY > MACHINES where it was incorrectly counting the number of machines based only on IP addresses although it would display all the machines in the list. This would result in inaccurate counts within the items per page and pagination widgets.
- Fixed an issue where the Web UI would display an error when choosing a MACHINE GROUP that was created via INVENTORY > MACHINES > GROUPS > IMPORT MEMBERS button under HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID PROPERTIES page.
- Fixed an issue with the HUB ADMINISTRATION > OVERVIEW page was missing displaying a day when the Hub's time zone was set for a European time zone.
- Fixed an issue when in ENHANCED SECURITY mode where the footer incorrectly showing "FOR OFFICIAL USE ONLY" within quotes instead of without quotes.
- HUB, DATABASE & COLLECTORS:
  - Fixed an issue where the database was dropping process network stats, network stats, disk stats, login session stats, and machine health disk stats when some duplicate records were being observed causing gaps of data for one or more machines.
  - Fixed an issue where Collectors were running out of memory resources because it could receive a lot more data from CID Keys due to a much large disk partition and while needing to process them it would eventually run out of memory.
  - Fixed an issue where migrations would fail when non-default password or complex passwords were used.
  - Fixed an issue where the migration of appliances would fail because the Migration Wizard and Console menu options GET CONFIGURATION and PUT CONFIGURATION would fail

because they were comparing disk space allocated on both appliances instead of checking if disk space used on the older appliance was available on the new appliance. This functionality was enhanced by being able to prompt the end user whether to proceed or not if the space available after migrating the data was within 20% of space free which could cause automatic purge to kick off.

- Fixed an issue where processing and insertion of machine inspection reports would slow down if the machine were part of a lot of machine groups.
- Fixed an issue under HUB ADMINISTRATION > VM DIRECTORIES related to syncing and importing from VMware vCenter where the same service accounts was being used for across many services or too much information was requested in a single request and would result in an error on import. This issue was addressed by throttling the queries instead of asking for everything in each call. VMware has a KB article titled [Request processing is restricted by administrator](#) that states that there is a default value of 64 for MAXQUERYMETRICS that can be reset to -1 for no limit as well.
- Fixed an issue where the string comparison for matching machine names and machine model names within Smart Groups were incorrectly using case sensitive mode. The string comparison now uses case insensitive mode within the Smart Groups.
- Fixed an issue where the Smart Groups would not handle IPV6 based IP addresses and would additionally stop processing when encountering IPV6 addresses. The fix now handles only IPV4 addresses, ignores IPV6 but continues checking all IP addresses and does not stop processing when it encounters IPV6 addresses.
- Fixed an issue where the CID Key Collectors were not measuring the NETWORK ROUNDTrip LATENCY (NRT) and APPLICATION RESPONSE TIME (ART) for CID Keys connections when they would callback to upload data.
- Fixed an issue where the Stratusphere Hub console's Status screen would still show the default hostname as `localhost.localdomain` instead of the newly modified hostname and it would take up to 10 minutes to correct itself. It may take just 1 min now to refresh with the updated hostname.
- Fixed an issue within the Migration Wizard where the NTP SERVER settings would not come over as part of the migration and would retain what was set when it was configured temporarily.
- Fixed an issue where the Hub and Database appliances would not encrypt the database partition in some cases.
- Fixed an issue with DNSSEC keys getting refreshed automatically due to an automatic periodic job run by the software library. This periodic job was stopped and disabled as it was not needed as Stratusphere does not run a local DNS server.
- Fixed an issue related to problems caused due to auto-upgrading CID Keys running on thin clients by restricting the Stratusphere Hub from providing the upgrade packages to thin clients.



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- Fixed an issue related to checking for software updates which detected software updates were available correctly, but incorrectly counted the number of updates as 0 and that resulted in updates not being performed.
  - Fixed an issue where the UI would display an error while deleting a VM Directory.
  - Fixed an issue where the appliance had CD-ROM drive(s) on it by removing them from the appliance as they are not needed.
  - Fixed an issue where the Collector would receive a CONNECTION REFUSED message or fail to register with the Hub due to its web server constantly restarting due to locking issue within its configuration files.
  - Fixed an issue within Hub where one service would use a location on the file system that was intended for incoming CID Key Inspection reports. This service is now using a different location on the file system.
  - Fixed an issue within Roll-ups where in rare cases the CID seconds is 0 and the Process seconds is negative.
  - Fixed an issue where one component on the Collector was still using legacy TCP/5502 instead of TCP/443.
  - Fixed an issue where the CID Key Collector would not work properly while behind a load balancer or proxy.
  - Fixed an issue by optimizing AD imports related to AD users being deleted and updating that deleted user's group associations.
  - Fixed an issue which caused threads to deadlock while handling a large number of VMware Event Log events.
  - Fixed an issue where a CID Key re-registering would fail incorrectly if the license limit were reached. The fix now only checks license limits for new registrations.
  - Fixed an issue where the data from a Network Collector's URL tracking component had timestamps from the distant future due to incorrect NTP Server settings. This data was not being ignored fully as expected and was causing the data to be inserted into parent tables as the date segmented tables were not available.
  - **REPORTS:**  
Added, enhanced, fixed, or made minor formatting updates to the following reports:
    - ADMINISTRATION
      - ACTIVE LICENSE USAGE REPORT
      - MACHINE CID KEY SETTINGS
      - MACHINE INVENTORY
      - MACHINE INVENTORY WITH AGE & USER COUNT
    - FIT REPORTS – MACHINES
      - MACHINE POWER CONSUMPTION & COST
    - HEALTH CHECK REPORTS
      - 301. PERFORMANCE TIME CHART
    - UX DIAGNOSTIC REPORTS
      - PERFORMANCE TIME CHART

- Security Updates for CentOS appliances: The update addresses Common Vulnerability and Exposure (CVE) items CVE-2018-17189, CVE-2018-20843, CVE-2019-0196, CVE-2019-0197, CVE-2019-10081, CVE-2019-10082, CVE-2019-10092, CVE-2019-10097, CVE-2019-10098, CVE-2019-11068, CVE-2019-12614, CVE-2019-13050, CVE-2019-13627, CVE-2019-14889, CVE-2019-15165, CVE-2019-15903, CVE-2019-15917, CVE-2019-15925, CVE-2019-16167, CVE-2019-16231, CVE-2019-16233, CVE-2019-16935, CVE-2019-17450, CVE-2019-18197, CVE-2019-18808, CVE-2019-18809, CVE-2019-19046, CVE-2019-19056, CVE-2019-19062, CVE-2019-19063, CVE-2019-19068, CVE-2019-19072, CVE-2019-19221, CVE-2019-19221, CVE-2019-19319, CVE-2019-19332, CVE-2019-194, CVE-2019-1952, CVE-2019-1953, CVE-2019-19533, CVE-2019-1954, CVE-2019-1976, CVE-2019-1977, CVE-2019-19906, CVE-2019-19956, CVE-2019-20054, CVE-2019-20388, CVE-2019-20454, CVE-2019-2063, CVE-2019-20907, CVE-2019-20916, CVE-2019-9455, CVE-2019-9458, CVE-2020-0305, CVE-2020-0466, CVE-2020-10029, CVE-2020-1073, CVE-2020-10730, CVE-2020-10737, CVE-2020-10751, CVE-2020-10773, CVE-2020-10774, CVE-2020-1094, CVE-2020-11565, CVE-2020-1166, CVE-2020-1246, CVE-2020-1265, CVE-2020-12655, CVE-2020-1277, CVE-2020-1282, CVE-2020-14351, CVE-2020-14372, CVE-2020-1438, CVE-2020-14422, CVE-2020-15999, CVE-2020-16166, CVE-2020-1730, CVE-2020-1751, CVE-2020-1752, CVE-2020-1927, CVE-2020-1934, CVE-2020-24490, CVE-2020-24659, CVE-2020-25211, CVE-2020-25632, CVE-2020-25641, CVE-2020-25647, CVE-2020-25661, CVE-2020-25662, CVE-2020-25705, CVE-2020-27152, CVE-2020-27749, CVE-2020-27779, CVE-2020-28374, CVE-2020-29661, CVE-2020-7595, CVE-2020-8177, CVE-2020-8492, CVE-2020-8619, CVE-2020-8622, CVE-2020-8623, CVE-2020-8624, CVE-2020-8625, CVE-2020-864, CVE-2020-864, CVE-2020-8647, CVE-2021-20225, CVE-2021-20233, CVE-2021-20305, CVE-2021-26708, CVE-2021-27363, CVE-2021-27364, CVE-2021-27365, CVE-2021-3156, CVE-2021-3347, CVE-2021-3449, and CVE-2021-3450. For additional information please refer to <http://cve.mitre.org/index.html>.

### Known Issues

- Liquidware would like to inform our end users that according to VMware Support, the VMWARE BLAST PACKET LOSS % metric under ADVANCED > INSPECTORS > REMOTE DISPLAY tab's PROTOCOL | BLAST INSPECTOR VIEW only displays data for UDP based BLAST protocol connections. It does NOT populate any packet loss for TCP based connections.
- Liquidware is aware of differences between the SESSION IDLE TIME PER CID metric with Roll-ups enabled and disabled under ADVANCED > INSPECTORS > USERS, MACHINES, and REMOTE DISPLAY tabs. There is a valid explanation for it - the CID Callback interval with Roll-ups disabled (details) is about 60 minutes (default). However, with Roll-ups enabled, the CID Callback interval is for the entire day as there is only one record per machine or user for the entire day while Roll-ups are enabled – so those two values are not expected to be the same, but Liquidware understands it may confuse the end user. This discrepancy will be addressed in a patch and/or will be included in the next patch release.
- Liquidware is aware that in one instance Dashboard level overrides, (for example, using the same widget on different dashboards but using the API override for different machine groups on different dashboards) did not work as expected and may cause some widgets to display

incorrect information related to machine groups. This issue is still being investigated by Liquidware and once a resolution has been developed, it will be provided as a patch and will be included in the next version release.

- Liquidware is aware that in another instance, Custom Dashboards were observed to either not load or take a long time to load. Liquidware has not been able to reproduce the issue in its lab but is actively working to investigate and resolve the issue. This issue is still being investigated by Liquidware and once a resolution has been developed, it will be provided as a patch.
- Liquidware is aware that in some cases when editing a TABLE widget in ADVANCED > DASHBOARDS, it may not honor the UNBASIS field within the widget. Liquidware is working on a resolution and will provide a patch when available as well as include it in the next version release.
- Liquidware is aware that in some very rare cases, Stratusphere Collectors have been observed to lose their IP address after upgrading to 6.5.1. As a workaround, reboot the Collector and set its IP address again. Liquidware is also aware of rare instance where the Network Collector performing URL tracking on TCP/80 has stability issues. Both these issues are still being investigated by Liquidware and once a resolution has been developed, it will be provided as a patch and be included in the next version release.
- Liquidware is aware of some slowness while using ADVANCED > INSPECTORS has been observed on Google Chrome. Chrome has a Blink component that slows down performance when the Stratusphere API is configured to return 100+ rows. The workaround for better performance is to set the Limit to 25 rows so that the table begins to paginate at 25 rows per page.
- Liquidware is aware that the sort order of the TYPE column within the INVENTORY > MACHINES tab is not sorting alphabetically. A fix for this known issue will be provided as patch and/or will be included in the next patch release.
- On logging in to the Web UI, some pages such as OVERVIEW, DASHBOARDS, API BUILDER, etc. may not load or take long to load. This may be due to expired cookies. Please logout of the Web UI using the link at the top right of the page and then try again. Clicking on the logout link clears all the cookies that may have been created in the past and starts clean.
- Within ADVANCED > DASHBOARDS, when trying to add a new Datasource, users could use the API Builder to formulate the API String and then import it by clicking on the USE CURRENT APISTRING button link. This button link was not working as expected. Due to internal workings, this link has been removed from the product for now and will be reintroduced in the next version. Users are advised to have the API Builder open in another browser tab, and manually copy and paste it within the field for specifying the API.
- ADVANCED > INSPECTORS may appear within a very small window after an upgrade. Hit the F5 key to restore the regular size.
- While importing Stratusphere OVF's on some ESX versions, the VMware Virtual Infrastructure Client will show a warning. These warnings can be safely ignored.
- The Windows CID Key on Amazon WorkSpaces depends on the Teradici PCoIP agent to populate the remote client's name and IP Address within the registry. If the PCoIP agent does not populate the registry, the CID Key will not be able to collect this information.

- The development of the Windows Advanced CID Key has been paused and will not be available in newer versions of Stratusphere.
- The DIAGNOSTICS > INSPECTORS > DESKTOP APPLICATION SUMMARY page times out after 15 minutes and may result in an error. This is due to the Chart on the page, waiting for a query to finish. If the user uses the browser's Back button, the table data will be updated but the chart may be empty or displaying existing results.
- Liquidware is aware of an issue where the end user may see a message "Please use the Console of the Collector appliance to upgrade..." on the Login page. This is a refresh issue and should go away after hard refreshing the login page (Shift+F5).
- FIT REPORTS – APPLICATIONS:
  - APPLICATIONS WITH KNOWN POOR VDI FIT INSTALLED BY USER AND MACHINE (CSV) fails if no applications are set as Poor VDI FIT under ASSESSMENT > VDI FIT PROFILE tab.
  - APPLICATION COMPARISON BY MACHINE GROUP Report has performance issues.

### Announcements

- **End-of-Life for Stratusphere versions 5.8.7 and 5.8.8:** Liquidware will be discontinuing all sales and technical support of Stratusphere versions 5.8.7 and 5.8.8, effective 12/31/2021. We encourage all customers who may still be utilizing these versions to upgrade to a more recent version to take advantage of the numerous technologies & feature enhancements as well as resolved support issues.

### Release Available As

- **Software Update:** This release is available as a Software Update across all supported platforms if you are on 6.5.x version of Stratusphere. However, if you are 5.8.6 or higher, we do offer a migration option whereby you can download a new Stratusphere 6.5 Hub and Database Appliance and use the migrate option in the consoles of these new appliances to migrate network configuration, certificates, and data from the old 5.8.6 or higher appliances to the newer 6.5.x appliances.  
**NOTE: Please see the Upgrading section below for instructions.**
- **Virtual Appliance Downloads:** Full virtual appliances are available for VMware vSphere, Citrix XenServer, Microsoft Hyper V, and Nutanix Acropolis. Cloud platforms such as AWS, Azure and Google Cloud Platform will be released shortly. Liquidware has started the onboarding process on these cloud platforms, and they will be available in their respective platform Marketplaces as soon as the onboarding process is complete.

### Release Applies to

- Stratusphere Hub Appliance.
- Stratusphere Database Appliance.
- Stratusphere Collector Appliance.
- Stratusphere Connector ID Key.

## Upgrading

If your current installed version of Stratusphere is 6.5.x, please use the instructions in [Upgrading from Stratusphere 6.5](#) to upgrade to the latest version.

**On-Premises Versions:** If the current on-premises (VMware vSphere, Microsoft Hyper V, Citrix XenServer, Nutanix Acropolis) installed version of Stratusphere is at 6.1.x, or 6.0.x, or 5.8.5 or higher, please use the instructions in [Migrating to Stratusphere 6.5 Appliances](#), to migrate network settings, certificates, and data from 5.8.5 and higher appliances to the 6.5.0 appliances. If the current installed version is earlier than 5.8.5, please upgrade to 5.8.5 and then perform a migration using the instructions mentioned above.

**Cloud Platform versions:** If the current installation of Stratusphere is on any of our supported Cloud Platforms (AWS, Azure, Google Cloud Platform), the 6.5.0 versions of the appliances are available within each cloud platform vendor. Liquidware is working on onboarding 6.5.1 versions of the appliances on support Cloud Platforms as well. Please use the [Migrating to Stratusphere 6.5.x Appliances](#) guide, to migrate data and configuration from older versions of Stratusphere.

Alternatively, contact [Support@Liquidware.com](mailto:Support@Liquidware.com) for further assistance.

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Stratusphere™ Release Notes

*Version 6.5.0, released November 11<sup>th</sup>, 2020*

## What's New?

- **CENTOS 8:** Stratusphere 6.5.0 appliances now use the Linux CentOS 8 Operating System. This operating system replaces the CentOS 6 that is now EOL. Since the operating system cannot be upgraded in place, it requires migrating the appliances from the old version to the new appliance. See the [Upgrading](#) section below on how to install it or migrate to it depending on your current version installed.
- **POSTGRES 12:** Liquidware has upgraded the internal relational database to Postgres 12 from 9.6. This is the most stable, high performance version of Postgres which will enhance performance for the overall solution.
- **API BUILDER 2:** Stratusphere API Builder has been updated with a new, modern UI look and feel with significant enhancements to its workflow and capabilities:
  - Search & filter for basis and metric columns to identify inspectors with relevant data.
  - Easily pick related metric column groups to mirror existing ADVANCED > INSPECTORS views.
  - Ability to import, save, tag favorites, and maintain history of API calls.
  - Better workflow with NEW, SIMPLE/EXTENDED, COPY, & LAUNCH buttons with a Navigation pane on the left.
  - Enabling the AUTO-RESOLUTION option within the API BUILDER V2 > SETTINGS > CONFIGURATION tab allows end users to drill down into data and get updates to the API Call automatically so that end users can use them when they see the table they would like to use.
  - Added support for internationalization i.e. support for multiple languages.
- **MACHINE HEALTH & SECURITY:** Liquidware has added a new feature that collects information on WINDOWS OS UPDATES, FIREWALL, ANTI-VIRUS, and ANTI-SPYWARE. It also collects status information on whether some advanced security features such as CREDENTIAL GUARD, DEVICE GUARD, SECURE BOOT, etc. have been configured. In addition, status of DISK ENCRYPTION per disk is also collected. This information is available under table views such UX DIAGNOSTICS | UPDATES, FIREWALL, and SECURITY within the ADVANCED > INSPECTORS > MACHINES & USERS tabs. New reports are also available under UX DIAGNOSTICS – MACHINES and MANAGEMENT REPORTS categories under the common name of MACHINE HEALTH & SECURITY based reports.
- **MACHINE METRICS:** Liquidware has added CPU TEMPERATURE AND BATTERY stats to the list of metrics collected. These metrics are visible under ADVANCED > INSPECTORS > MACHINES & USERS tabs by selecting the FIT CONSUMPTION | PROCESSOR | TEMPERATURE Inspector View and the UX DIAGNOSTICS | BATTERY table view.
- **ADVANCED > DASHBOARDS:**
  - Dashboard widgets created from Bar and Line Charts can now display high and low marker lines across the chart to display whether the metrics are above, between or below thresholds.

- **ADVANCED > SPOTCHECKS:**
  - Added 3 new items for testing within SpotChecks for OS UPDATES.
  - Available on request through our [community site](#), there are new SpotChecks such as (WFH) WORK FROM HOME, SPOTCHECK COLLECTION, HEALTH CHECK COLLECTION, OUTLOOK CLIENT PROCESS CONNECTIONS, AMAZON WORKSPACES HEALTH CHECK, KPIs FOR PHYSICAL DESKTOPS, and more.

## Enhancements

- **ADVANCED > INSPECTORS:**
  - Enhanced visibility by adding 4 new Wi-Fi Lookups and Basis such as PROTOCOL, BAND, AUTHENTICATION TYPE, and CIPHER.
  - Enhanced user experience and consistency of drill downs by removing some unexpected additions of Basis while drilling down into a row such as, adding a Machine or User Basis when drilling down into Machine Groups or User Groups respectively instead of displaying Hourly drill down as all the other inspectors. Except for the drill downs within the ADVANCED > INSPECTORS > LOGIN tab, all drill downs now act consistently by displaying an Hourly resolution on drill down instead of adding an unexpected Basis.
  - Enhanced ease of use by removing the DETAILS check box option within the ADVANCED > INSPECTORS > MACHINES, USERS, APPLICATIONS and PROCESS NAMES tabs. After achieving enhanced API performance by changing the underlying API calls, it made the DETAILS check box option redundant and thus easy to remove. In addition, details and peak values are now available without needing to enable or disable any options.
  - Enhanced ease of use by allowing end users to perform Column Searches based on intuitive Display Names or pretty names by default while still allowing searching by internal real column names by clicking on the EXTENDED checkbox option. The Column Searches also provides a checkbox option USE WITH TABLE to append search columns within the existing table.
- **ADVANCED > DASHBOARDS:**
  - Enhanced useability by adding the column names that are part of the override into the SEARCH pane for easily using searching for different items and it works more cohesively and intuitively for the end user.
- **STRATUSPHERE API:**
  - Enhanced Stratusphere API performance by only selecting the columns requested along with only the required Basis thus drastically reducing the amount of data selected and increasing performance by at least 100% or more. The ADVANCED > INSPECTORS > MACHINES, USERS, APPLICATIONS, and PROCESS NAMES tabs have been enhanced with this functionality along with the associated INSPECTOR 0 and 1 within the API calls.
  - The new API Builder v2 is pretty easy to use but if you were used to the legacy API Builder, it is still available at the URL: [https://\[hub.domain.com\]/apibuilder1](https://[hub.domain.com]/apibuilder1).

- **CONNECTOR ID KEY:**
  - Enhanced the published application detection on View RDSH by looking at the shell and process owner to determine if a process with a UI is a published application or not.
  - Enhanced useability by automatically trying to enable any disabled performance counters on startup of CID Key service. In the past, the CID Key would merely report that there were WMI errors within the Stratusphere Event Log tab.
  - Enhanced the installation process by using an updated Install Aware version.
  - Enhanced visibility by adding IPV6 to Application Process Network metrics.
  - Enhanced reliability by using a more sophisticated process to ensure the CID Key can upload its data prior to the user on the machine logging off or the machine shutting down.
  - Fixed an issue where the CID Key was incorrectly showing SYSTEM and NETWORK SERVICE as users during login breakdown metrics capture.
  - Enhanced security compliance of the CID Key by notarizing it to run without issues on new macOS versions.
- **WEB UI:**
  - The default Database Disk Space Purge Threshold has been increased to 80%.
  - Since pausing the development of the Advanced CID Key, the Collector Administration > Network Collector Policies page had an Identity column which has now been removed.
- **REPORTS:**
  - Enhanced the Reporting Engine to use temporary space on the disk instead of RAM to generate report outputs. This change will prevent some of the out of memory related errors on the backend reporting engine while rendering some large reports.
  - Enhanced consistency of outputs between scheduled and on-demand rendering where there were differences within Excel reports and depending on how it was rendered, all data would be collapsed into one sheet instead of 3 separate sheets.

## Bug Fixes

- **ADVANCED > INSPECTORS:**
  - Fixed an issue with an error being displayed when using the Include CID records only. When User logged in, check box option was enabled within Filters within the ADVANCED > INSPECTORS > APPLICATIONS & PROCESS NAMES tab.
- **ADVANCED > SPOTCHECKS:**
  - Fixed an issue with Session Latency checks that excluded None for Published Apps causing mismatches for end users while comparing to ADVANCED > INSPECTORS > APPLICATIONS tab.
- **CONNECTOR ID KEY:**
  - Fixed an issue where the display resolution on some systems were not being captured correctly.
  - Fixed an issue where the CID Key was not capturing some network drive mapping on Microsoft Windows 7 systems.



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- Fixed an issue where the Microsoft Windows 10 2004 update broke remote display metrics due to mismatched session names.
  - Fixed an issue where the CID Key would not capture the application process load time, application load count, and active hours for Microsoft Edge processes.
  - Fixed an issue where the CID Key was incorrectly reporting long application load times for Microsoft Edge processes.
  - Fixed an issue with warning messages being displayed within the macOS console when processes were being queried for metrics.
  - Fixed an issue with IGEL installation where the variables that define the Hub address had moved to a different location.
  - Fixed an issue with IGEL where a broken link to the Hub can be overridden in initialization script.
  - Fixed an issue where there were log statements that were actually debug statements but were marked incorrectly as error statements.
  - **WEB UI:**
    - Fixed an issue where the DOMAIN dropdown on the LOGIN page would not be populated thus preventing users from logging into the Web UI.
    - Fixed an issue where the user would get logged out when clicking on RECOMMENDED CONFIGURATION ITEMS link under HUB ADMINISTRATION > CONFIGURATION tab.
    - Fixed issues with pages not loading properly due to residual expired cookies by explicitly clearing all Stratusphere related cookies when the user logs out of the UI.
    - Fixed an issue where thin client smart groups were missing default properties that were needed for proper functioning of smart group functionality.
    - Fixed an issue with Concurrent Licensing where unique concurrent logins were being tracked instead of just concurrent users.
    - Fixed an issue with a blank page being displayed after logging in when using a trial license.
  - **HUB, DATABASE & COLLECTORS:**
    - Fixed an issue within the database migration wizard that would compare the used disk space on source appliance instead of total allocated space and incorrectly stop the migration of data.
    - Fixed an issue where a Collector would incorrectly display an error message while registering to the Hub & Database.
    - Fixed an issue where services status was not being added to diagnostic logs.
    - Fixed an issue with the consoles freezing up when a proper default Gateway IP address was not specified.
  - **REPORTS:**

Added, enhanced, fixed, or made minor formatting updates to the following reports:

    - ADMINISTRATION
      - ACTIVE LICENSE USAGE REPORT
      - DAYS SINCE LAST LOGIN (CSV)

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- DAYS SINCE LAST LOGIN
  - MACHINE CALLBACK COUNTS BY DAY
  - MACHINE CALLBACK COUNTS BY HOUR
  - MACHINE CID KEY SETTINGS
  - MACHINE INVENTORY WITH AGE & USER COUNT
  - MACHINES CID KEY SETTINGS
  - MACHINES WITH WMI ERRORS
  - STRATUSPHERE COLLECTORS STATUS
  - STRATUSPHERE COLLECTORS WITH ERRORS
  - STRATUSPHERE EVENT LOGS
  - STRATUSPHERE EVENT LOG ERRORS
  - FIT ASSESSMENT REPORTS (PACK 1)
    - 109. DESIGN ESTIMATES FOR CAPACITY AND PERFORMANCE
    - 112. ASSESSMENT FINDINGS
    - 113. VDI FIT PROFILE USER DISTRIBUTION SUMMARY
  - FIT REPORTS – APPLICATIONS
    - APPLICATIONS INSTALLED AND LAST USED BY MACHINE WITH PRIMARY USER
    - APPLICATIONS WITH KNOWN POOR VDI FIT INSTALLED BY USER AND MACHINE (CSV)
    - APPLICATIONS WITH KNOWN POOR VDI FIT INSTALLED BY USER AND MACHINE
  - FIT REPORTS – MACHINES
    - PEAK DISK IOPS BY USER GROUP
  - MANAGEMENT REPORTS
    - MACHINE GROUP POOLS COUNTS BY HOUR
    - MACHINE GROUP POOLS USAGE PERCENTAGE BY DAY OF WEEK
    - MACHINE GROUP POOLS USAGE PERCENTAGE BY HOUR
    - **MACHINE HEALTH & SECURITY OVERVIEW**
  - UX DIAGNOSTIC REPORTS – APPS
    - APPLICATION LOAD TIMES DETAILS
    - APPLICATION LOAD TIMES DETAILS WITH USER & MACHINE
    - APPLICATIONS LOAD TIMES SUMMARY
    - APPLICATIONS LOAD TIMES SUMMARY BY DATE
  - UX DIAGNOSTIC REPORTS - LOGIN & SESSION
    - USER SESSION LOGIN DETAILS
  - UX DIAGNOSTIC REPORTS – MACHINES
    - **MACHINE HEALTH & SECURITY OVERVIEW**
    - **MACHINE HEALTH & SECURITY SUMMARY**
    - **MACHINE HEALTH & SECURITY DETAILS**

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- UX DIAGNOSTIC REPORTS – STORAGE

- DATASTORE METRICS SUMMARY

- Security Updates for CentOS appliances: The updates address Common Vulnerability and Exposure (CVE) items are up to date as of the release date November 3, 2020. For additional information please refer to <http://cve.mitre.org/index.html>.

## Known Issues

- On logging in to the Web UI, some pages such as Overview, Dashboards, API Builder, etc. may not load or take long to load. This may be due to expired cookies. Please logout of the Web UI using the link at the top right of the page and then try again. Clicking on the logout link clears all the cookies that may have been created in the past and starts clean.
- Within ADVANCED > DASHBOARDS, when trying to add a new Datasource, users could use the API Builder to formulate the API String and then import it by clicking on the USE CURRENT APISTRING button link. This button link was not working as expected. Due to internal workings, this link has been removed from the product for now and will be reintroduced in the next version. Users are advised to have the API Builder open in another browser tab, and manually copy and paste it within the field for specifying the API.
- ADVANCED > INSPECTORS may appear within a very small window after an upgrade. Hit the F5 key to restore the regular size.
- While importing Stratusphere OVF's on some ESX versions, the VMware Virtual Infrastructure Client will show a warning. These warnings can be safely ignored.
- While using Internet Explorer 9, the UI may not format & display some pages, such as SAN Diagnostic Summary, as expected due to compatibility issues. Liquidware recommends using the latest version of Internet Explorer, Mozilla Firefox, or Google Chrome as a temporary workaround. Also, while using Mozilla Firefox, some of the ASSESSMENT > SUMMARY tab's graphs and charts may not display call out lines and text as expected until the user clicks in each widget.
- If ENHANCED SECURITY is enabled in the console, it requires using strong passwords including special characters. Using a backslash '\' character in the password causes issues while migrating data from 5.8.5 appliances to 6.0. The password match fails and since the migration asks user to retry, it may result in account lockout if forced to enter multiple times.
- The Windows CID Key on Amazon WorkSpaces depends on the Teradici PCoIP agent to populate the remote client name and remote client IP Address within the registry. If the PCoIP agent does not populate the registry, the CID Key will not be able to collect this information.
- The development of the Windows Advanced CID Key has been paused and will not be available in newer versions of Stratusphere.
- The DIAGNOSTICS > INSPECTORS > DESKTOP APPLICATION SUMMARY page times out after 15 minutes and may result in an error. This is due to the Chart on the page, waiting for a query to finish. If the user uses the browser's Back button, the table data will be updated but the chart may be empty or displaying existing results.
- FIT REPORTS – APPLICATIONS:

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- APPLICATIONS WITH KNOWN POOR VDI FIT INSTALLED BY USER AND MACHINE (CSV) fails if no applications are set as Poor VDI FIT under ASSESSMENT > VDI FIT PROFILE tab.
  - APPLICATION COMPARISON BY MACHINE GROUP Report has performance issues.

## Announcements

- **End-of-Life for Stratusphere versions 5.8.7 and 5.8.8:** Liquidware will be discontinuing all sales and technical support of Stratusphere versions 5.8.7 and 5.8.8, effective 12/31/2021. We encourage all customers who may still be utilizing these versions to upgrade to a more recent version to take advantage of the numerous technologies & feature enhancements as well as resolved support issues.
- **End-of-Life for Stratusphere version 5.8.6 and earlier:** Liquidware will be discontinuing all sales and technical support of Stratusphere version 5.8.6 and earlier, effective 12/31/2020. We encourage all customers who may still be utilizing these versions to upgrade to a more recent version to take advantage of the numerous technologies & feature enhancements as well as resolved support issues.

## Release Available As

- Virtual Appliance Downloads: Full virtual appliances are available for VMware vSphere, Citrix XenServer, Microsoft Hyper V, and Nutanix Acropolis. Cloud platforms such as AWS, Azure and Google Cloud Platform will be released shortly. Liquidware has started the onboarding process on these cloud platforms and they will be available in their respective platform Marketplaces as soon as the onboarding process is complete.
- Software Update: This release is NOT available as a Software Update as the underlying operating system is updated from CentOS 6 to CentOS 8. However, we do offer a migration option whereby you can download a new Stratusphere 6.5 Hub and Database Appliance and use the migrate option in the consoles of these new appliances to migrate network configuration, certificates, and data from the older 6.1.x, 6.0.x, and 5.8.5 or higher appliances to the newer 6.5 appliances.

**NOTE: Please see the Upgrading section below for instructions.**

## Release Applies to

- Stratusphere Hub Appliance.
- Stratusphere Database Appliance.
- Stratusphere Collector Appliance.
- Stratusphere Connector ID Key.

## Upgrading

**On-Premises Versions:** If the current on-premises (VMware vSphere, Microsoft Hyper V, Citrix XenServer, Nutanix Acropolis) installed version of Stratusphere is at 6.1.x, or 6.0.x, or 5.8.5 or higher, please use the instructions in [Migrating to Stratusphere 6.5.0 Appliances](#), to migrate network settings, certificates, and data from 5.8.5 and higher appliances to the 6.5.0 appliances. If the current installed

## Release Notes

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version is earlier than 5.8.5, please upgrade to 5.8.5 and then perform a migration using the instructions mentioned above. Alternatively, contact [Support@Liquidware.com](mailto:Support@Liquidware.com) for further assistance.

**Cloud Platform versions:** If the current installation of Stratusphere is on any of our supported Cloud Platforms (AWS, Azure, Google Cloud Platform), the 6.5.0 versions of the appliances are still in the onboarding process within each cloud platform vendor. As soon as they become available, the Migrating to Stratusphere 6.5.0 Appliances guide will be updated with relevant instructions for each platform.

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## Stratusphere™ Release Notes

*Version 6.1.5, released July 22<sup>nd</sup>, 2020*

### What's New?

- **GOOGLE CLOUD PLATFORM:** Liquidware now officially supports Stratusphere appliances on Google Cloud Platform (GCP). Availability on Google Cloud Marketplace will lag by a few weeks due to the GCP onboarding process.
- **LOGIN METRICS:** Liquidware has updated its most popular Login Breakdown feature with:
  - Domain Controller and Domain Controller IP are now available as Basis and Lookup options within the ADVANCED > INSPECTORS > LOGIN tab. New SUMMARY | DOMAIN OVERVIEW Inspector View was added to get a high-level overview of how each domain controller is performing. The view supports standard drilldown functionality with the ability to add Users and Machine basis to view users that authenticated against each domain controller and their associated user experience.
  - Stratusphere now collects machine level & process level metrics during the Login process. These CID Key options are enabled by default in 6.1.5. Machine level metrics are collected and displayed for each second of the login breakdown process whereas process level metrics are summarized over the duration of the process. These metrics are displayed within ADVANCED > INSPECTORS > LOGIN tab's DETAILS | EVENTS & PROCESSES Inspector View to illustrate how the machine was performing during each second of the login process and to compare that process' impact on the overall machine resource utilization during the login process, thus helping to identify any resource hogs or bottlenecks.
- **WI-FI METRICS:** Liquidware recognizes the importance of Wi-Fi metrics during these times where many end users are in Work from Home mode. Stratusphere now delivers deep visibility by adding Wi-Fi SSID, BSSID (Router + Mesh), NIC MAC-ADDRESS as BASIS & LOOKUPS with SIGNAL STRENGTH PERCENTAGE & DBM, DISTANCE FROM AP, TRANSMIT LINK SPEEDS, PROTOCOL, BAND, CHANNEL, & AUTHENTICATION TYPE among some of the information collected. This data is displayed in the ADVANCED > INSPECTORS > MACHINES, USERS tabs under the SUMMARY | NETWORK | WI-FI SSID Inspector View. In addition, these metrics are also available under ADVANCED > SEARCH, DASHBOARD and SPOTCHECKS tabs
- **PROCESS OPTIMIZATION:** Liquidware unveils Stratusphere's Process Optimization feature by now displaying all the optimizations performed by the CID Key in the new SUMMARY | PROCESS OPTIMIZER ACTIONS Inspector View within the ADVANCED > INSPECTOR > APPLICATIONS & PROCESS NAMES tab. Existing reports under the PROCESS OPTIMIZATION category are also updated.
- **PROCESS FOREGROUND DURATION:** Liquidware has added the amount of time a user spends actively focused inside an application window to track productivity especially during Work from Home situations. This metric is available under ADVANCED > INSPECTORS > APPLICATIONS & PROCESS NAME tabs under the default Inspector Views. It is also available as a report in the APPLICATION PROCESS

DURATION DETAILS BY MACHINE & USER and APPLICATION PROCESS DURATION SUMMARY BY MACHINE & USER reports under the UX DIAGNOSTICS REPORTS – APPS category.

- **LOGICAL CORES:** Liquidware added LOGICAL CORES or virtual processors allocated and their consumption in terms of percentages and number of cores used to the ADVANCED > INSPECTORS > APPLICATIONS & PROCESS NAME tabs.
- **ADVANCED > DASHBOARDS:**
  - New DASHBOARD USER ROLE set within INVENTORY > USERS > EDIT tab allows administrators to expand usage to more users but still limit them only to DIAGNOSTICS > DASHBOARDS tab.
  - Administrators can now select dashboards that are visible to end users. Users can also select which dashboards load automatically for themselves.
  - New lockable widgets to prevent changes based on search or date changes.
  - New, modern Line, Bar, and Pie charts widgets using new charting library.
  - Available on request through our [community site](#), there are new dashboards such as QUICK ASSESSMENT, WFH DASHBOARD, WFH PRODUCTIVITY, REMOTE HELP DESK, DESKTOP CONSUMPTION, LEVEL 1 & LEVEL 2 SUPPORT, GPU OVERVIEW, TOP 10 WORKLOADS, SERVER CALLBACK STATUS, and more.
- **ADVANCED > SPOTCHECKS:**
  - Added 13 new metrics for testing within SpotChecks such as USER PROCESSES CPU MHZ USED FOR OWNER & MACHINE, USER PROCESS CORE USAGE FOR OWNER & MACHINE, REMOTE NETWORK LATENCY AVERAGE BY MACHINE & USER, REMOTE NETWORK LATENCY AVERAGE TO DESTINATION IP/DNS, APPLICATIONS RECENTLY INSTALLED BY MACHINE, EVENT LOG ERROR COUNTS BY MACHINE & USER, and more.
  - Available on request through our [community site](#), there are new SpotChecks such as (WFH) WORK FROM HOME, SPOTCHECK COLLECTION, HEALTH CHECK COLLECTION, OUTLOOK CLIENT PROCESS CONNECTIONS, AMAZON WORKSPACES HEALTH CHECK, KPIS FOR PHYSICAL DESKTOPS, and more.
- **OS BUILD NUMBERS:** OS BUILD NUMBER such as Microsoft Windows 10 2004 or 1909 etc. as BASIS to understand how each build is performing and being able to compare them to others.
- **VM TYPE:** Stratusphere exposes different types of machines and VMs as BASIS OR LOOKUPS by adding the ability to view users and machines by their Machine or VM Type such as PHYSICAL OR VIRTUAL and if Virtual what type of VM – AWS, VMWARE, HYPER V, CITRIX, AZURE, etc. These views are available within the SUMMARY | MACHINE TYPES, SUMMARY | USER | USER, MACHINE, TYPE, SUMMARY | MACHINE | MACHINES BY TYPE Inspector views.
- **BROWSER METRICS: MICROSOFT EDGE CHROMIUM:** Liquidware added support for detailed browser metrics and stats for MICROSOFT EDGE CHROMIUM. The installation of an extension is *required* for enhanced visibility into usage.
- **FIPS COMPLIANCE:** Stratusphere appliances & CID Keys are now FIPS compliant.
- **DISPLAY MONITORS:** Stratusphere adds display monitor information such as make, model, serial number, size in inches, etc. under ADVANCED > INSPECTORS > INVENTORY and FIT REPORTS – MACHINES > MACHINE CONFIGURATION SUMMARY report.

- **PROCESS NETWORK METRICS:** Stratusphere provides deep visibility into process's network latency, jitter, and amount of data transferred to specific remote domain, addresses and ports.
  - The **ADVANCED > INSPECTORS > APPLICATIONS & PROCESS NAME** tabs provide easy Inspector Views to display commonly used remote ports in **SUMMARY | PROCESS NETWORK | FTP, HTTP, HTTPS, MICROSOFT DS**.
  - To increase signal to noise ratio, Stratusphere now provides a mechanism to filter in and out certain processes, ports, IP addresses, and domains.
  - Process network metrics no longer use Pings to determine latency and jitter but use a low-level operating system API and thus is now supported on Windows, Linux and macOS machines.
  - NVIDIA GPU metrics are now supported on Linux machines as well.
- **API BUILDER (BETA):** Stratusphere API Builder has been updated with a new, modern UI look and feel with significant enhancements to its workflow and capabilities:
  - Search & filter for basis and metric columns to identify inspectors with relevant data.
  - Easily pick related metric column groups to mirror existing **ADVANCED > INSPECTORS** views.
  - Ability to import, save, tag favorites, and maintain history of API calls.
  - Better workflow with **NEW, SIMPLE/EXTENDED, COPY, & LAUNCH** buttons with a Navigation pane on the left.
  - Enabling the **AUTO-RESOLUTION** option within the **API BUILDER V2 > SETTINGS > CONFIGURATION** tab allows end users to drill down into data and get updates to the API Call automatically so that end users can use them when they see the table they would like to use.

## Enhancements

- **ADVANCED > INSPECTORS:**
  - Enhanced memory related visibility on the machine level by adding **PAGED POOL** and **NON-PAGED POOL** in the **FIT CONSUMPTION | MEMORY | MB USED** inspector view under the **ADVANCED > INSPECTORS > MACHINES & USERS** tab.
  - Enhanced memory related visibility on the process level by adding **PRIVATE** and **SHARED MEMORY** used in the **MEMORY | USED MB** inspector view under the **ADVANCED > INSPECTORS > APPLICATIONS** and **PROCESS NAMES** tab.
  - Enhanced visibility by adding **PROCESS TIME** as a **BASIS** to the **ADVANCED > INSPECTORS > APPLICATIONS & PROCESS NAMES** tab. It then displays the **PROCESS START TIME** and **PROCESS END TIME** if available.
  - Enhanced usability by adding **MACHINE GROUP** as a **BASIS** to the **ADVANCED > INSPECTORS > EVENT LOG** tab to facilitate viewing event logs for machines in a similar group.
  - Enhanced applications related visibility by adding **Application Architecture** to the **INVENTORY > APPLICATIONS** tab and **FIT REPORTS – APPLICATIONS > APPLICATION INVENTORY** report. In **ADVANCED > INSPECTORS > APPLICATIONS & PROCESS NAMES** tabs, **ARCHITECTURE** has been added as a **BASIS**.



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- Enhanced group-based visibility by adding MACHINE GROUPS basis to the ADVANCED > INSPECTORS > BROWSERS & ADVANCED > INSPECTORS > TRACE ROUTE tabs.
  - Enhanced application visibility by adding EARLIEST INSTALLED DATE, INSTALLED HOURS AGO and APPLICATION ARCHITECTURE to the ADVANCED > INSPECTORS > INVENTORY, APPLICATIONS, AND PROCESS NAMES tabs.
  - Enhanced visibility by adding what could potentially be the EXTERNAL IP ADDRESS of a machine as a BASIS to the ADVANCED > INSPECTORS > MACHINES, USERS, APPLICATIONS, PROCESS NAMES, REMOTE DISPLAY, TRACE ROUTE, and INVENTORY tabs.
  - Enhanced visibility for displaying process-based usage overall as well as filtering those that are running out of the user's profile folders during login by adding a new SUMMARY | TRENT EVENTS | PROCESSES AND PROCESS PATH USERS Inspector Views under the ADVANCED > INSPECTORS > LOGIN tab.
  - Enhanced network latency and hops visibility by adding a new SUMMARY | HOP IP & NAME Inspector View under ADVANCED > INSPECTORS > TRACE ROUTE tab.
  - ADVANCED > SPOTCHECKS:
    - Enhanced capability by adding Paged and Non-Paged Pool Memory to Default SpotCheck 360.
  - ADVANCED > DASHBOARDS:
    - Enhanced usability by allowing end users to customize labels while configuring the Scorecard widget.
    - Enhanced usability by allowing end users to go full screen with a button on top right.
  - STRATUSPHERE API:
    - Enhanced Stratusphere API usability by adding minimum, average, and maximum values for certain REMOTE DISPLAY metrics such as SEND RATE, RECEIVE RATE, IMAGE QUALITY, ROUND TRIP LATENCY, and DATA TRANSFERRED.
    - Enhanced visibility by adding PROCESS START TIME and PROCESS END TIME to Stratusphere API.
    - Enhanced visibility and access to data by adding MACHINE GROUP as a BASIS to the ADVANCED > INSPECTORS > EVENT LOG.
  - CONNECTOR ID KEY:
    - Enhanced visibility by adding support for collecting RFX metrics on Microsoft WVD environments.
    - Enhanced accuracy by using a new mechanism to measure APPLICATION LOAD TIME.
    - Enhanced flexibility by adding an option to allow the CID Key to DISABLE MEMORY TRIMMING per process in the HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEY PROPERTIES tab, under the PROCESS OPTIMIZATION section.
    - Enhanced integration and interoperability of data between Stratusphere & ProfileUnity by providing the size of each subfolder, 1 level below a folder such as %USERPROFILE%\APPDATA\LOCAL and %USERPROFILE%\APPDATA\ROAMING by simply adding a \\* to the end of a path in the GET SIZE AND FILE COUNTS FOR FOLDER field under CONFIGURE METRICS section of HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEY

PROPERTIES tab. This data is available in the USER PROFILE FOLDER DETAIL BY USER AND MACHINE report under the FIT REPORTS – USERS and WINDOWS MIGRATION categories.

- Enhanced visibility by using the RFX TCP RTT metric as the general SESSION LATENCY metric as available for all other remote display protocols in ADVANCED > INSPECTORS > REMOTE DISPLAY tab.
- Enhanced Stratusphere's Trace Route feature by adding the backup port for VMware BLAST 8443 as well allowing custom ports to be monitored and if a connection is detected, a trace route will be performed to the destination IP address. This custom port allows end users to monitor hops, latency, and jitter to any remote port.
- Enhanced visibility by adding make & model for VMs running on Microsoft Azure.
- Enhanced remote machine information by adding Remote Machine Name collection for PCoIP and BLAST while using VMware View with RDSH.
- Enhanced security by digitally signing all binaries (EXEs & DLLs) on Windows.
- Enhanced visibility by adding VMware Horizon Published Applications (in addition to Citrix XenApps) to the ADVANCED > INSPECTORS > REMOTE DISPLAY tab by using the LOOKUP BY: PUBLISHED APPS option.
- Enhanced usability by adding a customizable registry key to extending collecting Login Breakdown information past the 30 second default after Explorer launches. To do so, navigate to COMPUTER\HKEY\_LOCAL\_MACHINE\SOFTWARE\WOW6432NODE\LIQUIDWARE LABS\CONNECTORID on 64bit machines and add a DWORD (32 bit) value called 'LoginBreakPostWaitSeconds' and enter number of seconds to extend past Explorer.
- WEB UI:
  - The SMART GROUP feature under INVENTORY > MACHINES tabs' GROUPS > EDIT PROPERTIES view has been enhanced to include smart grouping by OPERATING SYSTEM BUILD NUMBER, CONNECTOR ID KEY VERSION, VM DIRECTORY, MACHINE IP/CIDR ADDRESS, REMOTE MACHINE IP/CIDR ADDRESS, & SERVER ROLES. The product now adds automatic smart groups for 10ZiG and Stratodesk thin clients based on them having specific Operating Systems. In addition, all thin clients & Macs are now considered as Desktops.
  - While importing VM information from VM Directories, the default option will now be FOLDER based instead of RESOURCE GROUP based.
  - The PROPERTIES section of ADVANCE CID KEYS under HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEY PROPERTIES tab has been labelled as LEGACY and will be deprecated in the next major version release. Also, the ENABLE CONNECTOR ID FOR TCP CONNECTION option has now been disabled by default.
  - AWS AppStream based machines are now recognized and tagged accordingly within the INVENTORY > MACHINES tab and anywhere else VM TYPE is displayed.
  - Enhanced the usability and reliability of the REPORT ARCHIVES list showing PENDING, RUNNING AND COMPLETED status under the ASSESSMENT > REPORTS and DIAGNOSTICS > REPORTS tab. Also, enhanced the ability to perform the DISCARD ON EMPTY check on reports with multiple datasets.

- Enhanced Stratusphere Administrator's situation awareness of the solution by adding a new ALL COLLECTOR GROUPS option under the drop down for selecting Collector Groups while running reports or even editing and saving default filters for a report enabling them to get automated daily emails about the status of each Collector within system and not restricted to just one group of Collectors.
- Enhanced situation awareness of the Stratusphere disk space usage by adding a warning message bar at the Login page if the disk space percentage is within 5% of Data Retention Period threshold policy, if set.
- Enhanced situation awareness for Stratusphere Administrators by allowing multiple comma-separated email addresses to be entered for the DEFAULT TO ADDRESS: field under the HUB ADMINISTRATION > CONFIGURATION tab. In addition, the Time zone drop down box is now sorted by +/- GMT hours instead of Region/City which was confusing to some.
- Enhanced situation awareness for the Stratusphere Administrators by adding roll-up days to the HUB ADMINISTRATION > OVERVIEW tab to understand how many days of history is being stored.
- Enhanced usability by adding the ability to configure a report with APPLICATIONS: filter under the CRITERIA section when in the EDIT REPORTS page under the DIAGNOSTICS > REPORTS tab.
- Enhanced end users' ease of understanding by simplifying the grey helper text under many CONNECTOR ID KEY PROPERTIES fields, SMART GROUP fields, APPLIANCE CONSOLES, etc.
- HUB & DATABASE:
  - Pending uploads from CID Keys on machines that have not called back for more than the maximum data retention period (DEFAULT=14 DAYS) are now zeroed out since those reports would be deleted locally by the CID Key anyway.
  - Further enhanced processing of CID Key uploads by optimizing cache handling of application inventory, disk space, licensing, VDI Profile, etc.
  - Further enhanced process network metrics by collapsing the source IP address and port of connections and focusing on remote IP address and ports to reduce database size footprint.
  - Enhanced end user usability by changing the IPV6 related configuration question in the console to be clearer and prevent end users from trying to configure IPV6 addresses.
  - Enhanced the Stratusphere console experience by adding a time out and allowing the user to go back to the menus especially while migrating appliances or an IP address change.
  - Enhanced awareness & reliability by sending out email-based alerts & reports even if an email recipient was invalid thus allowing all recipients to receive the same email at the same time displaying who else got the alert or report as well.
  - Enhanced security by including a prompt for asking for Subject Alternative Names (SANs) or Alternative DNS names in the script used to generate a request for the Hub SSL certificates.

- Enhanced cloud platform compatibility by adding AWS CLI tools to the Stratusphere AWS appliance installation.
- Enhanced reliability by compressing memory dump files to reduce space usage, and then deleting them if older than 7 days.
- Enhanced third-party backup software interaction by adding pre and post database backup scripts to enable third party backup tools to stop the database, back it up, and then start the database after completing the backup.

### Bug Fixes

- ADVANCED > INSPECTORS:
  - Fixed an issue with negative SESSION ACTIVE % and greater than 100% SESSION IDLE % values for VMware BLAST sessions under the ADVANCED > INSPECTORS > REMOTE DISPLAY tab.
  - Fixed an issue with pop-out window displaying an error if the SESSION END TIME was blank when initiated within SUMMARY | HDX | OVERVIEW Inspector View under the ADVANCED > INSPECTORS > REMOTE DISPLAY tab.
  - Fixed an issue where FILTERS and SEARCH with NOT conditions were not being cleared when loading a new Inspector View.
  - Fixed issues with some sporadic large numbers for percentage used appearing for some metrics such as PAGE FILE, CPU USED, RAM USED, DISK SPACE USED, etc.
  - Fixed an issue where Event ID was missing from Search widget under Advanced > Inspectors > Event Logs tab.
  - Fixed an issue where the ADVANCED > INSPECTORS > APPLICATIONS tab was adding a PROCESS OWNER NAME basis while drilling into an application instead of going into an HOURLY resolution as all the other tabs do.
  - Fixed an issue where the ADVANCED > INSPECTORS > APPLICATIONS & PROCESS NAMES tabs displayed an error if the option INCLUDE CID RECORDS ONLY WHEN A USER IS LOGGED IN is enabled.
  - Fixed an issue with ADVANCED > SEARCH where it would display errors while searching for numbers.
  - Fixed an issue where being to click into an EVENT or PROCESS was missing in ADVANCED > INSPECTORS > LOGIN tab. Also, fixed an issue where the row color was not being changed based on SEVERITY.
  - Fixed an issue where the ABNORMAL EVENTS count was not tracking between the top-level summary views and the drill down views within ADVANCED > INSPECTOR > LOGIN tab due to application of filters on the drill down view. The filters were removed so the counts now match all the way through.
  - Fixed an issue by adding text wrap to the DETAILS column under DETAILS | EVENTS AND PROCESS Inspector View as it was too long for end users which required too much scrolling under the ADVANCED > INSPECTORS > LOGIN tab.

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- Fixed an issue within the ADVANCED > INSPECTORS > FOLDERS and ADVANCED > INSPECTORS > EXTENSIONS tab and relevant APIs where it would not enforce the CID LEVEL resolution leading to unexpected results.
  - Fixed an issue where the ADVANCED > INSPECTORS > TRACE ROUTE tab was incorrectly enabled and displayed even when there was no related data in the database.
  - ADVANCED > SPOTCHECKS:
    - Fixed an issue where some tests were not saving due to duplicate configuration names.
  - ADVANCED > DASHBOARDS:
    - Fixed an issue where the HTML widget would not allow editing its text.
    - Fixed an issue where the ADVANCED > DASHBOARDS tab's REFRESH functionality was not triggering automatically. It has been updated to now trigger every 5 minutes.
    - Fixed an issue where importing a dashboard in dark mode would not display the text properly on the popup import window.
    - Fixed an issue with the SCORECARD widget where customizing the label of a range resulted in being copied on all subsequent scorecard widgets.
    - Fixed an issue where duplicating an existing dashboard was not working as expected.
    - Fixed an issue where an API error would prevent saving a dashboard.
  - CONNECTOR ID KEY:
    - Fixed an issue where some system owned processes were not associated with the right Application package name.
    - Fixed an issue where some system owned processes did not have their associated process owners including some processes that exited and were no longer running.
    - Fixed an issue where unusually long login delays were observed by the CID Key.
    - Fixed an issue where a 10ZiG thin client was being incorrectly reported as PHYSICAL-NOTEBOOK.
    - Fixed an issue where the FRAMES PER SECOND (FPS) and IMAGE IO RATES appeared to be very high for VMware BLAST protocol after resuming from sleep.
    - Fixed an issue where the page file allocated was being incorrectly reported as 0 when page file used for greater than 0.
    - Fixed an issue where unusually large numbers were being observed for SESSION IDs on macOS.
    - Fixed an issue where the CID Key was incorrectly reporting packet loss of -1 for some display protocols that did not support reporting packet losses.
    - Fixed an issue that displayed a Bad Image error related to Liquidware's lwlmnt64.dll when end users were attempting to run MSRA.EXE. This was a Microsoft issue that has still not being fixed but Liquidware is no longer using the lwlmnt64.dll anymore and will not result in the error displayed in the past.
    - Fixed an issue to tag operating system processes on Linux and macOS as System Product.
    - Fixed an issue where the new Frameworks in OSX had no size associated with them. Also added (Framework) and (Application) to the description to tell them apart.

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- Fixed an issue where the macOS name and build number was missing for Catalina.
  - Fixed an issue where the DNS resolution of IP addresses was being duplicated at sample and callback times. Also, fixed an issue where only IPV4 addresses were being resolved and it was not resolving IPV6 addresses at all. The CID Key now also uses a DNS cache for faster resolution. This fixed a few issues where the IP address was used instead of the DNS name as it could be not be resolved in time.
  - **WEB UI:**
    - Fixed an issue on the Stratusphere LOGIN page on Firefox where the domain security status (lock icon) was not being displayed as expected.
    - Fixed an issue where the Web UI would not display the right warning message if the end user skipped selecting DAYS OF THE WEEK option while configuring a WEEKLY import frequency from a User Directory under HUB ADMINISTRATION > DIRECTORIES > SCHEDULE IMPORT tab.
    - Fixed an issue where the REPORTS ARCHIVE view in ASSESSMENTS > REPORTS or DIAGNOSTICS > REPORTS tab would not properly delete a report in RUNNING status and the next pending report would not get executed as expected. Also fixed an issue where a deleted or failed report still showed a RUNNING status.
    - Fixed an issue where the LAST AUTO-DELETE: time was off by an hour under HUB ADMINISTRATION > DATA RETENTION > STATUS tab.
    - Fixed an issue where the Web UI was referring to a deprecated report called DOCUMENT INVENTORY in the USER DOCUMENTS section within the INDIVIDUAL INSPECTION REPORT DETAILS page. It has been updated to refer to the updated FIT ASSESSMENT REPORTS (PACK 2) > USER PROFILE FILE EXTENSION DETAIL BY USER GROUP, USER, & MACHINE report.
    - Fixed an issue where the LAST LOGIN FROM column was not sorting as expected in the INVENTORY > USERS tab.
    - Fixed an issue where sorting by MAKE or MODEL column within the SHOW MEMBERS page after selecting a MACHINE GROUP in the GROUPS view under the INVENTORY > MACHINES tab. Also added the IP ADDRESS of the machine to the SHOW MEMBERS page.
    - Fixed an issue where the Web UI would display an error when updating an existing VM Directory import under the HUB ADMINISTRATION > VM DIRECTORIES tab.
    - Fixed an issue where the ASSESSMENTS > REPORTS and DIAGNOSTICS > REPORTS showed an XLS option instead of XLSX.
    - Fixed an issue where changing the CONNECTOR ID PROPERTIES from the default ALL MACHINES group to a specific machine group would trigger a UI error under HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEY PROPERTIES tab.
    - Fixed an issue of inconsistent information between ADMINISTRATION > OVERVIEW and ADMINISTRATION > DATA RETENTION related to number of days of detail and rollout data retained within the database. Stratusphere waits until it can purge an entire day of data to maintain consistency and since time zones differ, it may occur that the UI may still show a day or two of extra data depending on when the purge is scheduled to run.

## Release Notes

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- Fixed an issue where the INVENTORY > MACHINES > EDIT page for a machine with no CID Key installed would not display as expected compared to a machine with a CID Key installed.
  - Fixed an issue where the file name of the imported members persists within the IMPORT MEMBERS popup window under INVENTORY > MACHINES and INVENTORY > USERS tab.
  - HUB & DATABASE:
    - Fixed a few issues with roll-up data related to LOGIN metrics, APPLICATION LOAD COUNTS, APPLICATION LOAD TIMES, THREAD COUNTS, HANDLE COUNT, DISK IO RATES, NETWORK IO RATES, etc.
    - Fixed an issue where the Hub would allow registration of more than the maximum of 4 allowed CID Key Collectors. The Web UI will display a warning if there are more than 4 CID Key Collectors and the console will now display an error if an end user tries to register more than 4 CID Key Collectors.
    - Fixed an issue where the Web UI or consoles would not properly allow adding, updating, and removing DNS entries on the Hub, Database and Collectors.
    - Fixed an issue where the Hub will pause the CID Key's Process Optimization feature if the BYOL license has expired or if it unable to access the Metering service on cloud-based hourly subscription environments. When the license is renewed or access to the Metering service is restored, the Hub will automatically enable the Process Optimization feature.
    - Fixed an issue where Network Ping Test metrics were not being stored if a single DNS based addresses among 5 IP addresses allowed failed to resolve to an IP address. Now the un-resolvable addresses are stored as 0.0.0.0 to show invalid DNS or unresolvable DNS addresses from the CID Key perspective.
    - Fixed an issue where browser stats were not being saved under multi-user server sessions for each callback.
    - Fixed an issue where a change in User Group or Machine Group within the registry would not register the user or machine to the new group.
    - Fixed an issue where the HUB ADMINISTRATION > DATA RETENTION tab would ignore tables with small size while executing the purge resulting in keeping more days of data than configured within the Data Retention settings.
    - Fixed an issue with Concurrent License API where it was incorrectly returning invalid license status when the total number of named users exceeded the licensed amount but not the concurrent count. Also fixed a related issue where there was an incorrect warning being displayed in the EVENT LOG tab of the ADMINISTRATION section.
    - Fixed an issue of losing disk space when capturing memory dumps by moving them to the upgrade partition especially on Hub only appliance installations.
    - Fixed an issue where the Hub would not properly handle CRL updates because it would not support single CRL file downloads.



- **REPORTS:**

Added, enhanced, fixed, or made minor formatting updates to the following reports:

- **ADMINISTRATION**
  - ALERT ON DATABASE DISK PURGE PRIOR TO THRESHOLD
  - APPLICATION INVENTORY
  - CID KEY VERSIONS INSTALLED BY USER AND MACHINE
  - DAYS SINCE LAST LOGIN (CSV)
  - DAYS SINCE LAST LOGIN
  - DATABASE SCHEMA TABLE SIZE BREAKDOWN
  - MACHINE CID KEY SETTINGS
  - MACHINE INVENTORY
  - MACHINES OVERDUE FOR AGENT CALLBACK
  - MACHINES WITH UPTIMES ABOVE THRESHOLD
  - STRATUSPHERE COLLECTORS STATUS
  - STRATUSPHERE COLLECTORS WITH ERRORS
  - STRATUSPHERE EVENT LOGS
- **APPLICATION STRATEGY**
  - APPLICATIONS WITH HIGH CPU
  - APPLICATIONS WITH HIGH MEMORY USAGE
  - APPLICATIONS INSTALLED VS. USED SUMMARY
  - APPLICATION STRATEGY ASSESSMENT
  - APPLICATION LAYERING CANDIDATES USING FLEXAPP
- **FIT ASSESSMENT REPORTS (PACK 2)**
  - 203. KEY METRICS AGGREGATED BY HOUR (MONDAY-FRIDAY)
  - 204. APPLICATION VIRTUALIZATION TARGETS
- **FIT REPORTS – APPLICATIONS**
  - APPLICATIONS BY USAGE TIME
  - APPLICATION INVENTORY
  - APPLICATIONS INSTALLED AND LAST USED BY MACHINE WITH PRIMARY USER (CSV)
  - APPLICATIONS INSTALLED AND LAST USED BY MACHINE WITH PRIMARY USER
  - APPLICATIONS INSTALLED BY USER AND MACHINE
  - APPLICATION LAYERING CANDIDATES USING FLEXAPP
  - APPLICATION PROCESS SESSION DURATION DETAILS BY MACHINE & USER
  - APPLICATION PROCESS SESSION DURATION SUMMARY BY MACHINE & USER
  - APPLICATION VIRTUALIZATION CANDIDATE USING THINAPP
  - APPLICATION VIRTUALIZATION DETAILS
  - APPLICATION VIRTUALIZATION TARGETS
- **FIT REPORTS – MACHINES**
  - MACHINE BIOS AND TPM DETAILS
  - MACHINE BOOTUP DELAY AND LOGIN DELAY DETAILS
  - MACHINE BOOTUP DELAY AND LOGIN DELAY SUMMARY



- MACHINE BOOTUP DELAY AND LOGIN DELAY SUMMARY ACROSS ALL MACHINES
- MACHINE CONFIGURATION SUMMARY
- MACHINE DISPLAY DETAILS
- MACHINE POWER CONSUMPTION & COST
- **MACHINE Wi-Fi SUMMARY**
- **Wi-Fi DETAILS BY MACHINE, USER, SSID, & PROTOCOL**
- **Wi-Fi SECURITY DETAILS BY MACHINE, USER, SSID, & PROTOCOL**
- FIT REPORTS – USERS
  - **USER PROFILE FOLDER DETAIL BY USER & MACHINE**
- MANAGEMENT REPORTS
  - MACHINE GROUP POOLS USAGE PERCENTAGE BY DAY OF WEEK
  - MACHINE GROUP POOLS USAGE PERCENTAGE BY HOUR
- PROCESS OPTIMIZATION REPORTS
  - **PROCESS OPTIMIZATION SUMMARY BY APPLICATION**
  - **PROCESS OPTIMIZATION SUMMARY BY MACHINE, USER, APPLICATION, PROCESS, & PROCESS OWNER**
  - **PROCESS OPTIMIZATION SUMMARY BY MACHINE**
  - **PROCESS OPTIMIZATION SUMMARY BY PROCESS**
- UX DIAGNOSTIC REPORTS – APPS
  - APPLICATION PROCESS SESSION DURATION DETAILS BY MACHINE & USER
  - APPLICATION PROCESS SESSION DURATION SUMMARY BY MACHINE & USER
  - APPLICATIONS LOAD TIMES SUMMARY
  - APPLICATIONS LOAD TIMES SUMMARY BY DATE
  - APPLICATIONS NOT RESPONDING
  - PROCESS NETWORK SUMMARY BY APP, PROCESS, AND REMOTE DOMAIN
  - PROCESS NETWORK SUMMARY BY APP, PROCESS, AND REMOTE DOMAIN IP & PORT
  - PROCESS NETWORK SUMMARY BY APPLICATION
  - PROCESS NETWORK SUMMARY BY APPLICATION AND PROCESS
  - PROCESS NETWORK SUMMARY BY PROCESS
  - PROCESS NETWORK SUMMARY BY REMOTE DOMAIN
- UX DIAGNOSTIC REPORTS - LOGIN & SESSION
  - USER SESSION DURATION DETAILS
  - **USER SESSION DURATION DETAILS WITH CONNECTION TIMES**
- UX DIAGNOSTIC REPORTS – NETWORK
  - NETWORK LATENCY USING PINGS
  - **Wi-Fi DETAILS BY MACHINE, USER, SSID, & PROTOCOL**
  - **Wi-Fi SECURITY DETAILS BY MACHINE, USER, SSID, & PROTOCOL**
  - **Wi-Fi SUMMARY BY MACHINES**

- UX DIAGNOSTIC REPORTS – REMOTE DISPLAY
  - REMOTE DISPLAY PROTOCOL SUMMARY BY USER, MACHINE, PROTOCOL AND REMOTE CLIENT
- UX HEALTH CHECK REPORTS
  - 302. APPLICATIONS NOT RESPONDING
  - 306. LEAST UTILIZED DESKTOPS – NO LOGINS
- UX MACHINE SPRAWL CONTROL
  - SPRAWL CONTROL - LEAST UTILIZED DESKTOPS - NO LOGINS
- WINDOWS MIGRATION
  - MACHINE CONFIGURATION SUMMARY
  - **USER PROFILE FOLDER DETAIL BY USER & MACHINE**
- Security Updates for CentOS appliances: The updates address Common Vulnerability and Exposure (CVE) CVE-2015-9381, CVE-2015-9382, CVE-2017-12192, CVE-2019-1551, CVE-2019-2945, CVE-2019-2949, CVE-2019-2962, CVE-2019-2964, CVE-2019-2973, CVE-2019-2975, CVE-2019-2978, CVE-2019-2981, CVE-2019-2983, CVE-2019-2987, CVE-2019-2988, CVE-2019-2989, CVE-2019-2992, CVE-2019-2999, CVE-2019-11745, CVE-2019-14821, CVE-2019-17055, CVE-2019-17133, CVE-2019-18634, CVE-2020-0543, CVE-2020-0548, CVE-2020-0549, CVE-2020-1927, CVE-2020-1934, CVE-2020-1967, CVE-2020-2583, CVE-2020-2590, CVE-2020-2593, CVE-2020-2601, CVE-2020-2604, CVE-2020-2654, CVE-2020-2659, CVE-2020-2754, CVE-2020-2755, CVE-2020-2756, CVE-2020-2757, CVE-2020-2773, CVE-2020-2781, CVE-2020-2800, CVE-2020-2803, CVE-2020-2805, CVE-2020-2830, CVE-2020-10711, and CVE-2020-10733. For additional information please refer to <http://cve.mitre.org/index.html>.

### Known Issues

- Within ADVANCED > DASHBOARDS, when trying to add a new Datasource, users could use the API Builder to formulate the API String and then import it by clicking on the USE CURRENT APISTRING button link. This button link was not working as expected. Due to internal workings, this link has been removed from the product for now and will be reintroduced in the next version. Users are advised to have the API Builder open in another browser tab, and manually copy and paste it within the field for specifying the API.
- ADVANCED > INSPECTORS may appear within very small window after an upgrade. Hit the F5 key to restore the regular size.
- While importing Stratusphere OVF's on some ESX versions, the VMware Virtual Infrastructure Client will show a warning. These warnings can be safely ignored.
- While using Internet Explorer 9, the UI may not format & display some pages, such as SAN Diagnostic Summary, as expected due to compatibility issues. Liquidware recommends using the latest version of Internet Explorer, Mozilla Firefox, or Google Chrome as a temporary workaround. Also, while using Mozilla Firefox, some of the ASSESSMENT > SUMMARY tab's graphs and charts may not display call out lines and text as expected until the user clicks in each widget.
- If ENHANCED SECURITY is enabled in the console, it requires using strong passwords including special characters. Using a backslash '\' character in the password causes issues while migrating

data from 5.8.5 appliances to 6.0. The password match fails and since the migration asks user to retry, it may result in account lockout if forced to enter multiple times.

- The Windows CID Key on Amazon WorkSpaces depends on the Teradici PCoIP agent to populate the remote client name and remote client IP Address within the registry. If the PCoIP agent does not populate the registry, the CID Key will not be able to collect this information.
- The development of the Windows Advanced CID Key has been paused and will not be available in newer versions of Stratusphere.
- The DIAGNOSTICS > INSPECTORS > DESKTOP APPLICATION SUMMARY page times out after 15 minutes and may result in an error. This is due to the Chart on the page, waiting for a query to finish. If the user uses the browser's Back button, the table data will be updated but the chart may be empty or displaying existing results.
- Depending on the number of days queried for some DIAGNOSTICS > REPORTS tab-based DETAIL reports that involve returning many hundreds of thousands of rows (more than 200K records) could potentially cause the reporting engine to run out of memory while outputting the report for Excel format. Liquidware is working to address the issue in the next version. Please use the Hub's virtual appliance command line console-based menu option 'W' to restart web services if this occurs.
- FIT REPORTS – APPLICATIONS:
  - APPLICATIONS WITH KNOWN POOR VDI FIT INSTALLED BY USER AND MACHINE (CSV) fails if no applications are set as Poor VDI FIT under ASSESSMENT > VDI FIT PROFILE tab.
  - APPLICATION COMPARISON BY MACHINE GROUP Report has performance issues.

## Announcements

- **End-of-Life for Stratusphere version 5.8.6 and earlier:** Liquidware will be discontinuing all sales and technical support of Stratusphere version 5.8.6 and earlier, effective 12/31/2020. We encourage all customers who may still be utilizing these versions to upgrade to a more recent version to take advantage of the numerous technologies & feature enhancements as well as resolved support issues.

## Release Available As

- Virtual Appliance Downloads: Full virtual appliances are available for Google Cloud Platform only. Liquidware has started the onboarding process on this cloud platform and it will be available in the Marketplace as soon as the onboarding process is complete.
- Software Update: This release is available as a Software Update across all supported platforms if you are on 6.0.x version of Stratusphere. However, if you are 5.8.5 or higher, we do offer a migration option whereby you can download a new Stratusphere 6.x Hub and Database Appliance and use the migrate option in the consoles of these new appliances to migrate network configuration, certificates, and data from the old 5.8.5 or higher appliances to the newer 6.x appliances.

**NOTE: Please see the Upgrading section below for instructions.**

## Release Applies to

- Stratusphere Hub Appliance.
- Stratusphere Database Appliance.
- Stratusphere Collector Appliance.
- Stratusphere Connector ID Key.

## Upgrading

If your current installed version of Stratusphere is 6.0.x, please use the instructions in [Upgrading from Stratusphere 6.0](#) to upgrade to the latest version.

If your current installed version of Stratusphere is at 5.8.5 or higher, please use the instructions in [Migrating from 5.8.5 or Higher to 6.0 Appliances](#), to migrate network settings, certificates, and data from 5.8.5 and higher appliances to the 6.0 appliances. If you are on a version earlier than 5.8.5, please upgrade to 5.8.5 and then perform a migration using the instructions mentioned above.

If your current installed version of Stratusphere is 5.8.x, please upgrade to 5.8.5 and then migrate to Stratusphere 6.0. Alternatively, contact [Support@Liquidware.com](mailto:Support@Liquidware.com) for further assistance.

## Stratusphere™ Release Notes

*Version 6.1.4, released October 31<sup>st</sup>, 2019*

### What's New?

- Liquidware now officially supports its Connector ID Key agent on Microsoft WVD and 10Zig Linux Thin Clients.
- Liquidware officially extends support to Amazon Marketplace Hourly Licensing allowing AWS users to subscribe to Stratusphere directly through the Marketplace while continuing to support Bring-Your-Own-License (BYOL). Liquidware also brings the Database appliance to AWS using high speed network communication as provided by AWS Placement Groups. Availability on Amazon Marketplace will lag due to the onboarding process.
- Liquidware now officially supports Stratusphere appliances on Microsoft Azure. Availability on Microsoft Azure Marketplace will lag due to the onboarding process.

### Enhancements

- **ADVANCED > INSPECTORS:**
  - Enhanced ADVANCED > INSPECTORS > REMOTE DISPLAY tab by adding all remaining RFX metrics to the PROTOCOL | RFX Inspector View. It provides details such as ENCODING TIME, FPS, IMAGE QUALITY, COMPRESSION, LOSS RATE, RETRANSMIT RATE, TCP/UDP BANDWIDTH & ROUNDTrip TIME (RTT). It also displays the PERCENTAGE OF FRAMES LOST due to SERVER, CLIENT or NETWORK issues. It also displays the data sent via P0-P3 channels.
- **ADVANCED > SPOTCHECKS:**
  - Enhanced coverage of metrics within the ADVANCED > SPOTCHECKS tabs by adding Inventory metrics such as LAST BOOT DAYS, LAST CONTACT MINUTES, LAST CONTACT LATE, LAST CID PENDING REPORTS, DISPLAY COUNT, and DISK COUNT.
  - Enhanced visibility by adding Virtual Host (VHOST) metrics such as CPU READY %, SWAP USED MB, MEMORY BALLOONING, and DATASTORE LATENCY.
  - Enhanced visibility by adding Virtual Machine (VMACHINE) metrics such as CPU READ SEC, CPU CoSTOP SEC, CPU LATENCY %, CPU USED % & MHZ, MEMORY USED % & MB, etc.
  - Enhanced visibility by changing DISPLAY to REMOTE DISPLAY group name for consistency and by adding metrics for IMAGE QUALITY & FPS.
- **ADVANCED > DASHBOARDS:**
  - Enhanced usability by providing easily viewable IMPORT DASHBOARD at the top right of the Dashboard Management tab and EXPORT DASHBOARD icon buttons for each row of dashboards under the Dashboard Management tab.
  - Added PREFERENCES > UTILITIES tab to also include IMPORT DASHBOARD button. This tab will include some additional options to RESET DEFAULT DASHBOARDS, EXPORT ALL DASHBOARDS, EXPORT ALL WIDGETS, EXPORT ALL DATA SOURCES, etc.
  - Enhanced usability with horizontally scrolling dashboard tabs instead of wrapping to the next line.
  - Enhanced usability by loading dashboards in the defined sort order.

- **CONNECTOR ID KEY:**
  - Enhanced support for AWS AppStream 2.0 by supporting non-domain joined AppStream instances and properly identifying the user name associated.
  - Enhanced usability where the CID Key can now be configured to enable or disable PROCESS OPTIMIZER LOGGING from the Web UI in the PROCESS OPTIMIZER section under the HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEY PROPERTIES tab.
  - Enhanced visibility of Ping stats by keeping the originally requested DNS name of the ping target in addition to its IP address.
  - Enhanced operation of the CID Key by preventing sending WMI related errors to the Windows Event Log.
  - Enhanced user licensing to ignore counting `lenovo_tmp_*` users from using a Stratusphere user license.
  - Enhanced CID Key operation by including a registry key to disable loading of a DLL that could interfere with MSRA.exe. The option to disable loading the DLL is available by setting `DisableDllPlugin` (DWORD) to 1 under `HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Liquidware Labs\ConnectorID`. The loading of the DLL is enabled by default and could cause MSRA.exe to complain. This reg key allows organizations to disable loading the DLL. The CID Key will not be able to collect APPLICATION LOAD TIME if this DLL is disabled from loading using this key.
- **WEB UI:**
  - The CID Key could always perform pings to obtain latency information based on FQDN or IP address. The Web UI page's helper text is now updated to convey this to the end user within the CONFIGURE METRICS section under HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEY PROPERTIES tab.
  - The PROCESS OPTIMIZATION section of the HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEY PROPERTIES tab has been moved to the more visible section under CONFIGURE METRICS.
  - The UI now provides direct links to Liquidware's Stratusphere DOCUMENTATION, SUPPORT, and new COMMUNITY sites under the HELP menu at the top right of the Web UI.
  - Enhanced the INVENTORY > MACHINES and INVENTORY > USERS tabs where some columns were not supporting sorting.
- **HUB & DATABASE:**
  - To support Cloud platforms such as AWS and Azure, Stratusphere now supports joining a Hub and Database using SSH Keys across all platforms.

## Bug Fixes

- **ADVANCED > INSPECTORS:**
  - Fixed an issue where the host for a VM was incorrectly displayed as UNKNOWN.
  - Fixed an issue where the MARKED FOR VIRTUALIZATION column would always be empty under the ADVANCED > INSPECTORS > APPLICATIONS / PROCESS NAMES tab.

- **ADVANCED > DASHBOARDS:**
  - Fixed an issue where the “LOADING...” text does not show on widgets all the time.
  - Fixed an issue where the datasource API string was not being checked for required values.
  - Fixed an issue where the datasource was not displaying the right missing value from within the required API parameters.
  - Fixed an issue where the DUPLICATE button was not working as expected.
  - Fixed an issue where Bar chart widgets could not be created.
- **CONNECTOR ID KEY:**
  - Fixed an issue where the CID Key on macOS would re-register when network changes occurred.
  - Fixed an issue where the CID Key would not handle Sleep, hibernation, or suspend properly causing large time differences between the callback interval which in turn would affect the rollup values for that callback.
  - Fixed an issue where the CID Key would crash due to WMI issues on Windows 10.
  - Fixed an issue with the CID Key would constantly try to restart its lwldatasvc.exe on a user session that was stuck or ending.
  - Fixed an issue with the CID Key where it was not consistent in implementing whether it was collecting browser metrics based on enabling and disabling the master Browser metrics checkbox.
- **WEB UI:**
  - Fixed an issue where changing the CONNECTOR ID PROPERTIES from the default ALL MACHINES group to a specific machine group would trigger a UI error under HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEY PROPERTIES tab.
  - Fixed an issue where searching for a machine under INVENTORY > MACHINES tab would reduce the number of items shows on the pages to less than the per page settings.
  - Fixed an issue where Web UI would display an error when any changes were made to a HUB ADMINISTRATION > DIRECTORIES configuration the first time but succeeded on another try.
  - Fixed an issue where renaming the Hub appliance’s DNS name under COLLECTOR ADMINISTRATION > COLLECTORS would cause issues. Now, the Hub’s DNS cannot be renamed.
  - Fixed an issue where the IP address, network mask, and default gateway on the HUB ADMINISTRATION > CONFIGURATION tab’s NETWORK CONFIGURATION section could be updated on Cloud platforms where these changes cannot be saved leading to issues. These fields are now disabled on AWS and Azure instances.
- **HUB & DATABASE:**
  - Fixed an issue where the roll-up numbers for Application Not Responding (ANR) were not accurate.
  - Fixed an issue where upgrading to 6.1.3 would remove NIC for the M5 AWS instances.
  - Fixed an issue where the Collector AMI on AWS was not ENA supported.

- Fixed an issue where the auto-delete option under HUB ADMINISTRATION > DATA RETENTION > SETTINGS tab would purge EVENT LOG data.
- Fixed an issue with the Nutanix Prism metric import was not working as expected.
- Fixed an issue seeing with rollups timing out in some cases.
- Fixed an issue where the IMPORT MEMBERS button under INVENTORY > MACHINES tab was not working as expected.
- Fixed an issue where the error from importing a VM Directory was not easy to troubleshoot.
- Fixed an issue where the backend was not honoring the LAST 60 MIN setting for scheduled reports under DIAGNOSTICS > REPORTS tab.
- Fixed an issue where the MACHINE GROUP SEARCH FILTER would not work for importing directories under HUB ADMINISTRATION > DIRECTORIES tab.
- Fixed an issue where registering a Collector from the Web UI would use its IP address instead of its DNS name.
- Fixed an issue where the Hub or Collector would run out of memory while performing a VM Directory import in very large environments.
- Fixed an issue where changes to a Machine Group were undone while it was automatically rebuilding the group's membership.
- Fixed an issue where AD import under HUB ADMINISTRATION > DIRECTORIES tab would not work for non-paging servers.
- DIAGNOSTICS > REPORTS: Added, enhanced, fixed, or made minor formatting updates to the following reports:
  - ADMINISTRATION
    - ALERT ON DATABASE DISK PURGE PRIOR TO THRESHOLD
    - STRATUSPHERE COLLECTORS STATUS
    - STRATUSPHERE COLLECTORS WITH ERRORS
    - STRATUSPHERE EVENT LOGS
  - MANAGEMENT REPORTS
    - MACHINE GROUP POOLS USAGE PERCENTAGES BY DAY OF WEEK
    - MACHINE GROUP POOLS USAGE PERCENTAGE BY HOUR
  - UX DIAGNOSTIC REPORTS – APPS
    - APPLICATIONS LOAD TIMES SUMMARY
    - APPLICATIONS LOAD TIMES SUMMARY BY DATE
- Security Updates for CentOS appliances: The updates address Common Vulnerability and Exposure (CVE) CVE-2017-17805, CVE-2018-9568, CVE-2018-17972, CVE-2019-1125, CVE-2019-1559, CVE-2019-2745, CVE-2019-2762, CVE-2019-2769, CVE-2019-2786, CVE-2019-2816, CVE-2019-2842, CVE-2019-3855, CVE-2019-3856, CVE-2019-3857, CVE-2019-3863, CVE-2019-5489, CVE-2019-9517, CVE-2019-10081, CVE-2019-10082, CVE-2019-10092, CVE-2019-10097, CVE-2019-10098, CVE-2019-10208, CVE-2019-11810, CVE-2019-12735, CVE-2019-12749, and CVE-2019-14835. For additional information please refer to <http://cve.mitre.org/index.html>.



## Known Issues

- Within **ADVANCED > DASHBOARDS**, when trying to add a new Datasource, users could use the API Builder to formulate the API String and then import it by clicking on the **USE CURRENT APISTRING** button link. This button link was not working as expected. Due to internal workings, this link has been removed from the product for now and will be reintroduced in the next version. Users are advised to have the API Builder open in another browser tab, and manually copy and paste it within the field for specifying the API.
- **ADVANCED > INSPECTORS** may appear within very small window after an upgrade. Hit the F5 key to restore the regular size.
- While importing Stratusphere OVF's on some ESX versions, the VMware Virtual Infrastructure Client will show a warning. These warnings can be safely ignored.
- While using Internet Explorer 9, the UI may not format & display some pages, such as SAN Diagnostic Summary, as expected due to compatibility issues. Liquidware recommends using the latest version of Internet Explorer, Mozilla Firefox, or Google Chrome as a temporary workaround. Also, while using Mozilla Firefox, some of the **ASSESSMENT > SUMMARY** tab's graphs and charts may not display call out lines and text as expected until the user clicks in each widget.
- If **ENHANCED SECURITY** is enabled in the console, it requires using strong passwords including special characters. Using a backslash '\' character in the password causes issues while migrating data from 5.8.5 appliances to 6.0. The password match fails and since the migration asks user to retry, it may result in account lockout if forced to enter multiple times.
- The Windows CID Key on Amazon WorkSpaces depends on the Teradici PCoIP agent to populate the remote client name and remote client IP Address within the registry. If the PCoIP agent does not populate the registry, the CID Key will not be able to collect this information.
- The development of the Windows Advanced CID Key has been paused and will not be available in newer versions of Stratusphere.
- The **DIAGNOSTICS > INSPECTORS > DESKTOP APPLICATION SUMMARY** page times out after 15 minutes and may result in an error. This is due to the Chart on the page, waiting for a query to finish. If the user uses the browser's Back button, the table data will be updated but the chart may be empty or displaying existing results.
- Depending on the number of days queried for some **DIAGNOSTICS > REPORTS** tab-based **DETAIL** reports that involve returning many hundreds of thousands of rows (more than 200K records) could potentially cause the reporting engine to run out of memory while outputting the report for Excel format. Liquidware is working to address the issue in the next version. Please use the Hub's virtual appliance command line console-based menu option 'W' to restart web services if this occurs.
- **FIT REPORTS – APPLICATIONS:**
  - **APPLICATIONS WITH KNOWN POOR VDI FIT INSTALLED BY USER AND MACHINE (CSV)** fails if no applications are set as Poor VDI FIT under **ASSESSMENT > VDI FIT PROFILE** tab.
  - **APPLICATION COMPARISON BY MACHINE GROUP** Report has performance issues.

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## Announcements

- **End-of-Life for Stratusphere version 5.8.0 and earlier:** Liquidware will be discontinuing all sales and technical support of Stratusphere version 5.8.0 and earlier effective 10/31/2018. We encourage all customers who may still be utilizing these versions to upgrade to a more recent version to take advantage of the numerous technologies & feature enhancements as well as resolved support issues.

## Release Available As

- Virtual Appliance Downloads: Full virtual appliances are available for AWS and Azure only. Liquidware has started the onboarding process on these cloud platforms and they will be available in their respective Marketplaces as soon as the onboarding process is complete. For AWS AMIs please visit [www.Liquidware.com/Download/](http://www.Liquidware.com/Download/) to download the latest versions of Stratusphere appliances in AMI format. Please visit [www.Liquidware.com/Download/](http://www.Liquidware.com/Download/) to download the Azure appliances.
- Software Update: This release is available as a Software Update across all supported platforms if you are on 6.0.x version of Stratusphere. However, if you are 5.8.5 or higher, we do offer a migration option whereby you can download a new Stratusphere 6.x Hub and Database Appliance and use the migrate option in the consoles of these new appliances to migrate network configuration, certificates, and data from the old 5.8.5 or higher appliances to the newer 6.x appliances.

**NOTE: Please see the Upgrading section below for instructions.**

## Release Applies to

- Stratusphere Hub Appliance.
- Stratusphere Database Appliance.
- Stratusphere Collector Appliance.
- Stratusphere Connector ID Key.

## Upgrading

If your current installed version of Stratusphere is 6.0.x, please use the instructions in [Upgrading from Stratusphere 6.0](#) to upgrade to the latest version.

If your current installed version of Stratusphere is at 5.8.5 or higher, please use the instructions in [Migrating from 5.8.5 or Higher to 6.0 Appliances](#), to migrate network settings, certificates, and data from 5.8.5 and higher appliances to the 6.0 appliances. If you are on a version earlier than 5.8.5, please upgrade to 5.8.5 and then perform a migration using the instructions mentioned above.

If your current installed version of Stratusphere is 5.8.x, please upgrade to 5.8.5 and then migrate to Stratusphere 6.0. Alternatively, contact [Support@Liquidware.com](mailto:Support@Liquidware.com) for further assistance.

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## Stratusphere™ Release Notes

*Version 6.1.3, released July 8<sup>th</sup>, 2019*

### What's New?

- Liquidware now officially supports its Connector ID Key agent on Windows Server 2019.
- Liquidware now officially supports its Connector ID Key agent on StratoDesk Thin Clients.
- Liquidware officially extends support to Amazon Marketplace Hourly Licensing allowing AWS users to subscribe to Stratusphere directly through the Marketplace while continuing to support Bring-Your-Own-License (BYOL). Availability on Amazon Marketplace will lag due to the onboarding process.
- Liquidware now officially supports Stratusphere appliances on Microsoft Azure. Availability on Microsoft Azure Marketplace will lag due to the onboarding process.

### Enhancements

- **ADVANCED > INSPECTORS:**
  - Enhanced usability in the ADVANCED > INSPECTORS tabs by adding context like menus while clicking on a table cell to provide clarity on whether to drill down deeper into the metric or open a new tab with a different inspector such as Applications Inspector or User 360. This enhancement can be disabled by enabling the DO NOT POPUP MENU WHEN CLICKING ON CELLS OPTION in ADVANCED > PREFERENCES.
  - Enhanced ADVANCED > INSPECTORS > APPLICATIONS & PROCESS NAME tabs by adding THREAD metric to each process. This information is available within the default CUSTOM Inspector View and within Stratusphere API as well. The performance for retrieving process path and arguments has also been optimized.
  - Enhanced ADVANCED > INSPECTORS > MACHINES & USERS tabs by adding PING stats under the SUMMARY | NETWORK | MACHINES IP LATENCY & LOSS & SUMMARY | NETWORK | USERS IP LATENCY & LOSS Inspector Views. Also, additional LOOKUP BY columns called PING IP and PING NAME are also available. New metrics are min/average/max ping latency along with the packets sent and lost as well.
  - Enhanced ADVANCED > INSPECTORS > REMOTE DISPLAY tab by adding a new SUMMARY | USER SESSION DURATION Inspector View. It provides details of a user's session duration, connected, disconnected, and idle times in minutes.
  - Enhanced ADVANCED > INSPECTORS > USERS and ADVANCED > INSPECTORS > MACHINES tab by adding SUMMARY | MAC | MACHINES, USERS, OS views and SUMMARY | LINUX | MACHINES, USERS, OS views to directly filter by macOS and Linux machines.
  - Enhanced ADVANCED > INSPECTORS > INVENTORY tab by adding LAST CONTACT LATE and LAST CONTACT SECONDS columns to the default CUSTOM Inspector View for Machines that are past overdue to callback to Stratusphere. These columns are also available within Stratusphere API.

- **ADVANCED > DASHBOARDS:**
  - Enhanced end user experience by showing progress of loading components within the dashboards and allowing users to click away on other tabs as well.
  - Each entity within DASHBOARD, WIDGETS, and DATASOURCES tab can now be easily customized using the SAVE AS or DUPLICATE functionality. This functionality preserves the original out-of-the-box dashboards, widgets, and datasources owned by LIQUIDWARE and prevents them from being edited or deleted. They are kept up to date by Liquidware on upgrades.
  - Underlying code has been further optimized and libraries have been upgraded to the latest versions.
  - Enhanced the ease of adding high level API OVERRIDE filters like machine group, user group, etc. to existing dashboards with minimal effort while using the SAVE AS functionality.
  - Enhanced usability of controlling access to dashboards by adding helper text, sorting the user group lists, and providing the ability control access using pseudo group like EVERYONE or specific user group names.
  - DASHBOARD HOME menu bar is now optimized. Clicking on the LAST UPDATED widget will force a refresh. The AUTO-REFRESH now shows its refresh frequency as well.
  - SEARCH: The Dashboard SEARCH functionality has also been enhanced to automatically display color coded icons and details on what was applied on each widget to better understand what is being displayed.
  - PREFERENCES: The Dashboard PREFERENCES now has two tabs with SEARCH being the new one. On the first GENERAL tab, it provides options on whether to USE LOCAL CACHE for faster performance and to protect SYSTEM DEFAULTS. On the SEARCH tab, changing the DEFAULT DATE automatically triggers a refresh of the dashboards while in SEARCH mode to reflect the new timeframe. It also provides options to SORT SEARCH FIELDS and to HIDE ADVANCED SEARCH ID based fields that are not commonly used.
- **CONNECTOR ID KEY:**
  - The PROCESS OPTIMIZER has been further enhanced to provide smoother user experience on machines.
  - Process Optimization now supports the ability to raise and/or lower priorities of a process based on process name. It also supports termination of a process.
  - Added a registry option to disable collection of network process metrics. This option is available by setting `DisableProcessNetworkStats (DWORD)` to 1 under `HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432NODE\LIQUIDWARE LABS\CONNECTORID`.

- **WEB UI:**
  - The Login page on the Web UI now shows a closed lock icon for DOMAINS using the secure connection and an open, unlocked icon if using the standard connection. Liquidware recommends using the secure connection when configuring HUB ADMINISTRATION > DIRECTORIES tab for Active Directory or LDAP name store directories.
  - Network Collector default policies were updated to include VMware View Blast to now monitor all supported remote display protocols.
  - Enhanced the audit capability of Stratusphere within EVENT LOG:
    - Each access through API or Web UI is now logged to the EVENT LOG with additional user information.
    - Any HUB ADMINISTRATION > CONFIGURATION changes are also logged to the EVENT LOG.
    - Any upgrades of COLLECTORS are logged to the EVENT LOG.
- **HUB & DATABASE:**
  - Reduced CPU, IOPs and disk space requirements on the Hub and Database appliances by switching the DIAGNOSTICS > INSPECTORS and DIAGNOSTICS > REPORTS tabs to use the optimized application process roll-up tables already in use by ADVANCED > INSPECTORS since 6.0.2. Users already on the newest version of Stratusphere like 6.1.1 going back to 6.0.2 and particularly those used to ADVANCED > INSPECTORS, may not notice any differences. **However, users upgrading from 6.0.0 and using DIAGNOSTICS > INSPECTORS and DIAGNOSTICS > REPORTS may find longer term, summarized roll-up data for application process stats missing.** This is part of migrating to the newer version of the roll-up tables first introduced in 6.0.2. *Liquidware sincerely regrets the deprecation of this earlier version of application process stats rollup information.*
  - Enhanced efficiency of the Hub by migrating to Apache 2.4 has inbuilt support for handling of Certificate Revocation List (CRL) checks using the Online Certificate Status Protocol (OCSP).
  - Enhanced the internal Stratusphere log collection ability where logs are now collected across Hub, Database and Collector appliances.
  - Enhanced usability by providing the ability to reset a Collector quickly and easily across all platforms by running `/opt/lwl/bin/ResetCollector.sh` script.

## Bug Fixes

- **ADVANCED > INSPECTORS:**
  - Fixed an issue where the process path and process name were being displayed correctly for macOS and Linux machines.
  - Fixed an issue with ADVANCED > INSPECTORS > REMOTE DISPLAY tab incorrectly displaying none as the Citrix ICA Graphics Mode.
  - Fixed an issue where some Inspector Views for Peaks values were not allowing the Details checkbox to be displayed and enabled.
  - Fixed an issue where drill down on Graphs were not working as expected.

- **ADVANCED > DASHBOARDS:**
  - Fixed an issue where the Citrix dashboard was not showing data due to a filter issue.
  - Fixed an issue where applying search terms across multiple dashboards would not work as expected.
  - Fixed an issue where mandatory fields required for creating and editing datasources were not marked as required.
  - Fixed an issue where a blank screen was displayed after deleting a datasource.
- **CONNECTOR ID KEY:**
  - Fixed an issue where the chrome process would be registered as chrome and Google Chrome due to case sensitivity inconsistencies of process paths based on operating system.
  - Fixed an issue where the IO numbers for the audio channel on Citrix ICA Remote Display metrics were too high.
  - Fixed an issue with the CID Key performing trace route on IPv6 addresses.
  - Fixed an issue with the CID Key where it would not clean out some debug file when running `idcontrol.exe clean` command.
  - Fixed an issue where a machine sleeping or hibernating or being suspended could cause a large time gap between the CID Key's start and end dates.
  - Fixed an issue where the Session ID was a very large or uninitialized number within login and process stats.
  - Fixed an issue with the CID Key on Windows missing login stats and login breakdown data if the user logged in and out within 1 minute.
  - Fixed a slow memory leak in macOS.
  - Fixed an issue with the CID Key on macOS where the memory used was always as high as 98% due to inclusion of cached memory. The cached memory is now separated from the memory used metric. We are still collecting the cached memory metric.
  - Fixed an issue with the CID Key on macOS where the disk utilization percentage was higher than 100%.
  - Fixed an issue with the CID Key on macOS where it was limited to 20 disks and could not handle fiber channel disks.
  - Fixed an issue with the CID Key not starting on CentOS 7.
- **WEB UI:**
  - Fixed an issue with refreshing data on the HUB ADMINISTRATION > OVERVIEW tab.
  - Fixed an issue with updating a license on a Hub with an invalid license error.
  - Fixed an issue where the user was unable to log into the Web UI after an upgrade.
  - Fixed an issue where the user could not remove a machine from a group while unchecking a check box within the EDIT > MACHINE GROUP MEMBERSHIP page under INVENTORY > MACHINES tab.
  - Fixed an issue where initiating an upgrade of Collector(s) from the UI would not provide any error messages back to the user in case it could not initiate the upgrade process.

## Release Notes

- Fixed an issue with HUB ADMINISTRATION > VM DIRECTORY import where the depth limit was increased from 200 to 300 element depth.
- Fixed an issue with HUB ADMINISTRATION > DATA RETENTION > SETTINGS tab where the space for detail data + roll-up data + free space was not adding up to the disk space allocated.
- Fixed an issue with HUB ADMINISTRATION > DIRECTORIES where importing an Active Directory was failing.
- Fixed an issue where the sampling frequency in minutes was not a divisor of callback frequency in the EDIT > CID KEY PROPERTIES page under the INVENTORY > MACHINES tab.
- Fixed an issue with COLLECTOR ADMINISTRATION > COLLECTORS tab, where it would error out when an end user selected multiple collectors for deletion.
- HUB & DATABASE:
  - Fixed an issue where the roll-up queries were being terminated due to lower time out settings. The time out has now been increased to allow for roll-ups to complete rather than being terminated.
  - Fixed an issue related to recording deleted items while importing from VM Directory.
  - Fixed an issue related to server role constraint issue.
  - Fixed an issue where the onboard Clam Anti-Virus could not update its definitions due to a permissions issue.
  - Fixed an issue where migrating an appliance with DHCP from one subnet to a different subnet failed to work as expected due to migration of the original subnet mask and default gateway IP address.
- DIAGNOSTICS > REPORTS: Added, enhanced, fixed, or made minor formatting updates to the following reports:
  - ADMINISTRATION
    - ALERT ON DATABASE DISK PURGE PRIOR TO THRESHOLD
    - APPLICATION INVENTORY
    - DATABASE SCHEMA TABLE SIZE BREAKDOWN
    - MACHINE CID KEY SETTINGS
    - MACHINE INVENTORY WITH AGE & USER COUNT
    - MACHINES WITH WMI ERRORS
    - **SPECTRE MELTDOWN PATCH REMEDIATION STATUS FOR WINDOWS 7 MACHINES** <sup>NEW</sup>
    - STRATUSPHERE EVENT LOG
    - STRATUSPHERE EVENT LOG ERRORS
  - APPLICATION STRATEGY
    - APPLICATIONS INSTALLED VS USED SUMMARY
    - APPLICATIONS WITH HIGH CPU
    - APPLICATIONS WITH HIGH MEMORY USAGE
  - FIT ASSESSMENT REPORTS (PACK 1)
    - 101. VDI FIT BY USER GROUP
    - 102. VDI FIT BY USER
    - 103. APPLICATION ASSESSMENT SUMMARY

- 104. APPLICATIONS INSTALLED VS USED SUMMARY
- 105. APPLICATION VIRTUALIZATION CANDIDATES USING THINAPP
- 112. ASSESSMENT FINDINGS
- FIT ASSESSMENT REPORTS (PACK 2)
  - 204. APPLICATION VIRTUALIZATION TARGETS
  - 213. NETWORK CONNECTION DETAILS FOR CID KEY COMMUNICATIONS
- FIT REPORTS – APPLICATIONS
  - APPLICATION COMPARISON BY MACHINE GROUP
  - APPLICATION ASSESSMENT SUMMARY
  - APPLICATION LAYERING CANDIDATES USING FLEXAPP
  - APPLICATION VIRTUALIZATION CANDIDATES USING THINAPP
  - APPLICATION VIRTUALIZATION TARGETS
  - APPLICATION VIRTUALIZATION DETAILS
  - APPLICATIONS BY USAGE TIME
  - APPLICATIONS INSTALLED AND LAST USED BY MACHINE WITH PRIMARY USER
  - APPLICATIONS INSTALLED BY USER AND MACHINE
  - APPLICATIONS INSTALLED VS USED SUMMARY
  - APPLICATIONS WITH KNOWN POOR VDI FIT INSTALLED BY USER AND MACHINE
  - APPLICATIONS WITH HIGH CPU
  - APPLICATIONS WITH HIGH GRAPHICS INTENSITY
  - APPLICATIONS WITH HIGH IOPS
  - APPLICATIONS WITH HIGH IO RATE
  - APPLICATIONS WITH HIGH LAUNCH DELAYS
  - APPLICATIONS WITH HIGH MEMORY USAGE
  - APPLICATIONS WITH HIGH MEMORY PAGE FAULTS
- FIT REPORTS – MACHINES
  - MACHINE CONFIGURATION SUMMARY
  - MACHINE DISPLAY DETAILS
  - MACHINE PRINTER DETAILS
  - MACHINES BY AGE DETAILS
- FIT REPORTS - USERS
  - USER GROUP CPU UTILIZATION OVERVIEW
  - USER GROUP DISK UTILIZATION OVERVIEW
  - USER GROUP MEMORY UTILIZATION OVERVIEW
  - VDI FIT BY USER
  - VDI FIT BY USER GROUP
- MANAGEMENT REPORTS
  - MACHINE AND USER COUNTS BY HOUR
  - MACHINE AND USER COUNTS BY HOUR (M-F)
  - MACHINE GROUP POOLS USAGE PERCENTAGES BY DAY OF WEEK
  - MACHINE GROUP POOLS USAGE PERCENTAGE BY HOUR



- MACHINE GROUP POOLS COUNTS BY HOUR
  - USER ACTIVITY SUMMARY REPORT
  - USER LOGIN COUNTS & LOGIN DELAYS BY HOUR (M-F)
- UX DIAGNOSTIC REPORTS
  - DIAGNOSTIC FINDINGS
  - PERFORMANCE COMPARISON BY DAY OF WEEK
  - PERFORMANCE COMPARISON BY HOUR OF DAY
  - PERFORMANCE TIME CHART
  - VDI UX BY USER
- UX DIAGNOSTIC REPORTS – APPS
  - APPLICATION LOAD TIMES DETAILS
  - APPLICATION LOAD TIMES DETAILS WITH USER & MACHINE
  - APPLICATIONS LOAD TIMES SUMMARY
  - APPLICATIONS LOAD TIMES SUMMARY BY DATE
  - APPLICATION PROCESS SESSION DURATION DETAILS BY MACHINE & USER
  - APPLICATION PROCESS SESSION DURATION SUMMARY BY MACHINE & USER
  - APPLICATIONS BY USAGE TIME
  - APPLICATIONS NOT RESPONDING
  - APPLICATIONS WITH HIGH PAGE FAULTS
  - TOP 25 APPLICATIONS WITH HIGH CPU
  - TOP 25 I/O CONSUMING APPLICATIONS
  - TOP 25 MEMORY CONSUMING APPLICATIONS
- UX DIAGNOSTIC REPORTS – HOST
  - VIRTUAL MACHINE PERFORMANCE SUMMARY BY HOST
- UX DIAGNOSTIC REPORTS – LOGIN & SESSION
  - USER LOGIN DETAILS
  - **USER SESSION DURATION DETAILS<sup>NEW</sup>**
  - USER SESSION LOGIN DETAILS
  - USER SESSION LOGIN SUMMARY BY MACHINE
  - USER SESSION LOGIN SUMMARY BY MACHINE GROUP
  - USER SESSION LOGIN SUMMARY BY USER
  - USER SESSION LOGIN SUMMARY BY GROUP
- UX DIAGNOSTIC REPORTS – NETWORK
  - NETWORK APPLICATION SUMMARY
- UX DIAGNOSTIC REPORTS - REMOTE DISPLAY PROTOCOL
  - CITRIX ICA/HDX CONNECTION DETAILS BY USER AND MACHINE
  - REMOTE DISPLAY PROTOCOL SUMMARY BY USER, MACHINE, AND PROTOCOL
  - REMOTE DISPLAY PROTOCOL SUMMARY BY USER, MACHINE, PROTOCOL AND REMOTE CLIENT
- UX HEALTH CHECK REPORTS
  - 301. PERFORMANCE TIME CHART
  - 302. APPLICATIONS NOT RESPONDING

- 303. NETWORK APPLICATION SUMMARY
  - 306. LEAST UTILIZED DESKTOPS - NO LOGINS
  - 310. DIAGNOSTIC FINDINGS
- UX MACHINE SPRAWL CONTROL
  - SPRAWL CONTROL - LEAST UTILIZED DESKTOPS - NO LOGINS
- UX REGULATORY COMPLIANCE REPORTS
  - SENSITIVE SYSTEM ACCESS DETAIL
  - SENSITIVE SYSTEM ACCESS SUMMARY
- UX VALIDATION REPORTS
  - DIAGNOSTIC FINDINGS
  - PERFORMANCE COMPARISON BY DAY OF WEEK
  - PERFORMANCE COMPARISON BY HOUR OF DAY
- WINDOWS MIGRATION
  - APPLICATIONS INSTALLED VS. USED SUMMARY
  - VDI UX BY USER
  - WINDOWS 7 APPLICATION COMPATIBILITY
- WINDOWS SERVER REPORTS
  - WINDOWS SERVERS - APPLICATION USAGE SUMMARY BY SERVER USER COUNTS
  - WINDOWS SERVERS - APPLICATION USAGE SUMMARY BY USER COUNTS
  - **WINDOWS SERVERS - SESSION SUMMARY BY MACHINE, USER & SESSION<sup>NEW</sup>**
  - **WINDOWS SERVERS - SESSION SUMMARY BY MACHINE, USER, SESSION & APPLICATION<sup>NEW</sup>**
  - **WINDOWS SERVERS - SESSION SUMMARY BY MACHINE, USER, SESSION, APPLICATION & PROCESS<sup>NEW</sup>**
- Security Updates for CentOS appliances: The updates address Common Vulnerability and Exposure (CVE) CVE-2018-5743, CVE-2018-10902, CVE-2018-12126, CVE-2018-12127, CVE-2018-12130, CVE-2018-13405, CVE-2018-15473, CVE-2019-1559, CVE-2019-2422, CVE-2019-2602, CVE-2019-2684, CVE-2019-2698, CVE-2019-3896, CVE-2019-9636, CVE-2019-10127, CVE-2019-10128, CVE-2019-10129, CVE-2019-10130, CVE-2019-11091, CVE-2019-11477, CVE-2019-11478, and CVE-2019-11479. For additional information please refer to <http://cve.mitre.org/index.html>.

## Known Issues

- Within ADVANCED > DASHBOARDS, when trying to add a new Datasource, users could use the API Builder to formulate the API String and then import it by clicking on the USE CURRENT APISTRING button link. This button link was not working as expected. Due to internal workings, this link has been removed from the product for now and will be reintroduced in the next version. Users are advised to have the API Builder open in another browser tab, and manually copy and paste it within the field for specifying the API.
- Within DIAGNOSTICS > REPORTS, when scheduling a report to run on an hourly frequency, it is not honoring the Last 60 minutes report parameter.
- ADVANCED > INSPECTORS may appear within very small window after an upgrade. Hit the F5 key to restore the regular size.

- While importing Stratusphere OVF's on some ESX versions, the VMware Virtual Infrastructure Client will show a warning. These warnings can be safely ignored.
- While using Internet Explorer 9, the UI may not format & display some pages, such as SAN Diagnostic Summary, as expected due to compatibility issues. Liquidware recommends using the latest version of Internet Explorer, Mozilla Firefox, or Google Chrome as a temporary workaround. Also, while using Mozilla Firefox, some of the ASSESSMENT > SUMMARY tab's graphs and charts may not display call out lines and text as expected until the user clicks in each widget.
- If ENHANCED SECURITY is enabled in the console, it requires using strong passwords including special characters. Using a backslash '\ ' character in the password causes issues while migrating data from 5.8.5 appliances to 6.0. The password match fails and since the migration asks user to retry, it may result in account lockout if forced to enter multiple times.
- The Windows CID Key on Amazon WorkSpaces depends on the Teradici PCoIP agent to populate the remote client name and remote client IP Address within the registry. If the PCoIP agent does not populate the registry, the CID Key will not be able to collect this information.
- The development of the Windows Advanced CID Key has been paused and will not be available in newer versions of Stratusphere.
- The DIAGNOSTICS > INSPECTORS > DESKTOP APPLICATION SUMMARY page times out after 15 minutes and may result in an error. This is due to the Chart on the page, waiting for a query to finish. If the user uses the browser's Back button, the table data will be updated but the chart may be empty or displaying existing results.
- Depending on the number of days queried for some DIAGNOSTICS > REPORTS tab-based DETAIL reports that involve returning many hundreds of thousands of rows (more than 200K records) could potentially cause the reporting engine to run out of memory while outputting the report for Excel format. Liquidware is working to address the issue in the next version. Please use the Hub's virtual appliance command line console-based menu option 'W' to restart web services if this occurs.
- FIT REPORTS — APPLICATIONS:
  - APPLICATIONS WITH KNOWN POOR VDI FIT INSTALLED BY USER AND MACHINE (CSV) fails if no applications are set as Poor VDI FIT under ASSESSMENT > VDI FIT PROFILE tab.
  - APPLICATION COMPARISON BY MACHINE GROUP Report has performance issues.

## Announcements

- **End-of-Life for Stratusphere version 5.7.1 and earlier:** Liquidware will be discontinuing all sales and technical support of Stratusphere version 5.7.1 and earlier effective 12/31/2018. We encourage all customers who may still be utilizing these versions to upgrade to a more recent version to take advantage of the numerous technologies & feature enhancements as well as resolved support issues.

## Release Available As

- Software Update: This release is available as a Software Update if you are on 6.0.x version of Stratusphere. However, if you are 5.8.5 or higher, we do offer a migration option whereby you

can download a new Stratusphere 6.x Hub and Database Appliance and use the migrate option in the consoles of these new appliances to migrate network configuration, certificates, and data from the old 5.8.5 or higher appliances to the newer 6.x appliances.

**NOTE: Please see the Upgrading section below for instructions.**

## Release Applies to

- Stratusphere Hub Appliance.
- Stratusphere Database Appliance.
- Stratusphere Collector Appliance.
- Stratusphere Connector ID Key.

## Upgrading

If your current installed version of Stratusphere is 6.0.x, please use the instructions in [Upgrading from Stratusphere 6.0](#) to upgrade to the latest version.

If your current installed version of Stratusphere is at 5.8.5 or higher, please use the instructions in [Migrating from 5.8.5 or Higher to 6.0 Appliances](#), to migrate network settings, certificates, and data from 5.8.5 and higher appliances to the 6.0 appliances. If you are on a version earlier than 5.8.5, please upgrade to 5.8.5 and then perform a migration using the instructions mentioned above.

If your current installed version of Stratusphere is 5.7.x or earlier, please upgrade to 5.8.5 and then migrate to Stratusphere 6.0. Please get in touch with Liquidware Labs Customer Support at [Support@Liquidware.com](mailto:Support@Liquidware.com) or search for a KB article titled “Migrating to Stratusphere 5.7.0” on our Support Site. Additionally, you can reference [Migrating from 5.6.x to 5.7.0 Stratusphere Appliances](#).

If your current installed version of Stratusphere is 4.8.x, please visit our [Support documentation site](#) and read the [Stratusphere Upgrade Guide for 5.0](#) document created specifically to help customers upgrade from 4.8.x to the 5.0 version of Stratusphere. Alternatively, contact [Support@Liquidware.com](mailto:Support@Liquidware.com) for further assistance.

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## Stratusphere™ Release Notes

*Version 6.1.1, released December 13<sup>th</sup>, 2018*

### What's New?

- This is mainly a security update and bug fix release.

### Enhancements

- Enhanced the ADVANCED > SPOTCHECK tab's SET THRESHOLD functionality. This enhancement enables the ability to pick and choose the specific metrics you are interested in, the ability to enter your own threshold values, and the user and or machine group to filter on. It also provides the ability to keep these thresholds private or be able to publish them to the rest of the Stratusphere users and whether it is read only or allows them to update it as well. In addition to that, these thresholds sets can be exported out and imported into Stratusphere in case you want to use them across multiple instances of Stratusphere Hubs or import them from Liquidware's community site.
- Enhanced the ADVANCED > DASHBOARDS tab with the ability to:
  - DASHBOARDS > BROWSE: Manage and browse Dashboards, just as we do for Widgets and Datasources.
  - SEARCH: The Dashboard Search functionality has also been enhanced to accept the Enter button and a Go button has been added to the top and bottom of the Search pane. Additionally, search status icons are added to widgets with color codes to show how well the search criteria were applied – if all search elements match, then the search icon is green, if some match, then yellow, and red if no search elements matched.
  - CACHE: Enable usage of local cache within PREFERENCES for higher performance.
- Enhanced CID Key to support Amazon AppStream 2.0.
- Enhanced the Linux CID Key to include a switch to perform a full application inventory to include documents, libraries, fonts, etc. These are still filtered out by default but creating a `/opt/vdesktools/grd/.full_inventory` file and restarting services forces the CID Key to perform a full inventory that matches `rpm -qa` output.

### Bug Fixes

- Fixed an issue with the ADVANCED > DASHBOARDS where deleting a dashboard would not delete it immediately.
- Fixed an issue with the ADVANCED > DASHBOARDS where the Auto Refresh check box option would not be saved properly.
- Fixed an issue with ADVANCED > DASHBOARDS regarding redraws of widgets and thus enhanced performance.
- Fixed an issue with ADVANCED > DASHBOARDS where the previous dashboard name was displayed when creating a new dashboard.
- Fixed an issue with ADVANCED > DASHBOARDS where some mandatory fields were not labelled correctly and were not marked with an asterisk '\*'.

- Fixed an issue with ADVANCED tab related to caching and filters.
- Fixed an issue with the ADVANCED > INSPECTORS tab was not passing the correct custom date to the pop out window.
- Fixed an issue with ADVANCED > INSPECTORS > EVENT LOG tab where the EVENT LOG TIME was not displayed relative to the Hub's time zone but based on local desktop time zone.
- Enhanced and fixed an issue to properly display the correct Make, Model, and Type of machine running on Amazon Web Services (AWS).
- Fixed an issue with the Windows CID Key where it was reporting Event Log Time in the local desktop time zone instead of default UTC time.
- Fixed an issue with the Windows CID Key missing a start time for remote display protocol stats. This would cause all data regarding remote display to be discarded.
- Fixed an issue with the Windows CID Key where it was not reporting Disk IOPs number correctly on a machine level as compared to an application process level.
- Fixed an issue with the Windows CID Key where it was incorrectly identifying RDP session as RFX.
- Fixed an issue with the Windows CID Key tagging EXEs to incorrect application names.
- Fixed an issue with the CID Key on Hyper V regarding Spectre V2.
- Fixed an issue where newly registered Collectors would not receive the initial policy update.
- Fixed an issue where a Collector's DNS name could not be updated within COLLECTOR ADMINISTRATION > COLLECTORS > EDIT PROPERTIES page.
- Fixed an issue where some type of disks on AWS (NVMe, xv) and Nutanix would not stretch to the size recommended by the Stratusphere Sizing Guide.
- Validated use of correct ports where the import from Nutanix Prism would work on a standard, secure and custom port.
- Fixed an issue with the Stratusphere Hub failing to import data from Active Directories using custom certificates.
- Fixed an issue with the Stratusphere database console option to reboot the database appliance.
- Fixed an issue with the Concurrent Licensing where it would look at the named user count instead of the concurrent user count to lock the user out from using the UI.
- Fixed an issue with Licensing on the Hub running on Nutanix where the Hub complained about its license being invalid after upgrading to 6.1.0.
- Fixed an issue with Web UI's LICENSING > RECOVER LICENSES tab's Release Now button displaying an error "Failed to recognize input as days(number)".
- Fixed an issue with the Web UI's Page # drop down selector widget not resetting on a new category selection.
- Fixed an issue with upgrades on Stratusphere appliances running on Microsoft Azure. This fix will work for future upgrades from this version onwards, but existing installations will still need to contact [Support@Liquidware.com](mailto:Support@Liquidware.com) for help upgrading to the latest version of Stratusphere.

- Fixed an issue with the DIAGNOSTICS > INSPECTORS > TOP CONSUMERS CHARTS view which would log the user out when clicking on any charts to drill down. Please hard refresh the browser to update the web page by clicking CTRL+F5 or SHIFT+F5 depending on your browser.
- Fixed an issue with the Web UI while editing the CID KEY PROPERTIES for an individual machine where it would not store the PERFORM TRACE ROUTE options properly.
- Fixed an issue with the Web UI's HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEY PROPERTIES tab where it would still default to using 5,000 CID Key callbacks per hour and not consider Collectors installed to properly suggest recommended callback frequencies based on the 20K callbacks per hour supported in 6.x.
- Fixed an issue in the Web UI's DIAGNOSTICS > REPORTS tab's RUN CRITERIA window where it would not remember the default report criteria.
- Fixed an issue in the Web UI's DIAGNOSTICS tab's name when logging in with a 'User' role.
- Fixed an issue with some scheduled custom reports failing to run when they required a threshold value that is not set by default. These reports would complete successfully when run manually but would fail when scheduled.
- Fixed issues within custom reports which would incorrectly filter some user, machine, and process data out when selecting data from roll-up tables.
- Reports: Added, enhanced, fixed, or made minor formatting updates to the following reports:
  - ADMINISTRATION
    - ALERT ON DATABASE DISK PURGE PRIOR TO THRESHOLD
    - MACHINE CALLBACK COUNTS BY DATE
    - MACHINE INVENTORY
  - FIT ASSESSMENT REPORTS (PACK 1)
    - 111. VDI UX BY USER
    - 112. ASSESSMENT FINDINGS
  - FIT DISCOVERY & FINDINGS
    - MACHINE MEMORY SIZE AND USAGE SUMMARY
  - FIT REPORTS – MACHINES
    - MACHINE MEMORY SIZE AND USAGE SUMMARY
    - MACHINE PRINTER SUMMARY
  - UX DIAGNOSTIC REPORTS
    - PEAK RESOURCE CONSUMERS
    - PERFORMANCE COMPARISON BY DAY OF WEEK
    - PERFORMANCE COMPARISON BY HOUR OF DAY
    - PERFORMANCE TIME CHART
  - UX DIAGNOSTIC REPORTS – APPS
    - ~~PROCESS NETWORK DETAILS BY MACHINE, APP, PROCESS, PID, AND REMOTE DOMAIN IP~~  
~~PROTOCOL & PORT~~
  - UX DIAGNOSTIC REPORTS - EVENT LOGS
    - ALL EVENT LOG DETAILS BY MACHINE, USER, & LOG TIME
    - ALL EVENT LOG DETAILS OF CRITICAL SEVERITY BY MACHINE, USER, & LOG TIME

- ALL EVENT LOG DETAILS OF ERROR SEVERITY BY MACHINE, USER, & LOG TIME
- ALL EVENT LOG DETAILS OF WARNING SEVERITY BY MACHINE, USER, & LOG TIME
- APPLICATION EVENT LOG DETAILS BY MACHINE, USER, & LOG TIME
- SECURITY EVENT LOG DETAILS BY MACHINE, USER, & LOG TIME
- SYSTEM EVENT LOG DETAILS BY MACHINE, USER, & LOG TIME
- UX DIAGNOSTIC REPORTS – LOGIN & SESSION
  - LOGIN PROCESS BREAKDOWN DETAILS BY USER, MACHINE, & LOGIN TIME
  - LOGIN PROCESS BREAKDOWN SUMMARY BY USER
  - LOGIN PROCESS BREAKDOWN SUMMARY BY MACHINE
  - LOGIN PROCESS BREAKDOWN SUMMARY BY HOUR
- UX DIAGNOSTIC REPORTS – MACHINES
  - MACHINES WITH HIGH CPU CONTEXT SWITCH RATES
  - MACHINES WITH HIGH CPU USAGE
  - MACHINES WITH HIGH DISK IOPS
  - MACHINES WITH HIGH MEMORY PAGE FAULTS
  - MACHINES WITH HIGH MEMORY USAGE
  - MACHINES WITH HIGH NETWORK IO
  - MACHINES WITH HIGH NETWORK LATENCY
- UX HEALTH CHECK REPORTS
  - 301. PERFORMANCE TIME CHART
  - 305. PEAK RESOURCE CONSUMERS
- UX VALIDATION REPORTS
  - PERFORMANCE COMPARISON BY HOUR OF DAY
  - PERFORMANCE COMPARISON BY DAY OF WEEK
- Security Updates for CentOS appliances: This release has no specific CVEs that address Common Vulnerability and Exposure (CVE). For additional information please refer to <http://cve.mitre.org/index.html>.

### Known Issues

- Within ADVANCED > DASHBOARDS when in Edit mode, there are issues editing and saving Dashboards if you use the new DASHBOARDS dropdown option to BROWSE all existing dashboards. As a work around, use the EDIT DASHBOARD button within the bar at the bottom of each dashboard to edit and save changes to the dashboard. Liquidware is investigating this issue and will provide a hot fix patch for it soon and include a fix for it the next patch release.
- If you want to retain your dashboard modifications (widgets & data-sources) through upgrades, please duplicate widgets & data-sources and do not edit the default built-in versions.
- Advanced Inspectors may appear within very small window after an upgrade. Hit the F5 key to restore the regular size.
- While importing Stratusphere OVF's on some ESX versions, the VMware Virtual Infrastructure Client will show a warning. These warnings can be safely ignored.



- While using Internet Explorer 9, the UI may not format & display some pages, such as SAN Diagnostic Summary, as expected due to compatibility issues. Liquidware recommends using the latest version of Internet Explorer, Mozilla Firefox, or Google Chrome as a temporary workaround. Also, while using Mozilla Firefox, some of the ASSESSMENT > SUMMARY tab's graphs and charts may not display call out lines and text as expected until the user clicks in each widget.
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in the consoles of these new appliances to migrate network configuration, certificates, and data from the old 5.8.5 or higher appliances to the newer 6.x appliances.

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If your current installed version of Stratusphere is 5.7.x or earlier, please upgrade to 5.8.5 and then migrate to Stratusphere 6.0. Please get in touch with Liquidware Labs Customer Support at [Support@Liquidware.com](mailto:Support@Liquidware.com) or search for a KB article titled “Migrating to Stratusphere 5.7.0” on our Support Site. Additionally, you can reference [Migrating from 5.6.x to 5.7.0 Stratusphere Appliances](#).

If your current installed version of Stratusphere is 4.8.x, please visit our [Support documentation site](#) and read the [Stratusphere Upgrade Guide for 5.0](#) document created specifically to help customers upgrade from 4.8.x to the 5.0 version of Stratusphere. Alternatively, contact [Support@Liquidware.com](mailto:Support@Liquidware.com) for further assistance.

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## Stratusphere™ Release Notes

*Version 6.1.0, released October 30<sup>th</sup>, 2018*

### What's New?

- **Custom Dashboards:** Liquidware releases our fastest, most beautiful, and most customizable interactive Stratusphere dashboards ever! They are now available under the **ADVANCED > DASHBOARDS** tab. There are 11 built-in dashboards with the ability to add and customize more based on your own criteria using customizable data sources and widgets. Users can also use Search to specifically look for something and constrain criteria on what they are interested in.
- **Process Optimization:** Liquidware releases a new feature to optimize user experience on sub-optimally sized machines to enhance productivity and increase desktop density while maintaining great end user experience. Simply put, this feature boosts performance of the actively used, in-focus application while slightly deprioritizing resources for other applications and background tasks. The feature can be enabled within the Web UI under **HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEY PROPERTIES** tab, with built-in performance profiles on Microsoft Windows single-user and multi-user platforms. All optimizations made by the CID Key on process are available for reporting under the **PROCESS OPTIMIZATION REPORTS** category.
- **Process Network Metrics:** Liquidware expands per process level metrics by providing greater visibility on network connectivity, data usage, and latencies associated with each process that communicates over the network. For each Windows process active on the network, this feature identifies domains, IP Addresses, ports, protocols, data transferred, and associated latencies while communicating with remote entities on the network. This feature is available under **ADVANCED > INSPECTORS > APPLICATIONS** and the new **ADVANCED > INSPECTORS > PROCESS NAMES** tab under the **IO | PROCESS NETWORK KB** and **IO | PROCESS NETWORK LATENCY INSPECTOR VIEWS**. Reports are also available under the **UX DIAGNOSTIC REPORTS – APPS** category.
- **Advanced SpotChecks:** Liquidware announces implementation of its SpotCheck methodology available under the **ADVANCED > SPOTCHECKS** tab. This feature employs over 100 spot-checks and applies smart threshold filters to easily identify problems in the environment. Each spot-check suggests answers or provides guidance in form of tooltips on how to fix associated issues.
- **Windows Event Logs:** Liquidware releases the ability to harvest Microsoft Windows Event Logs from machines with a CID Key installed. This feature can be configured within the Web UI under **HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEY PROPERTIES** tab, where users can specify collecting logs from Application, System, Security Logs, the Log or Severity Level (Critical, Error, Warning, Information) and/or specifying specific Event IDs to include or exclude. All Event Logs collected from CID Keys are displayed under **ADVANCED > INSPECTORS > EVENT LOG** tab and within the **UX DIAGNOSTIC REPORTS - EVENT LOGS REPORTS** category.
- **VMware Blast Metrics:** Liquidware extends visibility into remote display session protocols by adding VMware Blast metrics (on Horizon Agent 7.3 and higher), to its industry leading stack of display protocol metrics that include PCoIP, RDP/RFX, and ICA/HDX. VMware Blast metrics are

available under the ADVANCED > INSPECTORS > REMOTE DISPLAY tab that shows metrics for other protocols as well under the UX DIAGNOSTIC REPORTS – REMOTE DISPLAY PROTOCOL reports category.

- **CID Keys:** CID Keys now support Apple macOS Sierra, High Sierra, and Mojave. CID Keys now also properly identify and support Amazon's versions of Linux distribution.
- **Microsoft Azure:** Liquidware announces official support for Stratusphere on Microsoft Azure.

### Enhancements

- Enhanced and refreshed the product look by switching to a blue color scheme consistent with the Liquidware logo. Within ADVANCED > INSPECTORS tab, if the option KEEP GRAPHS CLOSED BY DEFAULT is enabled under ADVANCED > PREFERENCES, the table takes up the entire page enhancing usability tremendously. An option to render table first and graphs below is also new in this version. Full screen mode is also highly recommended.
- Enhanced the User 360 pop out page by adding link to Top or Lowest 25 type queries to identify additional areas that could affect end user experience.
- Enhanced visibility to consistently show when a remote session ended for Citrix ICA/HDX, Microsoft RDP/RFX, and VMware Blast protocols beyond just Teradici PCoIP.
- Enhanced visibility of usage by providing the amount of time a user was idle within each session. This information is available on any machine session – local, remote, physical, virtual, single, or multi-user sessions. This data is displayed under ADVANCED > INSPECTORS > REMOTE DISPLAY with total session duration, percentage of connected and disconnected time, as well as percentage of active and idle times. Reports under the new UX DIAGNOSTICS REPORTS – LOGIN & SESSION category starting with USER SESSION LOGIN... have also been updated with idle session time information.
- Enhanced visibility and usability by adding Machine Group basis to the ADVANCED > INSPECTORS > INVENTORY tab.
- Enhanced overall Stratusphere API speed and performance in this release by optimizing SQL API calls. Enhanced Stratusphere API by adding the UX and FIT rating scores. Also, Liquidware enhanced security around Stratusphere API by disallowing usage of the default `ssadmin` user or any password that contains 'password' in it. Liquidware recommends creating a different set of users that are allowed API access using best practices around password security.
- Reduced resource and bandwidth utilization by the CID Key by using LZ4 compression and straight SSL based encryption while communicating with the Stratusphere Hub and Collectors. The CID Key could also be configured to communicate back to the Hub instead of 443 as long it still uses HTTP over SSL/TLS (HTTPS). Also, the CID Key will no longer allow straight HTTP based connections anymore.
- Enhanced visibility of remote client versions by adding client version for PCoIP and VMware Blast Clients in addition to the Citrix ICA/HDX clients.
- Enhanced performance of the CID Key on print servers where it would inevitably hang on enumerating printers on the print server.
- Enhanced visibility within the HUB ADMINISTRATION > DATA RETENTION > SETTINGS tab by displaying the range of dates between which data is available, number of days of data, and amount of storage space used by the Stratusphere Detail Retention and Roll-up data.

- Enhanced visibility by enabling some major Login Breakdown metrics to be rolled-up for longer term reporting. Additionally, two new reports to provide details and summaries by Domain Controllers have also been added to the new UX DIAGNOSTICS REPORTS – LOGIN & SESSION category of reports.
- Enhanced visibility into Microsoft RFX by adding 22 new metrics including Base & Current Roundtrip Latency for TCP & UDP, FEC Rate, Loss Rate, Retransmit Rate, FPS by Sent, Received, Source, Server Loss, Client Lost, and Network Loss to name a few. These metrics are available in the Microsoft RDP/RFX report under the UX DIAGNOSTIC REPORTS – REMOTE DISPLAY PROTOCOL reports category and will be available within the UI soon.
- Enhanced the FIT ASSESSMENT REPORTS – (PACK 1) > 112. ASSESSMENT FINDINGS report by included application processes from all operating systems instead of just Windows based machines.
- Enhanced visibility by collecting PCoIP metrics on multi-user systems such as RDS based VMware View Pools.
- Enhanced ease of identifying the Hub that sent a report by adding a FROM: field under HUB ADMINISTRATION > CONFIGURATION tab that can be customized with a name that easily identifies the Hub that sends a report via email.

### Bug Fixes

- Fixed an issue with the CID Key where a version was not picking up logout times on single user, desktop-based Windows platforms.
- Fixed an issue with the CID Key where it could not auto-upgrade to the new version of itself on Red Hat 7.
- Fixed an issue with ADVANCED > INSPECTORS exports running out of space by moving the exports to a much larger location within the Hub appliance.
- Fixed an issue with ADVANCED > INSPECTORS exports now displaying whether Roll-ups were used for the data retrieval within the Information sheet of the export.
- Fixed an issue where the Hub was out of sync with the CID Key Inspection report retention policy in terms of duration.
- Fixed an issue where the menu options to change default passwords for the friend, root, and ssconsole users were unavailable on the Hub and Collector appliances.
- Fixed an issue where the database could not accept data for the current day due to missing partition table for the current day.
- Fixed an issue within the DIAGNOSTICS > INSPECTORS > NETWORK CONNECTION HISTORY where the Interval based Network Audit data page would display a 404 error while view further network connection details.
- Fixed an issue within the DIAGNOSTICS > INSPECTORS > NETWORK APPLICATION SUMMARY and COLLECTOR ADMINISTRATION > NETWORK COLLECTOR POLICIES tabs where the name of the network application was incorrect.
- Fixed an issue within HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEY SOFTWARE tab where it would display the Properties page while trying to download the Example Group Policy template.

- Fixed an issue within the LICENSING > RECOVER LICENSES tab under the ADMINISTRATION section where the user had to SAVE the number of days since last observed to recover user or machine licenses before using the RELEASE NOW button.
- Fixed an issue within the LICENSING > RECOVER LICENSES tab under the ADMINISTRATION section where the User Licenses settings for recovery were not being saved.
- Fixed an issue where there was a minor difference between the amount displayed in the CONSUMED DATABASE SPACE widget in the HUB ADMINISTRATION > OVERVIEW page and the HUB ADMINISTRATION > DATA RETENTION > STATUS page's CURRENT AUDIT SIZE fields.
- Fixed an issue where the roll-up partitions failed to be created if the time zone did not have a simple 3 or 4 letter short name.
- Fixed an issue where the DIAGNOSTICS > INSPECTORS and REPORTS tabs missing data while using daily roll-ups as it would not use the seconds and milliseconds for the end date which within roll-ups was always set for the end of the day down to the second and milliseconds.
- Fixed an issue within the DIAGNOSTICS > REPORTS tab where the RUN CRITERIA window would have the dropdowns for Report Date and Compare Date enabled for all reports regardless of whether the report supported dates or not.
- Fixed an issue within DIAGNOSTICS > VDI UX PROFILE where some metric thresholds for FAIR and POOR were being improperly set to 0. It must be noted that in the current implementation, the algorithm looks for a minimum of 25 samples to properly evaluate thresholds and standard deviations. In some cases, if there is no data captured for a metric, it could be reset to 0.
- Fixed an issue within INVENTORY > MACHINES tab where the SHOW MEMBERS page would require two mouse clicks to sort table columns.
- Fixed an issue within the INVENTORY > MACHINES tab where editing a single machine's properties to customize Connector ID Key Properties would not save updated callback and sampling frequencies.
- Fixed an issue within the ADVANCED > INSPECTORS > REMOTE DISPLAY tab where no PCoIP data was being displayed due to unexpected data type issues for some metrics.
- Fixed an issue where the Hub & Collectors were observed to be processing CID Key uploads at a slow rate due to deadlocks observed while updating applications.
- Fixed an issue within ADVANCED > SEARCH where it would display an error message if roll-ups were disabled.
- Fixed an issue with the CID Key and Hub where it would not properly collect and display Unicode characters for Japanese VMs for some areas such as disk labels, login breakdown event descriptions, details, etc.
- Fixed an issue with the Hub where the version of the Windows OS and the changes in RAM allocated were not being updated within the database.
- Fixed an issue with the CID Key on some older version of macOS where the CPU % used would be high especially after the machine was awoken from sleep.
- Fixed an issue within the Hub associated with storing server roles associated with multiple server machines.

## Release Notes

- Fixed an issue where the ADVANCED > INSPECTORS > REMOTE DISPLAY tab would show no user logged in while the Local Administrator was logged in.
- Fixed an issue where the EVENT LOGS within the Administration now display the host name of the machine in addition to the IP Address.
- Fixed an issue within the Hub where the detail data roll-up flag was not being reset if the rollups were enabled and are then disabled.
- Fixed an issue within the HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEY PROPERTIES page where the popup warning regarding whether to accept or reject recommended callback frequency values was always assuming minutes, even though hours was selected.
- Fixed an issue with some parts of the Web UI not populating or getting hung, like Login page where the drop down for the domain would not be populated, etc.
- Fixed an issue where the CID Key on Ubuntu was registering with the short host name and the long host name.
- Fixed an issue with the HUB ADMINISTRATION > CONFIGURATION page where one could save invalid IP Addresses for the time servers by adding validation to the IP Addresses.
- Fixed an issue with the DIAGNOSTICS > ALERTS page where the secure RSS feed was broken on Google Chrome.
- Fixed an issue while importing Stratusphere appliances on Nutanix.
- Fixed an issue in the CID Key with duplicate IPv6 ping replies causing issues with IPv4 ping replies.
- Fixed an issue within the Event Log where large number of messages relating to updating machine information were being generated when no information was changed.
- Fixed an issue where a warning was been generated while importing the Stratusphere appliances on VMware vSphere 6.5.
- Reports: Added, enhanced, fixed, or made minor formatting updates to the following reports:
  - ADMINISTRATION
    - ALERT ON MISSING DB INSERTIONS
    - MACHINES OVERDUE FOR CALLBACK
    - MACHINES IN MACHINE GROUPS
    - SPECTRE MELTDOWN PATCH REMEDIATION REPORT
  - FIT ASSESSMENT REPORTS (PACK 1)
    - 111. VDI UX BY USER
    - 112. ASSESSMENT FINDINGS
  - FIT ASSESSMENT REPORTS (PACK 2)
    - 207. USER RESOURCE BASELINES
    - 208. MACHINE RESOURCE BASELINES
    - 209. MACHINE IO BASELINES
  - FIT REPORTS – MACHINES
    - MACHINE RESOURCE BASELINES
    - MACHINE IO BASELINES
  - FIT REPORTS – USERS



- USER RESOURCE BASELINES
  - VDI UX BY USER
- MANAGEMENT REPORTS
  - **USER COUNTS BY DAY HOUR (NEW)**
- **PROCESS OPTIMIZATION REPORTS (6 NEW REPORTS)**
- **PROFILE/UNITY REPORTS (6 NEW REPORTS)**
- UX DIAGNOSTIC REPORTS
  - PERFORMANCE TIME CHART
  - DIAGNOSTIC FINDINGS
  - ~~DEPRECATED PERFORMANCE COMPARISON~~
  - PERFORMANCE COMPARISON BY HOUR OF DAY
  - PERFORMANCE COMPARISON BY DAY OF WEEK
- UX DIAGNOSTIC REPORTS – APPS
  - **PROCESS NETWORK DETAILS BY MACHINE, APP, PROCESS, PID, AND REMOTE DOMAIN IP PROTOCOL & PORT (NEW)**
  - **PROCESS NETWORK SUMMARY BY APP, PROCESS, AND REMOTE DOMAIN IP & PORT (NEW)**
  - **PROCESS NETWORK SUMMARY BY APP, PROCESS, AND REMOTE DOMAIN (NEW)**
  - **PROCESS NETWORK SUMMARY BY APPLICATION AND PROCESS (NEW)**
  - **PROCESS NETWORK SUMMARY BY APPLICATION (NEW)**
  - **PROCESS NETWORK SUMMARY BY PROCESS (NEW)**
  - **PROCESS NETWORK SUMMARY BY REMOTE DOMAIN (NEW)**
- **UX DIAGNOSTIC REPORTS - EVENT LOGS (12 NEW REPORTS)**
- **UX DIAGNOSTIC REPORTS – LOGIN & SESSION (NEW CATEGORY FOR LOGIN & SESSION REPORTS)**
  - **LOGIN METRICS DETAILS BY DOMAIN CONTROLLER, USER, MACHINE, & LOGIN TIME (NEW)**
  - **LOGIN METRICS SUMMARY BY DOMAIN CONTROLLER (NEW)**
  - USER SESSION LOGIN DETAILS
  - USER SESSION LOGIN SUMMARY BY USER
  - USER SESSION LOGIN SUMMARY BY USER GROUP
  - USER SESSION LOGIN SUMMARY BY MACHINE
  - USER SESSION LOGIN SUMMARY BY MACHINE GROUP
- UX DIAGNOSTIC REPORTS – MACHINES
  - **MACHINES BY DISK SPACE USED (NEW)**
  - REMOTE CLIENT SESSION SUMMARY
- UX DIAGNOSTIC REPORTS - REMOTE DISPLAY PROTOCOL
  - MICROSOFT RDP/RFX CONNECTION SUMMARY BY USER AND MACHINE
  - **VMWARE BLAST CONNECTION SUMMARY BY USER AND MACHINE (NEW)**
- UX HEALTH CHECK REPORTS
  - PERFORMANCE TIME CHART
  - DIAGNOSTIC FINDINGS
- UX VALIDATION REPORTS
  - DIAGNOSTIC FINDINGS



- ~~DEPRECATED PERFORMANCE COMPARISON~~
- PERFORMANCE COMPARISON BY HOUR OF DAY
- PERFORMANCE COMPARISON BY DAY OF WEEK
- Security Updates for CentOS appliances. The updates address Common Vulnerability and Exposure (CVE) CVE-2017-0861, CVE-2017-15265, CVE-2018-2952, CVE-2018-3136, CVE-2018-3139, CVE-2018-3149, CVE-2018-3169, CVE-2018-3180, CVE-2018-3183, CVE-2018-3214, CVE-2018-3620, CVE-2018-3639, CVE-2018-3646, CVE-2018-3665, CVE-2018-3693, CVE-2018-5391, CVE-2018-5740, CVE-2018-5740, CVE-2018-7566, CVE-2018-10675, CVE-2018-10872, CVE-2018-10897, CVE-2018-10901, CVE-2018-10915, CVE-2018-10925, CVE-2018-12020, CVE-2018-12384, CVE-2018-14634, CVE-2018-1000004. For additional information please refer to <http://cve.mitre.org/index.html>.

## Known Issues

- Advanced Inspectors may appear within very small window after an upgrade. Hit the F5 key to restore the regular size.
- While importing Stratusphere OVF's on some ESX versions, the VMware Virtual Infrastructure Client will show a warning. These warnings can be safely ignored.
- While using Internet Explorer 9, the UI may not format & display some pages, such as SAN Diagnostic Summary, as expected due to compatibility issues. Liquidware recommends using the latest version of Internet Explorer, Mozilla Firefox, or Google Chrome as a temporary workaround. Also, while using Mozilla Firefox, some of the ASSESSMENT > SUMMARY tab's graphs and charts may not display call out lines and text as expected until the user clicks in each widget.
- If ENHANCED SECURITY is enabled in the console, it requires using strong passwords including special characters. Using a backslash '\ character in the password causes issues while migrating data from 5.8.5 appliances to 6.0. The password match fails and since the migration asks user to retry, it may result in account lockout if forced to enter multiple times.
- The Windows CID Key on Amazon WorkSpaces depends on the Teradici PCoIP agent to populate the remote client name and remote client IP Address within the registry. If the PCoIP agent does not populate the registry, the CID Key will not be able to collect this information.
- The development of the Windows Advanced CID Key has been paused and will not be available in newer versions of Stratusphere.
- The DIAGNOSTICS > INSPECTORS > DESKTOP APPLICATION SUMMARY page times out after 15 minutes and may result in an error. This is due to the Chart on the page, waiting for a query to finish. If the user uses the browser's Back button, the table data will be updated but the chart may be empty or displaying existing results.
- Any reports that are going to be scheduled and accept a threshold value parameter, should be saved with the threshold value within its details when edited. If the threshold value is not saved, the report may fail to run. The same report is known to fall back to a default threshold value when run manually but unfortunately fails to run when scheduled without a threshold value.
- Depending on the number of days queried for some DIAGNOSTICS > REPORTS tab-based DETAIL reports that involve returning many hundreds of thousands of rows (more than 200K records)

could potentially cause the reporting engine to run out of memory while outputting the report for Excel format. Liquidware is working to address the issue in the next version. Please use the Hub's virtual appliance command line console-based menu option 'W' to restart web services if this occurs.

- FIT REPORTS – APPLICATIONS:
  - APPLICATIONS WITH KNOWN POOR VDI FIT INSTALLED BY USER AND MACHINE (CSV) fails if no applications are set as Poor VDI FIT under ASSESSMENT > VDI FIT PROFILE tab.
  - APPLICATION COMPARISON BY MACHINE GROUP Report has performance issues.

## Announcements

- **End-of-Life for Stratusphere version 5.7.1 and earlier:** Liquidware will be discontinuing all sales and technical support of Stratusphere version 5.7.1 and earlier effective 12/31/2018. We encourage all customers who may still be utilizing these versions to upgrade to a more recent version to take advantage of the numerous technologies & feature enhancements as well as resolved support issues.

## Release Available As

- Virtual Appliance Downloads: Please visit [www.Liquidware.com/Download/](http://www.Liquidware.com/Download/) to download the latest versions of Stratusphere appliances in OVF format. Liquidware will start by release VMware ESXi appliances first and then release the remaining formats of Hyper V, Nutanix, KVM, AMI, Azure, XVA, and ZIP formats in a phased manner.
- Software Update: This release is available as a Software Update if you are on 6.0.x version of Stratusphere. However, if you are 5.8.5 or higher, we do offer a migration option whereby you can download a new Stratusphere 6.x Hub and Database Appliance and use the migrate option in the consoles of these new appliances to migrate network configuration, certificates, and data from the old 5.8.5 or higher appliances to the newer 6.x appliances.

**NOTE: Please see the Upgrading section below for instructions.**

## Release Applies to

- Stratusphere Hub Appliance.
- Stratusphere Database Appliance.
- Stratusphere Collector Appliance.
- Stratusphere Connector ID Key.

## Upgrading

If your current installed version of Stratusphere is 6.0.x, please use the instructions in [Upgrading from Stratusphere 6.0](#) to upgrade to the latest version.

If your current installed version of Stratusphere is at 5.8.5 or higher, please use the instructions in [Migrating from 5.8.5 or Higher to 6.0 Appliances](#), to migrate network settings, certificates, and data from 5.8.5 and higher appliances to the 6.0 appliances. If you are on a version earlier than 5.8.5, please upgrade to 5.8.5 and then perform a migration using the instructions mentioned above.

## Release Notes

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If your current installed version of Stratusphere is 5.7.x or earlier, please upgrade to 5.8.5 and then migrate to Stratusphere 6.0. Please get in touch with Liquidware Labs Customer Support at [Support@Liquidware.com](mailto:Support@Liquidware.com) or search for a KB article titled “Migrating to Stratusphere 5.7.0” on our Support Site. Additionally, you can reference [Migrating from 5.6.x to 5.7.0 Stratusphere Appliances](#).

If your current installed version of Stratusphere is 4.8.x, please visit our [Support documentation site](#) and read the [Stratusphere Upgrade Guide for 5.0](#) document created specifically to help customers upgrade from 4.8.x to the 5.0 version of Stratusphere. Alternatively, contact [Support@Liquidware.com](mailto:Support@Liquidware.com) for further assistance.

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## Stratusphere™ Release Notes

*Version 6.0.3, released June 13<sup>th</sup>, 2018*

### What's New?

- This is mainly a security update and bug fix release.

### Enhancements & Bug Fixes

- Fixed an issue in the ADVANCED > INSPECTORS > LOGIN tab where it would display a SQL error while looking up data by Machine Groups.
- Security Updates for CentOS appliances. The updates address Common Vulnerability and Exposure (CVE) CVE-2017-7645, CVE-2017-8824, CVE-2017-13166, CVE-2017-18017, CVE-2017-1000410, CVE-2018-1111, CVE-2018-1115, CVE-2018-1124, CVE-2018-1126, CVE-2018-2790, CVE-2018-2794, CVE-2018-2795, CVE-2018-2796, CVE-2018-2797, CVE-2018-2798, CVE-2018-2799, CVE-2018-2800, CVE-2018-2814, CVE-2018-2815, CVE-2018-3639, CVE-2018-8897, & CVE-2018-1000156. For additional information please refer to <http://cve.mitre.org/index.html>.

### Known Issues

- Advanced Inspectors may appear within very small window after an upgrade. Hit the F5 key to restore the regular size.
- While importing Stratusphere OVF's on some ESX versions, the VMware Virtual Infrastructure Client will show a warning. These warnings can be safely ignored.
- While using Internet Explorer 9, the UI may not format & display some pages, such as SAN Diagnostic Summary, as expected due to compatibility issues. Liquidware recommends using the latest version of Internet Explorer, Mozilla Firefox, or Google Chrome as a temporary workaround. Also, while using Mozilla Firefox, some of the ASSESSMENT > SUMMARY tab's graphs and charts may not display call out lines and text as expected until the user clicks in each widget.
- If ENHANCED SECURITY is enabled in the console, it requires using strong passwords including special characters. Using a backslash '\' character in the password causes issues while migrating data from 5.8.5 appliances to 6.0. The password match fails and since the migration asks user to retry, it may result in account lockout if forced to enter multiple times.
- The Windows CID Key on Amazon WorkSpaces depends on the Teradici PCoIP agent to populate the remote client name and remote client IP Address within the registry. If the PCoIP agent does not populate the registry, the CID Key will not be able to collect this information.
- Editing and customizing a machine's CID Key Properties may not save properly in the INVENTORY > MACHINES tab's EDIT MACHINE: > CONNECTOR ID KEY PROPERTIES page.
- The ADVANCED > INSPECTORS > EXTENSIONS tab may display incorrect count and size of file extensions under certain conditions such multiple boots, logins or restarting of the CID Key.
- The DIAGNOSTICS > INSPECTORS > DESKTOP APPLICATION SUMMARY page times out after 15 minutes and may result in an error. This is due to the Chart on the page, waiting for a query to finish. If the user uses the browser's Back button, the table data will be updated but the chart may be empty or displaying existing results.

- The DIAGNOSTIC > INSPECTORS > NETWORK APPLICATION SUMMARY tab's network APPLICATION name may not match the name used to specify the application in the COLLECTOR ADMINISTRATION > NETWORK COLLECTOR POLICIES tab.
- Reports:
  - FIT REPORTS – APPLICATIONS:
    - APPLICATIONS WITH KNOWN POOR VDI FIT INSTALLED BY USER AND MACHINE (CSV) fails if no applications are set as Poor VDI FIT under ASSESSMENT > VDI FIT PROFILE tab.
    - APPLICATION COMPARISON BY MACHINE GROUP Report has performance issues.

## Release Available As

- Software Update: This release is only available as a Software Update if you are on 6.0.x version of Stratusphere. However, if you are 5.8.5 or higher, we do offer a migration option whereby you can download a new Stratusphere 6.0.x Hub and Database Appliance and use the migrate option in the consoles of these new appliances to migrate network configuration, certificates, and data from the old 5.8.5 or higher appliances to the newer 6.0 appliances.

**NOTE: Please see the Upgrading section below for instructions.**

## Release Applies to

- Stratusphere Hub Appliance.
- Stratusphere Database Appliance.
- Stratusphere Collector Appliance.

## Upgrading

If your current installed version of Stratusphere is 6.0.0, please use the instructions in [Upgrading from Stratusphere 6.0](#) to upgrade to the latest version.

If your current installed version of Stratusphere is at 5.8.5 or higher, please use the instructions in [Migrating from 5.8.5 or Higher to 6.0 Appliances](#), to migrate network settings, certificates, and data from 5.8.5 and higher appliances to the 6.0 appliances. If you are on a version earlier than 5.8.5, please upgrade to 5.8.5 and then perform a migration using the instructions mentioned above.

If your current installed version of Stratusphere is 5.7.x or earlier, please upgrade to 5.8.5 and then migrate to Stratusphere 6.0. Please get in touch with Liquidware Labs Customer Support at [Support@Liquidware.com](mailto:Support@Liquidware.com) or search for a KB article titled "Migrating to Stratusphere 5.7.0" on our Support Site. Additionally, you can reference [Migrating from 5.6.x to 5.7.0 Stratusphere Appliances](#).

If your current installed version of Stratusphere is 4.8.x, please visit our [Support documentation site](#) and read the [Stratusphere Upgrade Guide for 5.0](#) document created specifically to help customers upgrade from 4.8.x to the 5.0 version of Stratusphere. Alternatively, contact [Support@Liquidware.com](mailto:Support@Liquidware.com) for further assistance.

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## Stratusphere™ Release Notes

*Version 6.0.2, released April 24<sup>th</sup>, 2018*

### What's New?

- This is mainly a security update and bug fix release with limited enhancements.

### Enhancements & Bug Fixes

- Added many security updates and vulnerability patches.
- Enhanced the ADVANCED > INSPECTORS to use updated Application Process summarized daily roll-up tables in APPLICATIONS tabs for faster performance. DIAGNOSTICS > INSPECTORS and DIAGNOSTICS > REPORTS will be updated in the 6.1 version to use updated roll-up tables.
- Enhanced the PREVIEW > CUSTOM DASHBOARDS with previews for data sources, ability to highlight rows, auto-refresh functionality, column sorting and sorting order, enhanced search functionality, and addition of preferences to customize behavior.
- Enhanced CID Key fallback logic whereupon if the CID Key fails to upload data 5 times in a row to Collectors, it will fall back to the Hub and only request an updated cert.txt to see if Collectors have been added, updated, or removed and not upload any current or pending reports to the Hub.
- Enhanced AWS AMIs to include Elastic Network Adaptor (ENA) to add compatibility with m5 tier on AWS.
- Fixed an issue where the versions of the Collectors were not changing after upgrading to 6.0.1.
- Fixed an issue where the migration wizard would not pause to show an error if it failed before the data transfer process began.
- Fixed an issue where CID Key services on VMware Instant Clones would fail to start by adding a VMWARE INSTANT CLONES POST SYNC SCRIPT. This script uses absolute paths because VMware would move the post sync scripts to the temporary folder where usage of relative paths would fail.
- Fixed an issue where some reports with hourly breakdown of data were displaying inaccurate values while using daily roll-up tables instead of the hourly or detail level tables.
- Fixed an issue where the CID Key will now perform trace routes from source to destination of a connection instead of performing bidirectional trace routes i.e. from source to destination as well as destination to source.
- Fixed an issue with CID Key on MAC OS High Sierra would not register with the Hub.
- Fixed an issue where the Web UI would show a negative number in bytes of storage space utilized for summarized, daily roll-up tables.
- Fixed an issue where the Web UI would not show the HUB ADMINISTRATION > UPGRADES > ONLINE tab automatically when an online upgrade was available.
- Fixed an issue while editing an existing subnet under the INVENTORY > SUBNETS tab.
- Fixed an issue with Smart Groups associated with machine name pattern matching failing to associate similar named machines within a Smart Group as configured.

- Fixed an issue where the swap partition on the disk2 of the Database appliance would not stretch as expected.
- Fixed an issue where the database would spike to 100% CPU if no network connection partitions were observed for the automatic partition management.
- Fixed an issue with the CID Key where it would not associate process end times with ones that have been uploaded to Stratusphere but have since exited.
- Added, enhanced, fixed, or made minor formatting updates to the following reports:
  - ADMINISTRATION > DATABASE SCHEMA TABLE SIZE BREAKDOWN
  - ADMINISTRATION > MACHINES OBSERVED BY MACHINE GROUPS
  - ADMINISTRATION > MACHINES WITH UPTIMES ABOVE THRESHOLD
  - ADMINISTRATION > SPECTRE MELTDOWN PATCH REMEDIATION STATUS FOR WINDOWS 10 MACHINES
  - FIT ASSESSMENT REPORTS (PACK 1) > 112. ASSESSMENT FINDINGS
  - FIT ASSESSMENT REPORTS (PACK 1) > 106. PEAK IOPS AGGREGATED BY HOUR
  - FIT ASSESSMENT REPORTS (PACK 2) > 202. KEY METRICS AVERAGED BY HOUR
  - FIT ASSESSMENT REPORTS (PACK 2) > 203. KEY METRICS AGGREGATED BY HOUR (MONDAY-FRIDAY)
  - FIT ASSESSMENT REPORTS (PACK 2) > 213. NETWORK CONNECTION DETAILS FOR CID KEY COMMUNICATIONS
  - UX DIAGNOSTIC REPORTS > PERFORMANCE TIME CHART
- Security Updates for CentOS appliances. The updates address Common Vulnerability and Exposure (CVE) CVE-2017-5753, CVE-2017-5715, CVE-2017-5754, CVE-2018-1058, CVE-2018-5732, and CVE-2018-5733. For additional information please refer to <http://cve.mitre.org/index.html>.

### Known Issues

- Advanced Inspectors may appear within very small window after an upgrade. Hit the F5 key to restore the regular size.
- While importing Stratusphere OVF's on some ESX versions, the VMware Virtual Infrastructure Client will show a warning. These warnings can be safely ignored.
- While using Internet Explorer 9, the UI may not format & display some pages, such as SAN Diagnostic Summary, as expected due to compatibility issues. Liquidware recommends using the latest version of Internet Explorer, Mozilla Firefox, or Google Chrome as a temporary workaround. Also, while using Mozilla Firefox, some of the ASSESSMENT > SUMMARY tab's graphs and charts may not display call out lines and text as expected until the user clicks in each widget.
- If ENHANCED SECURITY is enabled in the console, it requires using strong passwords including special characters. Using a backslash '\' character in the password causes issues while migrating data from 5.8.5 appliances to 6.0. The password match fails and since the migration asks user to retry, it may result in account lockout if forced to enter multiple times.
- The Windows CID Key on Amazon WorkSpaces depends on the Teradici PCoIP agent to populate the remote client name and remote client IP Address within the registry. If the PCoIP agent does not populate the registry, the CID Key will not be able to collect this information.

- Editing and customizing a machine's CID Key Properties may not save properly in the INVENTORY > MACHINES tab's EDIT MACHINE: > CONNECTOR ID KEY PROPERTIES page.
- The ADVANCED > INSPECTORS > EXTENSIONS tab may display incorrect count and size of file extensions under certain conditions such multiple boots, logins or restarting of the CID Key.
- The DIAGNOSTICS > INSPECTORS > DESKTOP APPLICATION SUMMARY page times out after 15 minutes and may result in an error. This is due to the Chart on the page, waiting for a query to finish. If the user uses the browser's Back button, the table data will be updated but the chart may be empty or displaying existing results.
- The DIAGNOSTIC > INSPECTORS > NETWORK APPLICATION SUMMARY tab's network APPLICATION name may not match the name used to specify the application in the COLLECTOR ADMINISTRATION > NETWORK COLLECTOR POLICIES tab.
- Reports:
  - FIT REPORTS – APPLICATIONS:
    - APPLICATIONS WITH KNOWN POOR VDI FIT INSTALLED BY USER AND MACHINE (CSV) fails if no applications are set as Poor VDI FIT under ASSESSMENT > VDI FIT PROFILE tab.
    - APPLICATION COMPARISON BY MACHINE GROUP Report has performance issues.

### Release Available As

- Software Update: This release is only available as a Software Update if you are on 6.0.x version of Stratusphere. However, if you are 5.8.5 or higher, we do offer a migration option whereby you can download a new Stratusphere 6.0.x Hub and Database Appliance and use the migrate option in the consoles of these new appliances to migrate network configuration, certificates, and data from the old 5.8.5 or higher appliances to the newer 6.0 appliances.

**NOTE: Please see the Upgrading section below for instructions.**

### Release Applies to

- Stratusphere Hub Appliance.
- Stratusphere Database Appliance.
- Stratusphere Collector Appliance.
- Stratusphere Connector ID Key.

### Upgrading

If your current installed version of Stratusphere is 6.0.0, please use the instructions in [Upgrading from Stratusphere 6.0](#) to upgrade to the latest version.

If your current installed version of Stratusphere is at 5.8.5 or higher, please use the instructions in [Migrating from 5.8.5 or Higher to 6.0 Appliances](#), to migrate network settings, certificates, and data from 5.8.5 and higher appliances to the 6.0 appliances. If you are on a version earlier than 5.8.5, please upgrade to 5.8.5 and then perform a migration using the instructions mentioned above.

If your current installed version of Stratusphere is 5.7.x or earlier, please upgrade to 5.8.5 and then migrate to Stratusphere 6.0. Please get in touch with Liquidware Labs Customer Support at



[Support@Liquidware.com](mailto:Support@Liquidware.com) or search for a KB article titled "Migrating to Stratusphere 5.7.0" on our Support Site. Additionally, you can reference [\*Migrating from 5.6.x to 5.7.0 Stratusphere Appliances\*](#).

If your current installed version of Stratusphere is 4.8.x, please visit our [Support documentation site](#) and read the [\*Stratusphere Upgrade Guide for 5.0\*](#) document created specifically to help customers upgrade from 4.8.x to the 5.0 version of Stratusphere. Alternatively, contact [Support@Liquidware.com](mailto:Support@Liquidware.com) for further assistance.

## Stratusphere™ Release Notes

*Version 6.0.1, released February 27<sup>th</sup>, 2018*

### What's New?

- This is a security update and bug fix release only.

### Enhancements & Bug Fixes

- Added many security updates and vulnerability patches, including Java updates, Meltdown & Spectre security updates specifically.
- Enhanced the ADVANCED > INSPECTORS to use summarized daily roll-up tables in the USERS, MACHINES, and APPLICATIONS tabs for faster performance.
- Enhanced the Preview Custom Dashboards with auto-refresh functionality, column sorting and sorting order, and enhanced search functionality.
- Enhanced the database copy & migration wizard to provide the amount of time estimated for the data copy/migration to finish. This is just an approximate estimation.
- Enhanced CID Key to collect security updates installed on Windows machines to detect specific patches installed on each machine. This will be used to report on which machines have been patched for Spectre and Meltdown soon.
- Enhanced appliance flexibility and uptime by adding the ability to hot add CPU and RAM resources to the Stratusphere virtual appliances.
- Enhanced CID Key to support Apple macOS High Sierra 10.13 and support determining an appropriate host name for the machine as well.
- Reduced disk space requirements by eliminating the Summarized Hourly, Weekly, Monthly, and Yearly roll-ups.
- Enhanced summary roll-up processing functionality where processing data and creation of summarized data will temporarily pause if the disk space used was close to the auto-delete threshold.
- Enhanced and revised how some roll-up values for certain metrics were being calculated. Affected metrics include Application Load Time, RAM Usage, Network Latency, Session Latency, etc.
- Fixed an issue with the CID Key where in some instances it would erroneously associate a process to a different application than the one expected.
- Fixed an issue with the CID Key where it would not send ping metrics related to remote display sessions.
- Fixed an issue with the Hub where it erroneously reports a successful sync with VMware vSphere but gets no data during the sync.
- Fixed an issue with the Hub's VMware vSphere sync operation where it was unable to associate a virtual machine with the host it was running on.
- Fixed an issue where some Summarized Roll-up tables were not being auto deleted on being disabled until that period was over.

- Fixed an issue with the APPLICATION pop-out inspector under the ADVANCED > SEARCH 360 MACHINE GROUP > SYSTEM PROCESS & SERVICES CONSUMPTION FOR MACHINE GROUPS table.
- Fixed an issue in the Web UI where the ASSESSMENT > SUMMARY tab widgets would show no callout lines and text in the pie charts.
- Fixed an issue in the Web UI where the DOWNLOAD UPDATE button was erroneously appearing on the Web UI's HUB ADMINISTRATION > UPGRADES > OFFLINE tab.
- Added, enhanced, fixed, or made minor formatting updates to the following reports:
  - ADMINISTRATION > ALERT ON DATABASE DISK PURGE PRIOR TO THRESHOLD
  - ADMINISTRATION > ALERT ON MISSING DATABASE INSERTS
  - ADMINISTRATION > MACHINE CALLBACK COUNTS BY DAY
  - ADMINISTRATION > MACHINE CALLBACK COUNTS BY HOUR
  - ADMINISTRATION > DATABASE SCHEMA TABLE SIZE BREAKDOWN
  - ADMINISTRATION > MACHINE CID KEY SETTINGS
  - APPLICATION STRATEGY > APPLICATIONS INSTALLED VS USED SUMMARY
  - FIT ASSESSMENT REPORTS (PACK 2) > 203. KEY METRICS AGGREGATED BY HOUR (MONDAY-FRIDAY)
  - FIT ASSESSMENT REPORTS (PACK 2) > 211. MACHINE GROUPS BY HIGH USER VDI FIT RATINGS
  - FIT REPORTS - APPLICATIONS > APPLICATIONS INSTALLED VS USED SUMMARY
  - FIT DISCOVERY & FINDINGS > MACHINE CPUs & UTILIZATION SUMMARY
  - FIT DISCOVERY & FINDINGS > MACHINE DISKS & USAGE SUMMARY
  - FIT DISCOVERY & FINDINGS > MACHINE EXTERNAL DEVICE SUMMARY
  - FIT DISCOVERY & FINDINGS > MACHINE MEMORY SIZE AND USAGE SUMMARY
  - FIT DISCOVERY & FINDINGS > MACHINE OPERATING SYSTEMS
  - FIT REPORTS - MACHINES > MACHINE AGES
  - FIT REPORTS - MACHINES > MACHINE BIOS AND TPM DETAILS
  - FIT REPORTS - MACHINES > MACHINE CPUs & UTILIZATION SUMMARY
  - FIT REPORTS - MACHINES > MACHINE DISKS & USAGE SUMMARY
  - FIT REPORTS - MACHINES > MACHINE EXTERNAL DEVICE SUMMARY
  - FIT REPORTS - MACHINES > MACHINE MEMORY SIZE AND USAGE SUMMARY
  - FIT REPORTS - MACHINES > MACHINE OPERATING SYSTEMS
  - FIT REPORTS - MACHINES > MACHINE PRINTER SUMMARY
  - FIT REPORTS - MACHINES > MACHINE PRINTER DETAILS
  - MANAGEMENT REPORTS > MACHINE GROUP POOLS COUNTS BY HOUR
  - UX DIAGNOSTIC REPORTS > USER EXPERIENCE KEY METRICS AGGREGATED BY HOUR
  - UX HEALTH CHECK REPORTS > 307. KEY METRICS TIME CHART AVERAGED BY HOUR
  - UX HEALTH CHECK REPORTS > 308. KEY METRICS AVERAGED BY HOUR
  - UX HEALTH CHECK REPORTS > 309. KEY METRICS AGGREGATED BY HOUR (BUSINESS HOURS)
  - UX HEALTH CHECK REPORTS > 311. USER EXPERIENCE KEY METRICS TIME CHART
  - WINDOWS MIGRATIONS > APPLICATIONS INSTALLED VS USED SUMMARY
- Security Updates for CentOS appliances. The updates address Common Vulnerability and Exposure (CVE) CVE-2017-3145, CVE-2017-5715, CVE-2017-5753, CVE-2017-5754, CVE-2017-7542, CVE-2017-9074, CVE-2017-11176, CVE-2018-1052, CVE-2018-1053, CVE-2018-2579, CVE-

2018-2582, CVE-2018-2588, CVE-2018-2599, CVE-2018-2602, CVE-2018-2603, CVE-2018-2618, CVE-2018-2629, CVE-2018-2633, CVE-2018-2634, CVE-2018-2637, CVE-2018-2641, CVE-2018-2663, CVE-2018-2677, and CVE-2018-2678. For additional information please refer to <http://cve.mitre.org/index.html>.

### Known Issues

- Advanced Inspectors may appear within very small window after an upgrade. Hit the F5 key to restore the regular size.
- While importing Stratusphere OVF's on some ESX versions, the VMware Virtual Infrastructure Client will show a warning. These warnings can be safely ignored.
- While using Internet Explorer 9, the UI may not format & display some pages, such as SAN Diagnostic Summary, as expected due to compatibility issues. Liquidware recommends using the latest version of Internet Explorer, Mozilla Firefox, or Google Chrome as a temporary workaround. Also, while using Mozilla Firefox, some of the ASSESSMENT > SUMMARY tab's graphs and charts may not display call out lines and text as expected until the user clicks in each widget.
- If ENHANCED SECURITY is enabled in the console, it requires using strong passwords including special characters. Using a backslash '\ character in the password causes issues while migrating data from 5.8.5 appliances to 6.0. The password match fails and since the migration asks user to retry, it may result in account lockout if forced to enter multiple times.
- The Windows CID Key on Amazon WorkSpaces depends on the Teradici PCoIP agent to populate the remote client name and remote client IP Address within the registry. If the PCoIP agent does not populate the registry, the CID Key will not be able to collect this information.
- Editing and customizing a machine's CID Key Properties may not save properly in the INVENTORY > MACHINES tab's EDIT MACHINE: > CONNECTOR ID KEY PROPERTIES page.
- The ADVANCED > INSPECTORS > EXTENSIONS tab may display incorrect count and size of file extensions under certain conditions such multiple boots, logins or restarting of the CID Key.
- The DIAGNOSTICS > INSPECTORS > DESKTOP APPLICATION SUMMARY page times out after 15 minutes and may result in an error. This is due to the Chart on the page, waiting for a query to finish. If the user uses the browser's Back button, the table data will be updated but the chart may be empty or displaying existing results.
- The DIAGNOSTIC > INSPECTORS > NETWORK APPLICATION SUMMARY tab's network APPLICATION name may not match the name used to specify the application in the COLLECTOR ADMINISTRATION > NETWORK COLLECTOR POLICIES tab.
- The summarized, roll-up tables for Applications does not roll-up the count of the ANR events observed for the application process but only whether it had an ANR event or not.
- Reports:
  - FIT REPORTS – APPLICATIONS:
    - APPLICATIONS WITH KNOWN POOR VDI FIT INSTALLED BY USER AND MACHINE (CSV) fails if no applications are set as Poor VDI FIT under ASSESSMENT > VDI FIT PROFILE tab.
    - APPLICATION COMPARISON BY MACHINE GROUP Report has performance issues.

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## Release Available As

- Virtual Appliance Downloads: Please visit [www.liquidware.com/download/](http://www.liquidware.com/download/) to download the latest versions of Stratusphere appliances in OVF format. Remaining formats of AMI, XVA and ZIP formats will be added soon.
- Software Update: This release is also available as a Software Update if you are on 6.0.0 version of Stratusphere. However, if you are 5.8.5 or higher, we do offer a migration option whereby you can download a new Stratusphere 6.0.x Hub and Database Appliance and use the migrate option in the consoles of these new appliances to migrate network configuration, certificates, and data from the old 5.8.5 or higher appliances to the newer 6.0 appliances.

**NOTE: Please see the Upgrading section below for instructions.**

## Release Applies to

- Stratusphere Hub Appliance.
- Stratusphere Database Appliance.
- Stratusphere Collector Appliance.
- Stratusphere Connector ID Key.

## Upgrading

If your current installed version of Stratusphere is 6.0.0, please use the instructions in [Upgrading from Stratusphere 6.0](#) to upgrade to the latest version.

If your current installed version of Stratusphere is at 5.8.5 or higher, please use the instructions in [Migrating from 5.8.5 or Higher to 6.0 Appliances](#), to migrate network settings, certificates, and data from 5.8.5 and higher appliances to the 6.0 appliances. If you are on a version earlier than 5.8.5, please upgrade to 5.8.5 and then perform a migration using the instructions mentioned above.

If your current installed version of Stratusphere is 5.7.x or earlier, please upgrade to 5.8.5 and then migrate to Stratusphere 6.0. Please get in touch with Liquidware Labs Customer Support at [Support@Liquidware.com](mailto:Support@Liquidware.com) or search for a KB article titled “Migrating to Stratusphere 5.7.0” on our Support Site. Additionally, you can reference [Migrating from 5.6.x to 5.7.0 Stratusphere Appliances](#).

If your current installed version of Stratusphere is 4.8.x, please visit our [Support documentation site](#) and read the [Stratusphere Upgrade Guide for 5.0](#) document created specifically to help customers upgrade from 4.8.x to the 5.0 version of Stratusphere. Alternatively, contact [Support@Liquidware.com](mailto:Support@Liquidware.com) for further assistance.

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## Stratusphere™ Release Notes

*Version 6.0.0, released December 14<sup>th</sup>, 2017*

### What's New?

- Stratusphere 6.0 appliances now use the Linux CentOS 6 Operating System. See the [Upgrading](#) section below on how to install it or migrate to it depending on your current version installed.
- **Preview Custom Dashboards:** Liquidware introduces a preview to our brand new customizable, interactive dashboards available under the Preview tab after logging into Stratusphere FIT/UX. There are some prebuilt dashboards plus the ability to search by numerous criteria and filters.
- **Collector Architecture:** Liquidware has enhanced and rebranded Stratusphere Network Station appliances into Stratusphere Collector appliances.
  - They are hardened, Linux based, lightweight (2 vCPU, 4 GB) software appliances that serve to collect data from CID Keys and/or sniff network connections.
  - The functionality that existed within the Stratusphere Hub has now been migrated into Collector appliances for high-availability and higher-scale CID Key data collection.
  - Each Collector communicates with the Stratusphere Hub using SSL Port (TCP/443) and can collect data from 5-10K CID Keys calling back every 60 minutes.
  - The Collector appliance also inserts CID Key data directly into the Stratusphere Database appliance bypassing the Stratusphere Hub appliance.
  - A single Stratusphere installation can now support up to 20K CID Keys calling back every 60 minutes, up from 5K in 5.8.x i.e. 400% increase in capacity.
- **CID Keys:**
  - CID Keys now use Standard Secure Communication Ports (TCP/443).
  - Apple MAC OS X (El Capitan) and macOS Sierra; macOS High Sierra (coming soon).
  - Microsoft Server 2016
  - SUSE Linux 11 SP4 and higher
  - Support for IGEL thin clients
  - Signed Windows Installer for manual installation, in addition to auto-registering one
- **Process Optimization (beta):** Liquidware introduces a new feature to highly optimize user experience on sub-optimally sized machines to enhance productivity and increase desktop density while maintaining great end user experience. Please refer to this [article/white paper](#) to test drive this new feature.
- **Advanced Inspectors:**
  - Added a new ADVANCED > INSPECTORS > TRACE ROUTE tab for viewing hop latencies, pings, and jitters from the CID Key to remote session end points.
  - In the ADVANCED > INSPECTORS > APPLICATIONS tab, under the OVERVIEW > OVERVIEW TYPE table, we now show applications running with elevated privileges under the PROCESS PRIVILEGE ELEVATED column. We also added the ability to see ALL process owners within the ADVANCED > INSPECTORS > APPLICATIONS tab under the PROCESSES drop down filter in addition to USERS, SYSTEM, and BOTH. This would be useful to see all other users on a

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- multi-session machine such as a Terminal Server or XenApp server. This inspector also added WINDOW TITLE of a process that is in a NOT RESPONDING state.
    - In the ADVANCED > INSPECTORS > MACHINES tab, under the DEFAULT view as well as DISK > DISK DETAILS view, we now show the DISK ACTIVE TIME PERCENT & DISK RESPONSE TIMES. We also added DISK LABEL as a new BASIS option.
  - NVIDIA GPU: Liquidware introduces the capability to monitor GPU stats such as GPU Core %, GPU Memory % Frame Buffer, Encode %, and Decode % on a per process basis.
  - Security: Liquidware added a few features to enhance security compliance in FED/DoD:
    - Added a new ENHANCED SECURITY mode to each Stratusphere appliance to easily switch to a higher security compliance mode based on U.S. Department of Defense's Security Technical Implementation Guides (STIGs).
    - Added support for CAC Authentication for the Stratusphere Web UI.
    - Added initial support for multi-homed appliances where the SSH Console & Web UI Management Communications, CID Key Communications, Network Collector Communications, and Database Communications can all be on isolated network connections.
  - Application Strategy Reports
    - Liquidware would like to provide guidance to its end users on how to approach their application strategy while transforming their desktops between the physical, virtual and cloud infrastructure. Stratusphere 6.0 adds a new category of reports called APPLICATION STRATEGY REPORTS that include 5 reports to help solve the application distribution problem.

### Enhancements & Bug Fixes

- Enhanced the CID Key to detect and handle log off and shut down events on a machine to quickly upload collected stats up to the Hub/Collector and prevent data loss before the operating system shuts down the network card or the machine, especially on a non-persistent virtual machine environment.
- Enhanced CID Key to support enabling Amazon WorkSpaces based Teradici PCoIP Counters using a script under \ADMIN SCRIPTS\AMAZONWORKSPACES\TERADICIPCOIPCOUNTERS\INSTALLPREP.BAT.
- Enhanced CID Key to monitor logins on VMware Horizon RDSH Published Applications by monitoring when VMWARE-VIEW-UNITY-SHELL.EXE starts to determine when login processing is finished.
- Enhanced the CID Key Control Panel applet to show settings such as, the Hub the CID Key is registered to, a list of Collectors it is uploading stats to, along with Callback Frequency, Sampling Frequency, etc.
- Enhanced CID Key handling of logs, specifically for servers, where it now monitors the size of the log files every sampling period and rotates them when they reach 200 MB.
- Extended support to VMware vSphere 6.5 by adding import and sync functionality.
- Enhanced performance for DIAGNOSTICS > INSPECTORS, DIAGNOSTICS > REPORTS, and ADVANCED > INSPECTORS > APPLICATIONS by 40% to 100% when using longer time frames like over 2 days, or

weeks, or even months. These performance enhancements were due to using summarized roll-up data tables configured for DAILY, WEEKLY, MONTHLY, and YEARLY summarization within the HUB ADMINISTRATION > DATA RETENTION > SETTINGS tab. It must be noted, that these summarized, roll-up tables have been implemented within the database for most types of metrics but are utilized only in limited areas within the Web UI & API in the product. Their usage will be universal across all remaining parts of the Web UI & API very shortly.

- Enhanced performance due to better database indexing and vacuuming.
- Enhanced the SQL performance and Export functionality for the DIAGNOSTICS > INSPECTORS > MACHINE DIAGNOSTIC SUMMARY, DIAGNOSTICS > INSPECTORS > USER DIAGNOSTIC SUMMARY, and DIAGNOSTICS > INSPECTORS > DESKTOP APPLICATION SUMMARY Inspectors.
- Enhanced all charts on the ASSESSMENT and DIAGNOSTICS tabs switching them to use Java Script based graphs and charts and dropping any requirements for Flash plugins.
- Enhanced usability of the Stratusphere Login page to remember last used product and domain. The Login page will also poll the Stratusphere Hub for a heartbeat to detect when the Hub is available especially after installing new upgrades using the Web UI. The fields and buttons on the page will be disabled until the Hub is ready to receive UI requests.
- Enhanced the usability of the INVENTORY > MACHINES & INVENTORY > USERS tabs by adding action menu options to the MORE ACTIONS... drop down list to operate on individual machines/users as well as groups. More actions include ability to SET ADMINISTRATOR, SET USER, ENABLE/DISABLE API ACCESS, LOCK/UNLOCK ACCOUNTS, etc. Also, the User Groups page, provides most of the same operations as an individual User page, thus allowing a User Group imported from AD to be set as an Administrator role, with a single click.
- Enhanced the HUB ADMINISTRATION > CONFIGURATION tab, to include a default FROM: and TO: email address fields to receive scheduled Stratusphere Administration reports that provide status and warnings, critical to an administrator.
- Enhanced and tweaked HUB ADMINISTRATION > OVERVIEW, CONFIGURATION, and DATA RETENTION tabs with minor updates and fixes.
- Updated the default FIT & UX Profile thresholds to contemporary values.
- Fixed an issue with the Stratusphere Hub and Database appliances either not performing the automatic disk and file system expansion or hanging right after performing the expansion.
- Fixed an issue with the ADVANCED > SEARCH > 360 VIEWS where the sort order for the 14 days and 24-hour table was not set.
- Fixed an issue with the ADVANCED > INSPECTORS > INVENTORY tab, where the BIOS & TPM view would not display whether TPM information correctly.
- Fixed an issue with the CD Key where one of its services, LWLDATASVC.EXE, would suffer a crash.
- Fixed an issue with the CID Key where it was leaking file and registry handles over time.
- Fixed an issue with the CID Key where it was not handling an old stats.txt file properly.
- Fixed an issue with the CID Key where it would collect duplicate ping replies from remote destinations and then fail to upload stats to the Hub.
- Fixed an issue with the CID Key where it would incorrectly associate a process with an application.



- Fixed an issue where the DIAGNOSTICS > INSPECTOR > NETWORK CONNECTION HISTORY drilling down into the Interval details would not display bytes and packet trends over time.
- Fixed an issue while selecting and running multiple reports where the user would not get a notification of reports completing. Now, the user is redirected to the REPORTS ARCHIVE when all reports have completed.
- Fixed an issue in the ADMINISTRATION section of the Web UI under HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID PROPERTIES tab where it would not save updated properties under some circumstances.
- Fixed an issue in the ADMINISTRATION section of the Web UI under HUB ADMINISTRATION > UPGRADES tab where it would not show the ONLINE and OFFLINE tabs.
- Fixed an issue in the ADMINISTRATION section of the Web UI under STATION ADMINISTRATION > NETWORK STATION POLICIES where the user could not edit and save existing policy rules.
- Fixed an issue under ADVANCED > SEARCH > 360 USER pop-out Inspector where the sorting by hour would not work as expected.
- Fixed an issue in the ADMINISTRATION section of the Web UI under HUB ADMINISTRATION > VM DIRECTORIES tab where it would only sync virtual machine stats if ALL VIRTUAL MACHINES were selected and ignore if any other setting were selected.
- Fixed an issue with the CID Key where it would only show display session of a single type to a single destination instead of multiple types of display sessions to the same remote destination.
- Added, enhanced, fixed, or made minor formatting updates to the following reports:
  - ADMINISTRATION > DAYS SINCE LAST LOGIN
  - ADMINISTRATION > USER INVENTORY
  - FIT ASSESSMENT REPORTS (PACK 1) > 112. ASSESSMENT FINDINGS
  - FIT ASSESSMENT REPORTS (PACK 1) > VMWARE HORIZON VIEW CAPACITY REPORT
  - FIT ASSESSMENT REPORTS (PACK 1) & (PACK 2) updated so it reports for all machines regardless of users logged in or not.
  - FIT ASSESSMENT REPORTS (PACK 2) > 213. NETWORK CONNECTION DETAILS FOR CID KEY COMMUNICATIONS
  - FIT REPORTS - APPLICATIONS > APPLICATIONS INSTALLED & LAST USED BY MACHINE AND PRIMARY USER (CSV)
  - MANAGEMENT REPORTS > MACHINE AND USER COUNTS BY HOUR
  - UX DIAGNOSTIC REPORTS > USER LOGIN DELAY SUMMARY
  - UX DIAGNOSTIC REPORTS > USER SESSION EVENT DETAILS (new)
  - UX DIAGNOSTIC REPORTS > USER SESSION EVENT SUMMARY BY LOGIN SESSION (new)
  - UX DIAGNOSTIC REPORTS > USER SESSION EVENT SUMMARY BY USER & MACHINE (new)
  - UX DIAGNOSTIC REPORTS - REMOTE DISPLAY PROTOCOL > TRACE ROUTE DETAILS BY MACHINE CALLBACK WITH HOP DETAILS (new)
  - UX DIAGNOSTIC REPORTS - REMOTE DISPLAY PROTOCOL > TRACE ROUTE HOPS & PING SUMMARY BY MACHINE (new)
  - UX DIAGNOSTIC REPORTS - REMOTE DISPLAY PROTOCOL > TRACE ROUTE HOPS & PING SUMMARY BY MACHINE & USER (new)

- UX HEALTH CHECK REPORTS > 311. USER EXPERIENCE KEY METRICS TIME CHART
- UX DIAGNOSTIC REPORTS – STORAGE

### Known Issues

- Advanced Inspectors may appear within very small window after an upgrade. Hit the F5 key to restore the regular size.
- While importing Stratusphere OVF's on some ESX versions, the VMware Virtual Infrastructure Client will show a warning. These warnings can be safely ignored.
- While using Internet Explorer 9, the UI may not format & display some pages, such as SAN Diagnostic Summary, as expected due to compatibility issues. Liquidware recommends using the latest version of Internet Explorer, Mozilla Firefox, or Google Chrome as a temporary workaround. Also, while using Mozilla Firefox, some of the ASSESSMENT > SUMMARY tab's graphs and charts may not display call out lines and text as expected until the user clicks in each widget.
- If ENHANCED SECURITY is enabled in the console, it requires using strong passwords including special characters. Using a backslash '\' character in the password causes issues while migrating data from 5.8.5 appliances to 6.0. The password match fails and since the migration asks user to retry, it may result in account lockout if forced to enter multiple times.
- The Windows CID Key on Amazon WorkSpaces depends on the Teradici PCoIP agent to populate the remote client name and remote client IP Address within the registry. If the PCoIP agent does not populate the registry, the CID Key will not be able to collect this information.
- Editing and customizing a machine's CID Key Properties may not save properly in the INVENTORY > MACHINES tab's EDIT MACHINE: > CONNECTOR ID KEY PROPERTIES page.
- The ADVANCED > INSPECTORS > EXTENSIONS tab may display incorrect count and size of file extensions under certain conditions such multiple boots, logins or restarting of the CID Key.
- The DIAGNOSTICS > INSPECTORS > DESKTOP APPLICATION SUMMARY page times out after 15 minutes and may result in an error. This is due to the Chart on the page, waiting for a query to finish. If the user uses the browser's Back button, the table data will be updated but the chart may be empty or displaying existing results.
- The DIAGNOSTIC > INSPECTORS > NETWORK APPLICATION SUMMARY tab's network APPLICATION name may not match the name used to specify the application in the COLLECTOR ADMINISTRATION > NETWORK COLLECTOR POLICIES tab.
- The ADVANCED > INSPECTORS > VHOST tab may not display any virtual hosts if the Stratusphere Hub did not find any hosts when it synced with vCenter. Also, the sync process has been observed to stop syncing.
- The HUB ADMINISTRATION > DATA RETENTION > STATUS tab's LAST AUTO DELETE: time may be off.
- The summarized, roll-up tables for Applications does not roll-up the count of the ANR events observed for the application process but only whether it had an ANR event or not.
- Reports:
  - FIT REPORTS – APPLICATIONS:
    - APPLICATIONS WITH KNOWN POOR VDI FIT INSTALLED BY USER AND MACHINE (CSV) fails if no applications are set as Poor VDI FIT under ASSESSMENT > VDI FIT PROFILE tab.

- 
- APPLICATION COMPARISON BY MACHINE GROUP Report has performance issues.

## Release Available As

- Virtual Appliance Downloads: Please visit [www.Liquidware.com/Download/](http://www.Liquidware.com/Download/) to download the latest versions of Stratusphere appliances in OVF format. Remaining formats of AMI, XVA and ZIP formats will be added soon.
- Software Update: This release is NOT available as a Software Update as the underlying operating system is updated from CentOS 5 to CentOS 6. However, we do offer a migration option whereby you can download a new Stratusphere 6.0 Hub and Database Appliance and use the migrate option in the consoles of these new appliances to migrate network configuration, certificates, and data from the old 5.8.5 or higher appliances to the newer 6.0 appliances.

**NOTE: Please see the Upgrading section below for instructions.**

## Release Applies to

- Stratusphere Hub Appliance.
- Stratusphere Database Appliance.
- Stratusphere Collector Appliance.
- Stratusphere Connector ID Key.

## Upgrading

If your current installed version of Stratusphere is 6.0.0, please use the instructions in [Upgrading from Stratusphere 6.0 \(P1\) to \(P2\)](#) to upgrade to the latest version.

If your current installed version of Stratusphere is at 5.8.5 or higher, please use the instructions in [Migrating from 5.8.5 or Higher to 6.0 Appliances](#), to migrate network settings, certificates, and data from 5.8.5 and higher appliances to the 6.0 appliances. If you are on a version earlier than 5.8.5, please upgrade to 5.8.5 and then perform a migration using the instructions mentioned above.

If your current installed version of Stratusphere is 5.7.x or earlier, please upgrade to 5.8.5 and then migrate to Stratusphere 6.0. Please get in touch with Liquidware Labs Customer Support at [Support@Liquidware.com](mailto:Support@Liquidware.com) or search for a KB article titled “Migrating to Stratusphere 5.7.0” on our Support Site. Additionally, you can reference [Migrating from 5.6.x to 5.7.0 Stratusphere Appliances](#).

If your current installed version of Stratusphere is 4.8.x, please visit our [Support documentation site](#) and read the [Stratusphere Upgrade Guide for 5.0](#) document created specifically to help customers upgrade from 4.8.x to the 5.0 version of Stratusphere. Alternatively, contact [Support@Liquidware.com](mailto:Support@Liquidware.com) for further assistance.