



## **Stratusphere™ UX**

***Quick Start &  
Evaluation Guide***

## Introduction

This guide has been authored by experts at Liquidware in order to provide information and guidance to walk you through an evaluation of Stratusphere UX (UX stands for “**U**ser **eX**perience”), the VDI diagnostics and performance monitoring solution from Liquidware. This is not a complete training or user guide, but is meant to guide you through the basic steps to setup the product and to introduce you to key features, reports and capabilities, so that you can determine whether Stratusphere is suitable for your VDI monitoring needs.

During the course of this guide, you will:

- ✓ Learn the key components of the Stratusphere diagnostics product module
- ✓ Learn how to review environment inventory and configuration for desktops, applications
- ✓ Learn how to review resource consumption data for desktops, users, and applications
- ✓ Learn how to generate diagnostic findings and results

This document is meant for consultants and customers who are deploying desktop virtualization in pilots or production, and who may have use for a diagnostic tool to help measure user experience or identify performance issues. Technical skills required are minimal, however familiarity with deploying virtual desktops and virtual machines is expected.

Information in this document is subject to change without notice. No part of this publication may be reproduced in whole or in part, stored in a retrieval system, or transmitted in any form or any means electronic or mechanical, including photocopying and recording for any external use by any person or entity without the express prior written consent of Liquidware Labs.

**Liquidware Labs, Inc.**  
3600 Mansell Road  
Suite 200  
Alpharetta, Georgia 30022  
U.S.A.  
Phone: 678-397-0450  
[www.liquidware.com](http://www.liquidware.com)

**CONTENTS**

**STRATUSPHERE UX OVERVIEW ..... 4**

**LEARNING THE BASICS OF STRATUSPHERE UX ..... 5**

    YOUR TROUBLESHOOTING STARTING POINT ..... 6

    DIAGNOSTICS INSPECTORS ..... 7

    DIAGNOSTICS DASHBOARDS ..... 8

    DIAGNOSTICS REPORTS ..... 9

    DIAGNOSTICS VDI UX PROFILE..... 11

    INVENTORY ..... 12

**DIAGNOSTICS 1: END-TO-END PERFORMANCE ANALYSIS ..... 15**

    MACHINE PERFORMANCE ANALYSIS ..... 15

    HOST PERFORMANCE ANALYSIS ..... 18

    NETWORK PERFORMANCE ANALYSIS..... 20

    SAN PERFORMANCE ANALYSIS ..... 22

**DIAGNOSTICS 2: TREND ANALYSIS AND ALERTS..... 23**

    TREND ANALYSIS..... 23

    ALERTS ..... 24

**DIAGNOSTICS 3: SUMMARY ANALYSIS AND RECOMMENDATIONS..... 27**

    VDI UX ANALYSIS..... 27

    PERFORMANCE TIME CHART AND COMPARISON ..... 28

    DIAGNOSTIC FINDINGS SUMMARY ..... 28

**USING THE STRATUSPHERE UX ADVANCED MODE ..... 30**

    ADVANCED MODE SEARCH ..... 30

    ADVANCED MODE SPOTCHECKS ..... 34

    ADVANCED MODE DASHBOARDS ..... 39

*Using the Search Feature ..... 40*

*Setting Preferences & Creating Your Own Dashboards..... 41*

*Creating a Dashboard ..... 42*

<i>Adding a Widget</i> .....	43
<i>Creating or Editing Widgets</i> .....	44
<i>Creating or Editing Datasources</i> .....	44
<i>Editing Dashboards</i> .....	45
ADVANCED INSPECTORS .....	46
<i>Understanding the Basics</i> .....	46
<i>Inspector Tabs</i> .....	48
<i>Inspector Graphs</i> .....	50
<i>Other Key Functionality</i> .....	51
ADVANCED MODE TRENDS & TOP CONSUMERS .....	53
MY TAB .....	55
PREFERENCES .....	55
ADVANCED INSPECTORS HELP.....	55
<b>BREAKING DOWN THE USER LOGIN PROCESS</b> .....	<b>57</b>
<b>PROCESS OPTIMIZATION</b> .....	<b>61</b>
<b>GETTING HELP WITH STRATUSPHERE</b> .....	<b>62</b>
USING ONLINE RESOURCES .....	62
CONTACTING SUPPORT .....	62

## Stratusphere UX Overview

Liquidware's Stratusphere™ UX is an essential desktop monitoring tool for virtual desktop administrators who support mixed virtual-and-physical production environments. Existing monitoring solutions are built for legacy systems and are subsystem based with no correlation to desktop users, machine names and application names. Stratusphere UX is unique in that it uses patented technology to track real-time actual end user metrics and response data across all desktops in the enterprise by measuring a set of specialized indicator metrics.

Stratusphere UX benefits environments where virtual desktops are already in production, and administrators plan to scale the environment by:

- adding more users (and virtual desktops)
- adding users with different working habits (i.e., remote vs. in-office)
- adding more complex user desktop images (knowledge or power workers)
- running both virtual and physical desktops in their environments
- upgrading or adding new operating systems or applications

Very often, virtual desktop capacity is over-provisioned early on while there are relatively fewer users in production. However, issues arise later when organizations scale the environment and add users and/or make modifications to the images or systems. The shared-resource infrastructure makes it difficult to isolate the root cause of problems. Therefore, a solution such as Stratusphere UX becomes indispensable, because it provides visibility into areas that traditional monitoring solutions do not. Stratusphere UX allows virtual desktop managers to accomplish the day-to-day monitoring and maintenance of the virtual desktop environment with easy to use Dashboards and Inspectors. Stratusphere UX's low price point makes it feasible to use it alongside existing enterprise or platform-specific monitoring solutions.

Stratusphere UX delivers actual user experience (UX) end user response time information such as:

- User Logon Time in Seconds
- Application Launch Time in Seconds
- Application Server Response Time (ART)
- Application Not Responding Information
- Application Usage Tracking / Installed vs. Consumed
- Network Latency / Round Trip Time (NRT)
- Network Connection Failures
- Network Connection Tracking by Port, User & Device to Device
- Disk & Network IO per Application/Process
- Disk and CPU Queues
- Visibility into TCP and UDP traffic streams and patterns
- Overall VDI UX composite metrics and score

Stratusphere UX is designed to save organizations time and money while boosting productivity. Advanced Inspectors allow administrators to proactively monitor environments and quickly drill down into potential issues to respond to Help Desk requests or other support tasks. With a large collection of standard reports, Stratusphere provides a wealth of information about your organization's infrastructure and users as well as the ability to create customized reports. Armed with hard objective data, administrators are prepared to provide Health Checks to diagnose and troubleshoot desktop environments or user experience validation that corporate decisions are matching budgetary constraints while meeting users' needs.

## Learning the Basics of Stratusphere UX

This section introduces the key elements of the Stratusphere UX product. To log in to the product:

1. Open your browser and type `https://<your-virtual-appliance-ip-address>`.
2. At the web login page, select Stratusphere UX from the **Product** drop-down, and enter your **User name** and **Password**.

*The default Administration Interface credentials for the Stratusphere Hub are:*

*User name: ssadmin*

*Password: sspassword*

*Note: For AWS, use your VM Instance ID for the password.*

liquidware  
Stratusphere

• Disk usage of 75% is approaching the automatic purge threshold of 80%

**Log In**

Product: Stratusphere UX

Domain: lwl.corp

User name: njeans

Password: \*\*\*\*\*

**Log In**

Product	Valid until	License Details
✓ Stratusphere FIT	Forever	1235/unlimited machines, 439/unlimited users
✓ Stratusphere UX	Forever	1235/unlimited machines, 439/unlimited users, 12/100 collectors

Contact [sales@liquidware.com](mailto:sales@liquidware.com) for additional licensing needs.

Version: 6.1.5      Licensed to Liquidware Labs, Inc.      © 2020 Liquidware Labs, Inc.

**Note:** For secure connections, a closed lock icon will display next to the Domain name on the Login page on the Stratusphere web user interface. Otherwise, an unlocked icon will be displayed next to the Domain name. Liquidware recommends using a secure connection when configuring Active Directory or LDAP directories. Go to the **Hub Administration > Directories** tab, to enable the “Use secure connection” option.

Also notice that a message is displayed above the login credentials pictured above. The Login Page will display urgent notifications to end users so they are aware prior to logging into the product.

## Your Troubleshooting Starting Point

The default tab in the Stratusphere UX module is the Advanced Mode Search. This is a comprehensive Google-like search that provides links to any piece of information found within the Stratusphere system over a period of time. It also provides 360° views on Users, Machines, and Applications organized by allocation, configuration, consumption, user experience, performance, environment, and trending of metrics over time.

The Advanced Mode Search offers a quick and easy method for Help Desk and first-tier admins to zero in on user experience issues while providing a great deal of relevant data. You can enter any term in the search bar to start your search. While searching “All” provides a very broad search, you can narrow your search to a specific category by selecting one of the tags under the search text box. The search also supports the use of quotes and wildcards. Click on the blue question mark next to the Search bar for help and examples.



Before we dive deeper into all the other features and capabilities of the Advanced Mode tabs, let's start with the much simpler or basic tabs within UX first. We'll cover more on the Advanced Mode Search and other tabs within Advanced Mode a little later in the document. Let's take a look around the Stratusphere UX module and see how it brings visibility to the process of managing next-generation workspaces.

## Diagnostics Inspectors

Click on the **Diagnostics > Inspectors** tab, and you will find a list of interactive reports and graphs that you can use to explore the diagnostics data. Use the drop-down at the top of the page to select the Inspector view and then click on the **Go** button to move to that view. You can filter the data using controls at the top of the page, and dynamically sort or drill-down using controls on the data table. Data can also be exported to PDF, XLS, and other formats.

**Annotations:**

- Select a View from the list. Click Go to change to View.
- Use filters to focus on specific groups, apps, or time.
- Click to refresh page after changing filters.
- Download data in formats such as PDF, XLS and CSV.
- Click on column headers to sort data.
- Click drill-down button on row to see more detailed data.
- Use the page controls to move forward or backward.

**VDI UX Trend**

Machine Count

Good Fair Poor

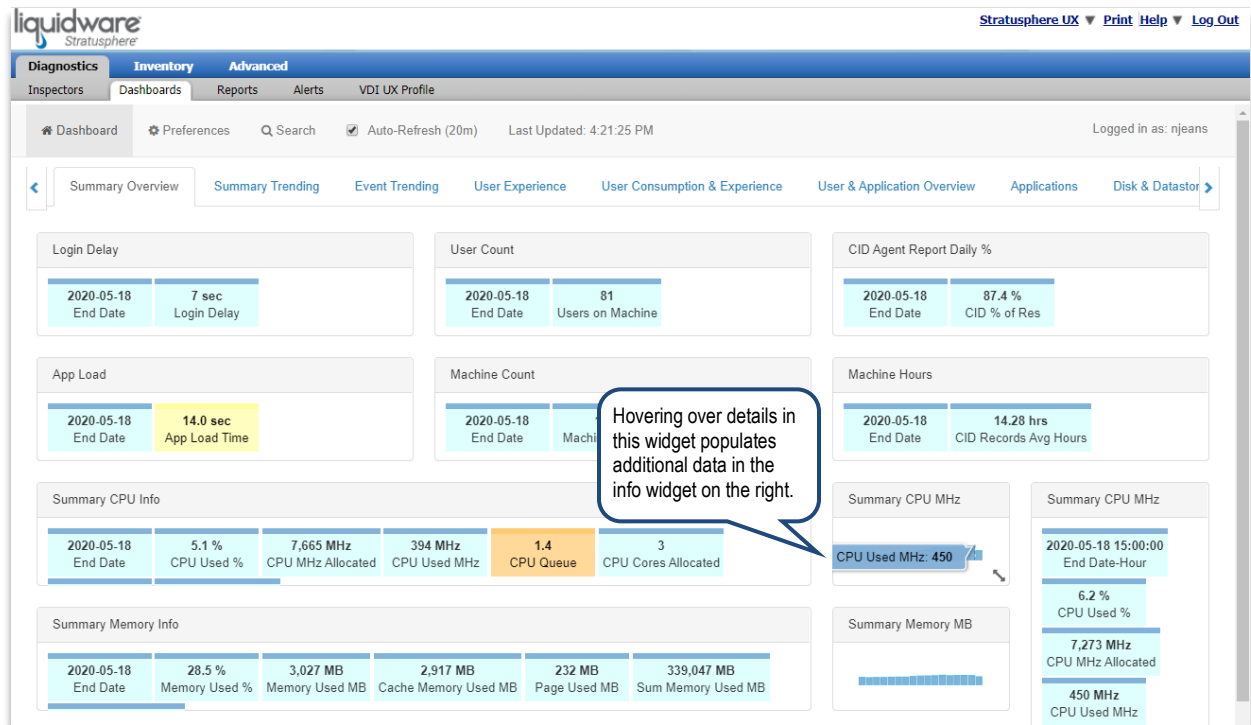
Page 1 of 2 < Prev Next >

Machine	Delay Avg.(s)	Load Avg.(s)	CPU Avg. (%)	CPU Queue Avg.	Context Switch Avg. (/s)	Physical Memory Avg.(%)	Page File Avg.(%)	Page Fault Avg.	Disk IOPS Avg.	Disk Queue Avg.	Network Avg.(KB/s)	Roundtrip Latency Avg.(ms)	Connects Failed	Graphics Intensity	ANR	VDI UX
adse.lwl.corp	n/a	n/a	1.6	2.2	362.3	23.2	0	0	0.1	n/a	0.8	n/a	0	7.8	0	Fair
atl-i1546	n/a	n/a	19.3	0.5	21,302.1	70.4	7.3	53	2.4	0	22.4	n/a	0	173.8	0	Good
atl-i1549	n/a	n/a	13	3	15,965.7	46.3	0.3	65.6	2.7	0	22.4	n/a	0	180	0	Good
atl-i1552	n/a	n/a	8.3	1.8	3,767.7	24	0.5	18.6	0.9	0	71.8	n/a	0	133.7	0	Good
awsntaa	n/a	n/a	0.3	0	317.2	20.7	1.1	0.1	0.1	n/a	0.9	n/a	0	5.1	0	Good
awstab	n/a	n/a	0.3	0.1	323.2	21.7	1	0.1	0.1	n/a	0.5	n/a	0	5.2	0	Good



## Diagnostics Dashboards

Click on **Diagnostics > Dashboards** to view the new Stratusphere Dashboards. The Summary Overview provides an overview of the data collected along with real-time refreshing. The dashboard is made up of resizable widgets that provide you quick access to the information you need the most. There are several different dashboards provided out-of-the-box, but Stratusphere also offers the option to create and customize your own dashboards.



## Diagnostics Reports

Click on **Diagnostics > Reports** to enter the Stratusphere Report Library. Stratusphere provides a large collection of standard reports which are divided into different categories. These reports are designed to provide an accurate picture of the user experience across multiple platforms from all the data that has been collected. In the Report Library, you can select and dynamically run individual reports, edit report criteria, or schedule reports to run at specific times. Note that all reports are customizable using the open source BIRT Report Designer, and you can also add your own custom reports to the library. To learn how to customize reports relevant to your specific needs as well as how to use the API in Excel to query the database, please contact your sales representative to schedule training.

The screenshot shows the Stratusphere Report Library interface. The top navigation bar includes 'Diagnostics', 'Inventory', and 'Advanced'. The 'Diagnostics' section is active, showing 'Inspectors', 'Dashboards', 'Reports', 'Alerts', and 'VDI'. The 'Report Library' is displayed with a category filter set to 'UX Health Check Reports'. A table lists various reports with columns for Category, Report, Schedule, Supported Formats, Archived, and Criteria. Callouts provide instructions: 'Select Edit to change default report parameters, output format, set schedule or generate alert.' points to the 'Edit' button; 'Click on row to select report. Then click on Search Archives to find previous runs or click on Run to generate report.' points to a report row and the 'Search Archives' button; 'Choose the number of items to show per page.' points to the 'Showing 1 - 12 of 12' widget; and 'Use the page widget to go to a specific page.' points to the 'Page 1 of 1' widget.

Stratusphere UX ▼ Print Help Log Out

**Report Library** Category: UX Health Check Reports Page 1 of 1 < Prev Next >

New Selected 1: Search Archives Edit Run Delete Unselect View Archives Manage Categories Quick Search Search

Category	Report	Schedule	Supported Formats	Archived	Criteria
<input type="checkbox"/>	UX Health Check Reports 301. Performance Time Chart		PPT, PDF	0	Last 24 Hours
<input type="checkbox"/>	UX Health Check Reports 302. Applications Not Responding		XLS	0	Yesterday (prior calendar day)
<input type="checkbox"/>	UX Health Check Reports 303. Station group Default Collector Group		PDF, XLS	0	Station group Default Collector Group, Yesterday (prior calendar day)
<input type="checkbox"/>	UX Health Check Reports 304. Station group Default Collector Group		PDF, XLS	0	Yesterday (prior calendar day)
<input type="checkbox"/>	UX Health Check Reports 305. Station group Default Collector Group		PDF, XLS	0	Yesterday (prior calendar day)
<input type="checkbox"/>	UX Health Check Reports 306. Station group Default Collector Group		PDF, XLS	0	Yesterday (prior calendar day)
<input type="checkbox"/>	UX Health Check Reports 307. Key Metrics Time Chart Averaged By Hour		PDF, XLS	1	Yesterday (prior calendar day)
<input checked="" type="checkbox"/>	UX Health Check Reports 308. Key Metrics Averaged By Hour		PDF, XLS	1	Yesterday (prior calendar day)
<input type="checkbox"/>	UX Health Check Reports 309. Key Metrics Aggregated By Hour (Business Hours)		PDF, XLS	1	Yesterday (prior calendar day)
<input type="checkbox"/>	UX Health Check Reports 310. Performance Time Chart		PPT, PDF	1	Last 24 Hours
<input type="checkbox"/>	UX Health Check Reports 311. Performance Time Chart		PDF	1	Last 24 Hours
<input type="checkbox"/>	UX Health Check Reports 312. Performance Time Chart		PDF	1	Last 24 Hours

Showing 1 - 12 of 12 Page 1 of 1 < Prev Next >

Click on the **View Archives** link to find a list of previously generated reports on your Hub. Please note that if you have just deployed Stratusphere, there may not be any reports in the list.

liquidware  
Stratusphere

Stratusphere UX [Print](#) [Help](#) [Log Out](#)

**Diagnostics** **Inventory** **Advanced**

Inspectors Dashboards **Reports** Alerts VDI UX Profile

**Reports** Category: UX Health Check Reports Page 1 of 1 [< Prev](#) [Next >](#)

Start Date: 10/01/2018 3:10 PM  
End Date: 10/16/18 4:10 PM  
Date = mm/dd/yyyy; Time = hh:mm, hh:mm am, or hh:mm pm

Filter report view based on when reports were run.

Always refresh your view after changing any filters.

Refresh View

Selected 1: [Download](#) [Delete](#) [Unselect](#) Click on row to select your report to view. Then click **Download**.

[View Report Library](#) | [Manage Categories](#)  Quick Search

<input type="checkbox"/>	Run Date	Category	Report Name	Status	Owner	Time to run	Criteria
<input type="checkbox"/>	Oct 10, 2018 4:00 PM EDT	UX Health Check Reports	310. Diagnostic Findings	Complete	tmiller@lwl.corp	0 m 20 s	Period 10/10/18 12:00 AM to 10/10/18 11:59 PM
<input checked="" type="checkbox"/>	Oct 5, 2018 8:57:32 AM EDT	UX Health Check Reports	312. User Experience Key Metrics Averaged By Hour	Complete	tlahaussois@lwl.corp	0 m 10 s	Period 9/28/18 8:57 AM to 10/5/18 8:57 AM, Station group Default Collector Group
<input type="checkbox"/>	Oct 5, 2018 8:57:32 AM EDT	UX Health Check Reports	311. User Experience Key Metrics Time Chart	Complete	tlahaussois@lwl.corp	3 m 51 s	Period 9/28/18 8:57 AM to 10/5/18 8:57 AM, Station group Default Collector Group
<input type="checkbox"/>	Oct 5, 2018 8:57:32 AM EDT	UX Health Check Reports	309. Key Metrics Aggregated By Hour (Business Hours)	Complete	tlahaussois@lwl.corp	1 m 15 s	Period 9/28/18 8:57 AM to 10/5/18 8:57 AM, Station group Default Collector Group
<input type="checkbox"/>	Oct 5, 2018 8:57:32 AM EDT	UX Health Check Reports	308. Key Metrics Averaged By Hour	Complete	tlahaussois@lwl.corp	1 m 20 s	Period 9/28/18 8:57 AM to 10/5/18 8:57 AM, Station group Default Collector Group
<input type="checkbox"/>	Oct 5, 2018 8:57:32 AM EDT	UX Health Check Reports	307. Key Metrics Time Chart Averaged By Hour	Complete	tlahaussois@lwl.corp	1 m 30 s	Period 9/28/18 8:57 AM to 10/5/18 8:57 AM, Station group Default Collector Group

Showing 1 - 6 of 6 Page 1 of 1 [< Prev](#) [Next >](#)

To go back to the full list of available reports, click on the **View Report Library** link.

## Diagnostics VDI UX Profile

The VDI UX Profile is part of Liquidware Labs' patent pending VDI UX rating system which is used to continuously rate desktop and user activity on virtual desktops to help categorize the expected user experience. The rating system categorizes a desktop or user on nine metrics, each one rated Good, Fair or Poor according to thresholds defined in the profile. You can specify relative weights for each metric. To exclude a metric, just set the weight to zero. Also, you can auto-generate thresholds based on statistical measures taken from recent historical data.

To view or change the profile settings, login to Stratusphere UX and navigate to **Diagnostics > VDI UX Profile**. At the top of the page, you can choose to calculate thresholds based on historical data, either one time (in which case the threshold changes will not be saved until you click **Save Changes**) or auto adjusted in the background on a daily basis. Note that you can recalculate VDI UX ratings for previously collected data when you **Save Changes**.

**liquidware**  
Stratusphere

Stratusphere UX ▼ Print Help Log Out

**Diagnostics** Inventory Advanced

Inspectors Dashboards Reports Alerts VDI UX Profile

### VDI UX Profile

**Calculate Thresholds**

Generate baselines and thresholds from data over the previous  days  
The baseline is the mean (average) value for the specified time period, and the fair and poor thresholds are one- and two- standard deviations from the mean

☒ Only include data when users are logged on to machines  
☐ Auto-adjust and reset calculated baselines and thresholds daily

Calculate Profile Settings

Click here for recommended thresholds. Must click **Save Changes** to store and use.

#### Machine Experience Indicators

	Weight (%)	Good	Fair	Poor
Login Delay : Time it takes to login (sec.) <a href="#">?</a>	<input type="text" value="5"/>	0 <= 15	<= 60	<= unbounded
Application Load Time : Avg. startup time for applications (sec.) <a href="#">?</a>	<input type="text" value="10"/>	0 <= 5	<= 30	<= unbounded
CPU Queue Length : Length of CPU queue at inspection time <a href="#">?</a>	<input type="text" value="35"/>	0 <= 0.1	<= 2	<= unbounded
Memory Usage : Memory (RAM) % usage during inspection interval <a href="#">?</a>	<input type="text" value="10"/>	0 <= 70	<= 90	<= unbounded
Page File Usage : Page file % usage during inspection interval <a href="#">?</a>	<input type="text" value="20"/>	0 <= 10	<= 30	<= unbounded
Page Faults : Avg. page faults per second during inspection interval <a href="#">?</a>	<input type="text" value="10"/>	0 <= 3,000	<= 9,000	<= unbounded
Non-Responding Applications : Number of unresponsive applications at inspection time <a href="#">?</a>	<input type="text" value="10"/>	0 <= 1	<= 2	<= unbounded

#### I/O Experience Indicators

	Weight (%)	Good	Fair	Poor
Disk Load : Avg. disk IO per second <a href="#">?</a>	<input type="text" value="15"/>	0 <= 15	<= 85	<= unbounded
Disk Queue Length : Avg. length of disk queue(s) <a href="#">?</a>	<input type="text" value="35"/>	0 <= 0.1	<= 2	<= unbounded
Network Latency : Avg. network roundtrip time (ms) <a href="#">?</a>	<input type="text" value="35"/>	0 <= 50	<= 150	<= unbounded
Failed Connections : Number of outgoing connection attempts that failed <a href="#">?</a>	<input type="text" value="15"/>	0 <= 5	<= 15	<= unbounded

Set weight to zero to exclude a metric.

☒ Do not recalculate VDI UX for previously saved data  
☐ Recalculate VDI UX for data from  to

Save Changes Cancel

## Inventory

Under the **Inventory** tab of the Stratusphere UX product, you can view specific information on the machines (devices), users and applications in your environment. Once you have installed your Hub and deployed Connector ID Keys to the target devices, the Inventory information will automatically begin populating. The data will be updated regularly according to the Callback Frequency defined for the Connector ID Keys. The Inventory section is also where you can create and manage groups of machines, users, and applications.

liquidware  
Stratusphere

Stratusphere UX ▼ Print Help Log Out

Diagnostics Inventory Advanced

Machines Users Applications Subnets

**Machines**

Page 1 of 47 < Prev Next >

New Selected 1: Edit Add To Group Delete Unselect More actions...

View: Individual Machines | Groups Quick Search Search

Name	IP Address	Make	Model	Directory	Type	OS Version	Host	VM Directory	Connector ID Key Version	Created On	Last Contact	Uptime	Pendi
<input checked="" type="checkbox"/> joycentos7	10.10.2.182	Hewlett-Packard	HP EliteBook 850 G2	Local Directory	Physical - Notebook	CentOS Linux release 7.3.1611 (Core)			Standard 64b 6.0.0-1	Jun 29, 2017 8:36:43 AM EDT	Sep 18, 2017 8:48:25 AM EDT	19 day 23 hr 12 min	0
<input type="checkbox"/> centos7				Virtual Machine	Local Directory	Hyper-V			Standard 64b 6.0.0-4	Jan 5, 2018 9:55:59 AM EST	Jan 5, 2018 9:47:38 PM EST	4 hr 11 min	0
<input type="checkbox"/> localhost	67.173.172.131	Microsoft Corporation	Virtual Machine	Local Directory	Hyper-V	CentOS Linux release 7.4.1708 (Core)			Standard 64b 6.0.0-1	Dec 25, 2017 7:24:46 PM EST	Sep 18, 2018 6:36:24 PM EDT	18 day 21 hr 50 min	0

liquidware  
Stratusphere

Stratusphere UX ▼ Print Help Log Out

Diagnostics Inventory Advanced

Machines Users Applications Subnets

**Users**

Page 1 of 25 < Prev Next >

New

View: Individual Users | Groups Quick Search Search

Username	Directory	Role	Enabled	Locked	Last Login	Last Login From	Created On
<input type="checkbox"/> ISTest@lwdemocenter.local	Local Directory	User	No	No	Jul 25, 2017 10:46:23 AM EDT	91aae9b47	21, 2017 1:56:25 PM EDT
<input type="checkbox"/> bmoore@se.lwl.corp	Local Directory	User	No	No	Jul 25, 2017 1:09:37 PM EDT	sewsw12-0	25, 2017 1:09:44 PM EDT
<input type="checkbox"/> njeans@lwl.corp	lwl.corp	Administrator	Yes	No	Aug 11, 2017 10:34:10 AM EDT	atl-11532.l	7, 2017 7:07:21 PM EDT
<input type="checkbox"/> demouser3@lwdemocenter.local	Local Directory	User	No	No	Aug 26, 2017 12:20:45 PM EDT	JM-ProULWL.Lwl.corp	Aug 26, 2017 12:13:19 PM EDT
<input type="checkbox"/> demouser4@lwdemocenter.local	Local Directory	User	No	No	Aug 26, 2017 12:20:48 PM EDT	JM-ProULWL.Lwl.corp	Aug 26, 2017 12:18:31 PM EDT

liquidware  
Stratusphere

Stratusphere UX ▼ Print Help Log Out

Diagnostics Inventory Advanced

Machines Users Applications Subnets

**Desktop Applications**

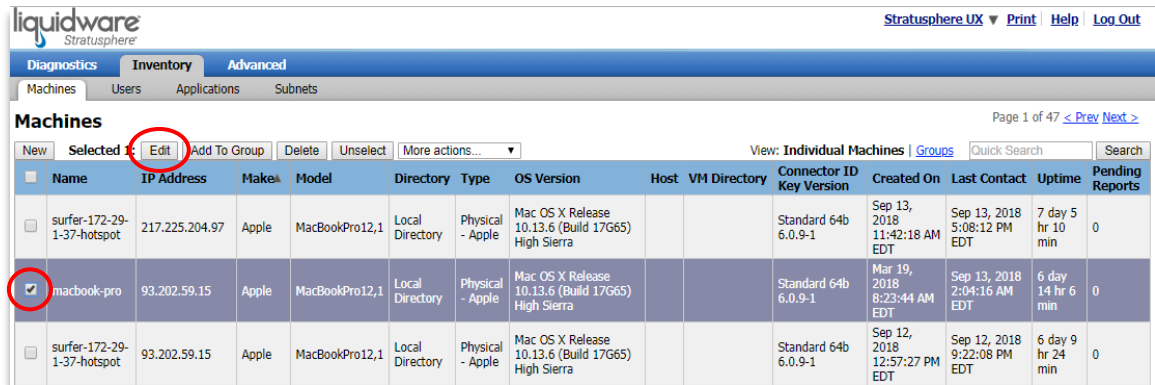
Page 12 of 742 < Prev Next >

View: Desktop Applications | Network Applications Quick Search Search

Application Name	Version	Machines Installed On	Estimated size (KB)	Installs Services	Installs Device Drivers	Provides DCOM Services	Has Shell Extensions	Include for Virtualization	System Application	Processes
<input type="checkbox"/> Adobe Acrobat Reader DC	18.011.20055	10	408,456	Yes		No	No	No	No	acrord32.exe, adobeccollabsync.exe, adobebeam.exe, rdrcef.exe, armvsc.exe, reader_sl.exe
<input type="checkbox"/> Adobe Acrobat Reader DC	18.011.20038	19	410,836	Yes		No	No	No	No	acrord32.exe, adobeccollabsync.exe, adobebeam.exe, rdrcef.exe, armvsc.exe, reader_sl.exe
<input type="checkbox"/> Adobe Acrobat Reader DC	18.011.20040	16	410,137	Yes		No	No	No	No	acrord32.exe, adobeccollabsync.exe, adobebeam.exe, rdrcef.exe, 32bitmapibroker.exe, armvsc.exe, reader_sl.exe
<input type="checkbox"/> Adobe Acrobat Reader DC	18.009.20050	14	410,206	Yes		No	No	No	No	acrord32.exe, adobeccollabsync.exe, adobebeam.exe, rdrcef.exe, adobebeaemon, armvsc.exe, rdrcef, reader_sl.exe, rdrcef helper
<input type="checkbox"/> Adobe Acrobat Reader DC	17.009.20044	6	364,351	Yes		No	No	No	No	acrord32.exe, adobeccollabsync.exe, rdrcef.exe, adobebeam.exe, armvsc.exe

For example, you can use the Machine Inventory to view specific details about a device's hardware, operating system, and installed applications along with patches.

1. Go to **Inventory > Machines** and select a machine. Then click on the **Edit** button.



liquidware Stratusphere

Stratusphere UX ▼ Print Help Log Out

Diagnostics Inventory Advanced

Machines Users Applications Subnets

**Machines**

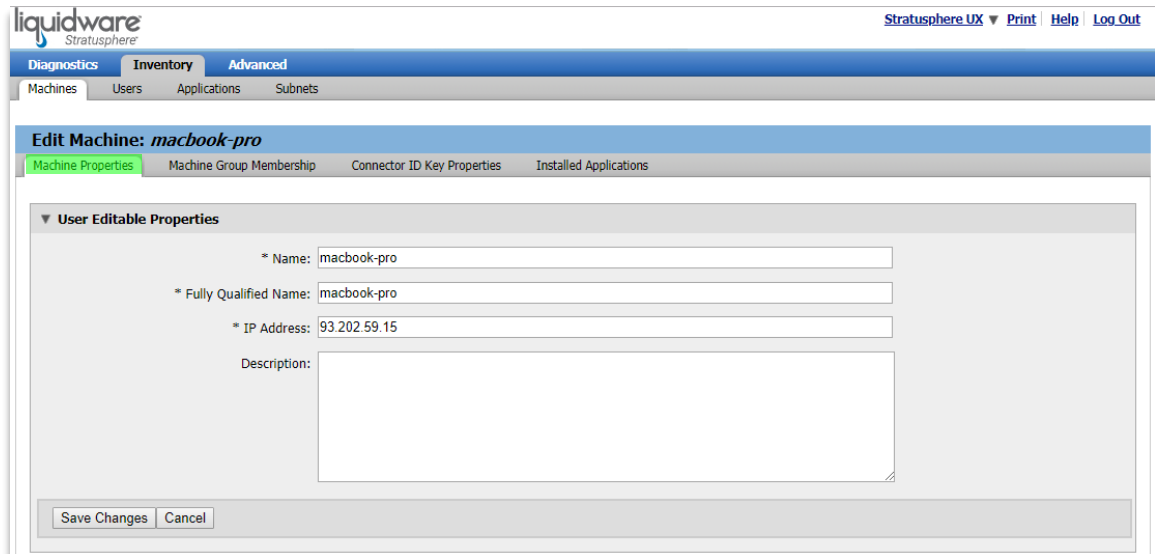
Page 1 of 47 < Prev Next >

New Selected 1: Edit Add To Group Delete Unselect More actions...

View: Individual Machines Groups Quick Search Search

	Name	IP Address	Make	Model	Directory	Type	OS Version	Host	VM Directory	Connector ID Key Version	Created On	Last Contact	Uptime	Pending Reports
<input type="checkbox"/>	surfer-172-29-1-37-hotspot	217.225.204.97	Apple	MacBookPro12,1	Local Directory	Physical - Apple	Mac OS X Release 10.13.6 (Build 17G65) High Sierra			Standard 64b 6.0.9-1	Sep 13, 2018 11:42:18 AM EDT	Sep 13, 2018 5:08:12 PM EDT	7 day 5 hr 10 min	0
<input checked="" type="checkbox"/>	macbook-pro	93.202.59.15	Apple	MacBookPro12,1	Local Directory	Physical - Apple	Mac OS X Release 10.13.6 (Build 17G65) High Sierra			Standard 64b 6.0.9-1	Mar 19, 2018 8:23:44 AM EDT	Sep 13, 2018 2:04:16 AM EDT	6 day 14 hr 6 min	0
<input type="checkbox"/>	surfer-172-29-1-37-hotspot	93.202.59.15	Apple	MacBookPro12,1	Local Directory	Physical - Apple	Mac OS X Release 10.13.6 (Build 17G65) High Sierra			Standard 64b 6.0.9-1	Sep 12, 2018 12:57:27 PM EDT	Sep 12, 2018 9:22:08 PM EDT	6 day 9 hr 24 min	0

2. View the hardware and OS configuration under the **Machine Properties** tab.



liquidware Stratusphere

Stratusphere UX ▼ Print Help Log Out

Diagnostics Inventory Advanced

Machines Users Applications Subnets

**Edit Machine: macbook-pro**

Machine Properties Machine Group Membership Connector ID Key Properties Installed Applications

▼ User Editable Properties

\* Name: macbook-pro

\* Fully Qualified Name: macbook-pro

\* IP Address: 93.202.59.15

Description:

Save Changes Cancel

▼ **Other Properties**

OS: Mac OS X Release 10.13.6 (Build 17G65) High Sierra	Monitors: 2560 x 1600;
CPU: Intel(R) Core(TM) i5-5287U CPU @ 2.90GHz, 2 cores;	Disks: Disk 1 (/dev/disk0,SSD)
GPU: Intel Iris Graphics 6100;	Printers: 2 local; 0 network <a href="#">view details</a>
Age: 430 days	NICs: en0, 30 Mb;
Make: Apple	Other devices: USB:Bluetooth USB Host Controller; USB:Internal Memory Card Reader; USB:iPhone;
Model: MacBookPro12,1	Last Contact: Sep 13, 2018 2:04:16 AM EDT
Serial #: C02Q82ZNFVH8	Creation Date: Mar 19, 2018 8:23:44 AM EDT
VM Directory: n/a	
VM Hosted on: n/a	
Fully Qualified Machine Name:	
Connector ID Key Version: Standard 64b 6.0.9-1	
Bios Manufacturer: MacBookPro12,1	
Bios Version: MBP121.0177.B00	
TPM enabled:	
TPM active:	
TPM owned:	
TPM Specification version:	

3. Select the **Installed Applications** tab to see more details on the software installed on the device.

liquidware  
Stratusphere

Stratusphere UX ▼ Print Help Log Out

Diagnostics Inventory Advanced

Machines Users Applications Subnets

**Edit Machine: macbook-pro**

Machine Properties Machine Group Membership Connector ID Key Properties **Installed Applications**

Application ▲	Version	Estimated Size	Installs Services	Uses Services	Installs Drivers	Processes	Date Installed
50onPaletteServer	1.1.0	890					May 12, 2017
64-Bit (Intel) No	6.2.0.42 (BuildVersion: 6.2; BuildDate: Wed Aug 22 2012 18:00:00) Copyright 2010-2012 Adobe Systems Incorporated. All rights reserved.	3,476					
64-Bit (Intel) Yes	2.0.0.10 (BuildVersion: 2.0; BuildDate: Tue Jul 05 2011 18:00:00) Copyright 2010-2011 Adobe Systems Incorporated. All rights reserved.	1,822					
AAM Registration Notifier	10.0.0.194	385					
AAM Registration Notifier	3.0.64.0	327					
AAM Registration Notifier	7.0.0.485	375					
AAM Updates Notifier	9.0.0.281	1,114				aam updates notifier	
AAMLancherUtil	10.0.0.49	375					
AASlapp	10.0.0.194	451					
ABAssistantService	11.0	66				abassistantservice	
ACCFinderBundleLoader	2.3.0.197	1,662					
AOSAlertManager	1.07	170					May 12, 2017
AOSHeartbeat	1.07	302				aosheartbeat	May 12, 2017
AOSPushRelay	1.07	255					May 12, 2017
ARDAgent	3.9.7	3,798					
ARDAgent	3.9.6	3,794					
AVB Audio Configuration	1.0	852					Jun 19, 2018
AVG AntiVirus	18.3	22,258				avgantivirus	
AVG AntiVirus	18.2	21,663				avgantivirus	
AVG Cleaner	4766	26,973					

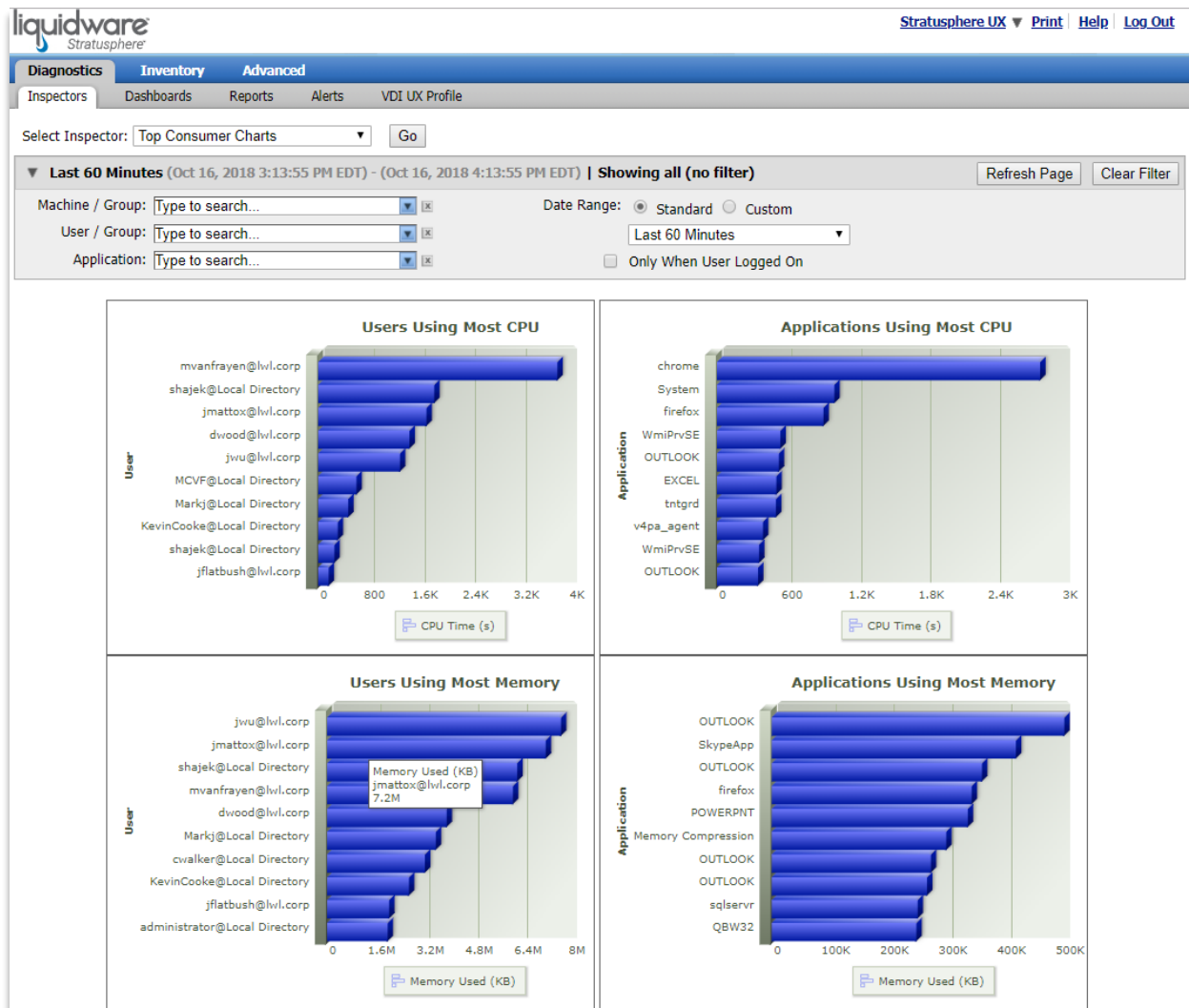
Showing 1 - 20 of 1,545 ▼ Page 1 of 78 < Prev Next >

## Diagnostics 1: End-To-End Performance Analysis

Once you have deployed Stratusphere for monitoring and validation, you are ready to begin generating reports and analyzing the environment. This section provides information on the key Inspector views and reports from the Report Library that will help you analyze the performance of your VDI environment.

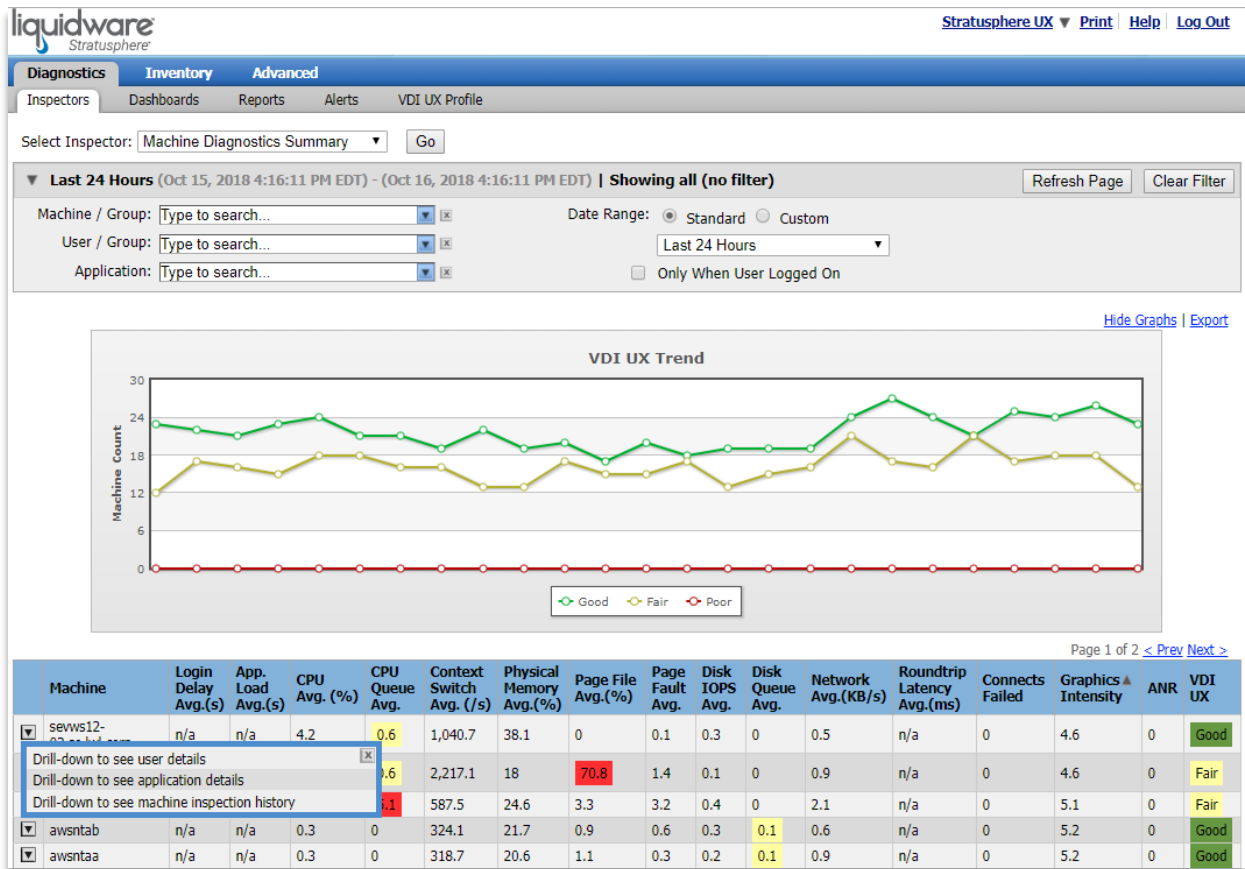
### Machine Performance Analysis

To begin examining machine performance, navigate to **Diagnostics > Inspectors**. Select the view **Top Consumer Charts** in the drop-down and then click the **Go** button to generate the charts for your diagnostics date range. Using this chart, you can quickly identify the top resource consumers.





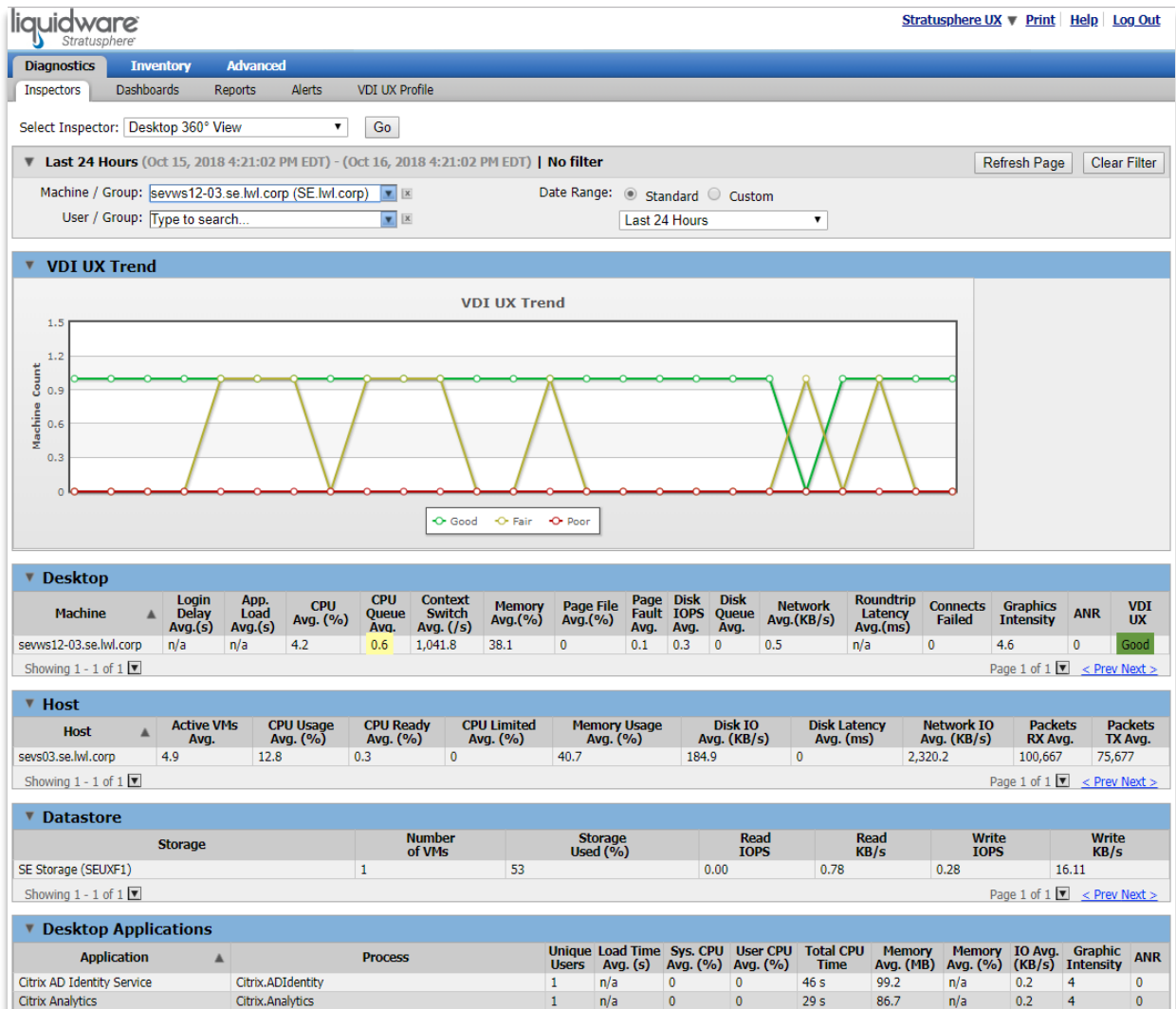
To see summary details for each machine, select the Inspector view **Machine Diagnostics Summary**, change the Date Range to Last 24 Hours, and click the **Go** button. This view lists more details for each machine.



To see further details, click on the drill-down button on the left side of a selected row, and drill-down to see the machine inspection history for a specific machine. This will show a breakdown for every report that the Connector ID Key sent back for the specified machine. Note that once you drill down, the machine name is automatically specified in the **Machine/Group** filter for the Inspector.

Machine	Report Time	Login Delay Avg.(s)	App. Load Avg.(s)	CPU Avg. (%)	CPU Queue Avg.	Context Switch Avg.(/s)	Memory Avg.(%)	Page File Avg.(%)	Page Fault Avg.	Disk IOPS Avg.	Disk Queue Avg.	Network Avg.(KB/s)	Roundtrip Latency Avg.(ms)	Connects Failed	Graphics Intensity	ANR	VDI UX
sews12-03.se.lwl.corp	Oct 16, 2018 4:16:22 PM EDT	n/a	n/a	4.4	1	1,123	38.3	0	461	0.3	n/a	0.4	n/a	0	5	0	Good
sews12-03.se.lwl.corp	Oct 16, 2018 4:06:22 PM EDT	n/a	n/a	3.8	0.5	981	38.1	0	391	0.3	n/a	0.5	n/a	0	5	0	Good
sews12-03.se.lwl.corp	Oct 16, 2018 3:56:22 PM EDT	n/a	n/a	4.7	n/a	1,095	37.9	0	483	0.3	0	0.5	n/a	0	5	0	Good
sews12-03.se.lwl.corp	Oct 16, 2018 3:46:22 PM EDT	n/a	n/a	3.9	1.8	1,000	37.5	0	412	0.3	n/a	0.5	n/a	0	5	0	Good
sews12-03.se.lwl.corp	Oct 16, 2018 3:36:22 PM EDT	n/a	n/a	4.3	n/a	1,066	37.1	0	460	0.3	n/a	0.4	n/a	0	5	0	Good

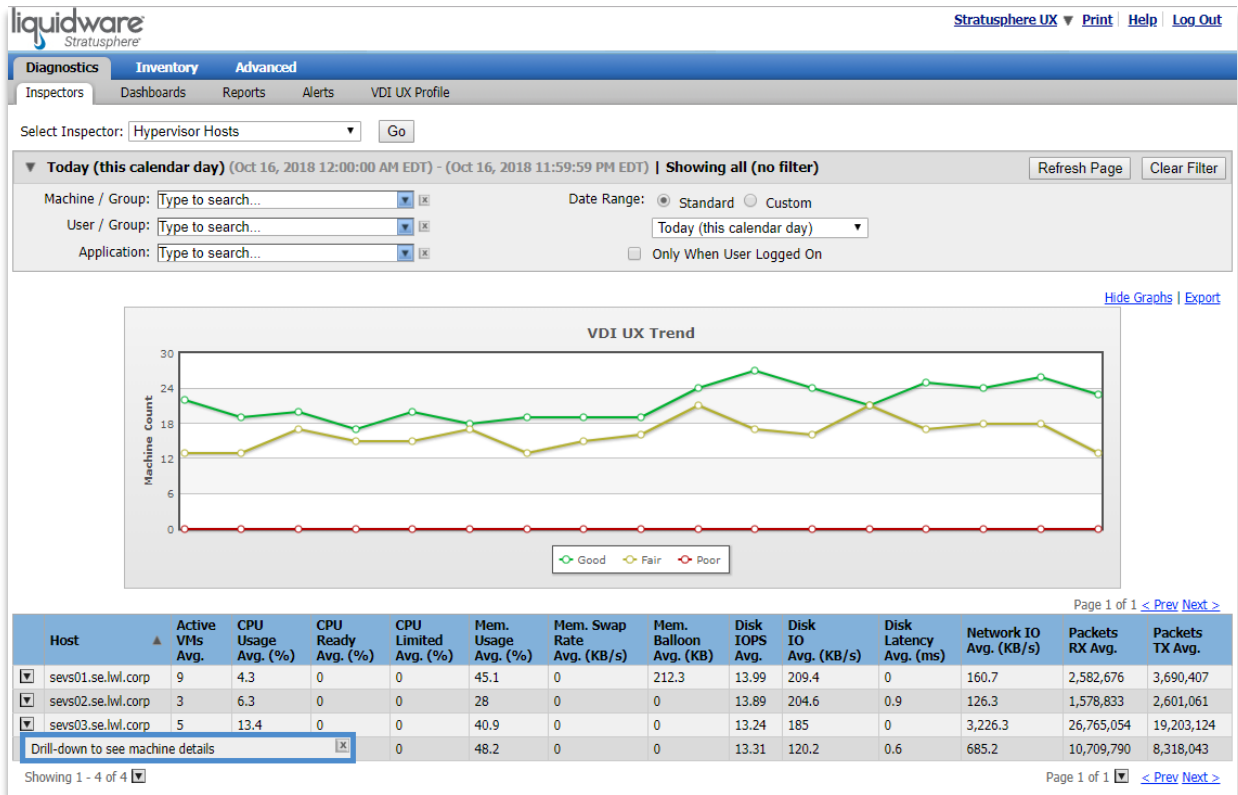
To get a complete view of the machine, host, SAN, and application data gathered for the specific machine during this period, select the Inspector view **Desktop 360° View** and click **Go**.



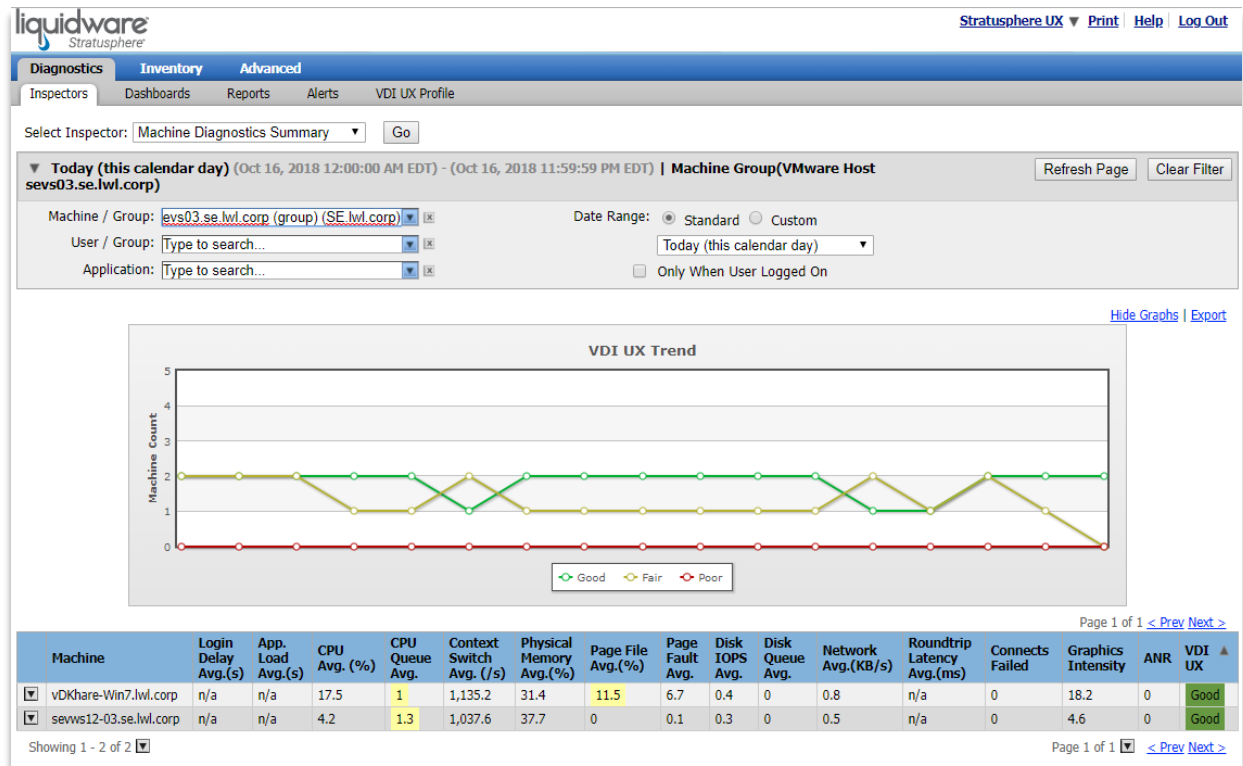
For additional insight, run some of our standard reports in the Stratusphere Report Library. Go to **Diagnostics > Reports** and filter the reports for the time period you are analyzing.

## Host Performance Analysis

To examine host performance, go to **Diagnostics > Inspectors** and select **Hypervisor Hosts** from the drop-down list of views. Then click the **Go** button. To see details about the machines running on a specific host, click on the drill-down button next to the Host name.



Stratusphere will switch to the **Machine Diagnostics Summary** view to show machines running on that host. Note that once you drill down, the host name is automatically specified in the **Machine/Group** filter for the Inspector.



For additional summary reports on host performance, go to **Diagnostics > Reports** and run the reports for the time period you are analyzing.

## Network Performance Analysis

To gain a graphical view of network connections, with an ability to drill down on the performance data, navigate to **Diagnostics > Inspectors**, select the **Network Connection Map** from the drop-down list of views, and click the **Go** button. Next you will need to select one of your VMs as the Target Machine, then click the Draw Map button.

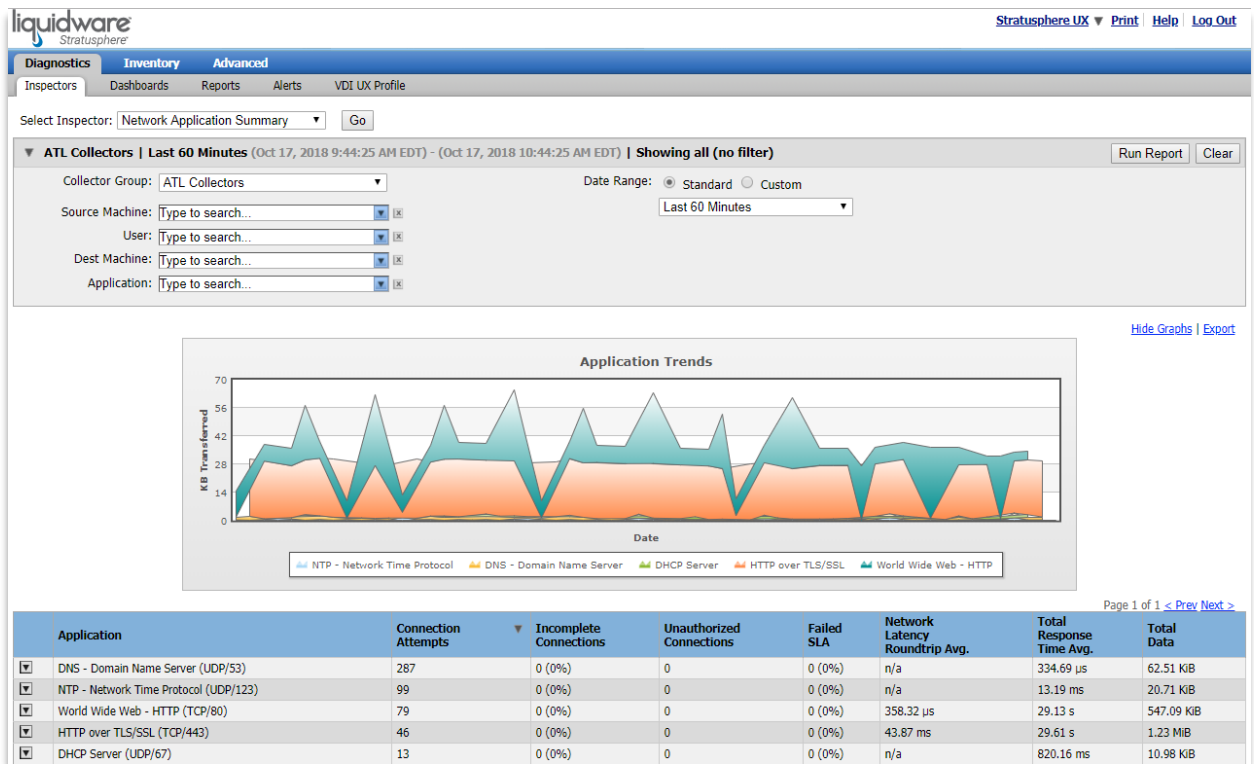
Click on the center of a connection arrow to view application details. Click a machine to make it the target machine

**Application activity from machine vDKhare-WinX.lwl.corp to machine 205.185.216.10**

	Application	Connection Attempts	Incomplete Connections	Unauthorized Connections	Failed SLA	Network Latency Roundtrip Avg.	Total Response Time Avg.	Total Data
<input checked="" type="checkbox"/>	DNS - Domain Name Server (UDP/53)	58,317	0 (0%)	0	0 (0%)	n/a	20.66 ms	12.8 MIB
<input checked="" type="checkbox"/>	HTTP over TLS (TCP)	43,480	592 (1%)	0	0 (0%)	373.54 ms	39.05 s	2.96 GIB
<input checked="" type="checkbox"/>	World Wide Web - HTTP	24,630	703 (3%)	0	0 (0%)	162.24 ms	30.18 s	215.07 MIB
<input checked="" type="checkbox"/>	NTP - Network Time Protocol	21,140	0 (0%)	0	0 (0%)	n/a	20.3 s	5.15 MIB
<input checked="" type="checkbox"/>	DHCP Server (UDP/67)	2,056	0 (0%)	0	0 (0%)	n/a	687.8 ms	1.69 MIB

Use the drill-down button to see more network data details.

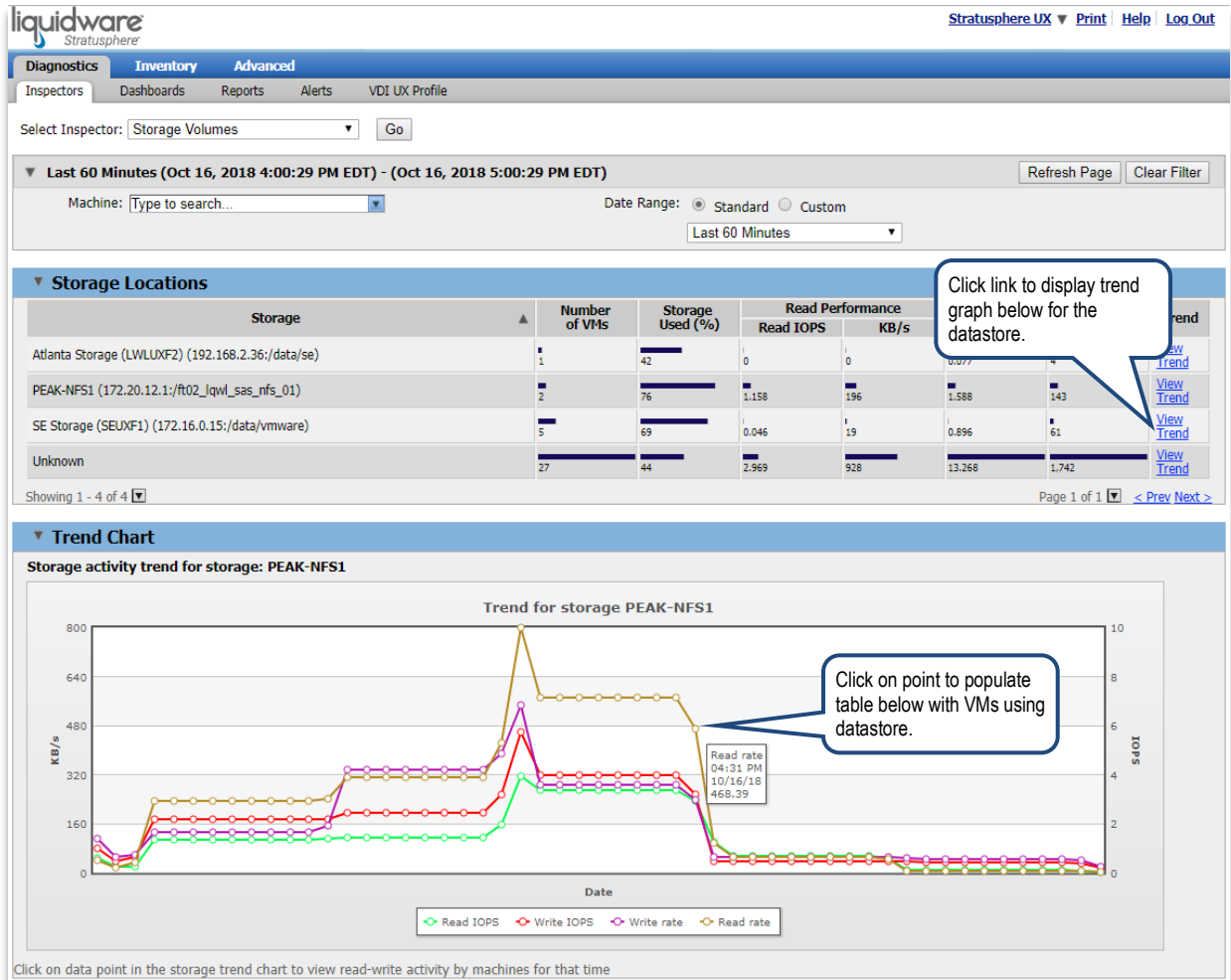
For an overall view of network performance data by application (port/protocol), select the **Network Application Summary** from the Inspector view drop-down, and click on the **Go** button. To view data for a specific application such as RDP, select the application from the filter drop-down at the top of the page.



To print reports on network performance, go to **Diagnostics > Reports** and run some of Stratusphere's standard reports.

## SAN Performance Analysis

To view SAN performance data, with an ability to drill-down and find the specific machines and applications consuming SAN, go to **Diagnostics > Inspectors** and select **Storage Volumes** from the view drop-down and click the **Go** button. The list of datastores is displayed, and you can drill-down to see the trend graph and the VMs (that have Connector ID Keys) using the datastore during the specified period.

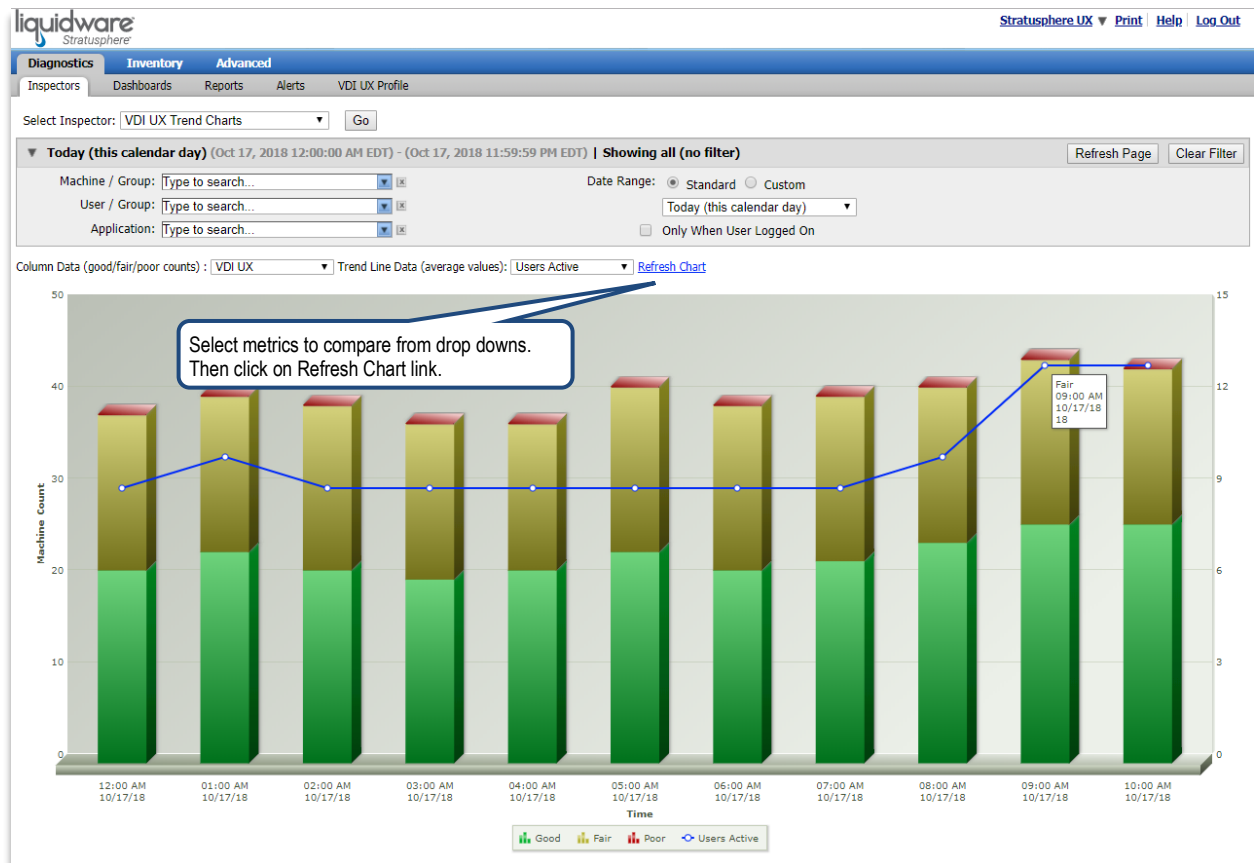


## Diagnostics 2: Trend Analysis and Alerts

Stratusphere UX provides extensive capabilities to analyze trends and to setup alerts that can be delivered via email or RSS. This section provides an overview of the key features.

### Trend Analysis

To examine performance trends, navigate to **Diagnostics > Inspectors** and select the **VDI UX Trends Chart** view from the drop-down. Then click the **Go** button. The trend chart allows you to select the timeframe, and to select the metrics to compare on the bar charts and the line graph. You can use this chart to view trends and to see how metrics are correlated.





## Alerts

Stratusphere UX also includes a set of pre-configured alert options. Alerts can be viewed in the Hub UI, delivered via email, or subscribed to using an RSS reader. To view alerts, navigate to **Diagnostics > Alerts**.

The screenshot shows the 'Alerts' page in the Stratusphere UX interface. The page has a navigation bar with 'Diagnostics', 'Inventory', and 'Advanced' tabs. Under 'Diagnostics', there are sub-tabs for 'Inspectors', 'Dashboards', 'Reports', 'Alerts', and 'VDI UX Profile'. The 'Alerts' tab is active. The page title is 'Alerts' with a status icon. Below the title, it says 'Alerts are enabled. Click [Configure Alerts](#) to see details.' There is a 'Configure Alerts' button. A table lists alerts with columns for 'Time', 'Type', 'Condition', and 'Report Link'. Callouts point to the 'Copy link to subscribe to Alert RSS feed.' button, the 'Configure Alerts' button, and a 'View Report' link.

Time	Type	Condition	Report Link
Oct 17, 2018 10:43:10 AM EDT	Machine	Condition: , Machine CPU consumption/queue not within limits for reports received between Oct 17, 2018 10:13:10 AM and Oct 17, 2018 10:19:24 AM to Oct 17, 2018 10:29:24 AM	<a href="#">View Report</a>
Oct 17, 2018 10:43:10 AM EDT	Machine	Condition: , Machine CPU consumption/queue not within limits for reports received between Oct 17, 2018 10:13:10 AM and Oct 17, 2018 10:20:36 AM to Oct 17, 2018 10:30:37 AM	<a href="#">View Report</a>
Oct 17, 2018 10:43:10 AM EDT	Machine	Condition: , Machine CPU consumption/queue not within limits for reports received between Oct 17, 2018 10:13:10 AM and Oct 17, 2018 10:28:10 AM Machine: mcvf-pc Report period: Oct 17, 2018 10:26:42 AM to Oct 17, 2018 10:36:42 AM	<a href="#">View Report</a>
Oct 17, 2018 10:43:10 AM EDT	Machine	Condition: , Disk consumption/performance not within limits for reports received between Oct 17, 2018 10:13:10 AM and Oct 17, 2018 10:28:10 AM Machine: vDKhare-Win7.lvl.corp Report period: Oct 17, 2018 10:26:48 AM to Oct 17, 2018 10:36:48 AM	<a href="#">View Report</a>

To configure alerts, click on the **Configure Alerts** button. You can specify how often Stratusphere should check alert thresholds, choose the type of alerts to configure, and set the appropriate threshold for each alert.

The screenshot shows the 'Alert Conditions' and 'Machine events' configuration page. The 'Alert Conditions' section has a header 'Alert Conditions' and a description: 'Choose how often to check for alerts and the event thresholds for an alert. An alert will be triggered if *any one* of the following thresholds are met.' Below this is a form for '\* Check interval: 15 minutes'. The 'Machine events' section has a header 'Machine events' and a list of alert conditions with checkboxes and input fields for thresholds.

**Alert Conditions**

Choose how often to check for alerts and the event thresholds for an alert. An alert will be triggered if *any one* of the following thresholds are met.

\* Check interval: 15 minutes

**Machine events**

- ☒ Alert based on poor VDI UX rating  
Alert when more than 5 machines are rated poor for VDI UX since last check
- ☒ Alert based on user login delay  
Alert when more than 5 user logins exceed 30 seconds
- ☒ Alert based on machine CPU consumption  
Alert when a single machine exceeds more than 80 percent of CPU
- ☒ Alert based on machine CPU queue length  
Alert when a single machine's CPU queue length exceeds more than 5 since last check
- ☒ Alert based on machine memory consumption  
Alert when a single machine exceeds more than 80 percent of memory
- ☒ Alert based on application CPU consumption  
Alert when a single application averages more than 80 percent of CPU on a single machine
- ☒ Alert based on application memory consumption  
Alert when a single application averages more than 80 percent of memory on a single machine
- ☒ Alert based on system page fault rate  
Alert when a single machine averages more than 50 page faults per sec
- ☒ Alert based on disk consumption  
Alert when any machine exceeds 80 percent of allocated disk space on a single disk partition

**Storage events**

- ☒ Alert based on disk IOPS  
Alert when a single machine reports disk IO that exceeds  IOPS since last check
- ☒ Alert based on disk queue  
Alert when a single machine disk queue length exceeds  since last check

**Network events**

- ☒ Alert based on network latency  
Alert when incoming roundtrip network latency for any machine exceeds  milliseconds
- ☒ Alert based on unauthorized activity  
Alert when unauthorized activity exceed  connections since last check
- ☒ Alert based on service level failures  
Alert when service level failures exceed  connections since last check
- ☒ Alert based on incomplete connections  
Alert when incomplete connections exceed  attempts since last check

**Host events**

- ☒ Alert based on host CPU consumption  
Alert when a single host exceeds more than  percent of CPU
- ☒ Alert based on host CPU ready  
Alert when a single host reports that it exceeds more than  percent average CPU ready on active VMs
- ☒ Alert based on host memory consumption  
Alert when a single host exceeds more than  percent of memory
- ☒ Alert based on host memory swapped  
Alert when a single host reports that it exceeds more than  percent of memory swapped
- ☒ Alert based on host disk IOPS  
Alert when a single host reports disk IO that exceeds  IOPS since last check
- ☒ Alert based on host disk latency  
Alert when a single host disk latency exceeds  milliseconds since last check

You can also specify one or more email address where alerts should be delivered.

**Alert Notification**

In addition to viewing alerts in Stratusphere, you can be notified via e-mail and SNMP.

- ☒ Send e-mail notification when an alert occurs
  - \* Reply-to address:  
  
A single email address. If a recipient replies to the alert, the reply will be directed to this address.
  - \* To addresses:  
  
Comma-separated email addresses.
- ☒ Send SNMPv2 Trap when an alert occurs
  - \* SNMP Trap Destination:  
  
The IP address of the Network Monitoring System or SNMP Manager.
  - \* SNMP Community String:

In addition to threshold alerts, scheduled reports can also generate alerts once the report run is finished. This means that you can setup alerts based on existing reports in the Report Library or create custom reports and generate custom alerts. To setup an alert based on a report, navigate to **Diagnostics > Reports**, select a report from the list, and click on the **Edit** button. In the Edit form, you will need to setup a schedule to run the report and check the box to generate a custom alert. These alerts will be delivered and displayed exactly like other Alerts.

**Schedule, Email and Alert**

Scheduled: ☒ Yes ☐ No

Frequency: 

Daily

\*Start time: 

4:28 PM

 (HH:MM AM or HH:MM PM)

☒ Discard if report is empty

☒ Generate custom alert

Custom alert message:

New Stratusphere UX Alert

☒ Email report

To addresses:

Comma-separated email addresses.

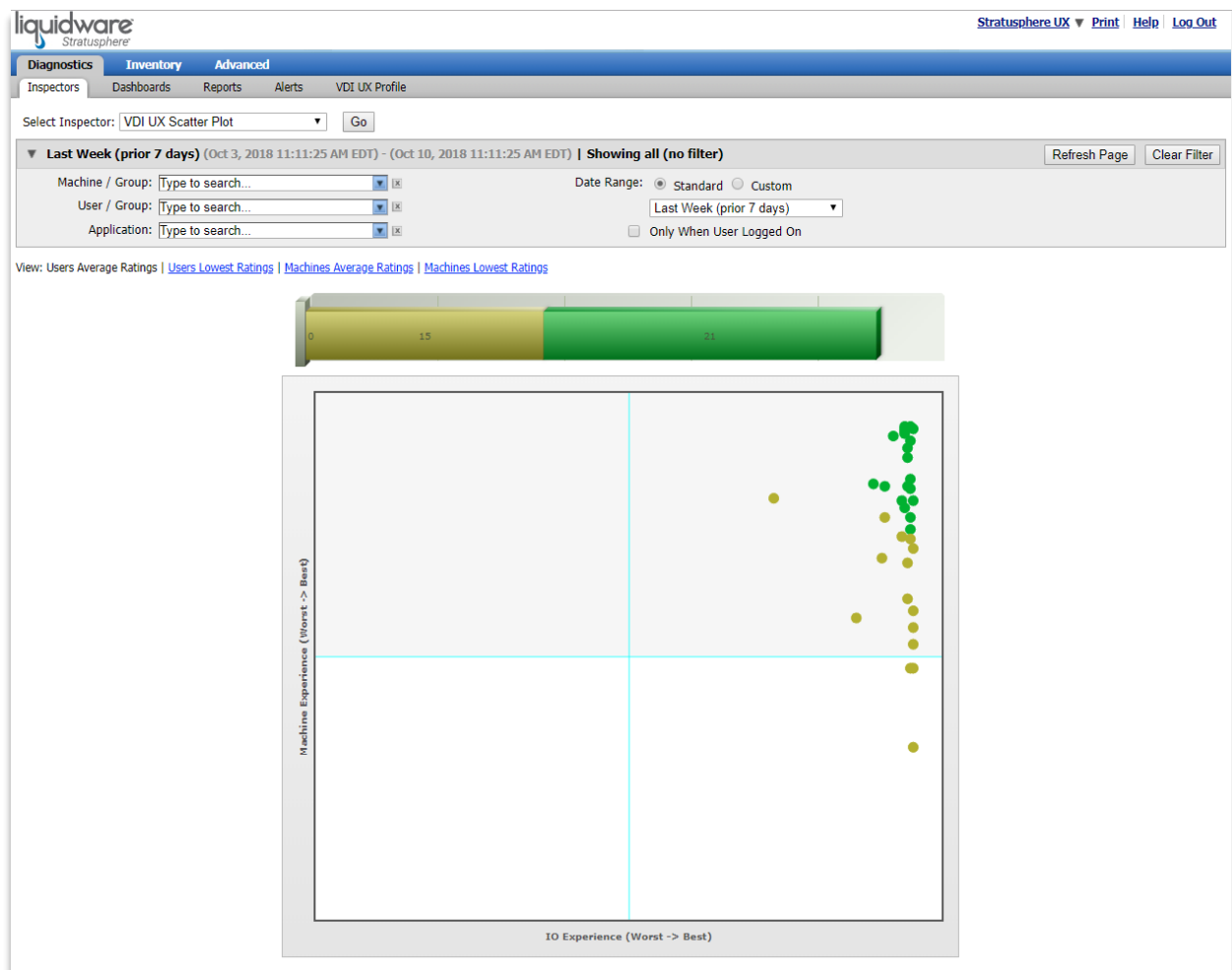
\*Reply-to address:

## Diagnostics 3: Summary Analysis and Recommendations

The final step in using Stratusphere for VDI diagnostics and user experience analysis is to generate the summary analysis and findings reports. The VDI UX categorization (Good/Fair/Poor UX for VDI) used in many of the reports is based on the VDI UX Profile settings discussed previously while learning the basics of Stratusphere. In this section, we cover the key summary reports you can generate and use to construct your final diagnostic deliverables.

### VDI UX Analysis

To examine the distribution of desktops or users falling into different categories of VDI UX (Good/Fair/Poor), go to **Diagnostics > Inspectors**, select the **VDI UX Scatter Plot** view from the drop-down list, and generate the chart. You can choose to display by Machine or by User. You can drill-down to see more details on individual users or machines by clicking on nodes on the chart. You can also choose to display Average fitness ratings or the Lowest ratings which reflect peak periods of resource consumption.



## Performance Time Chart and Comparison

Two key reports that you can use to analyze the performance of a time period or to compare the performance of one-time period to another are the Performance Time Chart and the Performance Comparison reports. These reports show you key performance metrics and identify top consumers for the machines, hosts and SAN, and can be used to help identify whether there are performance problems and what might be the specific causes.

## Diagnostic Findings Summary

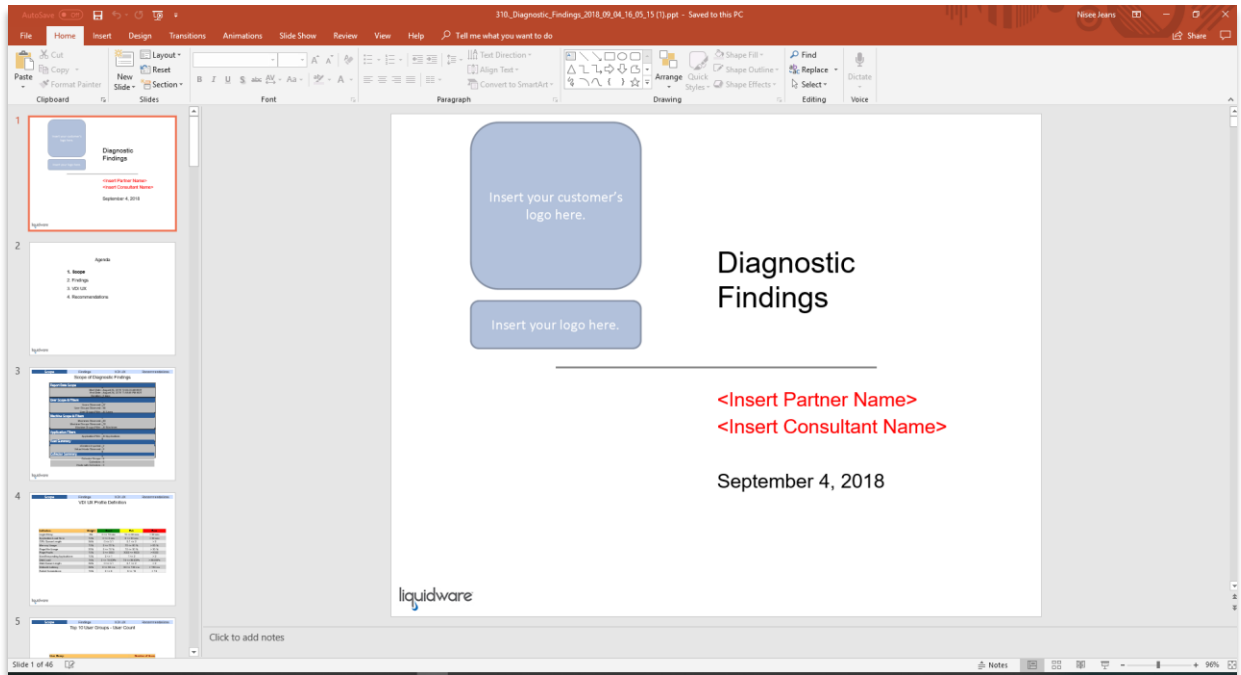
The Diagnostic Findings report is a single summary Microsoft PowerPoint that includes graphs and data from many of the reports listed in sections above, all combined into a single report designed for you to customize and adapt to fit your needs. It includes information on the overall diagnostic data, the findings and analysis, and placeholders for your final recommendations. This report can be useful as the basis for a summary report following a VDI health check project or a VDI pilot.

To generate the report, login to Stratusphere UX and go to the **Diagnostics > Reports** tab. Select the **UX Health Check Reports** category. Check the Diagnostic Findings report in the list and click the **Run** button. Make any adjustments to the criteria for the report including the time period to cover. Optionally you can also specify a specific machine group or a specific user group to report on. Click **OK** when ready to run the report. Note that this report may take 5 minutes or more to run, depending on the period and the amount of data gathered.

The screenshot shows the Stratusphere UX web interface. At the top, there's a navigation bar with 'Diagnostics', 'Inventory', and 'Advanced' tabs. Below this, there's a 'Report Library' section. A dropdown menu is set to 'UX Health Check Reports'. Below the dropdown, there are buttons: 'New', 'Selected 1:', 'Search Archives', 'Edit', 'Run' (circled in red), 'Delete', and 'Unselect'. To the right of these buttons are links for 'View Archives', 'Manage Categories', 'Quick Search', and a 'Search' button. Below this is a table with columns: 'Category', 'Report', 'Schedule', 'Supported Formats', 'Archived', and 'Criteria'. The table lists various reports, with '310. Diagnostic Findings' selected (checked checkbox). At the bottom, it says 'Showing 1 - 12 of 12' and 'Page 1 of 1'.

Category	Report	Schedule	Supported Formats	Archived	Criteria
<input type="checkbox"/>	UX Health Check Reports 301. Performance Time Chart		PPT, PDF	0	Last 24 Hours
<input type="checkbox"/>	UX Health Check Reports 302. Applications Not Responding		XLS	0	Yesterday (prior calendar day)
<input type="checkbox"/>	UX Health Check Reports 303. Network Application Summary		PDF, XLS	0	Station group Default Collector Group, Yesterday (prior calendar day)
<input type="checkbox"/>	UX Health Check Reports 304. SAN Performance Summary		PDF, XLS	0	Yesterday (prior calendar day)
<input type="checkbox"/>	UX Health Check Reports 305. Peak Resource Consumers		PDF, XLS	0	Yesterday (prior calendar day)
<input type="checkbox"/>	UX Health Check Reports 306. Least Utilized Desktops - No Logins		PDF, XLS	0	Yesterday (prior calendar day)
<input type="checkbox"/>	UX Health Check Reports 307. Key Metrics Time Chart Averaged By Hour		PDF, XLS	1	Yesterday (prior calendar day)
<input type="checkbox"/>	UX Health Check Reports 308. Key Metrics Averaged By Hour		PDF, XLS	1	Yesterday (prior calendar day)
<input type="checkbox"/>	UX Health Check Reports 309. Key Metrics Aggregated By Hour (Business Hours)		PDF, XLS	1	Yesterday (prior calendar day)
<input checked="" type="checkbox"/>	UX Health Check Reports 310. Diagnostic Findings		PPT, PDF	1	Last 24 Hours
<input type="checkbox"/>	UX Health Check Reports 311. User Experience Key Metrics Time Chart		PDF	1	Last 24 Hours
<input type="checkbox"/>	UX Health Check Reports 312. User Experience Key Metrics Averaged By Hour		PDF	1	Last 24 Hours

The resulting file will be stored in the Reports archive, where you can access and download the PowerPoint report.

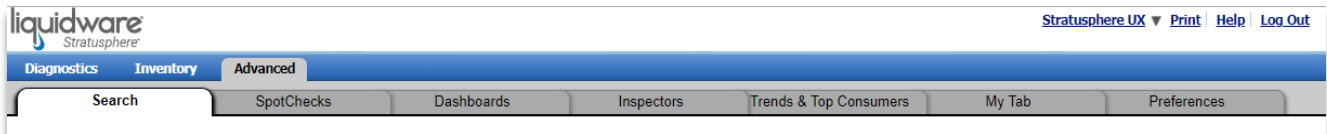


For additional diagnostic reports, run some of the standard reports in the Stratusphere Report Library. Go to **Diagnostics > Reports** and filter the reports for the time period you are analyzing.

## Using the Stratusphere UX Advanced Mode

In Stratusphere UX the Advanced Mode provides faster and more flexible methods to view and analyze your data in detail. The Advanced Mode includes purpose-built views, drill downs, graphs, and optimized queries for metric data selection. This new technology will enhance your user experience and provide you with more flexibility and power when working with your data and understanding its impact in your environment.

The Advanced Mode can be accessed directly in Stratusphere UX under the **Advanced** tab.



The Advanced Mode consists of several different tabs running across the top bar. These tabs correspond to different approaches that can be used to inspect the metrics data that is collected by the Stratusphere Connector ID Key agents and sent back to the Stratusphere Hub.

### Advanced Mode Search

When selecting the **Advanced** tab, the default view is the **Search** tab. The Advanced Mode Search tab offers an easy-to-use front end to the Advanced Inspectors. The Search serves as a great first step in diagnosing Help Desk issues. This feature searches all the Advanced Inspectors and aggregates the data on to one screen.



Start by typing a search string and clicking the **Search Now** button. Valid search terms include user names, machine names, IP Addresses, application names, etc. The default is for Stratusphere to search all Advanced Inspectors. However, you can narrow the search by focusing in on an area listed below the search text box. This will limit the search parameters to the applicable area, enabling the search to execute faster.

In this case, we've searched for instances of the string "david" – one of the users in our demo environment. The screen below depicts the search results for this search string. The upper right corner shows the number of queries that Stratusphere has left to perform. Those queries are shown at the bottom of the screen while the search results are listed as another query finishes.

The screenshot displays the Stratusphere UX search interface. At the top, the search bar contains the text "david". To the right of the search bar, there are buttons for "Searching", "Stop", "Close All", and "Open All". Below the search bar, the results are categorized into several sections:

- 1 Login based rows found showing User Name, Machines, Login Time**: This section shows a single result for the user "david" with machine name "sevws12-01.se.lwl.corp" and login time "2018-10-08 10:16:25".
- 1 User Name based rows found**: This section shows a single result for the user "david".
- 2 User Name based rows found showing Machines**: This section shows two results for the user "david", with machine names "sevws12-01.se.lwl.corp" and "sevws12-03.se.lwl.corp".
- 6 User Name based rows found showing Machine Groups**: This section shows six results for the user "david", with machine group names including "VMware Host sevws03.se.lwl.corp", "VMware Host sevws04.se.lwl.corp", "State Street Appliaiton X Control Group", "Virtual Machines", "Virtual Servers", and "XenApp-RDSH".
- 20 Application based rows found showing Owner Name, Application Name, Process Name**: This section shows 20 results for the user "david", including application names like "Google Chrome", "Windows Media Player", "TightVNC", and "Internet Explorer", and process names like "chrome", "wmplayer", "tvnserver", and "iexplore".

At the bottom of the screen, there is a status bar showing the number of queries left to run, with a total of 63 queries. A callout box points to the "Number of queries left." text. Another callout box points to the "Query Results" text. A third callout box points to the "Queries left to run." text.

Note how Stratusphere presents you with results divided into important key areas, such as where the search string appears as a username, where the string has been connected to a machine name as well as the user groups and machine groups where this string appears. Scrolling down you may also note details on the applications, browser, disk, network, and other areas where this string appears in Stratusphere-collected metrics and information.

To hide the details of each search and show a consolidated report of what was found, click on the **Close All** button at the top of the search. To expand only one search area at a time, click on the specific search category link.



liquidware  
Stratusphere




Stratusphere UX ▾ Print Help Log Out




Diagnostics Inventory **Advanced**




Search SpotChecks Dashboards Inspectors Trends & Top Consumers My Tab Preferences




Search:  × Date:  Search Now Stop **Close All** Open All ☐ Details

ALL | APPLICATION | BROWSER | DISK | DISPLAY | EVENT | GROUP | IP | LOGIN | MACHINE | NETWORK | USER | VDDIRECTORY Completed: 87 @ 91 seconds




1 Login based rows found showing **User Name, Machines, Login Time**   




1 User Name based rows found   




2 User Name based rows found showing **Machines**   




6 **User Name** based rows found showing **Machine Groups**   




User Name: david	Machine Group Name: VMware Host sevs03.se.lwl.corp
User Name: david	Machine Group Name: VMware Host sevs04.se.lwl.corp
User Name: david	Machine Group Name: State Street Appliaiton X Control Group
User Name: david	Machine Group Name: Virtual Machines
User Name: david	Machine Group Name: Virtual Servers
User Name: david	Machine Group Name: XenApp-RDSH




20 Application based rows found showing **Owner Name, Application Name, Process Name**   




9 Application based rows found showing **User Name, Pn Remote Domain, Owner Name**   




2 Browser based rows found showing **Users, Domain**   




7 Event Log based rows found showing **Users, Log Id, Log Message**   




2 Alert based rows found showing **Users, Condition**   

5 Login Details Column based rows found showing **Event or Process and User Name**   

1 Remote Display based rows found showing **User Name, Machines, Remote Machine, Remote IP**   

1 Inventory Machine based rows found showing **OS Version** and **Last Contact** (all days)   

2 Command Argument Application based rows found showing **Application Name** and **Owner Name**   

2 Network based rows found showing **Src User, Src Node, Src IP**   

Each search result entry provides a context-aware menu that offers additional choices such as the ability to launch a related 360-degree view, replace the search with this new term, or add this term to the existing search. To see the options, click on the search result link.

The screenshot shows the Liquidware Stratusphere UX search interface. The search bar contains 'david'. A context-aware menu is open over the search results, showing options: 'Machine 360 Launch a 360 view', 'Replace Replace search term', and 'Add Add search term'. The search results show various rows for User Name, Machine Groups, and Application based on the search term 'david'.

In this case, we found the user's machine name that we were looking for. Click on the Machine 360 option to get a general overview about this machine. From this Machine 360 report, we get a glimpse into the Advanced Inspector reports on this machine. From here, you can click on the Popout Inspector icon to the right of the report name to jump right to that inspector.

The screenshot shows the 360 Dashboard for Machine: sevws12-03.se.lwl.corp. The dashboard includes sections for Domain Overview, Login Details, Desktop Allocation, and Desktop Consumption. A red circle highlights the 'Popout Inspector' icon (a small square with a plus sign) next to the 'Login Details by Machine & Login Time' section.

Machine Name	Login Domain	O/S Version	CID Version	UX Score	FIT Score	App Load Time	App Not Resp (ANR)	Login Delay	Login Count	Logout Count	Is Virtual	CPU Cores Allocated	Disk Count	NIC Count	Workload Ranking	Users on Machine	Machine Count	Date Count	CID Records Avg Minute
sevws12-03.se.lwl.corp	@NO_LOGIN_USER	Windows : 6.3.9600	cid64-6.1.0-1	A	A+	0.0 sec	0	0 sec	0	0	1	2	1	1	2	0	1	7	1,331 mi
sevws12-03.se.lwl.corp	@se	Windows : 6.3.9600	cid64-6.1.0-1	A	A	15.6 sec	0	5 sec	1	1	1	2	1	1	1	2	1	1	1,440 mi

Machine Name	Login Name	Login Time	Login Delay	Auth Attempt	Network Providers	Group Policy Computer	Group Policy User	Group Policy Scripts	User Profile Service	Restore Network	Loading Shell	Abnormal Events	Record Count
sevws12-03.se.lwl.corp	administrator	2018-10-08 17:08:00	5.0 sec	0.095 sec	0.000 sec	0.000 sec	0.179 sec	0.000 sec	0.343 sec	22.380 sec	4.078 sec	0	147

Machine Name	UX Score	FIT Score	CPU Cores Allocated	CPU MHz Allocated	Memory Allocated MB	Page Allocated MB	Disk Allocated GB	Workload Ranking	Users on Machine	Machine Count	Date Count	CID Records Avg Minutes	CID Records Avg Hours	CID Records Total Hours	CID % of Res	CID Record Count
sevws12-03.se.lwl.corp	A	A+	2	3,990 MHz	8,192 MB	1,295 MB	39.7 GB	11	2	1	8	1,345 mins	22.41 hrs	179.30 hrs	100.00 %	8

Machine Name	FIT Score	CPU Used MHz	Memory Used MB	Page Used MB	Cache Memory Used MB	Disk Used GB	Disk Read IOPS	Disk Write IOPS	Disk Read KBs	Disk Write KBs	Network Recv KBs	Network Sent KBs	Workload Ranking	Users on Machine	Machine Count	Date Count	CID Records Avg Minutes	CID Records Avg Hours	CID Records Total Hours
sevws12-03.se.lwl.corp	A+	132 MHz	4,187 MB	96 MB	1,003 MB	21.4 GB	0.0 iops	0.3 iops	3.3 KBs	18.3 KBs	0.3 KBs	0.2 KBs	11	2	1	8	1,345 mins	22.41 hrs	179.30 hrs

## Advanced Mode SpotChecks

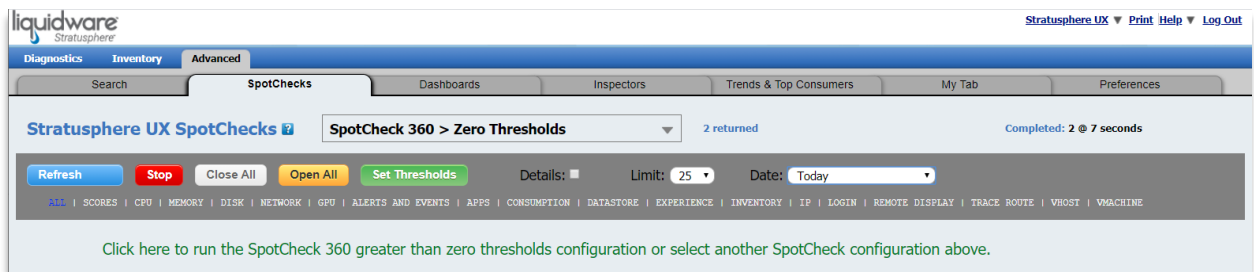
A SpotCheck inspection is a point-in-time analysis that focuses on key user-experience metrics. The methodology leverages known levels of acceptable performance and baselines to identify infrastructure and platform constraints that can contribute to a poor user-experience. A SpotCheck inspection takes a broad look at overall infrastructure and platform health to provide a “point-in-time” picture of resource usage and performance of the virtual or cloud environment.

A SpotCheck inspection can be performed at any time. The methodology was designed to assist in the cursory examination of architectures in immediate jeopardy as well as in systems that appear to be operating normally.

A key characteristic of the SpotCheck is that it focuses on the most important metrics that are relevant to the user-experience. It is not a comprehensive process with complete visibility of all details. Rather, the technique is used to bring issues into focus without a time-intensive diagnostic exercise.

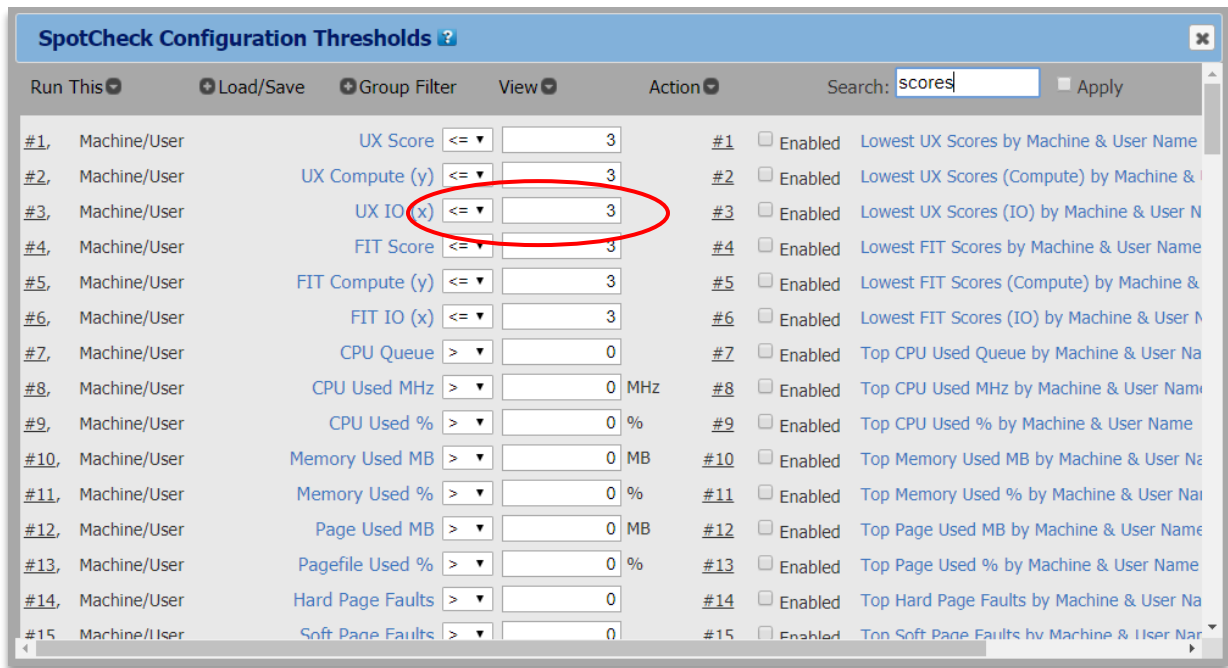
Before jumping in, it is important to understand your business or industry as well as company and departmental elements such as work habits, seasonality, time of day, expectations, approximate system loads, core applications, etc. These elements are critical for data interpretation as well as for threshold evaluation. For example, where shift and other time-dependent staff workloads may exist, moderate-to-high storage latency may be acceptable during shift changes (with high numbers of people logging in and out). However, these storage characteristics will not be acceptable during work hours, as they will impede productivity and contribute to a negative user-experience and loss of productivity.

The Stratusphere **Advanced > SpotChecks** tab includes over 120 SpotCheck reports across multiple different user-experience categories. You can select to run only the reports in a particular category, or you can run the reports in all categories. Each report is evaluated against the level of thresholds selected. Stratusphere includes 3 thresholds to be set for each metric – a zero level threshold, a medium threshold, and a higher threshold.

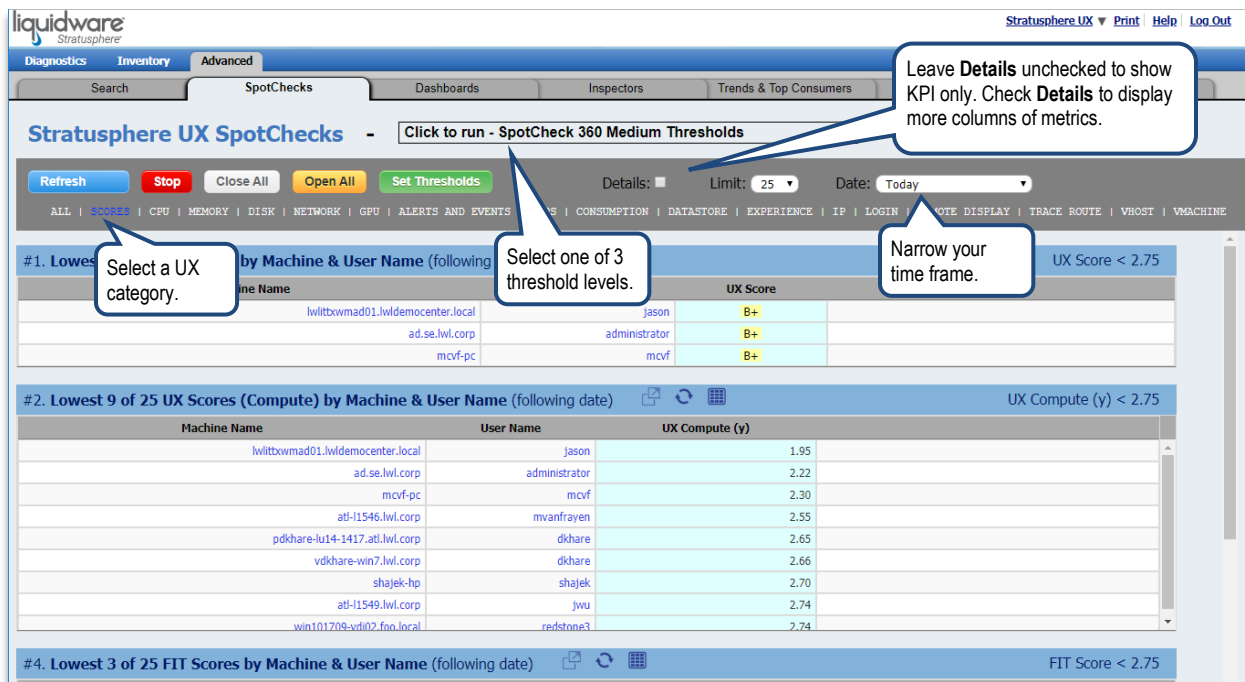


Select your threshold level and then click on the **Set Thresholds** button to change the thresholds for the metrics in the UX category and threshold level you currently have selected.

You can change the comparison operator or enter a new value for the comparison metric.



Click the **Refresh** button to execute all the SpotChecks in the active/blue category after making any setting changes including thresholds, dates, etc. Once the SpotChecks finish running, they will display basic data.



Click on the **Close All** button to see a full list of each report in the category you have selected while hiding the data.

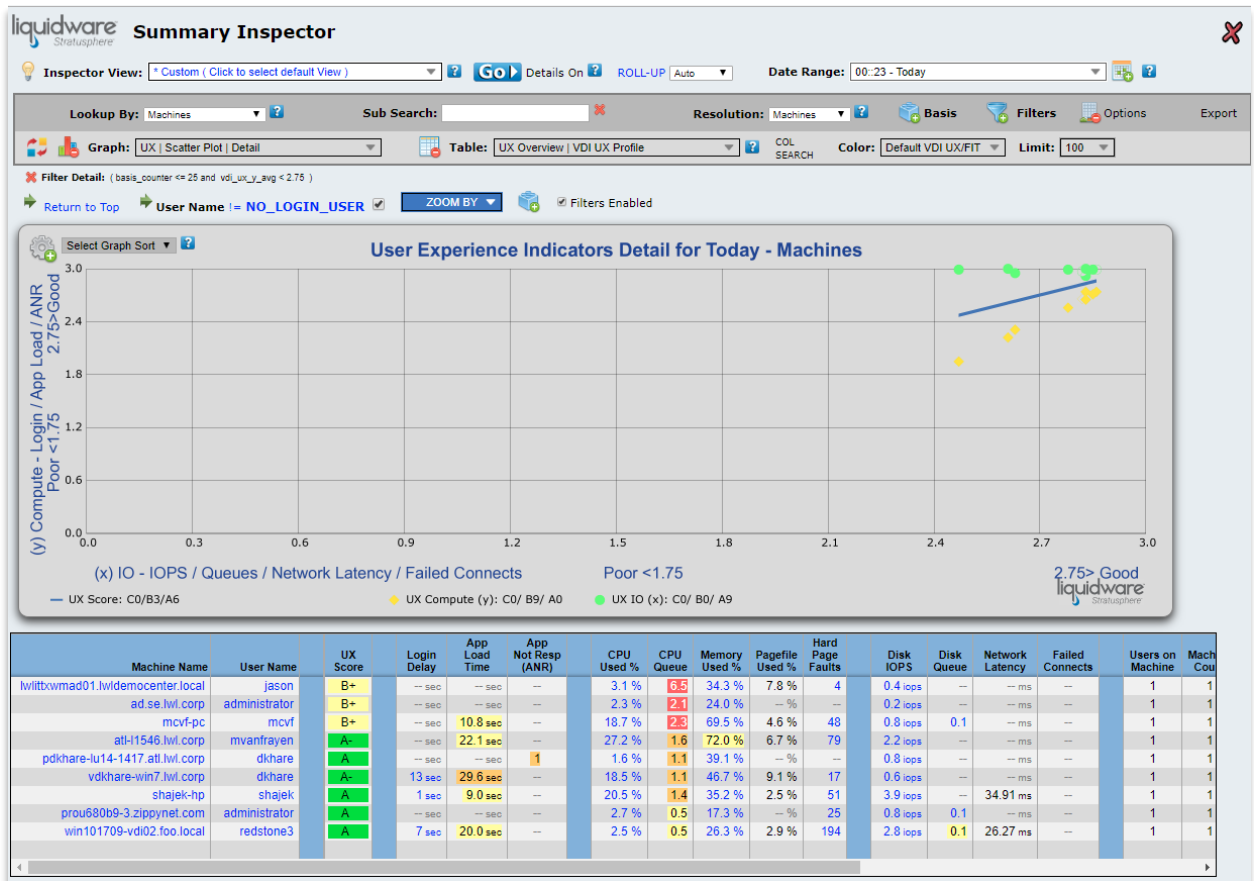
The screenshot shows the Stratusphere UX SpotChecks interface. The 'Close All' button is circled in red. A callout bubble points to the 'Close All' button with the text 'Shows threshold settings for this level.'

Use the icons to the right of the report name for more data. This is an example of showing more data inside the SpotCheck tab. This shows more details than the original SpotCheck report view.

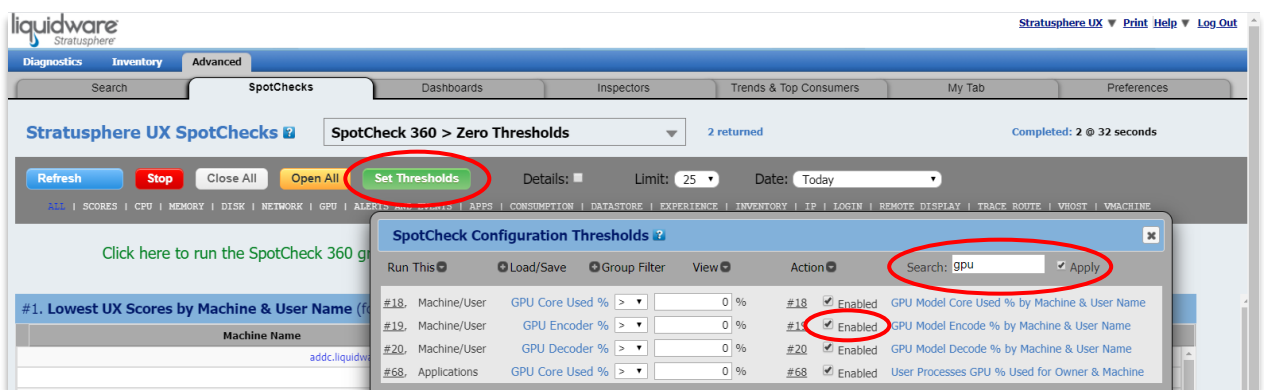
The screenshot shows the Stratusphere UX SpotChecks interface with a detailed table of data for the first report. The 'More Data' icon (a grid) is circled in red.

Machine Name	User Name	UX Score	UX IO (x)	UX Compute (y)	Login Delay	App Load Time	App Not Resp (ANR)	CPU Used %	CPU Queue	Memory Used %	Pagefile Used %	Hard Page Faults	Disk IOPS	Disk Queue	Network Latency	Failed Connects	CID Records Avg Minutes	CID Records Avg Hours
lwltbxvmad01.lwidemocenter.local	jason	B+	2.99	1.95	0 sec	0.0 sec	0	3.1 %	6.5	34.3 %	7.8 %	4	0.4 iops	0.0	0.00 ms	0	995 mins	16.57 hrs
ad.se.lwl.corp	administrator	B+	3.00	2.22	0 sec	0.0 sec	0	2.3 %	2.1	24.0 %	0.0 %	0	0.2 iops	0.0	0.00 ms	0	995 mins	16.57 hrs
mcvf-pc	mcvf	B+	2.95	2.31	0 sec	10.8 sec	0	18.7 %	2.5	69.5 %	4.6 %	48	0.8 iops	0.1	0.00 ms	0	992 mins	16.51 hrs

This is an example of a popout inspector.



In addition to the 3 thresholds that are included with the SpotChecks, administrators can create their own thresholds and add them to the drop-down list. To create your own SpotCheck threshold:

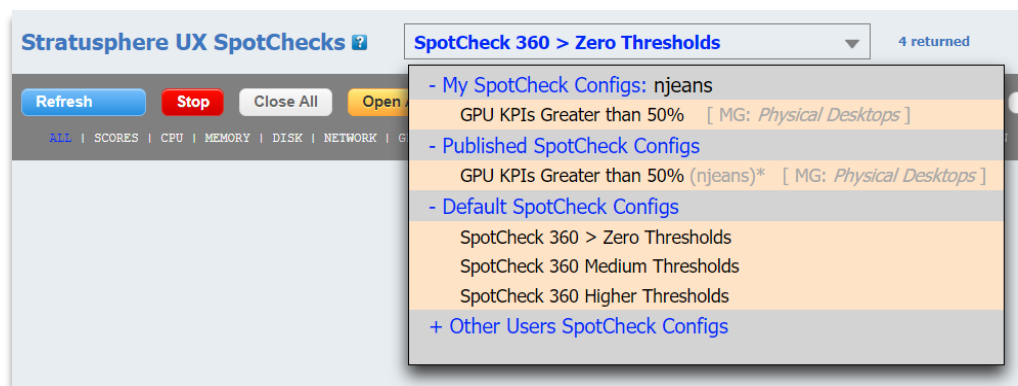


1. Click on the green **Set Thresholds** button.
2. Filter down to the key performance indicators (KPIs) that you want to check by searching for a metric name and clicking **Apply**.
3. Check **Enable** for each KPI that you want in the SpotCheck configuration.

4. After you have filtered and selected all your KPI's, click **View** and **Show Enabled**. Adjust any thresholds to meet your SpotCheck needs.
5. Save the new threshold category using the following steps:

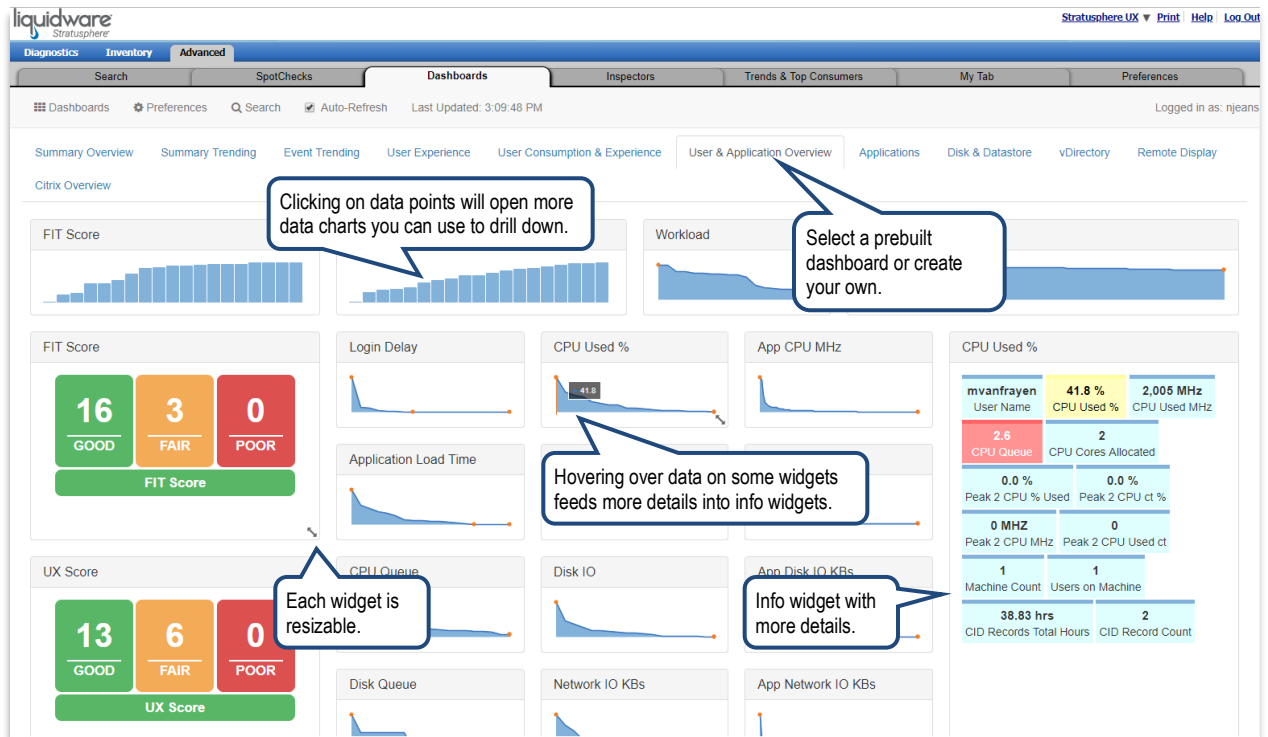
#18,	Machine/User	GPU Core Used %	>	50	%	#18	<input checked="" type="checkbox"/> Enabled	GPU Model Core Used % by Machine & User Name
#19,	Machine/User	GPU Encoder %	>	50	%	#19	<input checked="" type="checkbox"/> Enabled	GPU Model Encode % by Machine & User Name
#20,	Machine/User	GPU Decoder %	>	50	%	#20	<input checked="" type="checkbox"/> Enabled	GPU Model Decode % by Machine & User Name
#68,	Applications	GPU Core Used %	>	50	%	#68	<input checked="" type="checkbox"/> Enabled	User Processes GPU % Used for Owner & Machine

- a. Click **Load/Save**.
- b. Enter a **Menu Title**. For this example, we have “GPU KPIs Greater than 50%”. Enter a **Description** for future reference on why you created this SpotCheck and any comments on interpreting the results.
- c. Check **Enabled** to access this SpotCheck Configuration in the top menu.
- d. Click **Publish** if this SpotCheck Configuration should be seen in the main area of the top menu.
- e. Click **Public Readable** if others should be able to see this SpotCheck in the lower portion of the top menu.
- f. To create this new SpotCheck Configuration click **Save As**.
- g. You will see the new threshold added to the existing list:



## Advanced Mode Dashboards

The **Advanced > Dashboards** tab contains Stratusphere's brand new customizable, interactive dashboards. There are 11 built-in dashboards with the ability to add and customize more dashboards based on your own criteria using customizable data sources and widgets. Users can also use the search functionality inside the dashboards to specifically look for something and constrain criteria on only what they are interested in. For more details and use cases on how to use the dashboards, please read our *Stratusphere UX: Advanced Mode Dashboards Guide* which can be found on the [Stratusphere UX Documentation page](#) on our Support Portal.





## Using the Search Feature

The Advanced Dashboards allow you to zero in on more detail quickly by using the Search feature. Click on Search at the top of the interface. This drops down various criteria in a panel on the left for any dashboard that you select. For example, typing in a user name and hitting the Enter key refreshed all the dashboard widgets as related to that specific user.

The screenshot displays the Liquidware Stratusphere UX Advanced Dashboards interface. The top navigation bar includes tabs for Diagnostics, Inventory, and Advanced. The Advanced tab is active, showing a Search panel on the left and a dashboard of various performance metrics on the right. The Search panel includes fields for Resolution, Auto Resolution, Limit, User Name @ Domain, Machine Name, Machine ID, Machine Group Name, Machine Group ID, Datastore Name, Datastore ID, and Datastore Type. A red circle highlights the Search button. Two callout boxes provide instructions: "Select the resolution to see more or less data." and "Easily search for Users, Machines, Applications, etc." The dashboard shows various charts and tables, including a table at the bottom with columns for User Name, UX Score, Login Delay, App Load Time, App Not Resp (ANR), GPU Core Used %, CPU Used %, Memory Used %, Pagefile Used %, Disk Active %, Disk IOPS, Network Latency, Failed Connects, and Health. The table shows data for user 'mvanfrayen' with a UX Score of B+ and various performance metrics.

The dashboard searches for the exact string that you enter. You may use an asterisk (\*) before or after your search term to enable wildcard matching. Please be aware that the search is case-sensitive. Some search options can be configured by going to **Preferences > Search**.

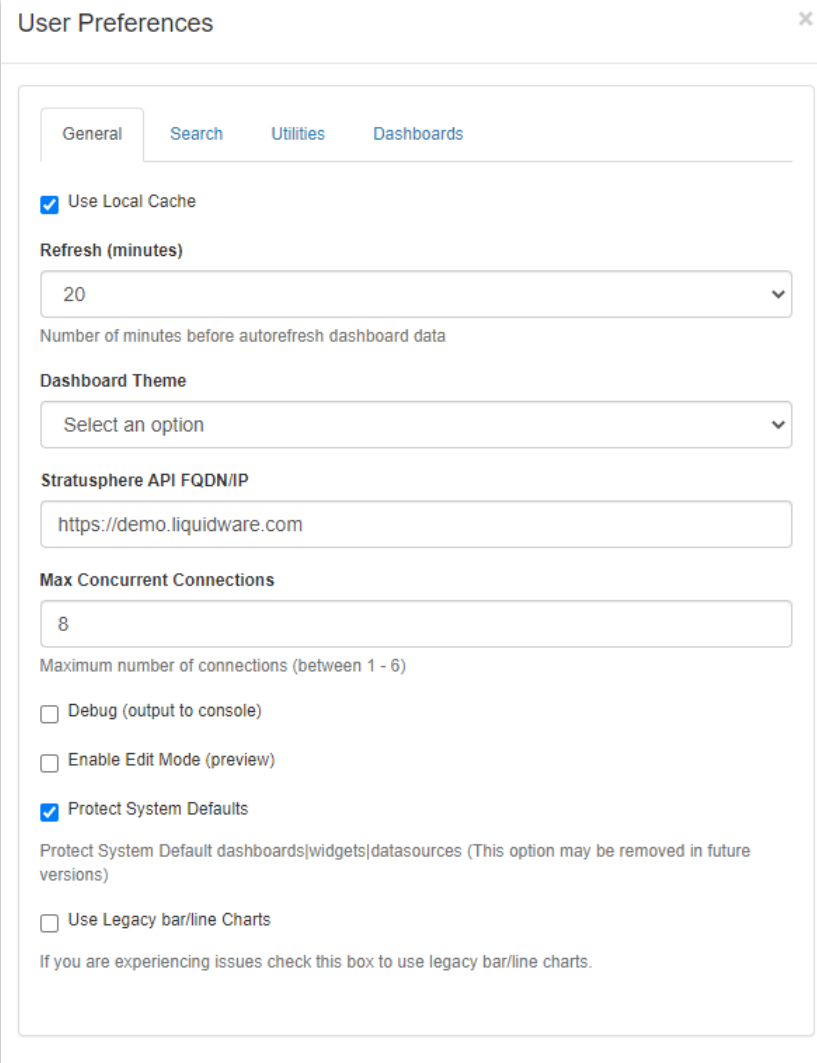
You may use as many of the search criteria, such as User Name, Machine Name or Datastore, as you like to further constrain your search. Selections are also available to set Date or Time ranges, Resolution, and result Limits. To reset the dashboard to the default search, click on the **Clear All** button at the top or bottom of the search panel. To modify your search, use the search criteria and click on the **Go** button.

## Setting Preferences & Creating Your Own Dashboards

Set your dashboard defaults per browser by using the Preferences option at the top. Any changes you make to your preferences are automatically saved. There are tabs for the following:

- **General** – set general dashboard preferences
- **Search** – set search specific preferences
- **Utilities** – allows you to import a dashboard
- **Dashboards** – choose which dashboards to load from the available dashboards.

On the General tab, check **Enable Edit Mode** to create your own dashboards.



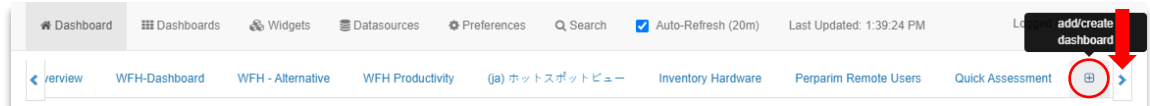
The screenshot shows a 'User Preferences' dialog box with a close button (X) in the top right corner. It features four tabs: 'General' (selected), 'Search', 'Utilities', and 'Dashboards'. Under the 'General' tab, there are several settings: a checked checkbox for 'Use Local Cache'; a 'Refresh (minutes)' dropdown menu set to '20' with a subtext 'Number of minutes before autorefresh dashboard data'; a 'Dashboard Theme' dropdown menu set to 'Select an option'; a text input field for 'Stratusphere API FQDN/IP' containing 'https://demo.liquidware.com'; a 'Max Concurrent Connections' input field set to '8' with a subtext 'Maximum number of connections (between 1 - 6)'; three unchecked checkboxes for 'Debug (output to console)', 'Enable Edit Mode (preview)', and 'Protect System Defaults' (which is checked in the image); a subtext for 'Protect System Defaults' stating 'Protect System Default dashboards|widgets|datasources (This option may be removed in future versions)'; and an unchecked checkbox for 'Use Legacy bar/line Charts' with a subtext 'If you are experiencing issues check this box to use legacy bar/line charts.'

Check **Use Legacy bar/line Charts** if you experience any issues with these type of graphs in the dashboard widgets. Alternatively, check to make sure your browser version is up-to-date.

## Creating a Dashboard

In order to create a new dashboard:

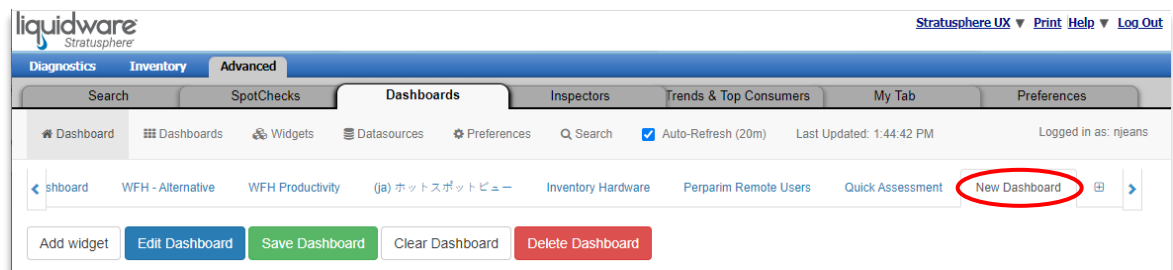
1. All loaded Dashboards will be listed at the top. Click on the right arrow as many times as need to horizontally scroll through your entire list of loaded dashboards. Then click on the plus sign at the end of the Dashboard tabs to create a new tab.



2. Enter the new name for the dashboard, a description, who can access the dashboard for editing and the sort order. Then click on the **Save** button.

A screenshot of the 'Edit Dashboard' form. The form has a blue header with 'Edit Dashboard' and 'Cancel' and 'Save' buttons. The fields include: 'Dashboard Name' (containing 'New Dashboard'), 'Description' (empty), 'Access Groups' (with a list of eligible groups on the left and 'Everyone' selected on the right), 'Display in Tabs' (checked), 'Sort Order' (100), and 'API String' (empty). A note at the bottom states: 'The most common use for the Dashboard Level API Override is constraining the dashboard to a search term. For Example, many Liquidware pre-built dashboards support the following: {"node\_group\_name":"Virtual Desktops"} or {"node\_group\_name":"Virtual Desktops","node\_name":"vms-10","user\_group\_name":"sales"}'.

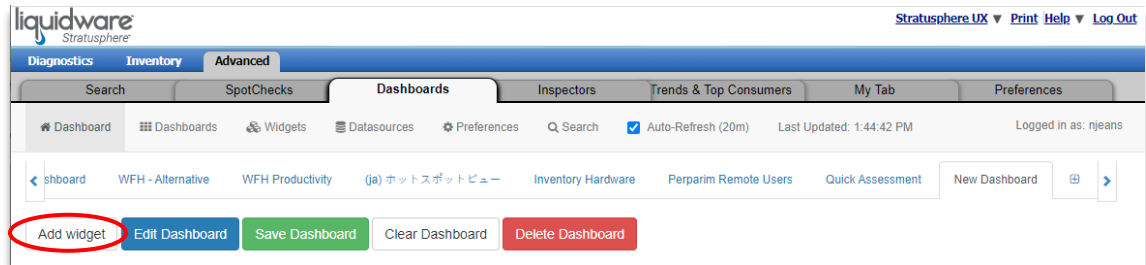
3. Go back to the Dashboards tab and see your new tab added to the existing Dashboards. Now you are ready to add a widget.



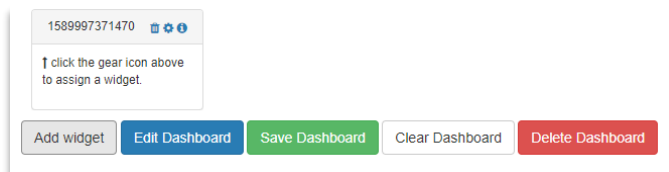
## Adding a Widget

The next step is to add widgets to your new dashboard. To add a widget:

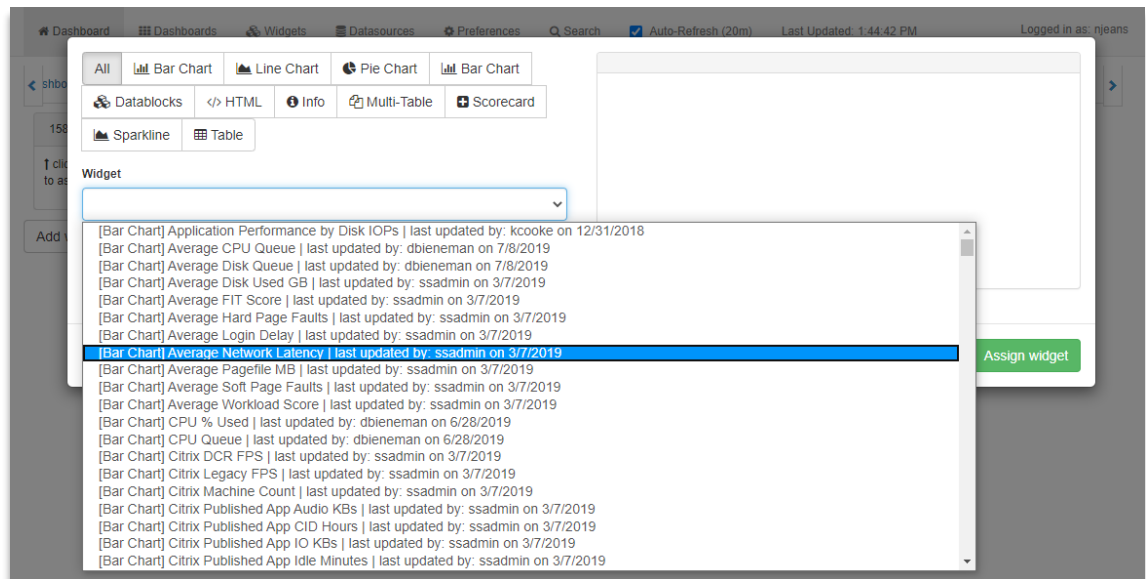
1. Click on the **Add widget** button under your dashboard.



2. This will create a widget container on your dashboard. Click on the gear icon inside this container to assign an existing widget to the dashboard or to create a new widget.



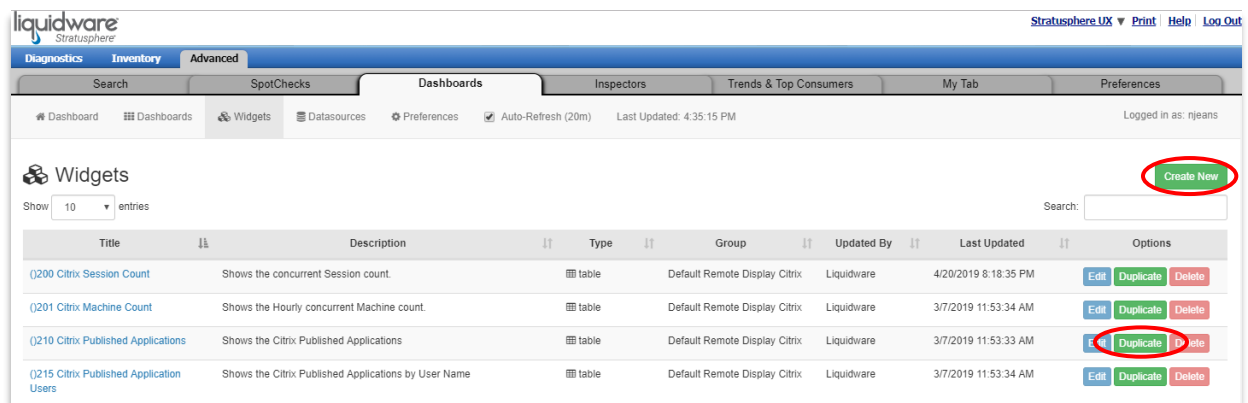
3. Use the drop-down list to select an existing widget and then click on the **Assign widget** button. When back on the dashboard, click **Save Dashboard** to save your widget changes to the existing dashboard. We recommend saving often. If the screen is refreshed, all unsaved changes will be lost.



4. Use the arrows in the lower right of the widget to resize the widget on your dashboard according to your preferences.

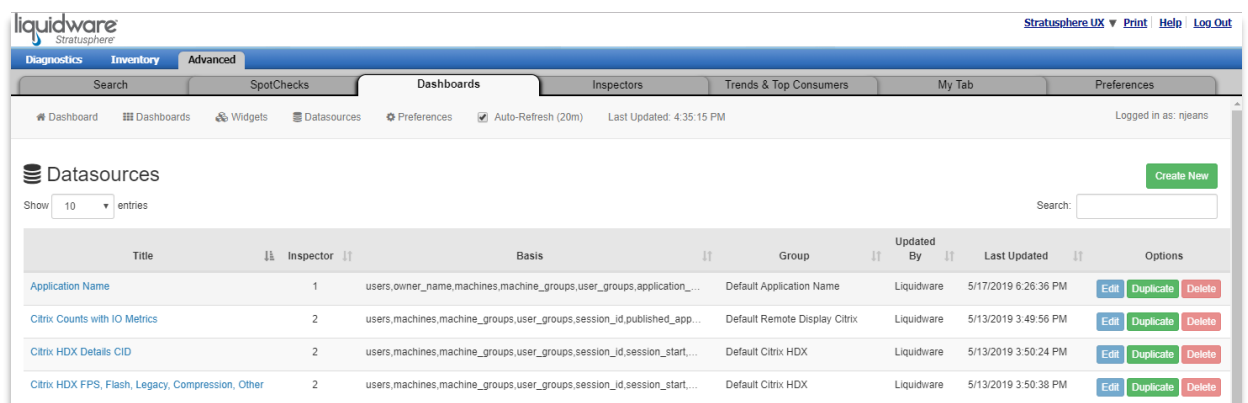
## Creating or Editing Widgets

Use the Widget menu option at the top of Dashboards to browse through existing widgets or to create a new widget. When creating new widgets, you will need to provide the type, the title displayed at the top, a datasource, and the columns from the data source that you wish to display in the widget. Keep in mind that it may be easier to modify an existing widget than to create a new one from scratch. You can copy an existing widget from the Browse list by clicking on the **Duplicate** button to the right of the widget. A copy of the existing widget will be added to the list that you can then rename and customize.



## Creating or Editing Datasources

Use the Datasources menu option at the top of Dashboards to browse through existing datasources or to create a new datasource. When creating new datasources, you will need to provide among other items an API String that contains output from the Stratusphere API Builder (see API documentation or use API Builder). `sort_col` is REQUIRED. We recommend that you always use the following option of "rating": "2" in order to display color and formatting correctly. This string is used to get the data that will be used for creating the widget.



## Editing Dashboards

Use the Dashboard menu option at the top of Dashboards to browse through existing dashboards to edit, duplicate, delete, or export them. To import new dashboards, click on the **Import Dashboard** button in the top right of the interface.

The screenshot shows the 'Dashboards' section of the Liquidware Stratusphere interface. The top navigation bar includes 'Diagnostics', 'Inventory', 'Advanced', 'SpotChecks', 'Dashboards' (active), 'Inspectors', 'Trends & Top Consumers', 'My Tab', and 'Preferences'. Below the navigation bar, there's a search bar and a list of dashboard entries. The 'Dashboards' section has a sub-header with 'Show 10 entries' and a search bar. The main table lists various dashboards with columns for Name, Description, Updated By, Last Updated, Sort, and Options. The 'Options' column contains buttons for 'Edit', 'Duplicate', 'Delete', and a trash icon. The bottom of the table shows 'Showing 31 to 39 of 39 entries' and a pagination bar with 'Previous', '1', '2', '3', '4', and 'Next'.

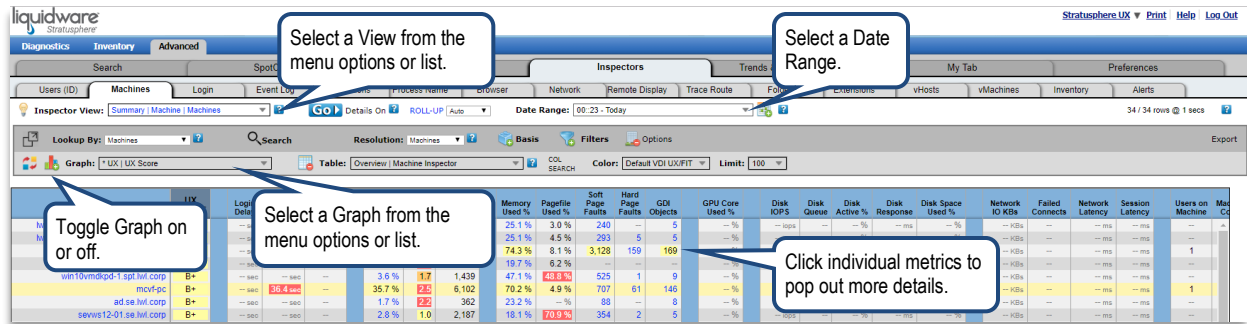
Dashboard Name	Description	Updated By	Last Updated	Sort	Options
Summary Overview	This dashboard generally shows the average or sum average of all records for CP...	Liquidware	4/17/2020 10:09:15 PM	-0.500	Edit Duplicate Delete
Summary Trending	By default this dashboard shows 24 hour trending widgets.	Liquidware	6/26/2019 11:10:04 PM	-0.4900	Edit Duplicate Delete
User & Application Overview	Shows User Name and Application Name based information.	Liquidware	6/26/2019 11:12:49 PM	-0.4500	Edit Duplicate Delete
User Consumption & Experience	Provides an overview of User Name based consumption and user experience.	Liquidware	6/26/2019 11:12:08 PM	-0.4500	Edit Duplicate Delete
User Experience	Provides a simple way to view key users experience and consumption indicators.	Liquidware	4/17/2020 12:34:13 PM	-0.4700	Edit Duplicate Delete
vDirectory	Shows vHost and vMachine information. You must have a valid vDirectory import c...	Liquidware	6/26/2019 11:14:53 PM	-0.1600	Edit Duplicate Delete
WFH - Alternative		Liquidware	3/24/2020 7:43:19 PM	100	Edit Duplicate Delete
WFH Productivity	This dashboard is focused on key application consumption and typical remote co...	Liquidware	4/30/2020 5:52:28 PM	100	Edit Duplicate Delete
WFH-Dashboard	Work From Home Dashboard	cwalker	3/24/2020 7:56:34 PM	100	Edit Duplicate Delete

Please note that if the **Protect System Defaults** option is checked in **Preferences > General**, then you will not be able to edit or delete the default dashboards that come with Stratusphere.

# Advanced Inspectors

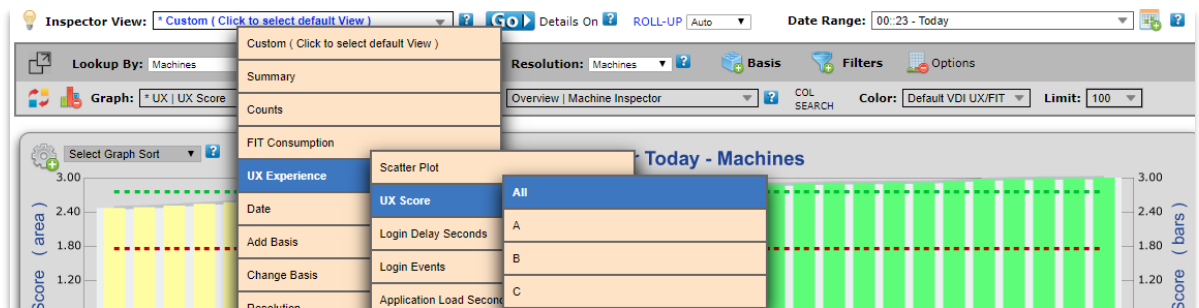
## Understanding the Basics

The Advanced Inspector has several different options and tabs to provide the most flexibility possible in working with the Stratusphere Connector ID Key metric data collected. Within the tabs, you can select a date range, add filters, and sort data columns, among other things, in order to narrow your focus. Drilling into a specific metric will show application-specific data for that metric.



There are a few main components and concepts of the Advanced Inspectors that are important to understand when you are getting started.

1. **Inspector Views** – An Inspector View will take all the flexibility the Advanced Inspectors provide and package them together in specific Use Case views of the most popular ways you would want to look at your data. They also can apply set rules, like a specific date range on to your working Inspector.



2. **Look Up By** – This is the primary method used to view and group data within the Inspectors. This setting provides complete flexibility in how the metric data should be presented and is shown as the first column in the results table. Many options are available (User Name, Machine, OS Name, Login ID and User Groups, etc.).
3. **Search** – This feature provides a way to zero in on data faster by providing basis-specific searching which is dependent on what is selected in the **Look Up By** field. Wildcards can be used in this search. Use **a\*** to find all items starting with "A". Use quotes to find an exact match. Use **"abc"** (with quotes) to find only items that equal "abc".
4. **Resolution** – This option provides the ability to group the Inspector data by date and time concepts. Most of the time you will group your data using the **Look Up By** setting. But if you want to see the metrics by day or by hour within a day, the **Resolution** will summarize the data in this way.
5. **Basis** – A basis is the method the Advanced Inspectors use for grouping data. For example, if you are looking at data by Machine Name, its primary basis as set in **Look Up By** would be Machines. This would be the first

column shown in the results table. You can then add additional basis data to your results by clicking on **Basis**. This will add additional groupings and columns. Following the machine example, you may then want to further group by User Name. You would do this by adding an additional **Basis** for User Name.

Select Additional Basis Columns ?

Go X

☐ Manual Basis/Resolution

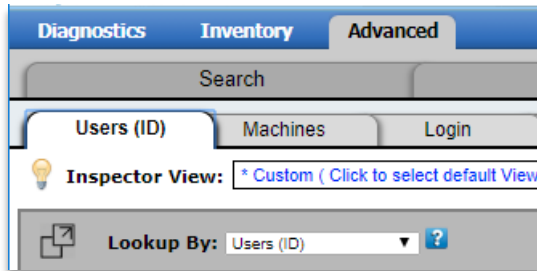
Clear

<b>Machine</b> <input checked="" type="checkbox"/> Machines <input type="checkbox"/> Machine Groups <input type="checkbox"/> VM Type	<b>Other</b> <input type="checkbox"/> O/S Name <input type="checkbox"/> O/S Version <input type="checkbox"/> O/S Build Version <input type="checkbox"/> CID Version <input type="checkbox"/> GPU Model Name	<b>Storage</b> <input type="checkbox"/> Datastore Name (ID) <input type="checkbox"/> Datastore Name <input type="checkbox"/> Datastore Type <input type="checkbox"/> Disk Name <input type="checkbox"/> Disk Label
<b>User</b> <input type="checkbox"/> <b>Users (ID)</b> <input type="checkbox"/> User Name <input type="checkbox"/> User Groups	<b>Network</b> <input type="checkbox"/> NIC Adapter <input type="checkbox"/> NIC Addresses <input type="checkbox"/> IP Address <input type="checkbox"/> Latency Test IP <input type="checkbox"/> Latency Test Name <input type="checkbox"/> WIFI SSID <input type="checkbox"/> WIFI NIC Mac	<b>Hosts</b> <input type="checkbox"/> Current Host <input type="checkbox"/> Historic Host <input type="checkbox"/> vDirectory Name <input type="checkbox"/> vHosts (Metrics) <input type="checkbox"/> vMachines (Metrics)
<b>Remote</b> <input type="checkbox"/> Remote Machine <input type="checkbox"/> Remote IP		
<b>Login User/Name</b> <input type="checkbox"/> Login User @ Domain <input type="checkbox"/> Login ID <input type="checkbox"/> Login Name <input type="checkbox"/> Login Domain		



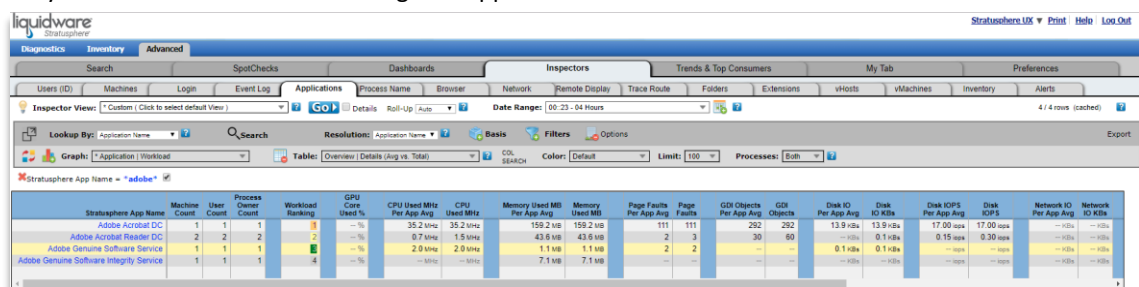
## Inspector Tabs

The first two Inspector tabs consist of Connector ID (CID) Key summary data. This is the user and machine specific data summarized based on the CID Key Callback Frequency interval during which it was collected and sent to the Stratusphere Hub. What is interesting about these tabs is that they are dynamic, and the headings will change to match the selection in **Lookup By** as shown below.



The remaining tabs are focused on additional specific types of data that the Stratusphere Connector ID Key collects:

1. **Login** – Turn on the collection of detailed Login stats while configuring Connector ID Key Properties in the Hub Administration module to get the full login process breakdown.
2. **Event Log** – Displays all Microsoft Windows Event Logs collected from CID Keys as configured under the **HUB ADMINISTRATION > CONNECTOR ID KEYS > CONNECTOR ID KEY PROPERTIES** tab. 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.
3. **Applications** – Application and process data is one of the key pieces of information that Stratusphere Connector ID Keys collect and report on. Using the Applications tab, you can view and analyze the metrics specific to the applications running in your organization. In this example, the inspector looking at Adobe applications installed with the associated key application metrics shown like Application Load Time and how many machines and users are running that application.



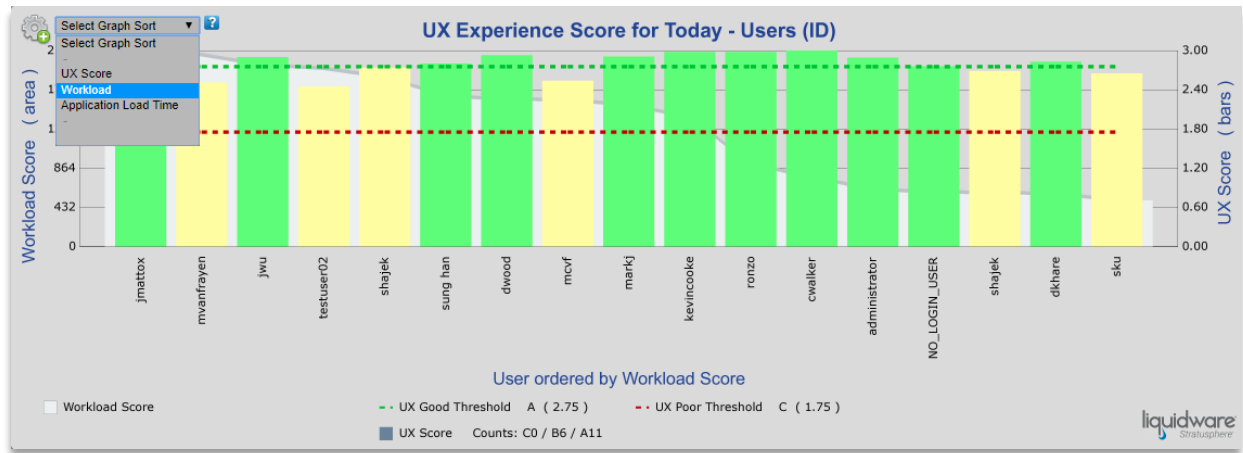
Stratusphere App Name	Machine Count	User Count	Process Count	Workload Ranking	CPU Core Used %	CPU Used MHz Per App Avg	CPU Used MHz	Memory Used MB Per App Avg	Memory Used MB	Page Faults Per App Avg	Page Faults	GDI Objects Per App Avg	GDI Objects	Disk IO Per App Avg	Disk IO Kbps	Disk IOPS Per App Avg	Disk IOPS	Network IO Per App Avg	Network IO Kbps
Adobe Acrobat Reader DC	1	1	1	2	35.2	35.2 MHz	35.2 MHz	159.2	159.2 MB	111	111	292	292	13.9	13.9 Kbps	17.00	17.00 IOPS	---	---
Adobe Genuine Software Service	1	1	1	1	2.0	2.0 MHz	2.0 MHz	1.1	1.1 MB	2	2	---	---	0.1	0.1 Kbps	---	---	---	---
Adobe Genuine Software Integrity Service	1	1	1	4	---	---	---	7.1	7.1 MB	---	---	---	---	---	---	---	---	---	---

4. **Process Name** – This tab 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.
5. **Browser** – This tab shows browser specific metrics (domains visited, URLs, etc.) for the browser(s) selected when configuring the Connector ID Key Properties in the Hub Administration module. Microsoft Internet Explorer and Google Chrome are currently supported. Google Chrome requires the Chrome Browser Stats Extension which needs to be setup separately on the desktops for Stratusphere to gather metrics. Please see the **Stratusphere Installation & Configuration Guide** for more information.
6. **Network** – Within the Stratusphere UX system you can install separate Collectors which can monitor and capture vSphere host network traffic through a promiscuous port you define. This tab provides the ability to work with network metrics captured by each of the Collectors deployed.

7. **Remote Display** – Remote display protocols deliver remote desktops and applications to endpoints. The Stratusphere Connector ID Key can capture this information, and it is viewable in the Remote Display tab. Stratusphere works with VMware's PCoIP, Citrix's ICA, and Microsoft's RDP and RemoteFX (RFX). Detailed ICA HDX metrics are also included in this tab. There are many new Views available that break connections down by protocol and provide session level settings for ICA connections. This view also provides trace route, ping and jitter metrics for remote display connections provided there is a CID Key installed on the remote client machine. *Note: The Remote Display tab will only be available if the Connector ID Key is capturing remote display data for your environment.*
8. **Trace Route** – The CID Keys can be configured to detect remote display sessions such as RDP/RFX, ICA/HDX, and PCoIP and perform trace routes from the local machine to the remote machine. If there is a CID Key installed on the source and/or destination of the actual remote display session, it will perform trace routes in both directions i.e. from thin/fat client source to the remote desktop destination, and from the remote desktop to the source thin/fat client. Ability to collect data is dependent on whether the network allows trace routes and pings to be propagated and replies being received. The trace routes are performed once per callback interval and can collect number of visible and undetermined (\*) hop latencies along with the IP Address and DNS name of each hop. The CID Key also performs pings to each remote display session IP Address every sampling period and helps calculate the latency of the connection, and the jitter between each subsequent ping to determine reliability and consistency of the latency. In case of the pings, the larger the number the slower the latency and thus worse the user experience. Similarly, the larger the jitter, the worse the reliability and consistency of the connection and thus worse the user experience. This tab displays this information if it is enabled within the CID Key Properties. The information can be looked up by Destination Name, IP Address, Port, Machines, Users, and some additional basis items. *Note: The Trace Route tab will only be available if the Connector ID Key is capturing trace route data for your environment.*
9. **Folders** – Within Stratusphere you can configure the Connector ID Key to capture folder specific information for the workstation to which the CID Key is deployed. This Inspector tab provides the ability to work with that data with information on folder sizes and file counts within those folders.
10. **Extensions** – One feature of the Stratusphere CID Key is its ability to capture data about the files located on your desktop. Within the Connector ID Key Properties, you can indicate which folders and which types of files (extensions) you want to report on. The Extensions tab provides an easy way to review this data. This tab along with the Extension Basis will show file information group by file extensions (docx, exe, pdf, ppt and others).
11. **vHosts** – This tab is also associated with the Stratusphere vCenter Import function (see VM Directories in the Hub Administration). It will display specific metrics captured for the imported vSphere Hosts.
12. **vMachines** – This tab is also associated with the Stratusphere vCenter Import function (see VM Directories in the Hub Administration). It will display specific metrics captured for the imported vSphere machines.
13. **Inventory** – The Inventory tab provides information regarding installed versus running applications and processes on the desktops. The data can be viewed by either Machines or Applications.
14. **Alerts** – Displays alerts generated by Stratusphere.

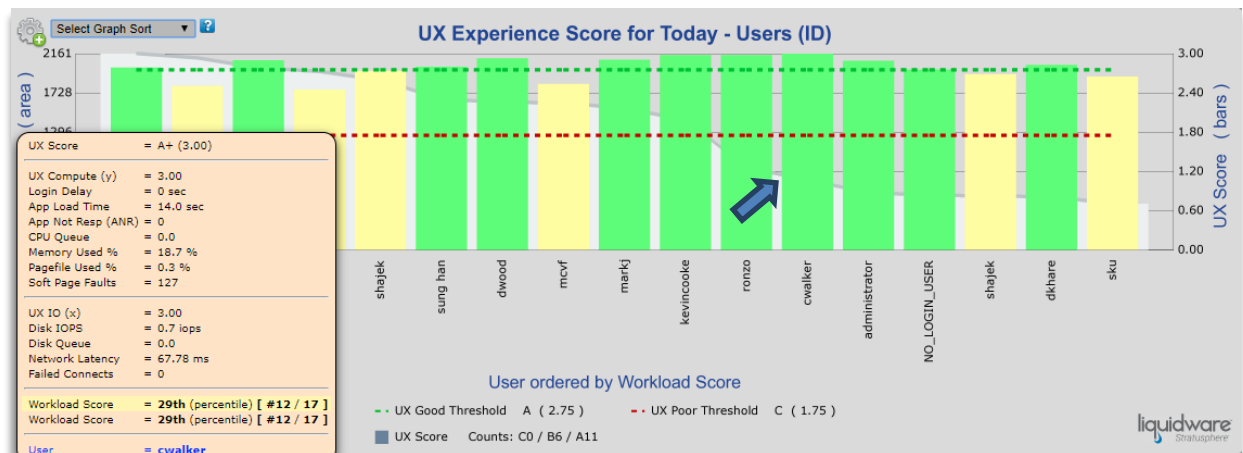
## Inspector Graphs

For most of the Advanced Inspector tabs and views there are several graphs available. They provide you with the ability to quickly understand your data in a graphical format and to drill down for more detailed information. Graphs can be toggled on or off when viewing Inspector data.



One graph feature that is important is the use of graph tip windows. In this example, Workload Ranking is plotted on the graph as a line behind the bars. The Workload Ranking is a composite metric looking at various CPU, Memory, Disk I/O and Network I/O metrics that the Stratusphere Connector ID Key collects.

When you mouse over the individual bars on the graph, the graph tip window pops up to show the detailed metrics like Login Delay and Network Latency that make up a Workload Ranking as well as the overall UX score. Hovering the mouse over the actual Workload Ranking line in the graph highlights the Workload Ranking metric in the graph tip window.





## Other Key Functionality

The Advanced Inspectors user interface provides a significant amount of flexibility in how you want to view and work with your data. Several additional key options that help provide this flexibility include:

- ✓ **Filters** - The **Custom Filters** option gives you more granular control over exactly what information is critical to your analysis. You can filter by specific metrics as well as values for those metrics.

Name	FIT	UX	Events
<input type="checkbox"/> User	<input type="checkbox"/> CPU Used %	<input type="checkbox"/> App Load Time	<input type="checkbox"/> Login
	<input type="checkbox"/> CPU Used MHz	<input type="checkbox"/> App Not Responding	<input type="checkbox"/> Logout
<b>FIT - Score</b>	<input type="checkbox"/> Memory Used %	<input type="checkbox"/> Login Delay	<input type="checkbox"/> Login or Logout
<input type="checkbox"/> A	<input type="checkbox"/> Memory Used MB	<input type="checkbox"/> CPU Queue	
<input type="checkbox"/> B	<input type="checkbox"/> Pagefile Used %	<input type="checkbox"/> Disk Queue	<b>Exclude</b>
<input type="checkbox"/> C	<input type="checkbox"/> Pagefile Used MB	<input type="checkbox"/> Hard Page Faults	<input type="checkbox"/> No Login User
<b>UX - Score</b>	<input type="checkbox"/> Disk IOPS	<input type="checkbox"/> Soft Page Faults	<b>Other</b>
<input type="checkbox"/> A	<input type="checkbox"/> Disk IOPS Peak 1	<input type="checkbox"/> Network Latency	<input type="checkbox"/> CPU 1G, MEM 2G, IOPS 40
<input type="checkbox"/> B	<input type="checkbox"/> Disk IOPS Peak 2	<input type="checkbox"/> Session Latency	<input type="checkbox"/> CPU 33%, MEM 66%, IOPS 40
<input type="checkbox"/> C	<input type="checkbox"/> Network KBs	<input type="checkbox"/> Failed Connects	
	<input type="checkbox"/> Network KBs Peak 1		
	<input type="checkbox"/> Network KBs Peak 2		
	<input type="checkbox"/> Disk Used %		
	<input type="checkbox"/> Disk Used GB		
	<input type="checkbox"/> GPU %		

- ✓ **Date Range Lookups** – The Date Range options provide two types of functionality when determining what range of data, you want to analyze. You can select from the many pre-defined range options like Today, Yesterday, Last 7 Days, Last 30 days and more, or you can set a **Custom Date range** by clicking on the calendar icon or selecting the Custom Date option.

**Date Range:**   

*Note: The **Custom Time** option defines the time range within the dates selected. For example, show me metric data during working hours (8 to 5) over the last week.*

- ✓ **Application Drill Down Popups** – Within the results table, you can click on many of the metrics to drill down to application specific data related to the metric you selected. For example, if you saw a high Disk IOPS value for a user, you could click on that value to see the applications and processes running for that user that are driving the IOPS value.
- ✓ **Table Specific Drill Down Ability** – Within any Inspector result table, you can click on the primary basis (first) column and drill down into a more detailed view of that data. For example, if you are looking at Users for yesterday and you click on a specific user, you will then see metrics for that user broken down by hour. If you click on one of the hours given as the new primary basis, you will see the specific CID Key callback reports for that hour. This drill down ability is changing the **Resolution** of the Inspector.
- ✓ **Search Functionality** – The Advanced Inspectors provide search capabilities that enable you to search for specific data or information within your results such as a specific user or a machine. The search focuses on the basis for the displayed table making searches faster and more flexible. To search in additional columns, add them as a basis to the table.
- ✓ **Col Search** – The Advanced Inspectors provide an ability to the user to search for all columns with a particular search string. So, if a user wanted to see all columns (actual column names and display column name) that were related to CPU and Memory, they can enter 'cpu mem' as First Match search criteria. The column search will return all columns that contain the search fields with cpu and mem in them. This

overrides the columns in the table within the view. If you do NOT want any gpu related columns the search term can be 'cpu mem -gpu'. If you then want only fields that have avg or peak or peak1 etc. in them, then you can use the Second Match field to add additional criteria to filter additional columns.

- ✓ **Color** – When analyzing metric data, you want to be able to quickly identify problem areas as well as areas that are functioning well. Advanced Inspectors have Color Profiles to help highlight data metrics by coloring cells using green for good, red for poor, etc. Choose from None, Default VDI UX/FIT, FIT or UX.
- ✓ **Pop out Inspector** – This takes the current Inspector and result data being viewed and opens it in a new browser window.




- ✓ **Data Export** – You can export your Inspector results table data to Excel using a unique Cut & Paste Export option or the Spreadsheet option.

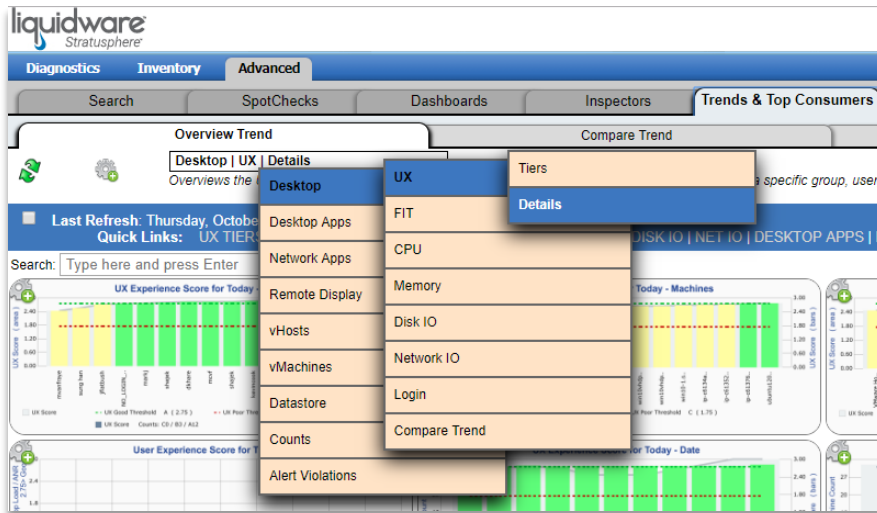
## Advanced Mode Trends & Top Consumers

The **Advanced > Trends & Top Consumers** tab is another great place for monitoring your environment. It provides a sweeping view of your data, gathering many different types of metric graphs that are available within the Advanced Inspectors in one place. For more details and use cases on how to use the trend dashboards, please read our **Stratusphere UX: Advanced Mode Dashboards Guide** which can be found on the [Stratusphere UX Documentation page](#) on our Support Portal.

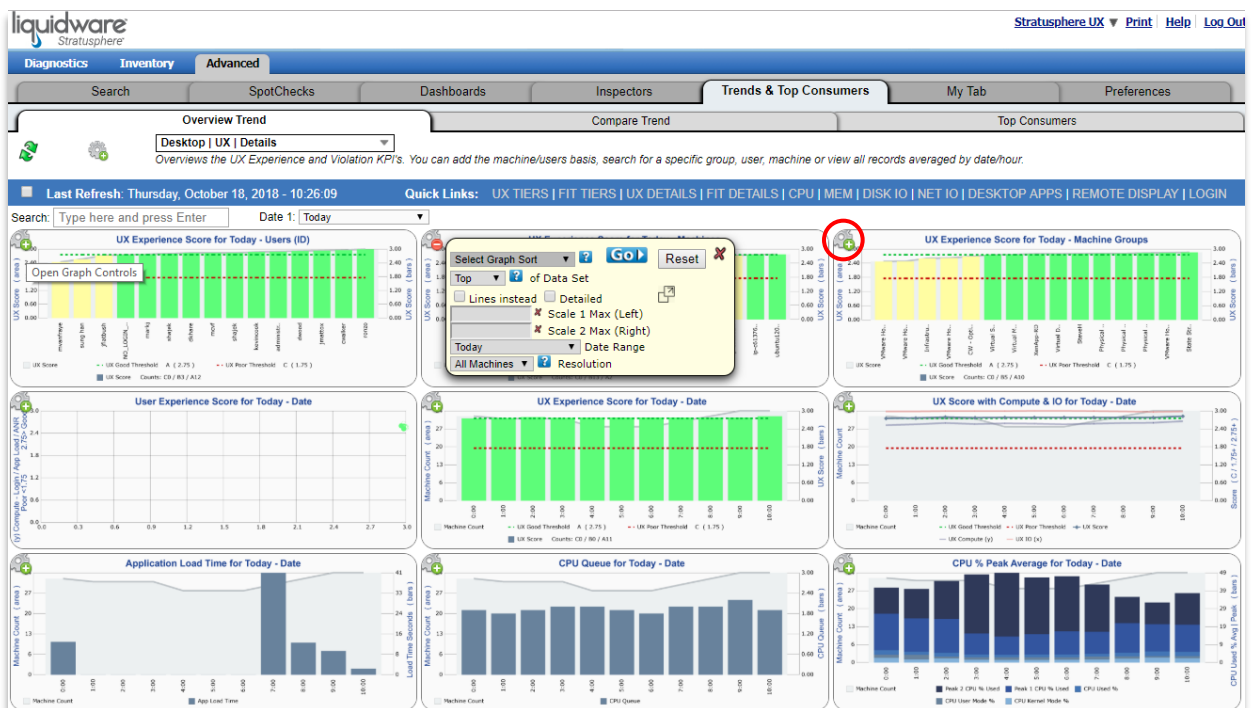
These key metric graphs are grouped together to form dashboards. The Trend & Top Consumers tab offers three major types of dashboards: **Overview Trend**, **Compare Trend**, and **Top Consumers**. **Overview Trend** dashboards display metrics primarily for the current day. These dashboards use a single resolution for all the graphs and are good graphs to choose when you want to look at what is occurring now. **Compare Trend** dashboards display a fewer number of different key metrics but show how they change over time. Compare Trend dashboards use three different resolutions to display historical data. For example, you can see a metric shown for today in the first graph, over the last day in the second graph, and with that same metric shown over the last 7 days in a third graph. **Top Consumer** dashboards display metrics over time using simple but data-intense sparklines along with matching charts of data. Hovering your mouse over the sparklines reveals a pop-up window with more detailed information about each specific data point.



To change between the various dashboards, click on the gear icon  at the top, left of the tab. This opens the Dashboard Control Widget which allows you to choose which dashboard to display. In addition to being able to select a different dashboard, there are other options available to customize how you work with and view the available graphs on the tab. The search function allows you to quickly zero in on needed information by entering a specific user, machine, or application. Other options for customizing your dashboard graphs will depend on the type of dashboard chosen for display.



The top, left corner on each of the graphs in the dashboard is important. On Top Consumer sparkline dashboards, you can click on the icon to pop out the associated Advanced Inspector for more details, or you can click on the link to refresh an individual graph widget. In the top, left corner of each graph on the Overview Trend and Consumer Trend dashboards you will notice a plus sign icon. Clicking on this icon opens the Graph Controls. Here you have complete flexibility to alter how the graph is displayed, so can view your data exactly how you want to for the chosen graph. A lot of the graph functionality is at your fingertips including the ability to change your resolution, data range, scale for both the X and Y axis and more. To view a full-size version of a graph, just click on it.



## My Tab

This tab holds a copy of all the spreadsheets you have exported from Stratusphere. Stratusphere will store up to 512 MB of exported data. Stratusphere checks the data storage usage each hour. If the storage space threshold has been exceeded, Stratusphere will automatically delete exported spreadsheets in order from oldest to newest until the data storage is under the 512 MB threshold.

## Preferences

Through the Preferences tab you can customize some aspects of the Advanced Inspector User Interface. For example, if you don't want to use colors, you can turn them off. Or if you prefer a different font size for the Inspector table, you can change to your favorite size.

**Preferences** ? Save Load Cancel Apply to Session

**Cell Options**

- ☐ Use European Numbers
- ☐ Show Zeros instead of Blanks
- ☐ No Commas in metrics
- ☐ No Words in metrics (Fit/Good)
- ☐ Words with Metric (UX and Fit Score)
- ☐ No Units in metrics (MB/sec/iops)
- ☐ No Percent (%) Sign on metrics

**Graph Options**

- ☐ Keep Graphs closed by default
- ☐ Show Graph under the Table by default
- Main Graph and Table Color:
- Dashboard Graph Color:

**Default Dates**

Search/SpotCheck Date:

Summary Inspector Date:

Application Inspector Date:

Network Inspector Date:

Default Inspector Date:

Trend & Top Consumers Date:

**Custom Dates: YYYY-MM-DD YYYY-MM-DD**

Custom Date 1:

Custom Date 2:

Custom Date 3:

Custom Date 4:

Custom Date 5:

**Table Options**

- ☐ NO popup menu when clicking cells
- ☐ Do NOT Color the Spacer Columns
- ☐ No Spacer Columns
- ☐ Simple Scroll Box
- ☐ Do Not Highlight Links
- ☐ No Colors
- ☐ No User @ Domain Color
- ☐ Left-Justify Basis
- ☐ No Domain on User Name
- ☐ No Domain on Machine Name
- ☐ Right-Justify All Numbers

Row Limit:

Line Spacing:

Cell Spacing:

Table Font Size:

**General Options**

- ☐ Activate SpotChecks on load
- ☐ Activate Dashboards on load
- ☐ Activate All Inspectors on load
- ☐ Activate Trends & Top Consumers
- ☐ Simple Menus (No CSS Menu)
- ☐ Turn Off Help
- ☐ Turn Off Column Description in Tool Tip
- ☐ Turn Off Cell Tool Tips (click instead/no hover)

**Pop-Out Options**

- ☐ Open Popouts in Window
- ☐ Open 360s in Window
- ☐ Open in Separate Windows
- Where to Open:
- ☐ Turn off Metric links

User ID: njeans Role: 600 Version: 6.1-5 Language: english

## Advanced Inspectors Help

There is a vast amount of help information built directly into the Advanced Inspectors. For options and various functions of the Inspectors help, click the **question mark** next to the option for specific help.

Lookup By:  ?

In addition, moving your mouse over any of the metric column headings in the Inspector result tables pops up help information specific to that column. The figure below shows a help description for Disk IOPS.

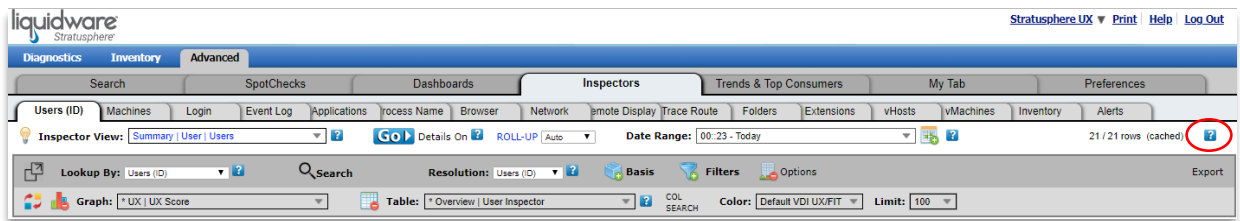
Context Switching	Memory Used %	Pagefile Used %	Soft Page Faults	Hard Page Faults	GDI Objects	GPU Core Used %	Disk IO KBs
721	3					— %	69.5 KBs
406	2					— %	14.0 KBs
4,802	6					— %	263.0 KBs
18,606	7					— %	556.7 KBs
2,043	18.3 %	— %	362	468	43	— %	4,004.5 KBs

Order by: Memory Used %

The is the percent of allocated per machine Memory MB used over the time frame.



There is also built in information and an FAQ page. To access this information, click the question mark link at the top right of the Advanced Inspector web page which provides an overview of Advanced Inspector concepts as well as Frequently Asked Questions.



Want to see more? We have several good blogs discussing various topics about the Stratusphere Advanced Inspectors (formerly known as the Preview Inspectors) on the [Liquidware blog site](#).

## Breaking Down the User Login Process

Being able to understand and identify issues around the complex process of the user login is an important task for IT administrators. As the desktop is being setup for the user, there are a lot of individual operations transpiring at login. If any operation fails or if there is a bottleneck, a user can experience significant delays. When users report slow logins, it's important to find the source of the problem. In addition, being able to proactively identify these is growing more important.

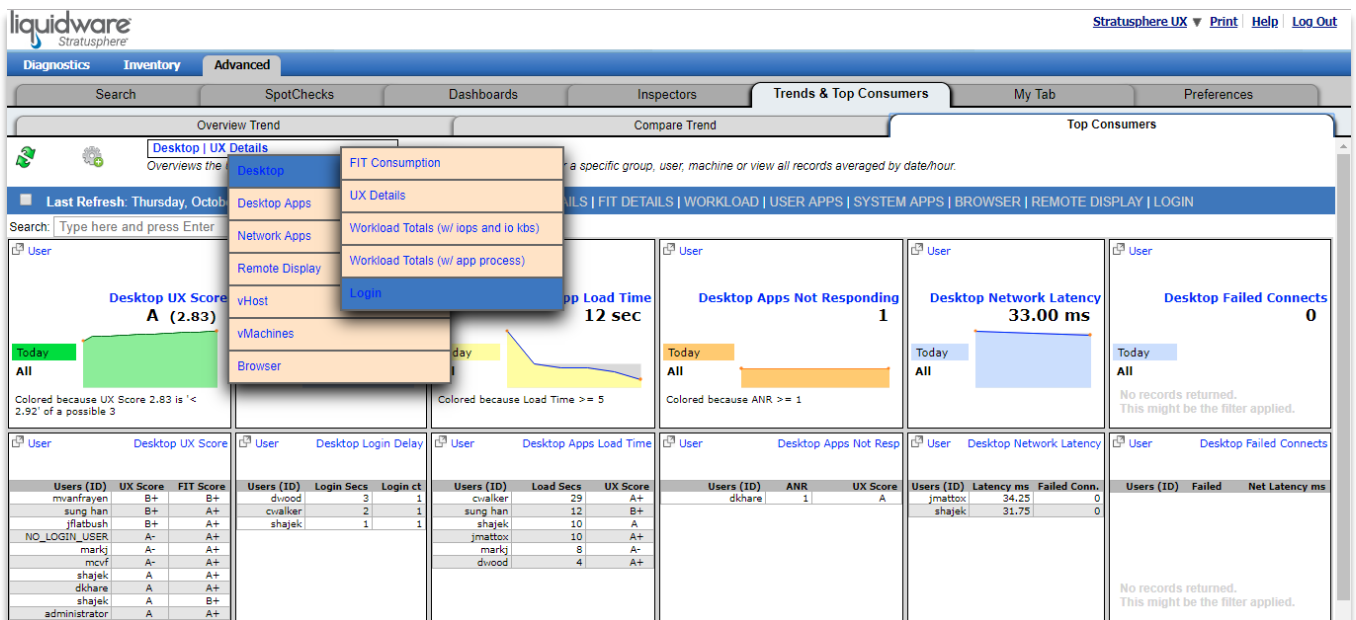
Now Stratusphere provides detailed event tracing of the Windows login process by measuring and reporting on items like:

- Boot Delay
- Login Delay
- Domain Controller Access
- Computer and User GPOs
- GPO client extension names and load times
- Roaming Profile load times
- Time to Restore Network Connections and processes that start and end between each step of the login process

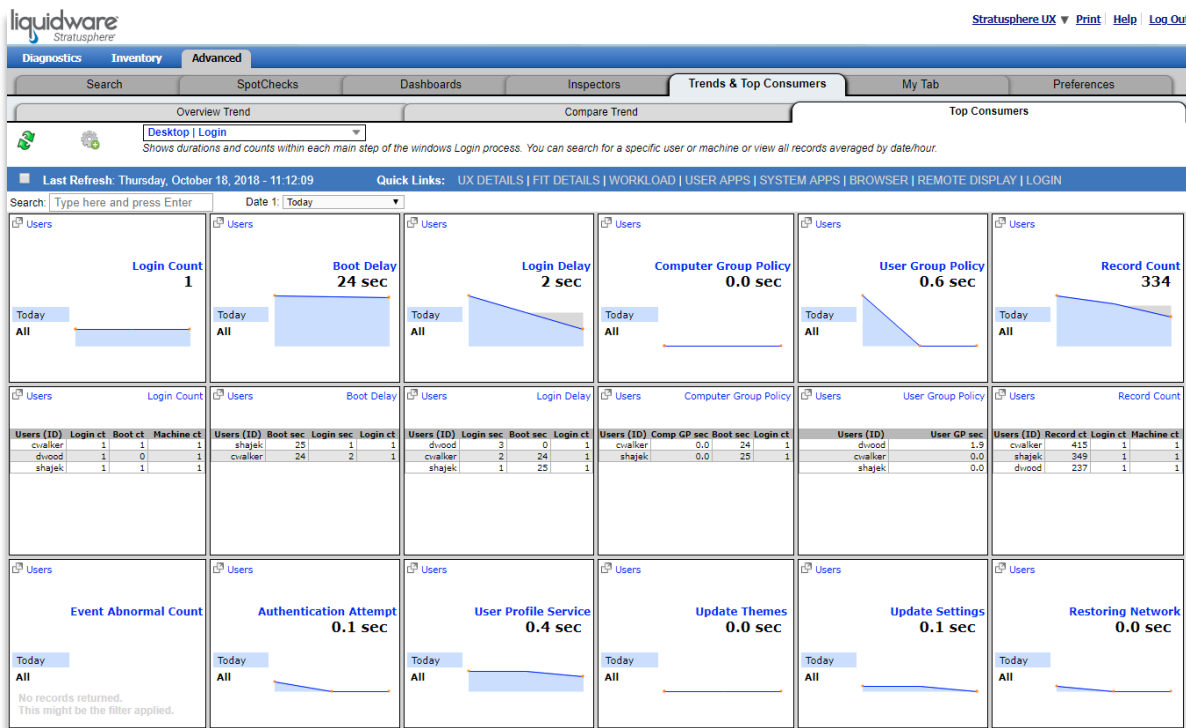
You can trend this information for the user, machine, or a pool level by using machine groups.

Capturing the all the login details is an optional setting you can turn on when you configure your Connector ID Keys. Please see the **Stratusphere Installation and Configuration Guide** for more details.

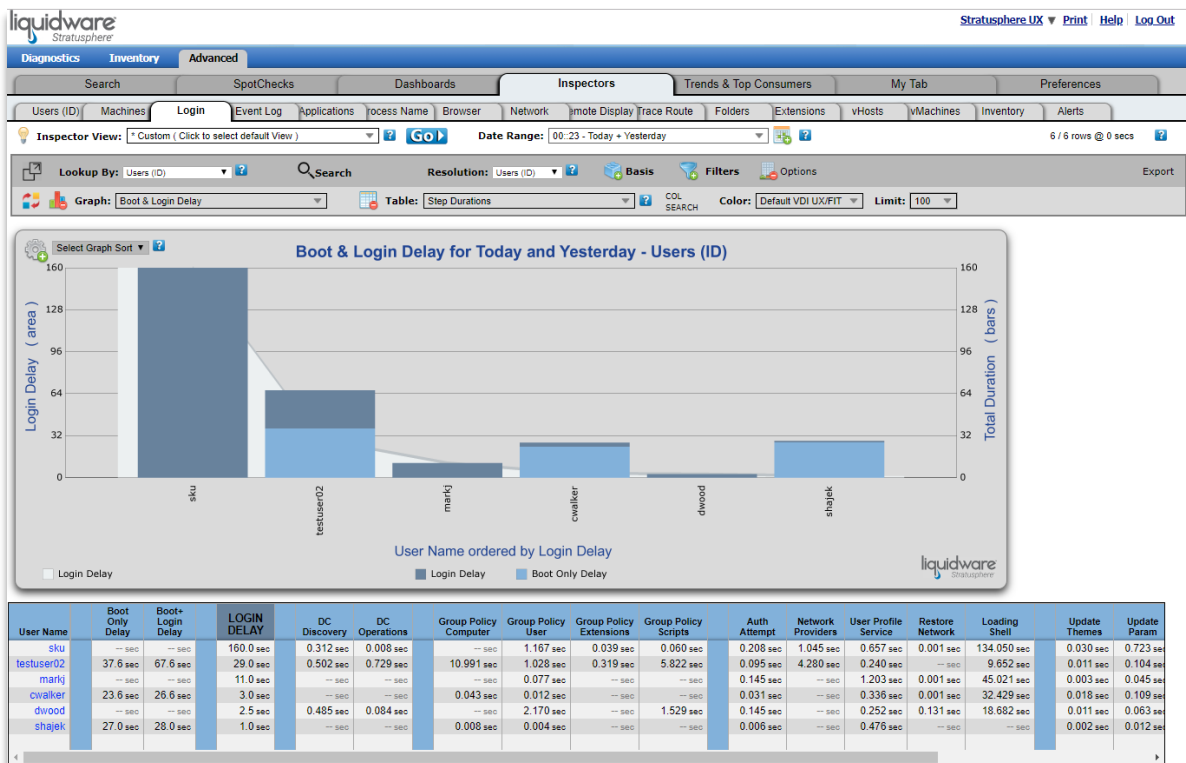
Once the CID Keys in your environment are returning login data, you can use the Advanced Inspectors to provide more data on the login process breakdown. A great place to start is with an overview of logins in your environment. From the **Advanced > Trends & Top Consumers > Top Consumers** tab, click on the gear icon to select the **Desktop > Login** dashboard.



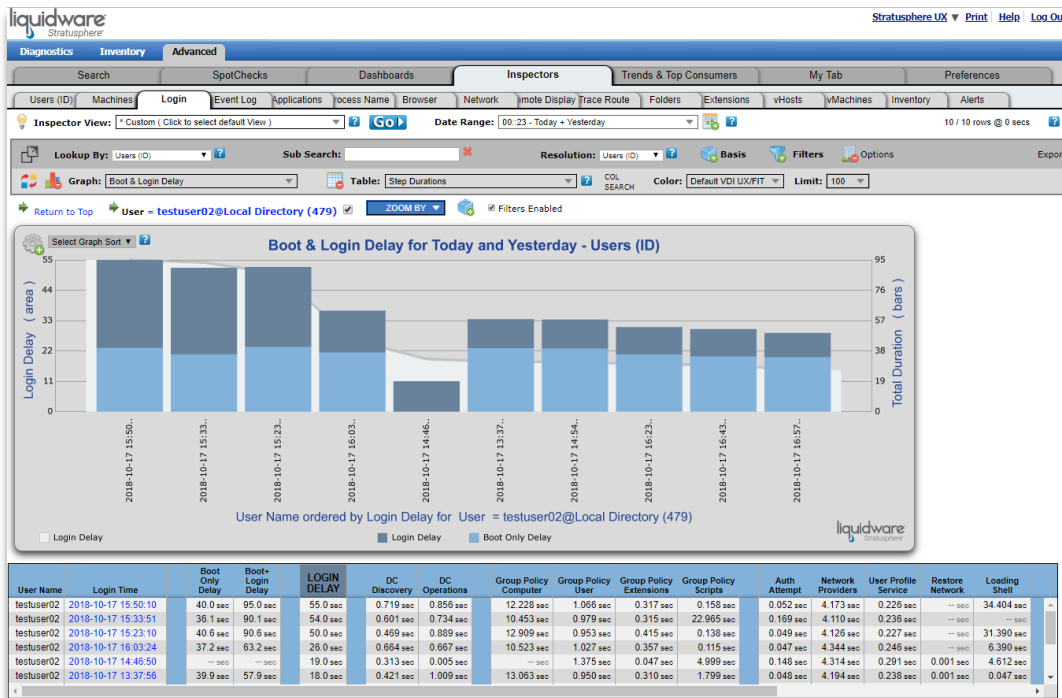
The Login sparkline dashboard shows the duration and counts of each main step of the Windows login process. You can search for a specific user or machine or view all records averaged by date/hour.



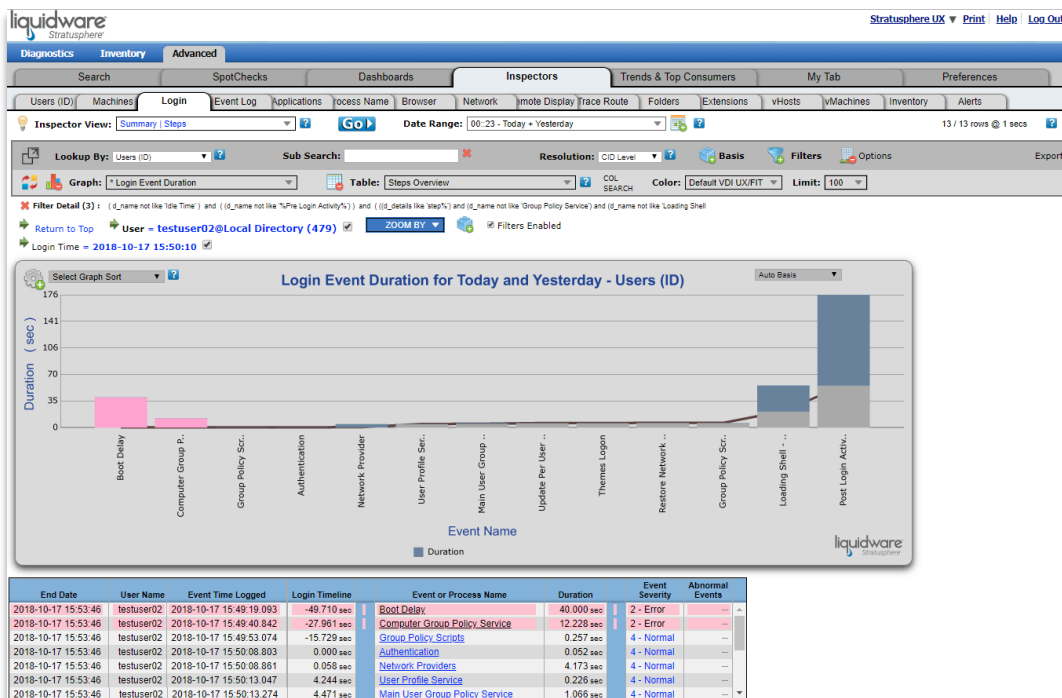
From the **Advanced > Inspectors > Login** tab you can see a Boot and Login delay for your users.



To drill down to a specific user, click on the user's name in the chart. At this point you still see an overview, but it is isolated to just this user.



Now click on the specific login time that you want to drill down into. Each login for the time period you have selected will be listed. To change your span of time, select your **Date Range** at the top of the tab. Drilling down into a specific login will list each main step of the login process showing the duration and highlighting errors.



Clicking on the **Boot Delay** step in the login process and sorting based on Duration shows TrustedInstaller took the most time. This login most likely took longer because it was finishing a Windows Update.

End Date	User Name	Event Time Logged	Login Timeline	Event ID	Event Severity	Index	Comment	Event or Process Name	DURATION	Owner	PID	Parent PID
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:34.137	-34.666 sec	---	---	---	Start Process	TrustedInstaller.exe	145.900 sec	system	2208	572
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:34.255	-34.548 sec	---	---	---	Start Process	TiWorker.exe	145.777 sec	system	2268	816
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:38.758	-30.045 sec	---	---	---	Start Process	WmPrvSE.exe	98.256 sec	system	2980	816
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:38.758	-30.045 sec	---	---	---	Start Process	WmPrvSE.exe	91.615 sec	system	3056	816
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:35.049	-33.754 sec	---	---	---	Start Process	sppsvc.exe	87.018 sec	system	2624	572
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:35.662	-33.141 sec	---	---	---	Start Process	SppExtComObj.exe	86.397 sec	system	2732	816
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:19.093	-49.710 sec	---	2 - Error	---	Error	Boot Delay	40.000 sec	---	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:32.504	-36.299 sec	---	2 - Error	---	Error	Pre Login Activity	36.299 sec	---	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:47.258	-21.545 sec	---	---	---	Start Process	spoolsv.exe	35.553 sec	system	3284	572
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:53.321	-15.482 sec	---	---	---	Start Process	svchost.exe	33.236 sec	system	4594	572
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:42.038	-25.867 sec	---	---	---	Start Process	taskhost.exe	24.151 sec	system	3024	1216
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:47.515	-21.208 sec	---	---	---	Start Process	dsregcmd.exe	19.564 sec	system	3444	1216
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:51.165	-17.638 sec	---	---	---	Start Process	conhost.exe	18.072 sec	system	2808	2628
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:53.138	-15.665 sec	---	---	---	Start Process	conhost.exe	16.099 sec	system	4468	3444
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:53.569	-15.234 sec	---	---	---	Start Process	VMwareResolutionSet.exe	15.957 sec	system	4552	3628
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:50.015	-18.788 sec	---	---	---	Start Process	taskhost.exe	15.598 sec	system	3924	1216
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:35.749	-33.054 sec	---	---	---	Start Process	slui.exe	15.397 sec	system	2764	2732
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:51.267	-17.536 sec	---	---	---	Start Process	VMwareResolutionSet.exe	14.583 sec	system	2788	3628
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:36.499	-32.304 sec	---	---	---	Start Process	slui.exe	14.204 sec	system	2804	2732
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:59.093	-9.710 sec	---	4 - Normal	---	Success	Idle Time	13.949 sec	---	---	---

Clicking on another step, in this case Computer Group Policy Service, shows a detailed breakdown of what is happening during the user login.

End Date	User Name	Event Time Logged	Login Timeline	Comment	Event ID	Event or Process Name	Duration	Sess ID	Domain Details	Domain Controller IP	Do Dis Tim
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:40.842	-27.961 sec	Computer Group Policy Service	4000	Starting computer policy processing	12.228 sec	---	---	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:40.844	-27.959 sec	Computer Group Policy Service	5340	Retrieving Domain Controller details	---	---	---	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:40.846	-27.957 sec	Computer Group Policy Service	5320	Making system calls	---	---	---	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:40.846	-27.957 sec	Computer Group Policy Service	4017	System call completes successfully	7.172 sec	---	CH=WIN101709-VDI02,OU=Win10,OU=Desktops,OU=Lab Environment,DC=foo,DC=local	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:48.018	-20.785 sec	Computer Group Policy Service	5017	Retrieving Domain Controller details	---	---	---	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:48.018	-20.785 sec	Computer Group Policy Service	5320	Group Policy is trying to discover the Domain Controller information	---	---	---	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:48.023	-20.780 sec	Computer Group Policy Service	5320	Retrieving Domain Controller details	---	---	---	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:48.023	-20.780 sec	Computer Group Policy Service	4017	Making system calls	---	---	js-dc.foo.local	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:48.911	-19.892 sec	Computer Group Policy Service	5017	System call completes successfully	0.234 sec	---	js-dc.foo.local	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:49.151	-19.652 sec	Computer Group Policy Service	5308	Display information about a discovered domain controller completes successfully	1.125 sec	---	---	192.168.126.10	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:49.151	-19.652 sec	Computer Group Policy Service	5326	Group Policy successfully discovered the Domain Controller	---	---	---	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:49.155	-19.648 sec	Computer Group Policy Service	5309	The discovery of computer information completed successfully	---	---	---	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:49.155	-19.648 sec	Computer Group Policy Service	5310	Display security principal information about the user completes successfully	---	---	---	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:49.158	-19.645 sec	Computer Group Policy Service	5311	No loopback mode	---	---	---	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:49.158	-19.645 sec	Computer Group Policy Service	4126	Success estimated bandwidth	---	---	---	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:49.164	-19.639 sec	Computer Group Policy Service	4257	The Group Policy service successfully determined a slow or fast link	---	---	---	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:49.702	-19.101 sec	Computer Group Policy Service	5327	Making system calls	---	---	---	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:49.704	-19.099 sec	Computer Group Policy Service	5314	Making system calls	---	---	---	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:49.704	-19.099 sec	Computer Group Policy Service	4017	System call completes successfully	0.281 sec	---	\\foo.local\sysvol\foo.local\Policies\{31B2F340-016D-11D2-845F-00C04FB984F9}\gpt.m	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:49.993	-18.810 sec	Computer Group Policy Service	5017	System call completes successfully	---	---	\\foo.local\sysvol\foo.local\Policies\{31B2F340-016D-11D2-845F-00C04FB984F9}\gpt.m	---	---
2018-10-17 15:53:46	testuser02	2018-10-17 15:49:49.994	-18.809 sec	Computer Group Policy Service	4017	Making system calls	---	---	\\foo.local\sysvol\foo.local\Policies\{0647A070-1A51-4A51-92EE-F8A9A7FEF80F}\gpt.m	---	---

## Process Optimization

The Stratusphere CID Key software can be configured to help optimize processes and memory in Windows environments. Process Optimization is a feature that is designed to dynamically raise and lower the priority of processes running in order to increase responsiveness and provide a better user experience. This feature can also provide memory trimming on idle process and the ability to terminate specific processes to keep them from running on your machines. Process Optimization works by granting in-focus applications the CPU resources it needs while guarding against background applications that monopolize resources.

While optimization changes are being made in real time, it should be pointed out that Stratusphere's philosophy is to "do no harm". If a machine is not under stress, then the CID Key optimizer will do nothing. In addition, the optimizer is very polite. The optimizer will first ask a process to lower its CPU priority. If the process says "no", then the optimizer will not force the change nor will it ask the process again. Therefore, you can rest assured that Stratusphere's Process Optimization will not negatively affect your antivirus protection or other important background processes.

To configure Process Optimization for your environment, go to **Hub Administration > Connector ID Keys > Connector ID Key Properties > Process Optimization** in the Hub Administration module. Process Optimization can be configured for specific machines or machine groups. The actual optimization process begins once the CID Key software has been distributed to those machines in your environment.

To see a count summary of the actions taken by the Process Optimizer, navigate to **Advanced > Inspectors > Process Name (& Applications)** tab and select the **Optimizer > Action Counts** Table View.

Search

SpotChecks

Dashboards

Inspectors

Trends & Top Consumers

My Tab

Preferences

Users (ID)

Machines

Login

Event Log

Applications

Process Name

Browser

Network

Remote Display

Trace Route

Folders

Extensions

vHosts

vMachines

Inventory

Alerts

Inspector View

Custom [Click to select default View]

GO

Details On

ROLL-UP

Auto

Date Range:

00:23 - Today

100 845 rows (cached)

Look Up By: [Process Name]

Search

Resolution: [Process Name]

Process Name

Basis

Filters

Options

COL Search

Colors: Default

Limit: 100

Processes: Both

Export

Graphs

\*Application / Workload

Table

Optimizer / Action Counts

COL Search

Colors: Default

Limit: 100

Processes: Both

Page: 1 of 9 (100 records, 1 - 100 of 845)

Prev

Next

First

Last

Process Name	WORKLOAD RANKING	Optimizer Actions	Optimizer Terminate	Optimizer Priority Low	Optimizer Priority Below Normal	Optimizer Priority Normal	Optimizer Priority Above Normal	Optimizer Priority High	CPU Used Mhz Per App Avg.	CPU % All Cores	CPU Cores Total Used	Optimizer Persistent Lower	Optimizer Persistent Raise	Window Foreground	Optimizer Trim Memory	Process Privilege Elevated	Machine Count	Process Owner Count	App ID Count	OS Count	PID Count	Active Minutes Per CID	Avg CID Minutes	CID Recs Cnt
chrome	3	805 ct	— ct	312 ct	— ct	330 ct	15 ct	— ct	150.8 MHz	6.3 %	0.57 c	— ct	— ct	15 ct	148 ct	—	3	4	3	3	254	632 mins	634 mins	
java	2	— ct	— ct	— ct	— ct	— ct	— ct	— ct	264.8 MHz	10.1 %	2.02 c	— ct	— ct	— ct	— ct	1	10	5	8	6	35	790 mins	699 mins	
msedge	3	244 ct	— ct	92 ct	— ct	92 ct	— ct	— ct	1,579.1 MHz	14.6 %	0.58 c	— ct	— ct	60 ct	— ct	—	1	1	1	1	41	878 mins	878 mins	
firefox	4	440 ct	— ct	140 ct	— ct	214 ct	78 ct	— ct	62.9 MHz	0.6 %	0.06 c	— ct	— ct	— ct	— ct	—	3	3	3	3	23	880 mins	880 mins	
compattelrunner	5	— ct	— ct	— ct	— ct	— ct	— ct	— ct	107.8 MHz	1.6 %	0.13 c	— ct	— ct	— ct	— ct	1	3	1	1	2	4	6 mins	12 mins	
installid	6	— ct	— ct	— ct	— ct	— ct	— ct	— ct	459.6 MHz	3.7 %	0.15 c	— ct	— ct	— ct	— ct	—	1	1	1	1	1	885 mins	885 mins	
clasmcan	7	— ct	— ct	— ct	— ct	— ct	— ct	— ct	302.8 MHz	6.3 %	0.25 c	— ct	— ct	— ct	— ct	—	1	1	2	1	2	7 mins	13 mins	
elchive	8	1,980 ct	— ct	259 ct	— ct	893 ct	738 ct	— ct	184.6 MHz	1.7 %	0.07 c	— ct	— ct	738 ct	— ct	—	1	1	1	1	3	864 mins	878 mins	
evchost	9	7,711 ct	— ct	310 ct	— ct	310 ct	— ct	— ct	8.1 MHz	0.7 %	0.06 c	— ct	— ct	— ct	7,091 ct	1	4	6	4	3	451	897 mins	897 mins	
teams	10	280 ct	— ct	126 ct	— ct	138 ct	16 ct	— ct	30.2 MHz	1.1 %	0.04 c	— ct	— ct	16 ct	— ct	—	1	2	2	1	118	439 mins	443 mins	
lnfgrd	11	— ct	— ct	— ct	— ct	— ct	— ct	— ct	31.3 MHz	0.5 %	0.05 c	— ct	— ct	— ct	— ct	—	1	4	1	2	3	4	881 mins	881 mins
freshclam	12	— ct	— ct	— ct	— ct	— ct	— ct	— ct	250.6 MHz	2.0 %	0.08 c	— ct	— ct	— ct	— ct	—	—	1	1	1	1	2	1 mins	6 mins
kernel_task	13	— ct	— ct	— ct	— ct	— ct	— ct	— ct	631.7 MHz	6.7 %	0.27 c	— ct	— ct	— ct	— ct	—	—	1	1	1	1	1	885 mins	885 mins
google chrome helper (renderer)	14	— ct	— ct	— ct	— ct	— ct	— ct	— ct	1,277.4 MHz	10.3 %	0.41 c	— ct	— ct	— ct	— ct	—	—	1	1	1	1	1,317	885 mins	885 mins
installvm pi	15	— ct	— ct	— ct	— ct	— ct	— ct	— ct	74.1 MHz	1.5 %	0.03 c	— ct	— ct	— ct	— ct	—	—	1	1	1	1	11	218 mins	238 mins
google chrome	16	— ct	— ct	— ct	— ct	— ct	— ct	— ct	227.1 MHz	1.8 %	0.07 c	— ct	— ct	— ct	— ct	—	—	1	1	1	1	1	885 mins	885 mins
nc	17	— ct	— ct	— ct	— ct	— ct	— ct	— ct	371.9 MHz	8.0 %	0.32 c	— ct	— ct	— ct	— ct	—	—	2	1	1	1	23	6 mins	39 mins
worker.py	18	— ct	— ct	— ct	— ct	— ct	— ct	— ct	42.0 MHz	0.9 %	0.04 c	— ct	— ct	— ct	— ct	—	—	2	1	1	1	17	7 mins	38 mins
system	19	— ct	— ct	— ct	— ct	— ct	— ct	— ct	67.5 MHz	1.1 %	0.10 c	— ct	— ct	— ct	— ct	—	1	4	1	1	3	4	881 mins	881 mins

Additional Optimizer tables are available such as **Foreground and Trimming and Details**.

For additional information, run some of our standard reports in the Stratusphere Report Library. Go to **Diagnostics > Reports** and select the "Process Optimization Reports" category.

## Getting Help with Stratusphere

In this document, we have covered a complete set of steps to evaluate the Stratusphere product for use in VDI monitoring and diagnostics. You have been introduced to the data gathering, analysis and reporting steps, and you have seen the advanced features of Stratusphere for VDI monitoring, analysis, and planning.

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

### Using Online Resources

Liquidware maintains various kinds of helpful resources on our [Customer Support Portal](https://www.liquidware.com). If you have questions about your product, please use these online resources to your full advantage. The Support Portal includes product forums, a searchable Knowledge Base, documentation, and best practices among other items. You can visit our website at <https://www.liquidware.com>.

### Contacting Support

If you wish to contact our Support staff for technical assistance, please either log a request on the [Liquidware Customer Support Portal](https://www.liquidware.com) or give us a call. Prior to Logging a Case you may want to review these helpful tips:

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

To speak directly with Support, please use the following numbers:

<b>Main Line:</b>	1-678-397-0460
<b>Toll Free in US &amp; Canada:</b>	1-866-914-9665
<b>Europe/Middle East/Africa:</b>	+44 800 014 8097

#### **Toll Free in Europe**

<b>UK:</b>	0800 014 8097
<b>Netherlands:</b>	0800 022 5973
<b>Switzerland:</b>	0800 561 271