Citrix Analytics for Performance

Contents

What's new

December 28, 2023

A goal of Citrix is to deliver new features and product updates to customers as and when they are available. New releases provide more value, so there's no reason to delay updates.

To you, the customer, this process is transparent. Initial updates are applied to Citrix internal sites only, and are then applied to customer environments gradually. Delivering updates incrementally helps to ensure product quality and to maximize the availability.

It is possible that the updates mentioned in this documentation are being rolled out and are not accessible to all customers at the same time.

New features introduced in Citrix Analytics for Performance provide further insights into performance parameters affecting the user experience on Citrix Virtual Apps and Desktops on-premises sites and Citrix DaaS (formerly Citrix Virtual Apps and Desktops service) sites on cloud.

Dec 28, 2023

Custom Reports export in CSV format

You can now export raw data as CSV format attachments in Custom Report emails apart from the PDF format.
You can create various reports of sessions and machines and download the raw data from the Custom Reports (Preview) tab. You can download reports in PDF, CSV, or both formats.

This feature provides stakeholders periodical access to raw data without needing direct access to Citrix Analytics for Performance. For more information, see Custom Reports.

Endpoint Network telemetry of Citrix Workspace app for Windows version 2311 sessions launched in hybrid mode

Citrix Analytics for Performance now extends visibility into key Endpoint Network telemetry for virtual apps and desktops sessions that are launched in hybrid mode. The Endpoint Network telemetry is available in Citrix Analytics for Performance for sessions from Citrix Workspace app for Windows version 2311 and later. The Endpoint Network telemetry available are Network Interface Type (Ethernet/ WiFi), Endpoint Link Speed, Endpoint Throughput (Incoming and outgoing), and WiFi Signal Strength.

Virtual sessions are said to be launched in hybrid mode when you log on to Citrix Workspace app through the Citrix Workspace for Web browser and launch the applications or desktops through the native Citrix Workspace app.

For more information about the available metrics, see Self-service search for Sessions.

Dec 19, 2023

Endpoint Network telemetry of Citrix Workspace app for Linux version 2311 sessions launched in hybrid mode

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Dec 12, 2023

Simplified search for users and machines

You can now search for sessions or machines that were active over the last week from the dashboards using the user name or the machine name respectively. A new search box is provided on the top navigation bar of the User Experience and Infrastructure dashboards for this. Provision of this simplified search helps discover user or machine related information and triage issues easily. The existing search in the self-service view continues to provide advanced search facilities with filters to slice and dice the search results.

Machine Statistics view enhancements

You can now view the successful sessions running on the machine during the selected time period from the Machine Statistics view. A **Total Sessions** field is added in the **Machine Statistics** > **Sessions** tab. Clicking the Total Sessions number opens the Sessions self-service view with the corresponding set of sessions displayed. You can further drilldown and inspect the session metrics from the Session Details view.

Also, you can now click the **Session Failure** number, the bars in the chart displaying the session failures, and the categorized session counts to view the sessions. This feature makes the Machine Statistics a comprehensive view of all machine-related metrics required to triage and fix issues related to the machine and the sessions running on the machine. For more information, see the Machine Statistics article.

Nov 15, 2023

Metrics relevant to session state displayed in Sessions self-service view

Expanding a row in the **Sessions self-service** view > **Data** table view displays the corresponding session metrics. Now only the metrics that are relevant for the session state are displayed. If the session was in a disconnected state during the selected time interval, session metrics related to responsiveness and bandwidth, that are not applicable for disconnected sessions are not displayed. For a failed session, the failure reason and type are displayed to help triage the reason for the session failure. Any columns added to the table that are not relevant for the session state is displayed as "–".

This feature ensures that displayed session metrics are relevant to the session state. For more information, see Self-service search for Sessions.

Oct 26, 2023

Additional metrics in Sessions self-service view

To support triaging session-related issues, the following session and failure related metadata are now available as optional columns in the Sessions based self-service view. This provides more visibility into the details of failure at individual session level.

- **Failure Type** –Indicates the kind of session failure from among the following values:
- **Failure Reasons** –Indicates the exact reason for the failure. You can resolve the failure using the corresponding recommended steps in Citrix Director failure reasons and troubleshooting.
- **Session Type** –Indicates if the session is an application or a desktop session.
- **Session State** –Indicates the state of the session.
- **Session End Time** –Indicates the time at which the session ended.

You can filter the view using these additional columns. The column values are included in export reports and are available as dimension parameters in during the creation of session-based Custom Reports.

The failure metrics help understand the reason for a session failure and the recommended steps to resolve the failure. This feature is especially helpful when you navigate from the failed session count on the dashboard to a filtered set of failed sessions in the Sessions self-service view. For more information, see Self-service search for Sessions.

Improved accuracy of Session Score and other session metrics

Session Score and the other session performance and factors metric charts in the Session Details view now take into account the disconnected duration of the session. This consideration enables the overall Session Score and associated metrics to be an accurate representation of the session performance. The session-disconnected interval is represented in the all charts and tooltips. For more information, see the Session Details article.

Sep 25, 2023

Customize Alert Parameters

Citrix Analytics for Performance now provides the ability to customize the alert parameters.

Alert policies are pre-built with default parameter values. To modify the alert parameters, click the alert policy name to open the **Modify Alert** window and modify the values of the listed parameters to suit your environment. Subsequent alert notifications are generated based on the custom conditions.

Updating the alert parameters also alters the calculation of the corresponding insight on the UX dashboard.

In alerts where re-alerting is supported, you can also control the re-alerting preference. Alert notifications are resent if the re-alert preference is set to **Enabled** and the conditions as specified in the re-alert preference persist.

Customized alerts are more relevant to your environment, they help identify anomalies easily, and are more dependable for proactive monitoring.

For more information, see Alerts.

Sep 14, 2023

Support for endpoint metrics from Citrix Workspace apps for Linux

Citrix Analytics for Performance now supports the availability of endpoint metrics from Citrix Workspace apps for Linux version 2308 and later launched in native mode. You can see metrics like Endpoint Link Speed, Endpoint Throughput Incoming, Endpoint Throughput Outgoing and WiFi Signal Strength, Endpoint Throughput Incoming, and Endpoint Throughput Outgoing coming from Citrix Workspace apps for Linux.

For more information, see the Citrix Workspace app versions matrix.

Sep 05, 2023

New Custom Report templates

Two new Custom Report templates based on users and machines data sources are now available in Citrix Analytics for Performance. You can access the new templates from the **Reports (Preview)** tab.

- The **User Experience Category Trends over Last Seven Days** template is based on the Users data source. Custom reports based on this template contain trends of Excellent, Fair and Poor users based on their User Experience Score plotted over the last seven days.
- The **Machine State Trends over Last Seven Days** template is based on the Machines data source. Custom reports based on this template contain trends of machines based on the Machine States - Ready for Use, Active, Maintenance, Unregistered, and Failed - plotted over the last seven days.

Also, you now have a wider choice of metrics to select as plotting parameters. For more information regarding the creation of Custom Reports using templates, see Custom Reports.

Exclude delivery groups from receiving alerts

You can now specify delivery groups to be excluded from receiving alert notifications. You can remove unused delivery groups or those created for testing purposes from the alerting process. This feature helps reduce alert fatigue and improve the relevance of alerts. For more information, see Alerts.

Aug 31, 2023

Anomalous Session Disconnects Baseline Insight and Alert

Anomalous Session Disconnects Baseline Insight is introduced to indicate the number of session disconnects and its deviation from the baseline value. The user-specific baseline value is calculated using the P80 count of session disconnects measured over the last 30 days. For more information, see Insights.

The Anomalous Session Disconnects out-of-the-box alert policy is introduced to track the number of session disconnects. If the number of session disconnects exceeds the baseline value by 30% or more and if more than 5% of the sessions are impacted by the disconnects, an alert notification is sent using the configured channel. For more information, see Alerts.

New alert policies based on Baseline Insights

New out-of-the-box alert policies based on the existing Baseline Insights are now defined for:

- Sessions with Poor Logon Duration
- Session with Poor Responsiveness
- Session Failures

The alerts are generated when the number of impacted sessions exceeds the 30-day baseline value by 30% or more and more than 5% of the sessions are impacted by this increase. The alerts can be configured to be notified by mail or webhook like the other Performance Analytics alerts. The alert policies are available in the Alert Policies tab.
For more information, see Alerts.

Aug 18, 2023

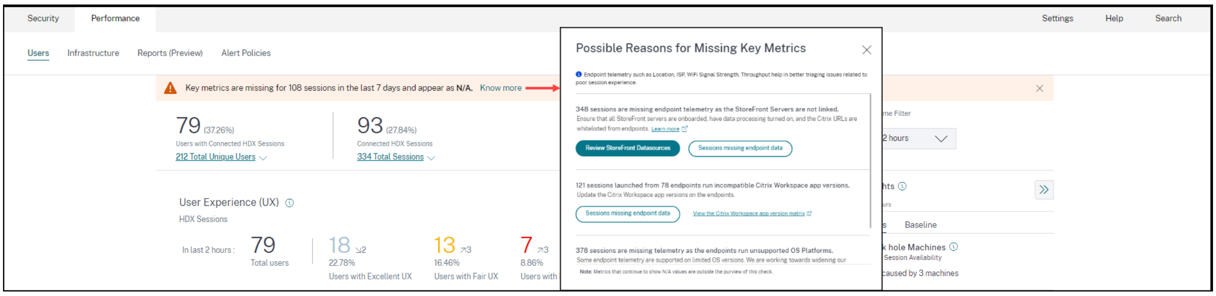
Discover reasons for missing endpoint metrics

Data availability is important to optimally analyze your Citrix Virtual Apps and Desktops environments. Endpoint metrics like Location, ISP, WiFi Strength and Throughput are important indicators that help triage poor session experience. Endpoint metric values might be missing if the appropriate prerequisites are not met.

This feature helps easily identify issues resulting in endpoint metrics having N/A values and suggests appropriate actions.

Drilldown from Dashboard The User Experience dashboard contains a banner displaying the number of sessions whose endpoint metrics have not been available during the last 7 days.

Clicking **Know more** displays a modal box with the key reasons for sessions missing endpoint metrics, the number of sessions affected by each reason during the last 7 days and the actions that you could take to fix them.



Key metrics are missing for 108 sessions in the last 7 days and appear as **N/A.**

Endpoint telemetry such as Location, ISP, WiFi Signal Strength, Throughput help in better triaging issues related to poor session experience.

348 sessions are missing endpoint telemetry as the StoreFront Servers are not linked.
Ensure that all StoreFront servers are onboarded, have data processing turned on, and the Citrix URLs are whitelisted from endpoints.

121 sessions launched from 78 endpoints run incompatible Citrix Workspace app versions.
Update the Citrix Workspace app versions on the endpoints.

378 sessions are missing telemetry as the endpoints run unsupported OS Platforms.
Some endpoint telemetry are supported on limited OS versions. We are working towards widening our

Note: Metrics that continue to show N/A values are outside the purview of this check.

- One of the key reasons for missing endpoint telemetry is StoreFront onboarding. StoreFront must be onboarded correctly; data processing must be switched on and appropriate URLs must be whitelisted. Clicking **Review StoreFront Data Sources** takes you to the Data Sources page that leads you through the StoreFront onboarding process required for the Workspace App data collection. If you are using Citrix Workspace, the service is automatically discovered and does not require onboarding.

- Endpoint telemetry is not available for sessions launched from endpoints that run unsupported OS platforms or incompatible Citrix Workspace app versions. Clicking **Sessions missing endpoint data** opens the Sessions self-service view with the list of the sessions missing endpoint telemetry due to a specific listed reason. For more information, see the Version matrix that lists for each feature the OS versions and the required Workspace app version on which it is supported.

For more information, see the Not Categorized article.

Tooltips in the Sessions Self-service view Tooltips elaborating the reasons for N/A values are now available in the Sessions self-service view for the following endpoint-related metrics:

- Workspace App Version
- Endpoint Country (Last known)
- Endpoint City (Last known)
- Endpoint Link Speed (P95)
- Endpoint Throughput Incoming (P95)
- Endpoint Throughput Outgoing (P95)
- ISP (Internet Service Provider)

Tooltips are displayed on the N/A values of these metrics with the reasons as incorrect StoreFront onboarding, or sessions launched from endpoints that run unsupported OS platforms or incompatible Citrix Workspace app versions.
This feature helps to educate on the reasons for N/A values so that you can take the necessary action. For more information about the metrics available in the Sessions self-service view, see Self-service view for sessions.

Aug 01, 2023

Alert information as CSV attachments in mailers

Black hole Machines, Overloaded Machine and Zombie Session alerts emails now have CSV attachments containing information about the affected machines and sessions.
The attachment has the following data:

- Machine Name
- Site ID
- Catalog Name
- Delivery Group Name
- Failure count (Number of failed machines or sessions as applicable).

The CSV attachments in alert mailers help identify faulting machines and sessions without having to log on to Citrix Analytics for Performance. This helps establish automation pipelines to create and forward tickets to stakeholders responsible for speedy resolution of issues. The feature helps improve communication and efficiency and is the next step to achieve proactive monitoring of your virtual apps and desktops environment.

For more information about available alerts, see Alerts.

Jun 06, 2023

Alert email notifications for non-administrator Citrix Cloud accounts

You can now enable the Citrix Analytics for Performance alert email notifications for stakeholders who don't have administrator access to your Citrix Cloud account. This enables members of your organization's security and auditing teams who do not hold Citrix Cloud accounts to be able to get alert notifications.

This update ensures that the alert notifications are available to administrators who take action to mitigate the alert condition. This helps speedy resolution of issues and ensures an optimal performance of the virtual apps and desktops environment. For more information, see the Email distribution list.

For more information regarding alerts from Citrix Analytics for Performance, see Alerts.

Jun 05, 2023

User count in Sessions Self-service view

The Visual Summary in the Sessions Self-service view now displays the user count along with the session count. This feature provides a quick overview of the number of users impacted during an incident or because of a specific issue. It also helps understand the number of unique users for a specific query. For more information, see the Sessions self-service article.

May 22, 2023

Connector-Gateway PoP Latency

Connector-Gateway PoP Latency is now displayed on the Connector Statistics page. The values represent the P95 values of the synthetic latency calculated for the available Gateway PoPs in your virtual apps and desktops environment.

This information helps you choose and configure the closest Gateway PoP to achieve the optimum session experience. For more information, see Connector Statistics.

Connector-Gateway PoP Latency is also available in the Sessions self-service view as an optional column. For more information about the metrics available on the Sessions Self-service view, see the Sessions self-service article.

May 16, 2023

Patterns detected in Black hole Machine Insights

Some machines in your environment though registered and appearing healthy might not service sessions brokered to them, resulting in failures. Machines that have failed to service four or more consecutive session requests are termed as Black hole machines. The Black hole machines insights show the number of black hole machines identified in your environment during the selected time period.

Now, top failure patterns detected with respect to the Delivery Group, single and multi-OS session machines is displayed on the Black hole machine insights panel and in the alert mail. These patterns are aimed to help you spot if there is a specific cohort of users experiencing the issue. In cases where the system is unable to highlight any pattern due to a distributed cohort, it is recommended to drill down to self-analyze.

For more information, see Diagnostic Insights: Black hole machines and Alert for Black Hole Machines.

Anomalous Latency Alerts based on user-specific baseline values

The **Sessions with Anomalous latency** alert that was based on a machine learning model to determine the latency value for all Delivery Group-Location pairs for a specific customer is now redeveloped to use a baseline latency value at a user level. The user-specific baseline is calculated using the P95 ICARTT values measured over the last 30 days.

Poor in-session responsiveness has been a common complaint for poor session experience among most users. The Anomalous Latency proactive alerts help administrators identify only those users with latency deviation from their own 30-day baseline latency. The user-specific baseline ensures meaningful comparison and appropriate alerting compared to checking against a static threshold.

You can now publish the Anomalous Latency alert notifications from Performance Analytics to a preferred Webhook listener in addition to receiving them via email.

For more information, see the Alerts article.

Apr 28, 2023

Data Availability

Accuracy of Performance Analytics depends on the data collected from various site infrastructure like the endpoints, machines, Gateway, and Delivery Controller. A good availability of the required metrics ensures that the data and insights provided by Performance Analytics closely represents the actual performance of the site.

The **Data Availability** feature helps identify sessions that do not have the data required to monitor the performance of your endpoints. Endpoint metrics like Endpoint Link Speed, Location, Throughput, ISP, Network Interface type, OS and Endpoint receiver version that are critical to analyze issues specific to endpoints.

Endpoint metrics require that the StoreFront/ Citrix Workspace be onboarded correctly, and the Citrix Workspace App versions installed on the endpoints are correct. Clicking the Data Availability icon on the User Experience (UX) Dashboard shows the number of sessions across all the onboarded sites which don't have endpoint metrics during the past seven days. Clicking the session number opens the Sessions Self-service view listing these sessions.

To improve Data Availability:

- Check if the corresponding StoreFront/Citrix Workspace has been onboarded correctly as described in Onboard Citrix Virtual Apps and Desktops on-premises sites using StoreFront.
- Check if the endpoints are on the correct Citrix Workspace app version for the Endpoint Network Statistics feature as per Citrix Workspace app version matrix.

For more information, see the Performance Analytics article.

Endpoint IP and Name

Endpoint IP and name are added as columns on the Sessions Self-service view. This provides more visibility into the client-side network. For more information, see Self-service search for Sessions.

Apr 13, 2023

Integration of Citrix Analytics for Performance with the Splunk Observability platform (Preview)

Citrix Analytics for Performance is now integrated with the Splunk Observability platform. You can use the **Data Export** feature to export performance data and events from Citrix Analytics for Performance to Splunk.

You can get a holistic view of the performance metrics of all on-premises Citrix Virtual Apps and Desktops sites and DaaS cloud services that have been onboarded to your Citrix Analytics for Performance service on the Observability platform. Further, you can combine and correlate performance metrics from Citrix Analytics for Performance data with the external data sources connected within your Splunk instance.

You can create dashboards and reports in a regular cadence and derive actionable business insights into the performance of your virtual apps and desktop sites.

For more information, see the Data Export article.

To leverage this functionality, sign up and enroll to the Technical Preview using this form.

Apr 04, 2023

Custom Roles Support for Citrix Cloud Administrator Groups

You can now assign Citrix Cloud administrator groups in your Azure Active Directory with custom roles to access Citrix Analytics for Performance. The administrator groups must be configured on Citrix Cloud using Identity and Access Management > Administrators. For more information, see Identity and access management.

This integration enables a streamlined approach to manage service access permissions for administrator users and groups.

For more information on managing roles, see Manage Administrator Roles for Performance Analytics.

Feb 20, 2023

Support for 100K machines

Citrix Analytics for Performance is now optimized to support 100K machines. To know the recommended configuration and usage limits of Citrix Analytics for Performance, see the Limits article.

Feb 01, 2023

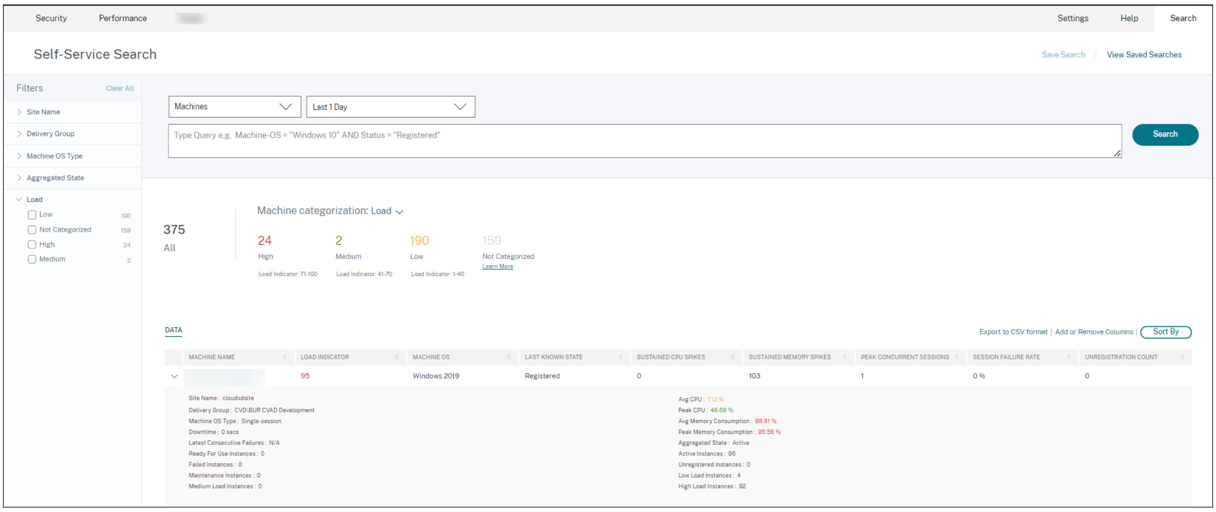
ISP, Endpoint Link Speed, and Endpoint Location visibility

The Sessions Details page now contains the ISP, Endpoint Link Speed, and Endpoint Location information. These additional session attributes help easier triaging. This feature is valuable to help-desk administrators accessing the Citrix Analytics for Performance from Director to troubleshoot session-related issues. For more information about all the session attributes, see the Session Details article.

Jan 23, 2023

Machine Load Indicator in Machines Self-Service View

Machine Load metrics based on the Load Indicator are added in the Machines Self-Service View. These metrics help quickly check the load on machines without having to drill down to multiple machine parameters like the CPU usage, memory utilization, and the number of sessions on the machine.



MACHINE NAME	LOAD INDICATOR	MACHINE OS	LAST KNOWN STATE	SUSTAINED CPU SPIKES	SUSTAINED MEMORY SPIKES	PEAK CONCURRENT SESSIONS	SESSION FAILURE RATE	UNREGISTRATION COUNT
[redacted]	95	Windows 2019	Registered	0	103	1	0 %	0

Site Name : cloudxdsite
Delivery Group : CVD\BUR CVAD Development
Machine OS Type : Single-session
Downtime : 0 secs
Latest Consecutive Failures : N/A
Ready For Use Instances : 0
Failed Instances : 0
Maintenance Instances : 0
Medium Load Instances : 0

Avg CPU : 7.12 %
Peak CPU : 48.68 %
Avg Memory Consumption : 88.81 %
Peak Memory Consumption : 95.56 %
Aggregated State : Active
Active Instances : 96
Unregistered Instances : 0
Low Load Instances : 4
High Load Instances : 92

1. The Machines self-service view now shows machine categorization based on the Load Indicator of the machines. Load Indicator for a machine is calculated based on the resource utilization, the overall user experience on the machine and the number of sessions hosted in the case of multi-session OS machines. The value is aggregated over the selected time period.
   In the Machines self-service view, select **Load** in the Machine categorization dropdown. The machines are categorized as follows:

   - High (red) - Machines with Load Indicator in the range 71-100
   - Medium (green) –Machines with Load Indicator in the range 41-70
   - Low (amber) –Machines with Load Indicator in the range 1-40.
   - Not Categorized - The machines might not be categorized if they are in shutdown, unregistered, or failed state or if the resource data is not available for the machine.

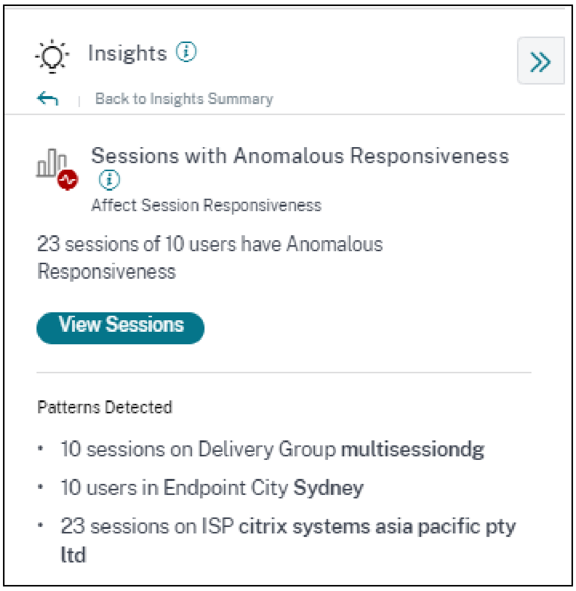
2. The **Load** facet with High, Medium, Low, and Not Categorized options help filter the machines to help further analysis.
3. Machines self-service view has a Load Indicator column that shows the load score of the machine. The machine performance parameters available upon expansion of the machine row now show the number of High, Medium and Low Load Instances for the selected period. This helps quantify and evaluate the load on the specific machine.

This feature helps identify machines that are underutilized or overloaded. This further enables proactive action to ensure optimal usage of the infrastructure and improve the overall machine performance. For more information, see the Self-service article.

Jan 02, 2023

Baseline Insight on Sessions with Anomalous Responsiveness

The Sessions with Anomalous Responsiveness Baseline Insight shows the number of sessions that have recorded ICARTT values that are higher than the baseline ICARTT for the user. The user-specific baseline is calculated using the P95 ICARTT values measured over the last 30 days. Sessions with anomalous responsiveness are detected by comparing the current ICARTT measurements of the sessions with the user-specific baseline.


Insights
Back to Insights Summary
Sessions with Anomalous Responsiveness
Affect Session Responsiveness

23 sessions of 10 users have Anomalous Responsiveness

Patterns Detected

- 10 sessions on Delivery Group **multisessiondg**
- 10 users in Endpoint City **Sydney**
- 23 sessions on ISP **citrix systems asia pacific pty ltd**

This insight helps quickly identify users experiencing poor in-session experience as compared to their own previous experience. The feature helps proactively monitor the environment and quickly troubleshoot issues related to session performance.

For more information, see the Insights article.

Dec 14, 2022

Custom Reports (Preview)

You can now create and schedule custom reports using the performance metrics in Citrix Analytics for Performance. Custom reports help you to extract information of specific interest and organize the data graphically. It helps create executive reports in a regular cadence and analyze the performance of your environment over time. For more information, see Custom Reports.

Nov 18, 2022

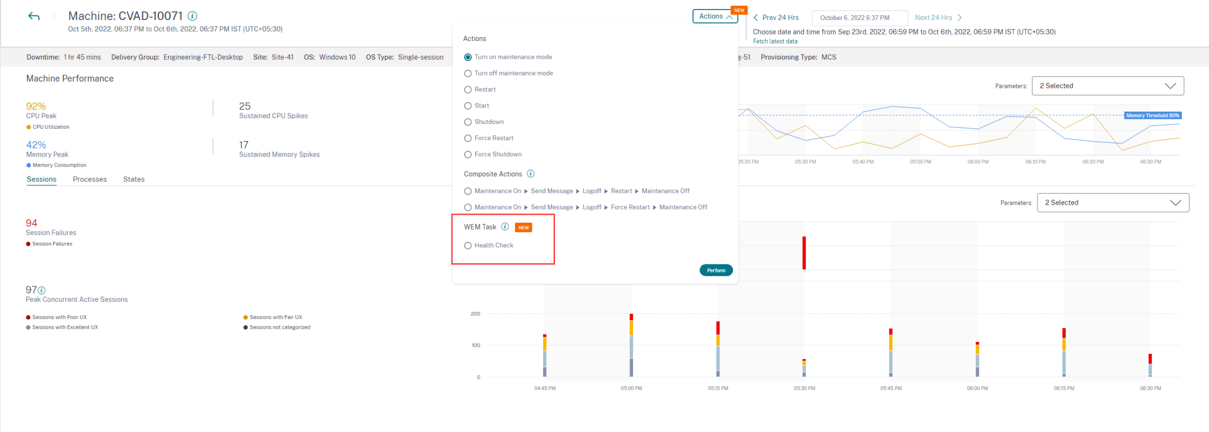
Machine Catalog, Hypervisor, and Provisioning Type visibility

The Machine Statistics page now displays the Hypervisor Name, Catalog Name, and Provisioning Type of the machine as a part of the key machine parameters. This data helps triage issues related to machine performance. Specifically, this data helps find similar machines which might have performance issues, using the Hypervisor, Catalog or Provisioning type attributes. For more information, see the Machine Statistics article.

Oct 13, 2022

WEM Health Check

You can now perform health checks on machines from Performance Analytics. Workspace Environment Management (WEM) is a user environment management tool that helps optimize desktops for the best possible user experience. The new WEM Task Health Check action introduced on the Machine Statistics page helps run WEM scripts to get information on the status of machines.



Machine: CVAD-10071

Oct 5th, 2022, 06:37 PM to Oct 6th, 2022, 06:37 PM IST (UTC+05:30)

October 6, 2022 6:37 PM

Choose date and time from Sep 23rd, 2022, 06:59 PM to Oct 6th, 2022, 06:59 PM IST (UTC+05:30)

Downtime: 1 hr 45 mins Delivery Group: Engineering-FTL-Desktop Site: Site-41 OS: Windows 10 OS Type: Single-session … Provisioning Type: MCS

Machine Performance

92% CPU Peak — 25 Sustained CPU Spikes

42% Memory Peak — 17 Sustained Memory Spikes

94 Session Failures

97 Peak Concurrent Active Sessions

Actions

● Turn on maintenance mode
○ Turn off maintenance mode
○ Restart
○ Start
○ Shutdown
○ Force Restart
○ Force Shutdown

Composite Actions

○ Maintenance On ▸ Send Message ▸ Logoff ▸ Restart ▸ Maintenance Off
○ Maintenance On ▸ Send Message ▸ Logoff ▸ Force Restart ▸ Maintenance Off

WEM Task NEW

○ Health Check

Parameters: 2 Selected

This helps root cause common machine issues easily without having to go to the WEM terminal.

A detailed report of the WEM Health Check and possible actions that can be performed to fix them is also provided.

WEM Actions are enabled for Cloud admins with full access and valid entitlement to WEM.

For more information regarding the usage of the WEM Task Health Check action in Performance Analytics, see WEM Tasks - Health Check.

For more information regarding the WEM Task Health Check, see the Scripted Tasks article in the Workspace Environment Management documentation.

Oct 11, 2022

Process Visibility Improvements

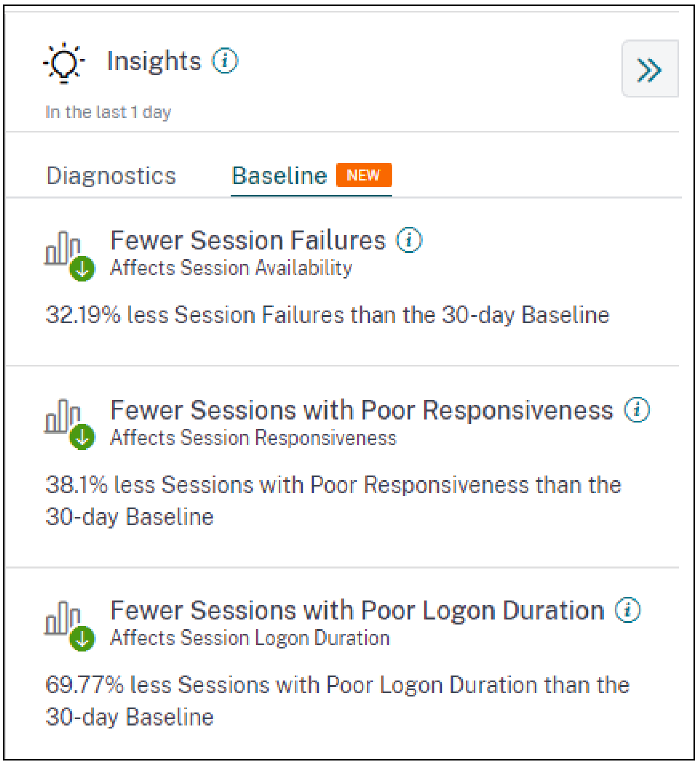
Now, processes running on single-session OS machines are also displayed in the **Process** tab of the Machine Statistics view along with processes running on multi-session OS machines. This feature is available for machines running on cloud and on-premises environments.
Up to 10 top resource consuming processes are displayed in the **Process** tab.
The top resource-consuming processes are displayed even if there are no memory or CPU spikes during the selected time period.
This feature requires that you enable the **Process Monitoring policy** from Citrix Studio for both, single-session and multi-session OS machines. This policy is disabled by default, and must be enabled explicitly to view the processes running on the machine. For more information, see the Machine Statistics article.

Sep 30, 2022

Baseline Insights

Insights are now displayed in two categories:

- **Diagnostic Insights:** The Blackhole Machines, Zombie Sessions, Overloaded Machines and Communication Error Diagnostic Insights are available on the Diagnostic sub-pane. These insights give crucial updates about failures that have occurred on the site.
- **Baseline Insights:** The Baseline Insights are introduced to show the deviation of key performance metrics from the historical baseline. These insights show if key metrics are improving or deteriorating in a glance. They help spot incident indicators quickly and take proactive steps to improve the performance of your environment.



Insights

In the last 1 day

Diagnostics

Baseline NEW

Fewer Session Failures

Affects Session Availability

32.19% less Session Failures than the 30-day Baseline

Fewer Sessions with Poor Responsiveness

Affects Session Responsiveness

38.1% less Sessions with Poor Responsiveness than the 30-day Baseline

Fewer Sessions with Poor Logon Duration

Affects Session Logon Duration

69.77% less Sessions with Poor Logon Duration than the 30-day Baseline

Baseline Insights for Poor Session Failures, Session Responsiveness, and Session Logon Duration are available on the Baseline subpane.

Deviation from the baseline is also displayed on the User Experience dashboard. They are available for Session Failures under the User Sessions section and the Poor Sessions categorized under the Session Responsiveness and Session Logon Duration sections. Clicking the deviation displays the respective Baseline Insight.

For more information, see the Insights article.

Sep 28, 2022

Webhook Support for Alerts Notifications

You can now publish alert notifications from Performance Analytics to a preferred Webhook listener. This feature allows you to get notified on your chosen channel such as Slack, JIRA. This helps enterprise customers automate the flow from incident detection to closure, and hence easily drive workflows in response to Performance Analytics Alert notifications. For more information about configuring alert policies with webhook, see Webhook Support for Alerts Notifications.

Sep 07, 2022

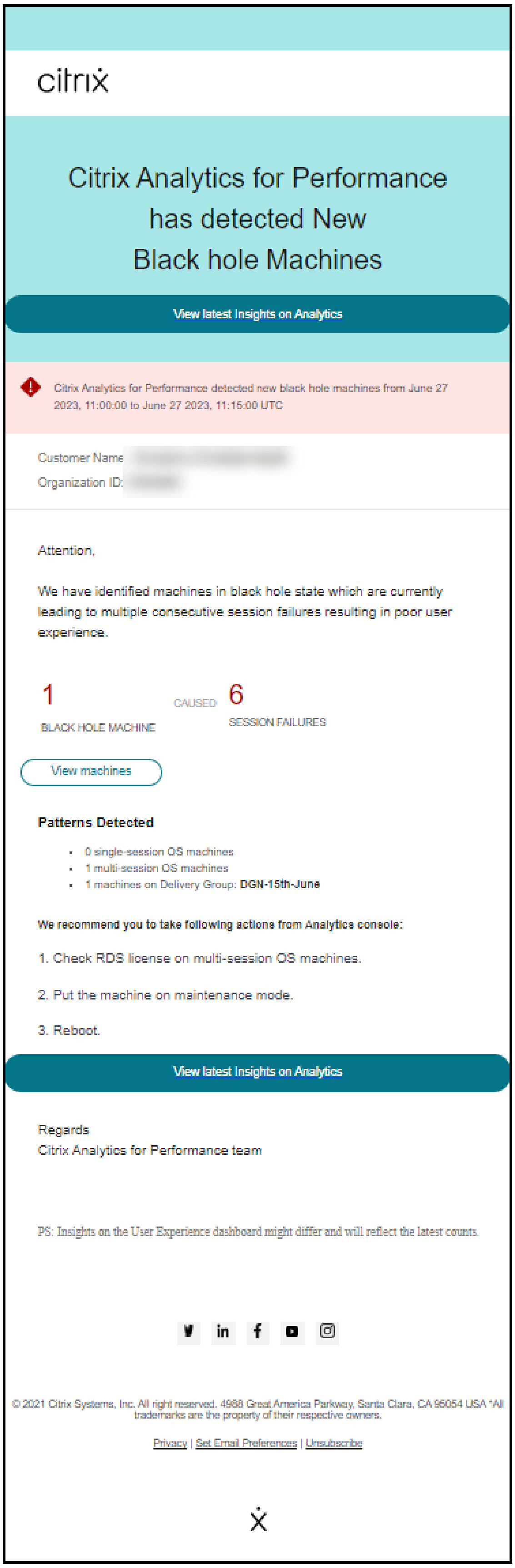
Export limit in CSV export increased

The limit on the number of rows that you can export using the **Export to CSV format** feature on the Self-service pages is now increased from 10K rows to 100 K rows. For more information regarding the export functionality, see the Self-service search article.

Aug 05, 2022

Black Hole Machines Alert

Citrix Analytics for Performance scans for black hole machines every 15 minutes and sends out an alert to enable administrators to proactively mitigate session failures faced by users due to black hole machines. Machines that have failed to service four or more consecutive session requests are termed as Black hole machines. With black hole failure alerting, administrators need not log into Performance Analytics to know the session failures that occurred due to black hole machines.
Details of the machines and the session failures caused by them are sent in the alert mails to administrators. The **Black Hole Machines** alert policy must be enabled to receive these mails.



citrix

Citrix Analytics for Performance has detected New Black hole Machines

View latest Insights on Analytics

Citrix Analytics for Performance detected new black hole machines from June 27 2023, 11:00:00 to June 27 2023, 11:15:00 UTC

Customer Name [redacted]

Organization ID: [redacted]

Attention,

We have identified machines in black hole state which are currently leading to multiple consecutive session failures resulting in poor user experience.

1 BLACK HOLE MACHINE CAUSED 6 SESSION FAILURES

View machines

Patterns Detected

- 0 single-session OS machines
- 1 multi-session OS machines
- 1 machines on Delivery Group: **DGN-15th-June**

We recommend you to take following actions from Analytics console:

1. Check RDS license on multi-session OS machines.

2. Put the machine on maintenance mode.

3. Reboot.

View latest Insights on Analytics

Regards
Citrix Analytics for Performance team

PS: Insights on the User Experience dashboard might differ and will reflect the latest counts.

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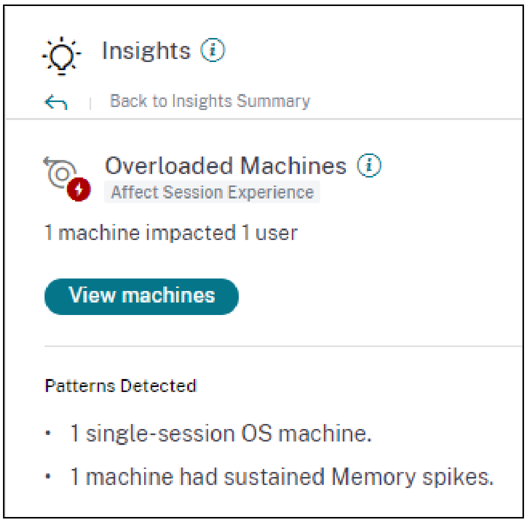
For more information about Black Hole Machine Alerts, see the Alerts article.

July 29, 2022

Overloaded Machines - Insights and Alerts

Insights on overloaded machines are available on the User Experience dashboard.



1 machine impacted 1 user

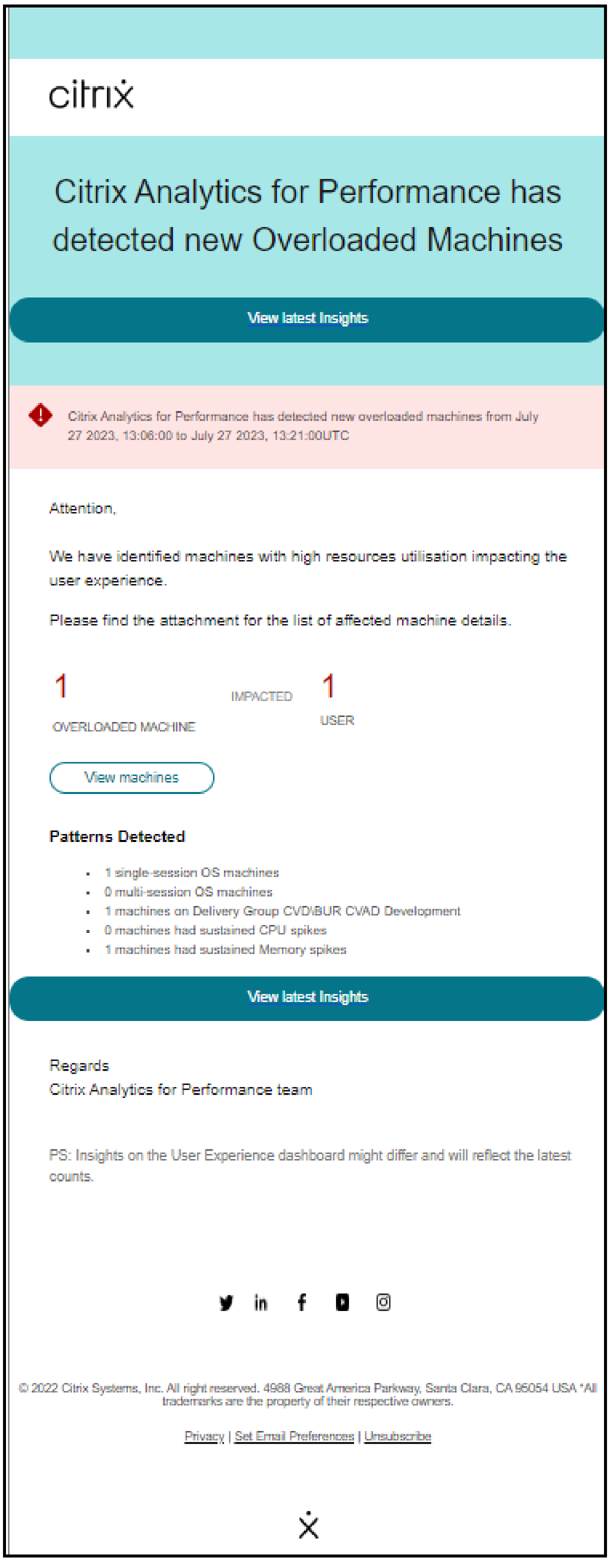
Patterns Detected

- 1 single-session OS machine.
- 1 machine had sustained Memory spikes.

Machines that have experienced sustained CPU spikes, or high memory usage, or both, that have lasted for 5 minutes or more, resulting in a poor user experience are considered to be overloaded. The Overloaded Machines insight shows the number of overloaded machines causing poor user experience and the number of users affected during the selected duration.

For more information, see Overloaded Machine Insights.

An Overloaded Machines alert mail is sent to administrators when a new overloaded machine is detected in the environment in a 15 mins interval. A re-alert mail is sent if the same machine remains in the overloaded condition after 24 hours. The administrators are re-alerted up to three times regarding machines that continue to be overloaded. Pro-active alerting helps administrators who are not currently logged on to Citrix Analytics for Performance detect and handle overloaded resources.



Citrix Analytics for Performance has detected new Overloaded Machines

Citrix Analytics for Performance has detected new overloaded machines from July 27 2023, 13:06:00 to July 27 2023, 13:21:00UTC

Attention,

We have identified machines with high resources utilisation impacting the user experience.

Please find the attachment for the list of affected machine details.

1 OVERLOADED MACHINE

IMPACTED 1 USER

Patterns Detected

- 1 single-session OS machines
- 0 multi-session OS machines
- 1 machines on Delivery Group CVD\BUR CVAD Development
- 0 machines had sustained CPU spikes
- 1 machines had sustained Memory spikes

Regards
Citrix Analytics for Performance team

PS: Insights on the User Experience dashboard might differ and will reflect the latest counts.

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For more information, see Overloaded Machine Alerts.

July 18, 2022

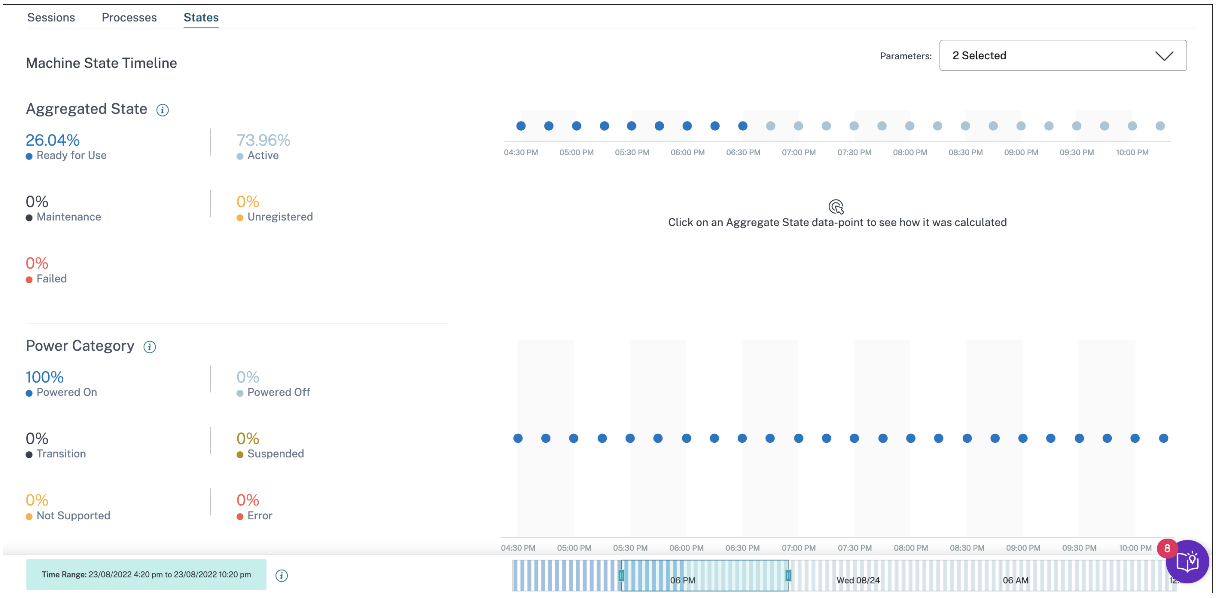
Machine States

The Machine Statistics page now includes information on Machine States. The **States** tab shows the timeline of **Machine Aggregated State** and **Machine Power Category** plotted at 15 min intervals for the last 24 hours.

Clicking an Aggregated State data point helps understand how it was calculated. A breakdown of the actual values of Machine State and Maintenance Mode that resulted in the plotted Aggregated State is displayed. This helps comprehend the machine's state changes over time. Failure Type and Deregistration Reason help debug machine issues.

Hover over the Power Category data point to see the actual Power State the machine has been in.

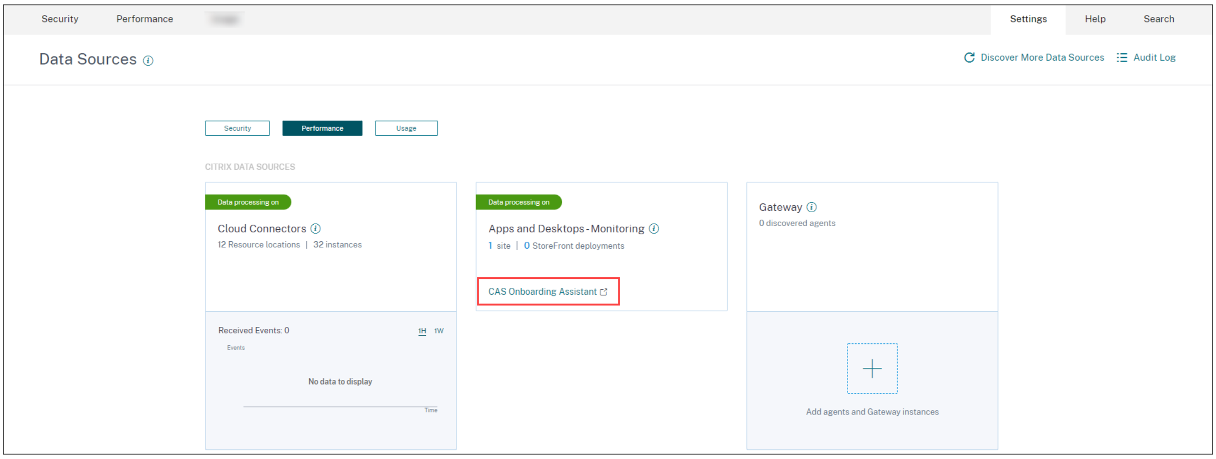
This feature helps slice and dice important parameters concerning the machines in the environment and spot inefficiencies easily. Along with the Sessions and Processes information already available in this view, the Aggregated State and Power Category transition over time gives in-depth information to troubleshoot machine issues.



For more information, see the Machine Statistics article.

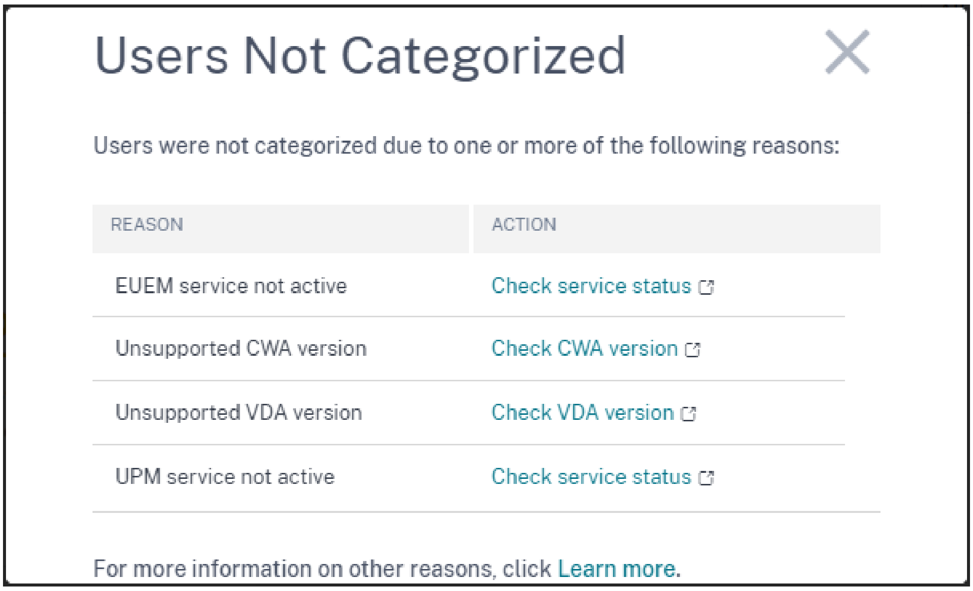
Citrix Analytics Service (CAS) Onboarding Assistant

The Citrix Analytics Service Onboarding Assistant tool helps troubleshoot issues while onboarding StoreFront with the Citrix Analytics service. The StoreFront server might fail to connect to Citrix Analytics after importing the configuration settings from Citrix Analytics to the StoreFront server. CAS Onboarding Assistant automates all the checks and prerequisites mentioned in the document, Unable to connect StoreFront server with Citrix Analytics. For more information on the usage and to download the tool, see the Knowledge Center article, Citrix Analytics Service Onboarding Assistant.



Reasons for Users or Sessions being Not Categorized

Users and sessions that cannot be classified into excellent, fair, or poor categories due to configuration issues or dependencies are classified as Not Categorized. The **Know more** link below the Not Categorized classification in the User Experience and Session Responsiveness trends displays the primary reasons for certain users and sessions not being categorized. This feature provides the clarity required to quickly discover and fix any configuration issues.



Users Not Categorized

Users were not categorized due to one or more of the following reasons:

REASON	ACTION
EUEM service not active	Check service status
Unsupported CWA version	Check CWA version
Unsupported VDA version	Check VDA version
UPM service not active	Check service status

For more information on other reasons, click Learn more.

For more information, see the Not Categorized article.

Jun 08, 2022

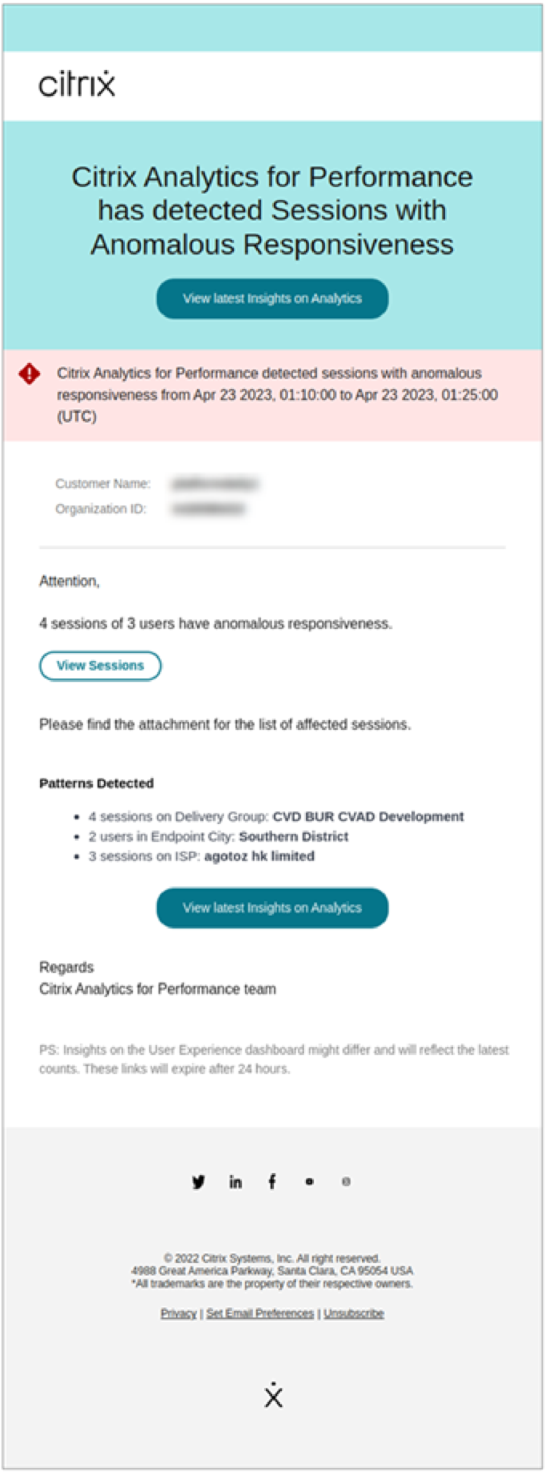
User and Session Classification in Percentages

The User Experience dashboard shows the classification of connected HDX users and sessions as excellent, fair, and poor. These numbers are now displayed in percentages as well.

Apr 28, 2022

Anomalous Latency Alerts

Poor in-session responsiveness is the primary cause for poor session experience. The Anomalous Latency Alerts feature alerts administrators when there is a significant deviation in the session latency values. The proactive alerting helps administrators identify specific locations or Delivery Groups from which poor sessions might be originating.



Citrix Analytics for Performance has detected Sessions with Anomalous Responsiveness

Citrix Analytics for Performance detected sessions with anomalous responsiveness from Apr 23 2023, 01:10:00 to Apr 23 2023, 01:25:00 (UTC)

Customer Name: [redacted]
Organization ID: [redacted]

Attention,

4 sessions of 3 users have anomalous responsiveness.

Please find the attachment for the list of affected sessions.

Patterns Detected

- 4 sessions on Delivery Group: **CVD BUR CVAD Development**
- 2 users in Endpoint City: **Southern District**
- 3 sessions on ISP: **agotoz hk limited**

Regards
Citrix Analytics for Performance team

PS: Insights on the User Experience dashboard might differ and will reflect the latest counts. These links will expire after 24 hours.

A machine learning model is used to determine the baseline latency value for all Delivery Group-Location pairs for a specific customer. The baseline latency value is calibrated every day based on the ICARTT values from the last three days. Any outlier measurements of ICARTT are ignored. If the measured ICARTT has a deviation of 60% or more from the baseline latency value, an alert is generated.

For more information, see the Alerts article.

Apr 20, 2022

Performance Analytics specific Custom Access roles

Custom Access Roles specific to Citrix Analytics for Performance are now available. As a Citrix Cloud administrator with Full access permission, you can invite other administrators to manage Performance Analytics in your organization using the following roles.

- **Performance Analytics- Full Administrator** - Assigns full access permission to the Citrix Cloud administrators of Performance Analytics.
- **Performance Analytics- Read-Only Administrator** - Assigns read-only access permission to the Citrix Cloud administrators of Performance Analytics.

You can provide read-only or full access permissions to your administrators and allow them to manage the various features of Performance Analytics. This update allows you to create administrators and provide access based on a specific Citrix Analytics offering.
The users with the Read Only Administrator role that was available earlier is now renamed to Security & Performance - Read Only Administrator.

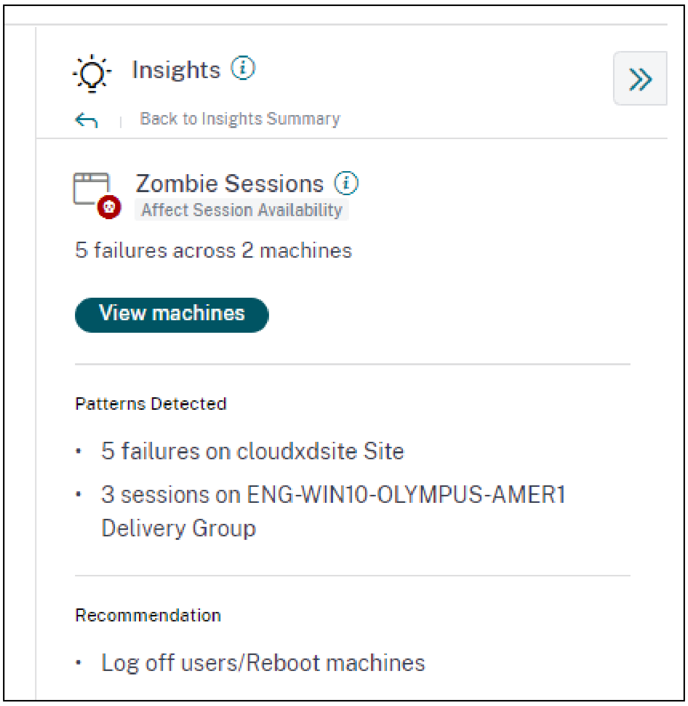
Read Only Performance Analytics users can access and use the User Experience and Infrastructure Dashboards like the Full Administrators. However, Machine Actions on the Machine Statistics page are disabled for read-only users. Administrators with read-only access will not receive alert notifications from Citrix Analytics.

For more information on the actions allowed on the Self-service view, see the Self-Service article.

Apr 14, 2022

Zombie Insights and Alerts

The Zombie Sessions subpane shows information on session failures that have occurred due to zombie sessions in the environment. A zombie session is an abandoned session on a single-session OS machine resulting in new session launches on the machine to fail. Attempts to launch sessions on this machine fails with an Unavailable Capacity error until the abandoned session is terminated. Zombie Sessions insights aim to help spot these machines with abandoned sessions, thus enabling proactive mitigation of these failures.



Insights

Back to Insights Summary

Zombie Sessions

Affect Session Availability

5 failures across 2 machines

View machines

Patterns Detected

- 5 failures on cloudxdsite Site
- 3 sessions on ENG-WIN10-OLYMPUS-AMER1 Delivery Group

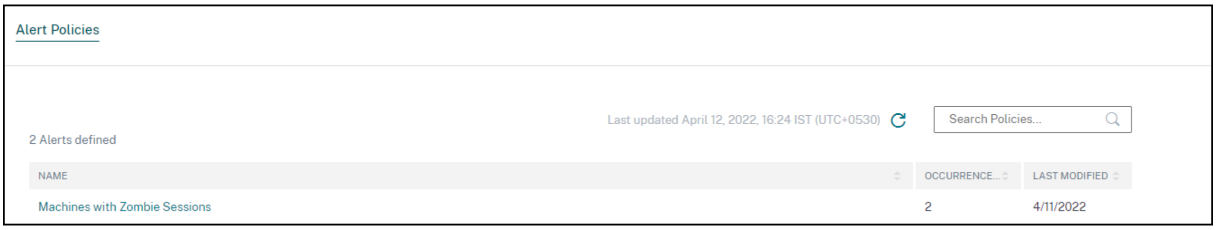
Recommendation

- Log off users/Reboot machines

A Zombie session alert mail is generated when a new machine with a zombie session is detected in the environment in a 15 mins interval. Alert mails are sent to full administrators who have enabled email notifications in Citrix Cloud.
Re-alerting on the same machine is done only if the same-abandoned session persists on the same machine for over 24 hours from the initial detection.

Clicking **View machines** displays the Self-service view filtered with the list of machines containing Zombie Sessions. Here, Failure Count represents the number of session failures that have occurred in the selected interval. The Last Failure Type and Reason help root cause reasons for machines containing zombie sessions.

You can disable the Machines with Zombie Sessions alert from the **Alert Policies** tab.



Alert Policies

Last updated April 12, 2022, 16:24 IST (UTC+0530)

Search Policies...

2 Alerts defined

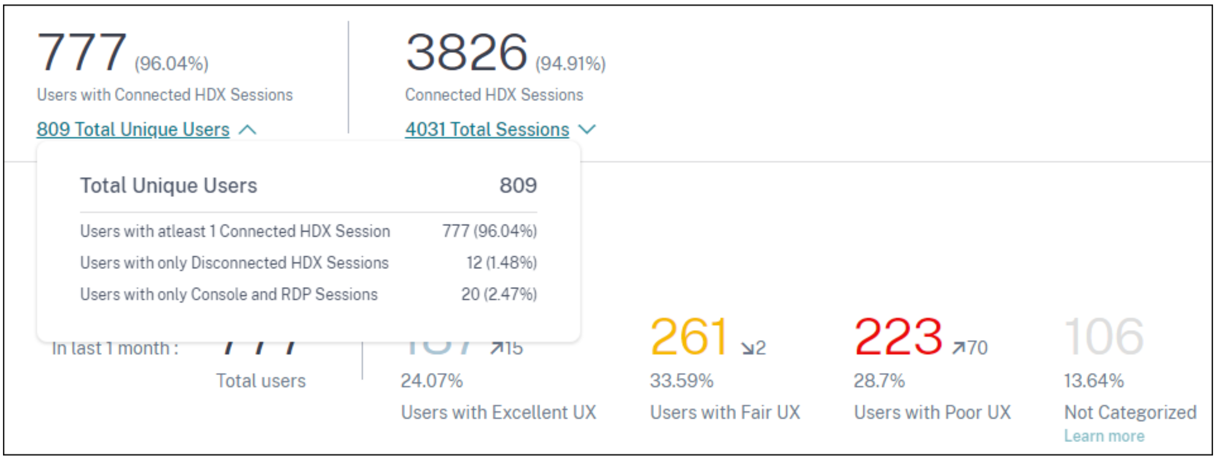
NAME	OCCURRENCE...	LAST MODIFIED
Machines with Zombie Sessions	2	4/11/2022

For more information, see Zombie sessions.

Apr 14, 2022

Breakup of Unique Users and Sessions Numbers

This feature brings more clarity to the **Not Categorized** numbers on the User Experience dashboard. The dashboard now shows the breakup of users and sessions in the virtual apps and desktops environment based on the session protocol and the connection status.



777 (96.04%)
Users with Connected HDX Sessions
809 Total Unique Users

3826 (94.91%)
Connected HDX Sessions
4031 Total Sessions

Total Unique Users	809
Users with atleast 1 Connected HDX Session	777 (96.04%)
Users with only Disconnected HDX Sessions	12 (1.48%)
Users with only Console and RDP Sessions	20 (2.47%)

In last 1 month :
Total users

↗15
24.07%
Users with Excellent UX

261 ↘2
33.59%
Users with Fair UX

223 ↗70
28.7%
Users with Poor UX

106
13.64%
Not Categorized
Learn more

The dashboard provides performance metrics for only connected HDX sessions. Sessions that have been disconnected throughout during the selected period indicates that the user was not active for the entire selected period. Hence, Session and User Experience scores are not applicable for disconnected sessions.

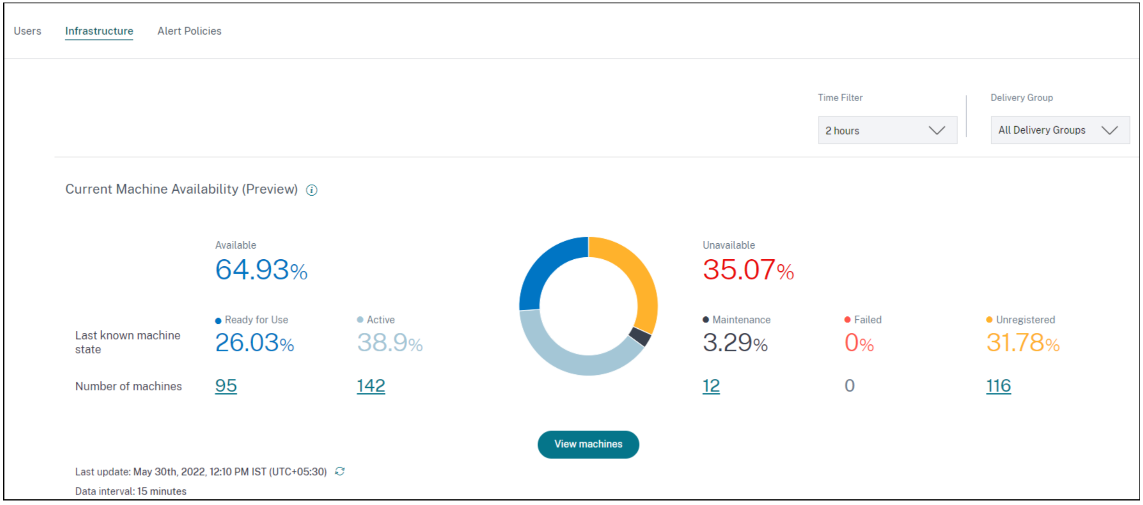
With this feature, disconnected sessions and users are no longer in the Not Categorized classification. They are now available in the breakup. This reduces the number of users and sessions in the overall Not Categorized classification. For more information, see Breakup of Users and Sessions.

Apr 14, 2022

Infrastructure Dashboard Enhancements

The Infrastructure dashboard that shows the availability and performance analytics for virtual machines in your apps and desktops environment has the following enhancements.

- The Infrastructure dashboard is now enhanced to show the **current availability** of virtual machines. This enhancement gives an overview of the number of machines currently serving users and the number of machines that are unavailable for various reasons. The machine counts in the last known Available machine states (Ready for Use, Active) and Unavailable machine states (Maintenance, Unregistered and Failed) is displayed for the last instance (15 minutes).



Users Infrastructure Alert Policies

Time Filter: 2 hours

Delivery Group: All Delivery Groups

Current Machine Availability (Preview)

Available 64.93%

Unavailable 35.07%

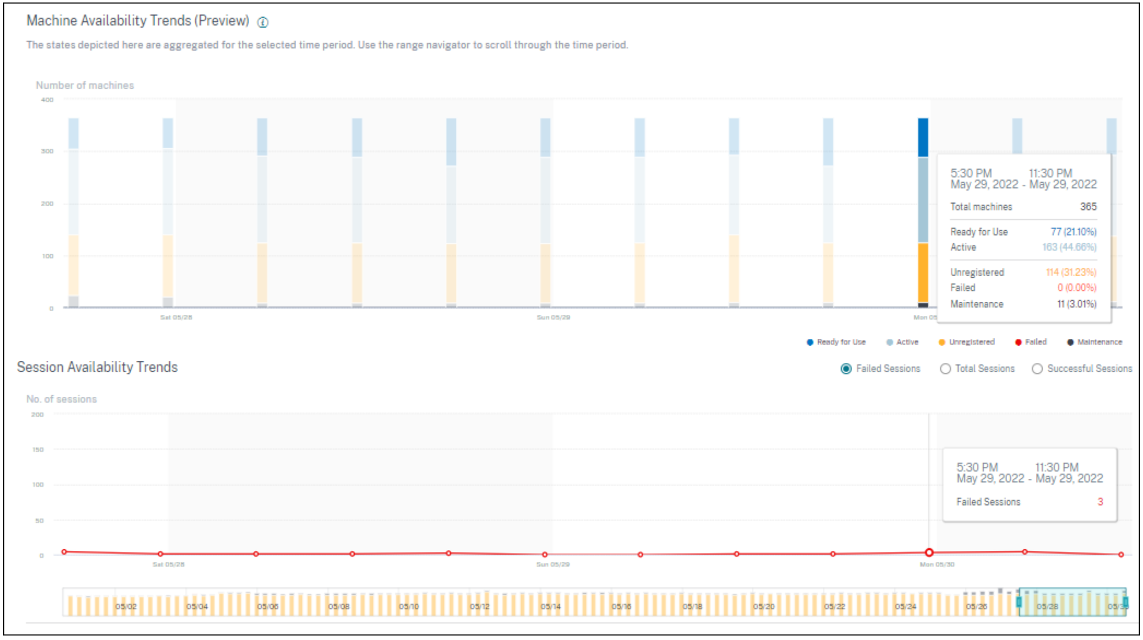
	Ready for Use	Active	Maintenance	Failed	Unregistered
Last known machine state	26.03%	38.9%	3.29%	0%	31.78%
Number of machines	95	142	12	0	116

View machines

Last update: May 30th, 2022, 12:10 PM IST (UTC+05:30)

Data interval: 15 minutes

- Clicking the machine count opens the Machine Self-service view with the list of machines in the selected state for the last 15 minutes.
- The Machine Availability trend now plots machine counts in **aggregated states** for the selected period. The aggregated state is the least favorable state that the machine has been in, from among the Ready for Use, Active, Maintenance, Unregistered and Failed states. You can drill down from a specific section on the graph to view details of machines in a specific aggregated state on the Machine self-service view. The Machine Availability trend helps check the number of machines in an aggregated state at a point in time. When used alongside the Session Availability trend, it helps understand the impact of a resource crunch or an outage.



Machine Availability Trends (Preview)

The states depicted here are aggregated for the selected time period. Use the range navigator to scroll through the time period.

5:30 PM May 29, 2022 - 11:30 PM May 29, 2022

Total machines	365
Ready for Use	77 (21.10%)
Active	163 (44.66%)
Unregistered	114 (31.23%)
Failed	0 (0.00%)
Maintenance	11 (3.01%)

Session Availability Trends

◉ Failed Sessions ○ Total Sessions ○ Successful Sessions

5:30 PM May 29, 2022 - 11:30 PM May 29, 2022

Failed Sessions 3

- Trends for one-month and one-week periods are now plotted with a 6-hour granularity. You can zoom into the one month Machine and Sessions Availability trends using the time navigator in a 3–7 day range.

- The time navigator now reflects the Machine Availability trend. This helps identify time periods with a large number of unavailable machines, so you can easily navigate and zoom into the required period on the trend.
- The tool tips on Machines and Sessions Availability trends are synchronized to help understand the correlation between unavailable machines and failed sessions.
- The Machines Self-service view has a new facet called Aggregated State, to allow state-based filtering of machines. The view has the machine count displayed for the selected Aggregated States. You can now use the Aggregated State facet or click from the Availability trend, to see the list of machines that were in a specific aggregated state for the chosen time.
- New columns are added to the Machines self-service view - Last Known State, and the machine count in each of the selected Aggregated states.

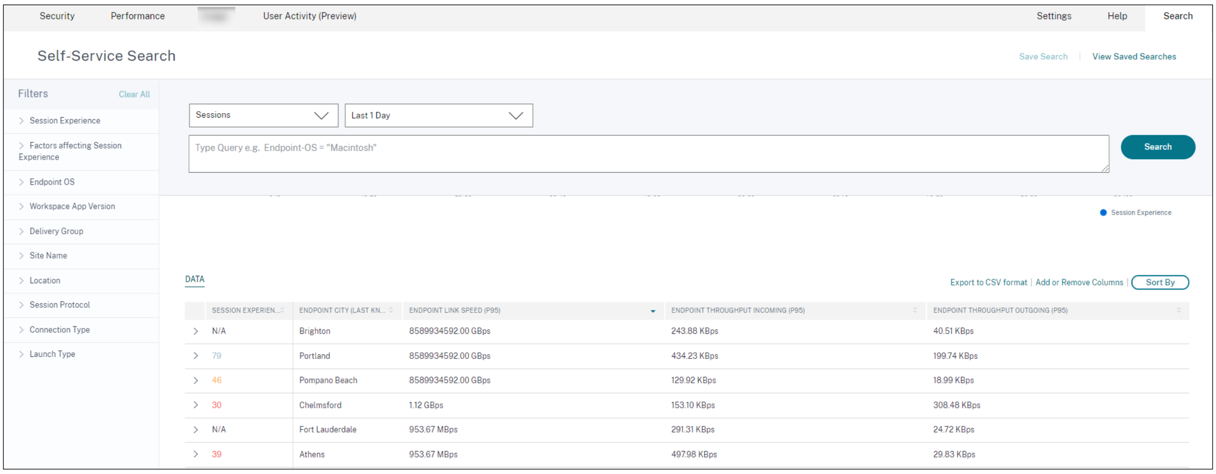
These enhancements help identify machines in a particular state currently or at a historical time period on the Machines Self-service view. They enable better troubleshooting of machines as they give higher granularity of data and help identify machines that need attention easily. For more information, see the Self-Service search for Machines and the Infrastructure Analytics articles.

Mar 08, 2022

Endpoint Network Statistics

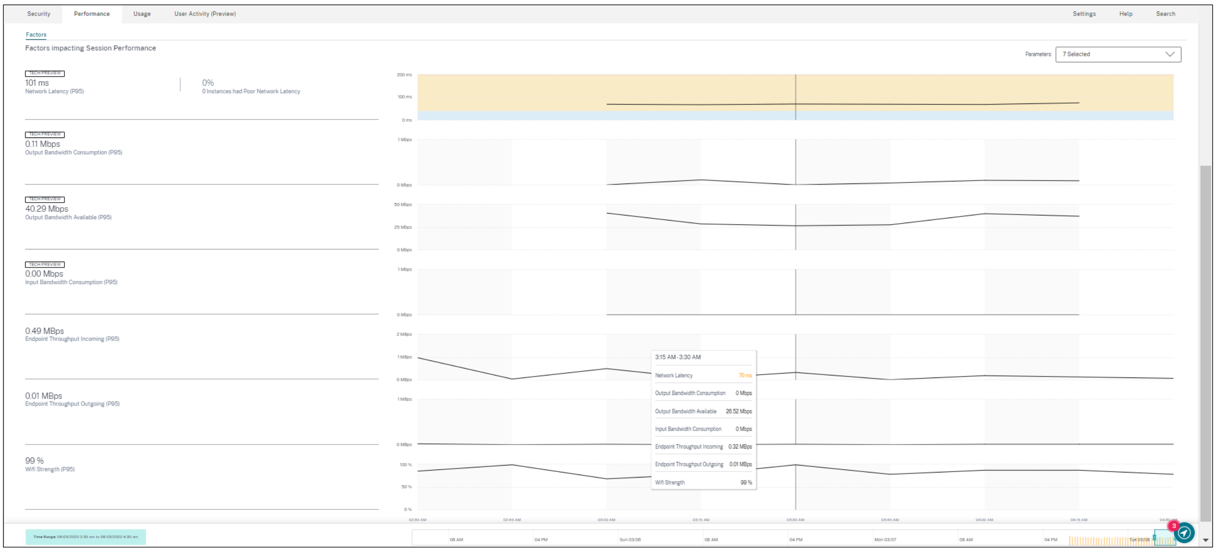
This feature provides more visibility into the client-side network, as several relevant metrics are added on the Sessions Self-service view and the Sessions Statistics view.

Endpoint Link Speed (P95), Endpoint Throughput Incoming (P95), Endpoint Throughput Outgoing (P95) are introduced as optional columns on the Sessions Self-service view.



SESSION EXPERIEN...	ENDPOINT CITY (LAST KN...	ENDPOINT LINK SPEED (P95)	ENDPOINT THROUGHPUT INCOMING (P95)	ENDPOINT THROUGHPUT OUTGOING (P95)
N/A	Brighton	8589934592.00 GBps	243.88 KBps	40.51 KBps
79	Portland	8589934592.00 GBps	434.23 KBps	199.74 KBps
46	Pompano Beach	8589934592.00 GBps	129.92 KBps	18.99 KBps
30	Chelmsford	1.12 GBps	153.10 KBps	308.48 KBps
N/A	Fort Lauderdale	953.67 MBps	291.31 KBps	24.72 KBps
39	Athens	953.67 MBps	497.98 KBps	29.83 KBps

The Session Statistics page now displays the **P95 values of WiFi Signal Strength, Endpoint Throughput Incoming, and Endpoint Throughput Outgoing** in the **Factors** tab. Graphs of these metrics are plotted through the session duration.



Factors impacting Session Performance

TECH PREVIEW
101 ms
Network Latency (P95)

0%
0 Instances had Poor Network Latency

TECH PREVIEW
0.11 Mbps
Output Bandwidth Consumption (P95)

TECH PREVIEW
40.29 Mbps
Output Bandwidth Available (P95)

TECH PREVIEW
0.00 Mbps
Input Bandwidth Consumption (P95)

0.49 MBps
Endpoint Throughput Incoming (P95)

0.01 MBps
Endpoint Throughput Outgoing (P95)

99 %
Wifi Strength (P95)

3:15 AM - 3:30 AM

Network Latency	70 ms
Output Bandwidth Consumption	0 Mbps
Output Bandwidth Available	26.52 Mbps
Input Bandwidth Consumption	0 Mbps
Endpoint Throughput Incoming	0.32 MBps
Endpoint Throughput Outgoing	0.01 MBps
Wifi Strength	99 %

Time Range: 03/03/2022 2:30 am to 03/03/2022 4:30 am

You need endpoints running Citrix Workspace app for Windows version 7 2108 or later to view Endpoint Network metrics.

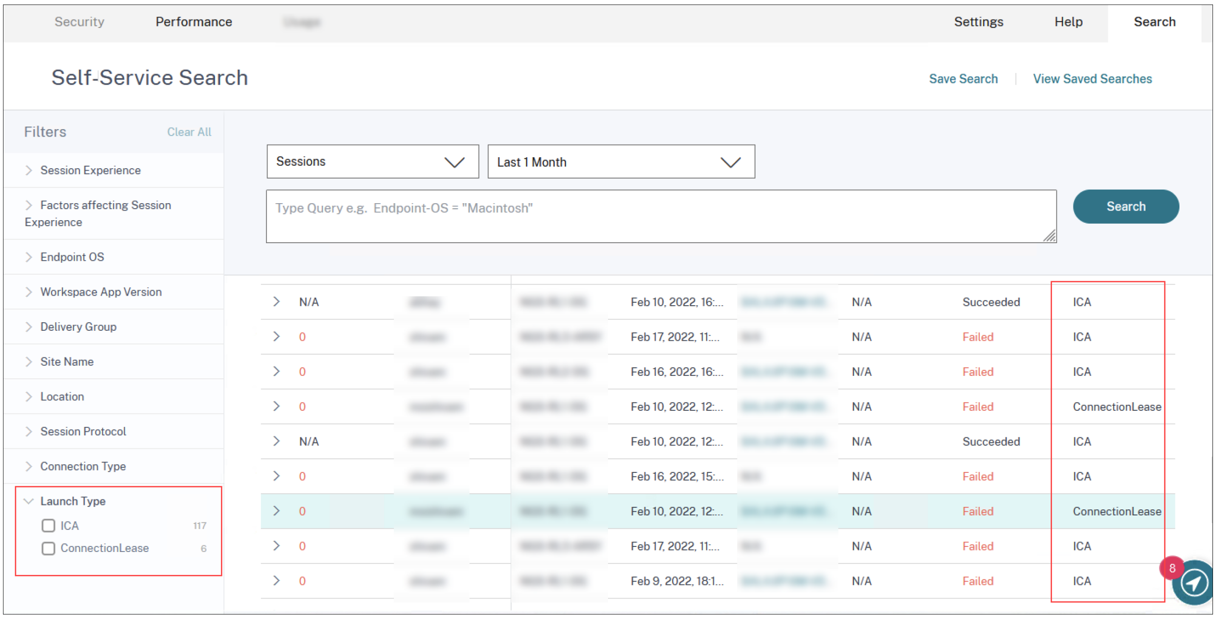
These metrics along with existing values of Network Interface Type, ISP, Bandwidth, Network Latency, Gateway, Connector, and Connector performance statistics help better triage the root cause of poor session experience.

For more information, see the Self-Service search and the Session Details articles.

Mar 07, 2022

Visibility into Connection leased sessions

This feature provides visibility into sessions that were launched via a Connection lease. During Cloud service outages, Citrix DaaS supports sessions to be launched via a Connection lease to maintain service continuity.
Connection leased sessions are displayed under the **Not Categorized** classification on the **User Experience** Dashboard. ICA RTT and logon duration metrics are not available for Connection leased sessions.



Self-Service Search

□ ICA 117
□ ConnectionLease 6

Sessions

Last 1 Month

Type Query e.g. Endpoint-OS = "Macintosh"

N/A	[redacted]	[redacted]	Feb 10, 2022, 16:...	[redacted]	N/A	Succeeded	ICA
0	[redacted]	[redacted]	Feb 17, 2022, 11:...	[redacted]	N/A	Failed	ICA
0	[redacted]	[redacted]	Feb 16, 2022, 16:...	[redacted]	N/A	Failed	ICA
0	[redacted]	[redacted]	Feb 10, 2022, 12:...	[redacted]	N/A	Failed	ConnectionLease
N/A	[redacted]	[redacted]	Feb 10, 2022, 12:...	[redacted]	N/A	Succeeded	ICA
0	[redacted]	[redacted]	Feb 16, 2022, 15:...	[redacted]	N/A	Failed	ICA
0	[redacted]	[redacted]	Feb 10, 2022, 12:...	[redacted]	N/A	Failed	ConnectionLease
0	[redacted]	[redacted]	Feb 17, 2022, 11:...	[redacted]	N/A	Failed	ICA
0	[redacted]	[redacted]	Feb 9, 2022, 18:1...	[redacted]	N/A	Failed	ICA

You can see the classification of sessions as ICA based or Connection leased using the Launch Type facet on the Sessions Self-service view.
The optional column, Launch Type on the Session Self-service table shows if sessions are ICA based or Connection leased.
This feature helps find the number of sessions that were launched via Connection Lease. You can use the failure reason to troubleshoot Connection leased sessions that have failed to launch.

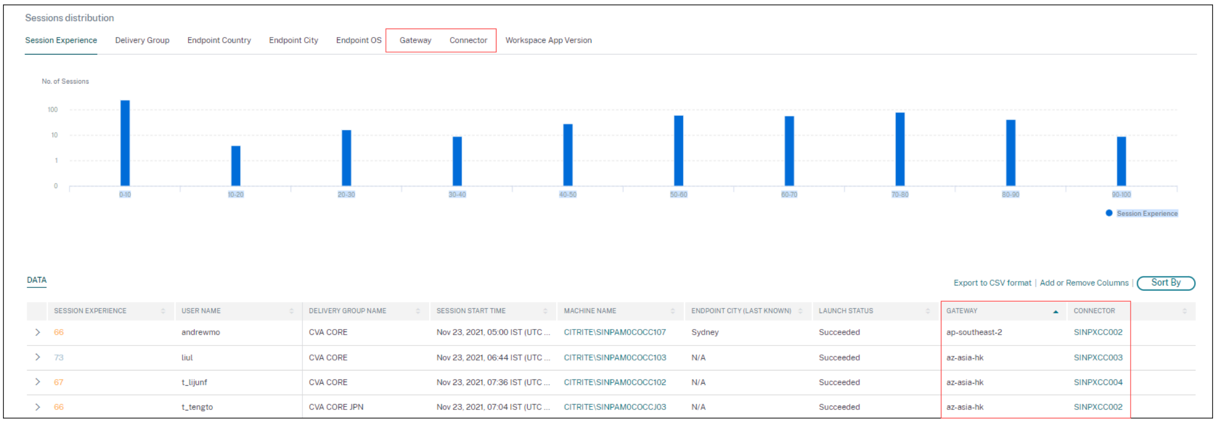
Feb 21, 2022

Connector and Gateway PoP Statistics

Citrix Analytics for Performance now has the **Connector and the Gateway Points of Presence (PoPs)** names displayed on the Session Self-service view as optional columns for all launched sessions.

This data helps identify Connectors and Gateway PoPs through which sessions are routed. This information helps check if sessions with poor responsiveness are routed through specific Connectors or Gateway PoPs. Based on the user location, you can further identify if the user session was routed through the right Gateway PoP for optimal performance. If the session has been routed through a Gateway PoP farther away from the location, you can check the DNS configuration.

The pivots for Connector and Gateway PoP on the Visual summary help triage poor sessions that might all be routed through a single Gateway PoP or Connector.



	SESSION EXPERIENCE	USER NAME	DELIVERY GROUP NAME	SESSION START TIME	MACHINE NAME	ENDPOINT CITY (LAST KNOWN)	LAUNCH STATUS	GATEWAY	CONNECTOR
>	66	andrewmo	CVA CORE	Nov 23, 2021, 05:00 IST (UTC ...	CITRITE\SINPAM0COCC107	Sydney	Succeeded	ap-southeast-2	SINPXCC002
>	73	liul	CVA CORE	Nov 23, 2021, 06:44 IST (UTC ...	CITRITE\SINPAM0COCC103	N/A	Succeeded	az-asia-hk	SINPXCC003
>	67	t_lijunf	CVA CORE	Nov 23, 2021, 07:36 IST (UTC ...	CITRITE\SINPAM0COCC102	N/A	Succeeded	az-asia-hk	SINPXCC004
>	66	t_tengto	CVA CORE JPN	Nov 23, 2021, 07:04 IST (UTC ...	CITRITE\SINPAM0COCCJ03	N/A	Succeeded	az-asia-hk	SINPXCC002

The value of the **Connector** might be N/A for any of the following reasons:

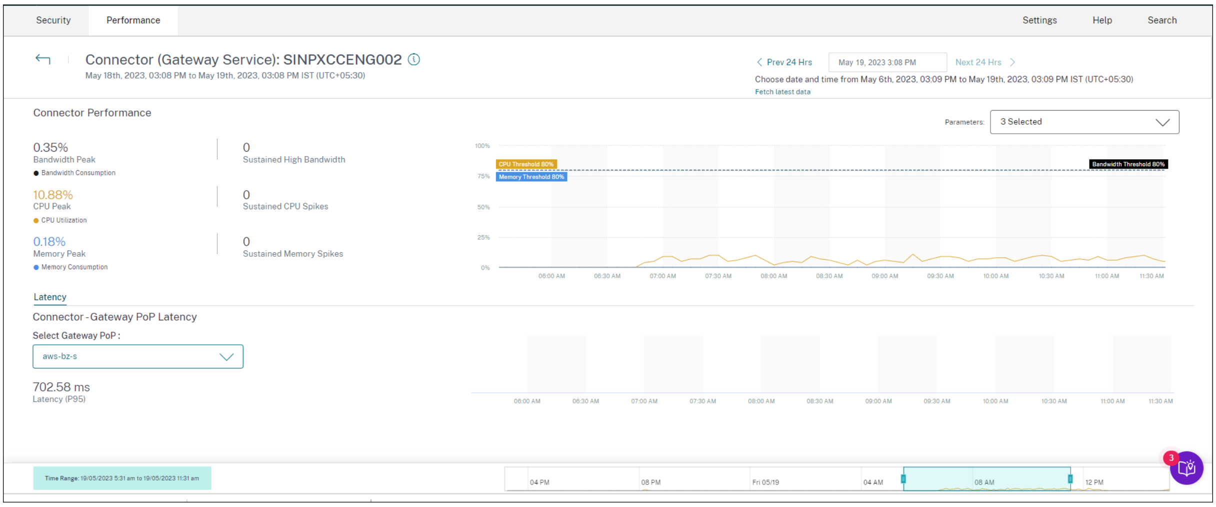
- There was a delay in receiving Connector events.
- Cloud Connector version is earlier than 16.0.0.7.

Also, ensure that the data processing via your Cloud Connectors is on. To do this, you can check the **Data processing on** state on the Cloud Connectors tile from the **Performance** tab in **Citrix Analytics** > **Data Sources**.

For more information, see the **Connector and Gateway** column descriptions in the Self-Service search article.

Connector Statistics View

A comprehensive view of the performance metrics of connectors is now available in Citrix Analytics for Performance. Clicking the connector name leads to the **Connector Statistics view**.



Connector (Gateway Service): SINPXCCENG002

May 18th, 2023, 03:08 PM to May 19th, 2023, 03:08 PM IST (UTC+05:30)

May 19, 2023 3:08 PM

Choose date and time from May 6th, 2023, 03:09 PM to May 19th, 2023, 03:09 PM IST (UTC+05:30)

Connector Performance

Parameters: 3 Selected

0.35% Bandwidth Peak (● Bandwidth Consumption) | 0 Sustained High Bandwidth

10.88% CPU Peak (● CPU Utilization) | 0 Sustained CPU Spikes

0.18% Memory Peak (● Memory Consumption) | 0 Sustained Memory Spikes

Latency

Connector - Gateway PoP Latency

Select Gateway PoP : aws-bz-s

702.58 ms Latency (P95)

Time Range: 19/05/2023 5:31 am to 19/05/2023 11:31 am

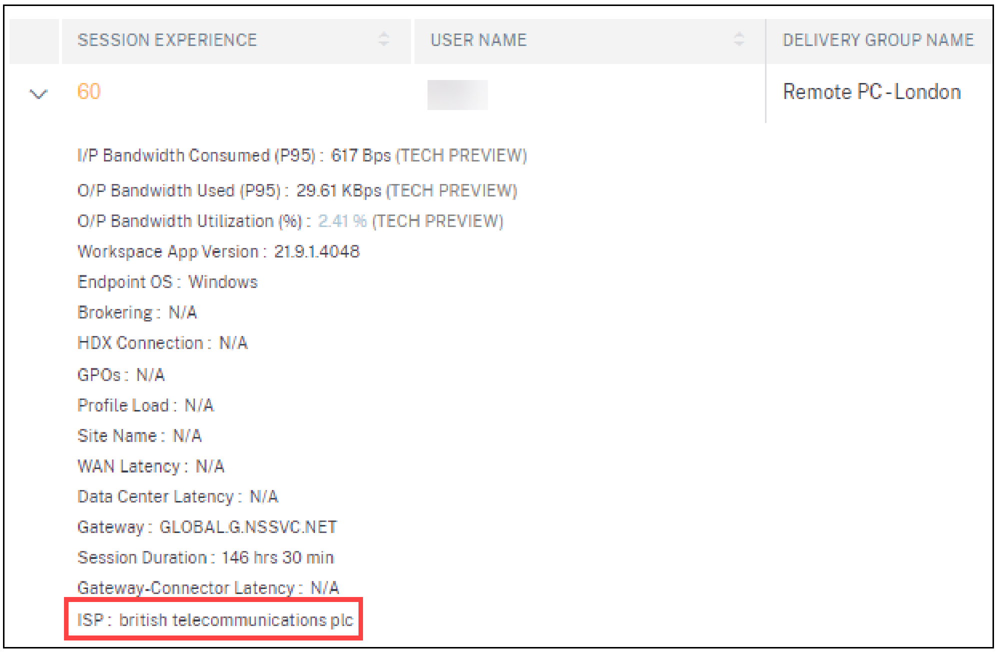
Connector Statistics view provides a summary of the connector performance in terms of its resources - bandwidth, CPU, and memory consumed for a selected connector in the last 24 hours. The peak percentages of each metric consumed in the connector along with the number of instances when the metric crossed the threshold value is displayed. The graph plots this data over the 24 hour period available at a 15-minute granularity.

Resource consumption on the connector affects session launches and end user experience. This feature helps admins root cause issues of session failures and poor latency due to high resource consumption on the connector. For more information, see the Connector Statistics article.

Dec 20, 2021

Client Side statistics: Internet Service Provider (ISP)

The name of the ISP serving the endpoints is available on the Sessions self-service view when you expand a session row.



SESSION EXPERIENCE	USER NAME	DELIVERY GROUP NAME
60	[redacted]	Remote PC - London

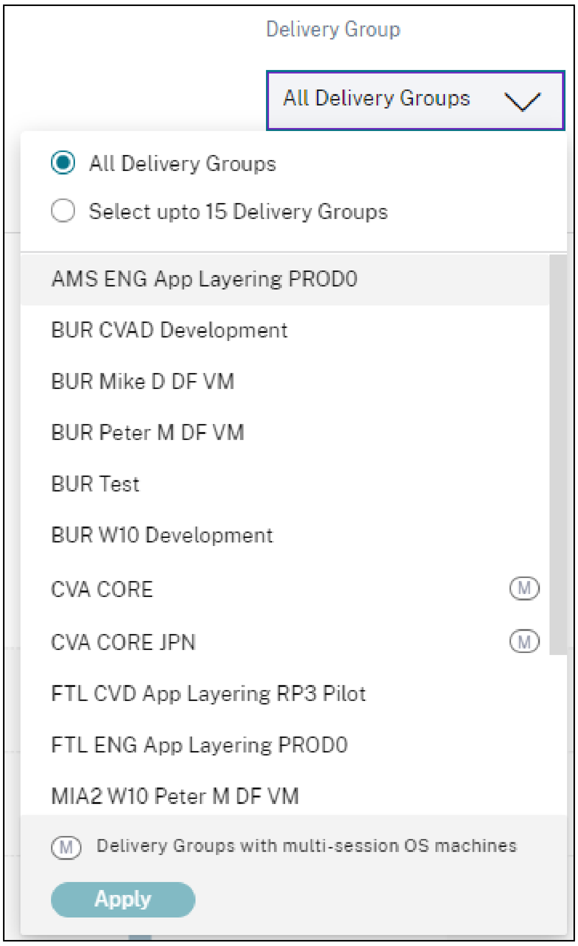
I/P Bandwidth Consumed (P95) : 617 Bps (TECH PREVIEW)
O/P Bandwidth Used (P95) : 29.61 KBps (TECH PREVIEW)
O/P Bandwidth Utilization (%) : 2.41 % (TECH PREVIEW)
Workspace App Version : 21.9.1.4048
Endpoint OS : Windows
Brokering : N/A
HDX Connection : N/A
GPOs : N/A
Profile Load : N/A
Site Name : N/A
WAN Latency : N/A
Data Center Latency : N/A
Gateway : GLOBAL.G.NSSVC.NET
Session Duration : 146 hrs 30 min
Gateway-Connector Latency : N/A
ISP : british telecommunications plc

This feature helps you identify session performance issues that might be related to a specific ISP. This information is available with Citrix Workspace app for Windows versions 1912 and later. For more details regarding the availability of this feature with Citrix Workspace app for other OS, see the Workspace app matrix. For more information regarding the metrics available on the Session Self-service view, see the Sessions self-service article.

Dec 17, 2021

Delivery Group-Based Filtering

Citrix Analytics for Performance now has Delivery Group-based filtering in addition to the existing Site and Time period-based filters. Delivery group-based filtering enables you to view performance data belonging to the selected Delivery Groups. This filter helps focus on a specific selected set of Delivery Groups and hence, aids to root cause poor session experience in sessions running on them.



Delivery Group: All Delivery Groups

● All Delivery Groups

○ Select upto 15 Delivery Groups

The **Delivery Group** drop-down list is available on the User Experience Dashboard. Here, the **All Delivery Groups** option is selected by default. You can also choose the **Select up to 15 Delivery Groups** option. The Search bar is available to search for specific Delivery Group names from the list.

Once the filter is applied, data relevant to these Delivery Groups is analyzed and displayed on the dashboard. The selection is retained upon drilling down from the dashboard into the factors page and then the self-service views. All views and reports show data belonging to the selected delivery groups.

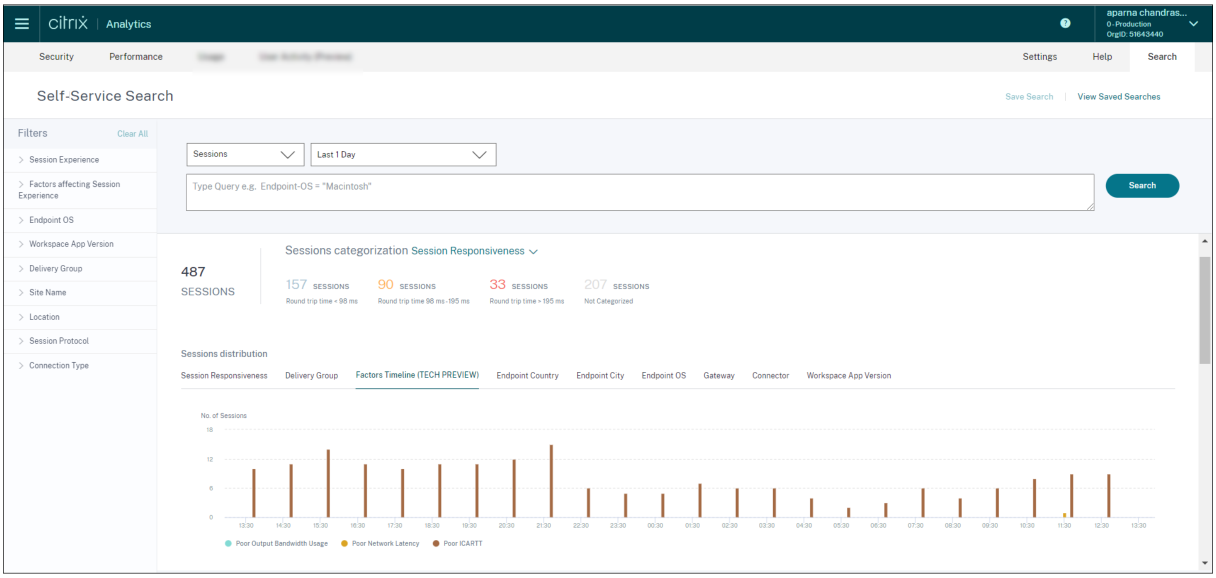
To make any updates to the Delivery Groups - like, addition, deletion, or rename - available in the drop-down list, refresh the page at least 15 minutes after the change.

For more information about the usage of the User Experience Dashboard, see the User Experience Analytics article.

Bandwidth and Network Latency Metrics (Preview)

Granular bandwidth and latency-related metrics that compose Session Responsiveness of your Cloud environment are now available in Citrix Analytics for Performance.

The Factors Timeline pivot is added in the **Session Distribution** section of the Sessions self-service view under the **Session Responsiveness** category. This pivot helps analyze sessions based on Poor Output Bandwidth Usage, Poor Network Latency, and Poor ICARTT.



Sessions

Last 1 Day

Type Query e.g. Endpoint-OS = "Macintosh"

487 SESSIONS

Sessions categorization Session Responsiveness

157 SESSIONS Round trip time < 98 ms

90 SESSIONS Round trip time 98 ms - 195 ms

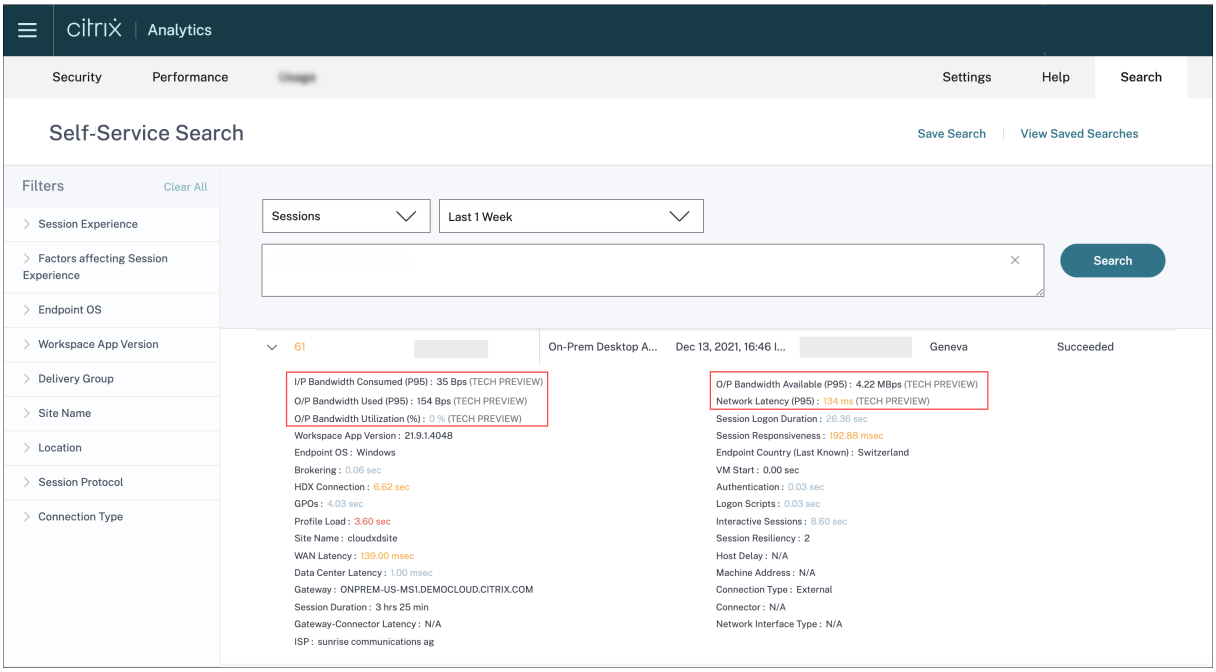
33 SESSIONS Round trip time > 195 ms

207 SESSIONS Not Categorized

The following bandwidth and network latency metrics are available on the tabular view when you expand the selected session row on the Sessions self-service view.

- P95 values of the bandwidth metrics - Input Bandwidth Consumed, Output Bandwidth Available, Output Bandwidth Used,
- Percentage value of Output Bandwidth Utilization, and
- P95 value of the Network Latency

You need machines running Citrix Virtual Apps and Desktops 7 2112 or later. These metrics are available out-of-the-box for Citrix DaaS and do not require any specific configuration.



Sessions | Last 1 Week

61 | On-Prem Desktop A... | Dec 13, 2021, 16:46 I... | Geneva | Succeeded

I/P Bandwidth Consumed (P95) : 35 Bps (TECH PREVIEW)
O/P Bandwidth Used (P95) : 154 Bps (TECH PREVIEW)
O/P Bandwidth Utilization (%) : 0 % (TECH PREVIEW)
Workspace App Version : 21.9.1.4048
Endpoint OS : Windows
Brokering : 0.06 sec
HDX Connection : 6.62 sec
GPOs : 4.03 sec
Profile Load : 3.60 sec
Site Name : cloudxdsite
WAN Latency : 139.00 msec
Data Center Latency : 1.00 msec
Gateway : ONPREM-US-MS1.DEMOCLOUD.CITRIX.COM
Session Duration : 3 hrs 25 min
Gateway-Connector Latency : N/A
ISP : sunrise communications ag

O/P Bandwidth Available (P95) : 4.22 MBps (TECH PREVIEW)
Network Latency (P95) : 134 ms (TECH PREVIEW)
Session Logon Duration : 26.36 sec
Session Responsiveness : 192.88 msec
Endpoint Country (Last Known) : Switzerland
VM Start : 0.00 sec
Authentication : 0.03 sec
Logon Scripts : 0.03 sec
Interactive Sessions : 8.60 sec
Session Resiliency : 2
Host Delay : N/A
Machine Address : N/A
Connection Type : External
Connector : N/A
Network Interface Type : N/A

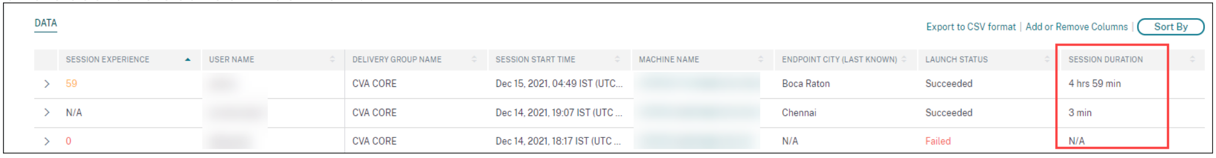
The Output Bandwidth Utilization and Network Latency metrics are color-coded based on whether they belong to the poor, fair, or excellent category.

The bandwidth and network latency metrics help analyze if a particular metric might be causing poor Session Responsiveness. The addition of these metrics helps Citrix Analytics for Performance serve as a single console of information to troubleshoot session performance issues.

For more information about the metrics available on the Sessions Self-service view, see the Sessions self-service article.

Session Duration in Sessions Self-Service View

Session Duration is now available on the Sessions self-service view. Use Add or Remove Columns to add Session Duration. The addition of this metric helps get a holistic view of the session metrics from the Sessions self-service view.

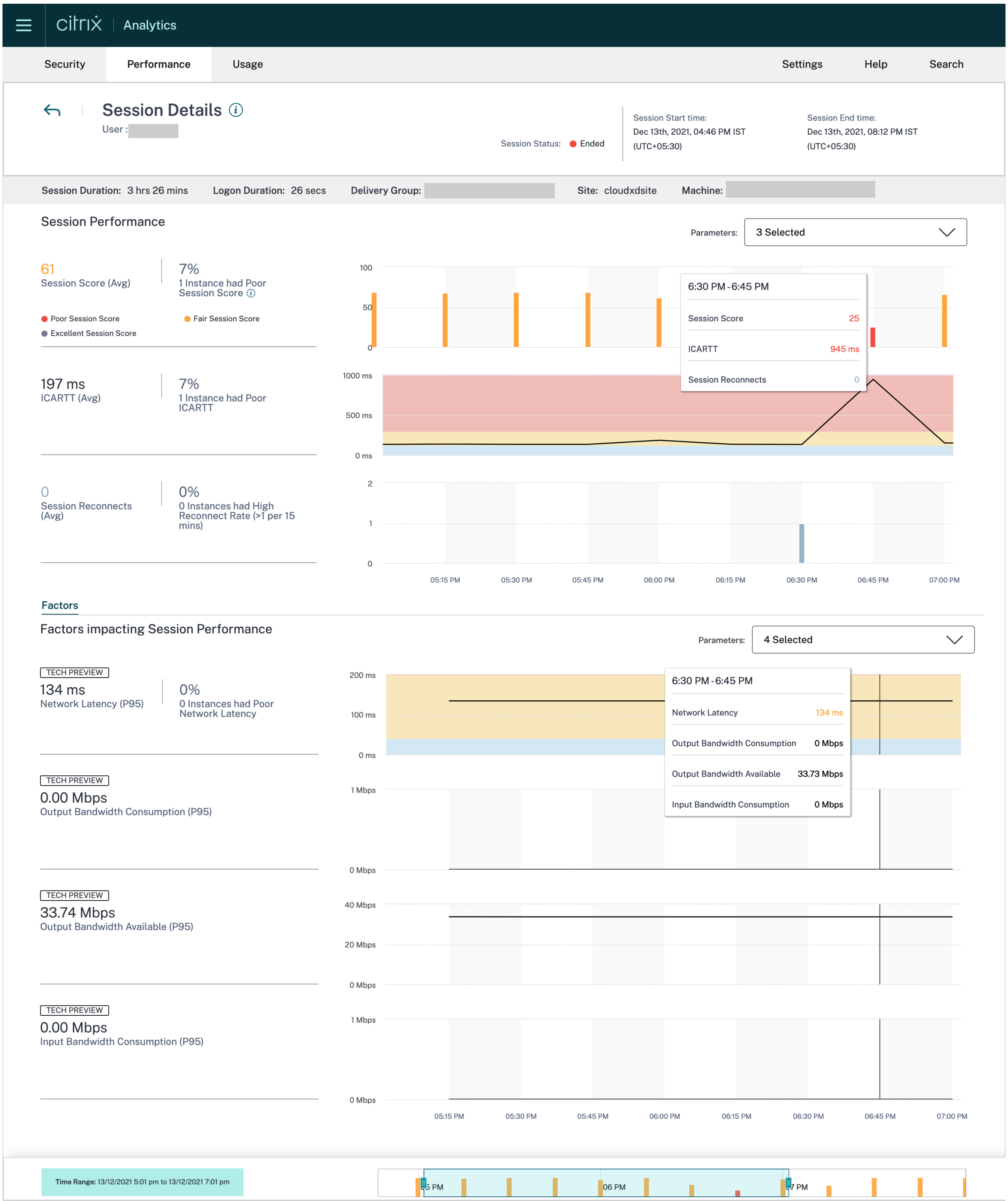


SESSION EXPERIENCE	USER NAME	DELIVERY GROUP NAME	SESSION START TIME	MACHINE NAME	ENDPOINT CITY (LAST KNOWN)	LAUNCH STATUS	SESSION DURATION
59	[redacted]	CVA CORE	Dec 15, 2021, 04:49 IST (UTC...	[redacted]	Boca Raton	Succeeded	4 hrs 59 min
N/A	[redacted]	CVA CORE	Dec 14, 2021, 19:07 IST (UTC ...	[redacted]	Chennai	Succeeded	3 min
0	[redacted]	CVA CORE	Dec 14, 2021, 18:17 IST (UTC ...	[redacted]	N/A	Failed	N/A

For more information about the metrics available on the Sessions Self-service view, see the Sessions self-service article.

Session Details

The Session Details page provides a holistic view of the session performance metrics. Comprehensive session details and factors affecting the session performance are displayed for the session duration.



Session Details ⓘ

User : [redacted]

Session Status: ● Ended

Session Start time: Dec 13th, 2021, 04:46 PM IST (UTC+05:30)

Session End time: Dec 13th, 2021, 08:12 PM IST (UTC+05:30)

Session Duration: 3 hrs 26 mins Logon Duration: 26 secs Delivery Group: [redacted] Site: cloudxdsite Machine: [redacted]

Session Performance

Parameters: 3 Selected

61 Session Score (Avg)

7% 1 Instance had Poor Session Score ⓘ

● Poor Session Score ● Fair Session Score ● Excellent Session Score

197 ms ICARTT (Avg)

7% 1 Instance had Poor ICARTT

0 Session Reconnects (Avg)

0% 0 Instances had High Reconnect Rate (>1 per 15 mins)

6:30 PM - 6:45 PM	
Session Score	25
ICARTT	945 ms
Session Reconnects	0

Factors

Factors impacting Session Performance

Parameters: 4 Selected

TECH PREVIEW 134 ms Network Latency (P95)

0% 0 Instances had Poor Network Latency

TECH PREVIEW 0.00 Mbps Output Bandwidth Consumption (P95)

TECH PREVIEW 33.74 Mbps Output Bandwidth Available (P95)

TECH PREVIEW 0.00 Mbps Input Bandwidth Consumption (P95)

6:30 PM - 6:45 PM	
Network Latency	134 ms
Output Bandwidth Consumption	0 Mbps
Output Bandwidth Available	33.73 Mbps
Input Bandwidth Consumption	0 Mbps

Time Range: 13/12/2021 5:01 pm to 13/12/2021 7:01 pm

This view gives visibility into session factors like ICARTT, Session Reconnects, bandwidth metrics, and network latency. These factors are plotted along with the Session Score for the selected period. The

Session Details view helps correlate the impact of available bandwidth and network latency on ICARTT and Session Score.

You need machines running Citrix Virtual Apps and Desktops 7 2112 or later to view the bandwidth and network latency metrics. For more information on the Session Details page see Session Details.

Dec 6, 2021

Automated onboarding for the Asia Pacific South region

Citrix Analytics for Performance is now onboarded automatically for trial customers and subscription-based customers in the Asia Pacific South (APS) region. The access does not require a request or manual onboarding by customers. For more information on the regions supported in Citrix Cloud, see Geographical considerations.
To access Performance Analytics from the APS region, choose the Asia Pacific South region while onboarding your tenant to Citrix Cloud. Once you log on to Citrix Cloud, select your tenant in the APS region of Citrix Cloud and use the `https://analytics-aps.cloud.com` URL to access your Citrix Analytics Cloud Service.

- Citrix Analytics for Performance now stores the user events and metadata of your organization in the Asia Pacific South region when you choose it as your home region. For more information, see Data governance.
- For information about the network requirements for the Asia Pacific South region, see Technical security overview.

For more information on accessing Performance Analytics see Access.

Nov 18, 2021

Overloaded Machines factor availability

The Overloaded Machines factor section is now available only for the 2 hours, 12 hours and 1 day ranges. The feature is disabled for 1 week and 1 month time periods for optimization. For more information, see Overloaded Machines.

Sep 13, 2021

Support for the Asia Pacific South region

Citrix Analytics for Performance now supports the Asia Pacific South (APS) region. For more information on the regions supported in Citrix Cloud, see Geographical considerations.

To access Performance Analytics from the APS region,

1. Choose the Asia Pacific South region while onboarding your tenant to Citrix Cloud.
2. Fill the Registration for Citrix Analytics for Performance in the APS Plane Podio form for a trial or a paid entitlement to Performance Analytics from your tenant in the APS region. You will be notified by mail upon successful allocation.
3. After you log on to Citrix Cloud, select your tenant in the APS region of Citrix Cloud and use the `https://analytics-aps.cloud.com` URL to access your Citrix Analytics Cloud Service.

For more information on accessing Performance Analytics see Access.

Aug 12, 2021

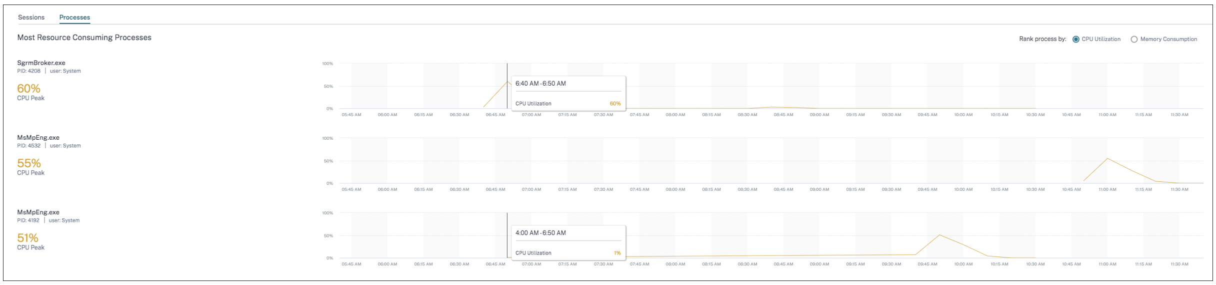
Client Side statistics: Network Interface Type

The **Network Interface Type** column is added to the tabular data on the Sessions self-service view. This field provides visibility into the client side network and helps root cause if poor session experience is due to issues at the endpoint device or the client side network. The value of this field is N/A for endpoints running Citrix Workspace app Windows version earlier than 2105. For more information, see the Self-service search for Sessions section.

July 29, 2021

Visibility into most resource consuming processes

Citrix Analytics for Performance provides visibility into processes contributing to high resource consumption. This is an important insight for admins to analyze the impact of these processes on user performance.
This feature is available for multi-session OS machines in the **Machine Statistics** page under the **Processes** tab. You can choose to view the processes ranked as per **CPU Utilization** or **Memory Consumption**. The three most resource consuming processes are displayed with percentage CPU or Memory Peak as selected. Charts plot CPU Utilization or Memory Consumption by the process across the selected time period. This feature requires that you enable the **Process Monitoring policy** from Citrix Studio.



For more information, see Process visibility.

June 10, 2021

Color coding on Session-based self-service view

Tabular data on the Session-based self-service view is color-coded to indicate the excellent, fair, or poor category the metrics belong to. This categorization is based on the individual threshold levels of the metrics. The thresholds are calculated dynamically. For more information, see [How are Dynamic Thresholds calculated?

Similar color coding is applied to the metrics available on expanding the rows in the Session-based self-service view.

Color coding visually aids in focusing on and identifying factors that are contributing to poor performance. It also gives an overview of the performance across various factors for the sessions that have been filtered to be seen in the current view.

Machine Actions and Composite Actions

Citrix Analytics for Performance provides actions you can perform on power managed machines in your Citrix DaaS Sites on Cloud. Admins with Full Administrator access can perform Machine Actions on identified machines. This capability helps simplify the task of admins having to monitor and take a sequence of actions on a machine with performance issues.
Machine Actions - start, restart, turn maintenance mode on or off, shut down the machine - are accessible from the Machines Analysis page of the respective machine. Also available are Composite Actions that combine more than one action to help admins bring affected machines back to availability with a single click.
This feature avoids admins shifting to other consoles, like the Web Studio or Citrix Director, to perform these actions. The feature is the key to close the loop when it comes to troubleshooting and solving issues related to machine performance.

For more information, see Machine Actions and Composite Actions.

May 12, 2021

Infrastructure Analytics Dashboard - Enhancements

In this release, Citrix Analytics for Performance provides an enhanced **Infrastructure Analytics Dashboard** to improve visibility into the overall availability of the machines. The new **Machine Availability** page displays the number of hours machines are available or unavailable across sites and Delivery Groups. Machine Availability displays information about machines that are **Available** and **Unavailable**. Available machines are further classified into **Ready for use** and **Active** states. Unavailable machines are classified into **Unregistered**, **Failed**, and **Maintenance** states. This information helps determine the availability of provisioned machines to serve sessions.

The Machine Availability trend shows the distribution of machines in various states across the selected time period. Also available is the sessions chart plotting the successful and failed sessions. This helps correlate unavailable machines with failed sessions.

The **Machine Performance** section provides information about the performance of Multi-session OS machines.

Additionally, you can use the custom time selection filter to zoom into the machine availability and machine performance for a specific duration within the selected time period.

For more information, see Infrastructure Analytics.

Apr 23, 2021

Failure Insights - Communication Error

In this release, Citrix Analytics for Performance provides insights into **Communication Error** as a part of **Failure Insights**.

The **Communication Error** sub-pane lists the number of session failures due to communication errors between the endpoint (where the user launches the session) and the machine. These errors can occur due to incorrect firewall configurations or other errors on the network path.

The two categories of communication errors are:

- Endpoint to machine —lists the sessions where communication errors have occurred between the endpoint and the machine.
- Gateway to machine —lists the sessions where communication errors have occurred between the gateway and the machine.

Additionally, the **Communication Error** sub-pane displays the following recommendations to resolve the errors.

- Check the firewall settings on the machine and gateway
- Check network connectivity between the machine and gateway

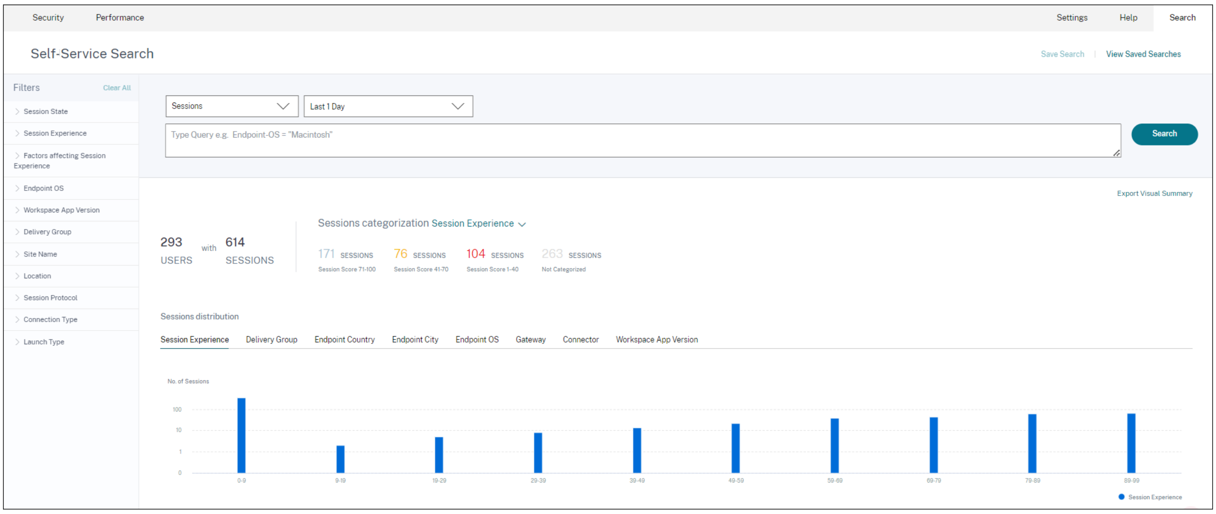
This feature is supported only on Citrix Workspace app 2103 and later.

For more information, see Communication Error.

Feb 2, 2021

Visual Summary io Sessions self-service view

Visual Summary of data is available on the Sessions self-service view. Visual Summary presents the raw data in the self-service tables as charts aimed at an improved visibility into the user experience.



Sessions

Last 1 Day

293 USERS with 614 SESSIONS

Sessions categorization Session Experience

171 SESSIONS Session Score 71-100

76 SESSIONS Session Score 41-70

104 SESSIONS Session Score 1-40

263 SESSIONS Not Categorized

The Visual Summary chart displays session categorization based on the chosen criteria. In addition, you can choose to view the session distribution pivoted on a specific parameter. This view helps identify session performance issues related to the pivots.

Use the visualization to identify patterns in data that can help troubleshoot specific issues.

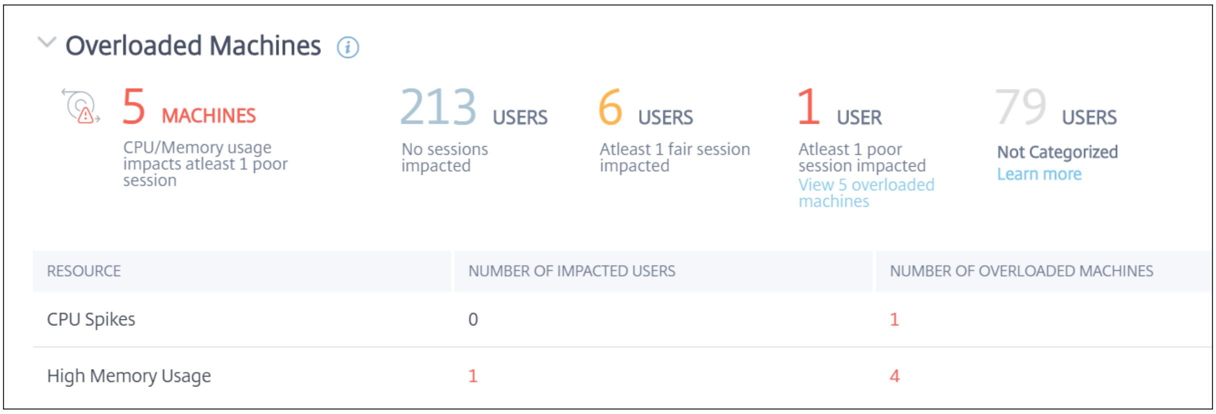
For more information, see the Self-service search for Sessions section in the Self-service article.

Jan 28, 2021

Overloaded Machines factor

Overloaded resources can cause high latency, high logon duration, and failures resulting in poor user experience. The **Overloaded Machines** factor, added on the User Experience (UX) factors page, gives visibility into the overloaded resources causing poor experience.

Machines that have experienced sustained CPU spikes, or high memory usage, or both, that have lasted for 5 minutes or more, resulting in a poor user experience in the selected duration are considered to be overloaded.



Overloaded Machines

5 MACHINES
CPU/Memory usage impacts atleast 1 poor session

213 USERS
No sessions impacted

6 USERS
Atleast 1 fair session impacted

1 USER
Atleast 1 poor session impacted
View 5 overloaded machines

79 USERS
Not Categorized
Learn more

RESOURCE	NUMBER OF IMPACTED USERS	NUMBER OF OVERLOADED MACHINES
CPU Spikes	0	1
High Memory Usage	1	4

The **Overloaded Machines** section shows:

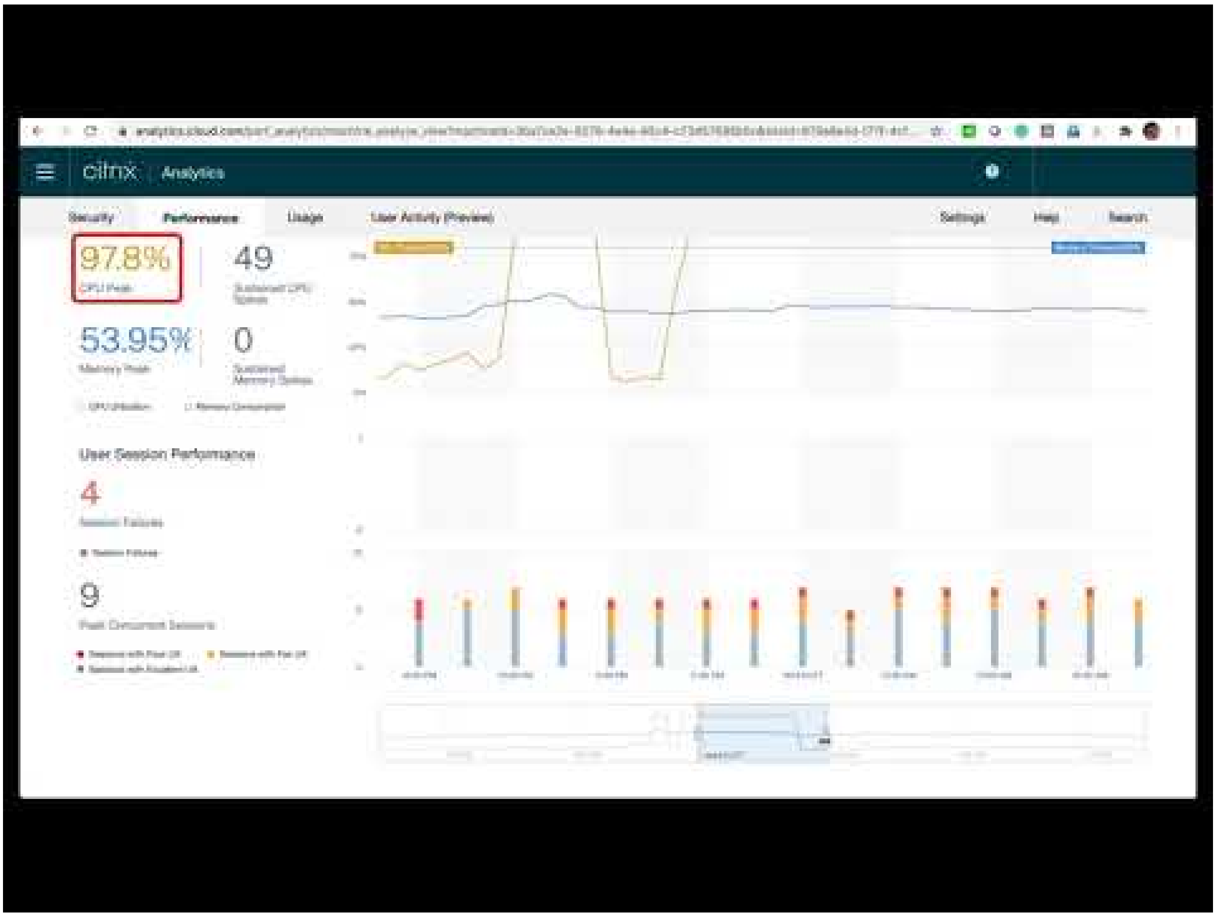
- The number of machines in which CPU or memory usage has impacted at least one poor session.
- The number of users affected due to the impact of overloaded CPU or memory on the session experience.
- Breakup of:
  - the number of machines affecting users with poor experience due to overloaded resources.
  - the number of users with poor experience impacted by CPU Spikes and High memory usage.

For more information, see the Overloaded Machines section in the User Experience Factors drilldown article.

- Clicking the number of overloaded users leads to the Users self-service view filtered to show users whose sessions are affected by the overloaded resources.
- Clicking the number of overloaded machines leads to the Machines self-service view filtered to show the chosen set of overloaded machines - based on classification, or based on the overloaded resource, CPU, or machine.

The Machines self-service view is enhanced with the Overloaded Machines and Overloaded CPU/Memory facets to help filter machines with overloaded resources. For more information, see Overloaded Machines in the Self-Service Search for Performance article.

This video shows a typical troubleshooting scenario using the Overloaded Machines factor.



Dec 16, 2020

User Experience Dashboard: Session count enhancements

A session breakup panel based on protocol is added to the User Experience dashboard. The breakup brings clarity into the total number of sessions launched on the Site versus the number of sessions analyzed in Performance Analytics.

The panel displays the following for the selected duration:

- the total number of unique users in the selected Sites,
- the total number sessions that have been active,
- individual HDX, Console, and RDP sessions.

Analytics relevant only to HDX sessions are available on the dashboard. For more information about the various sections on the dashboard, see the User Analytics article.

Performance metrics of all the sessions independent of protocol are available on the Users, and Sessions based self-service views. Use the Protocol facet to filter the results based on the session protocol.

For more information, see the Self-Service Search for Performance article.

User Experience Dashboard: Session classification clarity

Not Categorized users and sessions are displayed as a separate session category on the User Experience dashboard. This category in the User Experience Score, Session Responsiveness, and Session Logon Duration sections helps identify users and sessions that cannot be classified as experiencing excellent, fair, or poor performance. A session might not get classified if it is launched from a machine running an older Workspace app version, or if the session fails during the logon. For more information on specific reasons for **Not Categorized** sessions in individual sections on the dashboard, see,

- Users Not Categorized
- Sessions Not Categorized for Responsiveness
- Sessions Not Categorized for Logon Duration

Connection information

Connection failures are generally an important cause for performance degradation. Connection-related parameters are now available on the Self-service view for Sessions to help identify and troubleshoot connection failures easily.
The Self-Service view for Sessions includes **Connection Type** facet and column. Connection Type has values:

- **internal** –if the connection is direct without Gateway
- **external** –if the connection is through a Gateway

In addition, **Gateway FQDN** (for external connections) and **Machine Address** (for internal connections) are available as columns on the Self-service view for Sessions.

The Connection details are available for Endpoints running Citrix Workspace app version 20.12.0 or later for Windows. For all other endpoints, the Connection type is displayed as N/A.

For more information, see the Self-service search for Sessions article.

Endpoint Information enhancements

Endpoint parameters are added to the columns on the Users and Sessions based self-service views, in addition to the existing endpoint facets. This feature helps search users and sessions based on the endpoint parameters like the location, OS, and the Workspace app version. The parameters are also available in exported CSV files.
In addition, the location algorithm has been enhanced to return the last known location in cases where the latest location of the endpoint is not resolved.

- The Users and Sessions self-service view contains the location parameters Endpoint Country (last known), and Endpoint City (last known).
- The Sessions self-service view contains the location parameters Endpoint Country (last known), and Endpoint City (last known), Workspace app version, and Endpoint OS.

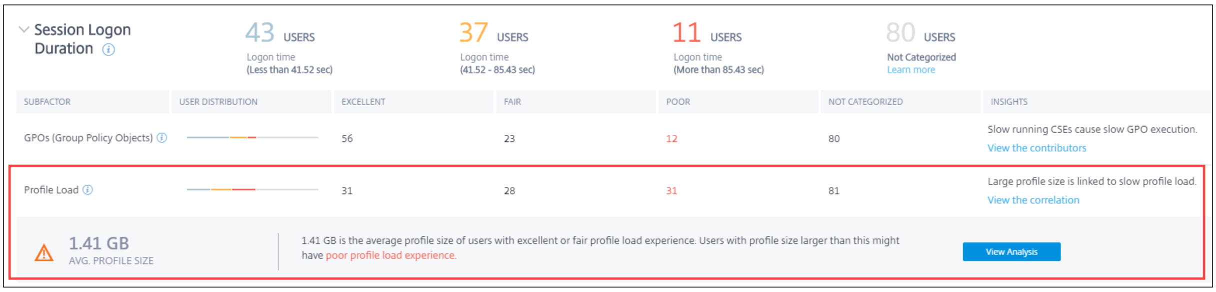
The addition of these columns helps define queries using the endpoint parameters. You can easily identify issues with performance that are endpoint specific like the location, Workspace app version, or OS.

For more information, see the Self-Service Search for Performance article.

Dec 15, 2020

Drilldown into Profile Load Insights

Profile load insights are updated with a drilldown to help identify users who have a poor logon experience due to large profile sizes.



Session Logon Duration

43 USERS
Logon time
(Less than 41.52 sec)

37 USERS
Logon time
(41.52 - 85.43 sec)

11 USERS
Logon time
(More than 85.43 sec)

80 USERS
Not Categorized
Learn more

SUBFACTOR	USER DISTRIBUTION	EXCELLENT	FAIR	POOR	NOT CATEGORIZED	INSIGHTS
GPOs (Group Policy Objects)		56	23	12	80	Slow running CSEs cause slow GPO execution. View the contributors
Profile Load		31	28	31	81	Large profile size is linked to slow profile load. View the correlation

1.41 GB
AVG. PROFILE SIZE

1.41 GB is the average profile size of users with excellent or fair profile load experience. Users with profile size larger than this might have poor profile load experience.

The **View the correlation** link displays the average profile size of users, calculated using profile sizes of users who have had excellent and fair profile load experience. Users having profile sizes larger than the average are likely to have poor profile load times.

The **View analysis** link displays users whose profile size is larger than the average on the users based self-service view. Use facets to further filter this data to view users with both large profile size and poor logon duration experience.

The self-service views for both users and sessions include the **Profile Load** and the **Average Profile Size** fields. These fields help filter and identify users with large profile load times easily.

For more information, see the Profile load insights section in the User Experience (UX) Factors article.

Dec 11, 2020

Identification of user terminated sessions

Session failures are an important factor affecting user experience in most environments. Hence, its accuracy plays an important role in correctly measuring the overall user experience in the environment.

Identification of user-terminated sessions is a step forward in this direction. It identifies sessions voluntarily terminated by users separately from failed sessions. The **Launch Status** field on the Sessions self-service view shows a **`User Terminated`** status, apart from the existing `Succeeded`, and `Failed` statuses. Addition of the separate `User Terminated` status increases the accuracy of the session failure count.

This feature is supported with endpoints running:

- Citrix Workspace app 20.9.0 or later for Android
- Citrix Workspace app 20.8.0 or later for iOS
- Citrix Workspace app 20.8.0 or later for Windows

This feature does not support endpoints running Workspace on the web.

For more information, see Self-Service search for Sessions.

Oct 19, 2020

Machines based self-service search

A **Machines based self-service search** is now added to the existing Users and Sessions based self-service views in Citrix Analytics for Performance.

The machines based self-service view displays key performance indicators of your virtual machines. The metrics include the machine downtime, the latest consecutive failures, performance indicators of the machine resources (CPU and memory) - the peak usage, and the number of peaks for the selected time period. Overloaded resources can cause session failures, high latency, or high logon duration resulting in poor user experience. This view helps easily troubleshoot the performance issues related to machine resource utilization.

You can access the Machines based self-service view from the **Search** menu in your Citrix Analytics service. In the list of services on the **Search** tab, under the **Performance** section, select **Machines**. The Machines based self-service view is also available when you drill down from black hole machines. To access the view, on the User experience dashboard, in the **Failure Insights** section, click the **Black hole machines** number.

For more information on the Machines based self-service view, see Self-service search for Machines.

Machine Statistics view

Citrix Analytics for Performance provides a **Machine Statistics** view. This view displays a correlation between the resource load and the session experience on the selected machine for the selected time period. This information helps you understand if high CPU or memory usage is related to session failures. You can then explain a poor experience in your Apps and Desktops environment.

To access the Machine statistics page, on the **Machines self-service view**, click the machine name link.

Key data points available on this page are:

- Relevant machine attributes, such as the OS, Site, Delivery Group, and downtime of the machine during the last 24 hours.
- Machine performance statistics related to resource usage, such as CPU and memory peaks, and the number of spikes over the last 24 hours. Also displayed is a trend of the CPU and memory consumption.
- Session performance statistics, such as the number of session failures, and peak concurrent session count over the last 24 hours. Also displayed are trends of session failures and session classification.

You can choose to view machine statistics for any 24-hour duration from the last 14 days. The charts are displayed for a default 4-hour time period. A time navigator helps change this time period and also zoom into any duration within the chosen 24-hour time period.

The machine and session performance statistics displayed on the same view help analyze machine resources, their usage pattern and understand if the machine resources have been a possible bottleneck for poor performance.

For more information about this feature, see the Machine Statistics article.

Failure Insights - Black hole machines

Failure Insights in Citrix Analytics for Performance provides insights into session failures that occurred during the chosen time period. This feature is important in helping troubleshoot and resolve session failures faster. It eases the task of admins who need to troubleshoot session failures to improve session availability and hence, the user experience.
In this release, Citrix Analytics for Performance provides insights into **Black hole machines** as a part of Failure Insights.

Some machines in your environment, though registered and appearing healthy might not service sessions brokered to the them, resulting in failures. Machines that have failed to service four or more consecutive session requests are termed as **Black hole machines**. The reasons for these failures are related to various factors that might affect the machine, such as, insufficient RDS licenses, intermittent networking issues, or instantaneous load on the machine.

The **Black hole machines** section of Failure Insights shows the number of black hole machines identified in your environment during the selected time period. The presence of black hole machines in the environment impacts session availability. Suggestions to reduce the number of black hole machines in your environment are provided. Clicking the number of black hole machines opens the Machines based self-service view that is filtered to show the black hole machines in your environment during the selected time period.
For more information, see Black hole machines.

July 21, 2020

GPO Insights

GPO Insights displays client-side extensions (CSEs) taking the longest processing time during the selected time period. **GPO Insights** are available in the Session Logon Duration subfactor table. Click the **Possible Reasons** link in the **GPOs** row, **Insights** column.

GPO Insights are based on the analysis of user sessions having high GPO execution times. Increased GPO execution times are due to CSEs with long processing time. Optimizing CSE processing improves the overall session logon experience of the user. Average CSE execution time depends on the number and type of policies applied with it. Review and tune policies associated with CSEs taking the longest processing time as indicated in the GPO insights. Further, consider deleting the ones that are not required. For more pointers to improve the processing time of CSEs, see GPOs.

June 16, 2020

Improved User Experience Score algorithm

The User Experience score calculation algorithm has been improved. The method for quantifying the experience based on the factors - Session Availability, Session Logon Duration, Session Responsiveness, and Session Resiliency has been optimized. Now, more emphasis is laid on the in-session experience factors.

This update results in a more appropriate classification of users having an excellent, a fair, or a poor experience. You might notice more users being classified as having a fair or a poor experience now. The improved score algorithm enables you to correctly identify poor sessions and resolve issues to improve the user experience. Starting June 2020, the new user classification data appears on your User Experience trend. This change does not affect any classification done earlier.

For more information on the User Experience Score calculation, see the User Experience article.

April 23, 2020

Location and Endpoint based Self-Service Search

Now, you can search events based on the Endpoint Country or City on the self-service view for User and Session performance data. The self-service view for Session performance data also has filters based on the Session Endpoint OS and Endpoint Version.

This information helps analyze if performance issues are localized to a specific geography, endpoint OS, or version. These filters are available for the Citrix Workspace app for Windows version 1912 and later.

For more information about the usage of these filters in self-service search, see Self-Service Search for Performance.

January 10, 2020

Citrix Analytics for Performance - Generally Available

The Citrix Analytics for Performance is a new subscription-based offering from Citrix Analytics. It allows you to track, aggregate, and visualize key performance indicators of your Apps and Desktops environment. You can use it to analyze performance issues of Apps and Desktops Sites both on-premises and on Cloud. For more information, see Performance Analytics.

Known Issues

June 22, 2023

Known issues specific to the Citrix Analytics service platform are listed in the Citrix Analytics service Known Issues article.

Performance analytics has the following known issue.

Onboarding on-premises Citrix Virtual Apps and Desktops version 2109 to Citrix Analytics for Performance from Citrix Director might fail.
Workaround: Upgrade Citrix Virtual Apps and Desktops to version 2112 and onboard to Citrix Analytics for Performance. [DIR-16070]

Data from on-premises Citrix Gateway that was onboarded to Citrix Analytics for Performance prior to 14th September 2022, might not be processed accurately. As a workaround, enable or onboard the on-premises Citrix Gateway data source again. Follow the On-premises Citrix Gateway onboarding guide [WSA-13616].

Data Sources

February 28, 2024

The data sources described here are cloud services and on-premises products that send data to Citrix Analytics for Performance.
You can use Performance Analytics to monitor on-premises and cloud sites. You can use this offering whether you are a pure on-premises customer, a Cloud customer, or a hybrid customer with a mix of on-premises and cloud sites.

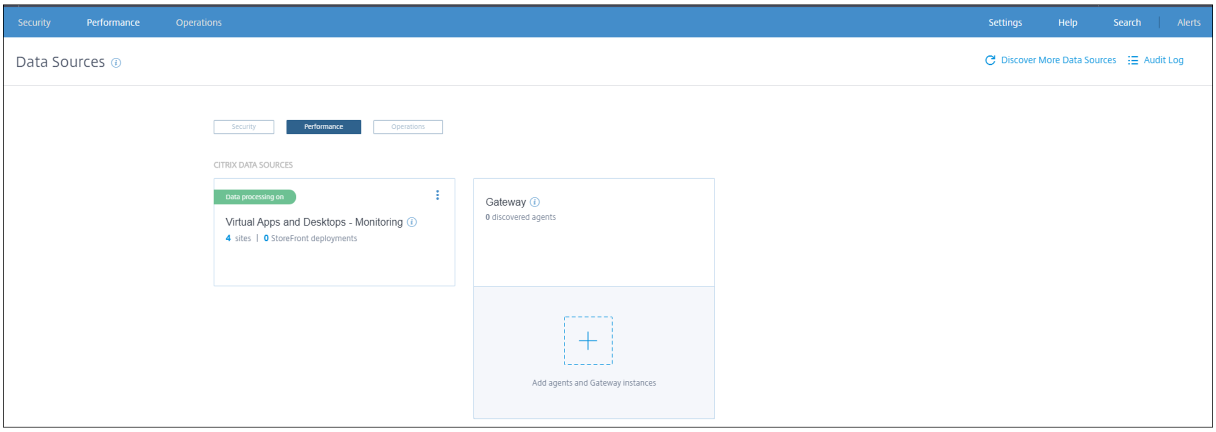
Supported data sources

The following table lists the Citrix data sources that Citrix Analytics for Performance supports.

Data Source	Required Service Subscriptions	Product Component and version	Onboarding	Value-add
Citrix DaaS (formerly Citrix Virtual Apps and Desktops service)	Citrix Cloud license, Citrix DaaS subscription	See Citrix Workspace app version matrix	Automatically detected. Ensure accessibility to URLs from all endpoints as described in Network Requirements	Performance analytics features
		End User Experience Monitoring (EUEM) service installed and running		Session Responsiveness, UX Score
		Citrix Profile Management installed and running		Logon Duration, UX Score

Data Source	Required Service Subscriptions	Product Component and version	Onboarding	Value-add
Citrix Virtual Apps and Desktops on-premises	Citrix Workspace service, Citrix Virtual Apps and Desktops	See Citrix Workspace app version matrix and Citrix VDA/Machine version matrix	Onboard from Director through a 3-step process	Performance analytics features
		End User Experience Monitoring (EUEM) service installed and running.		Session Responsiveness, UX Score
		Citrix Profile Management installed and running		Logon Duration, UX Score
		StoreFront 1906 and later (for StoreFront users) Citrix Workspace is automatically discovered and does not require onboarding.	Onboard Virtual Apps and Desktops sites using StoreFront	Endpoint Location, Failure Insights: Communication error, Failed Sessions: Endpoint OS, Workspace app Version, User Terminated Launch status
Citrix Gateway On-premises	Application Delivery Management agent	Citrix Gateway 12.1.x.x and later	Gateway data source	Session Responsiveness (Latency) breakdown
Cloud Connector			Automatically detected	Connector statistics

You can check the status of Cloud data sources relevant to Performance Analytics from **Citrix Analytics service > Settings > Data Sources > Performance**.



Citrix Workspace app version matrix

The following table lists the minimum required Citrix Workspace app version for Citrix Analytics for Performance features. Ensure accessibility to the `https://*.cloud.com/` and `https://*.windows.net/` URLs from all endpoints (or proxies, if they are configured)

Feature	UI Parameter	Windows	Linux	Android	iOS	MAC	HTML5
User Experience Score	User Experience Dashboard	1906	2104	2010.5	21.9	21.6.0	21.1

Feature	UI Parameter	Windows	Linux	Android	iOS	MAC	HTML5
Endpoint Location, ISP (ensure that the URL `https://locus.analytics.cloud.com/api/locateip` is accessible to the endpoints)	Sessions self-service view > Endpoint City, Endpoint Country	1912	2104	20.3.0	20.4.0	20.05.06	2004
Network Metrics	Sessions self-service view > Network Interface Type	2105, 2311 (Hybrid Launch)	2311 (Hybrid Launch)	Not supported	Not supported	Not supported	Not supported
Gateway information	Sessions self-service view > Connection Type, Machine FQDN, Gateway Address	2012	Not supported	Not supported	Not supported	Not supported	Not supported

Feature	UI Parameter	Windows	Linux	Android	iOS	MAC	HTML5
Session Launch Status	Sessions self-service view > Launch Status	2008	2101	20.9.0	20.8.0	2101	Not supported
Communication Error Insights	UX Dashboard > Failure Insights > Communication Errors	2103	Not supported	Not supported	Not supported	Not supported	Not supported

Feature	UI Parameter	Windows	Linux	Android	iOS	MAC	HTML5
Endpoint Network Statistics	Sessions self-service view > Endpoint Link Speed (P95), Endpoint Throughput Incoming (P95), Endpoint Throughput Outgoing (P95) and Sessions Details page > WiFi Signal Strength, Endpoint Throughput Incoming and Endpoint Throughput Outgoing	2108 (Native launch), 2311 (Hybrid Launch)	2308 (Native launch), 2311 (Hybrid Launch)	Not supported	Not supported	Not supported	Not supported

Citrix VDA version matrix

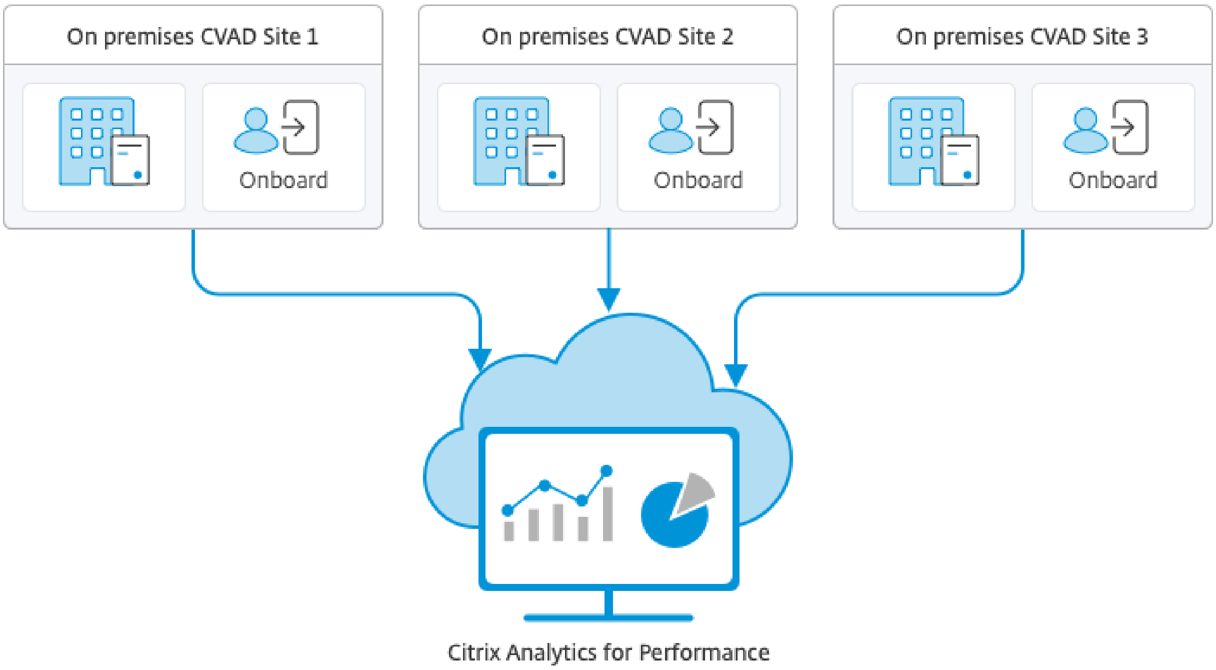
The following table lists the minimum required Citrix Virtual Apps and Desktops to be running on the machines for certain Citrix Analytics for Performance features.

Feature	UI Parameter	Citrix VDA version
Citrix Analytics for Performance	—	Citrix Virtual Apps and Desktops 7.15 LTSR
Bandwidth and Network Latency Metrics	Bandwidth and Network Latency metrics in the Sessions self-service and Session Details views	Citrix Virtual Apps and Desktops 7 2112
Process Data in Machine Statistics	List of top resource consuming processes in Machine Statistics > Process tab	Citrix Virtual Apps and Desktops 7 2203 LTSR

Configuring on-premises Citrix Virtual Apps and Desktops Sites with Citrix Analytics for Performance

April 8, 2024

You can send performance data from your on-premises Citrix Virtual Apps and Desktops site to Citrix Analytics for Performance on Citrix Cloud to leverage its advanced performance analytics capabilities. To view and use Performance Analytics, you must first configure your on-premises sites with Citrix Analytics for Performance from your on-premises monitoring tool, Citrix Director.



Performance Analytics accesses data in a secure manner and no data is transferred from Citrix Cloud to the on-premises environment.

Prerequisites

To configure Citrix Analytics for Performance from Director, no new components need to be installed. Ensure that the following requirements are met:

- Your Delivery Controller and Director are on version 1912 CU2 or later. For more information, see Feature compatibility matrix.

> **Note:**
>
> - Configuring your on-premises site with Citrix Analytics for Performance from Director might fail if the Delivery Controller is running a Microsoft .NET Framework version earlier than 4.8. As a workaround, upgrade the .NET Framework in your Delivery Controller to version 4.8. LCM-9255
> - When you configure your on-premises site running Citrix Virtual Apps and Desktops version 2012 with Citrix Analytics for Performance from Director, the configuration might fail after a couple of hours or after a restart of the Citrix Monitor Service in the Delivery Controller. The Analytics tab displays a Not Connected status in this case. As a workaround, create an Encryption folder in the registry on the Delivery Controller, Location: HKEY_LOCAL_MACHINE\Software\Citrix\XDservices\Monitor Folder Name: Encryption Ensure that the CitrixMonitor account has Full Control Access on the Encryption

> folder. Restart the Citrix Monitor Service.DIR-14324

- Access to the **Analytics** tab to perform this configuration is available for full administrators only.
- For Performance Analytics to access performance metrics, outbound internet access is available on all Delivery Controllers and the machines on which Director is installed. Specifically, ensure accessibility to the URLs as described in Network Requirements.

In case, Delivery Controllers and Director machines are within an intranet and outbound internet access is via a proxy server, ensure the following:

- The proxy server must allow the preceding list of URLs.
- Add the following configuration in the Director web.config and citrix.monitor.exe.config files. Ensure that you add this configuration within the **configuration** tags:

  ```
  <system.net>
      <defaultProxy>
          <proxy  usesystemdefault = "false"  proxyaddress = "http://<your_proxyserver_address>:80" bypassonlocal = "true"  />
      </defaultProxy>
  </system.net>
  ```

  - The Director web.config is located at `C:\inetpub\wwwroot\Director\web.config` on the machine where director is installed.
  - The citrix.monitor.exe.config is located at `C:\Program Files\Citrix\Monitor\Service\Citrix.Monitor.exe.Config` on the machine where the Delivery Controller is installed.

  This setting is provided by Microsoft on IIS. For more information, see `https://docs.microsoft.com/en-us/dotnet/framework/network-programming/proxy-configuration`.

  The **defaultproxy** field in the config file controls the outbound access of Director and Monitor Service. Configuration and communication with Performance Analytics requires the **defaultproxy** field to be set to **true**. It is possible that the policies in effect set this field to false. In this case, you must manually set the field to true. Take a backup of the config files before you make the changes. Restart the Monitoring service on the Delivery Controller for the changes to be affected.

  > **Note:**
  >
  > If you upgrade to a newer version of Citrix Virtual Apps and Desktops site, ensure that the proxy in the `citrix.monitor.exe.config` file of the Delivery Controllers is reconfigured.

- Ensure accessibility to the following URLs from all endpoints (or proxies, if they are configured):

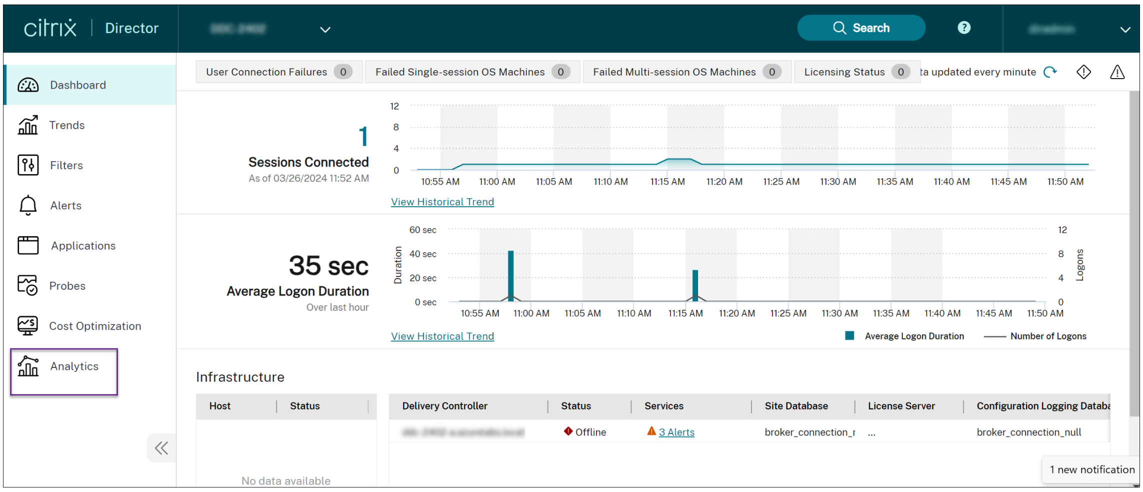
  - Citrix Analytics: `https://*.cloud.com/`
  - Microsoft Azure: `https://*.windows.net/`

- You have an active Citrix Cloud entitlement for Citrix Analytics for Performance.
- Your Citrix Cloud account is an Administrator account with rights to the Product Registration Experience. For more information about administrator permissions, see Modify Administrator Permissions.

Configuration steps

After you have verified the prerequisites, do the following:

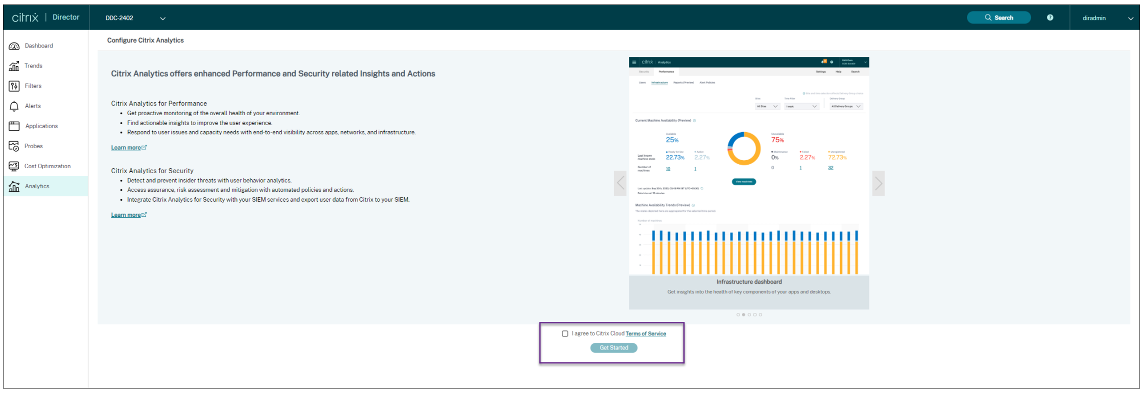
1. Sign in to Director as a full administrator and select the site which you want to configure with Performance Analytics. The Director Dashoard page appears.



Host	Status
No data available	

Delivery Controller	Status	Services	Site Database	License Server	Configuration Logging Databa
[redacted]	Offline	3 Alerts	broker_connection_r	...	broker_connection_null

2. Click the **Analytics** tab. The **Configure Citrix Analytics** page appears.



Configure Citrix Analytics

Citrix Analytics offers enhanced Performance and Security related Insights and Actions

Citrix Analytics for Performance

- Get proactive monitoring of the overall health of your environment.
- Find actionable insights to improve the user experience.
- Respond to user issues and capacity needs with end-to-end visibility across apps, networks, and infrastructure.

Learn more

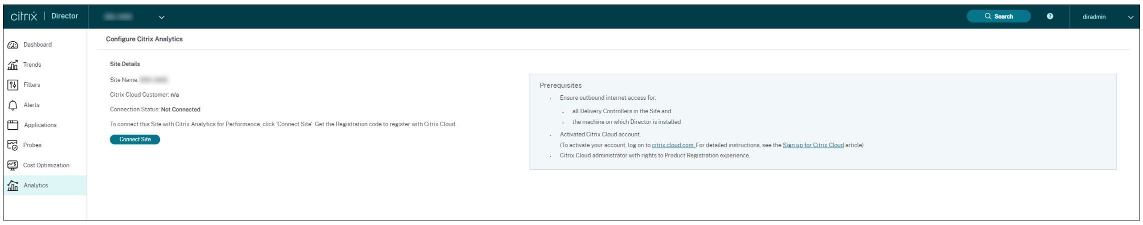
Citrix Analytics for Security

- Detect and prevent insider threats with user behavior analytics.
- Access assurance, risk assessment and mitigation with automated policies and actions.
- Integrate Citrix Analytics for Security with your SIEM services and export user data from Citrix to your SIEM.

Learn more

□ I agree to Citrix Cloud Terms of Service

3. Review the steps, select the terms of service, and then click **Get Started**. The **Site Details** page appears.



Configure Citrix Analytics

Site Details

Site Name: [redacted]

Citrix Cloud Customer: **n/a**

Connection Status: **Not Connected**

To connect this Site with Citrix Analytics for Performance, click 'Connect Site'. Get the Registration code to register with Citrix Cloud.

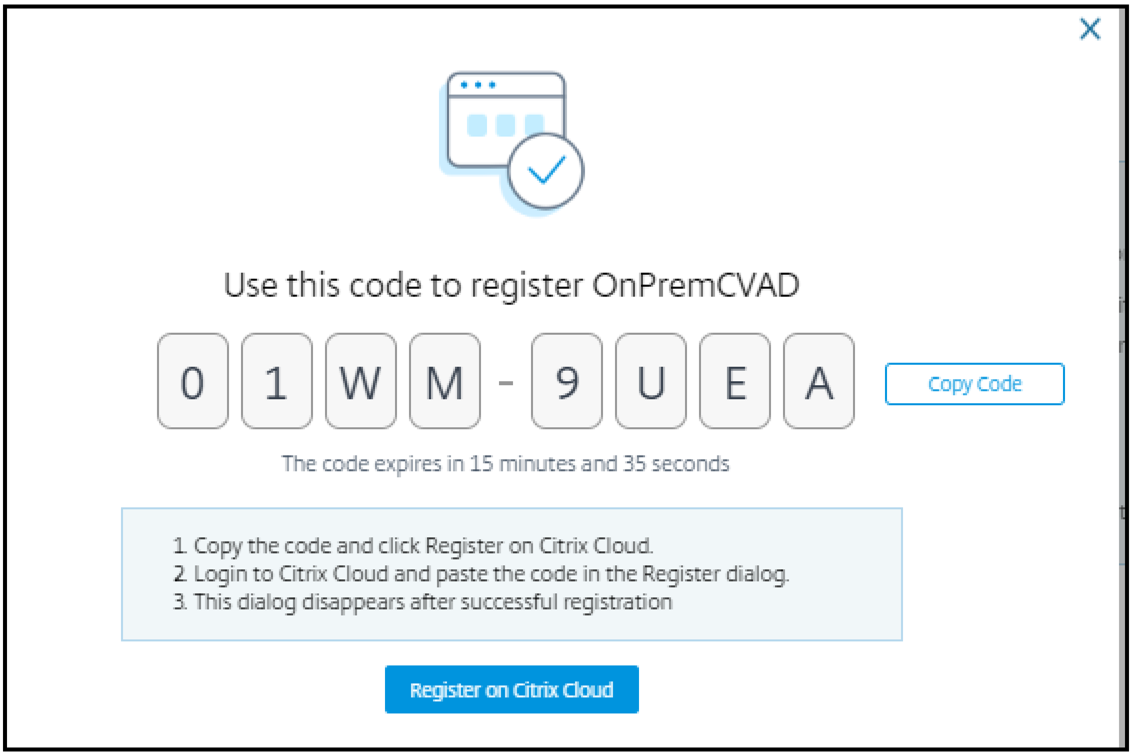
Prerequisites

- Ensure outbound internet access for:
  - all Delivery Controllers in the Site and
  - the machine on which Director is installed
- Activated Citrix Cloud account.
  (To activate your account, log on to citrix.cloud.com. For detailed instructions, see the Sign up for Citrix Cloud article)
- Citrix Cloud administrator with rights to Product Registration experience.

4. Review the prerequisites and ensure that they are met. Review the site details.

5. Click **Connect Site** to start the configuration process.

   A unique 8-digit registration code is generated to be used to register this site with Citrix Cloud.



Use this code to register OnPremCVAD

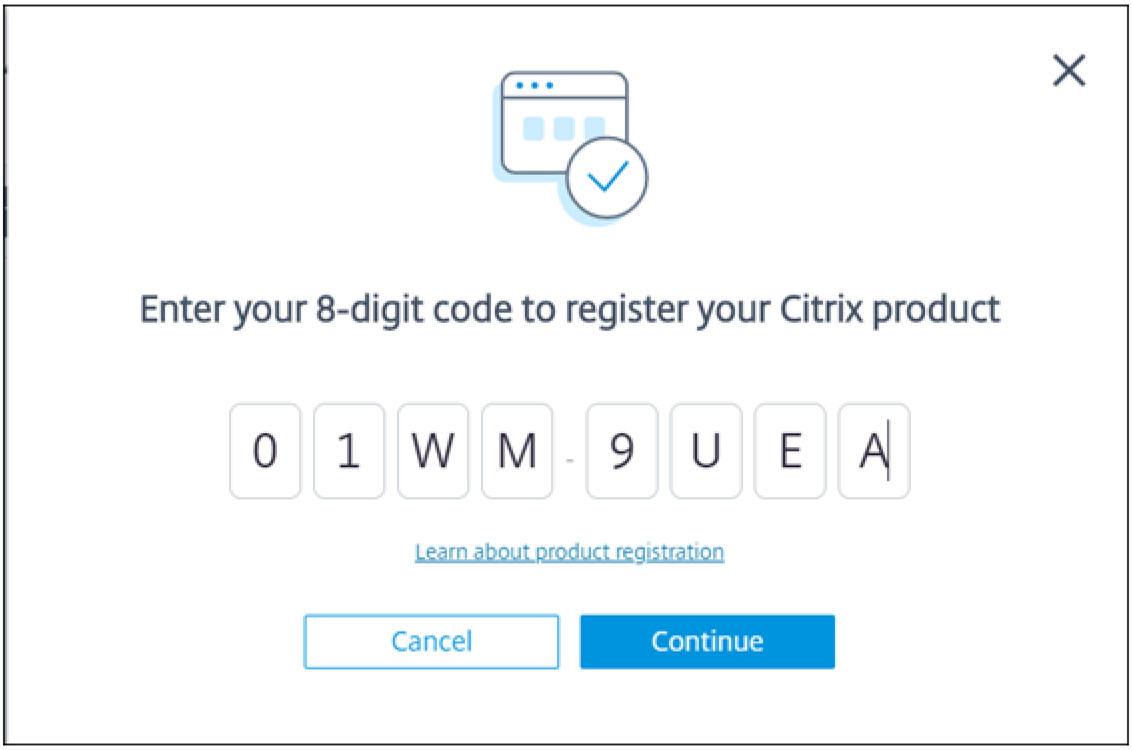
The code expires in 15 minutes and 35 seconds

1. Copy the code and click Register on Citrix Cloud.
2. Login to Citrix Cloud and paste the code in the Register dialog.
3. This dialog disappears after successful registration

6. Click **Copy Code** to copy the code and then click **Register on Citrix Cloud**. You are redirected to the registration URL in Citrix Cloud.

7. Sign in with your Citrix Cloud credentials and select your customer.

8. Paste the copied registration code in the Product Registrations page in Citrix Cloud. Click **Continue** to register. Review the registration details and click **Register**.



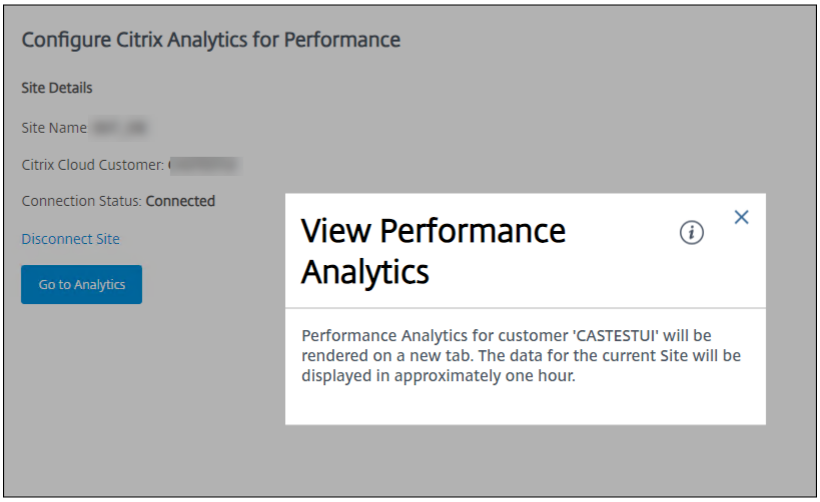
Enter your 8-digit code to register your Citrix product

0 1 W M - 9 U E A

Your on-premises site registers with Citrix Cloud.

In case the registration input is not displayed, follow the steps decsribed in Register a product.

9. From **Director**, click **Go to Analytics** on the **Analytics** tab.



Configure Citrix Analytics for Performance

Site Details

Site Name [redacted]

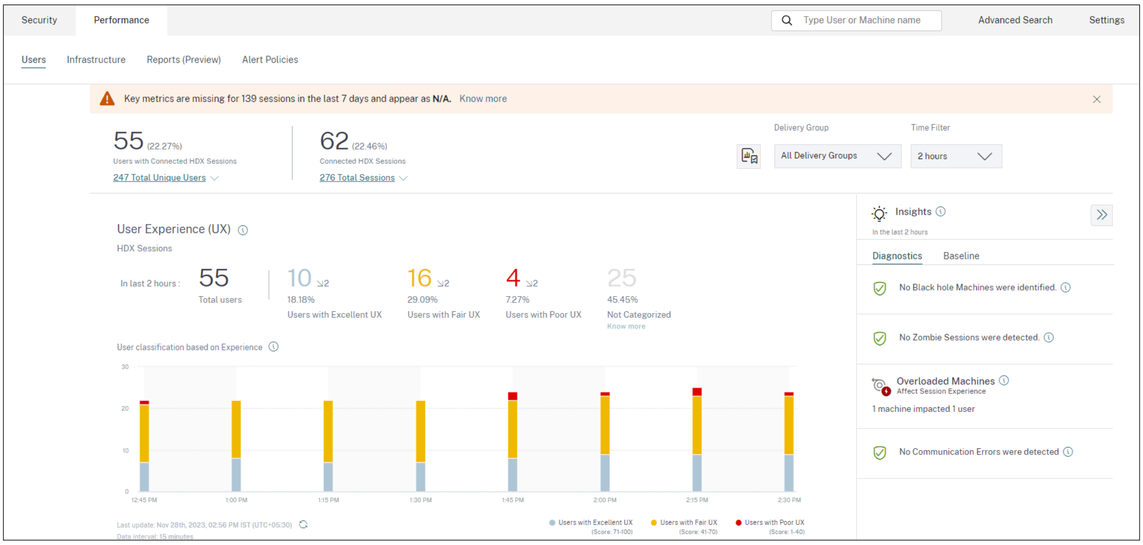
Citrix Cloud Customer: [redacted]

Connection Status: Connected

View Performance Analytics

Performance Analytics for customer 'CASTESTUI' will be rendered on a new tab. The data for the current Site will be displayed in approximately one hour.

Performance Analytics opens on a new tab on your browser.



Key metrics are missing for 139 sessions in the last 7 days and appear as **N/A.** Know more

55 (22.27%) Users with Connected HDX Sessions
247 Total Unique Users

62 (22.46%) Connected HDX Sessions
276 Total Sessions

Delivery Group: All Delivery Groups
Time Filter: 2 hours

User Experience (UX)
HDX Sessions

In last 2 hours : 55 Total users | 10 ↘2 18.18% Users with Excellent UX | 16 ↘2 29.09% Users with Fair UX | 4 ↘2 7.27% Users with Poor UX | 25 45.45% Not Categorized Know more

User classification based on Experience

Last update: Nov 28th, 2023, 02:56 PM IST (UTC+05:30)
Data interval: 15 minutes

Insights
In the last 2 hours

No Black hole Machines were identified.

No Zombie Sessions were detected.

Overloaded Machines
Affect Session Experience
1 machine impacted 1 user

No Communication Errors were detected

If your Citrix Cloud session has expired, you might be redirected to the Citrix.com or My Citrix account logon page.

10. To register multiple sites with Performance Analytics, repeat the preceding configuration steps for each site from Director. Metrics for all configured sites are displayed on the Performance Analytics dashboard.

    In case you have more than one Director instance running per site, configure from any one Director instance. All other Director instances connected to the site are updated at the next refresh after the configuration process.

11. To disconnect your site from Citrix Cloud, click **Disconnect Site**. This option deletes the existing configuration.

    > **Notes:**
    >
    > The first time you configure a site, events from the site might take some time (approximately an hour) to be processed; causing a delay in the display of metrics on the Performance Analytics dashboard. Thereafter, events refresh at regular intervals.
    >
    > Upon disconnect, data transmission from the old account continues for some time until the events from the new account are transmitted. For approximately one hour after data transmission stops, analytics related to the old account remain displayed on the Performance Analytics Dashboard.
    >
    > Upon expiry of entitlement to the Citrix Analytics service, it takes up to a day to stop sending the site metrics to Performance Analytics.

Data Governance

November 30, 2023

This section provides information regarding the collection, storage, and retention of logs by the Citrix Analytics service. Any capitalized terms not defined in the Definitions section carry the meaning specified in the Citrix End User Services Agreement.

Citrix Analytics is designed to provide customers with insight into activities in their Citrix computing environment. Citrix Analytics enables security administrators to choose the logs they want to monitor and take directed action based on the logged activity. These insights help security administrators manage access to their computing environments and protect Customer Content in the customer's computing environment.

Data residency

Citrix Analytics logs are maintained separately from the data sources and are aggregated in multiple Microsoft Azure Cloud environments, which are located in the United States, the European Union, and the Asia Pacific South regions. The storage of the logs depends on the home region selected by the Citrix Cloud administrators when onboarding their organizations to Citrix Cloud. For example, if you choose the **European region** when onboarding your organization to Citrix Cloud, Citrix Analytics logs are stored in Microsoft Azure environments in the European Union.

For more information, see Citrix Cloud Services Customer Content and Log Handling and Geographical Considerations.

Data collection

Citrix Cloud services are instrumented to transmit logs to Citrix Analytics. Logs are collected from the following data sources:

- Citrix ADC (on-premises) along with subscription for Citrix Application Delivery Management
- Citrix Endpoint Management
- Citrix Gateway (on-premises)
- Citrix Identity provider
- Citrix Secure Browser
- Citrix Secure Private Access
- Citrix Virtual Apps and Desktops

- Citrix DaaS (formerly Citrix Virtual Apps and Desktops service)
- Microsoft Active Directory
- Microsoft Graph Security

Data transmission

Citrix Cloud logs are transmitted securely to Citrix Analytics. When the administrator of the customer environment explicitly enables Citrix Analytics, these logs are analyzed and stored on a customer database. The same is applicable to Citrix Virtual Apps and Desktops
data sources with Citrix Workspace configured.

For Citrix ADC data sources, log transmission is initiated only when the administrator explicitly enables Citrix Analytics for the specific data source.

Data control

Logs sent to Citrix Analytics can be turned on or off at any time by the administrator.

When turned off for Citrix ADC on-premises data sources, communication between the particular ADC data source and Citrix Analytics stops.

When turned off all for other data sources, the logs for the particular data source are no longer analyzed and stored in Citrix Analytics.

Data retention

Citrix Analytics logs are retained in identifiable form for a maximum of 13 months or 396 days. All logs and associated analytics data such as user risk profiles, user risk score details, user risk event details, user watch list, user actions, and user profile are retained for this period.

For example, if you have enabled Analytics on a data source on January 1, 2021, then by default, data collected on January 1, 2021, will be retained in Citrix Analytics until January 31, 2022. Similarly, the data collected on January 15, 2021, will be retained until February 15, 2022, and so on.

This data is stored for the default data retention period even after you have turned off data processing for the data source or after you have removed the data source from Citrix Analytics.

Citrix Analytics deletes all Customer Content 90 days after the expiry of the subscription or the trial period.

Data export

This section explains the data exported from Citrix Analytics for Security and Citrix Analytics for Performance.

Citrix Analytics for Performance collects and analyzes performance metrics from the Data Sources.

You can download the data from the Self-service search page as a CSV file.

Citrix Analytics for Security collects user events from various products (data sources). These events are processed to provide visibility into the users'risky and unusual behavior. You can export these processed data related to users'risk insights and users'events to your System Information and Event Management (SIEM) service.

Currently, the data can be exported in two ways from Citrix Analytics for Security:

- Integrating Citrix Analytics for Security with your SIEM service
- Downloading the data from the Self-service search page as a CSV file.

When you integrate Citrix Analytics for Security with your SIEM service, the data is sent to your SIEM service by using either the north-bound Kafka topic or a Logstash-based data connector.

Currently, you can integrate with the following SIEM services:

- Splunk (by connecting through Citrix Analytics Add-on)
- Any SIEM service that support Kafka topic or Logstash-based data connectors such as Elasticsearch and Microsoft Azure Sentinel

You can also export the data to your SIEM service by using a CSV file. In the Self-service search page, you can view the data (user events) for a data source and download these data as a CSV file. For more information about the CSV file, see Self-service search.

> **Important**
>
> After the data is exported to your SIEM service, Citrix is not responsible for the security, storage, management, and the use of the exported data in your SIEM environment.

You can turn on or off data transmission from Citrix Analytics for Security to your SIEM service.

For information on the processed data and the SIEM integration, see Security Information and Event Management (SIEM) integration and Citrix Analytics data format for SIEM.

Citrix Services Security Exhibit

Detailed information concerning the security controls applied to Citrix Analytics, including access and authentication, security program management, business continuity, and incident management, is included in the Citrix Services Security Exhibit.

Definitions

Customer Content means any data uploaded to a customer account for storage or data in a customer environment to which Citrix is provided access to perform Services.

Log means a record of events related to the Services, including records that measure performance, stability, usage, security, and support.

Services means the Citrix Cloud Services outlined above for the purposes of Citrix Analytics.

Data collection agreement

By uploading your data to Citrix Analytics and by using the features of Citrix Analytics, you agree and consent that Citrix may collect, store, transmit, maintain, process and use technical, user, or related information about your Citrix products and services.

Citrix always treats the received information according to the Citrix Privacy Policy.

Appendix: logs collected

- Citrix Analytics for Security logs
- Citrix Analytics for Performance logs

Citrix Analytics for Security logs

General logs

In general, Citrix Analytics logs contain the following header identification data points:

- Header Keys
- Device Identification
- Identification
- IP Address
- Organization
- Product
- Product Version
- System Time
- Tenant Identification

- Type
- User: Email, Id, SAM Account Name, Domain, UPN
- Version

Citrix Endpoint Management service logs

The Citrix Endpoint Management service logs contain the following data points:

- Compliance
- Corporate Owned
- Device Id
- Device Model
- Device Type
- Geo Latitude
- Geo Longitude
- Host Name
- IMEI
- IP Address
- Jail Broken
- Last Activity
- Management Mode
- Operating System
- Operating System Version
- Platform Information
- Reason
- Serial Number
- Supervised

Citrix Secure Private Access logs

- AAA User Name
- Auth Policy Action Name

- Authentication Session ID
- Request URL
- URL Category Policy Name
- VPN Session ID
- Vserver IP
- AAA User Email ID
- Actual Template Code
- App FQDN
- App Name
- App Name Vserver LS
- Application Flags
- Authentication Type
- Authentication Stage
- Authentication Status Code
- Back-end Server Dst IPv4 Address
- Back-end Server IPv4 Address
- Back-end Server IPv6 Address
- Category Domain Name
- Category Domain Source
- Client IP
- Client MSS
- Client Fast Retx Count
- Client TCP Jitter
- Client TCP Packets Retransmited
- Client TCP RTO Count
- Client TCP Zero Window Count
- Clt Flow Flags Rx
- Clt Flow Flags Tx
- Clt TCP Flags Rx

- Clt TCP Flags Tx
- Connection Chain Hop Count
- Connection Chain ID
- Egress Interface
- Exporting Process ID
- Flow Flags Rx
- Flow Flags Tx
- HTTP Content Type
- HTTP Domain Name
- HTTP Req Authorization
- HTTP Req Cookie
- HTTP Req Forw FB
- HTTP Req Forw LB
- HTTP Req Host
- HTTP Req Method
- HTTP Req Rcv FB
- HTTP Req Rcv LB
- HTTP Req Referer
- HTTP Req URL
- HTTP Req XForwarded For
- HTTP Res Forw FB
- HTTP Res Forw LB
- HTTP Res Location
- HTTP Res Rcv FB
- HTTP Res Rcv LB
- HTTP Res Set Cookie
- HTTP Rsp Len
- HTTP Rsp Status
- HTTP Transaction End Time

- HTTP Transaction ID
- IC Cont Grp Name
- IC Flags
- IC No Store Flags
- IC Policy Name
- Ingress Interface Client
- NetScaler Gateway Service App ID
- NetScaler Gateway Service App Name
- NetScaler Gateway Service App Type
- NetScaler Partition ID
- Observation Domain ID
- Observation Point ID
- Origin Res Status
- Origin Rsp Len
- Protocol Identifier
- Rate Limit Identifier Name
- Record Type
- Responder Action Type
- Response Media Type
- Srv Flow Flags Rx
- Srv Flow Flags Tx
- Srvr Fast Retx Count
- Srvr TCP Jitter
- Srvr TCP Packets Retransmitted
- Srvr TCP Rto Count
- Srvr TCP Zero Window Count
- SSL Cipher Value BE
- SSL Cipher Value FE
- SSL Client Cert Size BE

- SSL Client Cert Size FE
- SSL Clnt Cert Sig Hash BE
- SSL Clnt Cert Sig Hash FE
- SSL Err App Name
- SSL Err Flag
- SSL FLags BE
- SSL FLags FE
- SSL Handshake Error Msg
- SSL Server Cert Size BE
- SSL Server Cert Size FE
- SSL Session ID BE
- SSL Session ID FE
- SSL Sig Hash Alg BE
- SSL Sig Hash Alg FE
- SSL Srvr Cert Sig Hash BE
- SSL Srvr Cert Sig Hash FE
- SSL iDomain Category
- SSL iDomain Category Group
- SSL iDomain Name
- SSL iDomain Reputation
- SSL iExecuted Action
- SSL iPolicy Action
- SSL iReason For Action
- SSL iURL Set Matched
- SSL iURL Set Private
- Subscriber Identifier
- Svr Tcp Flags Rx
- Svr Tcp Flags Tx
- Tenant Name

- Tracing Req Parent Span ID
- Tracing Req Span ID
- Tracing Trace ID
- Trans Clt Dst IPv4 Address
- Trans Clt Dst IPv6 Address
- Trans Clt Dst Port
- Trans Clt Flow End Usec Rx
- Trans Clt Flow End Usec Tx
- Trans Clt Flow Start Usec Rx
- Trans Clt Flow Start Usec Tx
- Trans Clt IPv4 Address
- Trans Clt IPv6 Address
- Trans Clt Packet Tot Cnt Rx
- Trans Clt Packet Tot Cnt Tx
- Trans Clt RTT
- Trans Clt Src Port
- Trans Clt Tot Rx Oct Cnt
- Trans Clt Tot Tx Oct Cnt
- Trans Info
- Trans Srv Dst Port
- Trans Srv Packet Tot Cnt Rx
- Trans Srv Packet Tot Cnt Tx
- Trans Srv Src Port
- Trans Svr Flow End Usec Rx
- Trans Svr Flow End Usec Tx
- Trans Svr Flow Start Usec Rx
- Trans Svr Flow Start Usec Tx
- Trans Svr RTT
- Trans Svr Tot Rx Oct Cnt

- Trans Svr Tot Tx Oct Cnt
- Transaction ID
- URL Category
- URL Category Group
- URL Category Reputation
- URL Category Action Reason
- URL Set Matched
- URL set Private
- URL Object ID
- VLAN Number

Citrix Virtual Apps and Desktops and Citrix DaaS logs

The Citrix Virtual Apps and Desktops and Citrix DaaS logs contains the following data points:

- App Name
- Browser
- Customer ID
- Details: Format Size, Format Type, Initiator, Result
- Device ID
- Device Type
- Feedback
- Feedbak ID
- File Name
- File Path
- File Size
- Is like
- Jail Broken
- Job Details: File Name, Format, Size
- Location: Estimated, Latitude, Longitude

> **Note**
>
> The location information is provided at the city and the country level and does not represent a precise geolocation.

- Long CMD Line
- Module File Path
- Operation
- Operating System
- Platform Extra Information
- Printer Name
- Question
- Question ID
- SaaS App Name
- Session Domain
- Session Server Name
- Session User Name
- Session GUID
- Timestamp
- Time Zone: Bias, DST, Name
- Total Copies Printed
- Total Pages Printed
- Type
- URL
- User Agent

Citrix ADC logs

The Citrix ADC logs contain the following data points:

- Container
- Files
- Format
- Type

Citrix DaaS Standard for Azure logs

The Citrix DaaS Standard for Azure logs contain the following data points:

- App Name
- Browser
- Details: Format Size, Format Type, Initiator, Result
- Device Id
- Device Type
- File Name
- File Path
- File Size
- Jail Broken
- Job Details: File Name, Format, Size
- Location: Estimated, Latitude, Longitude

  > **Note**
  >
  > The location information is provided at the city and the country level and does not represent a precise geolocation.

- Long CMD Line
- Module File Path
- Operation
- Operating System
- Platform Extra Information
- Printer Name
- SaaS App Name
- Session Domain
- Session Server Name
- Session User Name
- Session GUID
- Timestamp
- Time Zone: Bias, DST, Name

- Type
- URL
- User Agent

Citrix Identity provider logs

- User Login:
    - Authentication Domains: Name, Product, IdP Type, IdP Display Name
        - IdP Properties: App, Auth Type, Customer Id, Client Id, Directory, Issuer, Logo, Resources, TID
        - Extensions:
            - Workspace: Background Color, Header Logo, Logon Logo, Link Color, Text Color, StoreFront Domains
            - ShareFile: Customer Id, Customer Geo
            - Long Lived Token: Enabled, Expiry Type, Absolute Expiry Seconds, Sliding Expiry Seconds
    - Authentication Result: User Name, Error Message
    - Sign-in Message: Client Id, Client Name
    - User Claim: AMR, Access Token Hash, Aud, Auth Time, CIP Cred, Auth Alias, Auth Domains, Groups, Product, System Aliases, Email, Email
      Verified, Exp, Family Name, Given Name, IAT, IdP, ISS, Locale, Name, NBF, SID, Sub
        - Auth Alias Claims: Name, Value
        - Directory Context: Domain, Forrest, Identity Provider, Tenant Id
        - User: Customers, Email, OID, SID, UPN
        - IdP Extra Fields: Azure AD OID, Azure AD TID
- User Logoff: Client Id, Client Name, Nonce, Sub
- Client Update: Action, Client Id, Client Name

Citrix Gateway logs

- Transaction events:

- ICA App: Record Type, Actual Template Code, Observation Domain Id, Observation Point Id, Exporting Process Id, ICA Session Guid, MSI Client Cookie, Flow Id Rx, ICA Flags, Connection Id, Padding Octets Two, ICA Device Serial Number, IP Version 4, Protocol Identifier, Source IPv4 Address Rx, Destination IPv4 Address Rx, Source Transport Port Rx, Destination Transport Port Rx, ICA Application Start up Duration, ICA Launch Mechanism, ICA Application Start up Time, ICA Process ID Launch, ICA Application Name, ICA App Module Path, ICA Application Termination Type, ICA Application Termination Time, Application Name App Id, ICA App Process ID Terminate, ICA App
- ICA Event: Record Type, Actual Template Code, Source IPv4 Address Rx, Destination IPv4 Address Rx, ICA Session Guid, MSI Client Cookie, Connection Chain ID, ICA Client Version, ICA Client Host Name, ICA User Name, ICA Domain Name, Logon Ticket Setup, Server Name, Server Version, Flow Id Rx, ICA Flags, Observation Point Id, Exporting Process Id, Observation Domain Id, Connection Id, ICA Device Serial Number, ICA Session Setup Time, ICA Client IP, NS ICA Session Status Setup, Source Transport Port Rx, Destination Transport Port Rx, ICA Client Launcher, ICA Client Type, ICA Connection Priority Setup, NS ICA Session Server Port, NS ICA Session Server IP Address, IPv4, Protocol Identifier,Connection Chain Hop Count, Access Type
- ICA Update: Record Type, Actual Template Code, Observation Domain Id, Observation Point Id, Exporting Process Id, ICA Session Guid, MSI Client Cookie, Flow Id Rx,ICA Flags, Connection Id, ICA Device Serial Number, IPv4, Protocol Identifier, Padding Octets Two, ICA RTT, Client Side RX Bytes, Client Side Packets Retransmit, Server Side Packets Retransmit, Client Side RTT, Client Side Jitter, Server Side Jitter, ICA Network Update Start Time, ICA Network Update End Time, Client Side SRTT, Server Side SRTT,Client Side Delay, Server Side Delay, Host Delay, Client Side Zero Window Count, Server Side Zero Window Count, Client Side RTO Count, Server Side RTO Count, L7 Client Latency, L7 Server Latency, App Name App Id, Tenant Name, ICA Session Update Begin Sec, ICA Session Update End Sec, ICA Channel Id 1, ICA Channel Id 2, ICA Channel Id 2 Bytes, ICA Channel Id 3, ICA Channel Id 3 Bytes, ICA Channel Id 4, ICA Channel Id 4 Bytes, ICA Channel Id 5, ICA Channel Id 5 Bytes
- AppFlow Config: Record Type, Actual Template Code, Observation Domain Id, Observation Point Id, Exporting Process Id, System Rule Flag 1, System Safety Index, AppFlow Profile Relaxed Flags, AppFlow Profile Block Flags, AppFlow Profile Log Flags, AppFlow Profile Learn Flags, AppFlow Profile Stats Flags, AppFlow Profile None Flags, AppFlow App Name Id, AppFlow Profile Sign Disabled, AppFlow Profile Sign Block Count, AppFlow Profile Sign Log Count, AppFlow Profile Sign Stat Count, AppFlow Incarnation Number,AppFlow Sequence Number, AppFlow Profile Sign Auto Update, AppFlow Safety Index, AppFlow App Safety Index, AppFlow Profile Sec Checks Safety Index, AppFlow Profile Type, Iprep App Safety Index, AppFlow Profile Name, AppFlow Sig Name, AppFlow App Name Ls, AppFlow Sig Rule ID1, AppFlow Sig Rule ID2, AppFlow Sig Rule ID3, AppFlow Sig Rule ID4, AppFlow

Sig Rule ID5, AppFlow Sig Rule Enabled Flags, AppFlow Sig Rule Block Flags, AppFlow Sig Rule Log Flags, AppFlow Sig Rule File Name, AppFlow Sig Rule Category1, AppFlow Sig Rule Logstring1, AppFlow Sig Rule Category2, AppFlow Sig Rule Logstring2, AppFlow Sig Rule Category3, AppFlow Sig Rule Category4, AppFlow Sig Rule Logstring4, AppFlow Sig Rule Category5, AppFlow Sig Rule LogString5

- AppFlow: Actual Template Code, Observation Domain Id, Observation Point Id, Exporting Process Id, Transaction Id, Appfw Violation Occurred Time, App Name App Id, Appfw Violation Severity, Appfw Violation Type, Appfw Violation Location, Appfw Violation Threat Index, Appfw NS Longitude, Appfw NS Latitude, Source IPv4 Address Rx, Appfw Http Method, Appfw App Threat Index, Appfw Block Flags, Appfw Transform Flags, Appfw Violation Profile Name, Appfw Session Id, Appfw Req Url, Appfw Geo Location, Appfw Violation Type Name 1, Appfw Violation Name Value 1, Appfw Sig Category 1, Appfw Violation Type Name 2, Appfw Violation Name Value 2, Appfw Sig Category 2, Appfw Violation Type Name 3, Appfw Violation Name Value 3, Appfw Sig Category3, Appfw Req X Forwarded For, Appfw App Name Ls,App Name Ls, Iprep Category, Iprep Attack Time, Iprep Reputation Score, Iprep NS Longitude, Iprep NS Latitude, Iprep Severity, Iprep HTTP Method, Iprep App Threat Index, Iprep Geo Location, Tcp Syn Attack Cntr, Tcp Slow Ris Cntr, Tcp Zero Window Cntr, Appfw Log Expr Name, Appfw Log Expr Value, Appfw Log Expr Comment
- VPN: Actual Template Code, Observation Domain Id, Access Insight Flags, Observation Point Id, Exporting Process Id, Access Insight Status Code, Access Insight Timestamp, Authentication Duration, Device Type, Device ID, Device Location, App Name App Id, App Name App Id1, Source Transport Port Rx, Destination Transport Port Rx, Authentication Stage, Authentication Type, VPN Session ID, EPA Id, AAA User Name, Policy Name, Auth Agent Name, Group Name, Virtual Server FQDN, cSec Expression, Source IPv4 Address Rx, Destination IPv4 Address Rx, Cur Factor Policy Label, Next Factor Policy Label, App Name Ls, App Name 1 Ls,AAA User Email Id, Gateway IP, Gateway Port, Application Byte Count, VPN Session State, VPN Session Mode, SSO Auth Method, IIP Address, VPN Request URL, SSO Request URL, Backend Server Name, VPN Session Logout Mode, Logon Ticket File Info, STA Ticket, Session Sharing Key, Resource Name, SNIP Address, Temp VPN Session ID
- HTTP: Actual Template Code, Http Req Method, Http Req Url, Http Req User Agent, Http Content Type, Http Req Host, Http Req Authorization, Http Req Cookie, Http Req Referer, Http Res Set Cookie, Ic Cont Grp Name, Ic Flags, Ic Nostore Flags, Ic Policy Name, Response Media Type, Ingress Interface Client, Origin Res Status, Origin Rsp Len, Srv Flow Flags Rx, Srv Flow Flags Tx, Flow Flags Rx, Flow Flags Tx, App Name, Observation Point Id, Exporting Process Id, Observation Domain Id, Http Trans End Time, Transaction Id, Http Rsp Status, Trans Clt Ipv4 Address, Trans Clt Dst Ipv4 Address, Backend Svr Dst Ipv4 Address, Backend Svr Ipv4 Address, Http Rsp Len, Trans Svr RTT, Trans Clt RTT, Http Req Rcv FB, Http Req Rcv LB, Http Res Rcv FB, Http Res Rcv LB, Http Req Forw FB, Http Req Forw LB, Http Res Forw

FB, Http Res Forw LB, Http Req X Forwarded For, Http Domain Name, Http Res Location, Protocol Identifier, Egress Interface, Backend Svr Ipv6 Address, SSL Flags BE, SSL Flags FE, SSL Session IDFE, SSL Session IDBE, SSL Cipher Value FE, SSL Cipher Value BE, SSL Sig Hash Alg BE, SSL Sig Hash Alg FE, SSL Srvr Cert Sig Hash BE, SSL Srvr Cert Sig Hash FE, SSL Clnt Cert Sig Hash FE, SSL Clnt Cert Sig Hash BE, SSL Server Cert Size FE, SSL Server Cert Size BE, SSL Client Cert Size FE, SSL Client Cert Size BE, SSL Err App Name, SSL Err Flag, SSL Handshake Error Msg, Client IP, Virtual Server IP, Connection Chain Id, Connection Chain Hop Count, Trans Clt Tot Rx Oct Cnt, Trans Clt TotTx Oct Cnt, Trans Clt Src Port, Trans Clt Dst Port, Trans Srv Src Port, Trans Srv Dst Port, VLAN Number, Client Mss, Trans Info, Trans Clt Flow End Usec Rx, Trans Clt Flow End Usec Tx, Trans Clt Flow Start Usec Rx, Trans Clt Flow Start Usec Tx, Trans Svr Flow End Usec Rx, Trans Svr Flow End Usec Tx, Trans Svr Flow Start Usec Rx, Trans Svr Flow Start Usec Tx, Trans Svr Tot Rx Oct Cnt, Trans Svr Tot Tx Oct Cnt, Clt Flow Flags Tx, Clt Flow Flags Rx, Trans Clt Ipv6 Address, Trans Clt Dst Ipv6 Address, Subscriber Identifier, SSLi Domain Name, SSLi Domain Category, SSLi Domain Category Group, SSLi Domain Reputation, SSLi Policy Action, SSLi Executed Action, SSLi Reason For Action, SSLi URL Set Matched, SSLi URL Set Private, URL Category, URL Category Group, URL Category Reputation, Responder Action Type, URL Set Matched, URL Set Private, Category Domain Name, Category Domain Source, AAA User Name, VPN Session ID, Tenant Name

- Metric events:
  - VServer LB: Bind Entity Name, Entity Name, Mon Service Binding, NetScaler Id, Representation, Schema Type, Time, CPU, GSLB Server, GSLB VServer, Interface, Memory Pool, Server Service Group, Server Svc Cfg, VServer Authn, VServer Cr, VServer Cs, VServer LB: RATE Si Tot Request Bytes, RATE Si Tot Requests, RATE Si Tot Response Bytes, RATE Si Tot Responses, RATE Si Tot Clt Ttlb Transactions, RATE Si Tot Clt Ttlb Pkt Rcvd, RATE Si Tot Clt Ttlb Pkt Sent, RATE Vsvr Tot Hits, Si Cur Clients, Si Cur Conn Established, Si Cur Servers, Si Cur State, Si Tot Request Bytes, Si Tot Responses, Si Tot Clt Ttlb, Si Tot Clt Ttlb Transactions, Si Tot Pkt Rcvd, Si Tot Pkt Sent, Si Tot Ttlb Frustrating Transactions, Si Tot Ttlb Tolerating Transactions, Vsvr Active Svcs, Vsvr Tot Hits, Vsvr tot Req Resp Invalid, Vsvr Tot Req Resp Invalid Dropped
  - CPU: Bind Entity Name, Entity Name, Mon Service Binding, NetScaler Id, Representation, Schema Type, Time, Cc CPU Use GSLB Server, GSLB Vserver, Interface, Memory Pool, NetScaler, Server Service Group, Server Svc Cfg, VServer Authn, VServer Cr, VServer Cs, VServer Lb, VServer SSL, VServer User
  - Server Service Group: Bind Entity Name, Entity Name, Mon Service Binding, NetScaler Id, Representation, Schema Type, Time, Cc CPU Use, GSLB Server, GSLB Vserver, Interface, Memory Pool, NetScaler, Server Svc Cfg, VServer Authn, VServer Cr, VServer Cs, VServer Lb, VServer SSL, VServer User, Server Service Group: RATE Si Tot Request Bytes, RATE Si Tot

Requests, RATE Si Tot_Response Bytes, RATE Si Tot Responses, RATE Si Tot Clt Ttlb, RATE Si Tot Clt Ttlb Transactions, RATE Si Tot Svr Ttfb, RATE Si Tot Svr Ttfb Transactions, RATE Si Tot Svr Ttlb, RATE Si Tot Svr Ttlb Transactions, RATE Si Tot Ttlb Frustrating Transactions, RATE Si Tot Ttlb Tolerating Transactions, Si Cur State, Si Tot Request Bytes, Si Tot Requests, Si Tot Response Bytes, Si Tot Responses, Si Tot Clt Ttlb, Si Tot Clt Ttlb Transactions, Si Tot Svr Ttfb, Si Tot Svr Ttfb Transactions,Si Tot Svr Tlb, Si Tot Svr Ttlb Transactions, Si Tot Ttlb Frustrating Transactions, Si Tot Ttlb Tolerating Transactions

- Server SVC CFG: Bind Entity Name, Entity Name, Mon Service Binding, NetScaler Id, Representation, Schema Type, Time, CPU Use, GSLB Server, GSLB Vserver, Interface, Memory Pool, NetScaler, VServer Authn, VServer Cr, VServer Cs, VServer Lb, VServer SSL, VServer User, Server Svc Cfg: RATE Si Tot Request Bytes, RATE Si Tot Requests, RATE Si Tot Response Bytes, RATE Si Tot Responses, Si Tot Clt Ttlb, RATE Si Tot Clt Ttlb Transactions, RATE Si Tot Pkt Rcvd, RATE Si Tot Pkt Sent, RATE Si Tot Svr Busy Err, RATE Si Tot Svr Ttfb, RATE Si Tot Svr Ttfb Transactions, RATE Si Tot Svr Ttlb, RATE Si Tot Svr Ttlb Transactions, RATE Si Tot Ttlb Frustrating Transactions, RATE Si Tot Ttlb Tolerating Transactions, Si Cur State, Si Cur Transport, Si Tot Request Bytes, Si Tot Requests, Si Tot Response Bytes, Si Tot Responses, Si Tot Clt Ttlb, Si Tot Clt Ttlb Transactions, Si Tot Pkt Rcvd, Si Tot Pkt Sent, Si Tot Svr Busy Err, Si Tot Svr Ttfb, Si Tot Svr Ttfb Transactions, Si Tot Svr Ttlb, Si Tot Svr Ttlb Transactions, Si Tot Ttlb Frustrating Transactions, Si Tot Ttlb Tolerating Transactions
- NetScaler: Bind Entity Name, Entity Name, Mon Service Binding, NetScaler Id, Representation, Schema Type, Time, GSLB Server, GSLB VServer, Interface, Memory Pool, Server Service Group, Server Svc Cfg, VServer Authn, VServer Cr, VServer Cs, VServer Lb, VServer SSL, VServer User, NetScaler: RATE All Nic Tot Rx Mbits, RATE All Nic Tot Rx Mbits, RATE Dns Tot Queries, RATE Dns Tot Neg Nxdmn Entries,RATE Http Tot Gets, RATE Http Tot Others, RATE Http Tot Posts, RATE Http Tot Requests, RATE Http Tot Requests 1.0, RATE Http Tot Requests 1.1, RATE Http Tot Responses, RATE Http Tot Rx Request Bytes, RATE Http Tot Rx Response Bytes, RATE Ip Tot Rx Mbits, RATE Ip Tot Rx Bytes, RATE Ip Tot Rx Pkts, RATE Ip Tot Tx Mbits, RATE Ip Tot Tx Bytes, RATE Ip Tot Tx Pkts, RATE SSL Tot Dec Bytes, RATE SSL Tot Enc Bytes,RATE SSL Tot SSL Info Session Hits, RATE SSL Tot SSL Info Total Tx Count, RATE Tcp Err Rst, RATE Tcp Tot Client Open, RATE Tcp Tot Server Open, RATE Tcp Tot Rx Bytes, RATE Tcp Tot Rx Pkts, RATE Tcp Tot Syn, RATE Tcp Tot Tx Bytes, RATE Tcp Tot Tx Pkts, RATE Udp Tot Rx Bytes, RATE Udp Tot Rx Pkts, RATE Udp Tot Tx Bytes, RATE Udp Tot Tx Pkts, All Nic Tot Rx Mbits, All Nic Tot Tx Mbits, Cpu Use, Dns Tot Queries, Dns Tot Neg Nxdmn Entries, Http Tot Gets, Http Tot Others, Http Tot Posts, Http Tot Requests, Http Tot Requests1.0, Http Tot Requests1.1, Http Tot Responses, Http Tot Rx Request Bytes, Http Tot Rx Response Bytes, Ip Tot Rx Mbits, Ip Tot Rx Bytes, Ip Tot Rx Pkts, Ip Tot Tx Mbits, Ip Tot Tx Bytes, Ip Tot Tx Pkts, Mem Cur Free size, Mem Cur Free size Actual, Mem Cur Used size, Mem Tot Available, Mgmt Additional Cpu Use, Mgmt Cpu 0 Use, Mgmt Cpu Use, SSL Tot Dec Bytes, SSL Tot Enc Bytes, SSL Tot SSL Info Session Hits, SSL Tot SSL Info Total Tx

Count, Sys Cpus, Tcp Cur Client Conn, Tcp Cur Client Conn Closing, Tcp Cur Client Conn Est, Tcp Cur Server Conn, Tcp Cur Server Conn Closing, Tcp Cur Server Conn Est, Tcp Err Rst, Tcp Tot Client Open, Tcp Tot Server Open, Tcp Tot Rx Bytes, Tcp Tot Rx Pkts, Tcp Tot Syn, Tcp Tot Tx Bytes, Tcp Tot Tx Pkts, Udp Tot Rx Bytes, Udp Tot Rx Pkts, Udp Tot Tx Bytes, Udp Tot Tx Pkts

- Memory Pool: Bind Entity Name, Entity Name, Mon Service Binding, NetScaler Id, Schema Type, Time, CPU, Gslb Server, Gslb VServer, Interface, NetScaler, Server Service Group, Server Svc Cfg, VServer Authn, VServer Cr, VServer Cs, VServer Lb, VServer SSL, VServer User, Memory Pool: Mem Cur Alloc Size, Mem Err Alloc Failed, Mem Tot Available
- Monitoring Service Binding: Bind Entity Name, Entity Name, NetScalerId, SchemaType, Time, CPU, Gslb Server, Gslb VServer, Interface, Memory Pool, NetScaler, Server Service Group, Server Svc Cfg, VServer Authn, VServer Cr, VServer Cs, Vserver Lb, VServer SSL, VServer User, Mon Service Binding: RATE Mon Tot Probes, Mon Tot Probes
- Interface: Bind Entity Name, Entity Name, Mon Service Binding, NetScaler Id, Schema Type, Time, CPU, Gslb Server, Gslb VServer, Memory Pool, NetScaler, Server Service Group, Server Svc Cfg, VServer Authn, VServer Cr, VServer Cs, Vserver Lb, VServer SSL, VServer User, Interface: RATE NIC Tot Rx Bytes, RATE NIC Tot Rx Packets, RATE NIC Tot Tx Bytes, RATE NIC Tot Tx Packets, NIC Tot Rx Bytes, NIC Tot Rx Packets, NIC Tot Tx Bytes, NIC Tot Tx Packets
- VServer CS: Bind Entity Name, Entity Name, Mon Service Binding, NetScaler Id, Schema Type, Time, CPU, Gslb Server, Gslb VServer, Memory Pool, NetScaler, Server Service Group, Server Svc Cfg, VServer Authn, VServer Cr, VServer Cs, Vserver Lb, VServer SSL, VServer User, VServer Cs: RATE Si Tot Request Bytes, RATE Si Tot Requests, RATE Si Tot Response Bytes, RATE Si Tot Responses, RATE Si Tot Clt Ttlb,RATE Si Tot Clt Ttlb Transactions, RATE Si Tot Pkt Rcvd, RATE Si Tot Pkt Sent, RATE Si Tot Ttlb Frustrating Transactions, RATE Si Tot Ttlb Tolerating Transactions, RATE Vsvr Tot Hits, Si Cur State, Si Tot Request Bytes, Si Tot Requests, Si Tot Response Bytes, Si Tot Responses, Si Tot Clt Ttlb, Si Tot Clt Ttlb Transactions, Si Tot Pkt Rvd, Si Tot Pkt Sent, Si Tot Ttlb Frustrating Transactions, Si Tot Tlb Tolerating Transactions, Vsvr Tot Hits, Vsvr Tot Req Resp Invalid, Vsvr Tot Req Resp Invalid Dropped

Secure Browser logs

- Application Post:
  - Logs before the published application: Authentication, Browser, Change Id, Created, Customer Name, Destination URL, E-Tag, Gateway Service Product Id, Session Id, Legacy Icon, Application Name, Policies, Published Application Id, Region, Resource Zone, Resource Zone Id, Subscription, Session Idle Timeout, Session Idle Timeout Warning, Watermark, Whitelist External, Whitelist Internal, Whitelist Redirect

  - Logs after the published application: Authentication, Browser, Change Id, Created, Customer Name, Destination, E-Tag, Gateway Service Product Id, Session Id, Legacy Icon, Application Name, Policies, Published Application Id, Region, Resource Zone, Resource Zone Id, Subscription, Session Idle Timeout, Session Idle Timeout Warning, Watermark, Whitelist External URL, Whitelist Internal URL, Whitelist Redirect URL

- Application Delete:

  - Logs before the published application: Authentication, Browser, Change Id, Created, Customer Name, Destination URL, E-Tag, Gateway Service Product Id, Session Id, Legacy Icon, Application Name, Policies, Published Application Id, Region, Resource Zone, Resource Zone Id, Subscription, Session Idle Timeout, Session Idle Timeout Warning, Watermark, Whitelist External, Whitelist Internal, Whitelist Redirect
  - Logs after the published application: Authentication, Browser, Change Id, Created, Customer Name, Destination, E-Tag, Gateway Service Product Id, Session Id, Legacy Icon, Application Name, Policies, Published Application Id, Region, Resource Zone, Resource Zone Id, Subscription, Session Idle Timeout, Session Idle Timeout Warning, Watermark, Whitelist External URL, Whitelist Internal URL, Whitelist Redirect URL

- Application Update:

  - Logs before the published application: Authentication, Browser, Change Id, Created, Customer Name, Destination URL, E-Tag, Gateway Service Product Id, Session Id, Legacy Icon, Application Name, Policies, Published Application Id, Region, Resource Zone, Resource Zone Id, Subscription, Session Idle Timeout, Session Idle Timeout Warning, Watermark, Whitelist External, Whitelist Internal, Whitelist Redirect
  - Logs after the published application: Authentication, Browser, Change Id, Created, Customer Name, Destination, E-Tag, Gateway Service Product Id, Session Id, Legacy Icon, Application Name, Policies, Published Application Id, Region, Resource Zone, Resource Zone Id, Subscription, Session Idle Timeout, Session Idle Timeout Warning, Watermark, Whitelist External URL, Whitelist Internal URL, Whitelist Redirect URL

- Entitlement Create:

  - Logs before the entitlement creation: Approved, Customer Id, Data Retention Days, End Date, Grace Period Days, Session Id, Product SKU, Quantity, Serial Numbers, Start Date, State, Type
  - Logs after the entitlement creation: Approved, Customer Id, Data Retention Days, End Date, Grace Period Days, Session Id, Product SKU, Quantity, Serial Numbers, Start Date, State, Type

- Entitlement Update:

  - Logs before the entitlement update: Approved, Customer Id, Data Retention Days, End Date, Grace Period Days, Session Id, Product SKU, Quantity, Serial Numbers, Start Date, State, Type
  - Logs after the entitlement update: Approved, Customer Id, Data Retention Days, End Date, Grace Period Days, Session Id, Product SKU, Quantity, Serial Numbers, Start Date, State, Type
- Session Access Host: Accept Host, Client IP, Date Time, Host, Session, User Name
- Session Connect:
  - Logs before the session connection: Application Id, Application Name, Browser, Created, Customer Id, Duration, Session Id, IP Address, Last Updated, Launch Source, User Name
  - Logs after the session connection: Application Id, Application Name, Browser, Created, Customer Id, Duration, Session Id, IP Address, Last Updated, Launch Source, User Name
- Session Launch:
  - Logs before the session launch: Application Id, Application Name, Browser, Created, Customer Id, Duration, Session Id, IP Address, Last Updated, Launch Source, User Name
  - Logs after the session launch: Application Id, Application Name, Browser, Created, Customer Id, Duration, Session Id, IP Address, Last Updated, Launch Source, User Name
- Session Tick:
  - Logs before the session tick: Application Id, Application Name, Browser, Created, Customer Id, Duration, Session Id, IP Address, Last Updated, Launch Source, User Name
  - Logs after the session tick: Application Id, Application Name, Browser, Created, Customer Id, Duration, Session Id, IP Address, Last Updated, Launch Source, User Name

Microsoft Graph Security logs

- Tenant Id
- User Id
- Indicator Id
- Indicator UUID
- Event Time
- Create Time
- Category of alert

- Logon Location
- Logon IP
- Logon Type
- User Account Type
- Vendor Information
- Vendor Provider Information
- Vulnerability States
- Vulnerability Severity

Microsoft Active Directory logs

- Tenant Id
- Collect Time
- Type
- Directory Context
- Groups
- Identity
- User Type
- Account Name
- Bad Password Count
- City
- Common Name
- Company
- Country
- Days Until Password Expiry
- Department
- Description
- Display Name
- Distinguished Name
- Email

- Fax Number
- First Name
- Group Category
- Group Scope
- Home Phone
- Initials
- IP Phone
- Is Account Enabled
- Is Account Locked
- Is Security Group
- Last Name
- Manager
- Member of
- Mobile Phone
- Pager
- Password Never Expires
- Physical Delivery Office Name
- Post Office Box
- Postal Code
- Primary Group Id
- State
- Street Address
- Title
- User Account Control
- User Group List
- User Principal Name
- Work Phone

Citrix Analytics for Performance logs

- actionid
- actionreason
- actiontype
- adminfolder
- agentversion
- allocationtype
- applicationid
- applicationname
- applicationpath
- applicationtype
- applicationversion
- associateduserfullnames
- associatedusername
- associatedusernames
- associateduserupns
- authenticationduration
- autoreconnectcount
- autoreconnecttype
- AvgEndpointThroughputBytesReceived
- AvgEndpointThroughputBytesSent
- blobcontainer
- blobendpoint
- blobpath
- brokerapplicationchanged
- brokerapplicationcreated
- brokerapplicationdeleted
- brokeringdate
- brokeringduration

- brokerloadindex
- brokerregistrationstarted
- browsername
- catalogchangeevent
- catalogcreatedevent
- catalogdeletedevent
- catalogid
- catalogname
- catalogsync
- clientaddress
- clientname
- clientplatform
- clientsessionvalidatedate
- clientversion
- collecteddate
- connectedviahostname
- connectedviaipaddress
- connectionid
- connectioninfo
- connectionstate
- connectiontype
- controllerdnsname
- cpu
- cpuindex
- createddate
- currentloadindexid
- currentpowerstate
- currentregistrationstate
- currentsessioncount

- datetime
- deliverygroupadded
- deliverygroupchanged
- deliverygroupdeleted
- deliverygroupid
- deliverygroupmaintenancemodechanged
- deliverygroupname
- deliverygroupsync
- deliverytype
- deregistrationreason
- desktopgroupdeletedevent
- desktopgroupid
- desktopgroupname
- desktopkind
- disconnectcode
- disconnectreason
- disk
- diskindex
- dnsname
- domainname
- effectiveloadindex
- enddate
- errormessage
- establishmentdate
- eventreporteddate
- eventtime
- exitcode
- failurecategory
- failurecode

- failuredata
- failuredate
- failurereason
- failuretype
- faultstate
- functionallevel
- gpoenddate
- gpostartdate
- hdxenddate
- hdxstartdate
- host
- hostedmachineid
- hostedmachinename
- hostingservername
- hypervisorconnectionchangedevent
- hypervisorconnectioncreatedevent
- hypervisorid
- hypervisorname
- hypervisorsync
- icartt
- icarttms
- id
- idletime
- inputbandwidthavailable
- inputbandwidthused
- instancecount
- interactiveenddate
- interactivestartdate
- ipaddress

- isassigned
- isinmaintenancemode
- ismachinephysical
- ispendingupdate
- ispreparing
- isremotepc
- issecureica
- lastderegisteredcode
- launchedviahostname
- launchedviaipaddress
- lifecyclestate
- LinkSpeed
- logonduration
- logonenddate
- logonscriptsenddate
- logonscriptsstartdate
- logonstartdate
- long
- machineaddedtodesktopgroupevent
- machineassignedchanged
- machinecatalogchangedevent
- machinecreatedevent
- machinedeletedevent
- machinederegistrationevent
- machinednsname
- machinefaultstatechangeevent
- machinehardregistrationevent
- machineid
- machinemaintenancemodechangeevent

- machinename
- machinepvdstatechanged
- machineregistrationendedevent
- machineremovedfromdesktopgroupevent
- machinerole
- machinesid
- machineupdatedevent
- machinewindowsconnectionsettingchanged
- memory
- memoryindex
- modifieddate
- NGSConnector.ICAConnection.Start
- NGSConnector.NGSSyntheticMetrics
- NGSConnector.NGSPassiveMetrics
- NGSConnector.NGSSystemMetrics
- network
- networkindex
- networklatency
- networkinfoperiodic
- NetworkInterfaceType
- ostype
- outputbandwidthavailable
- outputbandwidthused
- path
- percentcpu
- persistentuserchanges
- powerstate
- processname
- profileloadenddate

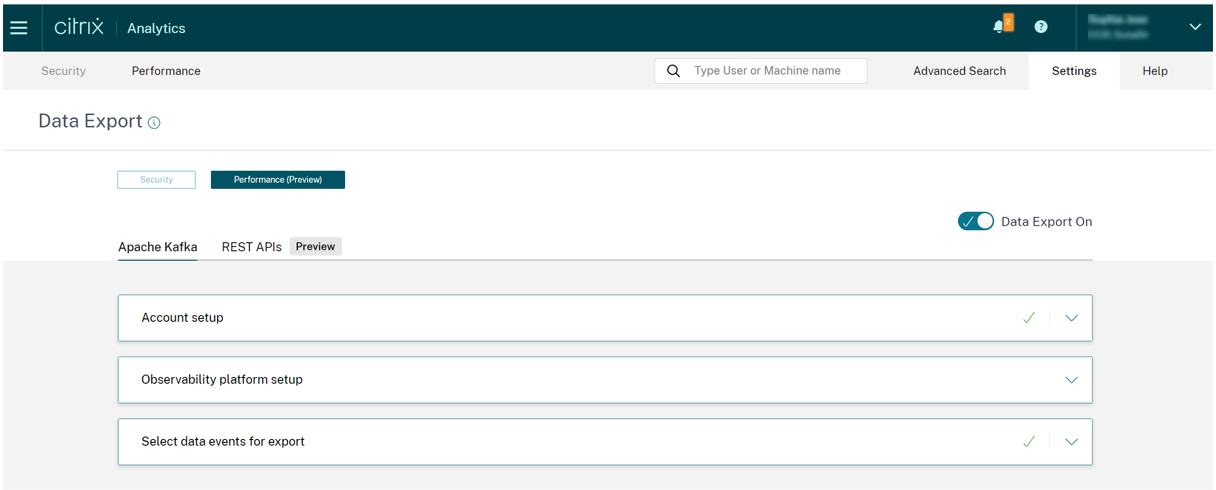
- profileloadstartdate
- protocol
- provisioningschemeid
- provisioningtype
- publishedname
- registrationstate
- serversessionvalidatedate
- sessioncount
- sessionend
- sessionfailure
- sessionid
- sessionidlesince
- sessionindex
- sessionkey
- sessionstart
- sessionstate
- sessionsupport
- sessiontermination
- sessiontype
- sid
- SignalStrength
- siteid
- sitename
- startdate
- totalmemory
- triggerinterval
- triggerlevel
- triggerperiod
- triggervalue

- usedmemory
- userid
- userinputdelay
- username
- usersid
- vdalogonduration
- vdaprocessdata
- vdaresourcedata
- version
- vmstartenddate
- vmstartstartdate
- windowsconnectionsetting
- xd.SessionStart

Data Export to Observability Platform (Preview)

March 22, 2024

Citrix Analytics for Performance is now integrated with the Splunk, Elasticsearch, and Grafana Observability platform. You can use the **Data Export** feature to export performance data and events from Citrix Analytics for Performance to Splunk, Elasticsearch, and Grafana.



The Observability platform gives you a holistic view of the performance metrics that belong to the on-premises Citrix Virtual Apps and Desktops sites and the DaaS cloud services that have been onboarded to your Citrix Analytics for Performance service. Further, you can combine and correlate performance metrics from Citrix Analytics for Performance data with data from external data sources that are connected within your Observability platform.

Data available in the Observability platform can be used to derive value through continuous monitoring. It helps get actionable business insights into the performance of your virtual apps and desktop sites. Some ways in which you can use the data in the Observability platform are as follows:

- Create dashboards and reports in a regular cadence. These dashboards and reports help analyze the performance of your environment over time.
- Extract information of specific interest to your organization's KPIs and identify bottlenecks causing poor user performance.
- Identify machines in your sites that are underutilized and optimize consumption and usage to reduce overall costs.
- Triage and troubleshoot specific issues that users in your infrastructure are facing during connection and in-session.
- Easily root cause and pinpoint poor in-session experience to client-side network or end point device issues, or to issues on specific infrastructure components like the gateway or the connector.
- Identify patterns in session failures and high session latency to see if poor experience can be localized to a location or a specific service provider.
- Identify particular apps or processes that are causing a resource crunch.

To use this functionality, sign up and enroll to the Technical Preview using this form.

Integration with Observability Platform

Currently, the Observability platforms that Citrix Analytics for Performance support are Splunk, Elasticsearch, and Grafana. For more information on the features and usage of:

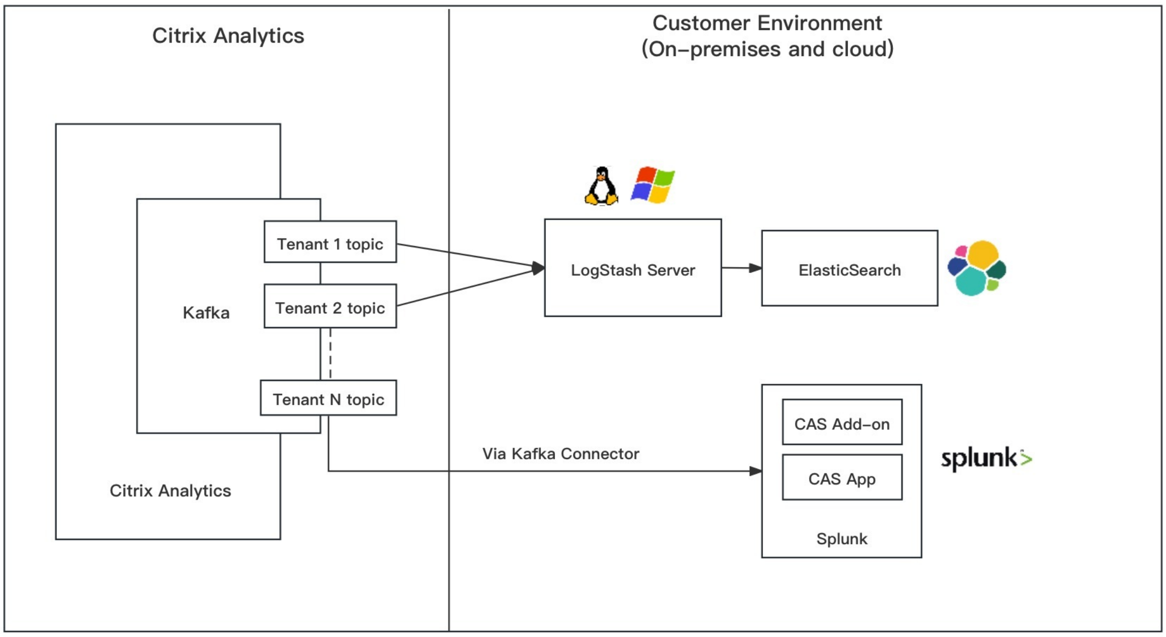
- Splunk, see the Splunk documentation.
- Elasticsearch, see the Elasticsearch documentation
- Grafana, see the Grafana documentation

Splunk connects with the north-bound Kafka deployed on Citrix Analytics for Performance cloud using Kafka endpoints. Use the parameters provided by Citrix Analytics for Performance to integrate Citrix Analytics for Performance with Splunk. Using the Kafka endpoints, you can connect and pull the data into Splunk.

Elasticsearch connects with the Kafka deployed on Citrix Analytics for Performance cloud using the Logstash engine. Use the parameters provided by Citrix Analytics for Performance to integrate Citrix

Analytics for Performance with Elasticsearch. Using the Kafka endpoints, you can connect and pull the data into Elasticsearch and get deeper insights into your organization's performance posture.

The following architecture diagram explains how data flows from Citrix Analytics for Performance to Observability platform:



Getting Started with Data Export

The Data Export feature can be accessed and configured from **Citrix Analytics Service > Settings > Data Export > Performance**. Data export to the Observability platform is turned on by default with the **Data Export On** toggle. You can toggle **Data Export Off**, to stop sending new data events.

Data Export is configured in the following steps. For more information, see the Splunk Integration and the Elasticsearch integration articles.

1. **Account setup** - To create an account, specify a password. Once you configure your account, the Kafka details are generated. These details are used in the configuration with Splunk and Elasticsearch. Use this section to reset your password.
2. **Observability platform setup** - Install and configure Citrix Analytics Add-On for Splunk, Elasticsearch, and Grafana using the Kafka details generated in the previous step.
3. **Select data events for export** - This section lists the data exported to the Observability platform. You can select specific events you want to export from the Sessions and Machines data sources.

Splunk Integration with Citrix Analytics for Performance

November 3, 2023

You can integrate Citrix Analytics for Performance with Splunk to export performance data from your virtual apps and desktops sites to Splunk and get deeper insights into the performance of your virtual apps and desktops environment.

For more information about the benefits of the integration and the type of processed data that is sent to your Observability platform, see Data Export.

Supported versions

Citrix Analytics for Performance supports Splunk integration on the following operating systems. Citrix recommends using the latest version of these operating systems or versions that are still under support from the respective vendors.

- CentOS Linux 7 and later
- Debian GNU/Linux 10.0 and later
- Red Hat Enterprise Linux Server 7.0 and later
- Ubuntu 18.04 LTS and later

> **Note**
>
> For the Linux Kernel (64-bit) operating systems, use a kernel version that Splunk supports. For more information, see Splunk documentation.

You can configure Splunk integration on the following Splunk versions:

- Splunk Cloud Inputs Data Manager (IDM)
- Splunk 8.1 (64-bit) and later

Prerequisites

Citrix Analytics add-on for Splunk connects to the following endpoints on Citrix Analytics for Performance. Ensure that the endpoints are in the allow list in your network. Use the endpoint names and not IP addresses, as the public IP addresses of the endpoints might change.

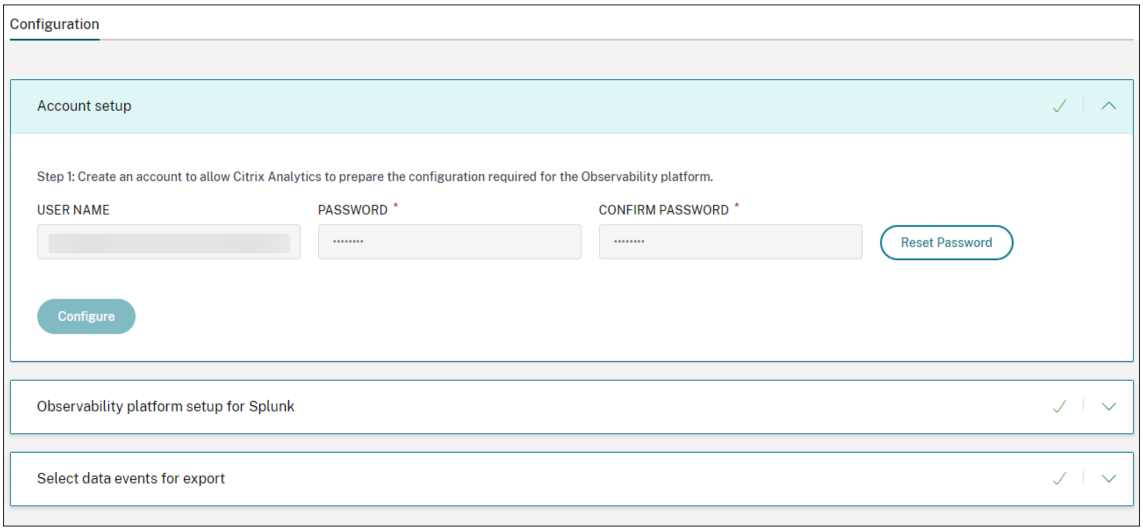
Endpoint	United States region	European Union region	Asia Pacific South region
Kafka brokers	casnb-0.citrix.com:9094 casnb-1.citrix.com:9094 casnb-2.citrix.com:9094 casnb-3.citrix.com:9094	casnb-eu-0.citrix.com:9094 casnb-eu-1.citrix.com:9094 casnb-eu-2.citrix.com:9094	casnb-aps-0.citrix.com:9094 casnb-aps-1.citrix.com:9094 casnb-aps-2.citrix.com:9094

Turn on data processing for at least one data source. It helps Citrix Analytics for Performance to begin the Splunk integration process.

Data Export Configuration

Account Setup

1. Go to **Settings** > **Data Exports** > **Performance**.
2. In the **Account setup** section, create an account by specifying a password. This account is used to prepare a configuration file required for Splunk integration.



Configuration

Account setup

Step 1: Create an account to allow Citrix Analytics to prepare the configuration required for the Observability platform.

USER NAME

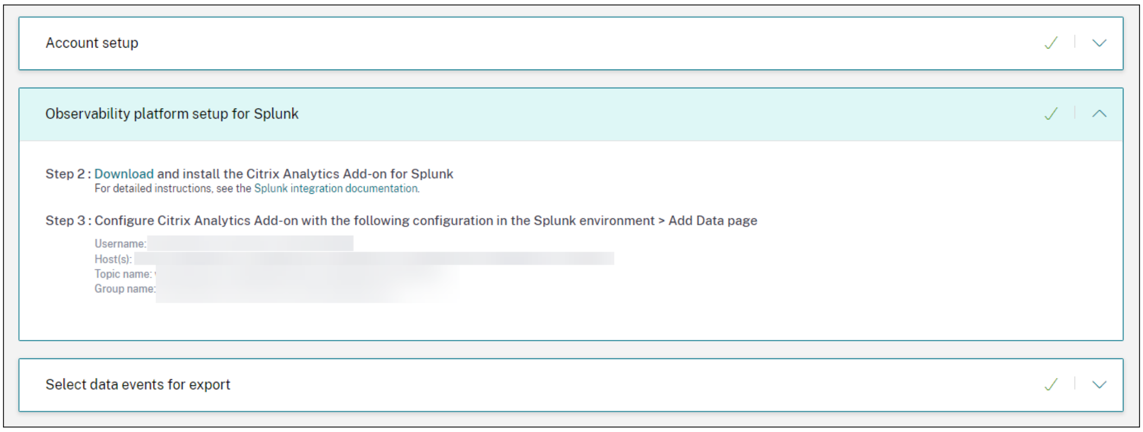
PASSWORD * ········

CONFIRM PASSWORD * ········

Reset Password
Configure
Observability platform setup for Splunk
Select data events for export

3. Click **Configure**. Citrix Analytics for Performance prepares the configuration details - user name, hosts, Kafka topic name, and group name. Copy the details to help configure Citrix Analytics Add-on for Splunk in the subsequent steps.

> **Note**
>
> These details are sensitive and you must store them in a secure location.



Account setup ✓

Observability platform setup for Splunk ✓

Step 2 : Download and install the Citrix Analytics Add-on for Splunk
For detailed instructions, see the Splunk integration documentation.

Step 3 : Configure Citrix Analytics Add-on with the following configuration in the Splunk environment > Add Data page

Username: [redacted]
Host(s): [redacted]
Topic name: [redacted]
Group name: [redacted]

Select data events for export ✓

Observability Platform setup for Splunk

Download and install Citrix Analytics Add-on for Splunk

> **Note**
>
> This app is in preview.

Citrix Analytics add-on for Splunk enables Splunk Enterprise administrators to view performance data collected from Citrix Analytics for Performance. You can also correlate the data collected from Citrix Analytics for Performance with data from other data sources configured on your Splunk. This correlation provides you visibility into performance from multiple sources and take actions to improve the usage and performance of your virtual apps and desktops environment.

1. Log on to your Splunk Forwarder or Splunk Standalone environment.
2. Install the Citrix Analytics Add-on for Splunk by either downloading it from Splunkbase or by installing it from within Splunk.

Install app from Splunkbase

1. Download the Citrix Analytics Add-on for Splunk file.
2. On the Splunk Web home page, click the gear icon next to **Apps**.
3. Click **Install app from file**.
4. Locate the downloaded file and click **Upload**.

> **Notes**
>
> - If you have an older version of the add-on, select **Upgrade app** to overwrite it.
> - If you are upgrading **Citrix Analytics Add-on for Splunk** from a version earlier than 2.0.0, you must delete the following files and folders located inside the */bin* folder of the add-on installation folder and restart your Splunk Forwarder or Splunk Standalone environment:
>
>   ```
>   - cd $SPLUNK_HOME$/etc/apps/TA_CTXS_AS/bin
>   - rm -rf splunklib
>   - rm -rf mac
>   - rm -rf linux_x64
>   - rm CARoot.pem
>   - rm certificate.pem
>   ```

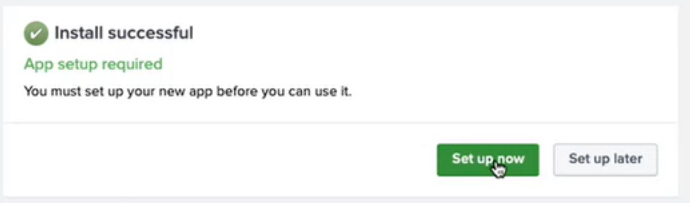
5. Verify that the app appears in the **Apps** list.

Install app from within Splunk

1. From the Splunk Web home page, click **+Find More Apps**.
2. On the Browse More Apps page, search **Citrix Analytics Add-on for Splunk**.
3. Click **Install** next to the app.
4. Verify that the app appears in the **Apps** list.

Configure index and source type to correlate data

1. After you install the app, click **Set up now**.



Install successful

App setup required

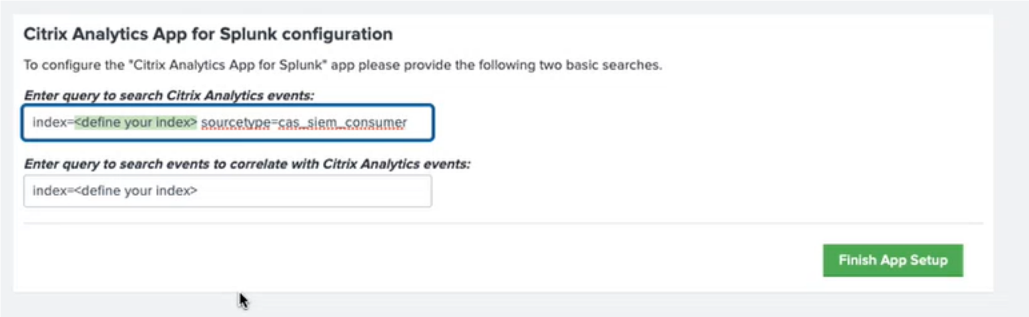
You must set up your new app before you can use it.

2. Enter the following queries:

   - Index and source type where the data from Citrix Analytics for Performance are stored.

     > **Note**
     >
     > These query values must be the same as specified in the Citrix Analytics Add-on for Splunk. For more information, see Configure Citrix Analytics Add-on for Splunk.

- Index from which you want to correlate your data with Citrix Analytics for Performance.



Citrix Analytics App for Splunk configuration

To configure the "Citrix Analytics App for Splunk" app please provide the following two basic searches.

Enter query to search Citrix Analytics events:

index=<define your index> sourcetype=cas_siem_consumer

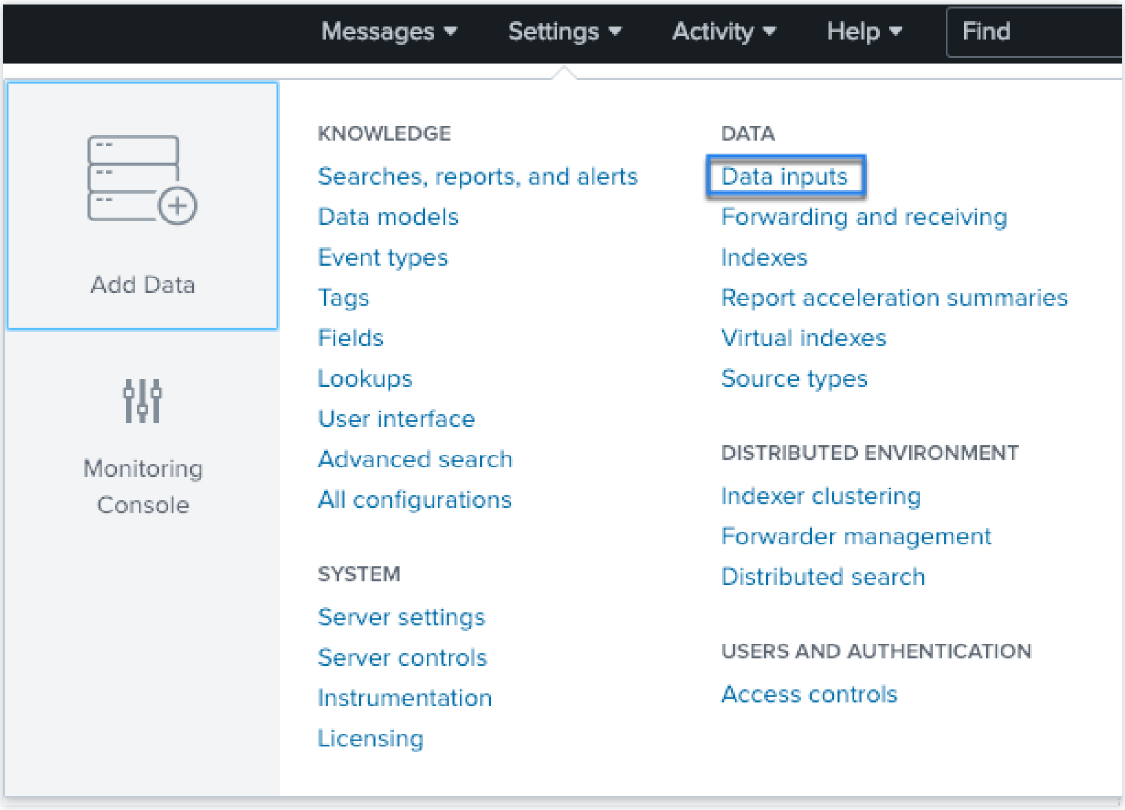
Enter query to search events to correlate with Citrix Analytics events:

index=<define your index>

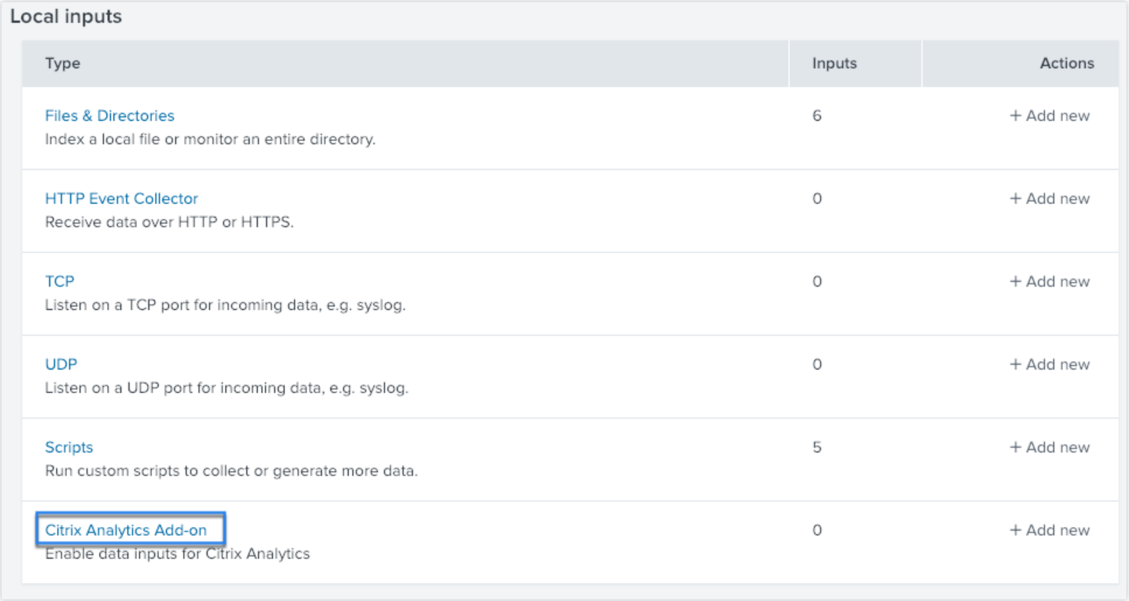
3. Click **Finish App Setup** to complete the configuration.

Configure Citrix Analytics Add-on for Splunk Configure the Citrix Analytics Add-on for Splunk using the configuration details provided by Citrix Analytics for Performance. After the add-on is successfully configured, Splunk starts consuming events from Citrix Analytics for Performance.

1. On the Splunk home page, go to **Settings** > **Data inputs**.



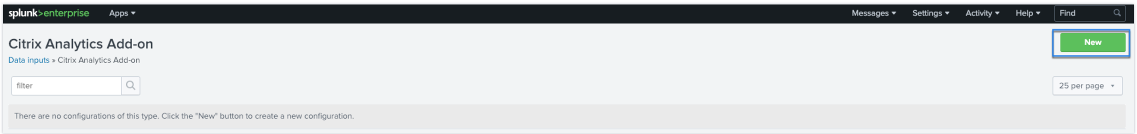
2. In the **Local inputs** section, click **Citrix Analytics Add-on**.



Local inputs

Type	Inputs	Actions
Files & Directories Index a local file or monitor an entire directory.	6	+ Add new
HTTP Event Collector Receive data over HTTP or HTTPS.	0	+ Add new
TCP Listen on a TCP port for incoming data, e.g. syslog.	0	+ Add new
UDP Listen on a UDP port for incoming data, e.g. syslog.	0	+ Add new
Scripts Run custom scripts to collect or generate more data.	5	+ Add new
Citrix Analytics Add-on Enable data inputs for Citrix Analytics	0	+ Add new

3. Click **New**.

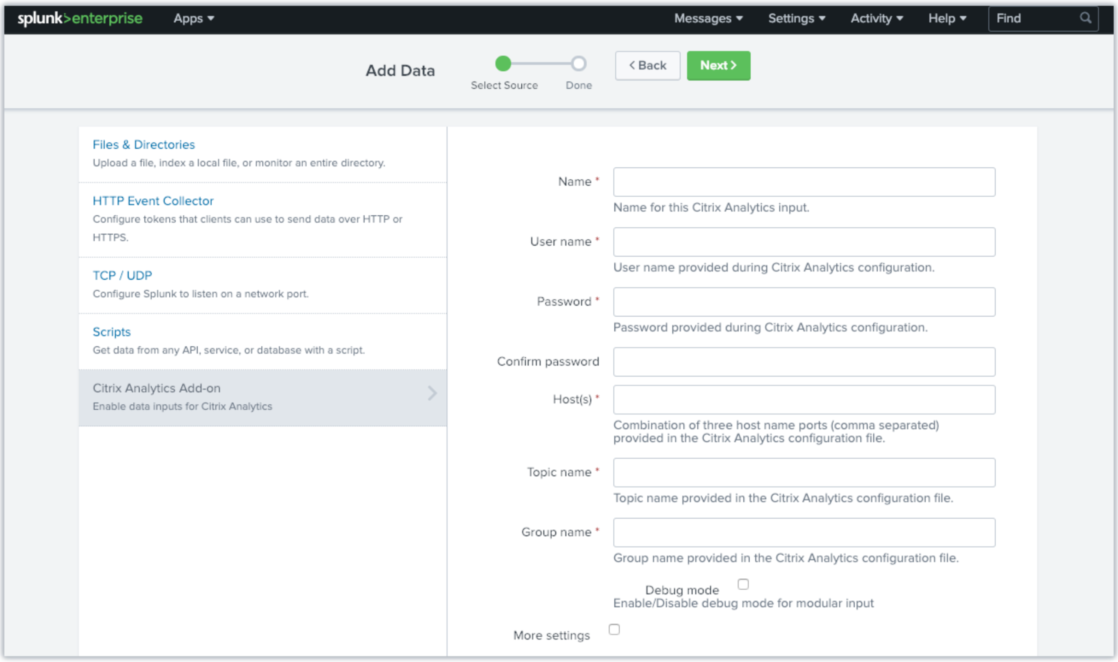


Citrix Analytics Add-on

Data inputs » Citrix Analytics Add-on

There are no configurations of this type. Click the "New" button to create a new configuration.

4. On the **Add Data** page, enter the details provided in the Citrix Analytics configuration file.



Files & Directories
Upload a file, index a local file, or monitor an entire directory.

HTTP Event Collector
Configure tokens that clients can use to send data over HTTP or HTTPS.

TCP / UDP
Configure Splunk to listen on a network port.

Scripts
Get data from any API, service, or database with a script.

Citrix Analytics Add-on
Enable data inputs for Citrix Analytics

Name *
Name for this Citrix Analytics input.

User name *
User name provided during Citrix Analytics configuration.

Password *
Password provided during Citrix Analytics configuration.

Confirm password

Host(s) *
Combination of three host name ports (comma separated) provided in the Citrix Analytics configuration file.

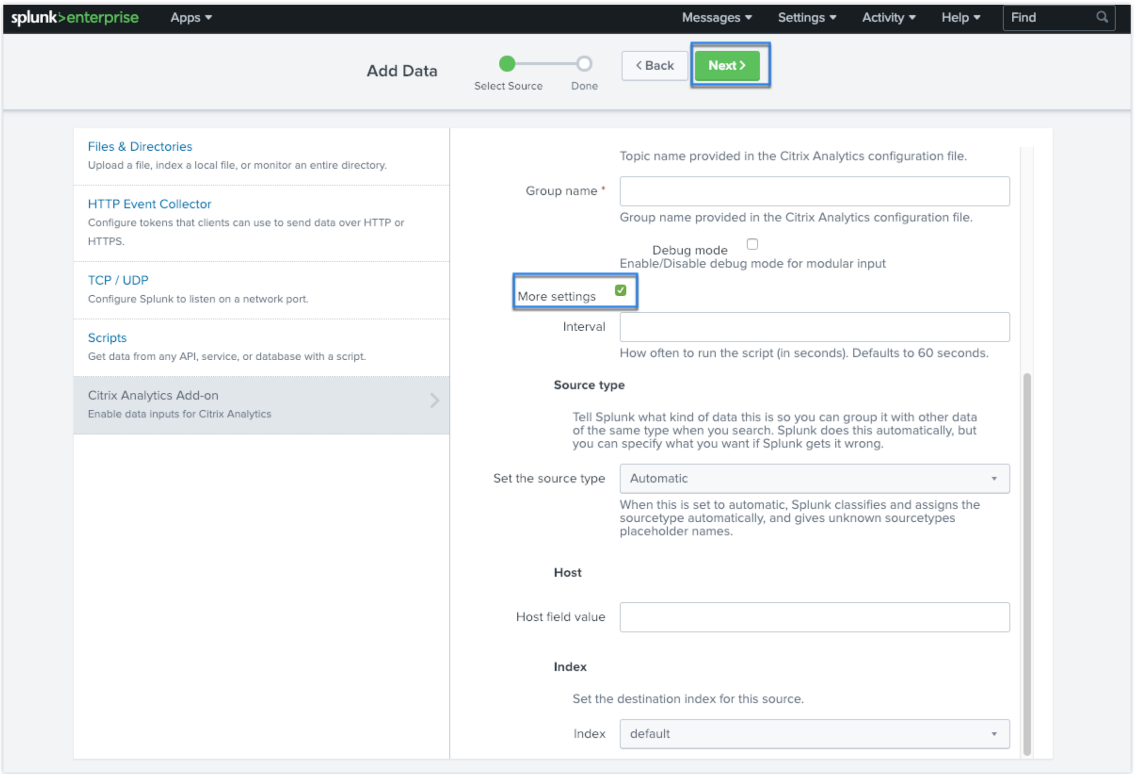
Topic name *
Topic name provided in the Citrix Analytics configuration file.

Group name *
Group name provided in the Citrix Analytics configuration file.

Debug mode □
Enable/Disable debug mode for modular input

More settings □

5. To customize your default settings, click **More settings** and set up the data input. You can define your own Splunk index, host name, and source type.



Files & Directories
Upload a file, index a local file, or monitor an entire directory.

HTTP Event Collector
Configure tokens that clients can use to send data over HTTP or HTTPS.

TCP / UDP
Configure Splunk to listen on a network port.

Scripts
Get data from any API, service, or database with a script.

Citrix Analytics Add-on
Enable data inputs for Citrix Analytics

Topic name provided in the Citrix Analytics configuration file.

Group name *
Group name provided in the Citrix Analytics configuration file.

Debug mode □
Enable/Disable debug mode for modular input

More settings ☑

Interval
How often to run the script (in seconds). Defaults to 60 seconds.

Source type

Tell Splunk what kind of data this is so you can group it with other data of the same type when you search. Splunk does this automatically, but you can specify what you want if Splunk gets it wrong.

Set the source type: Automatic
When this is set to automatic, Splunk classifies and assigns the sourcetype automatically, and gives unknown sourcetypes placeholder names.

Host

Host field value

Index

Set the destination index for this source.

Index: default

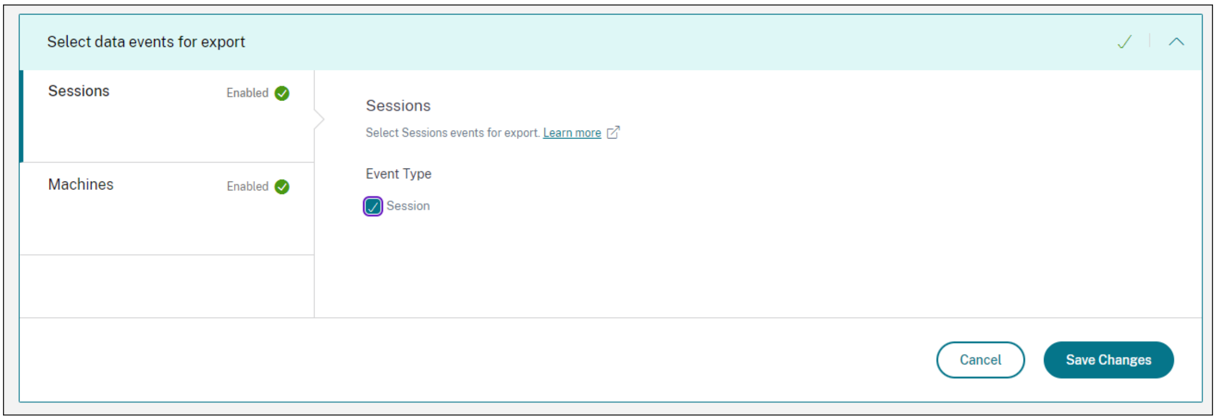
6. Click **Next**. Your Citrix Analytics data input is created and Citrix Analytics Add-on for Splunk is configured successfully.

Select data events for Export

This section lists data that is exported to the Observability platform. You can select the events you want to export from the Sessions and Machines data sources. The changes made to this selection takes up to two hours to be available in the exported data.

How to consume events in Splunk

After you configure the add-on, Splunk starts retrieving performance data and events from Citrix Analytics for Performance. You can start searching your organization's events on the Splunk search head based on the configured data input.



Select data events for export

Sessions Enabled ✓

Machines Enabled ✓

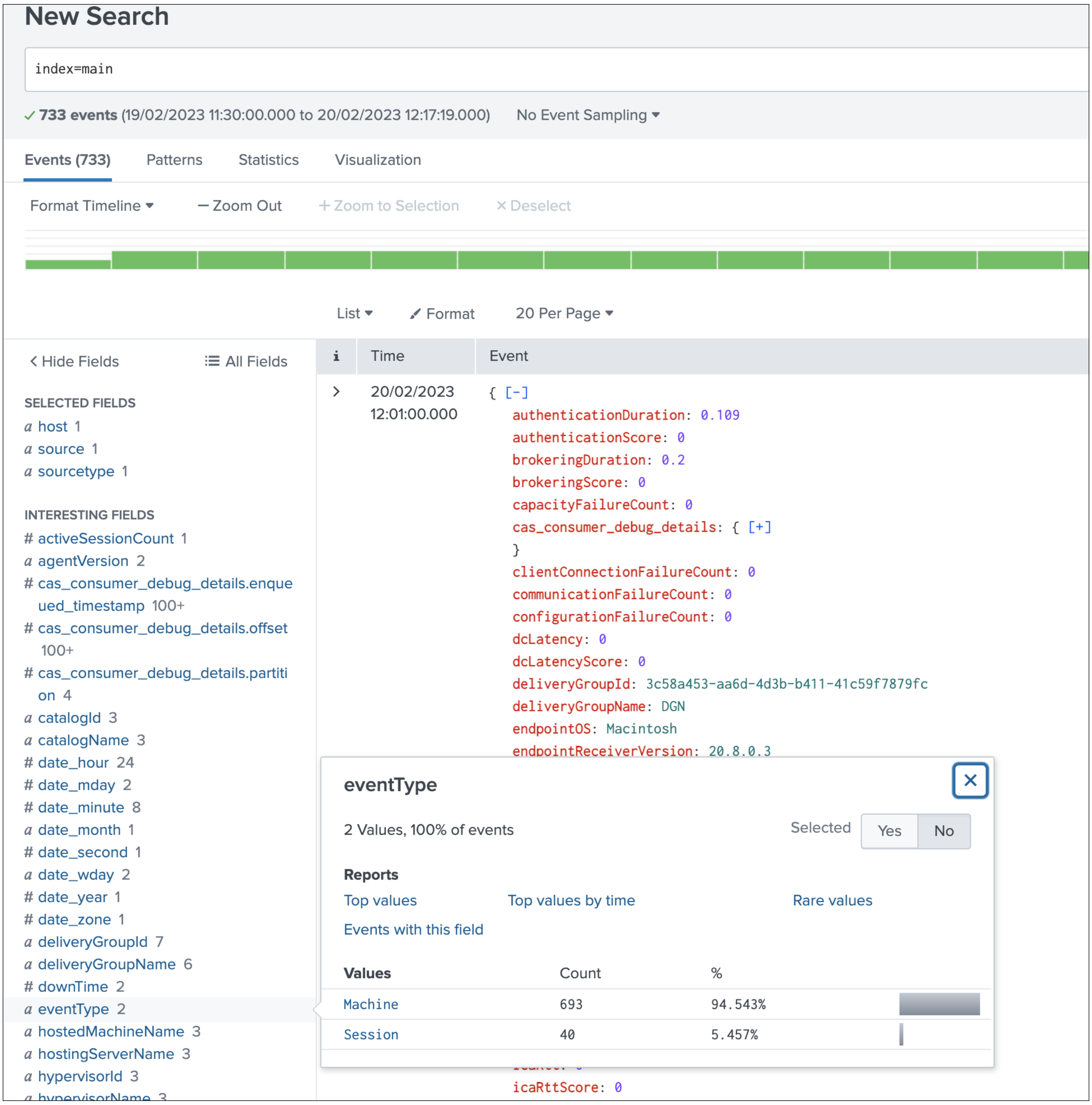
Sessions

Select Sessions events for export. Learn more

Event Type

☑ Session

The search results are displayed in the following format:



New Search

index=main

✓ 733 events (19/02/2023 11:30:00.000 to 20/02/2023 12:17:19.000) No Event Sampling

SELECTED FIELDS

a host 1
a source 1
a sourcetype 1

INTERESTING FIELDS

activeSessionCount 1
a agentVersion 2
# cas_consumer_debug_details.enqueued_timestamp 100+
# cas_consumer_debug_details.offset 100+
# cas_consumer_debug_details.partition 4
a catalogId 3
a catalogName 3
# date_hour 24
# date_mday 2
# date_minute 8
a date_month 1
# date_second 1
a date_wday 2
# date_year 1
# date_zone 1
a deliveryGroupId 7
a deliveryGroupName 6
# downTime 2
a eventType 2
a hostedMachineName 3
a hostingServerName 3
a hypervisorId 3
a hypervisorName 3

i	Time	Event
>	20/02/2023 12:01:00.000	

```
{ [-]
   authenticationDuration: 0.109
   authenticationScore: 0
   brokeringDuration: 0.2
   brokeringScore: 0
   capacityFailureCount: 0
   cas_consumer_debug_details: { [+]
   }
   clientConnectionFailureCount: 0
   communicationFailureCount: 0
   configurationFailureCount: 0
   dcLatency: 0
   dcLatencyScore: 0
   deliveryGroupId: 3c58a453-aa6d-4d3b-b411-41c59f7879fc
   deliveryGroupName: DGN
   endpointOS: Macintosh
   endpointReceiverVersion: 20.8.0.3
   icaRttScore: 0
```

eventType ×

2 Values, 100% of events

Selected Yes No

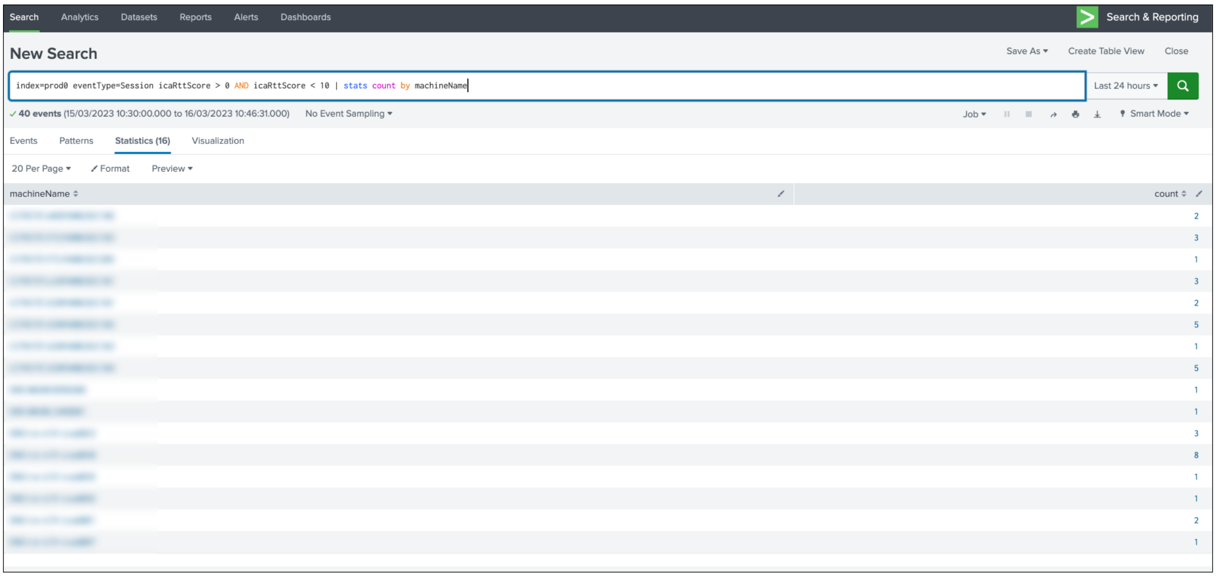
Reports

Top values Top values by time Rare values

Events with this field

Values	Count	%
Machine	693	94.543%
Session	40	5.457%

A sample displaying the list of machines running sessions with poor session responsiveness:

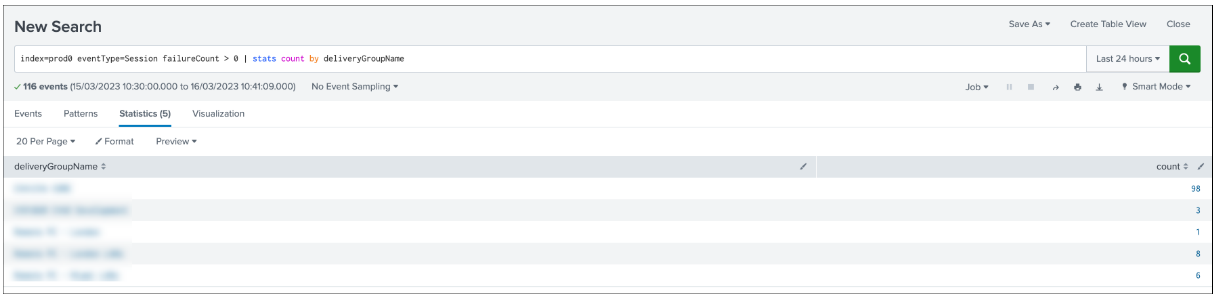


```
index=prod0 eventType=Session icaRttScore > 0 AND icaRttScore < 10 | stats count by machineName
```

✓ 40 events (15/03/2023 10:30:00.000 to 16/03/2023 10:46:31.000) No Event Sampling ▾

machineName	count
[redacted]	2
[redacted]	3
[redacted]	1
[redacted]	3
[redacted]	2
[redacted]	5
[redacted]	1
[redacted]	5
[redacted]	1
[redacted]	1
[redacted]	3
[redacted]	8
[redacted]	1
[redacted]	1
[redacted]	2
[redacted]	1

A sample displaying the failed sessions:



```
index=prod0 eventType=Session failureCount > 0 | stats count by deliveryGroupName
```

✓ 116 events (15/03/2023 10:30:00.000 to 16/03/2023 10:41:09.000) No Event Sampling ▾

deliveryGroupName	count
[redacted]	98
[redacted]	3
[redacted]	1
[redacted]	8
[redacted]	6

For more information about the data format, see Data Structure of the Machines Events and Data Structure of the Sessions Events.

For more information about Splunk integration, refer to the following links:

- Citrix Analytics Integration with Splunk
- The Citrix Analytics add-on for Splunk, now in Splunkbase

Troubleshoot Citrix Analytics Add-on for Splunk

If you don't see any data in your Splunk dashboards or encountered issues while configuring Citrix Analytics Add-on for Splunk, perform the debugging steps to fix the issue. For more information, see Configuration issues with Citrix Analytics add-on for Splunk.

> **Note**

> Contact CAS-PM-Ext@cloud.com to request assistance for the Splunk integration, exporting data to Splunk, or to provide feedback.

Elasticsearch integration

March 29, 2024

> **Note:**
>
> Contact CAS-PM-Ext@cloud.com to request assistance for the Elasticsearch integration, exporting data to Elasticsearch, or provide feedback.

You can integrate Citrix Analytics for Performance with Elasticsearch by using the Logstash engine. This integration enables you to export and correlate the users'data from your Citrix IT environment to Elasticsearch and get deeper insights into your organization's security posture.

For more information about the benefits of the integration and the type of processed data that is sent to your Observability platform, see Data Export.

Prerequisites

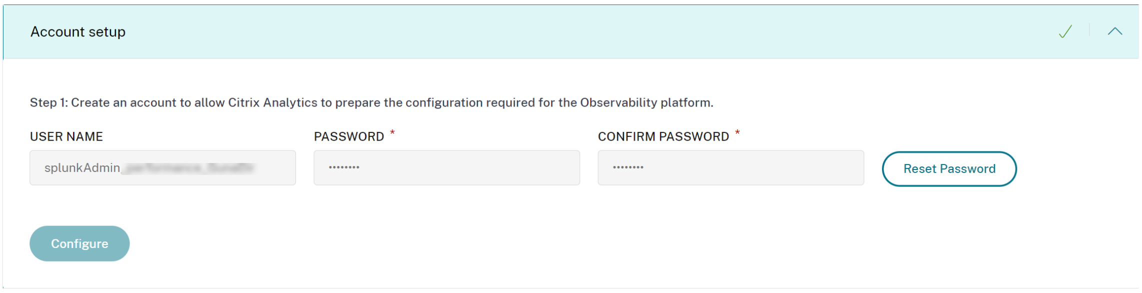
- Turn on data processing for at least one data source. It helps Citrix Analytics for Performance to begin the Elasticsearch integration process.
- Ensure that the following endpoint is in the allow list in your network.

Endpoint	United States region	European Union region	Asia Pacific South region

Kafka brokers	`casnb-0.citrix.com:9094`
	`casnb-1.citrix.com:9094`
	`casnb-2.citrix.com:9094`
	`casnb-3.citrix.com:9094`
		`casnb-eu-0.citrix.com:9094`
		`casnb-eu-1.citrix.com:9094`
		`casnb-eu-2.citrix.com:9094`
			`casnb-aps-0.citrix.com:9094`
			`casnb-aps-1.citrix.com:9094`
			`casnb-aps-2.citrix.com:9094`

Integrate with Elasticsearch

1. Go to **Settings** > **Data Exports**.
2. On the **Account set up** section, create an account by specifying the user name and a password. This account is used to prepare a configuration file, which is required for integration.

   Account setup

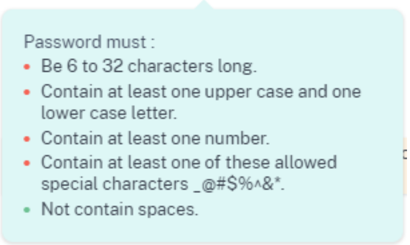
   Step 1: Create an account to allow Citrix Analytics to prepare the configuration required for the Observability platform.

   USER NAME: splunkAdmin [redacted]

   PASSWORD *: ········

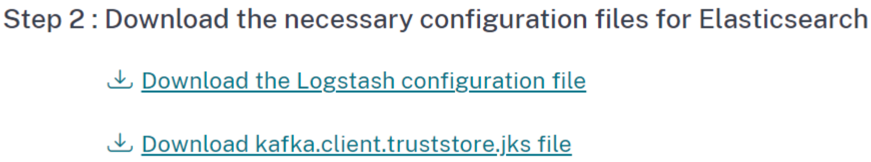
   CONFIRM PASSWORD *: ········

3. Ensure that the password meets the following conditions:

   Password must :
   - Be 6 to 32 characters long.
   - Contain at least one upper case and one lower case letter.
   - Contain at least one number.
   - Contain at least one of these allowed special characters _@#$%^&*.
   - Not contain spaces.

4. Click **Configure** to generate the Logstash configuration file.

   Step 2 : Download the necessary configuration files for Elasticsearch

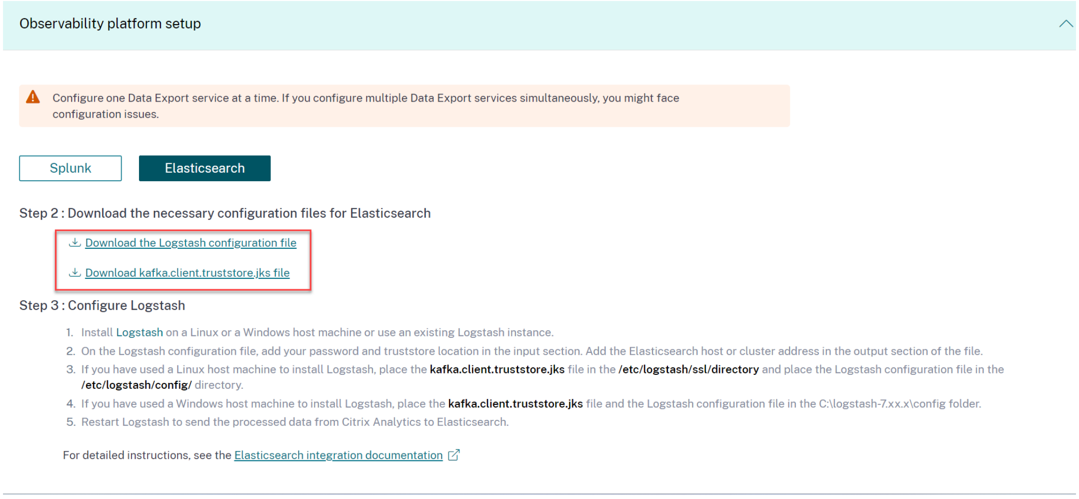
   Download the Logstash configuration file

   Download kafka.client.truststore.jks file

5. Select the **Elastic Search** tab from the Observability Platform section to download the configuration files:

   - **Logstash config file**: Contains the configuration data (input, filter, and output sections) for sending events from Citrix Analytics for Performance to Elasticsearch using the Logstash data collection engine. For information on the Logstash config file structure, see the Logstash documentation.
   - **JKS file**: Includes the certificates required for SSL connection.

     > **Note**
     >
     > These files contain sensitive information. Keep them in a safe and secure location.



Observability platform setup

Configure one Data Export service at a time. If you configure multiple Data Export services simultaneously, you might face configuration issues.

Step 2 : Download the necessary configuration files for Elasticsearch

- Download the Logstash configuration file
- Download kafka.client.truststore.jks file

Step 3 : Configure Logstash

1. Install Logstash on a Linux or a Windows host machine or use an existing Logstash instance.
2. On the Logstash configuration file, add your password and truststore location in the input section. Add the Elasticsearch host or cluster address in the output section of the file.
3. If you have used a Linux host machine to install Logstash, place the **kafka.client.truststore.jks** file in the **/etc/logstash/ssl/directory** and place the Logstash configuration file in the **/etc/logstash/config/** directory.
4. If you have used a Windows host machine to install Logstash, place the **kafka.client.truststore.jks** file and the Logstash configuration file in the C:\logstash-7.xx.x\config folder.
5. Restart Logstash to send the processed data from Citrix Analytics to Elasticsearch.

For detailed instructions, see the Elasticsearch integration documentation

6. Configure Logstash:

   a) On your Linux or Windows host machine, install Logstash. You can also use your existing Logstash instance.

   b) On the host machine where you have installed Logstash, place the following files in the specified directory:

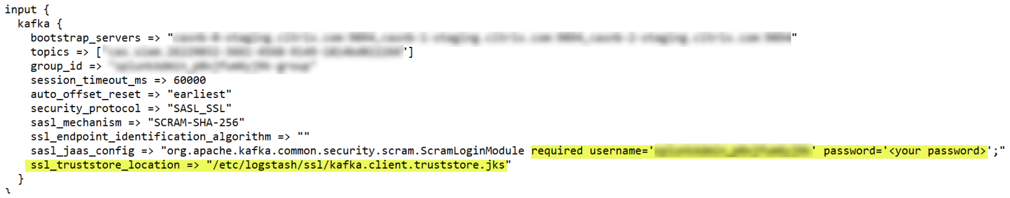
Host machine type	File name	Directory path
Linux	CAS_Elasticsearch_LogStash_Config.conf	For Debian and RPM packages: `/etc/logstash/conf.d/` For .zip and .tar.gz archives: `{ extract.path } /config`
	kafka.client.truststore.jks	For Debian and RPM packages: `/etc/logstash/ssl/` For .zip and .tar.gz archives: `{ extract.path } /ssl`
Windows	CAS_Elasticsearch_LogStash_Config.conf	`C:\logstash-7.xx.x\config`
	kafka.client.truststore.jks	

   For information on the default directory structure of Logstash installation packages, see the Logstash documentation.

   c) Open the Logstash config file and do the following:

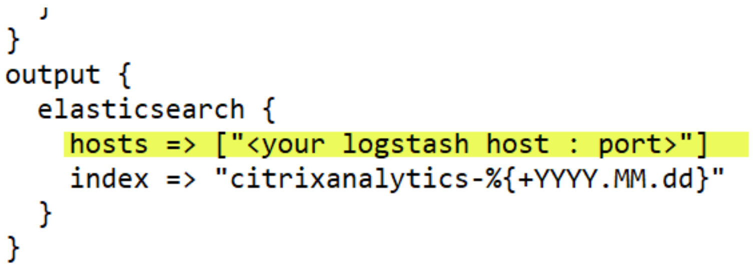
      i. In the input section of the file, enter the following information:

- **Password**: The password of the account that you've created in Citrix Analytics for Performance to prepare the configuration file.
- **SSL truststore location**: The location of your SSL client certificate. This is the location of the kafka.client.truststore.jks file in your host machine.



```
input {
  kafka {
    bootstrap_servers => "[redacted]"
    topics => ['[redacted]']
    group_id => [redacted]
    session_timeout_ms => 60000
    auto_offset_reset => "earliest"
    security_protocol => "SASL_SSL"
    sasl_mechanism => "SCRAM-SHA-256"
    ssl_endpoint_identification_algorithm => ""
    sasl_jaas_config => "org.apache.kafka.common.security.scram.ScramLoginModule required username='[redacted]' password='<your password>';"
    ssl_truststore_location => "/etc/logstash/ssl/kafka.client.truststore.jks"
  }
}
```

ii. In the output section of the file, enter the address of your host machine or the cluster where Elasticsearch is running.



```
  }
}
output {
  elasticsearch {
    hosts => ["<your logstash host : port>"]
    index => "citrixanalytics-%{+YYYY.MM.dd}"
  }
}
```

d) Restart your host machine to send processed data from Citrix Analytics for Performance to Elasticsearch.

After configuration is complete, verify that you can view the Citrix Analytics data in your Elasticsearch.

Logstash configuration

A sample Logstash configuration can be downloaded from the Citrix Analytics for Performance page.

The following is a small variation of the Logstash pipeline definition that can support the provided sample Kibana dashboards:

```
filter {

  json {

    source => "message"
    remove_field => ["message"]
   }

  date {

    match => [ "timestamp", "ISO8601", "yyyy-MM-dd HH:mm:ss" ]
    target => "@timestamp"
   }

 }


filter {

  mutate {

    copy => ["eventType", "[@metadata][eventTypeIndex]"]
   }

 }


filter {

  mutate {

    lowercase => ["[@metadata][eventTypeIndex]"]
   }

 }


output {

  elasticsearch {

    hosts => ["<your logstash host : port>"]
    index => "citrixanalytics-%{
 [@metadata][eventTypeIndex] }
 -%{
 +YYYY.MM.dd }
 "
   }

 }

<!--NeedCopy-->
```

Based on the previous configuration, Logstash uses the `eventType` field to separate Session and Machine events to separate indexes.

You can replace the “filter”and “output”sections of the default configuration file downloaded from the Citrix Analytics page with the preceding content and restart the Logstash service.

Kibana dashboard samples

You can import the sample Kibana dashboard provided by Citrix which includes:

- Metrics
- Time charts
- Other useful visualizations of session and infrastructure telemetry.

You can download the dashboard definitions (JSON files) from the Citrix Analytics downloads page.

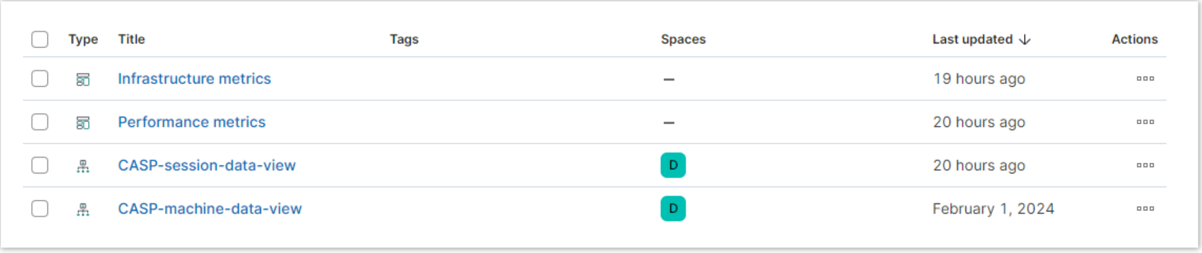
You can import the dashboard files into your Kibana instance, either to a Elasticsearch cloud or enterprise account.

Before importing the dashboard, make sure you have properly configured your Logstash, Elasticsearch, and Kibana instances and are able to view `citrixanalytics` indexes in the Kibana Index Management page.

To import the dashboards and referenced data views, perform the following steps:

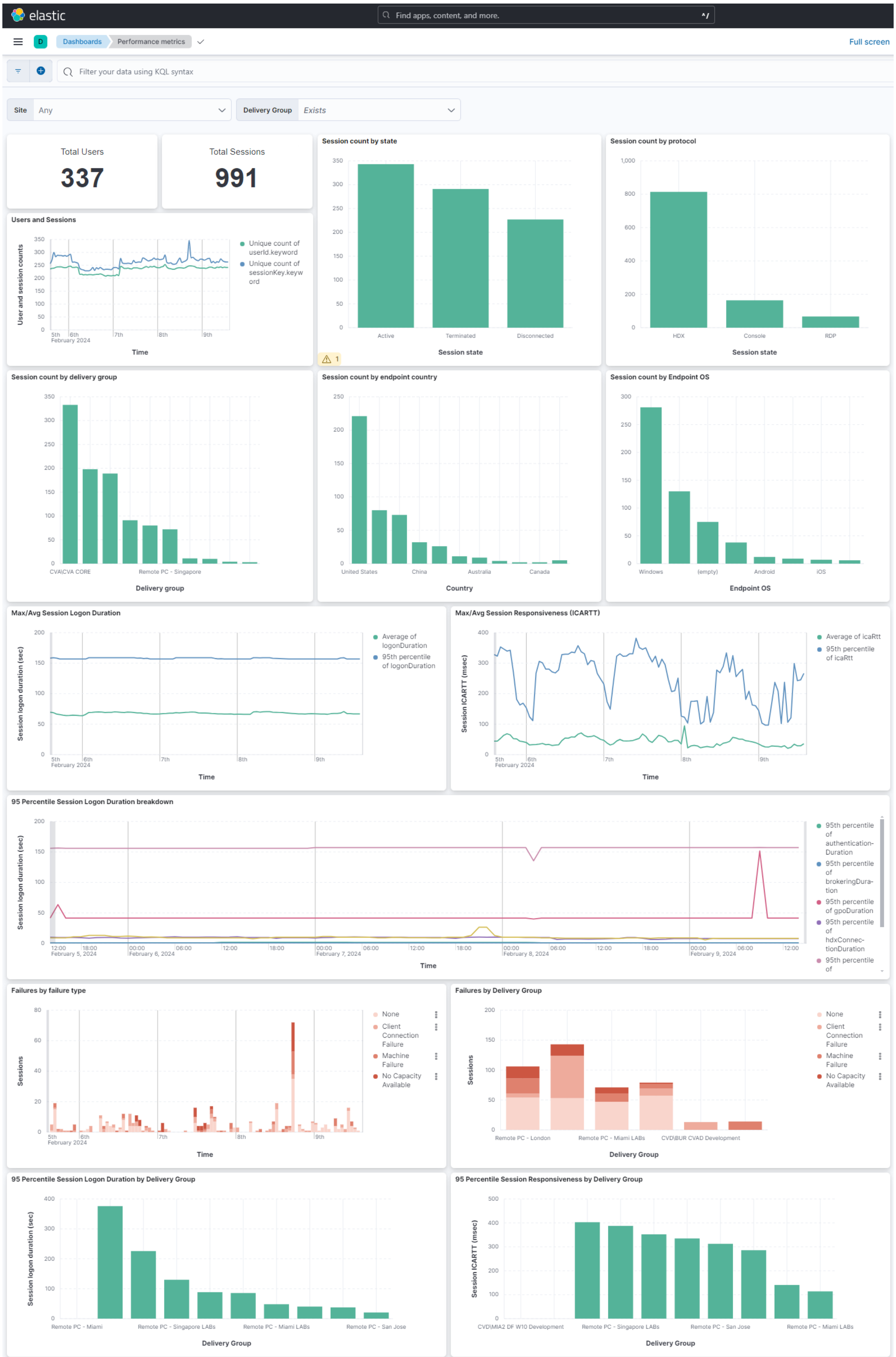
1. Navigate to **Management** > **Saved Object**.
2. Click **Import** and select the provided `ndjson` file included in the given compressed file.
3. You can optionally select **Create new objects with random IDs**.
4. Click **Import**.

After you complete the preceding steps, you can view the four new saved objects as displayed in the following image:



□	Type	Title	Tags	Spaces	Last updated ↓	Actions
□		Infrastructure metrics		–	19 hours ago	⋯
□		Performance metrics		–	20 hours ago	⋯
□		CASP-session-data-view		D	20 hours ago	⋯
□		CASP-machine-data-view		D	February 1, 2024	⋯

The data views are referenced by the dashboard visualizations and are referencing the indexes defined in the preceding Logstash configuration. You must be able to open the dashboards. The following are sample dashboards:



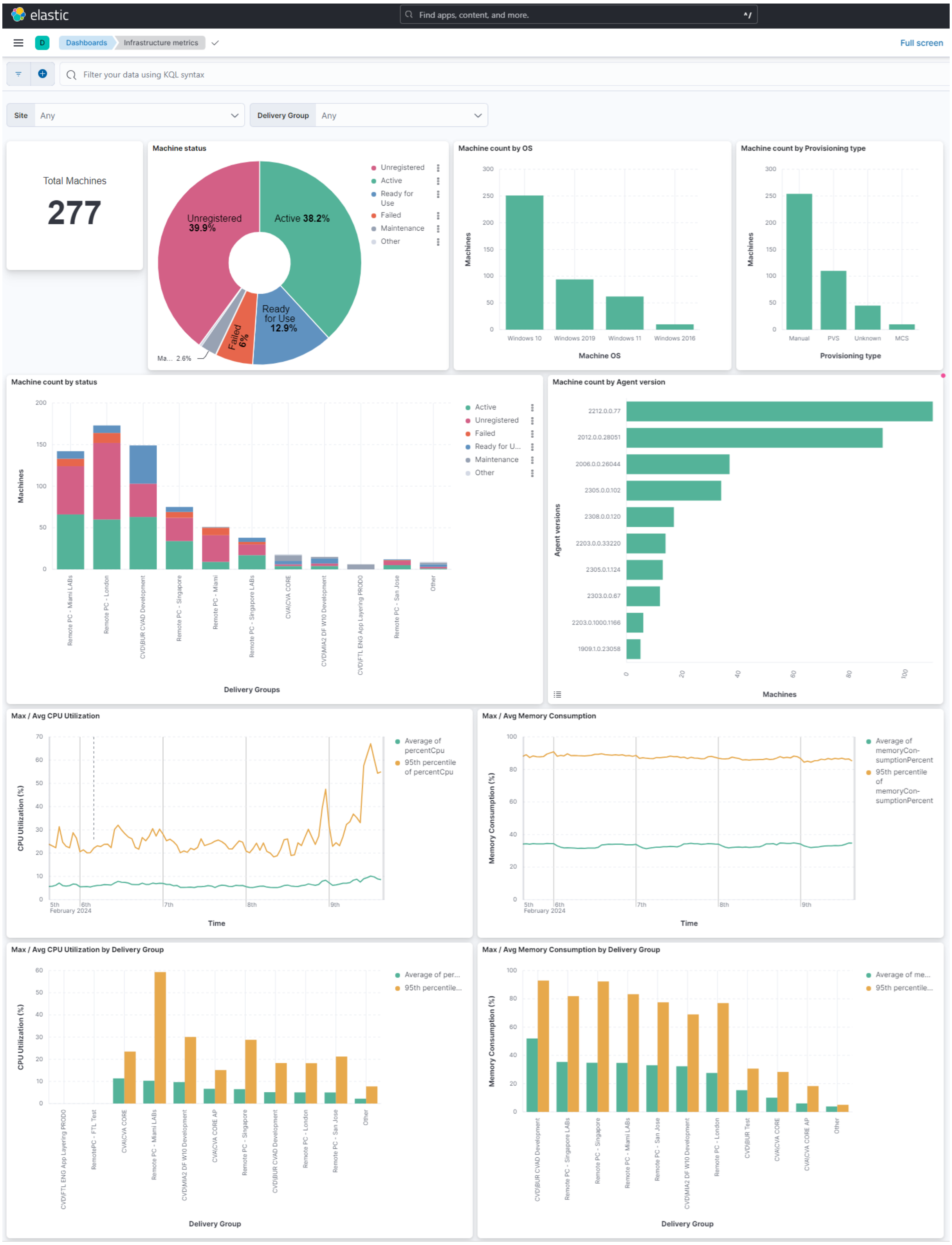
Site: Any

Delivery Group: Exists

Total Users 337

Total Sessions 991

elastic
Find apps, content, and more.
Dashboards
Performance metrics
Full screen
Filter your data using KQL syntax
Users and Sessions
User and session counts
Unique count of userId.keyword
Unique count of sessionKey.keyword
5th February 2024
6th
7th
8th
9th
Time
Session count by state
Active
Terminated
Disconnected
Session state
Session count by protocol
HDX
Console
RDP
Session state
Session count by delivery group
CVA\CVA CORE
Remote PC - Singapore
Delivery group
Session count by endpoint country
United States
China
Australia
Canada
Country
Session count by Endpoint OS
Windows
(empty)
Android
iOS
Endpoint OS
Max/Avg Session Logon Duration
Session logon duration (sec)
Average of logonDuration
95th percentile of logonDuration
Time
Max/Avg Session Responsiveness (ICARTT)
Session ICARTT (msec)
Average of icaRtt
95th percentile of icaRtt
Time
95 Percentile Session Logon Duration breakdown
Session logon duration (sec)
12:00 February 5, 2024
00:00 February 6, 2024
00:00 February 7, 2024
00:00 February 8, 2024
00:00 February 9, 2024
Time
95th percentile of authenticationDuration
95th percentile of brokeringDuration
95th percentile of gpoDuration
95th percentile of hdxConnectionDuration
95th percentile of
Failures by failure type
Sessions
None
Client Connection Failure
Machine Failure
No Capacity Available
Time
Failures by Delivery Group
Sessions
Remote PC - London
Remote PC - Miami LABs
CVD\BUR CVAD Development
Delivery Group
95 Percentile Session Logon Duration by Delivery Group
Session logon duration (sec)
Remote PC - Miami
Remote PC - Singapore LABs
Remote PC - Miami LABs
Remote PC - San Jose
Delivery Group
95 Percentile Session Responsiveness by Delivery Group
Session ICARTT (msec)
CVD\MIA2 DF W10 Development
Remote PC - Singapore LABs
Remote PC - San Jose
Remote PC - Miami LABs
Delivery Group

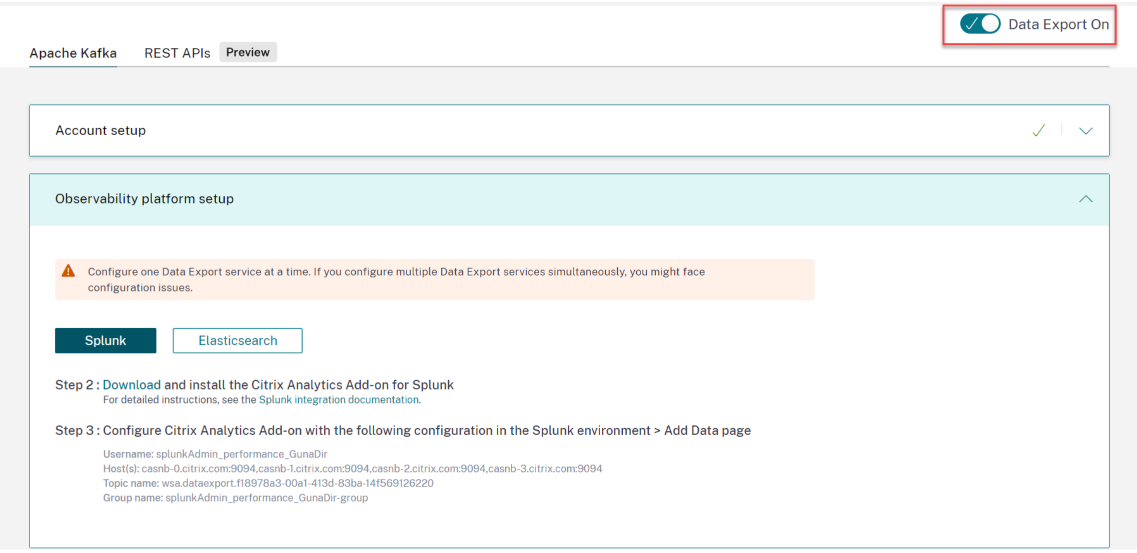

elastic
Find apps, content, and more.
Dashboards
Infrastructure metrics
Full screen
Filter your data using KQL syntax
Site Any
Delivery Group Any
Total Machines
277
Machine status
Unregistered 39.9%
Active 38.2%
Ready for Use 12.9%
Failed 6%
Ma... 2.6%
Unregistered
Active
Ready for Use
Failed
Maintenance
Other
Machine count by OS
Machines
Windows 10
Windows 2019
Windows 11
Windows 2016
Machine OS
Machine count by Provisioning type
Manual
PVS
Unknown
MCS
Provisioning type
Machine count by status
Remote PC - Miami LABs
Remote PC - London
CVDBUR CVAD Development
Remote PC - Singapore
Remote PC - Miami
Remote PC - Singapore LABs
CVACVA CORE
CVDMIA2 DF W10 Development
CVDFTL ENG App Layering PROD0
Remote PC - San Jose
Other
Delivery Groups
Active
Unregistered
Failed
Ready for U...
Maintenance
Other
Machine count by Agent version
Agent versions
2212.0.0.77
2012.0.0.28051
2006.0.0.26044
2305.0.0.102
2308.0.0.120
2203.0.0.33220
2305.0.1.124
2303.0.0.67
2203.0.1000.1166
1909.1.0.23058
Machines
Max / Avg CPU Utilization
CPU Utilization (%)
5th February 2024
6th
7th
8th
9th
Time
Average of percentCpu
95th percentile of percentCpu
Max / Avg Memory Consumption
Memory Consumption (%)
Average of memoryConsumptionPercent
95th percentile of memoryConsumptionPercent
Max / Avg CPU Utilization by Delivery Group
CVDFTL ENG App Layering PROD0
RemotePC - FTL Test
CVACVA CORE
Remote PC - Miami LABs
CVDMIA2 DF W10 Development
CVACVA CORE AP
Remote PC - Singapore
CVDBUR CVAD Development
Remote PC - London
Remote PC - San Jose
Other
Delivery Group
Average of per...
95th percentile...
Max / Avg Memory Consumption by Delivery Group
CVDBUR CVAD Development
Remote PC - Singapore LABs
Remote PC - Singapore
Remote PC - Miami LABs
Remote PC - San Jose
CVDMIA2 DF W10 Development
Remote PC - London
CVDBUR Test
CVACVA CORE
CVACVA CORE AP
Other
Average of me...
95th percentile...

Turn on or off data transmission

After Citrix Analytics for Performance prepares the configuration file, data transmission is turned on for Elasticsearch.

To stop transmitting data from Citrix Analytics for Performance:

1. Go to **Settings** > **Data Exports**.
2. Turn off the toggle button to disable the data transmission. By default, the **data transmission** is always enabled.



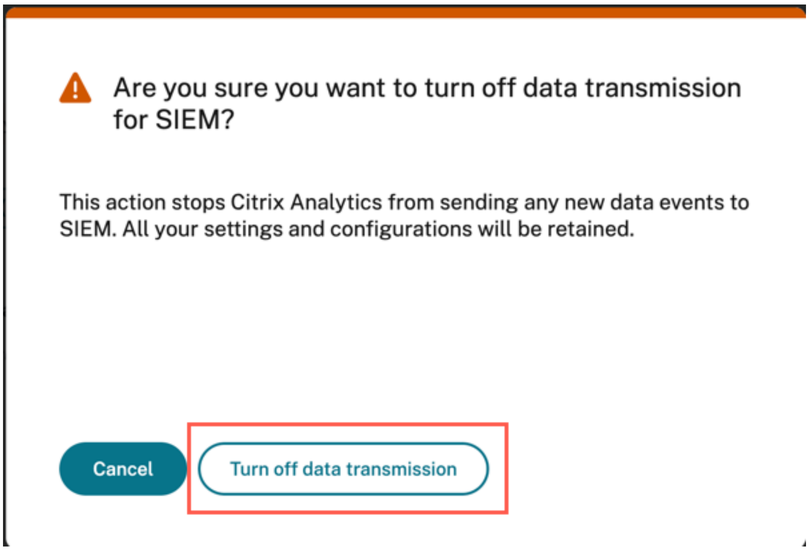
Configure one Data Export service at a time. If you configure multiple Data Export services simultaneously, you might face configuration issues.

Step 2 : Download and install the Citrix Analytics Add-on for Splunk
For detailed instructions, see the Splunk integration documentation.

Step 3 : Configure Citrix Analytics Add-on with the following configuration in the Splunk environment > Add Data page

Username: splunkAdmin_performance_GunaDir
Host(s): casnb-0.citrix.com:9094,casnb-1.citrix.com:9094,casnb-2.citrix.com:9094,casnb-3.citrix.com:9094
Topic name: wsa.dataexport.f18978a3-00a1-413d-83ba-14f569126220
Group name: splunkAdmin_performance_GunaDir-group

3. A warning window appears for your confirmation. Click **Turn off data transmission** to stop the transmission activity.



Are you sure you want to turn off data transmission for SIEM?

This action stops Citrix Analytics from sending any new data events to SIEM. All your settings and configurations will be retained.

To enable data transmission again, turn on the toggle button.

Grafana integration

March 26, 2024

> **Note:**
>
> Contact CAS-PM-Ext@cloud.com to request assistance for the Grafana integration, exporting data to Grafana, or provide feedback.

You can integrate Citrix Analytics for Performance with Grafana by using the `Promtail` agent. This integration enables you to export and correlate the session and infrastructure data from your Citrix IT environment to Grafana. Also, get deeper insights into your organization's security posture.

For more information about the following, see Data Export:

- Benefits of the integration
- The type of processed data that is sent to your Observability platform

Prerequisites

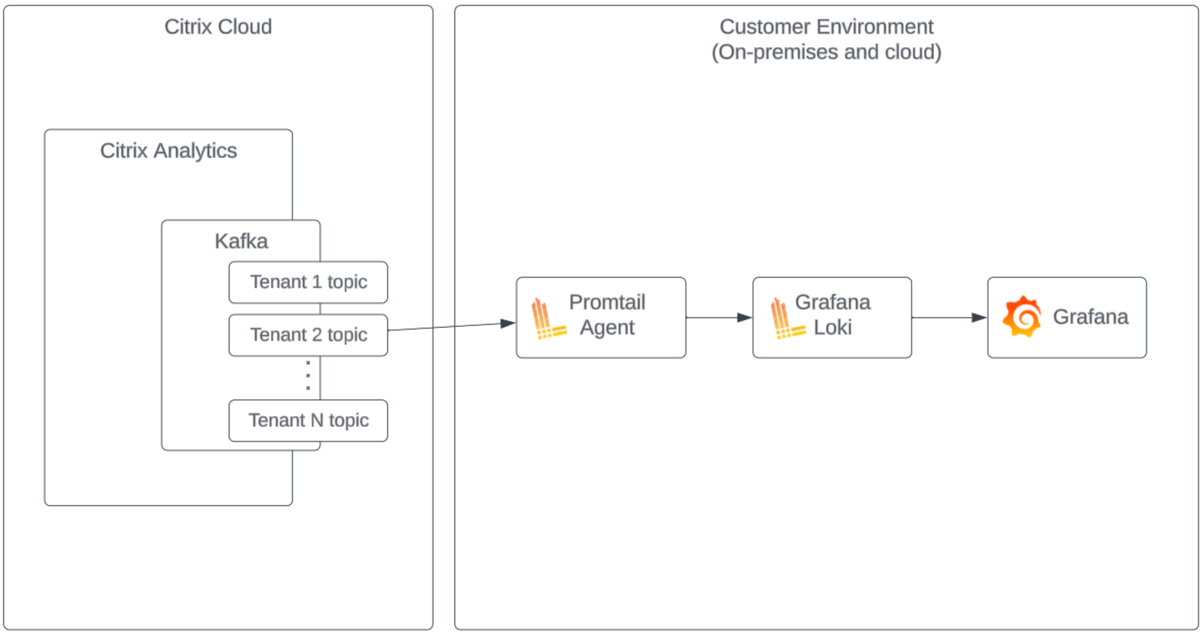
- Turn on data processing for at least one data source. It helps Citrix Analytics for Performance to begin the Grafana integration process.
- Ensure that the following endpoint is in the allow list in your network.

Endpoint	United States region	European Union region	Asia Pacific South region

Kafka brokers	`casnb-0.citrix.com:9094`
	`casnb-1.citrix.com:9094`
	`casnb-2.citrix.com:9094`
	`casnb-3.citrix.com:9094`
		`casnb-eu-0.citrix.com:9094`
		`casnb-eu-1.citrix.com:9094`
		`casnb-eu-2.citrix.com:9094`
			`casnb-aps-0.citrix.com:9094`
			`casnb-aps-1.citrix.com:9094`
			`casnb-aps-2.citrix.com:9094`

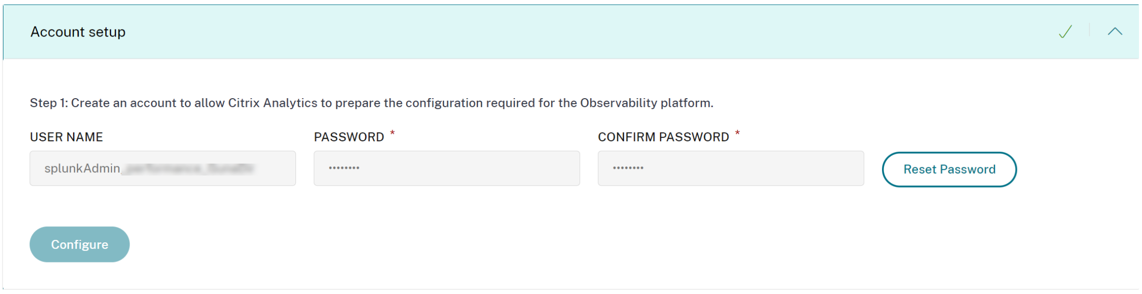
Integrate with Grafana

The following architecture diagram explains how data flows from Citrix Analytics for Performance to the Grafana observability platform:



Setup Data Export account

1. Go to **Settings** > **Data Exports**.
2. On the **Account set up** section, create an account by specifying the user name and a password. This account is used in the `Promtail` configuration file, which is required for the integration.

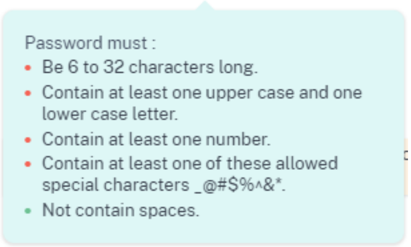


Account setup

Step 1: Create an account to allow Citrix Analytics to prepare the configuration required for the Observability platform.

USER NAME	PASSWORD *	CONFIRM PASSWORD *
splunkAdmin_[redacted]	········	········

3. Ensure that the password meets the following conditions:



Password must :

- Be 6 to 32 characters long.
- Contain at least one upper case and one lower case letter.
- Contain at least one number.
- Contain at least one of these allowed special characters _@#$%^&*.
- Not contain spaces.

Promtail configuration

The Promtail is an agent which ships the contents of local logs to a private Grafana Loki instance or Grafana Cloud. You can install the Promtail Agent using Docker, Helm, apt, or even manually.

Promtail is configured in a YAML file, usually referred to as config.yaml. This YAML file contains information on the Promtail server, where positions are stored, and how to scrape logs from files.

The following is a sample Promtail scrape configuration for consuming records from the Citrix Analytics for Performance:

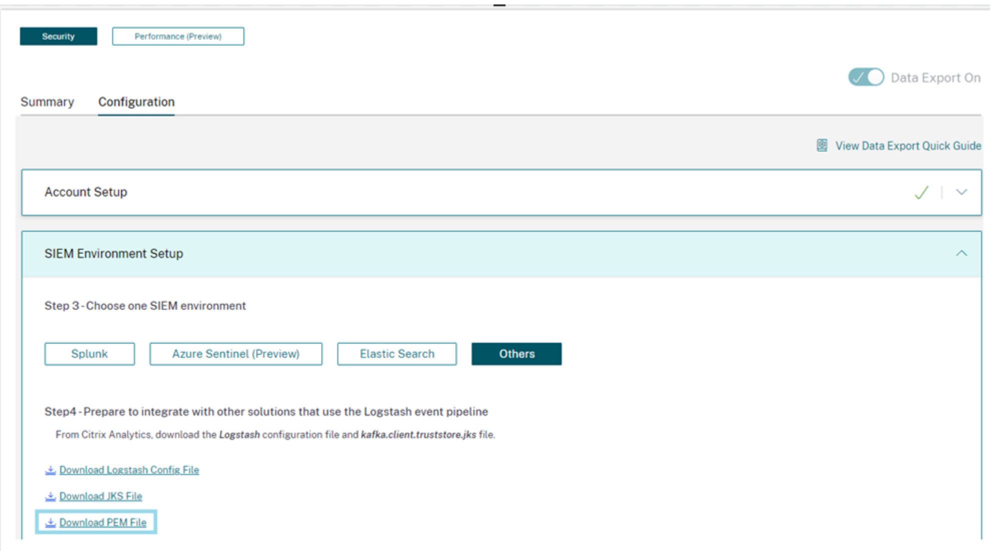
```
scrape_configs:
- job_name: kafka
  kafka:
    brokers:
      - [Citrix Analytics Kafka broker1]
      - [Citrix Analytics Kafka broker2]
      ...
    topics:
      - [Citrix Analytics for Performance Kafka topic]
    group_id: [Citrix Analytics Kafka group ID]
    authentication:
      type: sasl
      sasl_config:
        mechanism: SCRAM-SHA-256
        user: [Citrix Analytics Kafka account username]
        password: [Citrix Analytics Kafka account password]
        ca_file: [Path to the Citrix Analytics certificate file (.pem)]
        use_tls: true
        insecure_skip_verify: true
    labels:
      job: kafka_casp
  relabel_configs:
      - action: replace
        source_labels:
          - __meta_kafka_topic
        target_label: topic
  pipeline_stages:
  - match:
      selector: '{
 job = "kafka_casp" }
  |= "sessionKey"'
      stages:
      - json:
          expressions:
            eventType: eventType
            siteName: siteName
            deliveryGroupName: deliveryGroupName
            protocol: protocol
            timestamp: timestamp
      - timestamp:
          source: timestamp
          format: 2006-01-02T15:04:05Z
      - labels:
          eventType:
          siteName:
          deliveryGroupName:
          protocol:
  - match:
      selector: '{
 job = "kafka_casp" }
  != "sessionKey"'
      stages:
      - json:
          expressions:
            eventType: eventType
            siteName: siteName
            deliveryGroupName: deliveryGroupName
            machineName: machineName
            timestamp: timestamp
      - timestamp:
          source: timestamp
          format: 2006-01-02 15:04:05
      - labels:
          eventType:
          siteName:
          deliveryGroupName:
          machineName:

<!--NeedCopy-->
```

Based on the preceding configuration, `Promtail` connects to the Citrix Analytics brokers and consumes the Citrix Analytics for Performance records. TThe consumed Kafka topic includes Session and Machine records.

The `Promtail` separates the Session and Machine details using the `eventType` label, but also adds labels like the `siteName` and the `deliveryGroupName`. The event **timestamp** field is parsed and overrides the final time value of the logs stored in `Loki`.

You can download the certificate file referenced in the preceding configuration using the following steps:

1. Go to **Citrix Analytics** > **Settings** > **Data Exports** > **Security**.
2. Click the **SIEM Environment Setup** pane and select the *Others* option.
3. Download the PEM file and store it in the system that hosts the `Promtail` agent.



Step 3 - Choose one SIEM environment

Step4 - Prepare to integrate with other solutions that use the Logstash event pipeline

From Citrix Analytics, download the ***Logstash*** configuration file and ***kafka.client.truststore.jks*** file.

Grafana dashboard sample

You can import the sample Grafana dashboard provided by Citrix which includes:

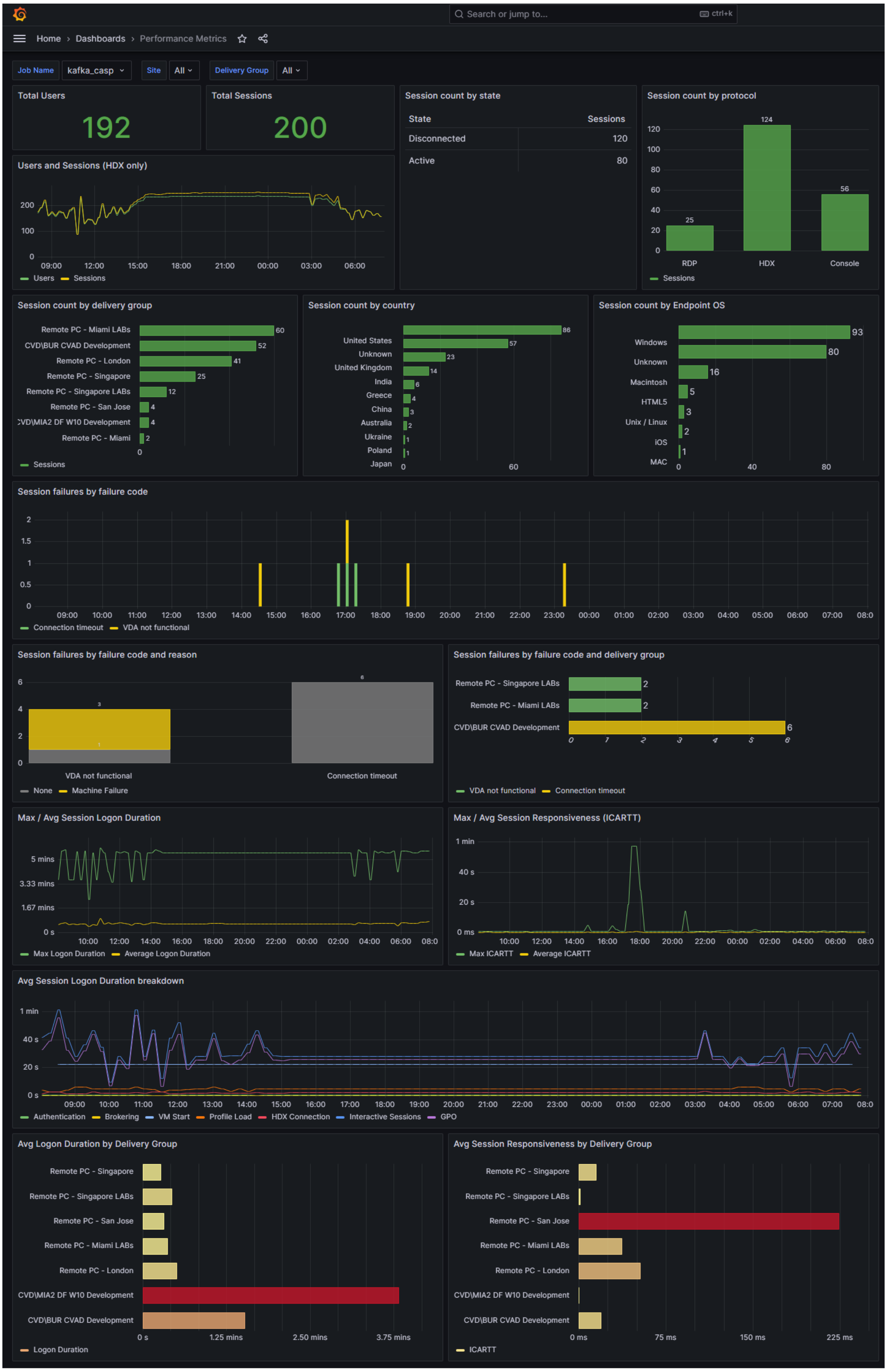
- Metrics
- Time charts
- Other useful visualizations of session and infrastructure telemetry.

You can download the dashboard definitions (JSON files) from the Citrix Analytics downloads page.

You can import the dashboard files into your Grafana instance, either to a Grafana cloud or to an enterprise account.

Before importing the dashboard, make sure that you have properly configured your `Loki` data source in Grafana. During the dashboard importing, you're prompted to select the `Loki` data source. After the dashboard is imported, you can view the dashboards on Grafana.

Following are the sample dashboards:



Home › Dashboards › Performance Metrics

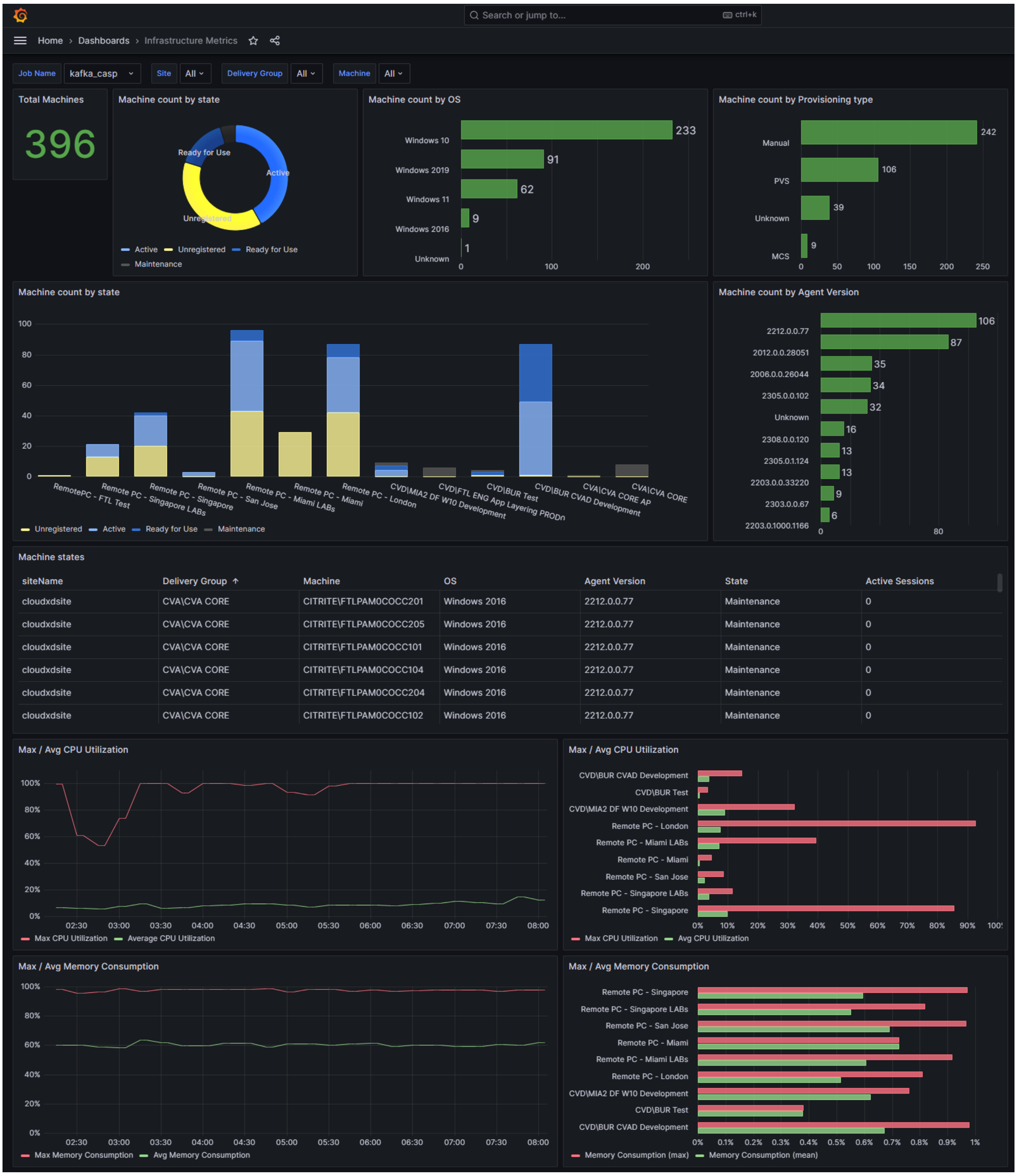
Job Name: kafka_casp | Site: All | Delivery Group: All

Total Users: 192

Total Sessions: 200

Session count by state

State	Sessions
Disconnected	120
Active	80



Machine states

siteName	Delivery Group ↑	Machine	OS	Agent Version	State	Active Sessions
cloudxdsite	CVA\CVA CORE	CITRITE\FTLPAM0COCC201	Windows 2016	2212.0.0.77	Maintenance	0
cloudxdsite	CVA\CVA CORE	CITRITE\FTLPAM0COCC205	Windows 2016	2212.0.0.77	Maintenance	0
cloudxdsite	CVA\CVA CORE	CITRITE\FTLPAM0COCC101	Windows 2016	2212.0.0.77	Maintenance	0
cloudxdsite	CVA\CVA CORE	CITRITE\FTLPAM0COCC104	Windows 2016	2212.0.0.77	Maintenance	0
cloudxdsite	CVA\CVA CORE	CITRITE\FTLPAM0COCC204	Windows 2016	2212.0.0.77	Maintenance	0
cloudxdsite	CVA\CVA CORE	CITRITE\FTLPAM0COCC102	Windows 2016	2212.0.0.77	Maintenance	0

Data Structure of the Sessions Events

March 5, 2024

Sessions Dimensions Data Source

Session Meta Data	Type	Nullable	Description	Values
sessionKey	GUID	No	Identifier for a virtual app or desktop session.	
userId	String	No	User AD identifier for a virtual app or desktop session.	
`userName`	String	No	Name of the user who has launched a virtual app or desktop session.	
deliveryGroupId	GUID	No	Delivery Group Identifier	
deliveryGroupName	String	No	Delivery Group Name	
siteId	GUID	No	Citrix Virtual Apps and Desktops Site Identifier	
siteName	String	No	Citrix Virtual Apps and Desktops Site Name	
machineId	GUID	No	Machine Identifier of the machine on which the session is launched.	
machineSid	GUID	No	Machine AD Identifier of the machine on which the session is launched.	
machineName	String	No	The name of the machine on which the session is launched.	

Session Meta Data	Type	Nullable	Description	Values
sessionLaunchStatus	String	No	Launch status of the session	0 (Successful Launch), 1(Session Failed), 2(User Terminated)
sessionStartTime	Timestamp	No	Time when the session was launched	The value format is “yyyy-MM-ddTHH:mm:ss”
protocol	String	Yes	The protocol used to launch the session	HDX, RDP, Console
sessionType	Integer	Yes	Session Type	The value mapping is: 0: Desktop, 1: Application
sessionEndTime	Timestamp	Yes	Time when the session ended	The value format is “yyyy-MM-ddTHH:mm:ss
stateChangedTime	Timestamp	Yes	The time at which the session state changed	The value format is “yyyy-MM-ddTHH:mm:ss
sessionState	String	No	Session life cycle state	The value mapping is: 0: Unknown, 1: Connected, 2: Disconnected, 3: Terminated, 4: PreparingSession, 5: Active, 6: Reconnecting, 7: NonBrokeredSession, 8: Other, and 9: Pending
sessionLaunchType	String	No	Session Launch type	ICA, ConnectionLease

Session Meta Data	Type	Nullable	Description	Values
endpointOS	String	Yes	Citrix Workspace app - OS Type	The possible values include, for example: Windows, Unix or Linux, HTML5, Macintosh, ThinOS, iOS, Chrome, and Android. However, the OS type can include more options.
endpointReceiverVersion	String	No	Citrix Workspace app Version	
endpointLocationContinent	String	No	Continent from which the session was launched.	
endpointLocationCountry	String	No	The country from which the session was launched.	
endpointLocationCity	String	No	The city from which the session was launched.	
endpointLocationLatitude	String	No	The latitude from which the session was launched.	
endpointLocationLongitude	String	No	The longitude from which the session was launched.	
endpointLocationTimezone	String	No	Timezone of the place where the session was launched.	
`isp`	String	Yes	ISP using which the session was launched.	

Session Meta Data	Type	Nullable	Description	Values
gatewayFQDN	String	Yes	Gateway FQDN through which the session was launched.	
vdaIP	String	Yes	IP of VDA on which the session was launched.	
connectionType	String	Yes	Type of connection established from the Citrix Workspace app	Internal, External
connectionViaAG	String	Yes		
networkInterfaceType	String	No	Network Interface Type of the endpoint device	Wi-Fi, Ethernet, and so on
failureReason	Integer	No	Failure Category in which error has occurred	0 - “None” 1 - “Client Connection Failure” 2 - “Machine Failure” 3 - “No Capacity Available” 4 - “No Licenses Available” 5 - “Configuration” 6 - “Communication Failure” 100 - “Blackhole VDA” 101 - “Zombie Session” 0 - “Unknown error”
failureCode	Integer	No	Specifies type of failure	

Session Meta Data	Type	Nullable	Description	Values
				1 - “No failure” 2 - “Session preparation failed” 3 - “Registration timeout” 4 - “Connection timeout” 5 - “License unavailable” 6 - “Ticketing failed” 7 - “Unknown failure” 8 - “General failure” 9 - “Resource in maintenance mode” 10 - “Application disabled” 11 - “Required feature not licensed” 12 - “VDA unavailable” 13 - “VDA is already in use” 14 - “Requested protocol not allowed” 15 - “Resource unavailable” 16 - “Active session reconnect disabled”

Session Meta Data	Type	Nullable	Description	Values
				17 - “Cannot find a session to reconnect” 18 - “VDA power-up failed” 19 - “Session refused” 20 - “Set configuration failed” 21 - “Total concurrent usage limit of app reached” 22 - “Per user usage limit of app reached” 23 - “VDA not contactable” 24 - “Per machine usage limit reached” 25 - “Per entitlement usage limit leached” 51 - “Endpoint to Machine Communication error” 52 - “Gateway to Machine Communication error” 100 - “VDA unavailable” 101 - “VDA not functional”

Session Meta Data	Type	Nullable	Description	Values
failureReasonString	String	Yes	FailureReasonString mapped to the string value of failureReason.	
failureCodeString	String	Yes	FailureCodeString mapped to the string value of failureCode.	
sessionScore	Integer	No	Session Experience score based on the performance factors	-1–100
userScore	Integer	No	User experience score calculated based on session experience and failure rate.	0 -100
icaRtt	Integer	No	Session Responsiveness (in milliseconds) which defines the average round-trip time of the ICA session in the interval of the last 15 minutes.	`>= 0`
icaRttScore	Integer	No	IcaRtt (Session Responsiveness) score is calculated based on the current IcaRtt value and deviation from the baseline threshold of that metric.	0–100

Session Meta Data	Type	Nullable	Description	Values
reconnects	Integer	No	The number of auto-reconnects that happened in the interval of the last 15 minutes.	`>= 0`
reconnectScore	Integer	No	reconnectScore(Session Resiliency) score is calculated based on the current number of auto-reconnects and deviation from the baseline threshold of that metric.	`0-100`
logonDuration	Decimal	No	Total log on duration for this session (total initialization time of the session) in seconds.	
brokeringDuration	Decimal	Yes	Total time taken by the Broker in initializing the session in seconds.	
vmStartDuration	Decimal	Yes	Total time taken in starting the VM during the logon process in seconds.	

Session Meta Data	Type	Nullable	Description	Values
hdxConnectionDuration	Decimal	Yes	Total time taken by HDX connection during the logon process in seconds.	
authenticationDuration	Decimal	Yes	Total time taken in authentication during the logon process in seconds.	
gpoDuration	Decimal	Yes	Total time taken in GPO processing during the logon process in seconds.	
logonScriptsDuration	Decimal	Yes	Total time taken in logon script processing during the logon process in seconds.	
profileLoadDuration	Decimal	Yes	Total time taken in profile load during the logon process in seconds.	
interactiveSessionsDuration	Decimal	Yes	Total time taken in initializing an interactive session including shell initialization time in seconds.	

Session Meta Data	Type	Nullable	Description	Values
logonDurationScore	Integer	No	The logonDuration score is calculated based on the current logonDuration value and deviation from the baseline threshold of that metric.	0–100
gpoScore	Integer	No	The GPO score is calculated based on the current GPO value and deviation from the baseline threshold of that metric.	0–100
profileLoadScore	Integer	No	profileLoad score is calculated based on the current profile-LoadDuration value and deviation from the baseline threshold of that metric.	0–100

Session Meta Data	Type	Nullable	Description	Values
interactiveSessionScore	Integer	No	The interactiveSession score is calculated based on the current interactiveSessionDuration value and deviation from the baseline threshold of that metric.	0–100
brokeringScore	Integer	No	Brokering score is calculated based on the current brokeringDuration value and deviation from the baseline threshold of that metric.	0–100
vmStartScore	Integer	No	The vmStart score is calculated based on the current vmStartDuration value and deviation from the baseline threshold of that metric.	0–100

Session Meta Data	Type	Nullable	Description	Values
hdxConnectionScore	Integer	No	The hdxConnection score is calculated based on the current hdxConnection-Duration value and deviation from the baseline threshold of that metric.	0–100
authenticationScore	Integer	No	authentication score is calculated based on the current authentication-Duration value and deviation from the baseline threshold of that metric.	0–100
logonScriptsScore	Integer	No	logonScripts score is calculated based on the current logonScriptsDuration value and deviation from the baseline threshold of that metric.	0–100
profileSize	Integer	Yes	Total profile size of a user.	`> 0`
totalFileCount	Integer	Yes	Total files in that profile.	`> 0`

Session Meta Data	Type	Nullable	Description	Values
largeFileCount	Integer	Yes	Total number of large files in that profile.	`> 0`
failureScore	Integer	No	Calculated based on the number of failures against the number of session launches in the interval of the last 15 minutes.	0–100
failureCount	Integer	No	Total failures that occurred in the interval of the last 15 minutes.	`>= 0`
launchAttempts	Integer	No	Total launches attempted in the interval of the last 15 minutes.	`>=0`
machineFailureCount	Integer	No	Total count of machine failures.	`>=0`
clientConnectionFailureCount	Integer	No	Total count of client connection failures.	`>=0`
capacityFailureCount	Integer	No	Total count of capacity failures.	`>=0`
configurationFailureCount	Integer	No	Total count of configuration failures.	No
licenseFailureCount	Integer	No	Total count of license failures.	`>=0`
communicationFailureCount	Integer	No	Total count of communication failures.	`>=0`

Session Meta Data	Type	Nullable	Description	Values
inputBandwidthAvailable	Integer	Yes	Average Input Bandwidth Consumed by ICA Session in the last 15 minutes.	>=0
inputBandwidthConsumed	Integer	Yes	Average Input Bandwidth Consumed by ICA Session in the last 15 minutes.	>=0
outputBandwidthAvailable	Integer	Yes	Average Output Bandwidth Available in the last 15 minutes.	>=0
outputBandwidthUsed	Integer	Yes	Average Output Bandwidth Used in the last 15 minutes.	>=0
networkLatency	Integer	Yes	Average Network latency of the ICA Session in the last 15 minutes.	>=0
endpointLinkSpeed	Integer	Yes	Link speed of the endpoint device network interface like Wi-Fi, Ethernet	>=0
endpointSignalStrength	Integer	Yes	Signal Strength of the endpoint device.	>=0
avgEndpointThroughputBytesReceived	Integer	Yes	Total bytes received on the network interface.	>=0
avgEndpointThroughputBytesSent	Integer	Yes	Total bytes sent on the network interface.	>=0

Session Meta Data	Type	Nullable	Description	Values
wanLatency	Integer	Yes	This subfactor is the latency measured from the virtual machine to the Gateway. A high WAN Latency indicates sluggishness in the endpoint machine network. WAN latency increases when the user is geographically farther from the Gateway.	`>=0`
dcLatency	Integer	Yes	This subfactor is the latency measured from the Citrix Gateway to the server (VDA). A high Data Center Latency indicates delays because of a slow server network. This metric is available only when an on-premises gateway is onboarded to CAS.	`>=0`

Session Meta Data	Type	Nullable	Description	Values
hostDelay	Integer	Yes	This subfactor measures the Server OS induced delay. A high ICA RTT with low Data Center and WAN latencies, and a high Host Latency indicates an application error on the host server.	`>=0`
wanLatencyScore	Integer	No	WAN Latency Score is calculated based on wanLatency value and deviation from the baseline threshold value of the same metric.	0–100
dcLatencyScore	Integer	No	The DC Latency Score is calculated based on dcLatency value and deviation from the baseline threshold value of the same metric.	0–100

Session Meta Data	Type	Nullable	Description	Values
hostDelayScore	Integer	No	Host Delay Score is calculated based on the host delay value and deviation from the baseline threshold value of the same metric.	0–100

Data Structure of the Machines Events

March 5, 2024

Machine Dimensions data source

Machine Meta Data	Type	Nullable	Description	Value
machineId	GUID	Yes	Machine identifier.	
machineSid	GUID	No	Machine AD identifier.	
machineName	String	No	User defined machine name.	
machineIP	String	Yes	IP Address of the machine.	
`operatingSystem`	String	No	Operating system of the machine.	
deliveryGroupId	GUID	No	Delivery group identifier.	
deliveryGroupName	String	No	Delivery group name.	

Machine Meta Data	Type	Nullable	Description	Value
siteId	GUID	No	Citrix Virtual Apps and Desktops Site Identifier.	
siteName	String	No	Citrix Virtual Apps and Desktops Site Name	
machineProvisioningType	Integer	No	Describes how the machine was provisioned	0: Unknown, 1: MCS - Machine provisioned by Machine Creation Services (machine must be a VM), 2: PVS - Machine provisioned by Provisioning Services (might be physical, blade, VM), 3: Manual - No automated provisioning
hypervisorName	String	No	Name of hypervisor	
hypervisorId	GUID	No	Unique identifier of Hypervisor	
catalogName	String	No	Name of Catalog Broker name	
catalogId	GUID	No	Unique identifier for the Catalog	
agentVersion	String	No	VDA version installed on the machine	
hostedMachineName	String	Yes		
hostingServerName	String	Yes		

Machine Meta Data	Type	Nullable	Description	Value
sessionSupport	String	No	Specifies the session support of the machines in the catalog	1: Single-session, 2: Multi-session
status	Integer	No	Last known status of the machine in the last 15 minutes	1: Unregistered, 2: Registered, 3: Under Maintenance, 4: Failed, 5: Powered off
statusChangeTime	Timestamp	No	Time when machine status has changed in the last 15 minutes	The value format is “yyyy-MM-ddTHH:mm:ss.SSSZ”
machineActualStatus	Integer	No	Calculated machine status using multiple state transitions that happened in the last 15 minutes. If the machine went from registered to unregistered state, machineActualStatus is unregistered	1: Unregistered, 2: Registered, 3: Failed
machineFailureReason	String	Yes	Failure reason why machine went into failed state	Fault unknown No fault (healthy machine) The last power-on operation for the machine failed

Machine Meta Data	Type	Nullable	Description	Value
				The machine does not seem to have booted following power on (VM tools did not transition to running) The machine has failed to register within the expected period, or its registration has been rejected The machine is reporting itself at maximum capacity
machineFailureType	String	Yes		Values can be any of: “Unknown”, “None”, “FailedToStart”, “StuckOnBoot”, “Unregistered”, “MaxCapacity
machinePowerState	Integer	No	Represents machine power state	0: Unknown 1: Unavailable 2: Off 3: On 4: Suspended 5: TurningOn 6: TurningOff 7: Suspending 8: Resuming 9: Unmanaged

Machine Meta Data	Type	Nullable	Description	Value
				10: NotSupported
unregisteredStartTime	Timestamp	Yes	Time when the machine went into the unregistered state	The value format is “yyyy-MM-ddTHH:mm:ss”
unregisteredEndTime	Timestamp	Yes	Time when the machine came out from the unregistered state	The value format is “yyyy-MM-ddTHH:mm:ss”
isMaintenanceMode	Boolean	Yes	A boolean flag specifies if the machine is in Maintenance mode or not	0: true, 1: false
isUnregistered	Boolean	Yes	A boolean flag specifies if the machine is in an unregistered state or not	0: true, 1: false
machineFailureTime	Timestamp	Yes	Time when a machine went into a failed state	Any date-time value
cpuSpikesCount	Integer	Yes	Represents the number of times CPU utilization crossed the CPU threshold of 80% and sustained for 5 minutes or more in an interval of the last 15 minutes.	
usedMemory	Decimal	No	Used memory (bytes)	

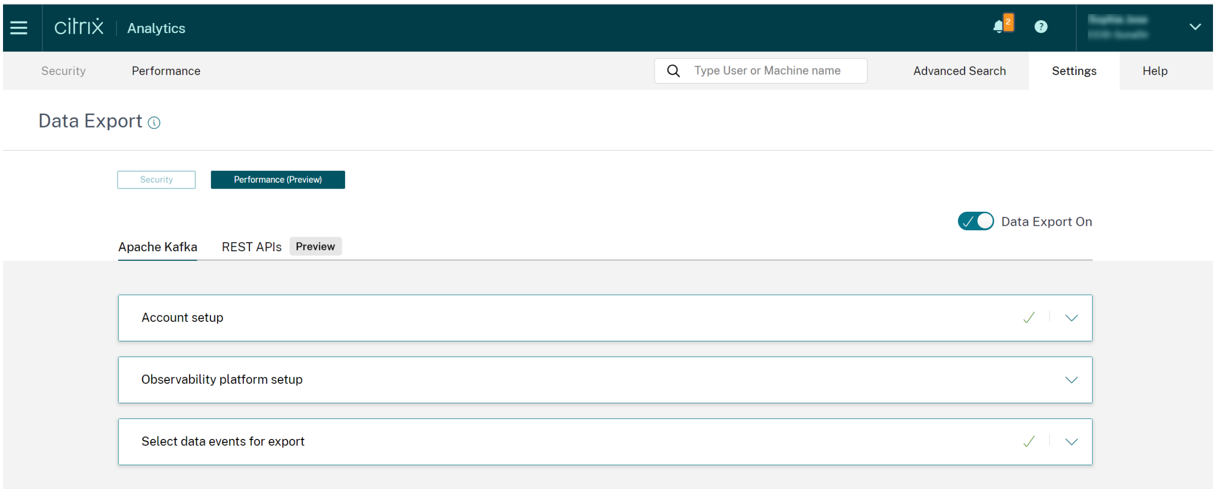
Machine Meta Data	Type	Nullable	Description	Value
totalMemory	Integer	No	Total available memory (bytes)	
percentCpu	Integer	No	Average percentage CPU used on a machine	
ramSpikeCount	Integer	Yes	Represents the number of times memory consumption crossed the memory threshold of 80%. Also, sustained for 5 minutes or more in the interval of the last 15 minutes.	
sessionCount	Integer	Yes	Total number of sessions (successful + failed) launched on the machine in the last 15 minutes.	
`downTime`	Integer	Yes	The total downtime of the machine calculated in seconds.	
consecutiveMachineFailure	Integer	Yes	Consecutive failures on a machine known in an interval of the last 15 minutes.	

Machine Meta Data	Type	Nullable	Description	Value
activeSessionCount	Integer	Yes	The number of active sessions in an interval of the last 15 minutes.	
successfulSessionCount	Integer	No	The number of successful sessions launched in an interval of the last 15 minutes.	
machineFailureOccurred	Integer	Yes	Session Failures that occurred on the machine in an interval of the last 15 minutes.	
unRegistrationCount	Integer	No	The number of times the machine went into the registered State in an interval of the last 15 minutes.	

Data export via REST APIs (Preview)

March 11, 2024

Citrix Analytics for Performance is now integrated with the Power BI observability. You can use the **Data Export** feature to export performance data and events from Citrix Analytics for Performance to Power BI using the REST APIs.



For more information, see the following articles:

- Citrix Analytics ODATA API
- Data export to Power BI with incremental refresh for Citrix Performance Analytics

Citrix Analytics ODATA API

March 11, 2024

Overview

CAS ODATA v4 REST API helps you to easily fetch the aggregated data. Currently, we are supporting user to fetch session data from CAS performance data source.

This article provides a guidance about how to use the APIs.

API specifications

Authentication

The implementation uses Citrix Cloud bearer token to authenticate.

References:

Citrix Cloud client ID and Citrix Cloud client secret

The following is sample request to get the token.

Request sample:

```
    POST https://api.cloud.com/cctrustoauth2/{
 customerid }
 /tokens/clients
    Accept: application/json
    Content-Type: application/x-www-form-urlencoded
    Body: grant_type=client_credentials&client_id={
 client_id }
 &client_secret={
 client_secret }

<!--NeedCopy-->
```

Response sample:

```
HTTP/1.1 200 OK
Content-Type: application/json
...
{

"token_type": "bearer",
"access_token": "ey1..",
"expires_in": "3600"
 }

<!--NeedCopy-->
```

> **Note:**
>
> The expiration period of the bearer token is 1 hour. Regenerate it if you need to do the query after one hour.

Endpoints

Global: `https://api.cloud.com/casodata`

Sample:

`https://api.cloud.com/casodata/sessions?year=2023&month=04&day=14` will fetch the aggregated sessions data for date 2023/04/14 (UTC).

Service path

This section includes information on service path and entity names such as sessions, machines, and users. For example, see the following sample service path:

```
/sessions?year=2023&month=04&day=14
<!--NeedCopy-->
```

The parameters year, month, and day are mandatory and added in UTC format.

The data of a specified hour is also supported, the path is as follows:

```
/sessions?year=2023&month=04&day=14&hour=10 (Fetch the data of
    2023/04/14 10:00)
<!--NeedCopy-->
```

HTTP headers

Key	Sample	Value	Mandatory
Authorization	CwsAuth bearer=		Yes
Citrix-CustomerId			Yes
Content-Type	application/json		Yes
Citrix-TransactionId			No
Accept-Encoding	gzip		No

System operators

CAS ODATA API supports the following basic odata system options:

System option	Sample
$select	https:///casodata/sessions?year=2023&month=04&day=14&$
$orderby	https:///casodata/sessions?year=2023&month=04&day=14&$ desc
$top	https:///casodata/sessions?year=2023&month=04&day=14&$
$top&$skip	https:///casodata/sessions?year=2023&month=04&day=14&$
$count	https:///casodata/sessions?year=2023&month=04&day=14&$
$filters	https:///casodata/sessions?year=2023&month=04&day=14&$ ne 20

> **Note:**
>
> Don't add any space in the value of $select option.

$filter operators and functions CAS ODATA API supports the following odata logical operators and string functions for $filter option:

Category	Operators	Samples
Logical operators	eq/ne/gt/lt/le/ge	https:///casodata/sessions?year=2023&mon ge 20
	not	https:///casodata/sessions?year=2023&mon eq null)
	and/or	https:///casodata/sessions?year=2023&mon eq '5'and (sessionScore le 20 or logonDuration gt 19.914)
	in	https:///casodata/sessions?year=2023&mon in ('5','3')
	not in	https:///casodata/sessions?year=2023&mon (sessionState in ('5','3'))
String functions	contains	https:///casodata/sessions?year=2023&mon PRD')
	startswith	https:///casodata/sessions?year=2023&mon endswith(deliveryGroupName,' CVAD Development')
	endswith	https:///casodata/sessions?year=2023&mon 09c3268e')

Entities and data attributes

The following three CAS performance entities are supported:

- Users
- Sessions
- Machines

Sample use cases

Get the metadata and pick some columns from them to do the query

1. Requesting the metadata

   Request sample:

```
curl --location 'https://api.cloud.com/casodata/$metadata' \
--header 'Authorization: CwsAuth bearer=eyJhbGciOiJSUzI1NiIsInR5.....' \
--header 'Citrix-CustomerId: qt64gkrzji7h' \
--header 'Content-Type: application/json'
<!--NeedCopy-->
```

Response sample:

```
<?xml version="1.0" encoding="UTF-8"?>
<edmx:Edmx Version="4.0" xmlns:edmx="http://docs.oasis-open.org/odata/ns/edmx">
<edmx:DataServices>
<Schema xmlns="http://docs.oasis-open.org/odata/ns/edm" Namespace="cas.odata.v1">
<EntityType Name="session">
<Property Name="timestamp" Type="Edm.String"></Property>
<Property Name="sessionKey" Type="Edm.String"></Property>
<Property Name="sessionScore" Type="Edm.Double"></Property>
<Property Name="sessionState" Type="Edm.String"></Property>
...
<Property Name="sessionLaunchStatus" Type="Edm.Int32"></Property>
<Property Name="sessionLaunchStatusCustom" Type="Edm.String"></Property>
</EntityType>
<EntityContainer Name="Container">
<EntitySet Name="sessions" EntityType="cas.odata.v1.session" IncludeInServiceDocument="false"></EntitySet>
</EntityContainer>
</Schema>
</edmx:DataServices>
</edmx:Edmx>
<!--NeedCopy-->
```

2. Pick columns `sessionKey`, `sessionScore`, and `sessionState` to do the query

Request sample:

```
curl --location 'https://api.cloud.com/casodata/sessions?year=2023&month=04&day=14&%24select=sessionKey%2CsessionScore%
2CsessionState' \
--header 'Authorization: CwsAuth bearer=eyJhbGciOiJSUzI1NiIsInR5.....' \
--header 'Citrix-CustomerId: qt64gkrzji7h' \
--header 'Content-Type: application/json'
<!--NeedCopy-->
```

Response sample:

```
{

"@odata.context": "$metadata#sessions(sessionKey,sessionScore,sessionState)/$entity",
"value": [
{

"sessionKey": "009e7f0f-5707-4083-934f-24d8ad5e91f8",
"sessionScore": -1.0,
"sessionState": "2"
 }
 ,
...
{

"sessionKey": "ff0504e3-0867-414a-b0b2-beb73f06fdad",
"sessionScore": 0.0,
"sessionState": "5"
 }

]
 }

<!--NeedCopy-->
```

Fetch all the data of a specified day with pagination

The default limitation of the query is 1000 rows.

User is able to set the value of `$top` option to limit the result rows in the query. In this scenario, the next page link is provided at the bottom of query
response.

Request sample:

```
curl --location 'https://api.cloud.com/casodata/sessions?year=2023&
    month=04&day=14&%24top=100' \
--header 'Authorization: CwsAuth bearer=eyJhbGciOiJSUzI1NiIsInR5.....'
    \
--header 'Citrix-CustomerId: qt64gkrzji7h' \
--header 'Content-Type: application/json'
<!--NeedCopy-->
```

Response sample:

```
{

"@odata.context": "$metadata#sessions/$entity",
"value": [
{

"timestamp": "2023-03-28T00:00:00.000Z",
"sessionKey": "009e7f0f-5707-4083-934f-24d8ad5e91f8",
"sessionScore": 79.0,
"sessionState": "2",
"sessionType": "0",
"userName": "81
    d0260b529c11fbb05c8dfabb3d312182e6af9deecfc6c036768df2ed3c3a39",
"sessionStartTime": "2023-03-28T17:38:38.000Z",
"machineName": "253
    f6a031c9b65cbb7bcc3f137b9878fe0effef010757aec54420776a0d2dd71",
"deliveryGroupName": "CVD\\BUR CVAD Development",
"logonDuration": 18.69,
"brokeringDuration": 0.0,
"vmStartDuration": 0.0,
"hdxConnectionDuration": 0.0,
"authenticationDuration": 0.0,
"gpoDuration": 0.0,
"logonScriptsDuration": 0.0,
"profileLoadDuration": 0.0,
"interactiveSessionsDuration": 0.0,
"siteName": "cloudxdsite",
"icaRtt": 125.38,
"reconnects": 0.0,
"wanLatency": 0,
"hostDelay": 0,
"dcLatency": 0,
"endpointLocationCity": null,
"endpointReceiverVersion": "21.6.0.47",
"endpointOS": "Windows",
"endpointLocationCountry": null,
"endpointLinkSpeed": -1.0,
"endpointName": "64368231
    b5d925e40d67449640ca110e9658f63eef37d2579b09b975cc7f7e88",
"endpointIP": "850
    a4b2abc159a2f7d44dac564bda06afad0c558a070a2681f5cc0e1aa81991c",
"vdaIP": null,
"gatewayFQDN": null,
"connectionType": "External",
"connectorName": null,
"connectorGatewayLatency": 0.0,
"networkInterfaceType": null,
"isp": null,
"sessionLaunchType": "ICA",
"throughputBytesReceived": -1.0,
"throughputBytesSent": -1.0,
"inputBandwidthConsumed": -1.0,
"outputBandwidthAvailable": -1.0,
"outputBandwidthUsed": -1.0,
"networkLatency": -1.0,
"outputBandwidthUtilization": -1.0,
"siteId": "090e20c8-c852-4a92-9b3f-dfb8d8b2ab61",
"sessionLaunchStatus": 0,
"sessionLaunchStatusCustom": "Succeeded"
 }
 ,
...
{
```

```

"timestamp": "2023-04-14T00:00:00.000Z",
"sessionKey": "ff0504e3-0867-414a-b0b2-beb73f06fdad",
"sessionScore": 0.0,
"sessionState": "5",
"sessionType": "0",
"userName": "
    aed8a56c38d5d2824d8699a48cdd1b19eb3b16f135c8d61bf2cd6acd465aa998",
"sessionStartTime": "2023-03-09T21:39:51.000Z",
"machineName": "5603
    b4dcad97424b6329caccc9cc6ad949b764bbc0015bc6e2a2b4938e4be954",
"deliveryGroupName": "Remote PC - Miami LABs",
"logonDuration": 0.0,
"brokeringDuration": 0.0,
"vmStartDuration": 0.0,
"hdxConnectionDuration": 0.0,
"authenticationDuration": 0.0,
"gpoDuration": 0.0,
"logonScriptsDuration": 0.0,
"profileLoadDuration": 0.0,
"interactiveSessionsDuration": 0.0,
"siteName": "cloudxdsite",
"icaRtt": 0.0,
"reconnects": 0.0,
"wanLatency": 0,
"hostDelay": 0,
"dcLatency": 0,
"endpointLocationCity": null,
"endpointReceiverVersion": null,
"endpointOS": "Windows 10",
"endpointLocationCountry": null,
"endpointLinkSpeed": -1.0,
"endpointName": "Precision 5550",
"endpointIP": "
    e74dbbbd20d20f971c0254c6680aad800ad3932c4740544b39a42bb422424272",
"vdaIP": null,
"gatewayFQDN": null,
"connectionType": "External",
"connectorName": null,
"connectorGatewayLatency": 0.0,
"networkInterfaceType": null,
"isp": null,
"sessionLaunchType": "ICA",
"throughputBytesReceived": -1.0,
"throughputBytesSent": -1.0,
"inputBandwidthConsumed": -1.0,
"outputBandwidthAvailable": -1.0,
"outputBandwidthUsed": -1.0,
"networkLatency": -1.0,
"outputBandwidthUtilization": -1.0,
"siteId": "090e20c8-c852-4a92-9b3f-dfb8d8b2ab61",
"sessionLaunchStatus": 0,
"sessionLaunchStatusCustom": "Succeeded"
```

```
 }

],
"@odata.nextLink": "https://api.cloud.com/casodata/sessions?year=2023&month=04&day=14&%
24skip=100&%24top=100"
 }

<!--NeedCopy-->
```

Get all the data of a certain session (filter the data with sessionkey)

Request sample:

```
curl --location 'https://api.cloud.com/casodata/sessions?year=2023&month=04&day=14&%24filter=sessionKey%20eq%20%
27009e7f0f-5707-4083-934f-24d8ad5e91f8%27' \
--header 'Authorization: CwsAuth bearer=eyJhbGciOiJSUzI1NiIsInR5.....' \
--header 'Citrix-CustomerId: qt64gkrzji7h' \
--header 'Content-Type: application/json'
<!--NeedCopy-->
```

Response sample:

```
{

"@odata.context": "$metadata#sessions/$entity",
"value": [
{

"timestamp": "2023-04-14T00:00:00.000Z",
"sessionKey": "009e7f0f-5707-4083-934f-24d8ad5e91f8",
"sessionScore": -1.0,
"sessionState": "2",
"sessionType": "0",
"userName": "81 d0260b529c11fbb05c8dfabb3d312182e6af9deecfc6c036768df2ed3c3a39",
"sessionStartTime": "2023-04-05T17:32:45.000Z",
"machineName": "253 f6a031c9b65cbb7bcc3f137b9878fe0effef010757aec54420776a0d2dd71",
"deliveryGroupName": "CVD\\BUR CVAD Development",
"logonDuration": 21.2,
"brokeringDuration": 0.0,
"vmStartDuration": 0.0,
"hdxConnectionDuration": 0.0,
"authenticationDuration": 0.0,
"gpoDuration": 0.0,
"logonScriptsDuration": 0.0,
"profileLoadDuration": 0.0,
"interactiveSessionsDuration": 0.0,
"siteName": "cloudxdsite",
"icaRtt": 0.0,
"reconnects": 0.0,
"wanLatency": 0,
"hostDelay": 0,
"dcLatency": 0,
"endpointLocationCity": null,
"endpointReceiverVersion": "21.6.0.47",
"endpointOS": "Windows",
"endpointLocationCountry": null,
"endpointLinkSpeed": -1.0,
"endpointName": "64368231b5d925e40d67449640ca110e9658f63eef37d2579b09b975cc7f7e88",
"endpointIP": "8dbacd9197f4d3dc068fd44b4837828f8e10a19358b14e96d439cfc82042b70f",
"vdaIP": null,
"gatewayFQDN": null,
"connectionType": "External",
"connectorName": null,
"connectorGatewayLatency": 0.0,
"networkInterfaceType": null,
"isp": null,
"sessionLaunchType": "ICA",
"throughputBytesReceived": -1.0,
"throughputBytesSent": -1.0,
"inputBandwidthConsumed": -1.0,
"outputBandwidthAvailable": -1.0,
"outputBandwidthUsed": -1.0,
"networkLatency": -1.0,
"outputBandwidthUtilization": -1.0,
"siteId": "090e20c8-c852-4a92-9b3f-dfb8d8b2ab61",
"sessionLaunchStatus": 0,
"sessionLaunchStatusCustom": "Succeeded"
 }

]
 }

<!--NeedCopy-->
```

Count all the active sessions of a certain day

Request sample:

```
curl --location 'https://api.cloud.com/casodata/sessions?year=2023&month=04&day=14&%24count=true&%24filter=sessionState%
20eq%20%275%27' \
--header 'Authorization: CwsAuth bearer=eyJhbGciOiJSUzI1NiIsInR5.....' \
--header 'Citrix-CustomerId: qt64gkrzji7h' \
--header 'Content-Type: application/json'
<!--NeedCopy-->
```

Response sample:

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Data source

The CAS self service search dashboard visulize and display the data to the customer admins and enable search functionality. The ODATA API uses the same data source and provide more flexibilities to customer admins to fetch and filter the data. For more information, see Tabular data.

Data Structure of the users events

March 5, 2024

Field	Type	Nullable	Description	Value
Timestamp	String	No	Time when an API is called.	
UserExperience	Double	No	The score of the user experience which is calculated based on user score.	0–100
UserName	String	No	Name of the user who has launched a virtual app or desktop session.	
TotalSessions	Integer	No	Total sessions of a user.	`>=0`
ExcellentSessions	Integer	No	Number of sessions with session score >= 70.	`>=0`

Field	Type	Nullable	Description	Value
FairSessions	Integer	No	Number of sessions with session score >= 40 and session score < 70.	`>=0`
PoorSessions	Integer	No	Number of sessions with session score >= 1 and session score < 40.	`>=0`
SessionLogonDuration	Double	No	Total log-on duration for this user (total initialization time of the user) in seconds.	`>0`
SessionResponsiveness	Double	No	Average round-trip time of ICA session for this user in the last 15-minutes interval.	`>=0`

Field	Type	Nullable	Description	Value
`WANLatency`	Double	Yes	This subfactor is the latency measured from the virtual machine to the Gateway. A high WAN Latency indicates sluggishness in the endpoint machine network. WAN latency increases when the user is geographically farther from the Gateway.	`>=0`
HostDelay	Double	Yes	This subfactor measures the Server OS induced delay. A high ICA RTT with low Data Center and WAN latencies, and a high Host Latency indicates an application error on the host server.	`>=0`

Field	Type	Nullable	Description	Value
DataCenterLatency	Double	Yes	This subfactor is the latency measured from the Citrix Gateway to the server (VDA). A high Data Center Latency indicates delays due to a slow server network. This metric is available only when an on-premises gateway is onboarded to CAS.	`>=0`
Brokering	Double	Yes	Average time taken by a Broker in initializing the session in seconds.	
VMStart	Double	Yes	Average time taken in starting the VM during the logon process in seconds.	
`HDXConnection`	Double	Yes	Average time taken by HDX connection during the logon process in seconds.	

Field	Type	Nullable	Description	Value
Authentication	Double	Yes	Average time taken in authentication during the logon process in seconds.	
GPOs	Double	Yes	Average time taken in GPO processing during the logon process in seconds.	
LogonScripts	Double	Yes	Average time taken in logon script processing during the logon process in seconds.	
ProfileLoad	Double	Yes	Average time taken in profile load during the logon process in seconds.	
InteractiveSession	Double	Yes	Average time taken in initializing interactive session including shell initialization time in seconds.	
FailureCount	Integer	No	Total failures that occurred in the last 15 minutes.	`>=0`
LaunchAttemptsCount	Integer	No	Total launches attempted in the last 15 minutes.	`>=0`

Field	Type	Nullable	Description	Value
SessionResiliency	Double	No	The number of auto-reconnects that happened in the last 15 minutes.	
EndpointCity	String	Yes	The city from which the session was launched.	
EndpointCountry	String	Yes	The country from which the session was launched.	
AverageProfileSize	Double	Yes	Average profile size of a user.	
ProfileSize	Double	Yes	Latest profile size of a user.	

Data Structure of the Sessions Events

March 5, 2024

Sessions Dimensions Data Source

Field	Type	Nullable	Description	Values
Timestamp	String	No	Time when an API is called.	
SessionKey	String	No	Identifier for a virtual app or desktop session.	
SessionExperience	Double	No	The score of the session experience which is calculated based on the session score.	

Field	Type	Nullable	Description	Values
SessionStat	String	No	Session life cycle stat.	The value mapping is: 0: Unknown, 1: Connected, 2: Disconnected, 3: Terminated, 4: PreparingSession, 5: Active, 6: Reconnecting, 7: NonBrokeredSession, 8: Other, and 9: Pending
SessionType	String	No	Session Type	The value mapping is: 0: Desktop, 1: Application
UserName	String	No	Name of the user who has launched a virtual app or desktop session.	
SessionStartTime	String	No	Time when the session was launched.	The value format is “yyyy-MM-ddTHH:mm:ss”
MachineName	String	No	The name of the machine on which the session is launched.	`>=0`
DeliveryGroupName	String	No	Name of the Delivery Group.	`>=0`
SessionLogonDuration	Double	No	Average log on duration for this session (total initialization time of the session) in seconds.	`>=0`

Field	Type	Nullable	Description	Values
Brokering	Double	Yes	Average time taken by a Broker in initializing the session in seconds.	`>=0`
VMStart	Double	Yes	Average time taken in starting the VM during the logon process in seconds.	`>=0`
`HDXConnection`	Double	Yes	Average time taken by HDX connection during the logon process in seconds.	`>=0`
Authentication	Double	Yes	Average time taken in authentication during the logon process in seconds.	`>=0`
GPOs	Double	Yes	Average time taken in GPO processing during the logon process in seconds.	
LogonScripts	Double	Yes	Average time taken in logon script processing during the logon process in seconds.	`>=0`
ProfileLoad	Double	Yes	Average time taken in profile load during the logon process in seconds.	`>=0`

Field	Type	Nullable	Description	Values
InteractiveSessions	Double	Yes	Average time taken in initializing interactive session including shell initialization time in seconds.	>=0
SiteName	String	No	Citrix Virtual Apps and Desktops Site Name	
SessionResponsiveness	Double	No	Average round-trip time of ICA session in the last 15-minutes interval.	>=0
SessionResiliency	Double	No	Total number of auto-reconnects.	
WANLatency	Double	Yes	This subfactor is the average latency measured from the virtual machine to the Gateway. A high WAN Latency indicates sluggishness in the endpoint machine network. WAN latency increases when the user is geographically farther from the Gateway.	

Field	Type	Nullable	Description	Values
HostDelay	Double	Yes	This subfactor measures the average Server OS induced delay. A high ICA RTT with low Data Center and WAN latencies, and a high Host Latency indicates an app error on the host server.	
DataCenterLatency	Double	Yes	This subfactor is the average latency measured from the Citrix Gateway to the server (VDA). A high Data Center Latency indicates delays because of a slow server network. This metric is available only when an on-premises gateway is onboarded to CAS.	
EndpointCity	String	Yes	The city from which the session was launched.	
WorkspaceAppVersion	String	No	Citrix Workspace app version	

Field	Type	Nullable	Description	Values
EndpointOS	String	Yes	Citrix Workspace app - OS Type	The possible values include, for example: Windows, Unix or Linux, HTML5, Macintosh, ThinOS, iOS, Chrome, and Android. However, the OS type can include more options.
EndpointCountry	String	Yes	The country from which the session was launched.	
EndpointLinkSpeed	Double	Yes	Average Link speed of the endpoint device network interface like Wi-Fi, Ethernet	`>=0`
EndpointName	String	Yes	Name of Client where the session was launched.	
EndpointIP	String	Yes	IP of Client where the session was launched.	
MachineAddress	String	Yes	IP of VDA where the session was launched	
Gateway	String	Yes	Gateway FQDN through which the session was launched.	

Field	Type	Nullable	Description	Values
ConnectionType	String	Yes	Type of connection established from the Citrix Workspace app.	Internal, External
Connector	String	Yes	Connector name of Gateway FQDN.	
GatewayConnectorLatency	Double	Yes	Average Gateway connector latency.	
NetworkInterfaceType	String	No	Network Interface Type of the endpoint device.	Wi-Fi, Ethernet, and so on
ISP	String	Yes	ISP using which the session was launched	
LaunchType	String	No	Session Launch type	ICA, ConnectionLease
EndpointThroughputIncoming	Double	Yes	Total bytes sent on the network interface.	
EndpointThroughputOutgoing	Double	Yes	Total bytes received on the network interface.	`>=0`
InputBandwidthConsumed	Double	Yes	Average Input Bandwidth Consumed by ICA Session in the last 15 minutes.	`>=0`
OutputBandwidthAvailable	Double	Yes	Average Input Bandwidth Consumed by ICA Session in the last 15 minutes.	`>=0`

Field	Type	Nullable	Description	Values
OutputBandwidthUsed	Double	Yes	Average Output Bandwidth Used in the last 15 minutes.	`>=0`
NetworkLatency	Double	Yes	Average Network latency of the ICA Session in the last 15 minutes.	`>=0`
OutputBandwidthUtilization	Double	Yes	Average Output Bandwidth Utilization percentage in the last 15 minutes.	`>=0`
LaunchStatus	Integer	No	Launch status of the session.	0 (Successful Launch), 1(Session Failed), 2(User Terminated)

Data Structure of the Machines Events

March 5, 2024

Machine Meta Data	Type	Nullable	Description	Value
Timestamp	String	No	Time when an API is called.	
SiteId	String	No	Citrix Virtual Apps and Desktops Site identifier.	
SiteName	String	No	Citrix Virtual Apps and Desktops Site name.	
MachineName	String	No	User defined machine name	

Machine Meta Data	Type	Nullable	Description	Value
DeliveryGroupName	String	No	Delivery group name	
MachineOS	String	No	Operating system	
LatestConsecutiveFailures	Integer	Yes	Consecutive failures on a machine known in the interval of the last 15 minutes.	
Status	String	No	Last known status of the machine in the interval of the last 15 minutes.	1: Unregistered, 2: Registered, 3: Under Maintenance, 4: Failed, 5: Powered off
UnRegistrationCount	Integer	No	The number of times the machine went into registered State in the interval of the last 15 minutes.	`>=0`
SustainedCpuSpikes	Integer	Yes	Represents the number of times CPU utilization crossed the CPU threshold of 80%. Also, sustained for 5 minutes or more in the interval of the last 15 minutes.	`>=0`

Machine Meta Data	Type	Nullable	Description	Value
SustainedMemorySpikes	Integer	Yes	Represents the number of times memory consumption crossed the memory threshold of 80%. Also, sustained for 5 minutes or more in the interval of the last 15 minutes.	`>=0`
PeakConcurrentSessions	Integer	Yes	The total number of sessions (successful and failed) launched on the machine in the interval of the last 15 minutes.	`>=0`
SessionFailureRate	Double	Yes	Session failure rate on machine.	0–100
LoadIndicator	Double	No	Number of machines with machine score `> 0`.	`>=0`
`DownTime`	Double	Yes	Total downtime of the machine calculated in seconds.	
AvgMemoryConsumption	Double	No	Average used memory percentage on a machine.	0–100
PeakMemoryConsumption	Double	No	Total available memory percentage on a machine.	0–100

Machine Meta Data	Type	Nullable	Description	Value
AvgCPU	Double	No	Average percentage of CPU used on a machine.	0–100
PeakCPU	Double	No	Maximum percentage of CPU used on a machine.	0–100
MachineOSType	String	No	Specifies the session support of the machines in the catalog.	1: Single-session, 2: Multi-session
LowLoadInstances	Integer	No	Number of machines with machine score < 41.	>=0
MediumLoadInstances	Integer	No	Number of machines with machine score >= 40 and machine score < 70	>=0
HighLoadInstances	Integer	No	Number of machines with machine score >=70.	>=0
AggregatedStatus	String	No	Status description Failed, Unregistered, Maintenance, Active, Ready for use.	
ReadyForUseInstance	Integer	No	Number of machines with 'Ready for use' status.	>=0

Machine Meta Data	Type	Nullable	Description	Value
ActiveInstance	Integer	No	Number of machines with 'Active' status.	`>=0`
UnregisteredInstance	Integer	No	Number of machines with 'Unregistered' status.	`>=0`
FailedInstance	Integer	No	Number of machines with 'Failed' status.	`>=0`
MaintenanceInstance	Integer	No	Number of machines with 'Maintenance' status.	`>=0`

Power BI integration for Citrix Performance Analytics

May 22, 2024

The Citrix Analytics Service platform ODATA API currently supports the Performance Analytics data export capability.

This document describes the necessary steps required to integrate the CAS ODATA API with Power BI, which also supports:

1. Incremental data refresh (this support is critical for a large data set)
2. Scheduled data refresh (automatically pull and export the data to Power BI workspace)

Prerequisites

The following items are required to connect the CAS ODATA feed:

1. Citrix Cloud customer ID (CCID)
2. Global CAS ODATA API endpoint: `https://api.cloud.com/casodata`
3. Citrix Cloud API client.

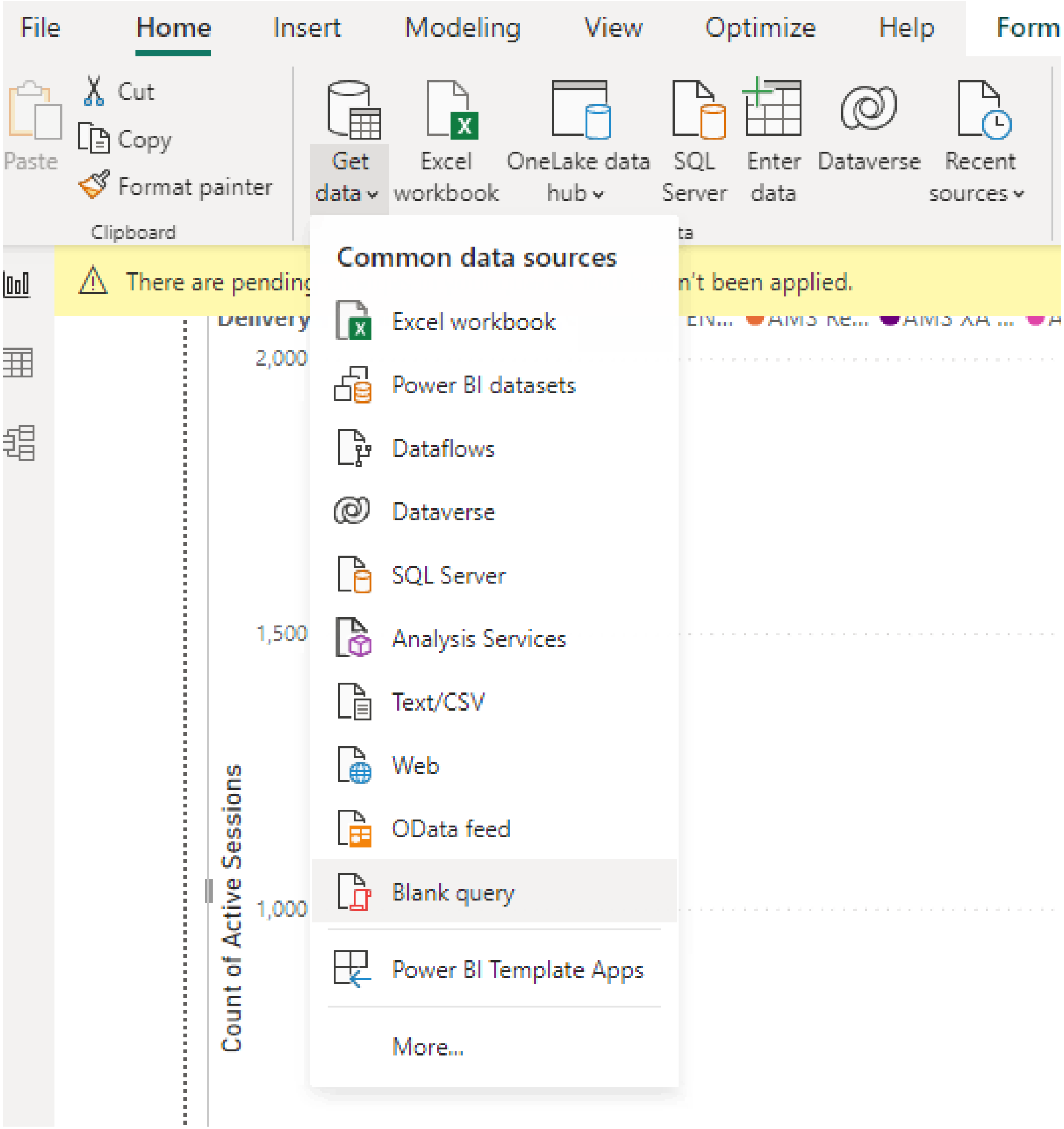
The CAS ODATA API uses the Citrix Cloud bearer token for authentication. A Citrix Cloud API client is required to get the bearer token. For information on how to to create a Citrix Cloud API client and save the client ID and secret, see the Get started with Citrix Cloud APIs documentation.

> **Note:**
>
> The admin who creates the API client needs to have the "Read-only"access or the "Full admin access"to the Citrix Cloud Analytics service.

Connect CAS ODATA feed with Power BI

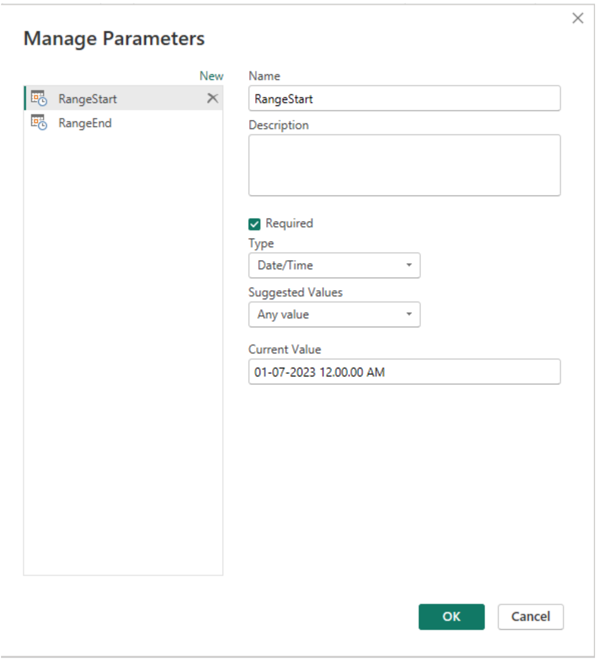
Perform the following steps to connect the CAS ODATA feed with Power BI:

1. Open Power BI desktop.
2. Select **Home** -> **Get Data** -> **Blank Query**. The **Power Query Editor** page appears.



3. On the **Power Query Editor** screen, select **Manage Parameters** and add the following two parameters to support incremental refresh:

   - RangeStart: the refresh start date (must use the "Date/Time"type)
   - RangeEnd: the refresh end date (must use "Date/Time"type)



Manage Parameters

Name: RangeStart

Description:

☑ Required

Type: Date/Time

Suggested Values: Any value

Current Value: 01-07-2023 12.00.00 AM

For more information, see the Microsoft documentation.

4. On the **Power Query Editor** screen, select **Advanced Editor**, enter the following query to interact with Citrix Cloud to get the bearer token and to interact with the CAS ODATA feed to get the data required.

> **Note:**
>
> Use the bearer token retrieved in the previous step for authentication.

```
let
customerId = "placeholder_customerId",
// get citrix cloud API credential (bearer token)
tokenUrl = "placeholder_tokenUrl",
headers = [
#"customerid" = customerId,
#"Content-Type" = "application/x-www-form-urlencoded",
#"Accept" = "*/*"
],
postData = [
grant_type = "client_credentials",
client_id = "placeholder_ApiClientId",
client_secret = "placeholder_ApiSecretKey"
],
response = Json.Document(Web.Contents(tokenUrl, [Headers =
    headers, Content = Text.ToBinary(Uri.
BuildQueryString(postData))])),
// get the CC bearer toekn from the response
token = "CwsAuth bearer=" & response[access_token],
reportDate = DateTime.AddZone(RangeStart, 0),
reportDateYear = Number.ToText(Date.Year(reportDate)),
    reportDateMonth = Number.ToText(Date.Month(reportDate)),
    reportDateDay = Number.ToText(Date.Day(reportDate)),
    // CAS ODATA API endpoint and ODATA query. Sample below will retrieve active sessions (non-terminated)
    // apiURL = "https://api.cloud.com/casodata/sessions?$filter=SessionState ne '3'",
    apiURL = "placeholder_OdataApiUrl",
    // have to separate api queries below to make PowerBI happy
    apiQuery = [
    #"year" = reportDateYear,
    #"month" = reportDateMonth,
    #"day" = reportDateDay
    ],
    apiHeaders = [
    #"Authorization" = token,
    #"Citrix-CustomerId" = customerId
    ],
    Source = OData.Feed(apiURL, null, [Query=apiQuery, Headers=apiHeaders]),
    #"Filtered Rows" = Table.SelectRows(Source, each [Timestamp] >= DateTime.AddZone(RangeStart, 0) and [Timestamp] <= DateTime.AddZone(RangeEnd, 0))
    in
    #"Filtered Rows"
<!--NeedCopy-->
```

5. Replace the following placeholders based on your site:

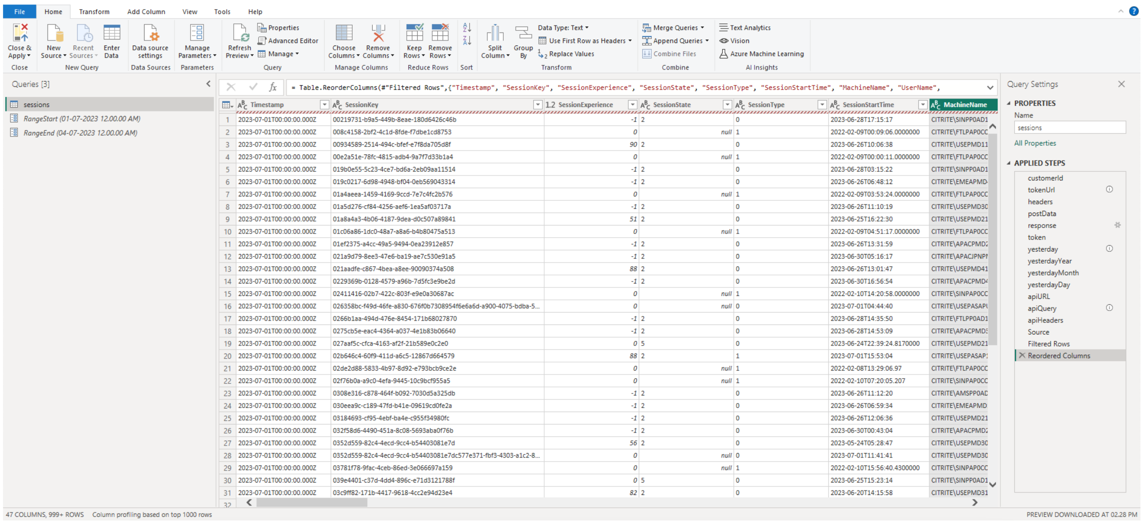
   - Placeholder_customerId: customer ID
   - placeholder_tokenUrl: regional specific CC auth URL

     `https://api.cloud.com/cctrustoauth2/root/tokens/clients`

   - placeholder_ApiClientId: API client ID
   - placeholder_ApiSecretKey: API client secret key
   - placeholder_OdataApiUrl: API URL for CAS ODATA with optional ODATA query (for example: `"https://api.cloud.com/casodata/sessions?$filter=SessionState ne '3'"`)

6. Once completed, click **Done**. The request for data source access credentials appears.

7. Select **Anonymous** and then click **Apply**. The data is refreshed as follows:



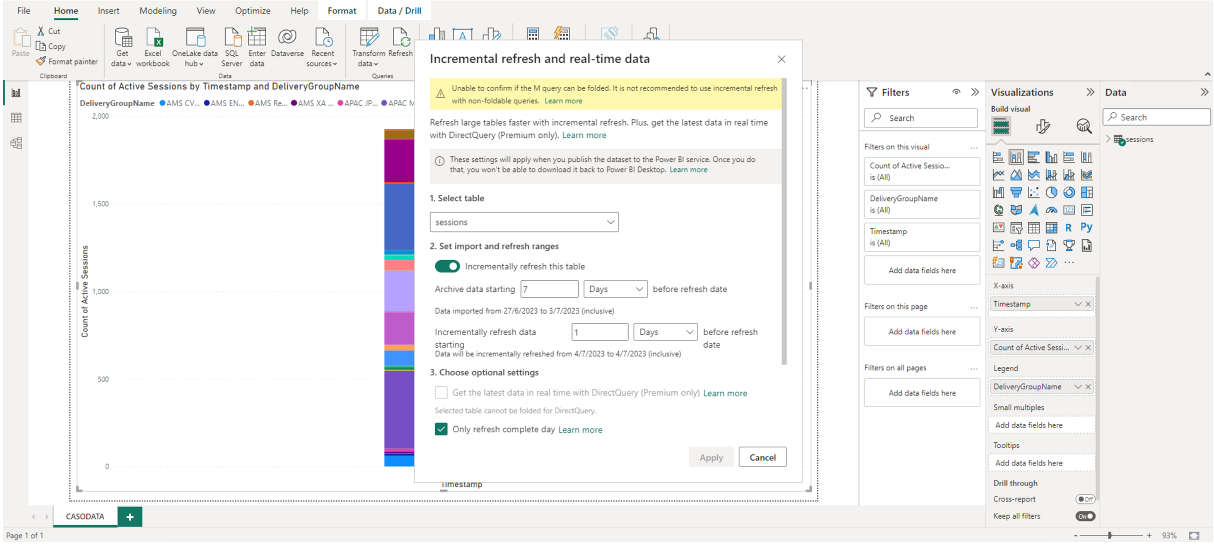
```
= Table.ReorderColumns(#"Filtered Rows",{"Timestamp", "SessionKey", "SessionExperience", "SessionState", "SessionType", "SessionStartTime", "MachineName", "UserName",
```

Configure PowerBI to support incremental refresh

When the Power Query can pull data, you need to configure incremental refresh for the data source.

Right-click the data source and select **Incremental refresh** to configure the policy to enable incremental refresh:

> **Note:**
>
> Power BI premium or pro license is required to support incremental refresh.



Incremental refresh and real-time data

Unable to confirm if the M query can be folded. It is not recommended to use incremental refresh with non-foldable queries. Learn more

Refresh large tables faster with incremental refresh. Plus, get the latest data in real time with DirectQuery (Premium only). Learn more

These settings will apply when you publish the dataset to the Power BI service. Once you do that, you won't be able to download it back to Power BI Desktop. Learn more

1. Select table

sessions

2. Set import and refresh ranges

● Incrementally refresh this table

Archive data starting 7 Days before refresh date

Data imported from 27/6/2023 to 3/7/2023 (inclusive)

Incrementally refresh data starting 1 Days before refresh date

Data will be incrementally refreshed from 4/7/2023 to 4/7/2023 (inclusive)

3. Choose optional settings

☐ Get the latest data in real time with DirectQuery (Premium only) Learn more

Selected table cannot be folded for DirectQuery.

☑ Only refresh complete day Learn more

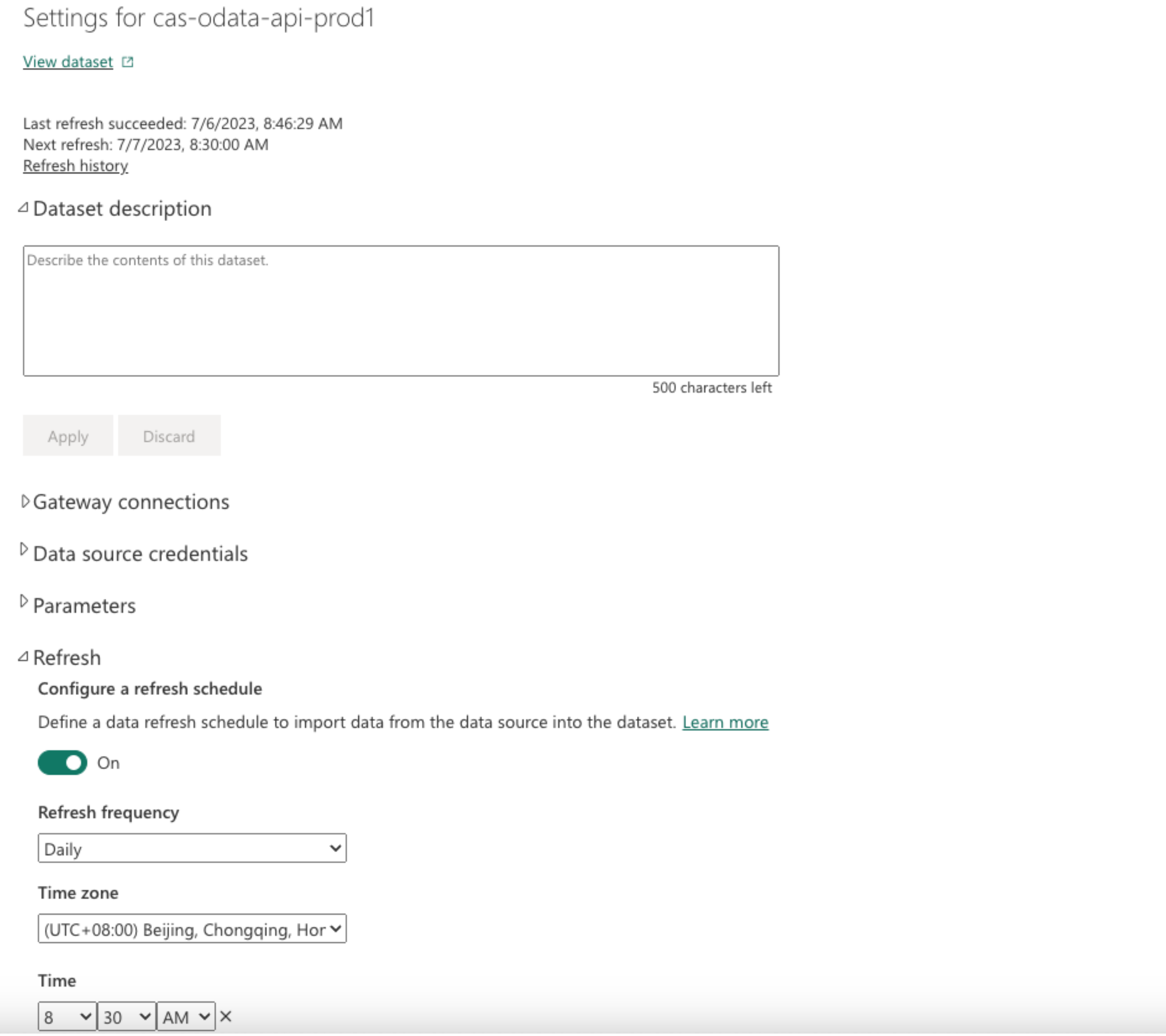
> **Important:**
>
> - When the incremental refresh is enabled, the first refresh triggers the ODATA API calls to get all the historical data. As the ODATA API aggregates the data in a daily manner, it's impor-

> tant to use number of “days”for archived data.
> - Consider a reasonable number of days to keep the data to save your PowerBI workspace disk space (for example “7”days).

Publish to Power BI cloud and enable scheduled refresh

Once the preceding changes are completed, select Power BI desktop **Home** -> **File** -> **Publish to Power BI**. The dataset and reports are published to the Power BI cloud workspace.

Enable the scheduled refresh by clicking **Settings** in the dataset:



Settings for cas-odata-api-prod1

View dataset

Last refresh succeeded: 7/6/2023, 8:46:29 AM
Next refresh: 7/7/2023, 8:30:00 AM
Refresh history

Dataset description

Describe the contents of this dataset.

500 characters left

Refresh

Configure a refresh schedule

Define a data refresh schedule to import data from the data source into the dataset. Learn more

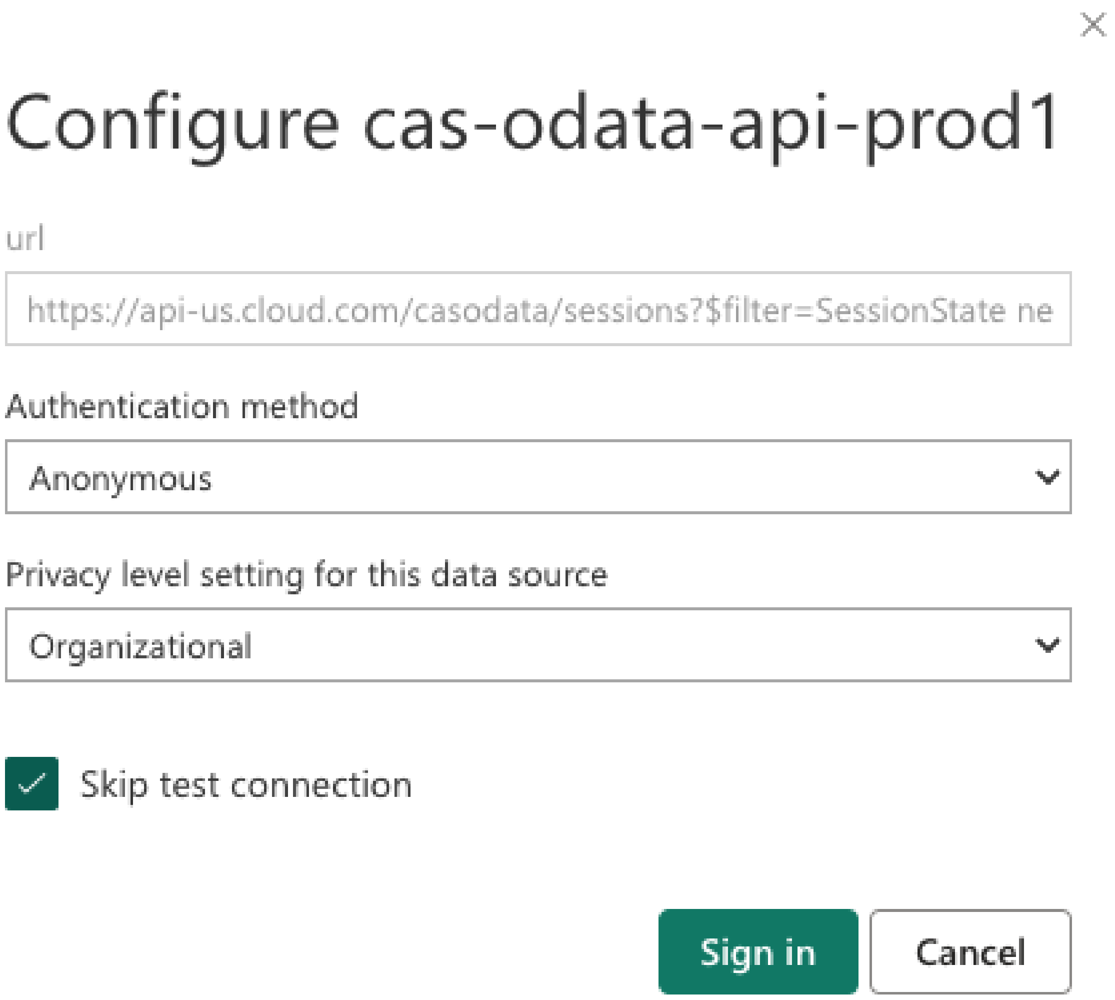
On

Refresh frequency: Daily

Time zone: (UTC+08:00) Beijing, Chongqing, Hor

Time: 8 30 AM ×

Configure anonymous access for the data sources in the **Data source credentials** section and select **Skip connection test**, and then click **Sign in** as follows:



Configure cas-odata-api-prod1

url

https://api-us.cloud.com/casodata/sessions?$filter=SessionState ne

Authentication method

Anonymous

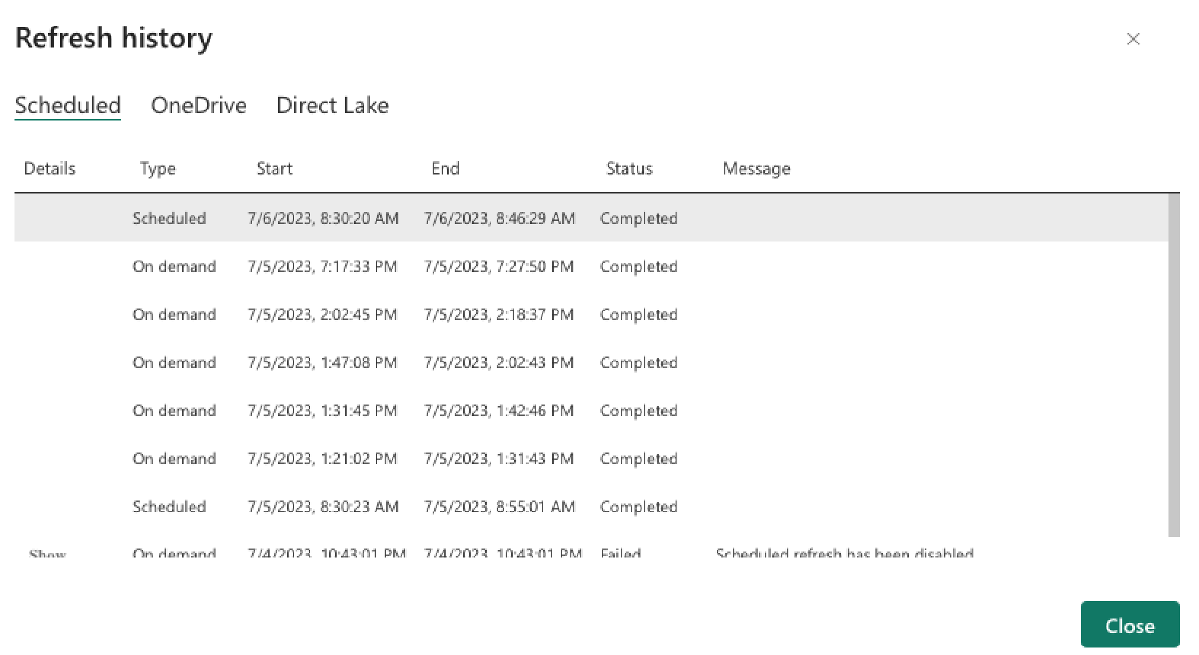
Privacy level setting for this data source

Organizational

☑ Skip test connection

The first dataset refresh pulls the historical data, which might take a longer time. And the later incremental refresh pulls only the latest day's data. This refresh is done as configured in the incremental refresh policy in the previous section.

The refresh history looks as follows:

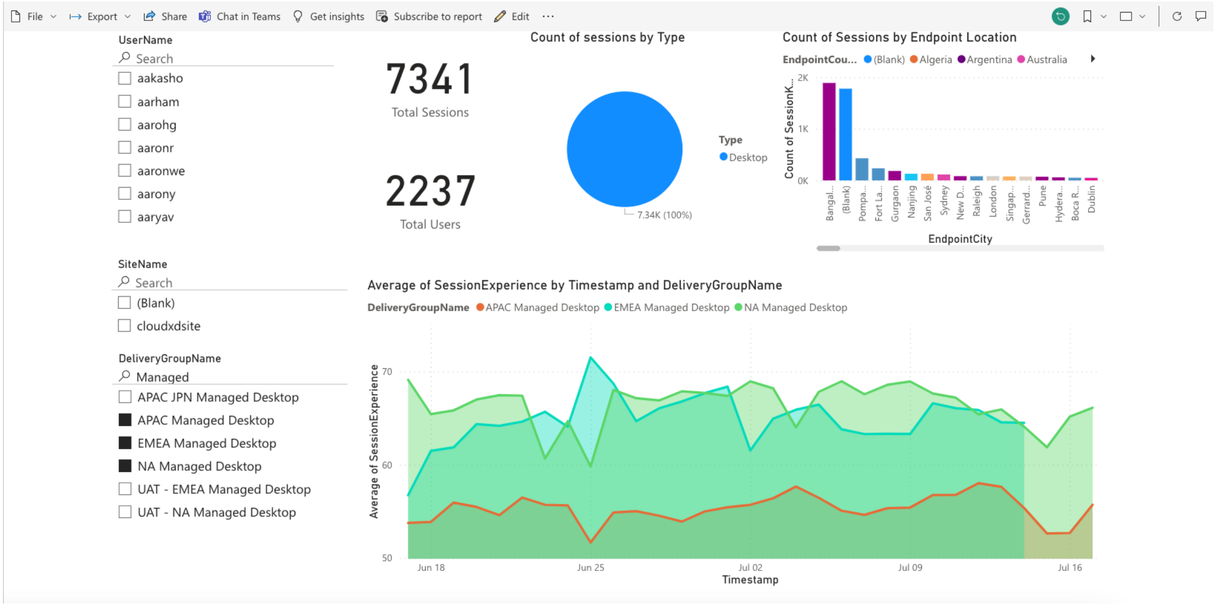


Refresh history

Scheduled | OneDrive | Direct Lake

Details	Type	Start	End	Status	Message
	Scheduled	7/6/2023, 8:30:20 AM	7/6/2023, 8:46:29 AM	Completed	
	On demand	7/5/2023, 7:17:33 PM	7/5/2023, 7:27:50 PM	Completed	
	On demand	7/5/2023, 2:02:45 PM	7/5/2023, 2:18:37 PM	Completed	
	On demand	7/5/2023, 1:47:08 PM	7/5/2023, 2:02:43 PM	Completed	
	On demand	7/5/2023, 1:31:45 PM	7/5/2023, 1:42:46 PM	Completed	
	On demand	7/5/2023, 1:21:02 PM	7/5/2023, 1:31:43 PM	Completed	
	Scheduled	7/5/2023, 8:30:23 AM	7/5/2023, 8:55:01 AM	Completed	
Show	On demand	7/4/2023, 10:43:01 PM	7/4/2023, 10:43:01 PM	Failed	Scheduled refresh has been disabled

Once the refresh is completed, you are able to continuously pull the data to Power BI automatically.



Limits

July 17, 2023

The values in this article are the tested and recommended limits for the Citrix Analytics for Performance service instance per customer. These values are intended to help evaluate the product for sizing and scalability. If you have requirements that these limits do not address, contact your Citrix representative for assistance.

Configuration Limits

Resource	Limit
Delivery Groups	1,000
Machines/VDAs	100,000
Machines on Process Utilization Group Policy	10,000
Number of on-premises CVAD Sites	20

Usage Limits

Resource (across all CVAD Sites)	Limit
Concurrent administrators	8
Concurrent end users	100,000
Concurrent session launches	100,000

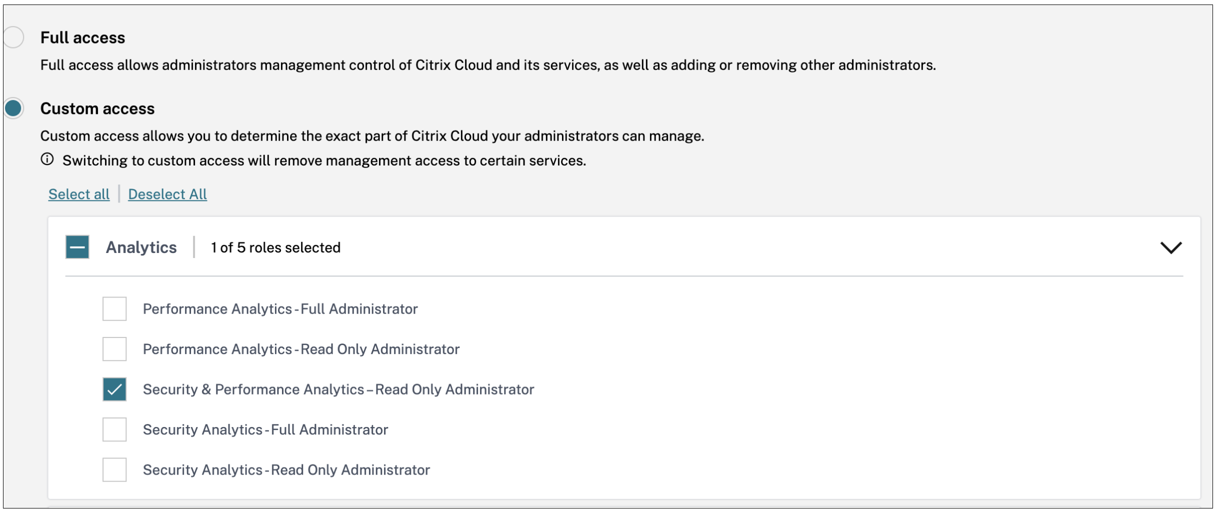
Manage Administrator Roles for Performance Analytics

June 18, 2024

> **Note:**
>
> Since July 2023, Microsoft has renamed Azure Active Directory (Azure AD) to Microsoft Entra ID. In this document, any reference to Azure Active Directory, Azure AD, or AAD now refers to Microsoft Entra ID.

As a Citrix Cloud administrator with full access permissions, you can invite other users or Azure Active Directory groups to manage the Performance Analytics offering. The users and groups must be configured as administrators on Citrix Cloud using Identity and Access Management > Administrators. For more information, see Identity and access management.
You can assign them one of the following custom roles:

- **Performance Analytics- Full Administrator** - Assigns full access permission to the Citrix Cloud administrators of Performance Analytics.
- **Performance Analytics- Read-Only Administrator** - Assigns read-only access permission to the Citrix Cloud administrators of Performance Analytics.



○ Full access

Full access allows administrators management control of Citrix Cloud and its services, as well as adding or removing other administrators.

● Custom access

Custom access allows you to determine the exact part of Citrix Cloud your administrators can manage.

ⓘ Switching to custom access will remove management access to certain services.

Analytics | 1 of 5 roles selected

□ Performance Analytics - Full Administrator

□ Performance Analytics - Read Only Administrator

☑ Security & Performance Analytics – Read Only Administrator

□ Security Analytics - Full Administrator

□ Security Analytics - Read Only Administrator

> **Notes:**
>
> - If an administrator is configured as a user and also belongs to a group, their permission as a user takes precedence over the group permissions.
> - If a user is a member of more than one group, their permission is a sum of the permissions the user has in each group.
> - Administrators belonging to groups are not identified with email ids. Hence, they would not receive any Alert Notifications.

Permissions for the custom roles

The administrators with the **Performance Analytics- Full Administrator** role can access all the features and functionalities of the Performance Analytics offering.

The administrators with the **Performance Analytics- Read Only Administrator** role can access and use the User Experience and Infrastructure Dashboards like the Full Administrators. However, Machine Actions in the Machine Statistics page are disabled for read-only users. Administrators with read-only access will not receive alert notifications from Citrix Analytics.

For more information on the actions allowed in the Self-service view, see the Self-Service article.

User Experience Analytics

September 25, 2023

What is User Experience Analytics?

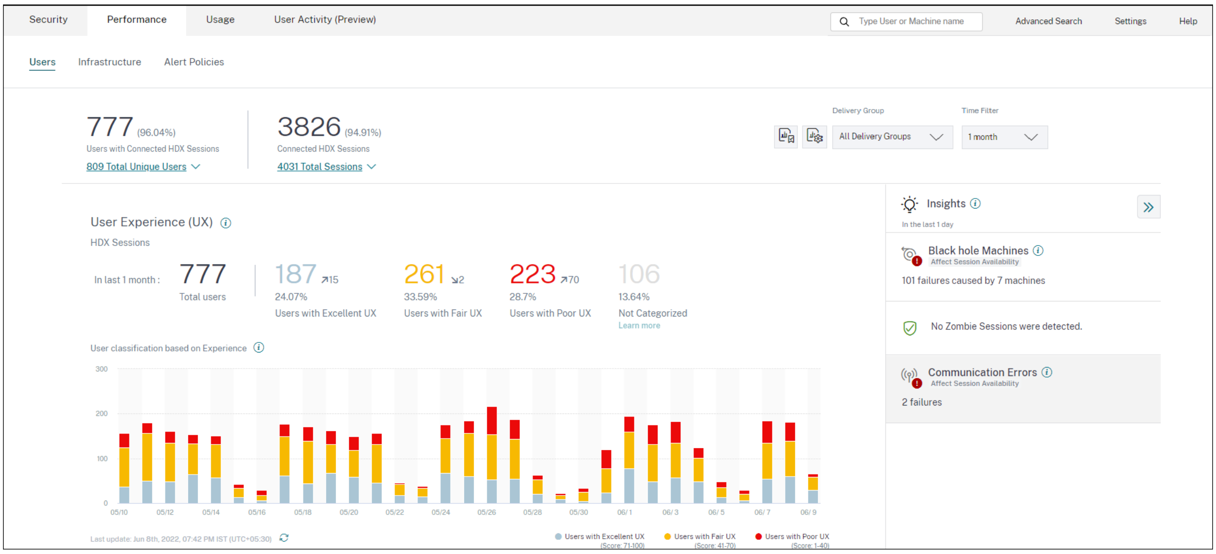
The User Experience Analytics gives actionable insights into the user and session performance parameters of your environment.

- User Experience Analytics provides a comprehensive analytical solution for all the Sites across an organization in a single consolidated dashboard.
- User Experience Analytics analyzes user sessions based on important parameters that define its performance - Session Logon Duration, Session Responsiveness, Session Availability, and Session Resiliency.
- The performance metrics are baselined using dynamic thresholds. The thresholds help measure the Session Experience score and categorize sessions into Excellent, Fair, or Poor categories.
- The User Experience (UX) score is calculated with the individual Session Experience scores. The UX score quantifies the complete user experience in the Sites and allows for users to be segregated as having an Excellent, Fair, or Poor experience.
- The drilldown view further provides an overview of the user performance across factors and subfactors, providing specific actionable insights for users facing suboptimal experience.

How to access the User Experience dashboard

To view the User Experience dashboard:

1. Log on to Citrix Cloud and select the Cloud Customer.
2. On the Analytics Service tile, click **Manage**.
3. On the Analytics overview page, click **Manage** under the **Performance** offering.
4. Click the **Users** tab.



How to use the User Experience dashboard

Site selection is available if multiple Sites are present in the environment. Use the Time Filter to select the required duration, and select the required Delivery Groups. The dashboard gives an overview of the user and session experience. You get,

- User classification of users running HDX sessions based on User Experience.
- Trend of user classification for the selected duration.
- Trend of user sessions and session failures for the selected duration.
- Session classification based on Session Responsiveness and Session Logon Duration factors.

The following section describes the various elements on the User Experience dashboard.

User Experience score

The UX score is a comprehensive end user experience index calculated based on the performance factors that affect a user session. Metrics that are measured through the session life cycle from its launch attempt to its end, contribute to the calculation of the UX Score.

- **Session Logon Duration** represents the session launch experience.
- **Session Responsiveness** represents the in-session responsiveness or session latency.
- **Session Availability** represents the success rate of establishing a session connection when attempted by the user.
- **Session Resiliency** indicates how the Workspace app recovers from network failures when the user is connected over a sluggish network. It measures the reconnection rate.

For more information about the UX score calculation and threshold calibration for user classification, see the UX score article.

Granularity of data collection is based on the selected time period. All data on the dashboard and the drilldown screens is obtained and refreshed from the database as per the data collection granularity. Click the refresh icon to update the data immediately.

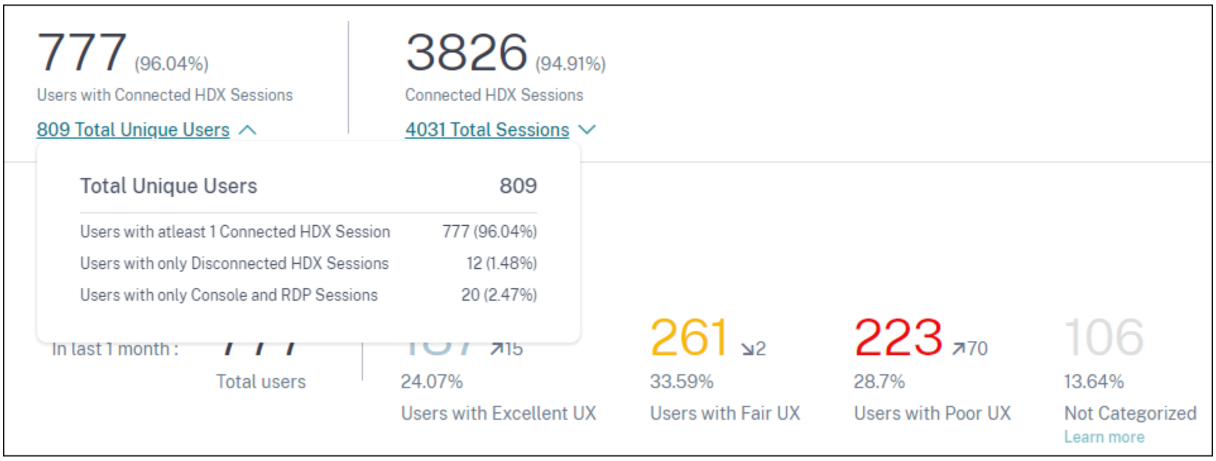
Breakup of Users and Sessions

The dashboard now shows the breakup of users and sessions in the virtual apps and desktops environment based on the session protocol and the connection status.

The dashboard provides performance metrics for only connected HDX sessions. Sessions that have been disconnected throughout during the selected period indicates that the user was not active for the entire selected period. Hence, Session and User Experience scores are not applicable for disconnected sessions.

The following metrics are available in the breakup:

- Number and percentage of users with connected HDX sessions
- Number and percentage of connected HDX sessions
- Total number of unique users with breakup
- Total number of sessions with breakup



777 (96.04%)
Users with Connected HDX Sessions
809 Total Unique Users

3826 (94.91%)
Connected HDX Sessions
4031 Total Sessions

Total Unique Users	809
Users with atleast 1 Connected HDX Session	777 (96.04%)
Users with only Disconnected HDX Sessions	12 (1.48%)
Users with only Console and RDP Sessions	20 (2.47%)

In last 1 month :
Total users

↗15
24.07%
Users with Excellent UX

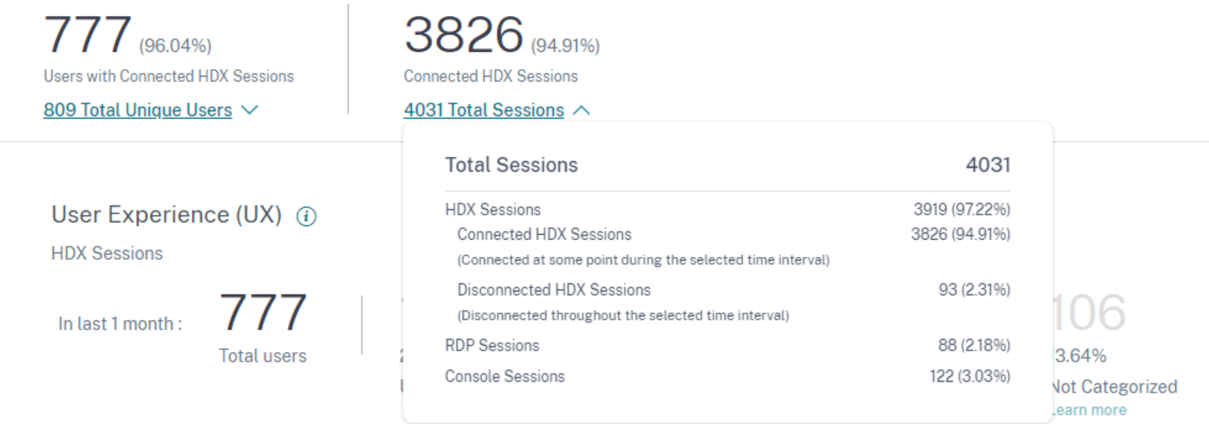
261 ↘2
33.59%
Users with Fair UX

223 ↗70
28.7%
Users with Poor UX

106
13.64%
Not Categorized
Learn more

Based on the session protocols and connection status, the total unique users are classified as:

- Users with at least one Connected HDX Session: These users have had at least one HDX session in connected state at some point during the time interval.
- Users with only Disconnected HDX Sessions: All the sessions of these users have been disconnected throughout the time interval.
- Users with only Console and RDP Sessions



777 (96.04%)
Users with Connected HDX Sessions
809 Total Unique Users

3826 (94.91%)
Connected HDX Sessions
4031 Total Sessions

User Experience (UX)
HDX Sessions
In last 1 month : 777 Total users

Total Sessions	4031
HDX Sessions	3919 (97.22%)
Connected HDX Sessions (Connected at some point during the selected time interval)	3826 (94.91%)
Disconnected HDX Sessions (Disconnected throughout the selected time interval)	93 (2.31%)
RDP Sessions	88 (2.18%)
Console Sessions	122 (3.03%)

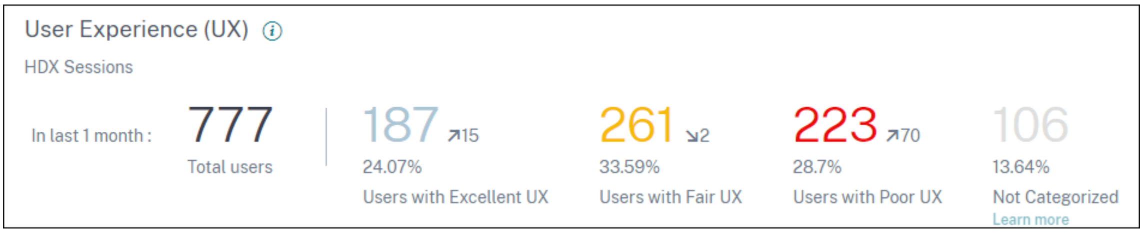
Based on the session protocols and connection status, the total sessions are also categorized similarly as follows:

- HDX Sessions
  - HDX Connected Sessions: Sessions that were in connected state at some point during the time interval.
  - HDX Disconnected Sessions: Sessions that were in disconnected state throughout the time interval.
- RDP Sessions
- Console Sessions

User Classification by Experience

To view the classification of users based on the UX score:

1. On the **Users** tab, select the time period for which you want to view the User Experience. The last 2 hours (2H) time period is selected by default.
2. Select the Site and Delivery Groups. If you select **All Sites**, metrics consolidated across all the Sites are displayed.

   User Experience (UX)
   HDX Sessions
   In last 1 month : 777 Total users
   187 ↗15 24.07% Users with Excellent UX
   261 ↘2 33.59% Users with Fair UX
   223 ↗70 28.7% Users with Poor UX
   106 13.64% Not Categorized Learn more

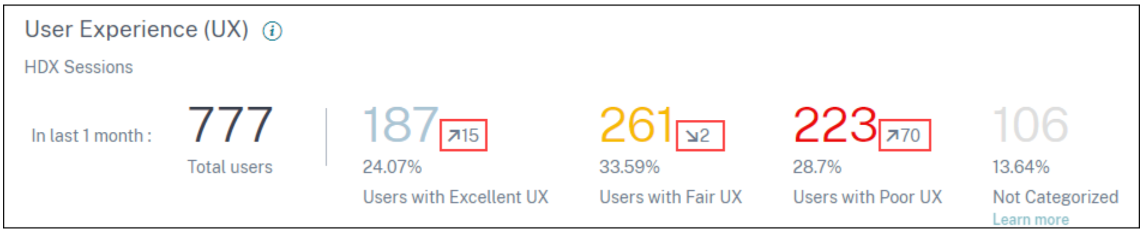
3. The total number of active users in one or more selected Sites and Delivery Groups for the selected time duration is displayed.

4. Users distribution across each of the Excellent, Fair, and Poor categories based on their UX Scores is displayed in numbers and percentages. The User Experience score thresholds for classification of users are calculated using statistical methods.

   - **Users with Excellent UX**: Represents users with a UX score of 71-100. Users with Excellent UX had a consistently good experience across all factors.
   - **Users with Fair UX**: Represents users with a UX score of 41-70. These users had a degraded experience for a limited period across certain factors.
   - **Users with Poor UX**: Represents users with a UX score 1–40. These users had a prolonged degradation across several indicators.
   - **User Not Categorized**: For information about users that are **Not Categorized**, see the Not Categorized Metrics article.

User Classification Trend

1. The up/down arrows indicate the trend in the number of users. It shows an increment or decrement of the number of users in each category as compared to the previous time period. For example, in the following scenario,

   User Experience (UX)

   HDX Sessions

   In last 1 month : 777 Total users | 187 ↗15 24.07% Users with Excellent UX | 261 ↘2 33.59% Users with Fair UX | 223 ↗70 28.7% Users with Poor UX | 106 13.64% Not Categorized Learn more

   - In the last 1 month, the Site had logons by a total of 777 users.

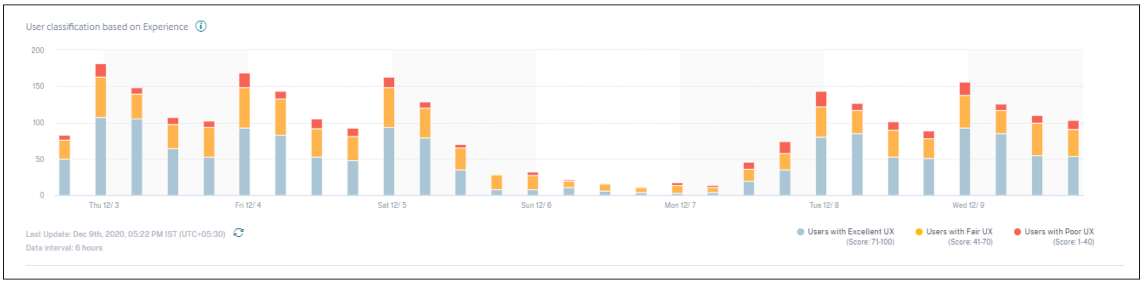
   - Of these, 187 users had an excellent user experience in the last month. This count is 15 users more than the number of users who had an excellent user experience in the previous month. So, the previous month had 172 users with an excellent user experience.

   - 261 users had a fair user experience in the last month. This count is 2 users lesser those who had a fair experience in the previous month.

   - 223 users had a poor user experience in the last month. 153 users had a poor experience in the previous month.

2. Click the categorized user numbers to further drill down into the factors affecting those users. For more information, see the Factor Drilldown article.

3. The **User classification based on Experience** trend displays the distribution of users across the categories during the selected time period. The length of a color on the bar indicates the number of users in an experience category.

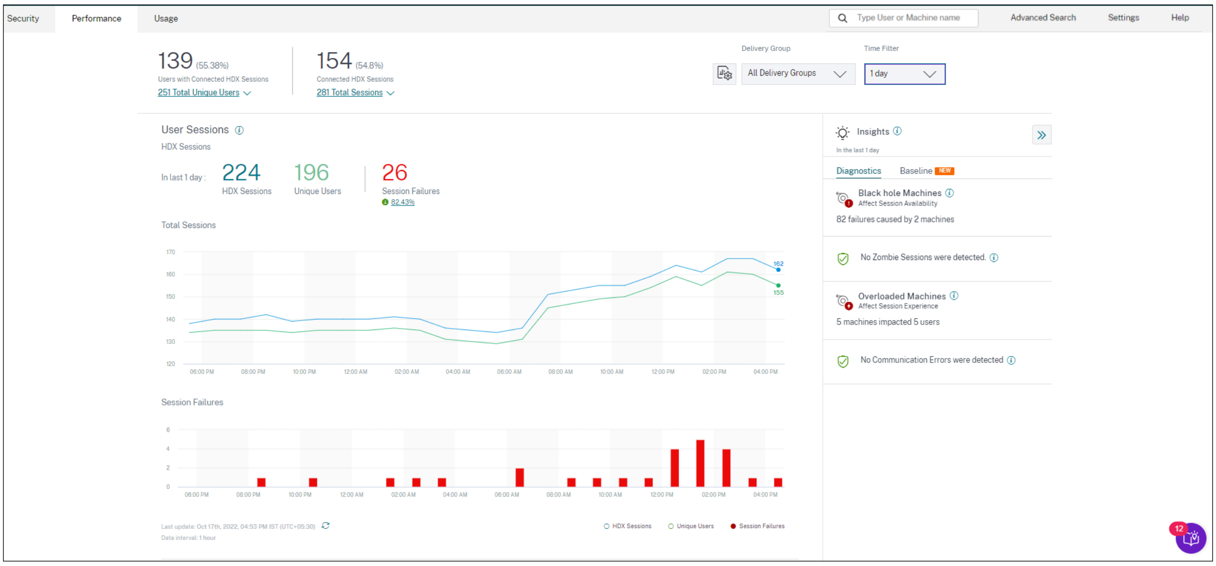


4. Hovering over the chart displays a tooltip containing the user classification for the specific data interval. Click the Excellent, Fair, or Poor region on the bars to see the drilldown displaying the classification of the specific set of users for the data interval represented by the bar.

User Sessions

A user session is created when an app or a desktop is launched from the Workspace app. The user interacts with the app or desktop through the user session. The experience the user has in each session adds up to the overall experience of the user in the Apps and Desktops environment.

The **User Sessions** section of the User Experience dashboard displays important session metrics of HDX sessions for the chosen time period, Site, and Delivery Groups.



139 (55.38%) Users with Connected HDX Sessions

251 Total Unique Users

154 (54.8%) Connected HDX Sessions

281 Total Sessions

In last 1 day : 224 HDX Sessions 196 Unique Users 26 Session Failures 82.43%

Last update: Oct 17th, 2022, 04:53 PM IST (UTC+05:30)

Data interval: 1 hour

In the last 1 day

Black hole Machines ⓘ Affect Session Availability

82 failures caused by 2 machines

No Zombie Sessions were detected. ⓘ

Overloaded Machines ⓘ Affect Session Experience

5 machines impacted 5 users

No Communication Errors were detected ⓘ

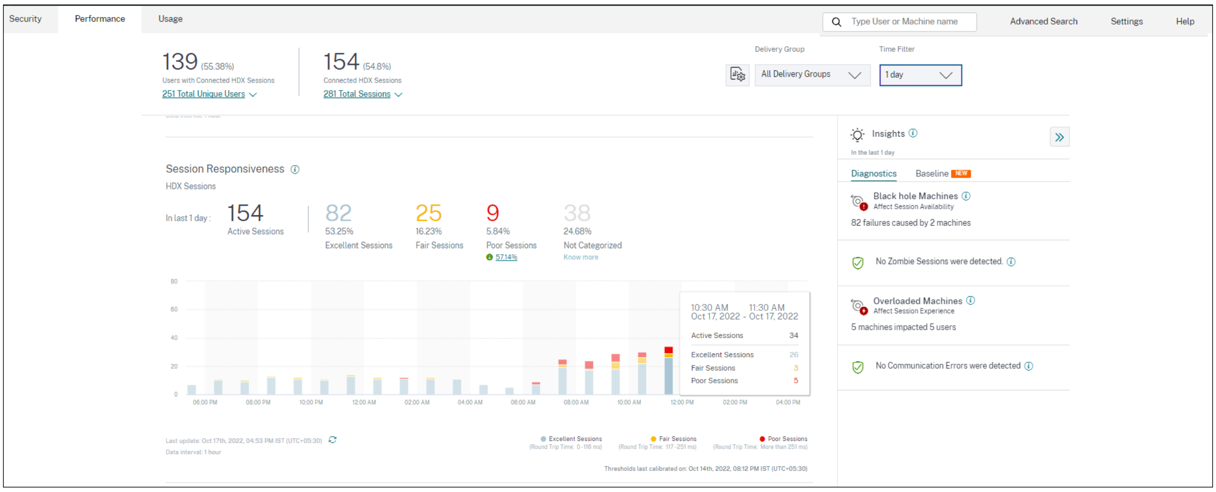
You can view the following user session data:

- **Total Sessions:** Total number of user sessions over the chosen time period. A single user can establish multiple user sessions. The number includes all sessions launched or active during the chosen period.
- **Total Unique Users:** Number of unique users who either launched a session or have an active session during the chosen period.

- **Session Failures:** Number of user sessions that failed to launch during this time period. Clicking the failure count opens the Sessions based self-Service search. Hover over the graphs to view detailed information for a specific collection interval. The charts help identify the pattern in the failures versus the total number of sessions connected. The unique users trend helps analyze the license usage in the Site and selected Delivery Groups. Deviation from the baseline is also displayed, clicking the deviation displays the respective Baseline Insight. For more information about Insights, see the Insights article.
- **Failure Insights:** Insights into the causes for session failure, drill down to specific users, sessions, or machines that the failures are associated with. Also available is a set of recommended steps to mitigate the failures. For more information, see the Insights article.

Session Responsiveness

Session Responsiveness represents the ICA Round Trip Time (ICA RTT). ICA RTT is used to quantify the response time. It is the amount of time it takes for user input to reach the server and the response to appear on the endpoint machine. It measures the in-session experience and quantifies the lag experienced while interacting with a virtual app or desktop.



10:30 AM 11:30 AM
Oct 17, 2022 - Oct 17, 2022

Active Sessions	34
Excellent Sessions	26
Fair Sessions	3
Poor Sessions	5

Last update: Oct 17th, 2022, 04:53 PM IST (UTC+05:30)
Data interval: 1 hour

Thresholds last calibrated on: Oct 14th, 2022, 08:12 PM IST (UTC+05:30)

82 failures caused by 2 machines

No Zombie Sessions were detected.

5 machines impacted 5 users

No Communication Errors were detected

The Session Responsiveness section has the following information:

Active sessions: Active sessions are user sessions currently in operation and connected to Apps and Desktops.

Session classification: Sessions are categorized as Excellent, Fair, or Poor based on their ICA RTT measurements over the selected time period. Click the classification numbers to view the Sessions based self-Service search for the selected set of sessions.

The thresholds for categorization are calculated for the current customer and are recalibrated dynamically. For more information, see the Dynamic thresholding documentation.

Deviation from the baseline is also displayed, clicking the deviation displays the respective Baseline Insight. For more information about Insights, see the Insights article.

For information about sessions that are **Not Categorized**, see the Not Categorized Metrics article.

Session classification trend

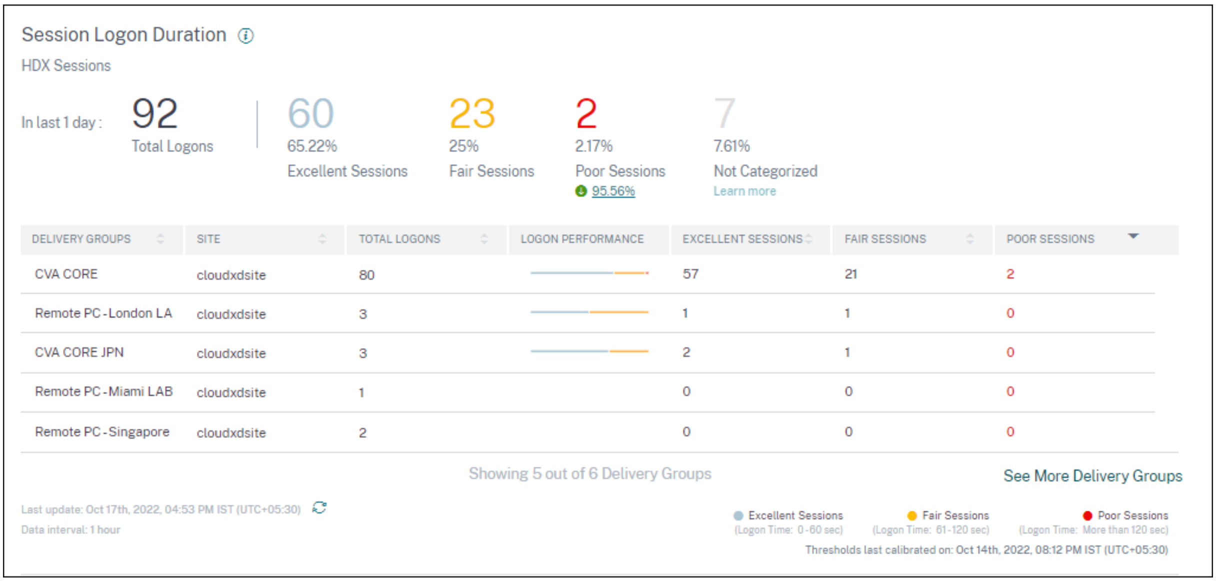
Session classification is plotted for the selected Site and Delivery Groups across the selected time duration. The legend displays the current thresholds used to plot the chart and the last updated time for the thresholds.

The session classification trend based on Session Responsiveness helps identify sessions facing network issues.

Session Logon Duration

The period from when a user clicks an application or a desktop in the Citrix Workspace app to the instant the app or desktop is available for use is called the logon duration. The logon duration includes the time taken for various processes in the complex launch sequence. Total logon time includes phases such as Brokering, VM Start, HDX Connection, Authentication, Profile Load, Logon Script, GPO, and Shell Launch.

Breaking down the Session Logon Duration data to individual phases helps troubleshoot and identify a specific phase causing a longer logon duration.



Session Logon Duration

HDX Sessions

In last 1 day : 92 Total Logons | 60 65.22% Excellent Sessions | 23 25% Fair Sessions | 2 2.17% Poor Sessions 95.56% | 7 7.61% Not Categorized Learn more

DELIVERY GROUPS	SITE	TOTAL LOGONS	LOGON PERFORMANCE	EXCELLENT SESSIONS	FAIR SESSIONS	POOR SESSIONS
CVA CORE	cloudxdsite	80		57	21	2
Remote PC - London LA	cloudxdsite	3		1	1	0
CVA CORE JPN	cloudxdsite	3		2	1	0
Remote PC - Miami LAB	cloudxdsite	1		0	0	0
Remote PC - Singapore	cloudxdsite	2		0	0	0

Showing 5 out of 6 Delivery Groups

See More Delivery Groups

Last update: Oct 17th, 2022, 04:53 PM IST (UTC+05:30)

Data interval: 1 hour

● Excellent Sessions (Logon Time: 0 - 60 sec) ● Fair Sessions (Logon Time: 61 - 120 sec) ● Poor Sessions (Logon Time: More than 120 sec)

Thresholds last calibrated on: Oct 14th, 2022, 08:12 PM IST (UTC+05:30)

This section has the following information:

Total logons: The total number of logons to virtual apps or desktops in the selected duration, Site, and Delivery Groups.

Session classification: Sessions are categorized as Excellent, Fair, or Poor based on their Session Logon Duration measurements over the selected time period. Click the classification numbers to view the Sessions based self-Service search for the selected set of sessions.
The thresholds for categorization are calculated specifically for the current customer and are recalibrated dynamically. For more information, see the Dynamic thresholding documentation. The legend displays the current thresholds used to plot the chart and the last updated time for the thresholds. Deviation from the baseline is also displayed, clicking the deviation displays the respective Baseline Insight. For more information about Insights, see the Insights article.

Sessions Not Categorized for Logon Duration

Sessions might be **Not Categorized** for Logon Duration if the subfactors are not configured to be measured as described in Session Logon Duration subfactors.

Session Logon Duration sorted by Delivery Groups

Session Logon Duration data is displayed in tabular format with the following information:

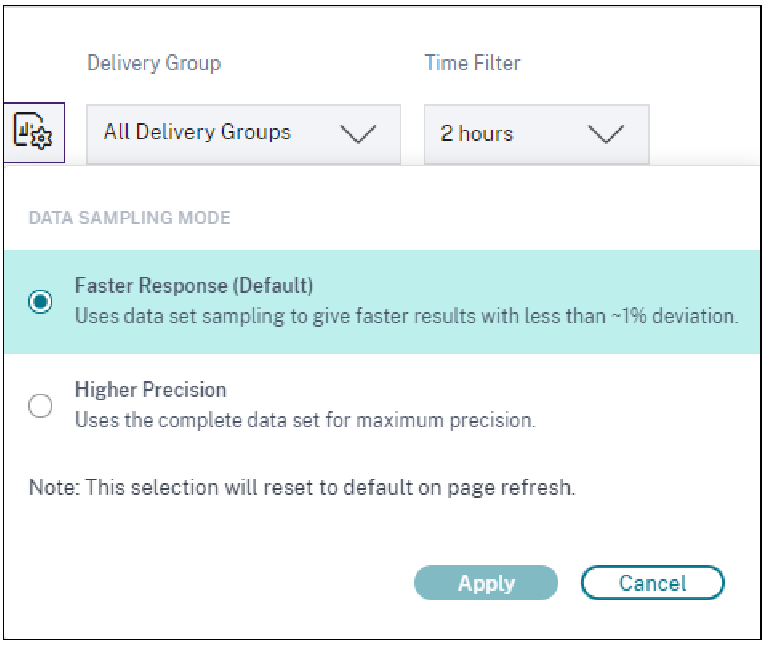
- Delivery group and the corresponding Site.
- Session distribution chart based on performance indicators- Excellent, Fair, or Poor.
- Total number of sessions.
- Number of Excellent, Fair, and Poor sessions.

By default, the table data is sorted based on the **Poor Sessions** column. You can choose to sort it based on any of the other columns. The first five Delivery Groups based on the sort criteria are displayed. Click **See More Delivery Groups** to see more data.

This table helps identify the Delivery Groups with the maximum number of poor sessions. You can troubleshoot further to identify policies causing higher logon duration on the specific Delivery Group.

Approximation Mode

Data Sampling mode is available on the User Experience Dashboard in Citrix Analytics for Performance to help load the dashboard metrics faster. This mode is available on tenants with more than 25K active unique users in the past 30 days.



DATA SAMPLING MODE

● Faster Response (Default)
Uses data set sampling to give faster results with less than ~1% deviation.

○ Higher Precision
Uses the complete data set for maximum precision.

Note: This selection will reset to default on page refresh.

Data Sampling modes available are:

- **Faster Response Mode:** This mode uses data set sampling to arrive at performance metrics for all time periods. This helps load the metrics on the User Experience Dashboard faster especially in tenants with large number of users. The metrics deviate by approximately one percent from the numbers that are available in the Higher Precision mode.
  Faster Response is the default sampling mode. The dashboard gets reset to this mode upon page refresh for large tenants.
- **Higher Precision Mode:** This mode uses the complete data set to arrive at the performance metrics. Choosing this mode might result in slower loading of the dashboard. You can choose this mode to see more accurate metrics for the exact period chosen.
  Data Sampling Mode feature is applicable on the User Experience Dashboard only. The Intermediate drilldown and the Self-service pages continue to operate in Faster Response mode.

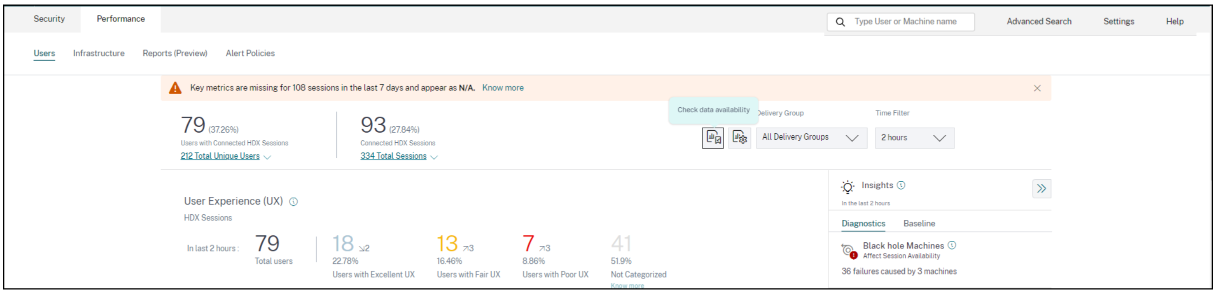
Data Availability

Accuracy of Performance Analytics depends on the data collected from various site infrastructure like the endpoints, machines, Gateway, and Delivery Controller. A good availability of the required metrics ensures that the data and insights provided by Performance Analytics closely represents the actual performance of the site.

The **Data Availability** feature helps identify sessions that do not have the data required to monitor the performance of your endpoints. Endpoint metrics like Endpoint Link Speed, Location, Throughput, ISP, Network Interface type, OS and Endpoint receiver version that are critical to analyze issues specific to endpoints.

Endpoint metrics require that the StoreFront be onboarded correctly, and the Citrix Workspace App versions installed on the endpoints are correct. The number of sessions across all the onboarded sites which don't have endpoint metrics during the past seven days is displayed when you open Citrix Analytics for Performance. If you are using Citrix Workspace, the service is automatically discovered and does not require onboarding.

Click **Know more**. A modal box containing the reasons in detail and the actions that you could take to solve the issues, is displayed. You can also click the Data Availability icon to view the modal.



Key metrics are missing for 108 sessions in the last 7 days and appear as **N/A.** Know more

For more information, see Self-service search for Sessions.

- One of the key reasons for missing endpoint telemetry is StoreFront onboarding. StoreFront must be onboarded correctly; data processing must be switched on and appropriate URLs must be whitelisted. **Review StoreFront Data Sources** takes you to the Data Sources page that leads you through the StoreFront onboarding process required for the Workspace App Data Collection. Click **Sessions missing endpoint data** to open the Sessions self-service view with the list of sessions whose endpoint metrics are missing because of incorrect or non-existent StoreFront Onboarding. If you are using Citrix Workspace, the service is automatically discovered and does not require onboarding.
- Endpoint telemetry is not available for sessions launched from endpoints that run unsupported OS platforms or incompatible Citrix Workspace app versions. Clicking **Sessions missing endpoint data** opens the Sessions self-service view with the list of the sessions missing endpoint telemetry due to a specific listed reason. For more information, see the Version matrix that lists for each feature, the OS versions and the required Workspace app version on which it is supported.

User Experience Score

August 17, 2023

What does the User Experience represent?

The User Experience is a comprehensive measurement of the quality of the session established by the user while using Apps and Desktops. The User Experience (UX) score indicates the quality of user experience. UX score is calculated using performance factors that define the quality of a user session. The factor metrics are analyzed and processed using statistical methods over a time period to arrive at a score out of 100. This score is a quantitative reflection of the actual experience a user has while using Apps and Desktops.

The performance factor metrics represent the experience of a session through its life cycle from session launch to the session end.

- **Session Logon Duration** factor represents the session launch experience.
- **Session Responsiveness** factor represents the in-session responsiveness or sluggishness.
- **Session Availability** represents the success rate of establishing a session connection when attempted by the user.
- **Session Resilience** measures the reconnection rate when the user is connected over a sluggish network.

The performance factors are further divided into subfactors/types. For example, Session Logon Duration is calculated using individual phases that occur during logon, such as the GPOs, Interactive session, and Profile load.
The factor and subfactor thresholds are calibrated to classify users and sessions as Excellent, Fair, or Poor.

UX scores are benchmarked into the following categories:

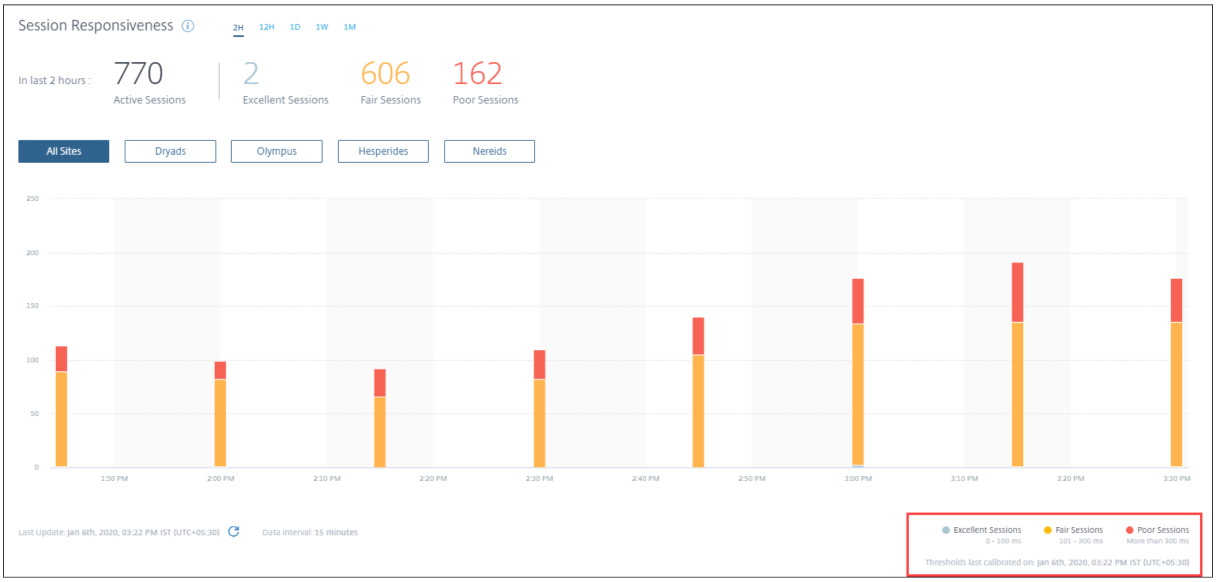
- **Excellent**: UX score of 71-100
- **Fair**: UX score of 41-70
- **Poor**: UX score of 1-40

How are dynamic thresholds calculated

The concept of dynamic thresholds is used to benchmark the Session Logon Duration and the Session Responsiveness factors and their subfactors individually for every customer. Statistical techniques are used to periodically calculate thresholds that classify users as Excellent, Fair, or Poor.

- Calculation of thresholds for factors and subfactors is done on a per customer basis. This method of calculation ensures that the specific configuration and range of accepted behavior for every customer is accommodated for.
- Thresholds are calculated for each customer based on metrics collected during the past 30 days.

- Thresholds are recalibrated every seven days to reflect any changes in the environment, such as, reconfiguration of machines or a network upgrade. The recalibrated thresholds represent the resulting changes in factor measurements.



Session Responsiveness

In last 2 hours : 770 Active Sessions | 2 Excellent Sessions 606 Fair Sessions 162 Poor Sessions

Last Update: Jan 6th, 2020, 03:22 PM IST (UTC+05:30) Data interval: 15 minutes

● Excellent Sessions 0 - 100 ms ● Fair Sessions 101 - 300 ms ● Poor Sessions More than 300 ms

Thresholds last calibrated on: Jan 6th, 2020, 03:22 PM IST (UTC+05:30)

In this example, the chart legend indicates the dynamic thresholds of Session Responsiveness as:

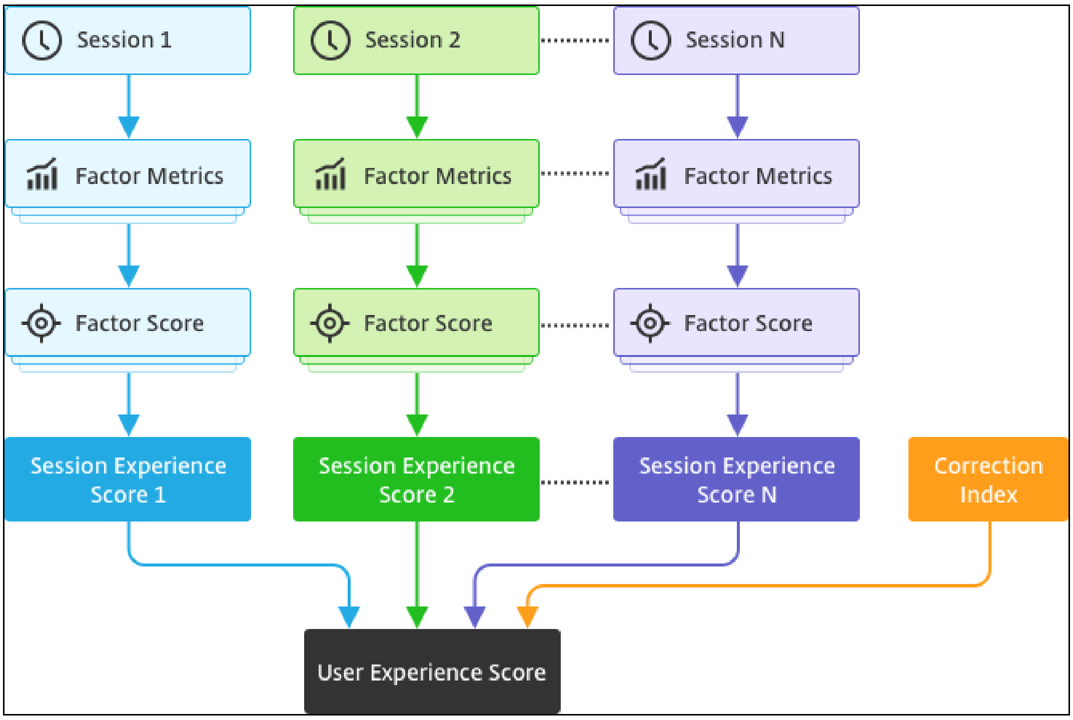
- Excellent session - 0–100 ms
- Fair session - 101–300 ms
- Poor session - greater than 300 ms

Time stamp of the last thresholds update is displayed below the chart legend. The chart is replotted based on the latest thresholds.

Dynamic thresholds ensure that the classification of session and users reflects the environment that is being analyzed precisely. Users with poor experience in any customer environment are highlighted accurately for further troubleshooting.

How is the UX score calculated

The User Experience score is calculated from the contributing factor scores using the bottom up approach.



1. **Benchmark factors**:

   For each session, Session Logon Duration and Session Responsiveness factors and their subfactors are calibrated dynamically once every seven days. Based on these thresholds, sessions are classified as Excellent, Fair, or Poor.
   The measurements are used to arrive at factor scores (out of 100) for each session.

2. **Relative weights of factors**:

   The severity by which the factors impact the user experience might differ. For example, the impact of Session Resiliency on the session experience is more than the impact of Session Logon Duration. So, a relative weight is applied on each factor.

3. **Session Experience score**:

   The session experience score is calculated as the weighted average of various factor scores applicable for the selected duration.

   Next, the session experience scores of individual sessions applicable to the user are collated.

4. **Correction factor**:

   The Session Availability factor indicates the success rate of getting a session connection when attempted. The impact of this factor is at the user level and not at the session level. Hence, the Session Availability score is applied as a correction factor to the sum of the individual session scores to arrive at the User Experience (UX) score.

The UX score gives you actionable insights about the user experience. Drilling down further into metrics of users with a poor user experience score helps identify a particular factor or subfactor that is causing the poor experience.

User Experience (UX) Factors

August 17, 2023

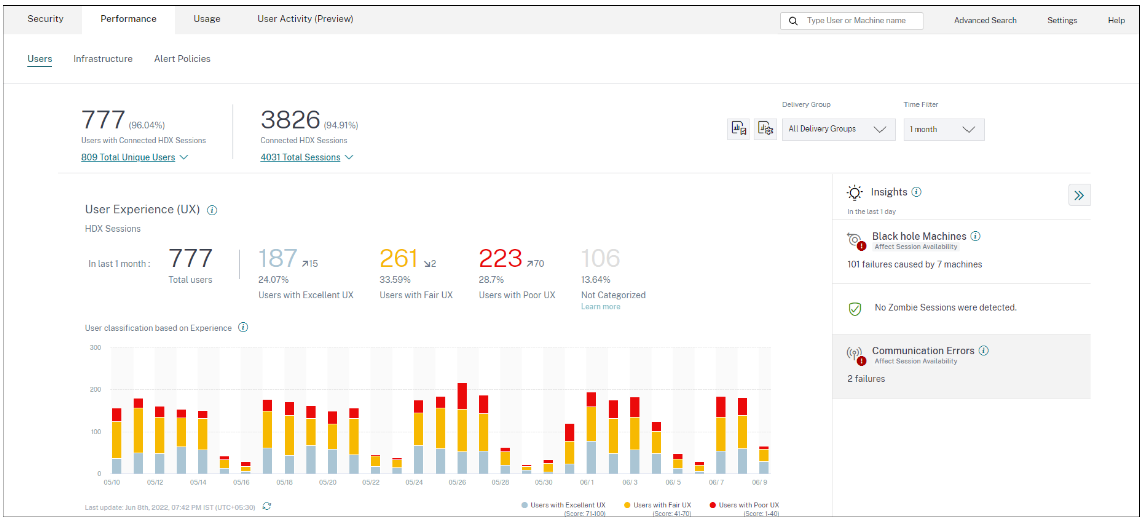
The UX Factors page provides an insight into the factor and subfactor level experience of the set of users you select on the UX dashboard.

Click any of the Excellent, Fair, or Poor UX category on the UX dashboard to open the UX Factors page. It quantifies the effect of factor and subfactor metrics on the user experience. This page classifies the selected set of users based on their experience concerning the factors - Session Availability, Session Responsiveness, Session Resiliency, and Session Logon Duration. Further, the selected users are also classified based on their experience concerning the subfactors within these factors. This drilldown enables you to identify the actual subfactor responsible for the poor experience of users in your environment.

How to use the User Experience (UX) Factors page?

To drill deeper into the factor metrics affecting the user experience, click the number in any of the Excellent, Fair, or Poor category on the UX dashboard.

1. Consider the scenario, where the environment has 21 users having an excellent experience, 39 having a fair experience and 30 users having a poor experience during the last two hours. To understand the reason for the 30 users facing a poor user experience, click the number 30 from the User Experience dashboard.



777 (96.04%) Users with Connected HDX Sessions

809 Total Unique Users

3826 (94.91%) Connected HDX Sessions

4031 Total Sessions

User Experience (UX)

HDX Sessions

In last 1 month : 777 Total users

187 ↗15 24.07% Users with Excellent UX

261 ↘2 33.59% Users with Fair UX

223 ↗70 28.7% Users with Poor UX

106 13.64% Not Categorized Learn more

User classification based on Experience

Last update: Jun 8th, 2022, 07:42 PM IST (UTC+05:30)

Insights

In the last 1 day

Black hole Machines

Affect Session Availability

101 failures caused by 7 machines

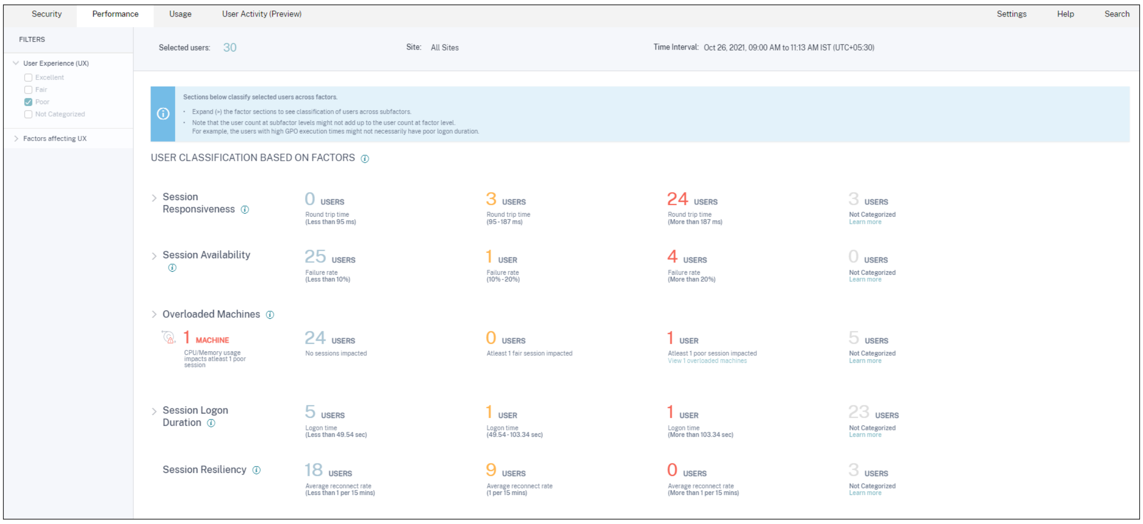
No Zombie Sessions were detected.

Communication Errors

Affect Session Availability

2 failures

2. The User Experience (UX) factors screen shows a drilldown of the factors affecting the poor experience of users in all the Sites during the last two hours.



FILTERS

User Experience (UX)

- ☐ Excellent
- ☐ Fair
- ☑ Poor
- ☐ Not Categorized

Factors affecting UX

Selected users: 30 Site: All Sites Time Interval: Oct 26, 2021, 09:00 AM to 11:13 AM IST (UTC+05:30)

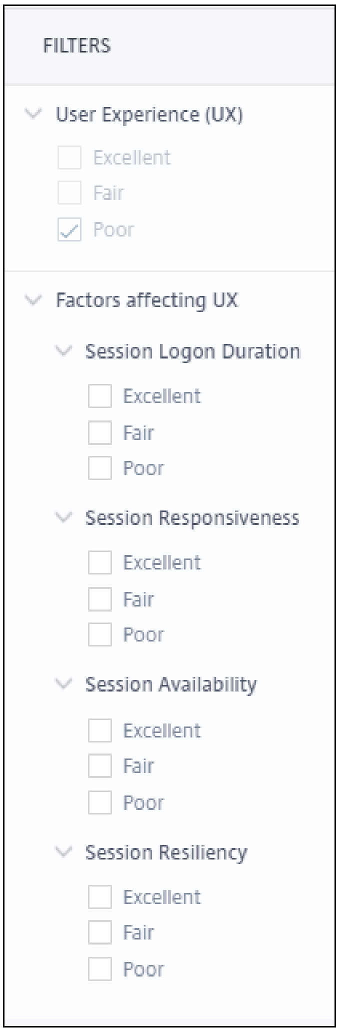
Sections below classify selected users across factors.

- Expand (>) the factor sections to see classification of users across subfactors.
- Note that the user count at subfactor levels might not add up to the user count at factor level. For example, the users with high GPO execution times might not necessarily have poor logon duration.

USER CLASSIFICATION BASED ON FACTORS

Session Responsiveness	0 USERS Round trip time (Less than 95 ms)	3 USERS Round trip time (95 - 187 ms)	24 USERS Round trip time (More than 187 ms)	3 USERS Not Categorized Learn more
Session Availability	25 USERS Failure rate (Less than 10%)	1 USER Failure rate (10% - 20%)	4 USERS Failure rate (More than 20%)	0 USERS Not Categorized Learn more
Overloaded Machines 1 MACHINE CPU/Memory usage impacts atleast 1 poor session	24 USERS No sessions impacted	0 USERS Atleast 1 fair session impacted	1 USER Atleast 1 poor session impacted View 1 overloaded machines	5 USERS Not Categorized Learn more
Session Logon Duration	5 USERS Logon time (Less than 49.54 sec)	1 USER Logon time (49.54 - 103.34 sec)	1 USER Logon time (More than 103.34 sec)	23 USERS Not Categorized Learn more
Session Resiliency	18 USERS Average reconnect rate (Less than 1 per 15 mins)	9 USERS Average reconnect rate (1 per 15 mins)	0 USERS Average reconnect rate (More than 1 per 15 mins)	3 USERS Not Categorized Learn more

3. The left panel displays the selection filters for the User Experience and the factors.



FILTERS

User Experience (UX)

- ☐ Excellent
- ☐ Fair
- ☑ Poor

Factors affecting UX

Session Logon Duration

- ☐ Excellent
- ☐ Fair
- ☐ Poor

Session Responsiveness

- ☐ Excellent
- ☐ Fair
- ☐ Poor

Session Availability

- ☐ Excellent
- ☐ Fair
- ☐ Poor

Session Resiliency

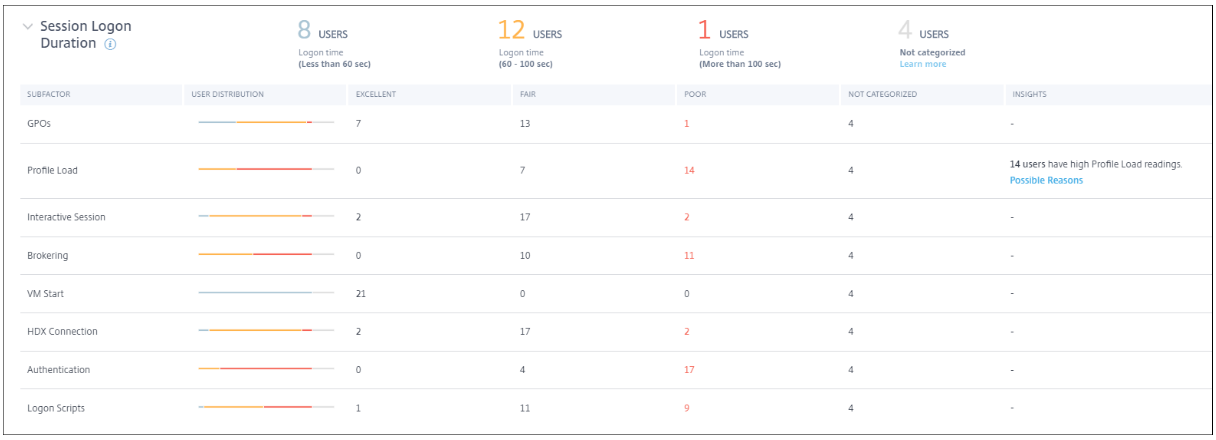
- ☐ Excellent
- ☐ Fair
- ☐ Poor

Click the **Selected users** number to access the self-Service Search page for the specific set of users.

4. The sections on the UX factors page classify the selected set of users further based on the factors Session Availability, Session Responsiveness, Session Resiliency, Session Logon Duration, and Overloaded Machines. Expand (click >) each factor section to see the user classification based on experience across the respective subfactors. The factors are sorted based on the number of users with poor factor experience.
5. The overall user experience classification might not match with the user count at the factor level. And, a poor experience across one or more factors might not necessarily mean an overall poor user experience.
6. Similarly, the user count at individual subfactor levels might not add up to the user count at the factor level. For example a user with high GPOs might not necessarily have a poor logon experience as the user's experience with other subfactors might have been excellent.
7. The classification of users at factor and subfactor levels helps identify and troubleshoot the precise cause of poor overall user experience.
8. For information about users that are **Not Categorized**, see the Not Categorized Metrics article.

Session Logon Duration

Session Logon Duration is the time taken to launch a session. It is measured as the period from the time the user connects from the Citrix Workspace app to the time when the app or desktop is ready to use. This section classifies users based on the session logon duration readings. The logon duration thresholds for classification of the experience as Excellent, Fair, or Poor are calculated dynamically. For more information on the Dynamic thresholds for Session Logon Duration, see the Dynamic Thresholds section.



Session Logon Duration

8 USERS Logon time (Less than 60 sec)

12 USERS Logon time (60 - 100 sec)

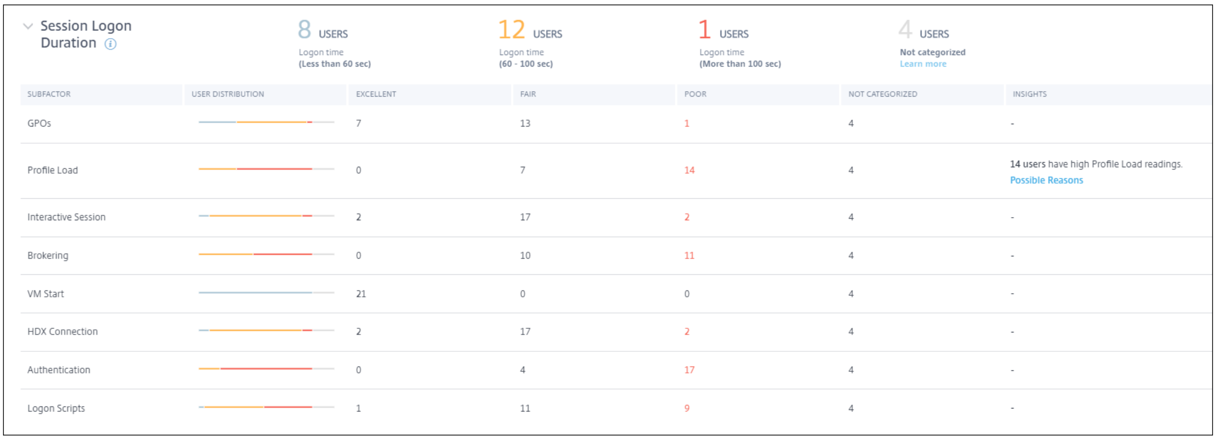
1 USERS Logon time (More than 100 sec)

4 USERS Not categorized Learn more

SUBFACTOR	USER DISTRIBUTION	EXCELLENT	FAIR	POOR	NOT CATEGORIZED	INSIGHTS
GPOs		7	13	1	4	-
Profile Load		0	7	14	4	14 users have high Profile Load readings. Possible Reasons
Interactive Session		2	17	2	4	-
Brokering		0	10	11	4	-
VM Start		21	0	0	4	-
HDX Connection		2	17	2	4	-
Authentication		0	4	17	4	-
Logon Scripts		1	11	9	4	-

Clicking the classified user count numbers lead to the **Self-Service** screen displaying the actual performance factor measurements for the selected set of users.

Session Logon Duration is broken down into subfactors that represent individual phases in the complex launch sequence. Each row in the Session Logon Duration drilldown table represents the user categorization for the individual phases occurring during session launch. This helps troubleshoot and identify specific user logon issues.



Session Logon Duration

8 USERS Logon time (Less than 60 sec)

12 USERS Logon time (60 - 100 sec)

1 USERS Logon time (More than 100 sec)

4 USERS Not categorized Learn more

SUBFACTOR	USER DISTRIBUTION	EXCELLENT	FAIR	POOR	NOT CATEGORIZED	INSIGHTS
GPOs		7	13	1	4	-
Profile Load		0	7	14	4	14 users have high Profile Load readings. Possible Reasons
Interactive Session		2	17	2	4	-
Brokering		0	10	11	4	-
VM Start		21	0	0	4	-
HDX Connection		2	17	2	4	-
Authentication		0	4	17	4	-
Logon Scripts		1	11	9	4	-

The user counts for Excellent, Fair, and Poor category related to each subfactor experience are displayed. Use this information to analyze specific subfactor phases that might be contributing to longer logon duration.

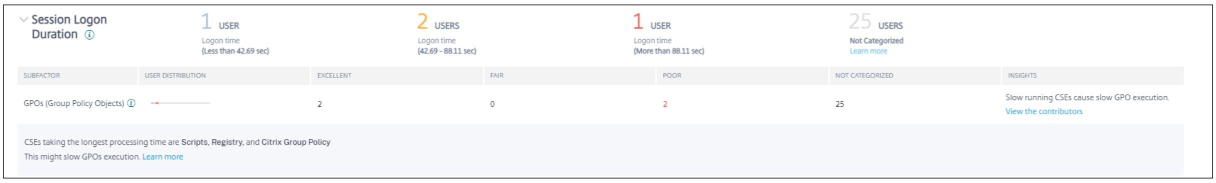
For example, if GPOs show the highest number of users facing poor experiences, review the GPO policies applicable for these users to help improve logon duration experience.

The last **Not Categorized** column displays the number of users for whom specific subfactor measurements are not available for the selected time period. Specific reasons are elaborated with individual subfactor descriptions.

GPOs

GPOs is the time taken to apply group policy objects during logon. GPOs'measurement is available only if the Group Policy settings are configured and enabled on the virtual machines.

GPOs Insights displays client-side extensions in the environment taking the longest processing time during the selected time period. To see the insights, click the **View the contributors** link in the **Insights** column of GPOs in the Session Logon Duration subfactor table. GPO Insights are based on the analysis of user sessions having poor experience in GPO execution.



Session Logon Duration

1 USER Logon time (Less than 42.69 sec)

2 USERS Logon time (42.69 - 88.11 sec)

1 USER Logon time (More than 88.11 sec)

25 USERS Not Categorized Learn more

SUBFACTOR	USER DISTRIBUTION	EXCELLENT	FAIR	POOR	NOT CATEGORIZED	INSIGHTS
GPOs (Group Policy Objects)		2	0	2	25	Slow running CSEs cause slow GPO execution. View the contributors

CSEs taking the longest processing time are Scripts, Registry, and Citrix Group Policy
This might slow GPOs execution. Learn more

A client-side extension (CSE) is a dynamic-link library (DLL) that implements the Group Policy on the client machine. CSEs with long processing time increase GPO execution times and optimizing CSE processing improve the overall session logon experience of the user.

Average CSE execution time depends on the number and type of policies applied with it. Use the following pointers to improve the processing time of CSEs.

- **Folder Redirection:** CSE execution time depends on the number of folders redirected and the contents of each folder. The system can have a wait configured that gets applied after every folder redirection. Optimize the number of folders, to achieve lower CSE execution time.
- **Drive Mapping:** Logon scripts can try to map drives to non-existent target servers resulting in a higher execution time. Make sure the server addresses are correct and available.

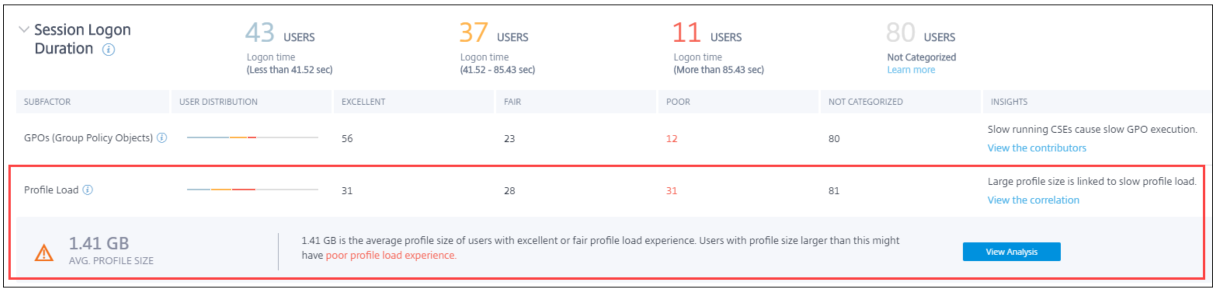
Review and tune policies associated with CSEs taking the longest processing time as indicated in the GPO insights. Further, consider deleting the ones that are not required.

Profile Load

Profile load is one of the most critical phases of logon duration. It is the time it takes to load a user's profile, which includes the registry hive (NTUser.dat) and the user files. Optimizing the profile load time can help improve the overall logon duration experience.

Profile load measurement is available only if profile settings are configured for the user on the virtual machine.

The **Insights** column in the Profile Load displays insights into profile size being the contributing factor to long profile load times. It identifies users who are likely to be affected by a large profile size.



Session Logon Duration

43 USERS Logon time (Less than 41.52 sec)

37 USERS Logon time (41.52 - 85.43 sec)

11 USERS Logon time (More than 85.43 sec)

80 USERS Not Categorized Learn more

SUBFACTOR	USER DISTRIBUTION	EXCELLENT	FAIR	POOR	NOT CATEGORIZED	INSIGHTS
GPOs (Group Policy Objects)		56	23	12	80	Slow running CSEs cause slow GPO execution. View the contributors
Profile Load		31	28	31	81	Large profile size is linked to slow profile load. View the correlation

⚠ 1.41 GB AVG. PROFILE SIZE

1.41 GB is the average profile size of users with excellent or fair profile load experience. Users with profile size larger than this might have poor profile load experience.

Click the **View the correlation** link to see the average profile size of users. The average profile size is calculated using the profile sizes of users who have had excellent and fair profile load experience during the last 30 days. This profile size is identified as optimum. Users having a profile size larger than the average are likely to have poor profile load times.

Click **View analysis** to see the list of users whose profile size is larger than the average. This view shows the last known and average profile size for each user. Use facets to further filter this data to view users with both large profile size and poor logon duration experience.

Expand the user details to view specific performance metrics to further troubleshoot the reason for poor experience.

Use these insights to recommend users to reduce large files in their profile.

Insights are not displayed if the profile size measurements or the average profile size are not available.

- Profile size measurement requires Citrix Profile Management to be installed on the machines.
- Profile size measurement is supported on machine versions 1912 and later.
- Profile size measurements of users with fair and excellent profile load experience over the past 30 days are used to calculate the average profile size. The insights are not derived if no data points are available for this duration.
- Profile load insights are derived in cases where profile size is the cause for slow profile load. The presence of several profile files in the profile might also result in slow profile load.

Interactive Session

The time taken to "hand off"keyboard and mouse control to the user after the user profile has been loaded. It is normally the longest duration of all the phases of the logon process.

Brokering

The time taken to decide which desktop to assign to the user.

VM Start

If the session required a machine start, it is the time taken to start the virtual machine. This measurement is not available for non-power managed machines.

HDX connection

The time taken to complete the steps required in setting up the HDX connection from the endpoint to the virtual machine.

Authentication

The time taken to complete authentication to the remote session.

Logon scripts

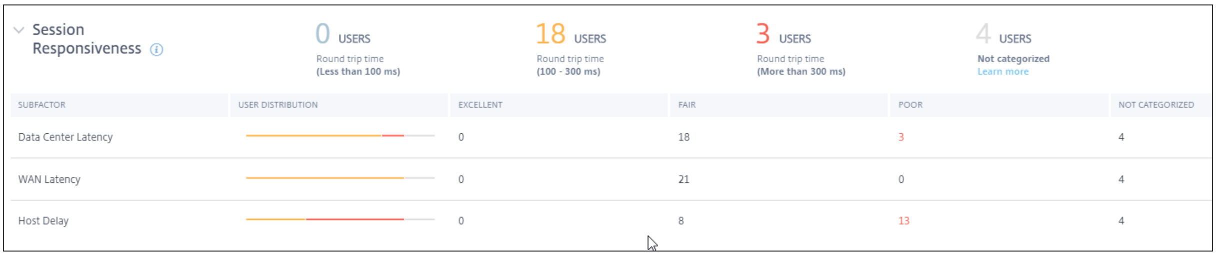
It is the time taken for the logon scripts to run. This measurement is available only if logon scripts are configured for the session.

Session Responsiveness

Once a session is established, the Session Responsiveness factor measures the screen lag that a user experiences while interacting with an app or desktop. Session Responsiveness is measured using the ICA Round Trip Time (ICA RTT) that represents the time elapsed from when the user pushes down a key until the graphical response is displayed back.

ICA RTT is measured as the sum of traffic delays in the server and endpoint machine networks, and the time taken to launch an application. ICA RTT is an important metric that gives an overview of the actual user experience.

The Session Responsiveness thresholds for classification of the experience as Excellent, Fair, or Poor are calculated dynamically. For more information on the Dynamic thresholds for Session Responsiveness, see the Dynamic Thresholds section.



Session Responsiveness

0 USERS Round trip time (Less than 100 ms)

18 USERS Round trip time (100 - 300 ms)

3 USERS Round trip time (More than 300 ms)

4 USERS Not categorized Learn more

SUBFACTOR	USER DISTRIBUTION	EXCELLENT	FAIR	POOR	NOT CATEGORIZED
Data Center Latency		0	18	3	4
WAN Latency		0	21	0	4
Host Delay		0	8	13	4

The Session Responsiveness Drilldown represents the classification of users based on the ICA RTT readings of the sessions. Clicking these numbers drills down to the metrics for that category. The users with excellent Session Responsiveness had highly reactive sessions while the users with poor Session Responsiveness faced lag in their sessions.

> **Note:**
>
> While the ICA RTT readings are obtained from the Apps and Desktops, the subfactor measurements are obtained from the on-premises Citrix Gateway. Hence, the subfactor values are available only when the user is connecting to an app or a desktop via a configured on-premises Citrix Gateway. For steps to configure Citrix Gateway with Citrix Analytics for Performance, see Gateway data source. In addition, you must configure L7 latency thresholding. For more information, see L7 Latency Thresholding.
>
> Further, these measurements are available for sessions,
>
> - launched from machines enabled for NSAP

> - new CGP (Common Gateway Protocol) sessions, and not reconnected sessions.
>
> These measurements are not available when the user is connected via Citrix Gateway Service.

The rows in the Session Responsiveness drilldown table represent the user categorization in the subfactor measurements. For each subfactor, the number of users in each category is displayed in the Excellent, Fair, and Poor columns. This information helps analyze the specific subfactor that is contributing to poor user experience.

For example, the highest number of Poor Users recorded for Data Center Latency indicates an issue with the server-side network.

The last **Not Categorized** column displays the number of users for whom the specific subfactor measurement was not available during the selected time period.

The following subfactors contribute to the Session Responsiveness. However, the total ICA RTT is not a sum of the subfactor metrics, as the subfactors of ICA RTT that occur until Layer 4 only are measurable.

- **Data Center Latency:** This subfactor is the latency measured from the Citrix Gateway to the server. A high Data Center Latency indicates delays due to a slow server network.
- **WAN Latency:** This subfactor is the latency measured from the virtual machine to the Gateway. A high WAN Latency indicates sluggishness in the endpoint machine network. WAN latency increases when the user is geographically farther from the Gateway.
- **Host Latency:** This subfactor measures the Server OS induced delay. A high ICA RTT with low Data Center and WAN latencies, and a high Host Latency indicates an application error on the host server.

A high number of users facing poor experience in any of the subfactors helps understand where the issue lies. You can further troubleshoot the issue using Layer 4 delay measurements. None of these latency metrics account for packet loss, out of order packets, duplicate acknowledgments, or retransmissions. Latency might increase in these cases.

For more information on the calculation of ICA RTT, see How ICA RTT is calculated on NetScaler Insight. For more information about onboarding Citrix Gateway, see Gateway data source.

Session Availability

Session Availability is calculated based on the failure rate. It is the rate of failed session connections with respect to the total number of attempted session connections.

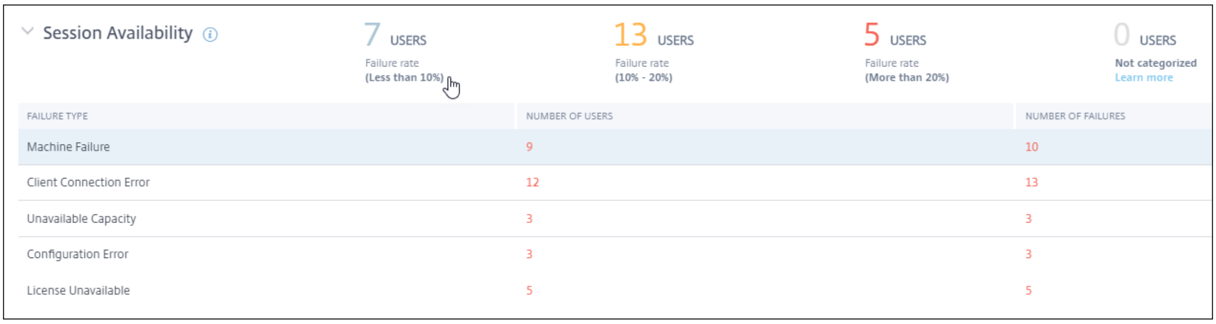
The Session Availability experience is categorized based on the session failure rate as follows:

Excellent: Failure rate is less than 10%. An excellent Session Availability factor indicates the users being able to successfully connect to and use the app or desktop.

Fair: Failure rate is 10–20%.

Poor: Failure rate is more than 20%. Many users with poor Session Availability experience indicate inability to connect and use sessions.

Since failure to launch sessions disrupts user productivity, it is an important factor in quantifying the overall user experience.



Session Availability

7 USERS Failure rate (Less than 10%)

13 USERS Failure rate (10% - 20%)

5 USERS Failure rate (More than 20%)

0 USERS Not categorized Learn more

FAILURE TYPE	NUMBER OF USERS	NUMBER OF FAILURES
Machine Failure	9	10
Client Connection Error	12	13
Unavailable Capacity	3	3
Configuration Error	3	3
License Unavailable	5	5

The rows in the Session Reliability drilldown table display the failure types categorized with the number of users and the number of failures in each category. Use the listed Failure types to further troubleshoot the failures.

For more information about the possible reasons within an identified failure type, see the Citrix Director failure reasons and troubleshooting.
document.

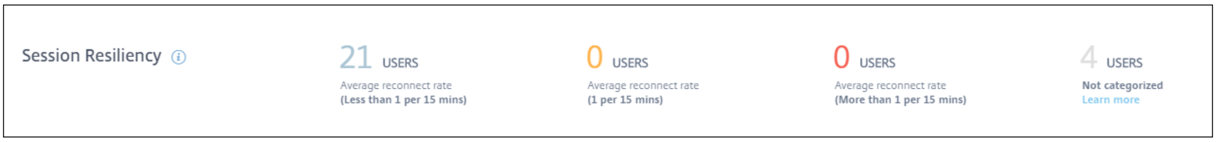
Session Resiliency

Session Resiliency indicates the number of times the Citrix Workspace app auto reconnected to recover from network disruptions. Auto reconnect keeps sessions active when network connectivity is interrupted. Users continue to see the application they are using until network connectivity resumes. An excellent Session Resiliency factor indicates a smooth user experience and lesser number of reconnects due to network disruptions.

Auto reconnect is enabled when the Session Reliability or the Auto Client Reconnect policies are in effect. When there is a network interruption on the endpoint, the following Auto reconnect policies come into effect:

- Session Reliability policy comes into effect (by default in 3 minutes) where the Citrix Workspace app tries to connect to the machine.
- Auto Client Reconnect policy comes into effect between 3 and 5 minutes where the endpoint tries to connect to the machine.

For each user, the number of auto reconnects are measured during every 15 min interval across the selected time period. Based on the number of auto reconnects in most of the 15 min intervals, the experience is classified as Excellent, Fair, or Poor.



Session Resiliency

21 USERS Average reconnect rate (Less than 1 per 15 mins)

0 USERS Average reconnect rate (1 per 15 mins)

0 USERS Average reconnect rate (More than 1 per 15 mins)

4 USERS Not categorized Learn more

The Session Resiliency experience is categorized based on the reconnect rate as follows:

Excellent: In most of the 15 min intervals in the chosen time period, there were no reconnects.

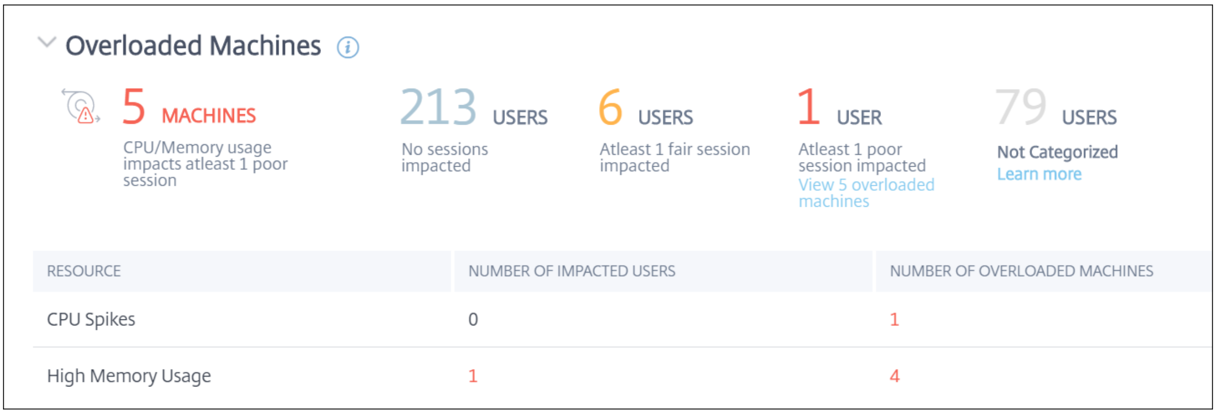
Fair: In most of the 15 min intervals in the chosen time period, there was one reconnect.

Poor: In most of the 15 min intervals in the chosen time period, there were more than 1 reconnects.

Overloaded Machines

Overloaded resources can cause high latency, high logon duration, and failures resulting in poor user experience. The **Overloaded Machines** factor gives visibility on overloaded resources causing poor experience.

Machines that have experienced sustained CPU spikes, or high memory usage, or both, that have lasted for 5 minutes or more, resulting in a poor user experience in the selected duration are considered to be overloaded.



Overloaded Machines

5 MACHINES CPU/Memory usage impacts atleast 1 poor session

213 USERS No sessions impacted

6 USERS Atleast 1 fair session impacted

1 USER Atleast 1 poor session impacted View 5 overloaded machines

79 USERS Not Categorized Learn more

RESOURCE	NUMBER OF IMPACTED USERS	NUMBER OF OVERLOADED MACHINES
CPU Spikes	0	1
High Memory Usage	1	4

> **Note:**
>
> The Overloaded Machines factor section is available only for the 2 hours, 12 hours and 1 day ranges. The feature is disabled for 1 week and 1 month time periods for optimization.

The **Overloaded Machines** section has the following data:

- The number of machines in which CPU or memory usage has impacted at least one poor session independent of the user experience.
- The number of users affected due to the impact of overloaded CPU or memory on the session experience.
  - Excellent –users with no sessions impacted by overloaded machines.

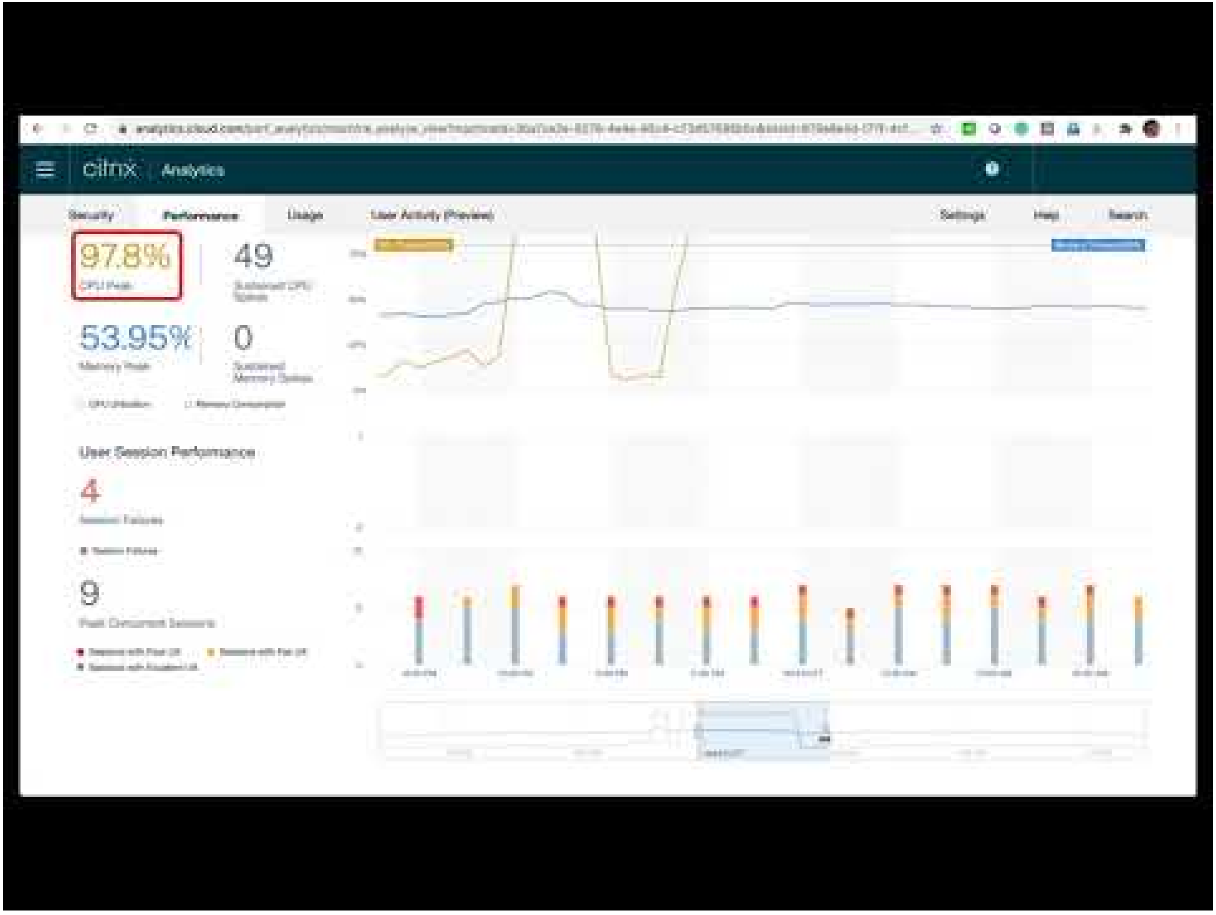
  - Fair –users with at least one fair session impacted by overloaded machines.
  - Poor –users with at least one poor session impacted by overloaded machines.
  - Not categorized –users whose session experience cannot be correlated with resource overload.

- Breakup of:

  - the number of machines affecting users with poor experience due to overloaded resource.
  - the number of users with poor experience impacted by CPU Spikes and High memory usage.

- Clicking the number of overloaded users leads to the Users self-service view filtered to show users whose sessions are affected by the overloaded resources.
- Clicking the number of overloaded machines leads to the Machines self-service view filtered to show the chosen set of overloaded machines - based on classification, or based on the overloaded resource, CPU, or machine.

The following video shows a typical troubleshooting scenario using the Overloaded Machines factor.



The Machines, Users, and Sessions self-service views are enhanced with the Overloaded Machines facet. The Machines self-service view additionally has the Overloaded CPU/Memory facet to help troubleshoot overload issues in machines. For more information, see Overloaded Machines in the Self-service article.

Further drilldown from the Machines self-service view to see specific machine statistics to troubleshoot the resource overload issues.

Infrastructure Analytics

January 24, 2023

What is Infrastructure Analytics?

The Infrastructure analytics from Citrix Analytics for Performance provides insights into the status of key components in your Apps and Desktops sites.

- You can view the health and status of multiple machines on a single dashboard.
- You can view the analytics of machines in a single site or get a cohesive view across all sites.
- You can view the analytics across selected single or multi-session OS Delivery Groups.
- You can view machine usage trends over a period based on its availability and performance.

This data enables you to take better-informed decisions about capacity management, perform analysis and risk assessment of your Sites. Thus, you can proactively take necessary actions to minimize critical failures and optimize the usage and performance of your Sites.

Machine Availability provides information about single and multi-session OS machines. You can view the current availability of machines across your environment. You can see the distribution of machines in available and unavailable states across the selected sites and Delivery Groups.
The Aggregate State of machines is also plotted alongside Session Availability across the chosen time interval.

Machine Performance provides information about the performance of multi-session OS machines only.

You can use the custom time selection filter to view the machine availability and machine performance of machines for a specific time period.

How to access the Infrastructure dashboard

To view the Infrastructure dashboard:

1. Log on to Citrix Cloud and select your Cloud Customer.

2. On the Citrix Analytics service tile, click **Manage**.
3. Citrix Analytics service opens, click the **Performance** tab.
4. Click the **Infrastructure** tab.

How to use the Infrastructure dashboard

The Infrastructure dashboard provides the detailed status of the machines deployed across the sites.

As an administrator, if you manage and monitor few sites for your organization, you can use the Infrastructure dashboard to get insights into the availability and performance of machines across the Delivery Groups in all the sites. This information helps take infrastructure decisions proactively to improve the user experience while also keeping track of optimum usage and infrastructure cost reduction.

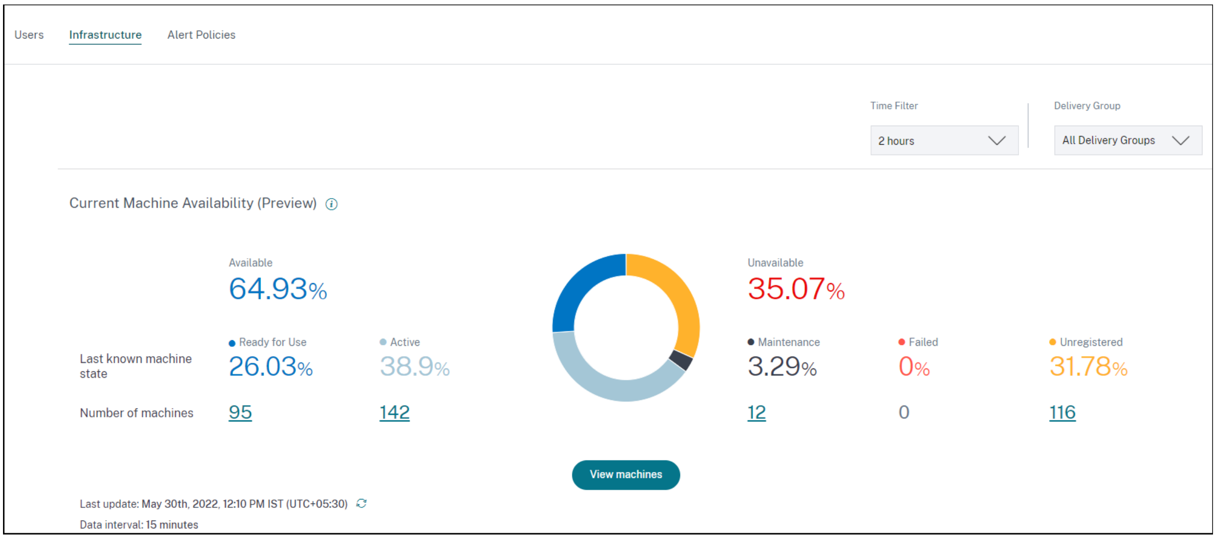
Current Machine Availability

> **Note:**
>
> **Current Machine Availability** is under Preview.

The Current Machine Availability panel provides the availability of machines in the last 15 minutes. A breakup of machine count is displayed per state under the Available and Unavailable Category.

Note that machine availability does not ensure service availability as the service is also dependent on other factors. This information helps determine the availability of provisioned machines to serve sessions.

The machine count and percentage in each last known machine state is displayed. The machine count does not include machines which are in a catalog but are not yet assigned to a delivery group. Clicking the machine count opens the Machines self-service page. This view lists the machines in the specific state with further details for each machine during the last 15 minutes.



Time Filter: 2 hours

Delivery Group: All Delivery Groups

Current Machine Availability (Preview)

Available 64.93%

Unavailable 35.07%

	Ready for Use	Active	Maintenance	Failed	Unregistered
Last known machine state	26.03%	38.9%	3.29%	0%	31.78%
Number of machines	95	142	12	0	116

Last update: May 30th, 2022, 12:10 PM IST (UTC+05:30)

Data interval: 15 minutes

Available Machines: You can view the percentage of machines that were available in the last 15 minutes in the selected sites and Delivery Groups. Available Machines are in the following states:

- Ready for use (single and multi-session machines): These machines have no active sessions. The machines are in healthy state.
- Active (single and multi-session): In this state, the machine has at least one active session. New sessions cannot be launched on single-session OS machines in the active state. On multi-session OS machines, new sessions can be launched depending on the machine capacity. Active machines number also includes the machines on which all sessions have been disconnected.

Unavailable Machines: You can view the percentage of machines that were unavailable in the last 15 minutes in the selected sites and Delivery Groups. You can use this information to optimize machine utilization across your environment. Unavailable Machines are in the following states:

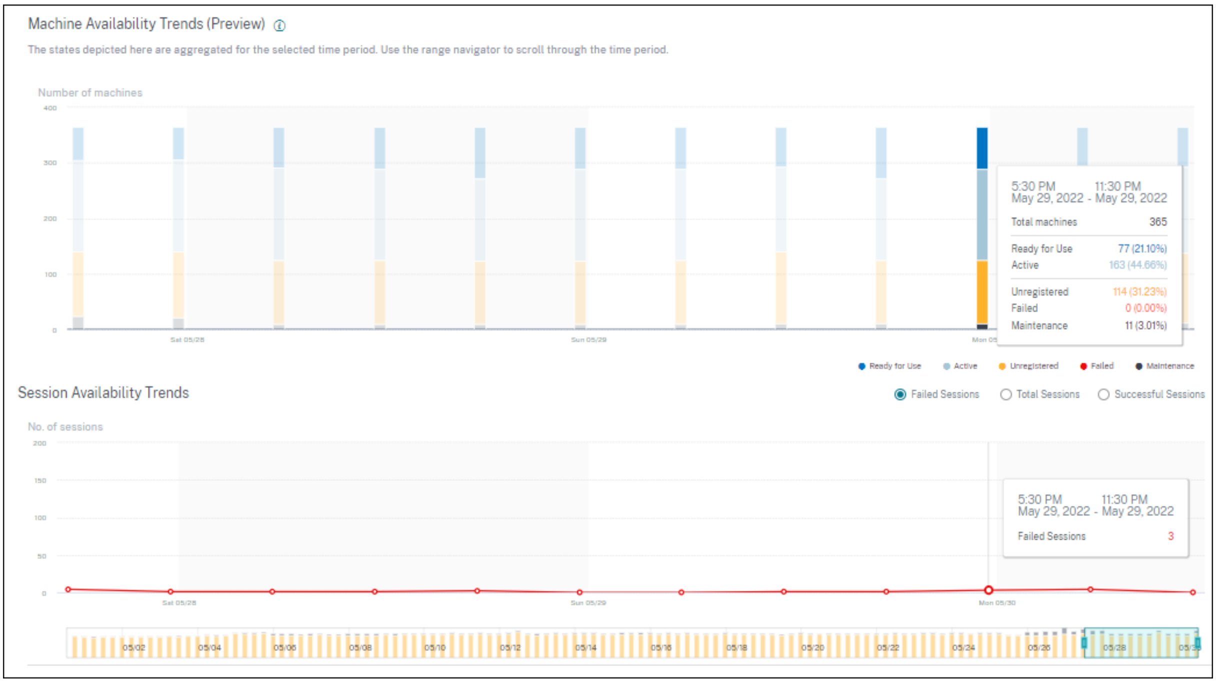
- Unregistered: Machine is not registered with the Broker Service.
- Failed: Machine failed to start.
- Maintenance: Machine is in maintenance mode, no new connections are allowed. These are the machines which were registered in healthy state and are now in maintenance. Machines that weren't registered are counted as an Unregistered machines.

View Machines takes you to the Machines self-service page showing all the machines in the environment. For more information, see the Self-Service search for Machines.

Machine Availability and Session Availability Trends

> **Note:**
>
> **Machine Availability Trends** is under Preview.

The Machine Availability trend shows the Aggregate State of machines plotted across the selected period. The machine state is aggregated to consider the least favorable state from among Ready for use, Active, Maintenance, Unregistered and Failed in that order.



Machine Availability Trends (Preview)

The states depicted here are aggregated for the selected time period. Use the range navigator to scroll through the time period.

5:30 PM May 29, 2022 - 11:30 PM May 29, 2022

Total machines	365
Ready for Use	77 (21.10%)
Active	163 (44.66%)
Unregistered	114 (31.23%)
Failed	0 (0.00%)
Maintenance	11 (3.01%)

Session Availability Trends

◉ Failed Sessions ○ Total Sessions ○ Successful Sessions

5:30 PM May 29, 2022 - 11:30 PM May 29, 2022

Failed Sessions	3

You can drill down from a specific section on the graph to view the details of the machines in a specific state in the Machine self-service view. On the Session Availability trend, you can choose from among Successful, Failed, and Total sessions to be plotted for the selected period.
Trends for one-month and one-week periods are plotted with a 6-hour granularity. You can zoom into the one-month Machine and Sessions Availability trends using the time navigator in a range of 3-7 days.

The time navigator also reflects the machine availability trends. This helps you identify time periods with a large number of unavailable machines, so you can easily navigate and zoom into the required period in the Machine availability trend.
You can use the synchronized tool tips on the Machines and Sessions Availability trends to understand the correlation between unavailable machines and failed sessions.

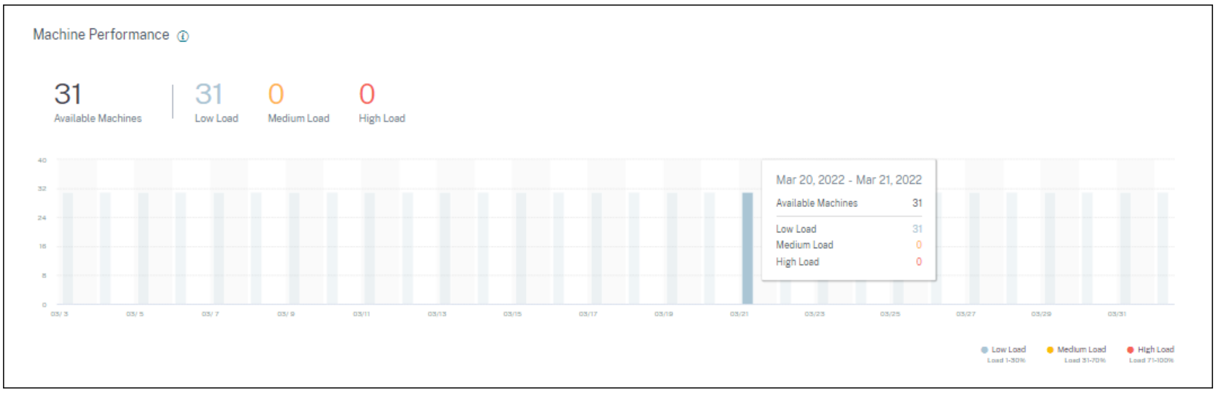
Troubleshooting Machines Unregistered and failed machines can become unusable for the following reasons:

- The machine fails to communicate with the Delivery Controller.
- Broker Service experiences issues while creating a session prepare request.
- Network issues that resulted in the machine not accepting the session prepare request.
- A timeout occurs when the machine is attempting to register with the Delivery Controller.

- The machine might not be powered on for session launch.
- Delivery Controller sends a request to the machine to prepare for a connection from an end user but the machine actively refuses the request.
- Delivery Controller does not send the required configuration data, such as policy settings and session information to the machine during session launch.
- The machine is removed from the Delivery Group.
- The machine is not registered.
- Machine is in unavailable power state.
- The machine is experiencing internal issues.
- The machine fails to connect and register with the Cloud Connector or Delivery Controller.
- The machine is powered off or shut down.

Machine Performance

The **Machine Performance** panel shows the distribution of machines based on the load.



This information is available only for multi-session OS machines. You can view the number of machines in usable state categorized based on the load evaluator index such as high, medium, and low for the chosen selected time period, Site, and Delivery Groups.

The graph displays machines plotted based on the categorization as high, medium, and low load over the selected duration. Hover over the bar graph to view the detailed status of the usable machines at a given time. You can monitor the load distribution trends across the machines over a time period.

The load evaluator index for a machine is the maximum value of the individual indexes that are enabled such as session count, CPU plus five percent of the average of the other enabled indexes. Based on the load evaluator index, you can configure load management between servers delivering Windows Server OS machines. For more information, see Load management policy settings.

Machine load is categorized as follows:

- High load: Load more than 70%
- Medium load: Load between 30% to 70%
- Low load: Load less than 30%

For information about how the load evaluator index is calculated, see Knowledge Center article CTX202150.

Connector Statistics

November 16, 2023

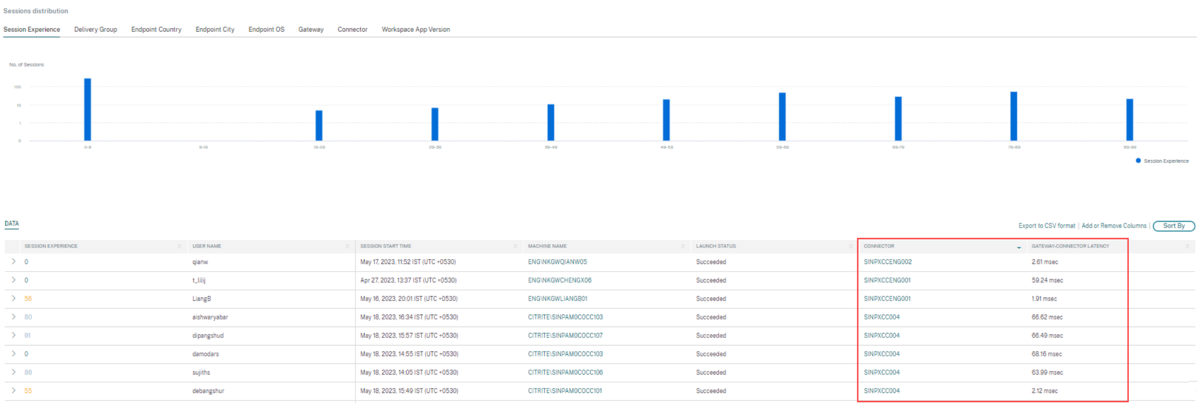
The Connector statistics page provides a comprehensive view of the resource consumption on the selected connector during the last 24 hours. This information helps administrators correlate high CPU, memory, or bandwidth usage occurrences on the connector with session failures and experience across the sessions.

The page displays the synthetic latency calculated from the connector to the Gateway PoPs in your virtual apps and desktops environment. This information helps you choose and configure the closest Gateway PoP to achieve the optimum session experience.

> **Note:**
>
> Connector Statistics are not available for sessions connected using the Rendezvous protocol. This is because the Rendezvous protocol allows machines to bypass the Citrix Cloud Connectors to connect directly and securely with the Citrix Cloud control plane. For more information, see Rendezvous protocol.

Accessing the Connector statistics page

Click the connector name link from the Self-service view for Sessions.

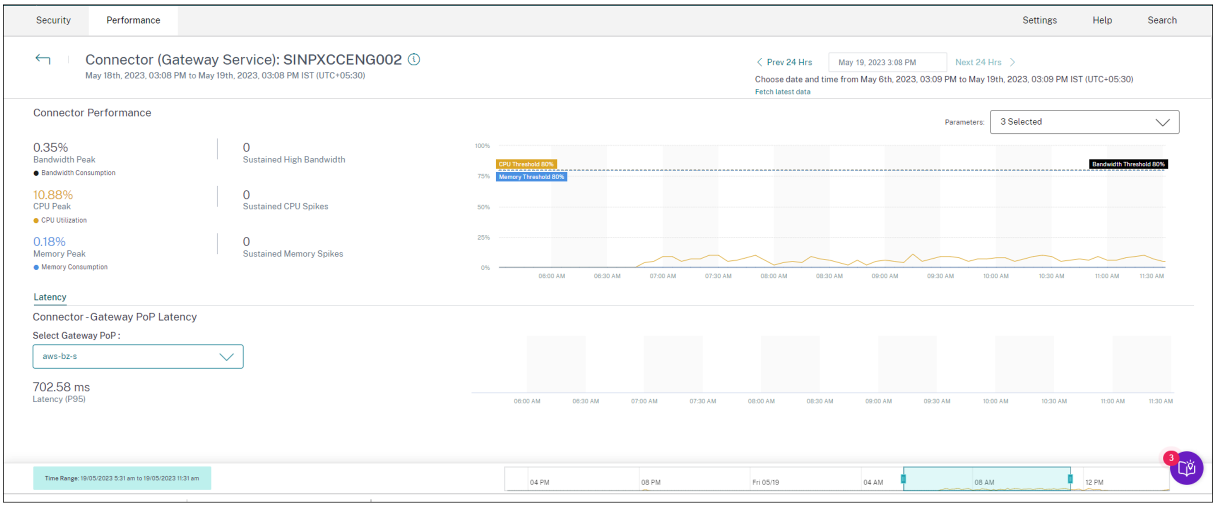


	SESSION EXPERIENCE	USER NAME	SESSION START TIME	MACHINE NAME	LAUNCH STATUS	CONNECTOR	GATEWAY-CONNECTOR LATENCY
>	0	qianw	May 17, 2023, 11:52 IST (UTC +0530)	ENG\NKGWQIANW05	Succeeded	SINPXCCENG002	2.61 msec
>	0	t_lilij	Apr 27, 2023, 13:37 IST (UTC +0530)	ENG\NKGWCHENGX06	Succeeded	SINPXCCENG001	59.24 msec
>	56	LiangB	May 16, 2023, 20:01 IST (UTC +0530)	ENG\NKGWLIANGB01	Succeeded	SINPXCCENG001	1.91 msec
>	80	aishwaryabar	May 18, 2023, 16:34 IST (UTC +0530)	CITRITE\SINPAM0COCC103	Succeeded	SINPXCC004	66.62 msec
>	91	dipangshud	May 18, 2023, 15:57 IST (UTC +0530)	CITRITE\SINPAM0COCC107	Succeeded	SINPXCC004	66.49 msec
>	0	damodars	May 18, 2023, 14:55 IST (UTC +0530)	CITRITE\SINPAM0COCC103	Succeeded	SINPXCC004	68.16 msec
>	86	sujiths	May 18, 2023, 14:05 IST (UTC +0530)	CITRITE\SINPAM0COCC106	Succeeded	SINPXCC004	63.99 msec
>	55	debangshur	May 18, 2023, 15:49 IST (UTC +0530)	CITRITE\SINPAM0COCC101	Succeeded	SINPXCC004	2.12 msec

Using the Connector statistics page

The Connector Statistics page displays usage statistics of connector resources-bandwidth, CPU, and memory in a single view. This helps corelate the usage pattern of connector resources with high latency and poor session performance occurrences.

The latency values from Connector to Gateway PoPs help you choose and configure the closest Gateway PoP to achieve the optimum session experience.



Connector (Gateway Service): SINPXCCENG002

May 18th, 2023, 03:08 PM to May 19th, 2023, 03:08 PM IST (UTC+05:30)

May 19, 2023 3:08 PM

Choose date and time from May 6th, 2023, 03:09 PM to May 19th, 2023, 03:09 PM IST (UTC+05:30)

Connector Performance

0.35%
Bandwidth Peak
● Bandwidth Consumption

0
Sustained High Bandwidth

10.88%
CPU Peak
● CPU Utilization

0
Sustained CPU Spikes

0.18%
Memory Peak
● Memory Consumption

0
Sustained Memory Spikes

Latency

Connector - Gateway PoP Latency

Select Gateway PoP :
aws-bz-s

702.58 ms
Latency (P95)

Time Range: 19/05/2023 5:31 am to 19/05/2023 11:31 am

The Connector Statistics page displays data for the last 24 hours, by default. However, data is available for the last 14 days. To choose a different 24 hour period, use the calendar. Data is displayed for the last 24 hours from the time you choose.

Connector Performance

Key parameters that define the connector resource usage are displayed. You can choose the parameters to be displayed from CPU, Bandwidth, and Memory.

- **Bandwidth Peak** represents the maximum bandwidth consumption in the connector in the last 24 hrs.
- **Sustained High Bandwidth** represents the number of times Bandwidth consumption crossed the Bandwidth threshold of 80% and sustained for 5 minutes or more.
- **CPU Peak** represents the maximum CPU utilization in the connector in the last 24 hrs.
- **Sustained CPU Spikes** represents the number of times CPU utilization crossed the CPU threshold of 80% and sustained for 5 minutes or more.
- **Memory Peak** represents the maximum memory consumption in the last 24 hrs.
- **Sustained Memory Spikes** represents the number of times memory consumption crossed the memory threshold of 80% and sustained for 5 minutes or more.

The peak percentage of each metric consumed in the connector is plotted over the 24 hour period available at a 5 minute granularity. This Connector Performance trend helps admins correlate issues of session failures and poor latency due to high resource consumption on the connector.

Connector Performance trends are plotted for a default 4-hour window. To view data corresponding to any other window in the 24-hour range, move the time navigation bars and choose a different time range. You can zoom in or out in a 6 hour window, to view the events corresponding to the selected time range.

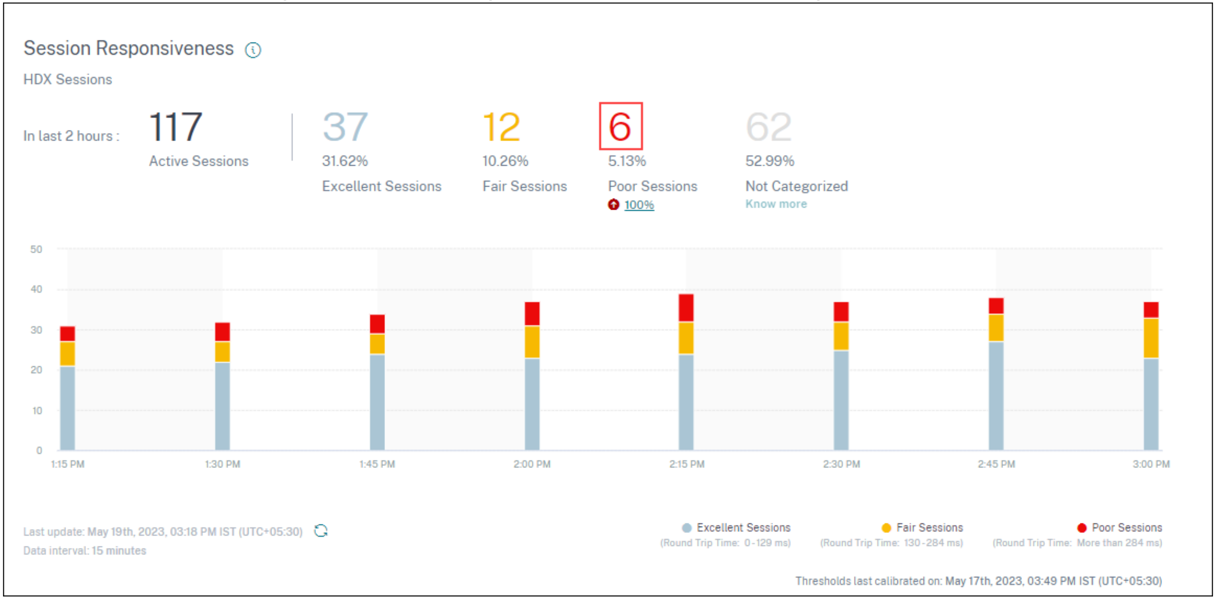
Latency

Connector - Gateway PoP Latency represents the average value of synthetic latency calculated for the selected Gateway PoP in your virtual apps and desktops environment.

Typical use case

Connector Statistics view can be used to find out if high resource consumption on connectors is leading to sessions failures and high latency.

Click the sessions with poor Session Responsiveness on the User Experience dashboard.



Session Responsiveness

HDX Sessions

In last 2 hours : 117 Active Sessions | 37 31.62% Excellent Sessions | 12 10.26% Fair Sessions | 6 5.13% Poor Sessions 100% | 62 52.99% Not Categorized Know more

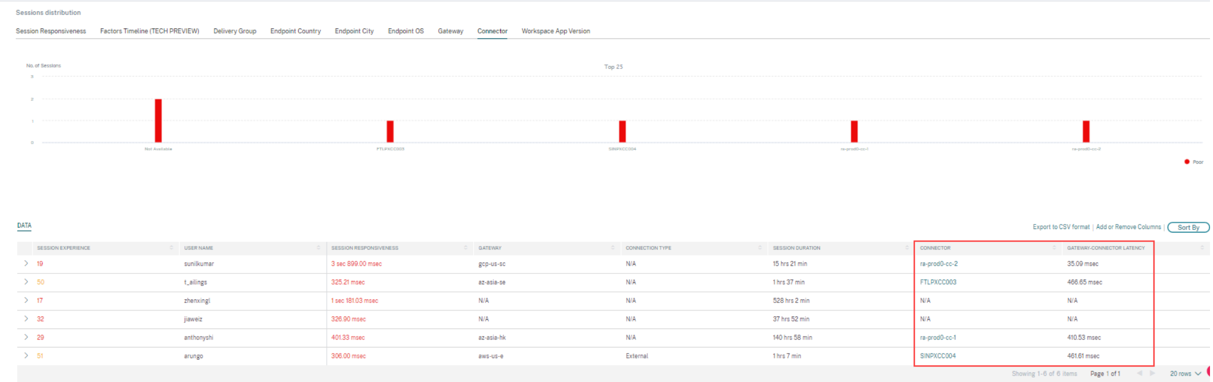
Last update: May 19th, 2023, 03:18 PM IST (UTC+05:30)

Data interval: 15 minutes

Thresholds last calibrated on: May 17th, 2023, 03:49 PM IST (UTC+05:30)

50
40
30
20
10
0
1:15 PM
1:30 PM
1:45 PM
2:00 PM
2:15 PM
2:30 PM
2:45 PM
3:00 PM
Excellent Sessions (Round Trip Time: 0 - 129 ms)
Fair Sessions (Round Trip Time: 130 - 284 ms)
Poor Sessions (Round Trip Time: More than 284 ms)

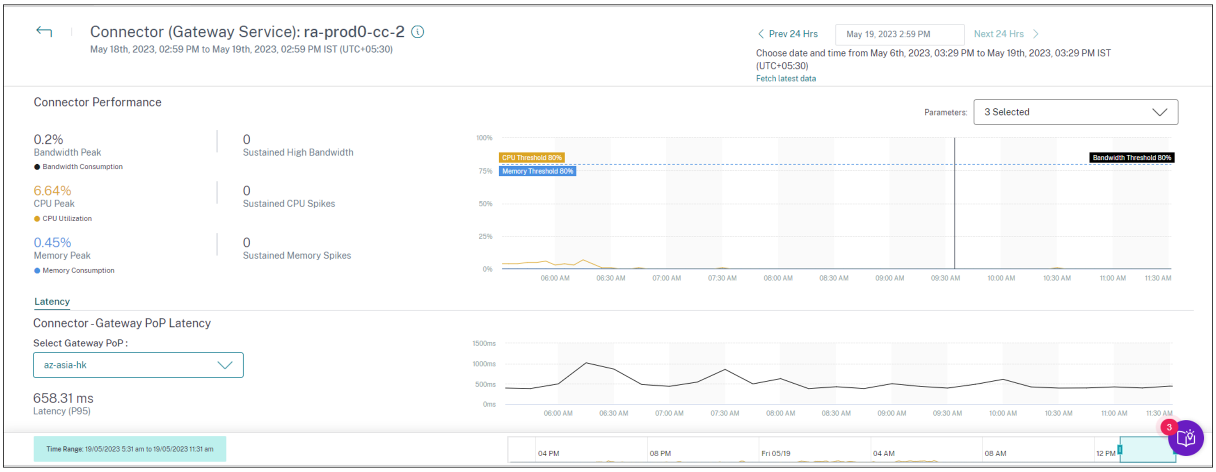
The Sessions self-service view is displayed with the details of the sessions having poor session responsiveness.



Sessions distribution

SESSION EXPERIENCE	USER NAME	SESSION RESPONSIVENESS	GATEWAY	CONNECTION TYPE	SESSION DURATION	CONNECTOR	GATEWAY-CONNECTOR LATENCY
19	sunilkumar	3 sec 899.00 msec	gcp-us-sc	N/A	15 hrs 21 min	ra-prod0-cc-2	35.09 msec
50	t_ailings	325.21 msec	az-asia-se	N/A	1 hrs 37 min	FTLPXCC003	466.65 msec
17	zhenxingl	1 sec 181.03 msec	N/A	N/A	528 hrs 2 min	N/A	N/A
32	jiaweiz	326.90 msec	N/A	N/A	37 hrs 52 min	N/A	N/A
29	anthonyshi	401.33 msec	az-asia-hk	N/A	140 hrs 58 min	ra-prod0-cc-1	410.53 msec
51	arungo	306.00 msec	aws-us-e	External	1 hrs 7 min	SINPXCC004	461.61 msec

You can use the **Connector** pivot to see the distribution of sessions with poor responsiveness across the various connectors. Click the **Add or Remove Columns** link to add the **Connector** and **Gateway-Connector** columns to your view. Click the connector link to open the **Connector Statistics view**.



Connector (Gateway Service): ra-prod0-cc-2

May 18th, 2023, 02:59 PM to May 19th, 2023, 02:59 PM IST (UTC+05:30)

Choose date and time from May 6th, 2023, 03:29 PM to May 19th, 2023, 03:29 PM IST (UTC+05:30)

Connector Performance

Parameters: 3 Selected

0.2% Bandwidth Peak

0 Sustained High Bandwidth

6.64% CPU Peak

0 Sustained CPU Spikes

0.45% Memory Peak

0 Sustained Memory Spikes

Latency

Connector - Gateway PoP Latency

Select Gateway PoP : az-asia-hk

658.31 ms Latency (P95)

Time Range: 19/05/2023 5:31 am to 19/05/2023 11:31 am

This view helps identify instances of high resource consumption on the connector and understand if they might cause poor responsiveness.

The Connector - Gateway PoP Latency value in the Latency tab shows average value of synthetic latency calculated for selected Gateway PoPs in your virtual apps and desktops environment. This information helps you choose and configure the closest Gateway PoP to achieve the optimum session experience.

Session Details

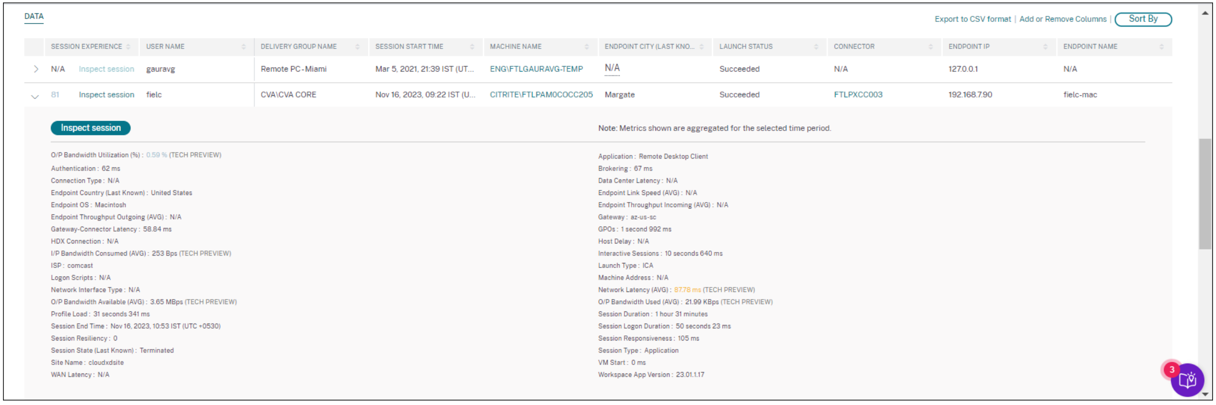
November 16, 2023

The Session Details page provides a holistic view of the performance metrics of the selected session. Comprehensive session details and factors affecting the session performance are displayed for the session duration. This view gives visibility into session factors like ICARTT, Session Reconnects, bandwidth metrics, network latency, and endpoint network metrics. These factors are plotted along with the Session Score for the selected period. The Session Details view helps correlate the impact of available bandwidth and network latency on ICARTT and Session Score.

> **Notes:**
>
> - You need endpoints running Citrix Workspace app for Windows version 7 2108 or later to view Endpoint Network metrics.
> - You need machines running Citrix Virtual Apps and Desktops 7 2112 or later on Citrix DaaS to view the bandwidth and network latency metrics.
> - You must have the **VDA data collection for Analytics** policy set to **Allowed** on machines to enable the Monitoring service to collect machine related performance metrics such as Bandwidth and latency statistics. For more information, see Policy for collecting data for Analytics.

Accessing the Session Details page

Click the **Inspect Session** link from the Self-service view for Sessions to open the Session Details page.



SESSION EXPERIENCE		USER NAME	DELIVERY GROUP NAME	SESSION START TIME	MACHINE NAME	ENDPOINT CITY (LAST KNO...	LAUNCH STATUS	CONNECTOR	ENDPOINT IP	ENDPOINT NAME
N/A	Inspect session	gauravg	Remote PC - Miami	Mar 5, 2021, 21:39 IST (UT...	ENG\FTLGAURAVG-TEMP	N/A	Succeeded	N/A	127.0.0.1	N/A
81	Inspect session	fielc	CVA\CVA CORE	Nov 16, 2023, 09:22 IST (U...	CITRITE\FTLPAM0COCC205	Margate	Succeeded	FTLPXCC003	192.168.7.90	fielc-mac

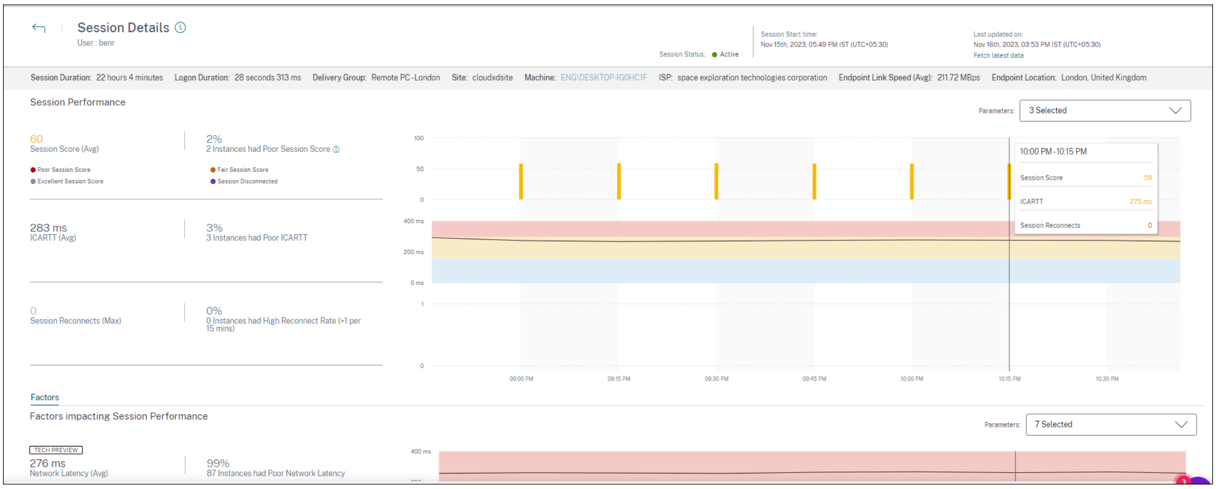
Note: Metrics shown are aggregated for the selected time period.

O/P Bandwidth Utilization (%) : 0.59 % (TECH PREVIEW)
Authentication : 62 ms
Connection Type : N/A
Endpoint Country (Last Known) : United States
Endpoint OS : Macintosh
Endpoint Throughput Outgoing (AVG) : N/A
Gateway-Connector Latency : 58.84 ms
HDX Connection : N/A
I/P Bandwidth Consumed (AVG) : 253 Bps (TECH PREVIEW)
ISP : comcast
Logon Scripts : N/A
Network Interface Type : N/A
O/P Bandwidth Available (AVG) : 3.65 MBps (TECH PREVIEW)
Profile Load : 31 seconds 341 ms
Session End Time : Nov 16, 2023, 10:53 IST (UTC +0530)
Session Resiliency : 0
Session State (Last Known) : Terminated
Site Name : cloudxdsite
WAN Latency : N/A

Application : Remote Desktop Client
Brokering : 67 ms
Data Center Latency : N/A
Endpoint Link Speed (AVG) : N/A
Endpoint Throughput Incoming (AVG) : N/A
Gateway : az-us-sc
GPOs : 1 second 992 ms
Host Delay : N/A
Interactive Sessions : 10 seconds 640 ms
Launch Type : ICA
Machine Address : N/A
Network Latency (AVG) : 87.78 ms (TECH PREVIEW)
O/P Bandwidth Used (AVG) : 21.99 KBps (TECH PREVIEW)
Session Duration : 1 hour 31 minutes
Session Logon Duration : 50 seconds 23 ms
Session Responsiveness : 105 ms
Session Type : Application
VM Start : 0 ms
Workspace App Version : 23.01.1.17

Using the Session Details page

The Session Details page displays statistics of the session like the ICARTT, Session Reconnects, Network Latency, Bandwidth, and Endpoint Network metrics on a single view. This information helps correlate the session performance with these factors.



Session Details

User : benr

Session Status: ● Active

Session Start time:
Nov 15th, 2023, 05:49 PM IST (UTC+05:30)

Last updated on:
Nov 16th, 2023, 03:53 PM IST (UTC+05:30)

Fetch latest data

Session Duration: 22 hours 4 minutes Logon Duration: 28 seconds 313 ms Delivery Group: Remote PC-London Site: cloudxdsite Machine: ENG\DESKTOP-IG0HC1F ISP: space exploration technologies corporation Endpoint Link Speed (Avg): 211.72 MBps Endpoint Location: London, United Kingdom

Session Performance

Parameters: 3 Selected

60
Session Score (Avg)

2%
2 Instances had Poor Session Score

● Poor Session Score
● Fair Session Score
● Excellent Session Score
● Session Disconnected

283 ms
ICARTT (Avg)

3%
3 Instances had Poor ICARTT

0
Session Reconnects (Max)

0%
0 Instances had High Reconnect Rate (>1 per 15 mins)

10:00 PM - 10:15 PM

Session Score 59

ICARTT 275 ms

Session Reconnects 0

Factors

Factors impacting Session Performance

Parameters: 7 Selected

TECH PREVIEW

276 ms
Network Latency (Avg)

99%
87 Instances had Poor Network Latency

The Session Statistics page displays data for up to 72 hours of the session duration.

Session Score and the other session performance and factors metric charts take into account the disconnected duration of the session. This consideration enables the overall Session Score and associated metrics to be an accurate representation of the session performance. The duration for which the session is disconnected is represented in the all charts and tooltips.

Session attributes

Key session attributes are displayed as follows:

- User name
- Session status
- Session Duration
- Logon Duration
- Delivery Group
- Site
- The machine on which the session was launched. Click the machine name link to see the corresponding Machine Statistics page.
- ISP
- Endpoint Link Speed (Avg)
- Endpoint Location

Session Performance

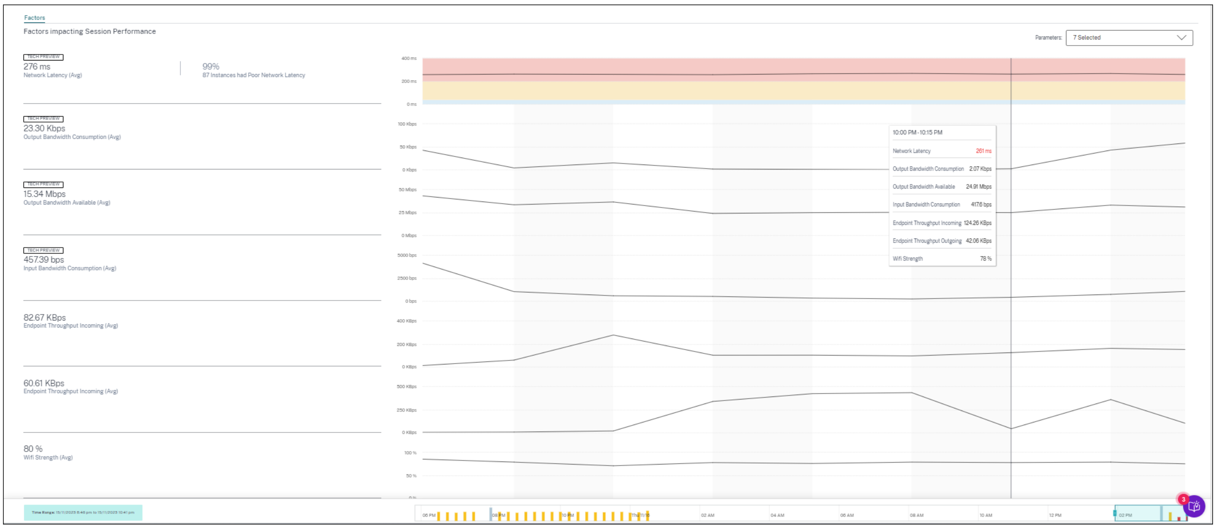
The key parameters that define the session performance displayed here are as follows:

- The average Session Score, ICARTT measurement, and Session Reconnects measurement

- The percentage values of session duration during which Poor Session Score, High ICARTT, and High Reconnect Rate was experienced
- The number of instances (of 15 min duration) during which Poor Session Score, High ICARTT, and High Reconnect Rate was experienced
- The average values of Session Score, ICARTT, and Session Reconnects plotted over the session duration at a 5 min granularity.
  The graphs are color-coded to indicate the performance of individual factors. You can choose the parameters to be displayed from Session Score, ICARTT, and Session Reconnects.

Factors (Preview)

This section displays measurements of bandwidth, network latency, and endpoint throughput factors that impact the session performance. Average values of Network Latency, Output Bandwidth Consumption, Output Bandwidth Available, Input Bandwidth Consumption, WiFi Signal Strength, Endpoint Throughput Incoming, and Endpoint Throughput Outgoing are listed. The metrics are available out-of-box and do not require any specific configuration.



Factors

Factors impacting Session Performance

Parameters: 7 Selected

TECH PREVIEW
276 ms
Network Latency (Avg)

99%
87 Instances had Poor Network Latency

TECH PREVIEW
23.30 Kbps
Output Bandwidth Consumption (Avg)

TECH PREVIEW
15.34 Mbps
Output Bandwidth Available (Avg)

TECH PREVIEW
457.39 bps
Input Bandwidth Consumption (Avg)

82.67 KBps
Endpoint Throughput Incoming (Avg)

60.61 KBps
Endpoint Throughput Incoming (Avg)

80 %
Wifi Strength (Avg)

10:00 PM - 10:15 PM

Network Latency	261 ms
Output Bandwidth Consumption	2.07 Kbps
Output Bandwidth Available	24.91 Mbps
Input Bandwidth Consumption	417.6 bps
Endpoint Throughput Incoming	124.26 KBps
Endpoint Throughput Outgoing	42.06 KBps
Wifi Strength	78 %

Time Range: 15/11/2023 8:46 pm to 15/11/2023 10:41 pm

The metrics are plotted over the session duration with 15-minute granularity. You can choose the parameters you want to see in this section. These graphs are color-coded to indicate if the factors were excellent, fair, or poor.

All the trends are plotted for a default 4-hour window. To view data corresponding to any other window during the session duration, move the time navigation bars and choose a different time range. You can zoom in or out in a 6-hour window, to view the events corresponding to the selected time range.

The bandwidth, network latency, and endpoint throughput metrics and trends help analyze the session performance with respect to the individual parameter performance. It helps identify a specific factor that might be affecting the session performance.

Typical use case

Session Details view can be used to triage a specific factor that might be causing poor session performance. All the details pertaining to a launched session in the selected duration are available on the details view.

1. You can start from the Poor Sessions number in the Session Responsiveness section of the User Experience dashboard.
2. The Sessions self-service view is displayed with the details of the sessions having poor session responsiveness.
3. Choose Session Responsiveness as the factor to view the sessions. Choose Factors Timeline as the pivot. The graph shows the distribution of sessions based on the Output Bandwidth Usage, Network Latency, and ICARTT.
4. On the tabular view, expand the selected session row to see all the metrics related to the session. The bandwidth, latency, and endpoint throughput metrics are listed here.
5. Click the session score to open the Session Details view. Analyze the view over the required interval to identify the factor causing poor session experience.
6. Use the graphs to identify the factors that might be causing poor session experience.
7. You can compare the overall throughput consumption with the endpoint link speed and the bandwidth consumption to spot if a user was probably running a bandwidth-intensive application outside the HDX channel resulting in poor session experience.
8. You can identify if a drop in the WiFi signal strength led to a poor session experience.

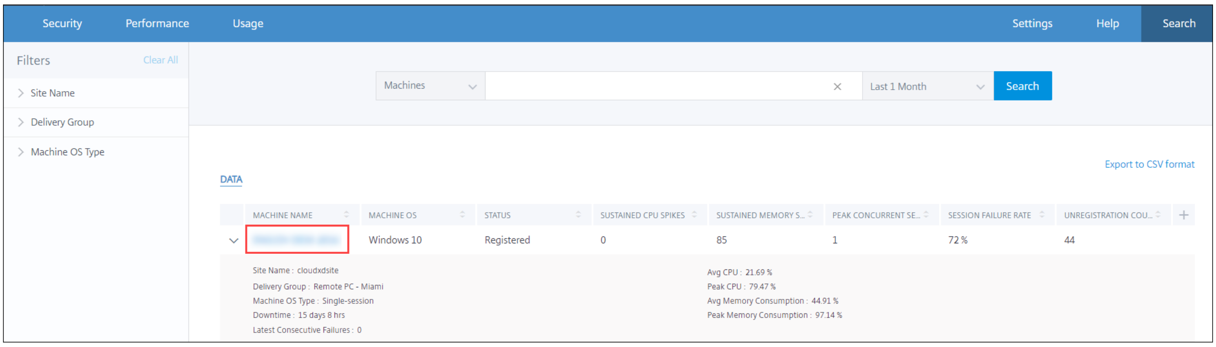
Machine Statistics

December 12, 2023

The Machine statistics page provides a comprehensive view of resource consumption and session experience on the selected machine during the last 24 hours. This information helps administrators correlate high CPU or memory usage occurrences with session failures and experience across the machines in their Apps and Desktops environment. Administrators can view the processes contributing to high resource consumption and get a timeline view of the machine states. This feature helps slice and dice important parameters concerning the machines in the environment and spot inefficiencies easily.

Accessing the Machine statistics page

Click the machine name link from the Self-service view for Machines.



MACHINE NAME	MACHINE OS	STATUS	SUSTAINED CPU SPIKES	SUSTAINED MEMORY S...	PEAK CONCURRENT SE...	SESSION FAILURE RATE	UNREGISTRATION COU...
[redacted]	Windows 10	Registered	0	85	1	72 %	44

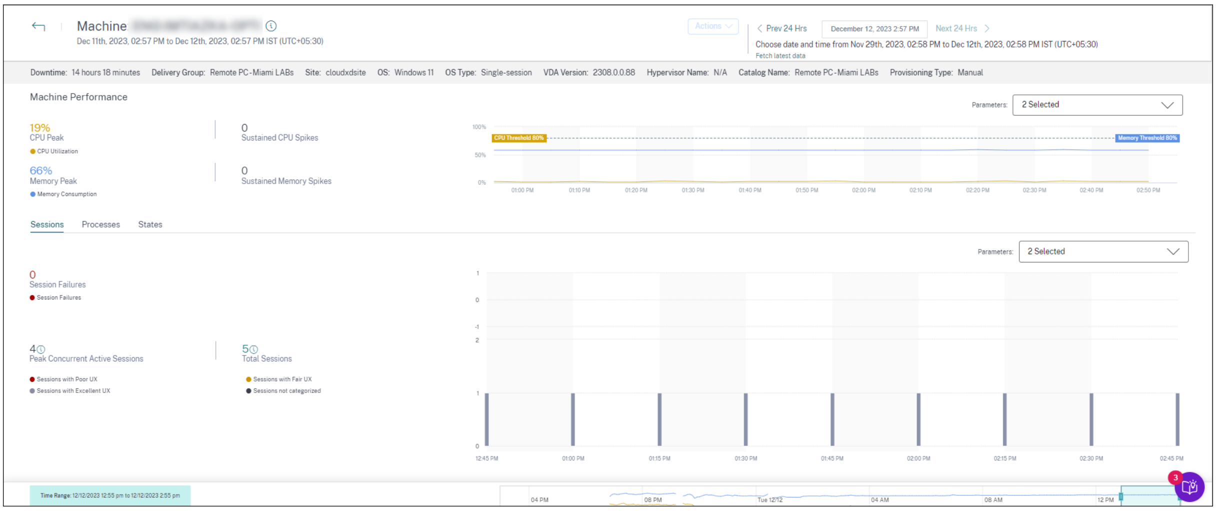
Site Name : cloudxdsite
Delivery Group : Remote PC - Miami
Machine OS Type : Single-session
Downtime : 15 days 8 hrs
Latest Consecutive Failures : 0

Avg CPU : 21.69 %
Peak CPU : 79.47 %
Avg Memory Consumption : 44.91 %
Peak Memory Consumption : 97.14 %

Using the Machine statistics page

The Machine Statistics page displays the machine and session performance statistics in the same view. This view helps analyze machine resources, their usage pattern, and understand if machine resources might have been the bottleneck for poor performance.

The Machine Statistics page displays data for the last 24 hours, by default. However, data is available for the last 14 days. To choose a different 24 hour period, use the calendar. Data is displayed for the last 24 hours from the time that you choose.



Dec 11th, 2023, 02:57 PM to Dec 12th, 2023, 02:57 PM IST (UTC+05:30)

Choose date and time from Nov 29th, 2023, 02:58 PM to Dec 12th, 2023, 02:58 PM IST (UTC+05:30)

Downtime: 14 hours 18 minutes Delivery Group: Remote PC-Miami LABs Site: cloudxdsite OS: Windows 11 OS Type: Single-session VDA Version: 2308.0.0.88 Hypervisor Name: N/A Catalog Name: Remote PC-Miami LABs Provisioning Type: Manual

19% CPU Peak
● CPU Utilization

0 Sustained CPU Spikes

66% Memory Peak
● Memory Consumption

0 Sustained Memory Spikes

0 Session Failures
● Session Failures

4 Peak Concurrent Active Sessions
● Sessions with Poor UX
● Sessions with Excellent UX

5 Total Sessions
● Sessions with Fair UX
● Sessions not categorized

Time Range: 12/12/2023 12:55 pm to 12/12/2023 2:55 pm

Machine attributes

Key machine attributes are displayed.

- Delivery Group, Site, OS type, OS, VDA version, Hypervisor, Catalog, and Provisioning type of the machine are displayed.
- Downtime shows the period in seconds during which the machine was in `Unregistered`, `Failed`, or `Powered off` state in the last 24 hours.

Machine Performance statistics

Key metrics that define the machine performance are displayed.

- **CPU Peak** represents the maximum CPU utilization in the machine in the last 24 hrs.
- **Sustained CPU Spikes** represents the number of times CPU utilization crossed the CPU threshold of 80% and sustained for 5 minutes or more.
- **Memory Peak** represents the maximum memory consumption in the last 24 hrs.
- **Sustained Memory Spikes** represents the number of times memory consumption crossed the memory threshold of 80% and sustained for 5 minutes or more.
- The **Machine Performance trend** for a default 4 hour window in the last 24 hours shows CPU utilization and memory consumption plotted at 5 min granularity.

Session Performance Statistics

Key session performance related metrics are displayed.

- **Session Failures** that occurred on the machine over the last 24 hours.
- **Session Failure trend** displays the session failures count plotted for a default 4 hour window in the last 24 hours.
- **Peak Concurrent Active Sessions** represents the maximum number of concurrent sessions that were established on the machine over the past 24 hours.
- **Total Sessions** represents the total number of sessions that were active during the selected time period on the machine. Clicking the Total Sessions number opens the Sessions self-service view with the corresponding set of sessions displayed. You can further drilldown and inspect the session metrics from the Session Details view.
- The **User Session Performance trend** shows the classification of sessions based on session experience as Excellent, Fair, or Poor, plotted for a default 4-hour window in the last 24 hours.

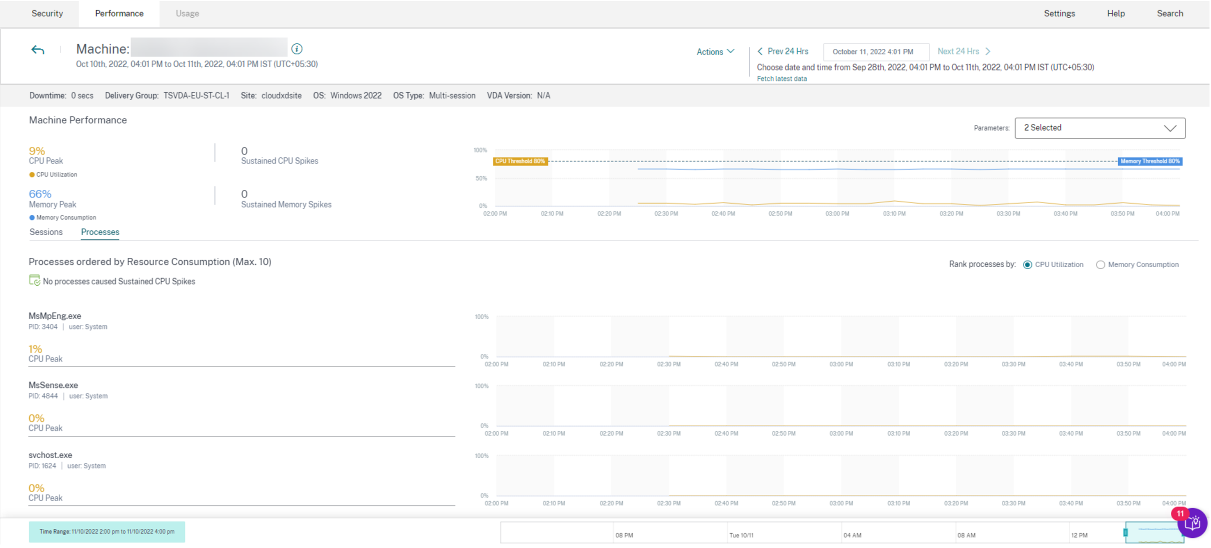
You can click the **Session Failure number**, the bars in the chart displaying the session failures, and the categorized session counts to view the sessions in the Sessions self-service view.

Machine Statistics a comprehensive view displaying all machine-related metrics required to triage and fix issues related to the machine and the sessions running on the machine.

Top resource consuming processes

Click the **Processes** tab to gain visibility into the high resource consuming processes running on the machine in the selected time period. You must enable the Process Monitoring policy from Citrix Studio to see this information. This feature is available multi-session and single-session OS machines on cloud and on-premises sites.

You can choose to view the processes ranked as per **CPU Utilization** or **Memory Consumption**.



Machine: [redacted]
Oct 10th, 2022, 04:01 PM to Oct 11th, 2022, 04:01 PM IST (UTC+05:30)

Choose date and time from Sep 28th, 2022, 04:01 PM to Oct 11th, 2022, 04:01 PM IST (UTC+05:30)

Downtime: 0 secs Delivery Group: TSVDA-EU-ST-CL-1 Site: cloudxdsite OS: Windows 2022 OS Type: Multi-session VDA Version: N/A

Machine Performance

Parameters: 2 Selected

9% CPU Peak

0 Sustained CPU Spikes

66% Memory Peak

0 Sustained Memory Spikes

Processes ordered by Resource Consumption (Max. 10)

No processes caused Sustained CPU Spikes

Rank processes by: ● CPU Utilization ○ Memory Consumption

MsMpEng.exe
PID: 3404 | user: System
1% CPU Peak

MsSense.exe
PID: 4844 | user: System
0% CPU Peak

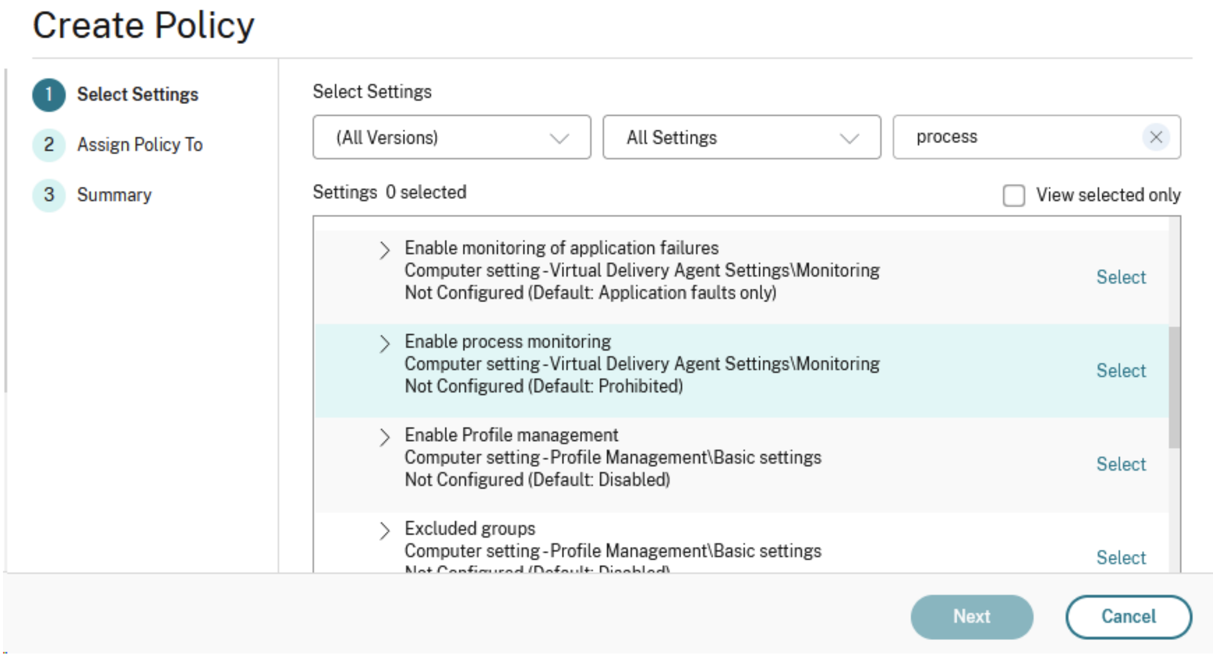
svchost.exe
PID: 1624 | user: System
0% CPU Peak

Time Range: 11/10/2022 2:00 pm to 11/10/2022 4:00 pm

Up to 10 **Most Resource Consuming Processes** are displayed with percentage CPU or Memory Peak as selected. These are processes that caused sustained CPU or Memory spikes coinciding with high resource consumption on the corresponding machine. The top resource consuming processes are displayed even if there are no memory or CPU spikes during the selected time period.

The charts plot CPU Utilization or Memory Consumption by the process across the selected time period. This helps correlate resource consumption by the processes with session failures on the machine.

Process visibility is available for multi-session OS machines and single-session OS machines on cloud and on-premises sites. This feature requires that you enable the **Process Monitoring policy** from Citrix Studio. This policy is disabled by default. You must enable it explicitly to view the processes running on the machine in Performance Analytics.



Create Policy

Enable monitoring of application failures
Computer setting - Virtual Delivery Agent Settings\Monitoring
Not Configured (Default: Application faults only)

Enable process monitoring
Computer setting - Virtual Delivery Agent Settings\Monitoring
Not Configured (Default: Prohibited)

Enable Profile management
Computer setting - Profile Management\Basic settings
Not Configured (Default: Disabled)

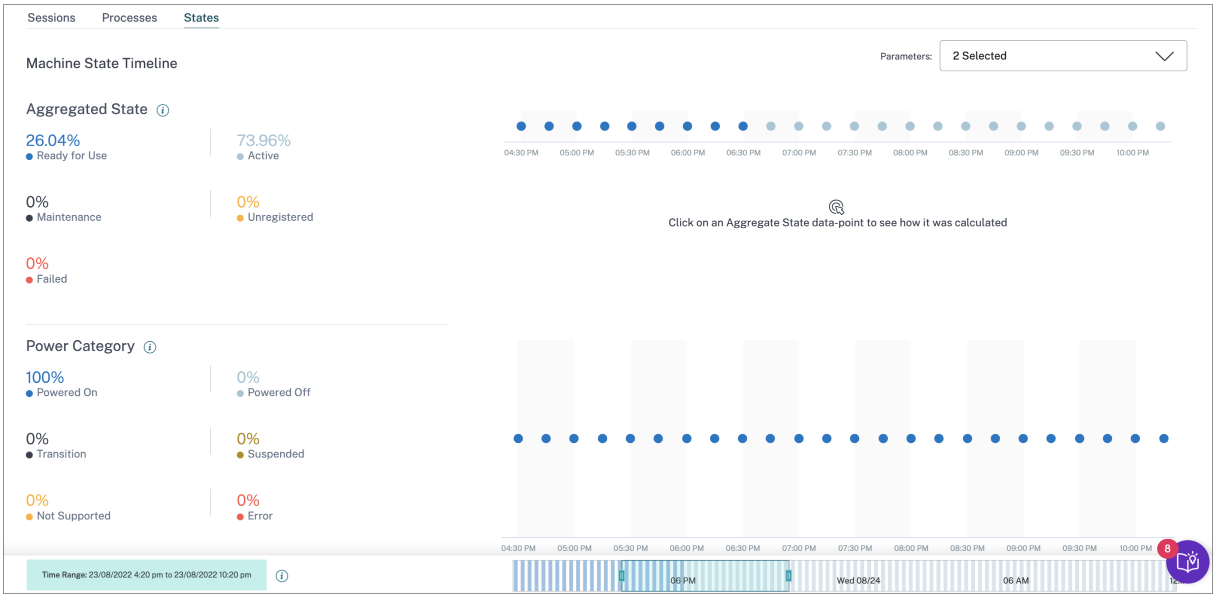
Excluded groups
Computer setting - Profile Management\Basic settings
Not Configured (Default: Disabled)

For more information, see Monitoring policy settings

> **Note:**
>
> - In the case of on-premises sites, machines running **Citrix Virtual Apps and Desktops Version 2203** and later are supported.
> - It is recommended that you enable process data to Citrix Analytics for Performance only and you enable process data to Director only if needed. For more information about the approximate storage consumption if you choose to enable process data flow to Director, see Process Data.
>
> Use the following PowerShell cmdlet to control the flow of process data.
>
> - To enable process data flow only to Citrix Analytics for Performance and not to Director (recommended) `Set-MonitorConfiguration SendProcessDataToCASAndSkipDatabase $true`
> - To enable process data flow to both Citrix Analytics for Performance and Director.
>
>   `Set-MonitorConfiguration -SendProcessDataToCASAndDatabase $true`

Machine State Visibility

The Machine Statistics page now includes information on Machine States. The **States** tab shows the timeline of Machine Aggregated State and Machine Power Category for the last 24 hours. The plotting is done at 15 min intervals. This feature helps slice and dice important parameters concerning the machines in the environment and spot inefficiencies easily.



Time Range: 23/08/2022 4:20 pm to 23/08/2022 10:20 pm

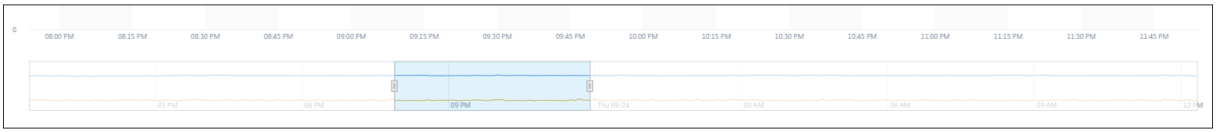
Click an Aggregated State data point to see how it was calculated. A breakdown of the actual values of Machine State and Maintenance Mode that resulted in the plotted Aggregated State is displayed. This helps comprehend the machine's state changes over time. Failure Type and Deregistration Reason help debug machine issues.
Hover over the Power Category data point to see the actual Power State that the machine has been in.

Time navigation bar

The Time navigation bar has the following charts plotted for a default 4-hour window:

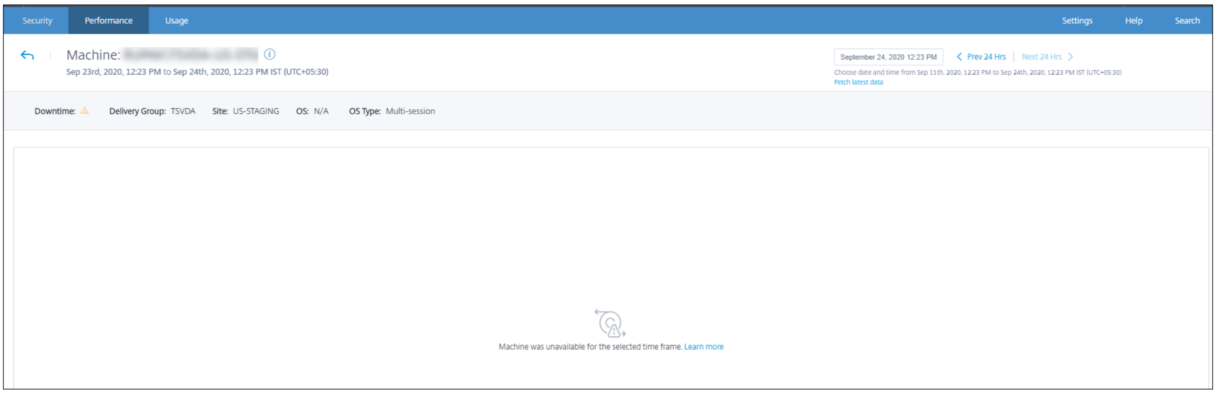
- The Machine and User Session Performance trends are plotted when you are in the Sessions or Processes tab
- The Machine Aggregated State trend is plotted when you are in the States tab.

This helps get an overview of the trend and then zoom in to the interested time range. To view data corresponding to any other window in the 24-hour range, move the time navigation bars and choose a different time range. You can zoom in or out in a 2–8 hour window, to view the events corresponding to the selected time range.



Usage Notes

- Machine downtime might cause disrupted plotting of the Machine Performance trend.
- If machines in your on-premises Virtual Apps and Desktops environment were added to the machine catalog before the site was onboarded to Performance Analytics, the OS information of the machine might not be available in the Machine Statistics view. As a workaround, add the machines to the machine catalog after the onboarding the site.
- Statistics of machines in your on-premises Virtual Apps and Desktops environment are available (up to) 24 hours after the onboarding to Performance Analytics has been initiated.
- The Machine Performance trend is not available for the duration when the machine was in `Unregistered`, `Failed`, `Powered off` status, or if it was deleted from the Delivery Group. Statistics are available only for the period when the machine was available.
- To determine why a machine was not in the `Active` or the `Ready for Use` state, click the dotted chart of the Machine Aggregated State trend in the State tab.



Machine: [redacted]

Sep 23rd, 2020, 12:23 PM to Sep 24th, 2020, 12:23 PM IST (UTC+05:30)

September 24, 2020 12:23 PM

Choose date and time from Sep 11th, 2020, 12:23 PM to Sep 24th, 2020, 12:23 PM IST (UTC+05:30)

Downtime: ⚠ Delivery Group: TSVDA Site: US-STAGING OS: N/A OS Type: Multi-session

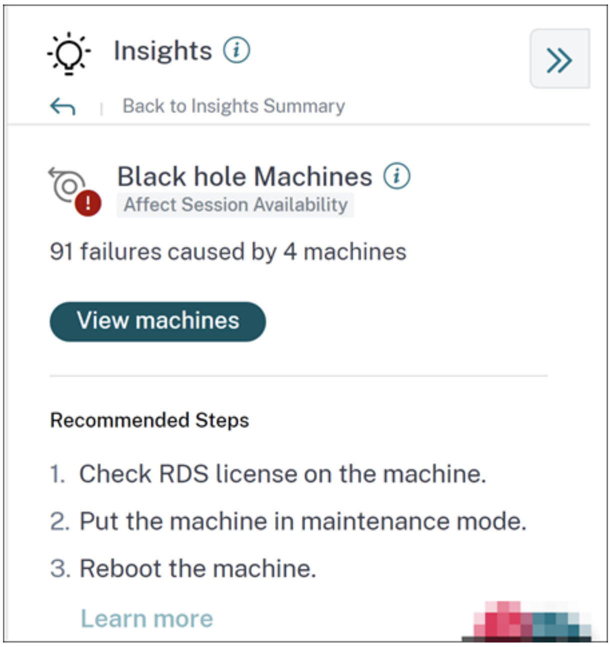
Machine was unavailable for the selected time frame.

Typical use case for Machine Statistics view

The Machine statistics view provides information to troubleshoot a machine comprehensively.

Let us understand the usage of this view with a typical use case starting from the User Experience Dashboard.

The **Failure insights** panel on the User Experience Dashboard, provides a list of black hole machines that resulted in three or more consecutive session failures.



Black hole Machines

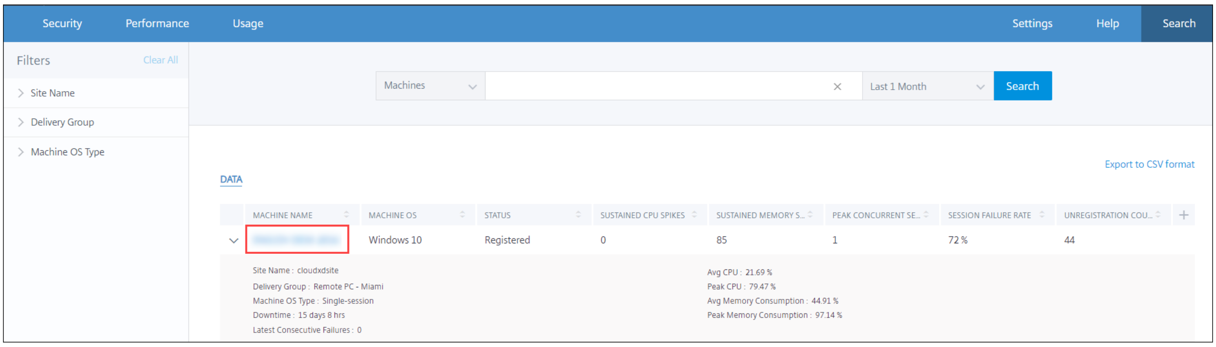
Affect Session Availability

91 failures caused by 4 machines

Recommended Steps

1. Check RDS license on the machine.
2. Put the machine in maintenance mode.
3. Reboot the machine.

Clicking the black hole machines link leads you to the Machines based self-service view. This view lists all the metrics related to the black hole machines such as the downtime, peak CPU, and peak memory.

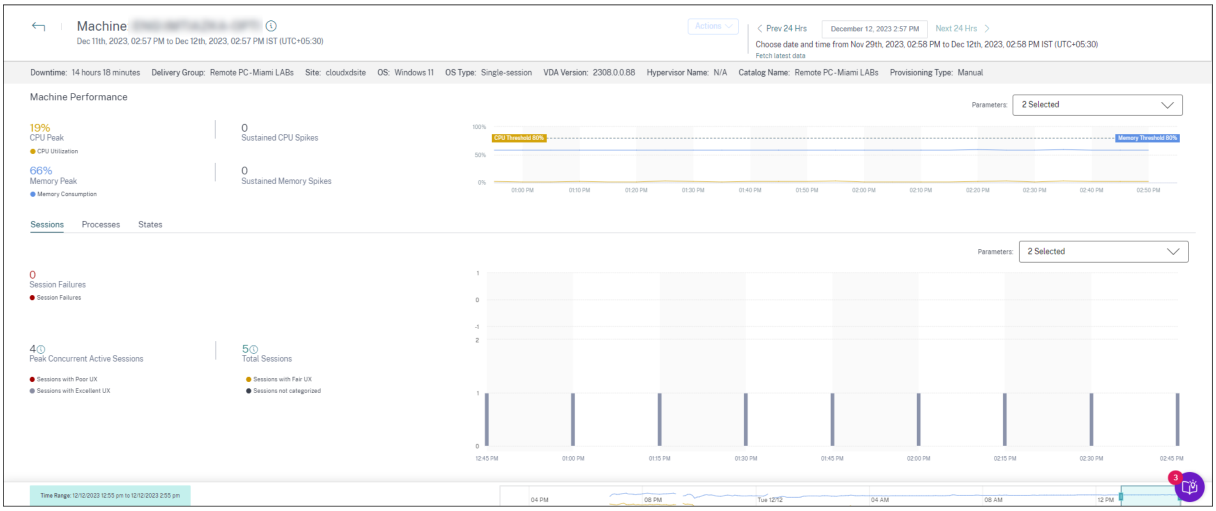


MACHINE NAME	MACHINE OS	STATUS	SUSTAINED CPU SPIKES	SUSTAINED MEMORY S...	PEAK CONCURRENT SE...	SESSION FAILURE RATE	UNREGISTRATION COU...
[redacted]	Windows 10	Registered	0	85	1	72 %	44

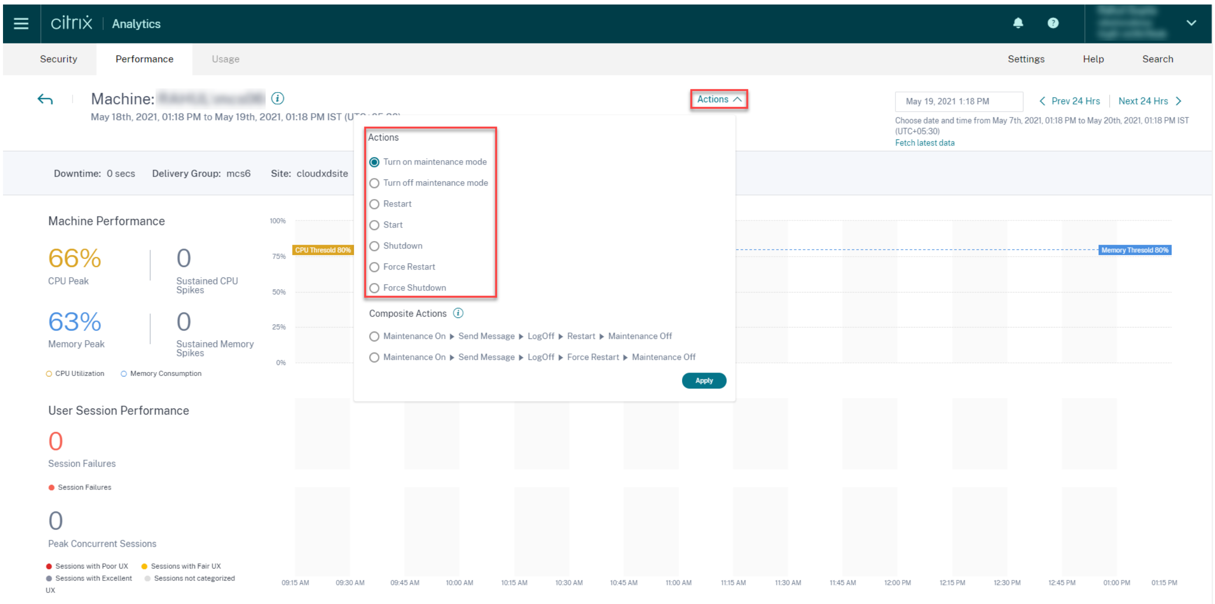
Site Name : cloudxdsite
Delivery Group : Remote PC - Miami
Machine OS Type : Single-session
Downtime : 15 days 8 hrs
Latest Consecutive Failures : 0

Avg CPU : 21.69 %
Peak CPU : 79.47 %
Avg Memory Consumption : 44.91 %
Peak Memory Consumption : 97.14 %

Click a machine name in the self-service view for Machines to display the Machine statistics page. This page displays the machine, session performance, and process resource parameters plotted for the same time range. You can use this information to compare resource usage at the time of session failures and get insights on the possibility of resource crunch being a cause for failures.


Machine [redacted]
Dec 11th, 2023, 02:57 PM to Dec 12th, 2023, 02:57 PM IST (UTC+05:30)
Actions
Prev 24 Hrs
December 12, 2023 2:57 PM
Next 24 Hrs
Choose date and time from Nov 29th, 2023, 02:58 PM to Dec 12th, 2023, 02:58 PM IST (UTC+05:30)
Fetch latest data
Downtime: 14 hours 18 minutes Delivery Group: Remote PC-Miami LABs Site: cloudxdsite OS: Windows 11 OS Type: Single-session VDA Version: 2308.0.0.88 Hypervisor Name: N/A Catalog Name: Remote PC-Miami LABs Provisioning Type: Manual
Machine Performance
Parameters: 2 Selected
19% CPU Peak
0 Sustained CPU Spikes
66% Memory Peak
0 Sustained Memory Spikes
CPU Utilization
Memory Consumption
CPU Threshold 80%
Memory Threshold 80%
Sessions
Processes
States
0 Session Failures
4 Peak Concurrent Active Sessions
5 Total Sessions
Sessions with Poor UX
Sessions with Excellent UX
Sessions with Fair UX
Sessions not categorized
Time Range: 12/12/2023 12:55 pm to 12/12/2023 2:55 pm

Machine Actions and Composite Actions



Machine Actions

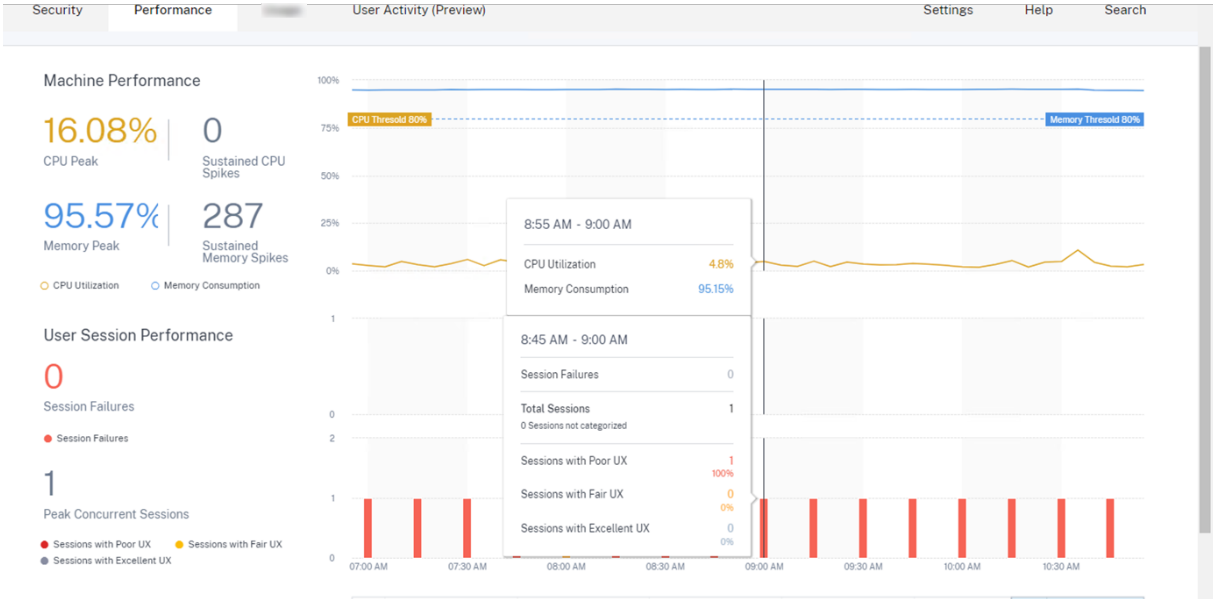
Machine Actions are available on power managed machines in your Citrix DaaS (formerly Citrix Virtual Apps and Desktops service) sites on cloud. Admins with Full Administrator access can perform the following actions on the machines:

- Turn on maintenance mode
- Turn off maintenance mode
- Restart machine
- Start machine

- Shutdown machine
- Force restart machine
- Force shut down machine

> **Note:**
>
> The **Machine Actions** option is visible for all machines. However, it works only on MCS or power-managed machines.
> The **Machine Actions** are disabled for machines hosted on on-premises sites.

Typical use case for Machine Actions Machine actions help resolve poor user experience. If a machine is impacted due to high memory usage, you can understand the exact nature of the issue in the Machines self-service view.
The Machines self-service view displays the OS, the number of memory spikes, and CPU spikes over a period. You can click individual machines to see the correlation between the resources and the session experience in the Machine Statistics page. A sample screenshot is given here.

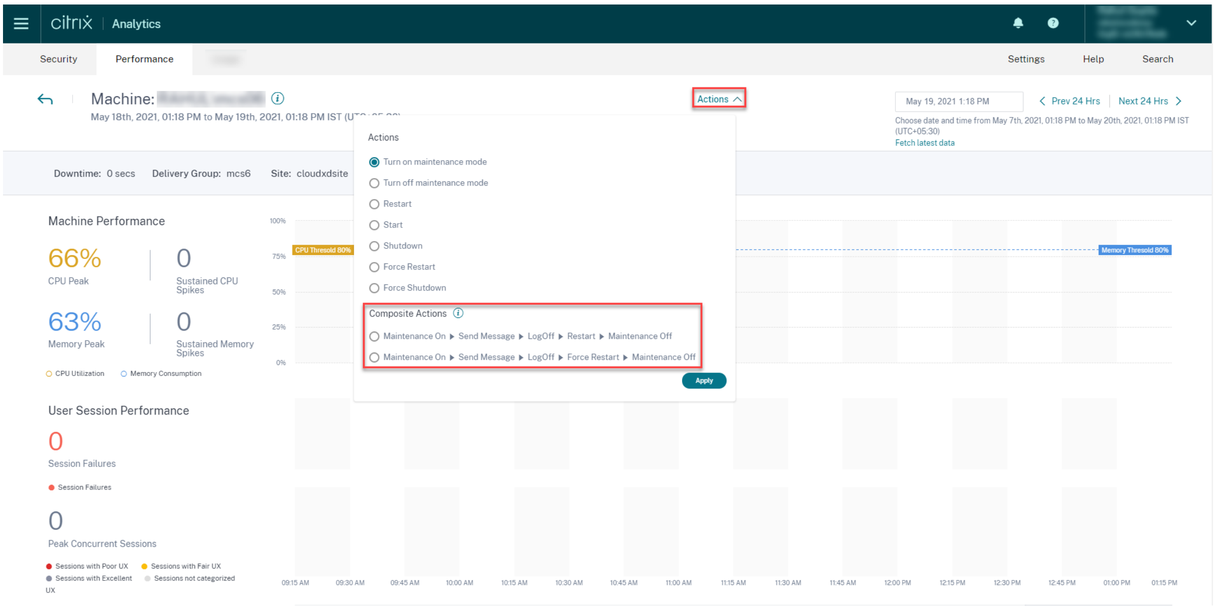


As a full administrator, you can put the machine in maintenance so that no more connections or sessions are allowed on this machine. You can then restart the machine or perform other troubleshooting procedures to free up the memory.

You can perform all these actions from within the Machine Statistics view instead of navigating to Web Studio or Citrix Director.

Composite Actions

Composite Actions help perform a sequence of machine actions in a single click from the Machine Statistics view.



Actions

● Turn on maintenance mode
○ Turn off maintenance mode
○ Restart
○ Start
○ Shutdown
○ Force Restart
○ Force Shutdown

Composite Actions

○ Maintenance On ▶ Send Message ▶ LogOff ▶ Restart ▶ Maintenance Off
○ Maintenance On ▶ Send Message ▶ LogOff ▶ Force Restart ▶ Maintenance Off

Apply

You can use one of the following two sequences of **Composite Actions**.

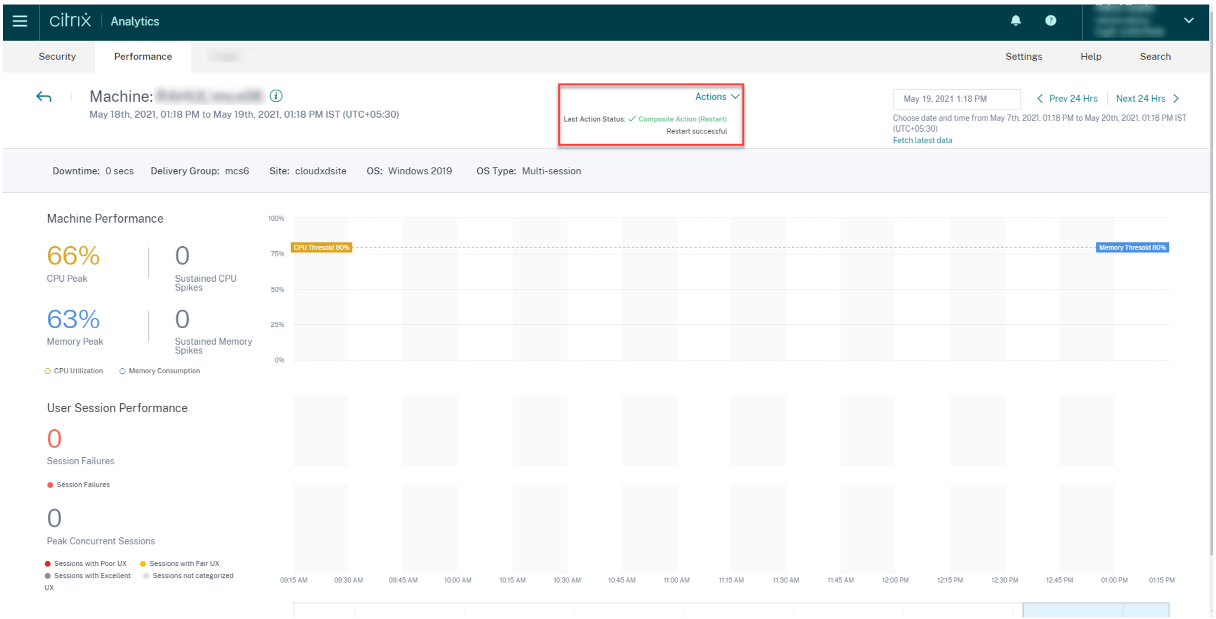
- Maintenance On > Send Message > Logoff > Restart > > Maintenance Off**

  1. Move the machine to Maintenance On mode.
  2. Send restart warning messages to all users logged into the machine.
  3. Wait for a timeout of 30 minutes or wait for all users to log off.
  4. Restart the machine.
  5. Move the machine to Maintenance Off mode.

- Maintenance On > Send Message > Logoff > Force Restart » Maintenance Off

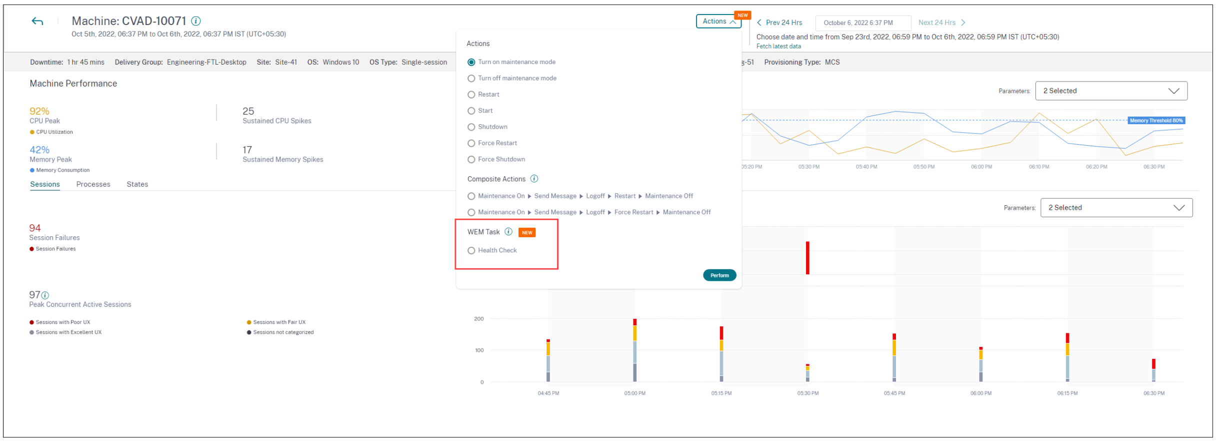
  1. Move the machine to Maintenance On mode.
  2. Send restart warning messages to all users logged into the machine.
  3. Wait for a timeout of 30 minutes or wait for all users to log off.
  4. Force restart the machine.
  5. Move the machine to Maintenance Off mode.

The overall status of the action and that of the individual steps are displayed under the **Actions** link.



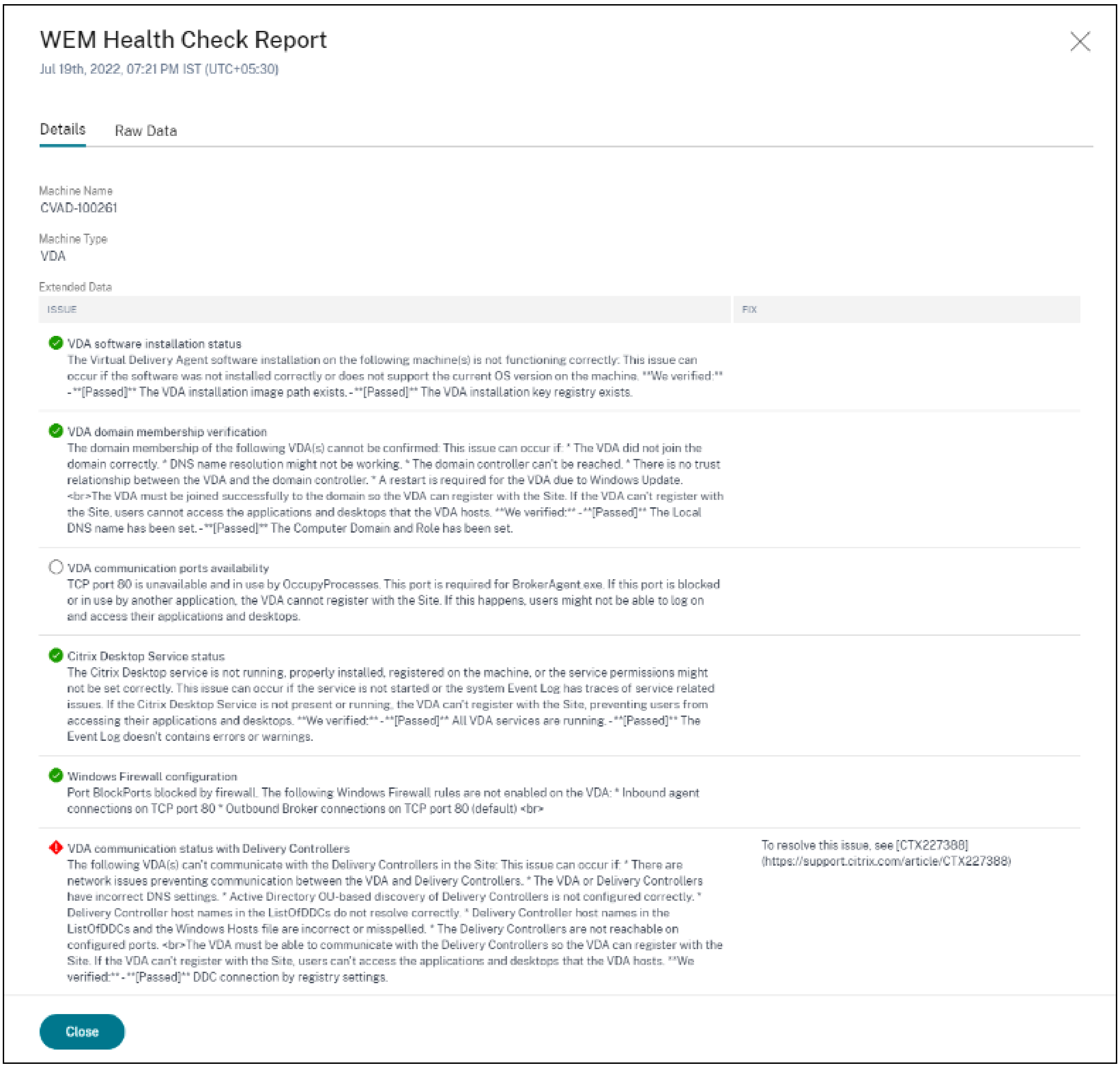
WEM Tasks Health Check

You can perform WEM Health Checks on machines from Performance Analytics. Workspace Environment Management (WEM) is a user environment management tool that helps optimize desktops for the best possible user experience.



Select the **WEM Task** -> **Health Check** action. This action runs the WEM Cloud Health Check script to get information on the availability of machines. This feature helps root cause common machine issues with the machine configuration, connectivity or policies easily within Performance Analytics.

The overall status of the WEM Cloud Health Check action is displayed. A link to a report is displayed once the script runs successfully. Clicking this link opens a detailed report containing the results of the WEM Cloud Health Check and possible actions that can be performed to fix them is also provided on Performance Analytics.



WEM Health Check Report

Jul 19th, 2022, 07:21 PM IST (UTC+05:30)

Machine Name
CVAD-100261

Machine Type
VDA

Extended Data

ISSUE	FIX
✓ VDA software installation status The Virtual Delivery Agent software installation on the following machine(s) is not functioning correctly: This issue can occur if the software was not installed correctly or does not support the current OS version on the machine. **We verified:** -**[Passed]** The VDA installation image path exists. -**[Passed]** The VDA installation key registry exists.	
✓ VDA domain membership verification The domain membership of the following VDA(s) cannot be confirmed: This issue can occur if: * The VDA did not join the domain correctly. * DNS name resolution might not be working. * The domain controller can't be reached. * There is no trust relationship between the VDA and the domain controller. * A restart is required for the VDA due to Windows Update. The VDA must be joined successfully to the domain so the VDA can register with the Site. If the VDA can't register with the Site, users cannot access the applications and desktops that the VDA hosts. **We verified:** -**[Passed]** The Local DNS name has been set. -**[Passed]** The Computer Domain and Role has been set.	
○ VDA communication ports availability TCP port 80 is unavailable and in use by OccupyProcesses. This port is required for BrokerAgent.exe. If this port is blocked or in use by another application, the VDA cannot register with the Site. If this happens, users might not be able to log on and access their applications and desktops.	
✓ Citrix Desktop Service status The Citrix Desktop service is not running, properly installed, registered on the machine, or the service permissions might not be set correctly. This issue can occur if the service is not started or the system Event Log has traces of service related issues. If the Citrix Desktop Service is not present or running, the VDA can't register with the Site, preventing users from accessing their applications and desktops. **We verified:** -**[Passed]** All VDA services are running. -**[Passed]** The Event Log doesn't contains errors or warnings.	
✓ Windows Firewall configuration Port BlockPorts blocked by firewall. The following Windows Firewall rules are not enabled on the VDA: * Inbound agent connections on TCP port 80 * Outbound Broker connections on TCP port 80 (default) 	
◆ VDA communication status with Delivery Controllers The following VDA(s) can't communicate with the Delivery Controllers in the Site: This issue can occur if: * There are network issues preventing communication between the VDA and Delivery Controllers. * The VDA or Delivery Controllers have incorrect DNS settings. * Active Directory OU-based discovery of Delivery Controllers is not configured correctly. * Delivery Controller host names in the ListOfDDCs do not resolve correctly. * Delivery Controller host names in the ListOfDDCs and the Windows Hosts file are incorrect or misspelled. * The Delivery Controllers are not reachable on configured ports. The VDA must be able to communicate with the Delivery Controllers so the VDA can register with the Site. If the VDA can't register with the Site, users can't access the applications and desktops that the VDA hosts. **We verified:** -**[Passed]** DDC connection by registry settings.	To resolve this issue, see [CTX227388] (https://support.citrix.com/article/CTX227388)

> **Note:**
>
> WEM Tasks are enabled for Cloud admins with full access and valid entitlement to WEM.
>
> For more information regarding the WEM Task Health Check, see Scripted Tasks article in the Workspace Environment Management documentation.

N/A or Not Categorized Metrics

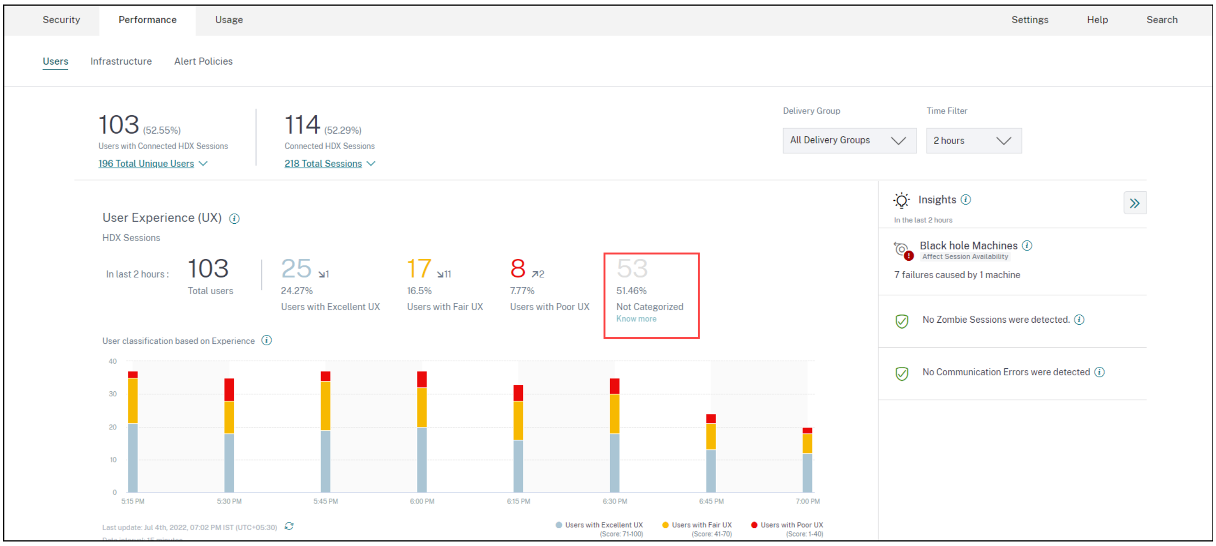
April 30, 2024

The User Experience Dashboard and the UX Factors pages can have users and sessions not categorized

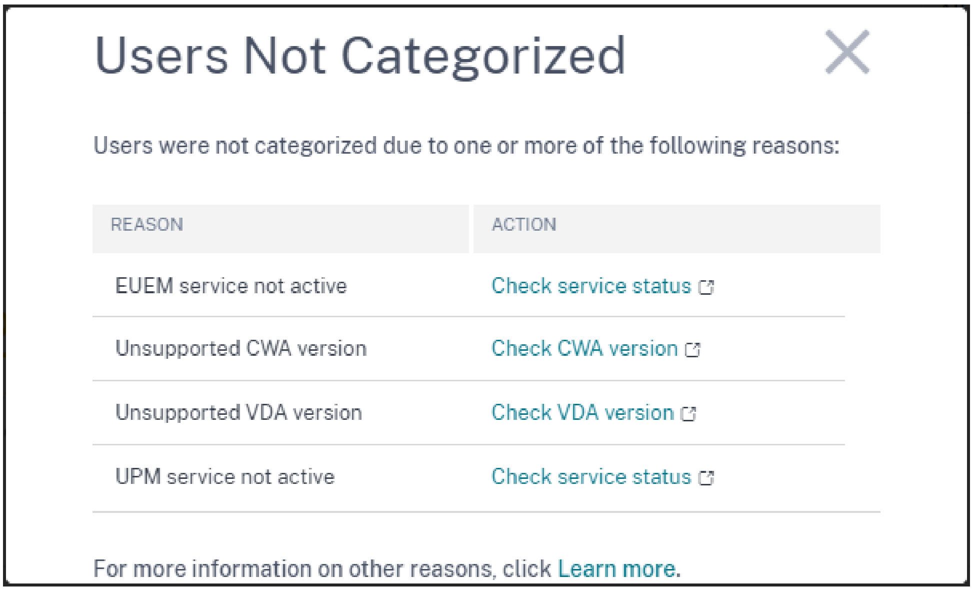
in excellent, fair, or poor categories with respect to a particular factor or subfactor.
In addition, the UX Factors and the self-service can have metrics with N/A value indicating that the measurement was either not available, or the metric is not applicable in the particular workflow.

This might happen due to instrumentation issues with the product or due to network connectivity issues. In addition, the values might not be categorized due to specific configuration issues or dependencies.

Reasons for Users and Sessions Not Categorized



Click the **Know more** link below the Not Categorized classification in the User Experience and Session Responsiveness trends to view the primary reasons for certain users and sessions being not categorized.



Users Not Categorized

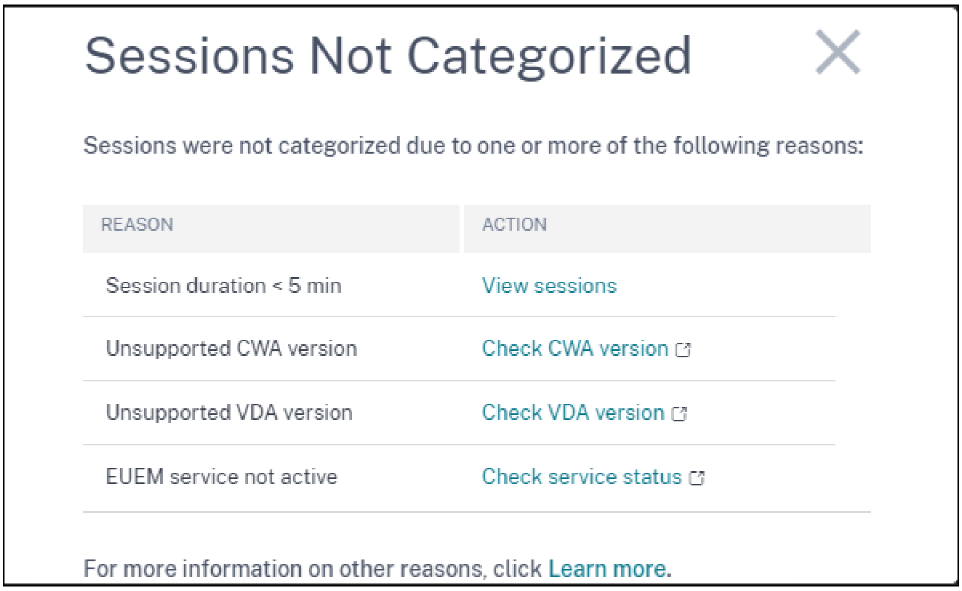
Users were not categorized due to one or more of the following reasons:

REASON	ACTION
EUEM service not active	Check service status
Unsupported CWA version	Check CWA version
Unsupported VDA version	Check VDA version
UPM service not active	Check service status

For more information on other reasons, click Learn more.

- **EUEM service not active:** Citrix EUEM service must be installed and running for the UX score to be available and the user classification to take place. The **Check service status** link for EUEM service not active leads to the Citrix EUEM and Citrix Profile Management Services Check section in this document. It contains PowerShell code that you can run to identify the machines in your apps and desktops environment that don't have the Citrix EUEM service running.
- **UPM service not active:** Citrix Profile Management service must be installed and running for the UX score to be available and the user classification to take place. The **Check service status** link for UPM service not active leads to the Citrix EUEM and Citrix Profile Management Services Check section in this document. It contains PowerShell code that you can run to identify the machines in your apps and desktops environment that don't have the Citrix Performance Management service running.
- **Unsupported CWA version: Check CWA version** link leads to Citrix Workspace app Version Matrix that lists the minimum required Citrix Workspace app version for Citrix Analytics for Performance features.
- **Unsupported VDA version: Check VDA version** link leads to Citrix VDA Version Matrix that lists the minimum required Citrix Virtual Apps and Desktops to be running on the machines for Citrix Analytics for Performance features.

Clicking the **Know more** link under the Not Categorized classification of sessions in the Session Responsiveness trend provides reasons as follows:



Sessions Not Categorized

Sessions were not categorized due to one or more of the following reasons:

REASON	ACTION
Session duration < 5 min	View sessions
Unsupported CWA version	Check CWA version
Unsupported VDA version	Check VDA version
EUEM service not active	Check service status

For more information on other reasons, click Learn more.

One of the main reasons for sessions being not categorized is that short sessions with duration of less than 5 minutes do not send performance metrics like ICARTT that is the basis for categorization. Click the View sessions link to open the Sessions self-service view listing sessions with a duration of under 5 minutes.

The other reasons for sessions being not categorized are Unsupported CWA version, Unsupported VDA version and EUEM service not active.

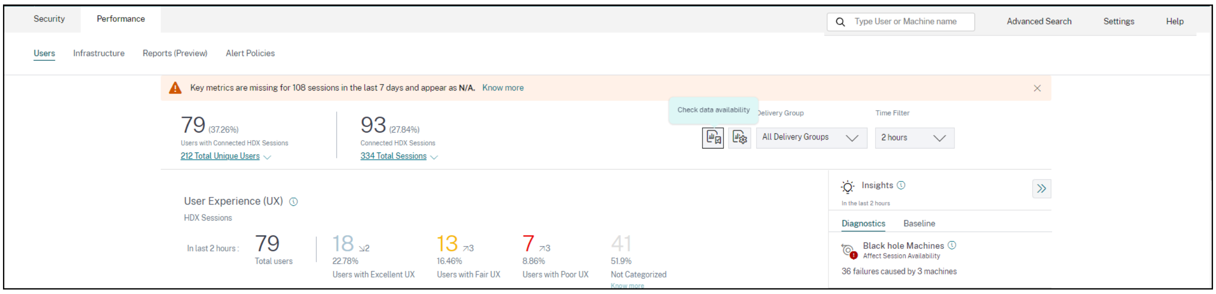
> **Note:**
>
> - All the metrics for a failed session are displayed as N/A.
> - All sessions launched via a Connection lease are **Not Categorized** as the ICA RTT and logon duration metrics are not available.

Described below are the reasons for the specific metrics on the Performance Analytics dashboard and drilldowns being N/A or Not Categorized.

Reasons for endpoint metrics displaying N/A values

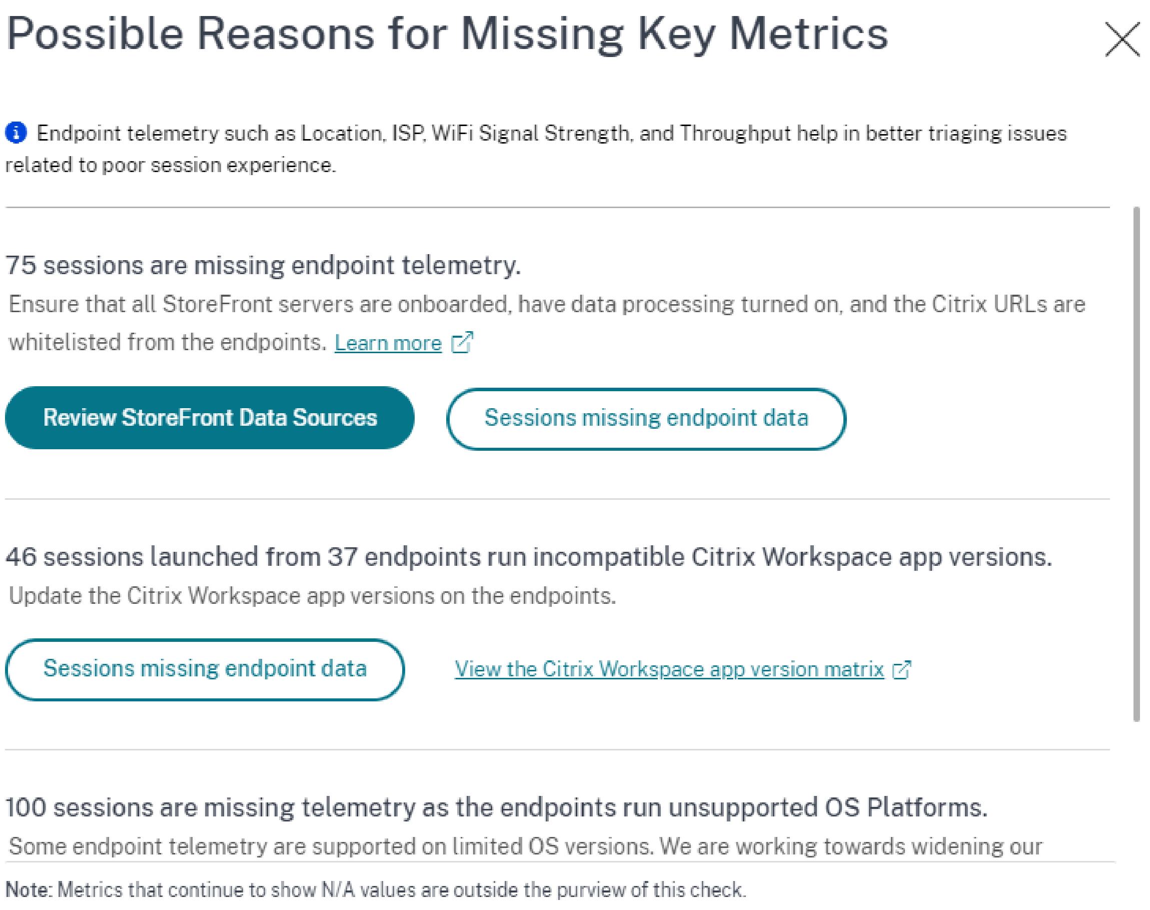
Data availability is important to optimally analyze your Citrix Virtual Apps and Desktops environments. Endpoint metrics like Location, ISP, WiFi Strength and Throughput are important indicators that help triage poor session experience. Endpoint metric values might be missing if the appropriate prerequisites are not met.

The User Experience dashboard contains a banner displaying the number of sessions that have missing endpoint metrics during the last 7 days.



Key metrics are missing for 108 sessions in the last 7 days and appear as **N/A**. Know more

Click **Know more**. A modal box containing the reasons in detail and the actions that you could take to solve the issues, is displayed. You can also click the Data Availability icon to view the modal.



Possible Reasons for Missing Key Metrics

Endpoint telemetry such as Location, ISP, WiFi Signal Strength, and Throughput help in better triaging issues related to poor session experience.

75 sessions are missing endpoint telemetry.

Ensure that all StoreFront servers are onboarded, have data processing turned on, and the Citrix URLs are whitelisted from the endpoints. Learn more

Review StoreFront Data Sources
Sessions missing endpoint data

46 sessions launched from 37 endpoints run incompatible Citrix Workspace app versions.

Update the Citrix Workspace app versions on the endpoints.

Sessions missing endpoint data
View the Citrix Workspace app version matrix

100 sessions are missing telemetry as the endpoints run unsupported OS Platforms.

Some endpoint telemetry are supported on limited OS versions. We are working towards widening our

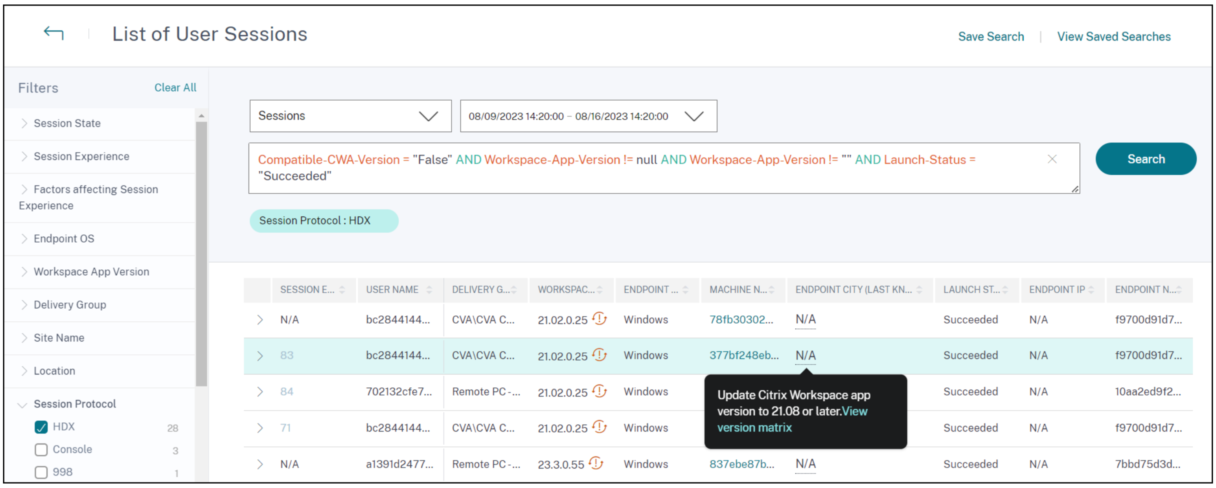
Note: Metrics that continue to show N/A values are outside the purview of this check.

- One of the key reasons for missing endpoint telemetry is StoreFront onboarding. StoreFront must be onboarded correctly; data processing must be switched on and appropriate URLs must be whitelisted. **Review StoreFront Data Sources** takes you to the Data Sources page that leads you through the StoreFront onboarding process required for the Workspace App Data Collection. Citrix Workspace does not require onboarding. Click **Sessions missing endpoint data** to open the Sessions self-service view with the list of sessions whose endpoint metrics are missing because of incorrect or non-existent StoreFront Onboarding.
- Endpoint telemetry is not available for sessions launched from endpoints that run unsupported OS platforms or incompatible Citrix Workspace app versions. Clicking **Sessions missing endpoint data** opens the Sessions self-service view with the list of the sessions missing endpoint telemetry due to a specific listed reason. For more information, see the Version matrix that lists for each feature the OS versions and the required Workspace app version on which it is supported.

Tool tips elaborating the reason for N/A values are now in available in the Sessions self-service view for the following endpoint related metrics:

- Workspace App Version

- Endpoint Country (Last known)
- Endpoint City (Last known)
- Endpoint Link Speed (P95)
- Endpoint Throughput Incoming (P95)
- Endpoint Throughput Outgoing (P95)
- ISP (Internet Service Provider)



08/09/2023 14:20:00 – 08/16/2023 14:20:00

Compatible-CWA-Version = "False" AND Workspace-App-Version != null AND Workspace-App-Version != "" AND Launch-Status = "Succeeded"

SESSION E...	USER NAME	DELIVERY G...	WORKSPAC...	ENDPOINT ...	MACHINE N...	ENDPOINT CITY (LAST KN...	LAUNCH ST...	ENDPOINT IP	ENDPOINT N...
N/A	bc2844144...	CVA\CVA C...	21.02.0.25	Windows	78fb30302...	N/A	Succeeded	N/A	f9700d91d7...
83	bc2844144...	CVA\CVA C...	21.02.0.25	Windows	377bf248eb...	N/A	Succeeded	N/A	f9700d91d7...
84	702132cfe7...	Remote PC -...	21.02.0.25	Windows			Succeeded	N/A	10aa2ed9f2...
71	bc2844144...	CVA\CVA C...	21.02.0.25	Windows			Succeeded	N/A	f9700d91d7...
N/A	a1391d2477...	Remote PC -...	23.3.0.55	Windows	837ebe87b...	N/A	Succeeded	N/A	7bbd75d3d...

Update Citrix Workspace app version to 21.08 or later.View version matrix

Tooltips are displayed on the N/A values of these metrics with the reason as incorrect StoreFront onboarding, or sessions launched from endpoints that run unsupported OS platforms or incompatible Citrix Workspace app versions. For more information about the metrics available in the Sessions self-service view, see Self-service view for sessions.

Users, User Experience Score, Session Score Not Categorized

Users, User Experience Score, Session Score might not be categorized when either the Session Responsiveness or the Session Logon Duration factor measurements be unavailable for the selected time period.

ICA RTT N/A and Session Responsiveness Not Categorized

ICA RTT being N/A leads to sessions not categorized for Session Responsiveness. This can happen due to the following reasons:

- Endpoint OS is running either HTML5 or iOS.
- Session is in Failed, Disconnected state.
- Session is reconnected.
- Session is not running on HDX protocol.
- Citrix Profile Management is not running.

- End User Experience Monitoring (EUEM) service is not running, and the corresponding policies are not configured on the machines.
- Session is not connected through Citrix Gateway version 12.1 or later, and configured with Citrix Analytics for Performance. For more information, see Gateway data source.
- Session is launched from machines that are not enabled for NSAP.
- Session is not a new CGP (Common Gateway Protocol) session.

Logon Duration Not Categorized

- Session is not running on HDX protocol.
- Logon Duration requires Citrix Profile Management to be running on the machines. Citrix Profile Management calculates the Logon Duration based on machine events and forwards the same to the Monitor Service. If a Remote PC Access deployment exists and a machine upgrade is not required, you can deploy the Profile Management components separately - Citrix Profile Management and Citrix Profile Management WMI plug-in. For more information, see the blog, Monitor, and troubleshoot Remote PC Access machines.

GPO N/A

Group Policy settings are not configured or enabled on the virtual machines.

Profile Load N/A

- Citrix Profile Management is not running on the machines.
- Machine is not running Citrix Virtual Apps and Desktops version 1912 or later.

VM start N/A

This measurement is available only when the power managed machine is started during session launch.

Logon Scripts N/A

Logon scripts are not configured for the session.

Overloaded Machines Not Categorized

- Machine not registered
- Users whose poor session experience is not due to resource overload.

Location and ISP N/A

- Endpoint is running on an older version of Citrix Workspace app. For information on the minimum required Citrix Workspace app versions for Citrix Analytics for Performance features, see Citrix Workspace app version matrix.
- Session state is **Failed**.
- Communication time-out occurred with the URL, `https://locus.analytics.cloud.com/api/locateip`.
- IP might not be resolved.
- The SendPublicIPAddress registry entry in the endpoint machine is set to disable the IP address transmission.
- The StoreFront server of your on-premises Site deployment is not configured with Citrix Analytics. For more information, see Onboard Virtual Apps and Desktops sites using StoreFront.

Workspace App Version or Endpoint OS N/A

- Endpoints are not running Citrix Workspace app for Windows version 1912 or later.
- Session is not running on HDX protocol.
- Session has failed.

Connection Type N/A

Endpoints are not running Citrix Workspace app for Windows version 20.12.0 or later.

Network Interface Type N/A

Endpoints are not running Citrix Workspace app for Windows version 2105 or later.

Bandwidth and Network Latency Metrics N/A

Machine is not running Citrix Virtual Apps and Desktops 7 2112 or later.

The **VDA data collection for Analytics** policy is not set to **Allowed** on machines. This is required to enable the Monitoring service to collect machine related performance metrics such as Bandwidth and latency statistics. For more information, see Policy for collecting data for Analytics.

Endpoint Network Metrics N/A

Endpoints are not running Citrix Workspace app for Windows version 2108 or later.

Gateway Service and Connector N/A

Gateway Service and Connector metrics are supported only for Gateway Service (Non-rendezvous) and Rendezvous 1.

Machines Not Categorized based on Load

Machines might be not categorized in the following cases:

- The machine is in shutdown, unregistered, or failed state.
- Resource data is not available for the machine. Ensure that the Resource Monitoring policy is enabled on the machine. For more information, see Enable Resource Monitoring.

Citrix EUEM and Citrix Profile Management Services Check

Run the following PowerShell script to identify the machines in your Apps and Desktops environment that don't have the Citrix EUEM and Citrix Profile Management services running. To run the Service Check script, do the following steps:

1. Start an RDP session to Cloud Connector for a cloud environment or Delivery Controller for an on-premises environment.
2. Run the following Service Check PowerShell Script. If you run this script on Cloud Connector, the script displays a popup window to log in and select the customer.

The script produces two output files in the same folder as the script itself.

- upmnotrunning.txt specifies the list of machines on which Citrix Profile Management is not running.
- EUEMnotrunning.txt specifies the list of machines on which the EUEM service is not running.

```
add-pssnapin citrix*

#for more filter : https://developer-docs.citrix.com/projects/delivery-controller-sdk/en/latest/Broker/Get-BrokerMachine/
$dgList = @('All') #Add the delivery group names here

#Get list of machine in that environment
if($dgList[0] -eq 'All')
{

  $machineList = Get-BrokerMachine
 }

else
{

   for($i=0; $i -lt $dgList.Length; $i++)
   {

      $machineList += Get-BrokerMachine -DeliveryGroupName $dgList[$i]
    }

 }



$upmNotRunning = [System.Collections.ArrayList] @()
$euemNotRunning = [System.Collections.ArrayList] @()

#Check for UPM and EUEM service status in machine
for($i=0; $i -lt $machineList.Length; $i++)
{

    Write-Host("Machine Name : " + $machineList[$i].DNSName)

    #UPM Service check

        $upm = Get-Service ctxProfile -ComputerName $machineList[$i].DNSName -ErrorVariable getServiceErrorUpm -ErrorAction SilentlyContinue

        if ($getServiceErrorUpm.Count -gt 0 -and ($getServiceErrorUpm | foreach {
 $_.FullyQualifiedErrorId -like "*NoServiceFoundForGivenName*" }
 ))
        {

             Write-Warning "There is no service named UPM in $machineList[$i].DNSName"
             $upmNotRunning.Add($machineList[$i].DNSName)
         }

        elseif ($getServiceErrorUpm.Count -gt 0)
        {

            Write-Warning("Exception on $machineList[$i].DNSName : $getServiceErrorUpm")
         }

        else
        {

            if ( -Not('Running' -eq $upm.Status))
            {

                Write-Host("UPM service not running on $machineList[$i].DNSName")
                $upmNotRunning.Add($machineList[$i].DNSName)
             }

         }



    #EUEM Service check
        $euem = Get-Service 'Citrix EUEM' -ComputerName $machineList[$i].DNSName -ErrorVariable getServiceErrorEuem -ErrorAction SilentlyContinue

        if ($getServiceErrorEuem.count -gt 0 -and ($getServiceErrorEuem | foreach {
 $_.FullyQualifiedErrorId -like "*NoServiceFoundForGivenName*" }
 ))
        {

             Write-Warning "There is no service named Citrix EUEM in $machineList[$i].DNSName"
             $euemNotRunning.Add($machineList[$i].DNSName)
         }

        elseif ($getServiceErrorEuem -gt 0)
        {

             Write-Warning("Exception on $machineList[$i].DNSName : $getServiceErrorEuem")
         }

        else
        {

            if (-Not('Running' -eq $euem.Status))
            {

                 Write-Host("EUEM service not running on $machineList[$i].DNSName")
                $euemNotRunning.Add($machineList[$i].DNSName)
             }

         }


 }


# Add the list of machines not having UPM or EUEM services running to a file
Out-File -FilePath .\UpmNotRunning.txt -InputObject $upmNotRunning -Encoding ASCII -Width 100
Out-File -FilePath .\EuemNotRunning.txt -InputObject $euemNotRunning -Encoding ASCII -Width 100
<!--NeedCopy-->
```

Self-service search

November 30, 2023

What is self-service search?

The self-service search feature enables you to find and filter user events received from your data sources. You can explore the underlying user events and their attributes. These events help you to identify any data issues and troubleshoot them. The search page displays various facets (dimensions) and metrics for a data source. You can define your search query and apply filters to view the events that match your defined criteria. By default, the self-service search page displays user events for the last one day.

Currently, the self-service search feature is available for the following data sources:

- Authentication
- Gateway
- Secure Browser
- Secure Private Access
- Apps and Desktops
- Performance Users, Machines, and Sessions

Also, you can perform self-service search on the events that met your defined policies. For more information, see Self-service search for Policies.

How to access self-service search

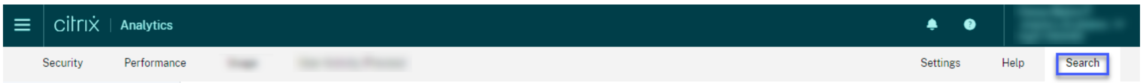
You can access the self-service search by using the following options:

- **Top bar**: Click **Search** from the top bar to view all user events for the selected data source.
- **Risk timeline on a user profile page**: Click **Event Search** to view the events for the respective user.

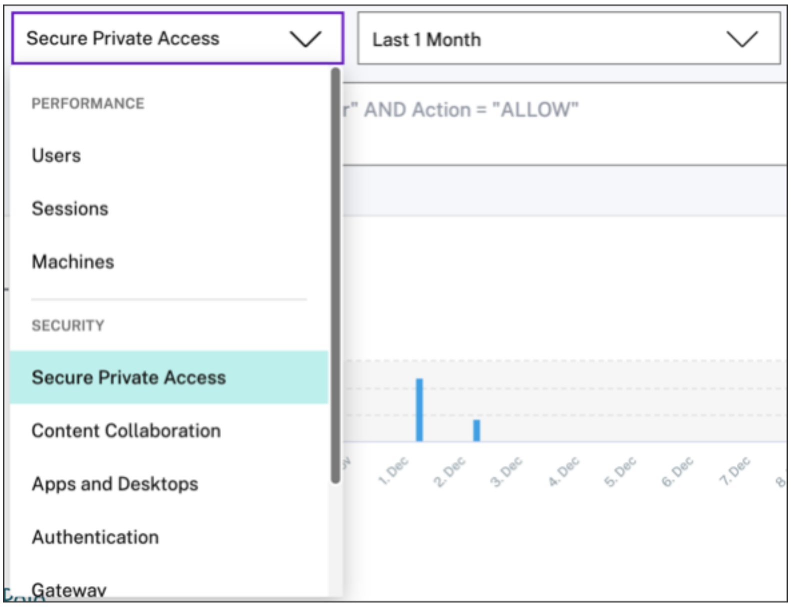
Self-service search from the top bar

Use this option to go to the self-service search page from any place in the user interface.

1. Click **Search** to view the self-service page.



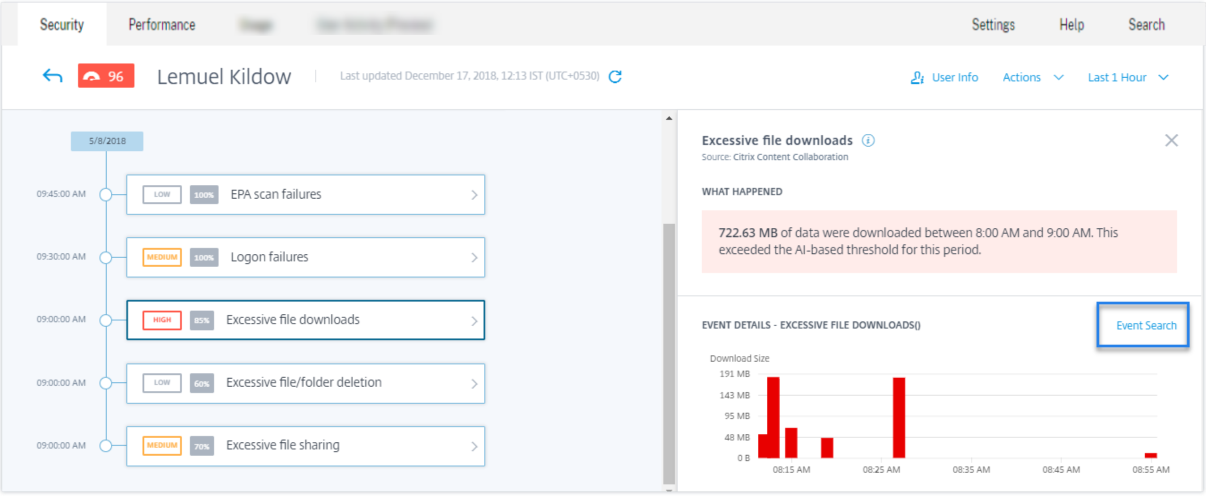
2. Select the data source and the time period to view the corresponding events.



Self-service search from user's risk timeline

Use this option if you want to view the user events associated with a risk indicator.

When you select a risk indicator from a user's timeline, the risk indicator information section is displayed on the right pane. Click **Event Search** to explore the events associated to the user and the data source (for which the risk indicator is triggered) on the self-service search page.



722.63 MB of data were downloaded between 8:00 AM and 9:00 AM. This exceeded the AI-based threshold for this period.

For more information on the user risk timeline, see Risk timeline.

How to use self-service search

Use the following features on the self-service search page:

- Facets to filter your events.
- Search box to enter your query and filter events.
- Time selector to select the time period.
- Timeline details to view the event graphs.
- Event data to view the events.
- Export to CSV format to download your search events as a CSV file.
- Export visual summary to download the visual summary report of your search query.
- Multicolumn sorting to sort the events by multiple columns.

Use facets to filter events

Facets are the summary of data points that constitute an event. Facets vary depending on the data source. For example, the facets for the Secure Private Access data source are reputation, actions, location, and category group. Whereas the facets for Apps and Desktops are event type, domain, and platform.

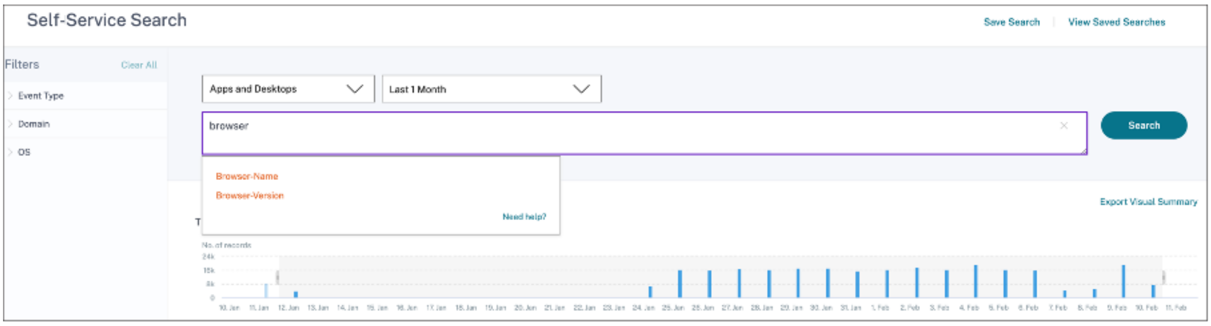
Select the facets to filter your search results. The selected facets are displayed as chips.

For more information on the facets corresponding to each data source, see the self-service search article for the data source mentioned earlier in this article.

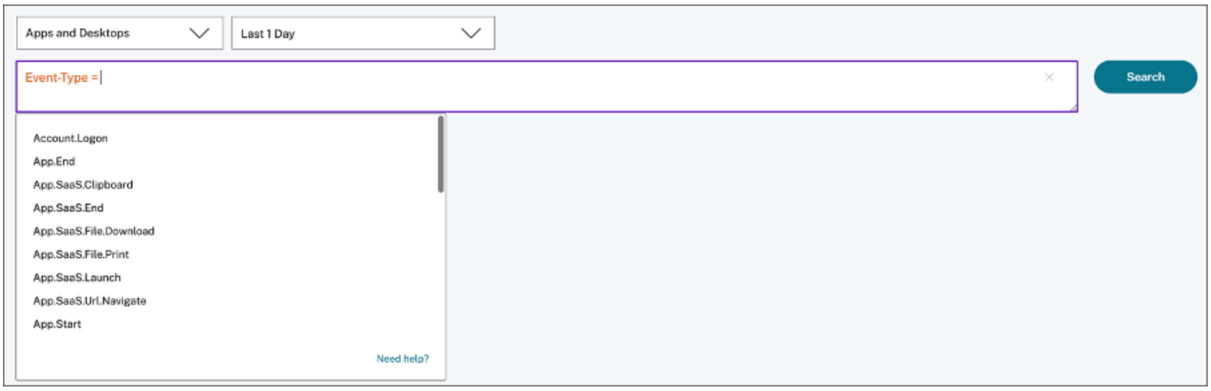
Use search query in the search box to filter events

When you place your cursor in the search box, the search box displays a list of dimensions based on the user events. These dimensions vary according to the data source. Use the dimensions and the valid operators to define your search criteria and search for the required events.

For example, in the self-service search for Apps and Desktops, you get the following values for the dimension `Browser`. Use the dimension to type your query, select the time period, and then click **Search**.



When selecting certain dimensions like `Event-Type` and `Clipboard-Operation` along with a valid operator, the values of the dimension are shown automatically. You can choose a value from the suggested options or enter a new value depending on your requirements.



Supported operators in search query Use the following operators in your search queries to refine your search results.

Operator	Description	Example	Output
	Assign a value to a search dimension.	User-Name : John	Displays events for the user John.
=	Assign a value to a search dimension.	User-Name = John	Displays events for the user John.
~	Search events with similar values.	User-Name ~ test	Displays events having similar user names.
" "	Enclose values separated by spaces.	User-Name = “John Smith”	Displays events for the user John Smith.
< >	Search for relational value.	Data Volume > 100	Displays events where data volume is greater than 100 GB.

Operator	Description	Example	Output
AND	Search events where the specified conditions are true.	User-Name : John AND Data Volume > 100	Displays events of user John where data volume is greater than 100 GB.
!~	Checks events for the matching pattern that you specify. This NOT LIKE operator returns the events that do not contain the matching pattern anywhere in the event string.	User-Name !~ John	Displays events for the users except John, John Smith, or any such users that contain the matching name "John".
!=	Checks events for the exact string that you specify. This NOT EQUAL operator returns the events that do not contain the exact string anywhere in the event string.	Country != USA	Displays events for the countries except USA.
*	Search events that match the specified strings. Currently, the * operator is supported only with the following operators :, =, and !=. The search results are case-sensitive.	User-Name = John*	Displays events for all user names that begin with John.
		User-Name = *John*	Displays events for all user names that contain John.
		User-Name = *Smith	Displays events for all user names that end with Smith.
		User-Name : John*	Displays events for all user names that begin with John.

Operator	Description	Example	Output
		User-Name : *John*	Displays events for all user names that contain John.
		User-Name : *Smith	Displays events for all user names that end with Smith.
		User-Name != John*	Displays events for all user names that do not begin with John.
		User-Name != *Smith	Displays events for all user names that do not end with Smith.
`IN`	Assign multiple values to a search dimension to get the events related to one or more values. **Note**: Currently, you can use this operator with the following dimensions of Apps and Desktops- `Device ID`, `Domain`, `Event-Type`, and `User-Name`. This operator is applicable only for the string values.	User-Name IN (John, Kevin)	Find all events related to John or Kevin.

Operator	Description	Example	Output
`NOT IN`	Assign multiple values to a search dimension and find the events that do not contain the specified values. **Note**: Currently, you can use this operator with the following dimensions of Apps and Desktops- `Device ID`, `Domain`, `Event-Type`, and `User-Name`. This operator is applicable only for the string values.	User-Name NOT IN (John, Kevin)	Find the events for all users except John and Kevin.
`IS EMPTY`	Checks for null value or empty value for a dimension. This operator works for only string type dimensions such as `App-Name`, `Browser`, and `Country`. It does not work for non-string (number) type dimensions such as `Upload-File-Size`, `Download-File-Size`, and `Client-IP`.	Country IS EMPTY	Find events where the country name is not available or empty (not specified).

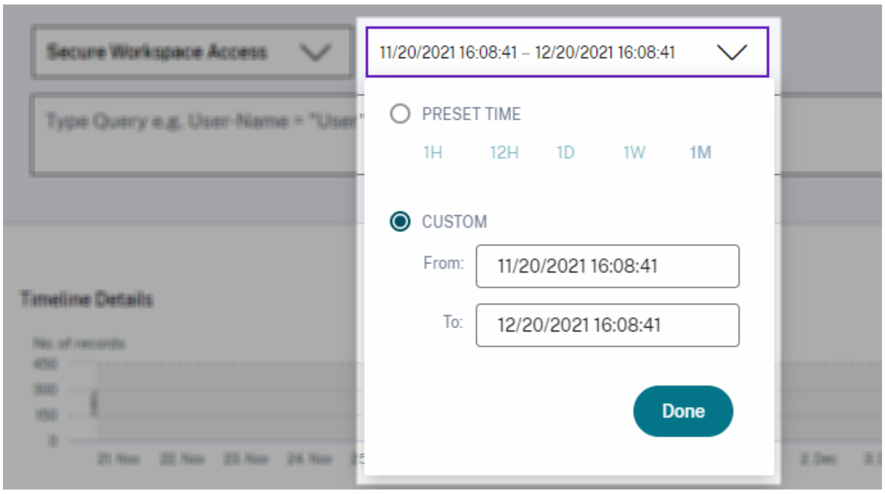
Operator	Description	Example	Output
`IS NOT EMPTY`	Checks for not null value or a specific value for a dimension. This operator works for only string type dimensions such as `App-Name`, `Browser`, and `Country`. It does not work for non-string (number) type dimensions such as `Upload-File-Size`, `Download-File-Size`, and `Client-IP`.	Country IS NOT EMPTY	Find events where the country name is available or specified.
`OR`	Searches for values where either or both conditions are true.	(User-Name = `John`* OR User-Name = *`Smith`) AND Event-Type = "Session.Logon"	Displays `Session.Logon` events for all user names that begin with John or end with Smith.

> **Note**
>
> For the **NOT EQUAL** operator, while entering the values for the dimensions in your query, use the exact values available on the self-service search page for a data source. The dimension values are case-sensitive.

For more information on how to specify your search query for the data source, see the self-service search article for the data source mentioned earlier in this article.

Select time to view event

Select a preset time or enter a custom time range and click **Search** to view the events.



Secure Workspace Access

11/20/2021 16:08:41 – 12/20/2021 16:08:41

○ PRESET TIME

1H 12H 1D 1W 1M

● CUSTOM

From: 11/20/2021 16:08:41

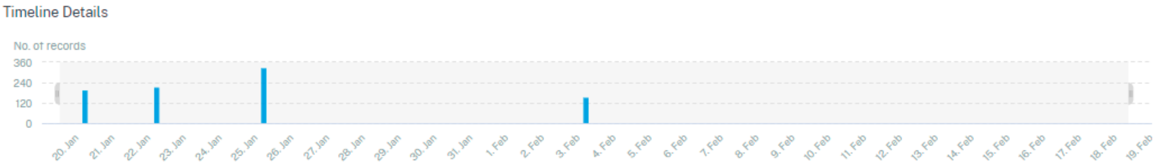
To: 12/20/2021 16:08:41

Done

View the timeline details

The timeline provides a graphical representation of user events for the selected time period. Move the selector bars to choose the time range and view the events corresponding to the selected time range.

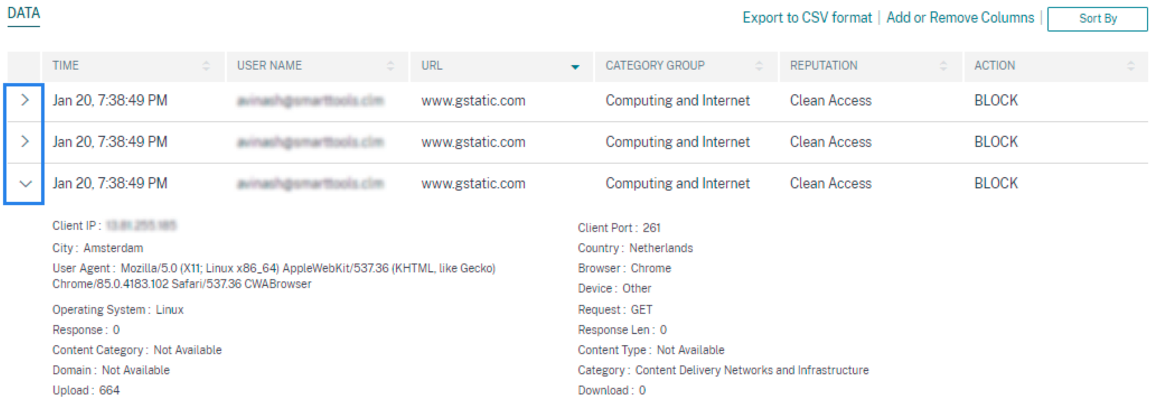
The figure shows timeline details for access data.



View the event

You can view the detailed information about the user event. On the **DATA** table, click the arrow for each column to view the user event details.

The figure shows the details about the user's access data.



DATA

Export to CSV format | Add or Remove Columns | Sort By

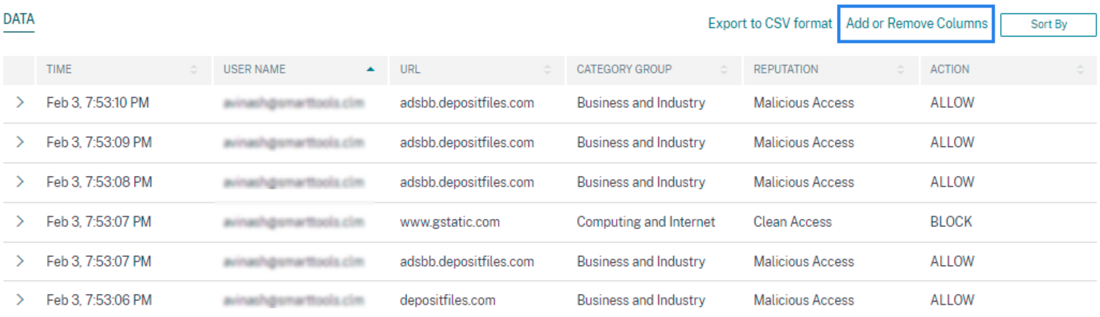
TIME	USER NAME	URL	CATEGORY GROUP	REPUTATION	ACTION
Jan 20, 7:38:49 PM	[redacted]	www.gstatic.com	Computing and Internet	Clean Access	BLOCK
Jan 20, 7:38:49 PM	[redacted]	www.gstatic.com	Computing and Internet	Clean Access	BLOCK
Jan 20, 7:38:49 PM	[redacted]	www.gstatic.com	Computing and Internet	Clean Access	BLOCK

Client IP : [redacted]
City : Amsterdam
User Agent : Mozilla/5.0 (X11; Linux x86_64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/85.0.4183.102 Safari/537.36 CWABrowser
Operating System : Linux
Response : 0
Content Category : Not Available
Domain : Not Available
Upload : 664

Client Port : 261
Country : Netherlands
Browser : Chrome
Device : Other
Request : GET
Response Len : 0
Content Type : Not Available
Category : Content Delivery Networks and Infrastructure
Download : 0

Add or remove columns You can either add or remove columns from the event table to display or hide the corresponding data points. Do the following:

1. Click **Add or Remove Columns**.

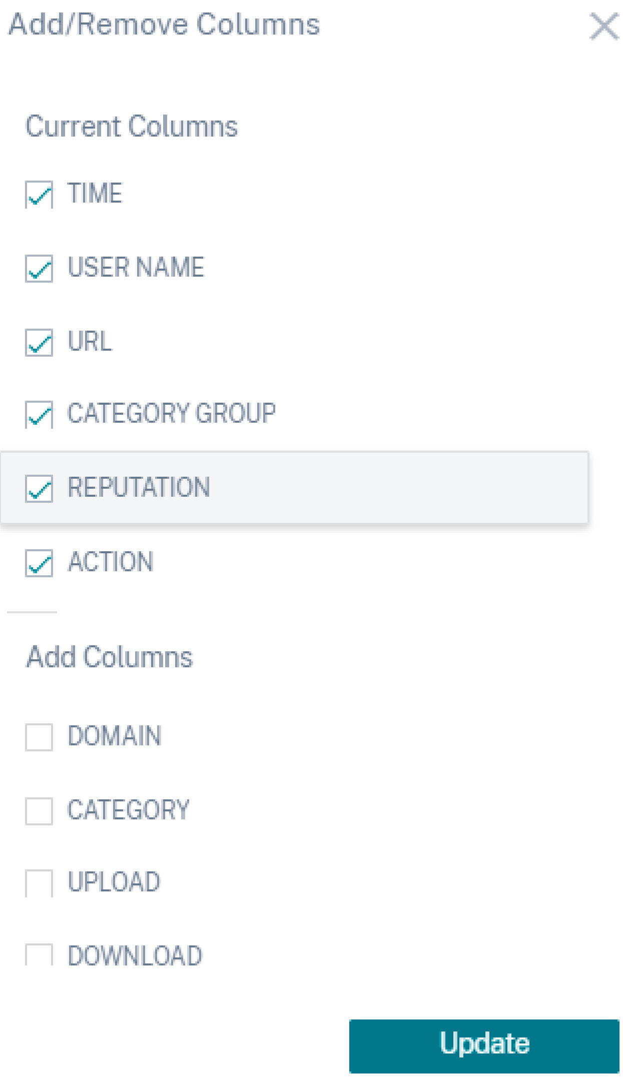


DATA

Export to CSV format | Add or Remove Columns | Sort By

TIME	USER NAME	URL	CATEGORY GROUP	REPUTATION	ACTION
Feb 3, 7:53:10 PM	[redacted]	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
Feb 3, 7:53:09 PM	[redacted]	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
Feb 3, 7:53:08 PM	[redacted]	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
Feb 3, 7:53:07 PM	[redacted]	www.gstatic.com	Computing and Internet	Clean Access	BLOCK
Feb 3, 7:53:07 PM	[redacted]	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
Feb 3, 7:53:06 PM	[redacted]	depositfiles.com	Business and Industry	Malicious Access	ALLOW

2. Select or deselect the data elements from the list and then click **Update**.



Add/Remove Columns

Current Columns

☑ TIME

☑ USER NAME

☑ URL

☑ CATEGORY GROUP

☑ REPUTATION

☑ ACTION

Add Columns

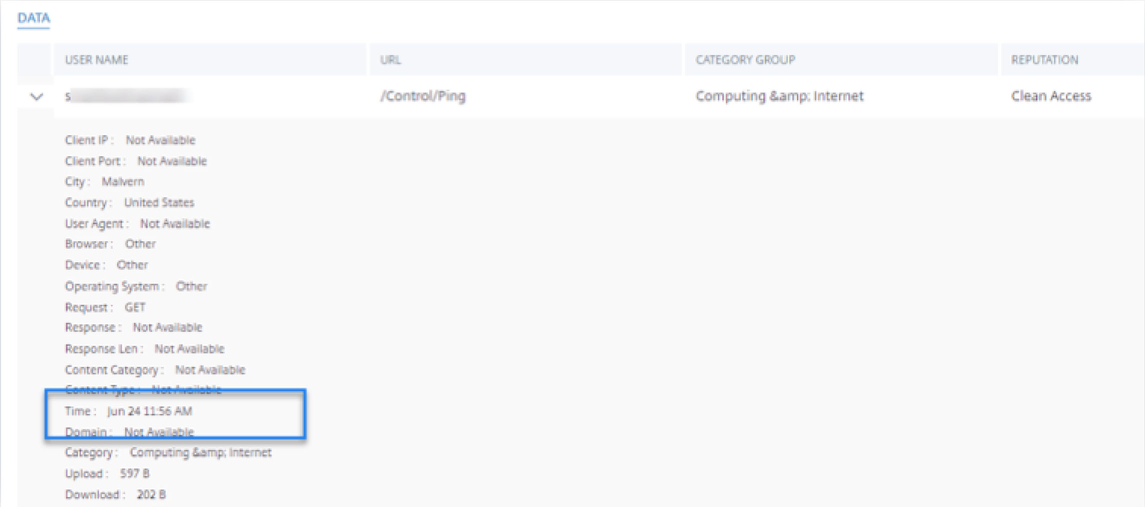
□ DOMAIN

□ CATEGORY

□ UPLOAD

□ DOWNLOAD

If you deselect a data point from the list, the corresponding column is removed from the event table. However, you can view that data point by expanding the event row for a user. For example, when you deselect the **TIME** data point from the list, the **TIME** column is removed from the event table. To view the time record, expand the event row for a user.



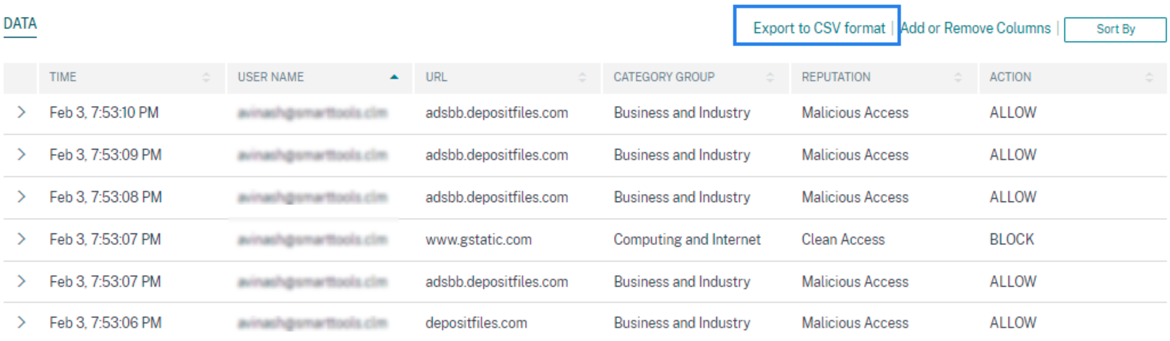
DATA

USER NAME	URL	CATEGORY GROUP	REPUTATION
s[redacted]	/Control/Ping	Computing &amp; Internet	Clean Access

Client IP : Not Available
Client Port : Not Available
City : Malvern
Country : United States
User Agent : Not Available
Browser : Other
Device : Other
Operating System : Other
Request : GET
Response : Not Available
Response Len : Not Available
Content Category : Not Available
Content Type : Not Available
Time : Jun 24 11:56 AM
Domain : Not Available
Category : Computing &amp; Internet
Upload : 597 B
Download : 202 B

Export the events to a CSV file

Export the search results to a CSV file and save it for your reference. Click **Export to CSV format** to export the events and download the CSV file that is generated. You can export 100K rows using the **Export to CSV format** feature.



TIME	USER NAME	URL	CATEGORY GROUP	REPUTATION	ACTION
Feb 3, 7:53:10 PM	[redacted]	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
Feb 3, 7:53:09 PM	[redacted]	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
Feb 3, 7:53:08 PM	[redacted]	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
Feb 3, 7:53:07 PM	[redacted]	www.gstatic.com	Computing and Internet	Clean Access	BLOCK
Feb 3, 7:53:07 PM	[redacted]	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
Feb 3, 7:53:06 PM	[redacted]	depositfiles.com	Business and Industry	Malicious Access	ALLOW

Export visual summary

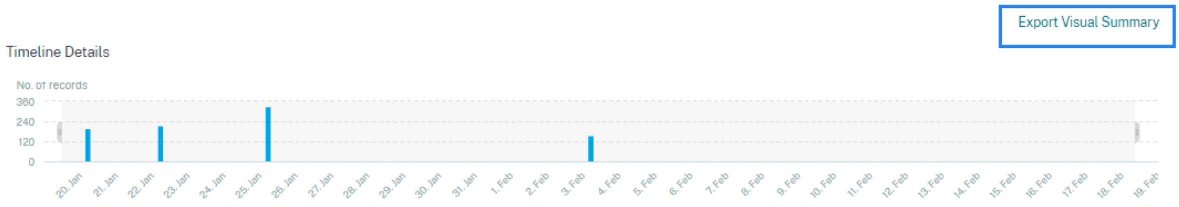
You can download the visual summary report of your search query and share a copy with other users, administrators, or your executive team.

Click **Export Visual Summary** to download the visual summary report as a PDF. The report contains the following information:

- The search query that you have specified for the events for the selected time period.
- The facets (filters) that you have applied on the events for the selected time period.

- The visual summary such as the timeline charts, bar charts, or graphs of the search events for the selected time period.

For a data source, you can download the visual summary report only if the data is displayed in visual formats such as bar charts, timeline details. Otherwise, this option is not available. For example, you can download the visual summary report of the data sources such as Apps and Desktops, Sessions, where you see data as timeline details and bar charts. For the data sources such as Users and Machines, you see data only in tabular format. Therefore, you cannot download any visual summary report.

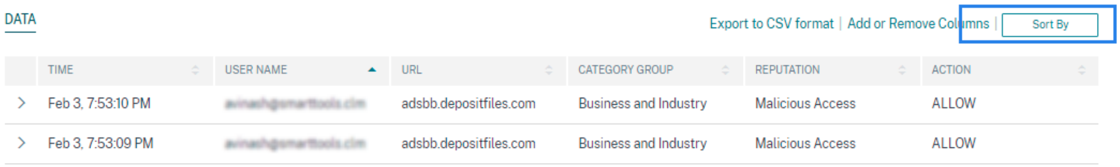


Multi-column sorting

Sorting helps to organize your data and provides better visibility. On the self-service search page, you can sort the user events by one or more columns. The columns represent the values of various data elements such as user name, date and time, and URL. These data elements vary based on the selected data sources.

To perform a multi-column sorting, do the following:

1. Click **Sort By**.



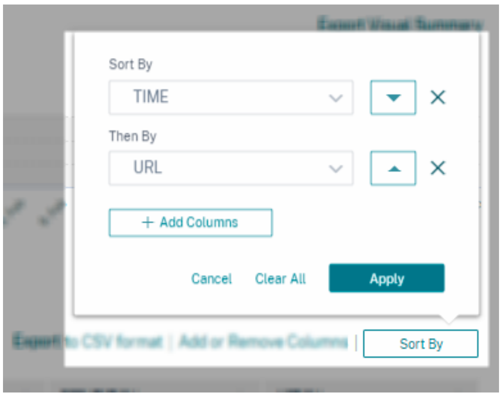
TIME	USER NAME	URL	CATEGORY GROUP	REPUTATION	ACTION
Feb 3, 7:53:10 PM	[redacted]	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
Feb 3, 7:53:09 PM	[redacted]	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW

2. Select a column from the **Sort By** list.
3. Select the sorting order- ascending (up arrow) or descending (down arrow) to sort the events in the column.
4. Click **+ Add Columns**.
5. Select another column from the **Then By** list.
6. Select the sorting order- ascending (up arrow) or descending (down error) to sort the events in the column.

> **Note**
>
> You can add up to six columns to perform the sorting.

7. Click **Apply**.
8. If you do not want to apply the preceding settings, click **Cancel**. To remove the values of the selected columns, click **Clear All**.

The following example shows a multi-column sort on the Secure Private Access events. The events are sorted by time (in latest to oldest order) and then by URL (in alphabetical order).



Alternatively, you can perform multi-column sorting by using the **Shift** key. Press the **Shift** key and click the column headers to sort the user events.

How to save the self-service search

As an administrator, you can save a self-service query. This feature saves the time and effort of rewriting the query that you use often for analysis or troubleshooting. The following options are saved with the query:

- Applied search filters
- Selected data source and duration

Do the following to save a self-service query:

1. Select the required data source and duration.
2. Type a query in the search bar.
3. Apply the required filters.
4. Click **Save Search**.
5. Specify the name to save the custom query.

> **Note**
>
> Ensure that the query name is unique. Otherwise, the query does not save.

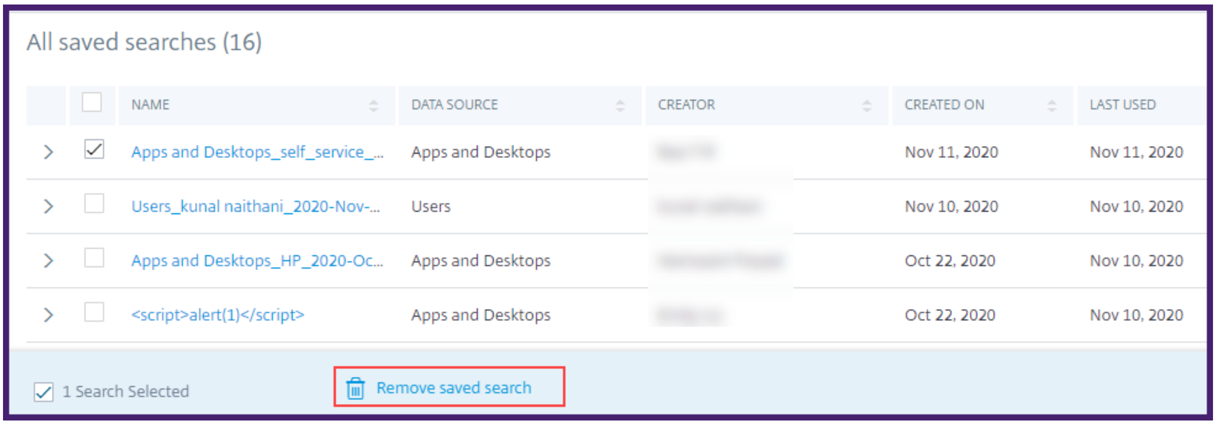
6. Enable the **Schedule email report** button if you want to send a copy of the search query report to yourself and other users at a regular interval. For more information, see Schedule an email for a search query.
7. Click **Save**.

To view the saved searches:

1. Click **View Saved Searches**.
2. Click the name of the search query.

To remove a saved search:

1. Click **View Saved Searches**.
2. Select the search query that you have saved.
3. Click **Remove saved search**.



All saved searches (16)

	□	NAME	DATA SOURCE	CREATOR	CREATED ON	LAST USED
>	☑	Apps and Desktops_self_service_...	Apps and Desktops	[redacted]	Nov 11, 2020	Nov 11, 2020
>	□	Users_kunal naithani_2020-Nov-...	Users	[redacted]	Nov 10, 2020	Nov 10, 2020
>	□	Apps and Desktops_HP_2020-Oc...	Apps and Desktops	[redacted]	Oct 22, 2020	Nov 10, 2020
>	□	<script>alert(1)</script>	Apps and Desktops	[redacted]	Oct 22, 2020	Nov 10, 2020

☑ 1 Search Selected

To modify a saved search:

1. Click **View Saved Searches**.
2. Click the name of the search query that you have saved.
3. Modify the search query or the facet selection based on your requirement.
4. Click **Update Search > Save** to update and save the modified search with the same search query name.
5. If you want to save the modified search with a new name, click the down arrow and click **Save as new search > Save As**.

If you replace the search with a new name, the search is saved as a new entry. If you retain the existing search name while replacing, then the modified search data overrides the existing search data.

> **Note**
>
> - Only a query owner can modify or remove their saved searches.
> - You can copy the saved search link address to share with another user.

Schedule an email for a search query

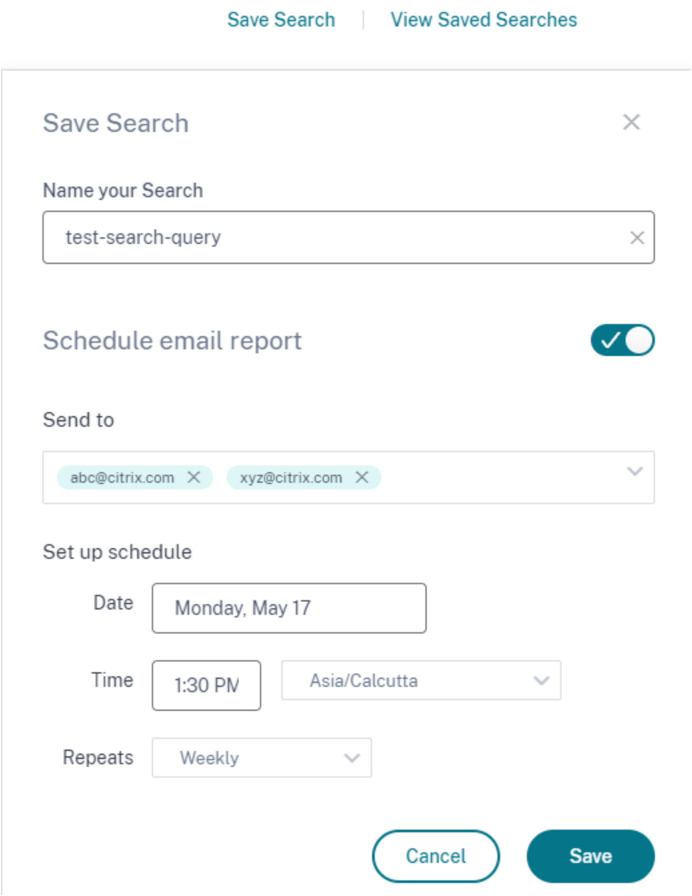
You can send a copy of the search query report to yourself and other users on regular intervals by setting up an email delivery schedule.

This option is available only if your search query report contains data in visual formats such as bar charts, timeline details. Otherwise, you cannot schedule an email delivery. For example, you can schedule an email for the data sources such as Apps and Desktops, Sessions, where you see data as timeline details and bar charts. For the data sources such as Users and Machines, you see data only in tabular format. Therefore, you cannot schedule an email.

Schedule an email while saving a search query

While saving a search query, set up an email delivery schedule as follows:

1. On the **Save Search** dialog box, enable the **Schedule email report** button.



Name your Search: test-search-query

Schedule email report ✓

Send to: abc@citrix.com, xyz@citrix.com

Set up schedule

Date: Monday, May 17

Time: 1:30 PM Asia/Calcutta

Repeats: Weekly

2. Enter or paste the email addresses of the recipients.

   > **Note**
   >
   > Email groups are not supported.

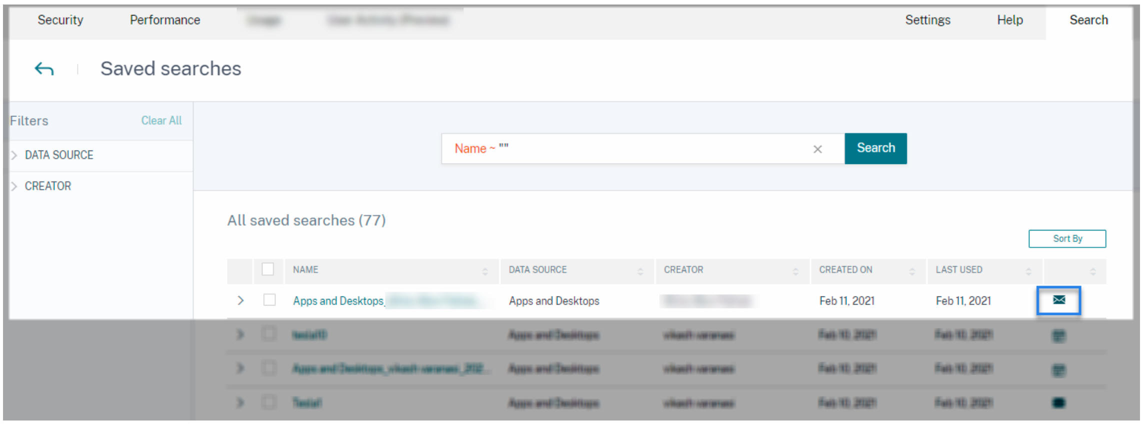
3. Set the date and time for the email delivery.
4. Select the delivery frequency- daily, weekly, or monthly.
5. Click **Save**.

Schedule an email for an already saved search query

If you want to set up an email delivery schedule for a search query that you previously saved, do the following:

1. Click **View Saved Searches**.
2. Go to the search query that you have created. Click the **Email this query** icon.

> **Note**
>
> Only a query owner can schedule email delivery of their saved search query.



3. Enable the **Schedule email report** button.
4. Enter or paste the email addresses of the recipients.

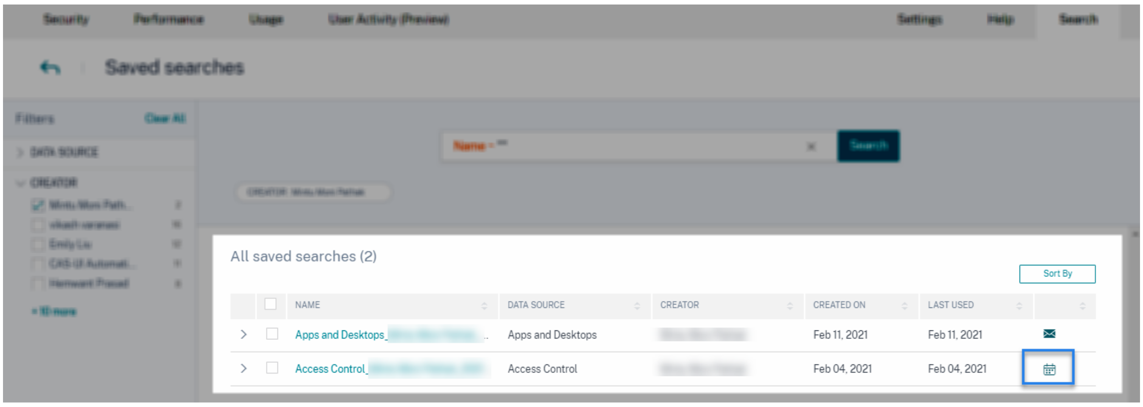
   > **Note**
   >
   > Email groups are not supported.

5. Set the date and time for the email delivery.
6. Select the delivery frequency- daily, weekly, or monthly.
7. Click **Save**.

Stop an email delivery schedule for a search query

1. Click **View Saved Searches**.
2. Go to the search query that you have created. Click the **View email delivery schedule** icon.

   > **Note**
   >
   > Only a query owner can stop the email schedule of their saved search query.



All saved searches (2)

	NAME	DATA SOURCE	CREATOR	CREATED ON	LAST USED	
□	Apps and Desktops_[redacted]	Apps and Desktops	[redacted]	Feb 11, 2021	Feb 11, 2021	✉
□	Access Control_[redacted]	Access Control	[redacted]	Feb 04, 2021	Feb 04, 2021	📅

3. Disable the **Schedule email report** button.

4. Click **Save**.

Email content

The recipients receive an email from "Citrix Cloud - Notifications donotreplynotifications@citrix.com" about the search query report. The report is attached as a PDF document. The email is sent at a regular interval defined by you in the **Schedule email report** settings.

The search query report contains the following information:

- The search query that you have specified for the events for the selected period.
- The facets (filters) that you have applied on the events.
- The visual summary such as the timeline charts, bar charts, or graphs of the search events.

Permissions for full access and read-only access administrators

- If you are a Citrix Cloud administrator with full access, you can use all the features available on the **Search** page.
- If you are a Citrix Cloud administrator with read-only access, you can only do the following activities on the **Search** page:
  - View the search results by selecting a data source and the time period.
  - Enter a search query and view the search results.
  - View the saved search results of other administrators.
  - Export the visual summary and download the search results as a CSV file.

For information about the administrator roles, see Manage administrator roles for Citrix Analytics.

Self-Service Search for Performance

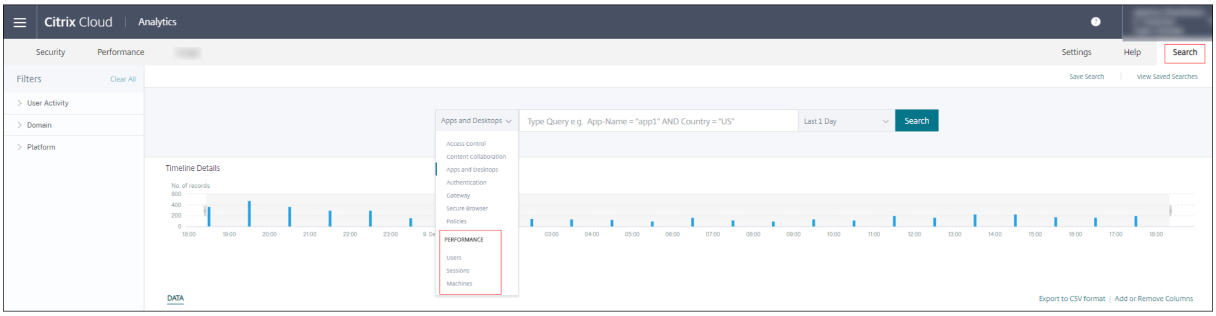
November 16, 2023

Self-service search provides insights into key performance indicators associated with users, sessions, and machines collected by Citrix Analytics for Performance. Performance metrics such as session responsiveness, logon duration, session launch attempts, session failure count are displayed for users, machines, or sessions sorted and filtered based on your selection.

You can reach the self-service page from the main **Search** menu of the Citrix Analytics.

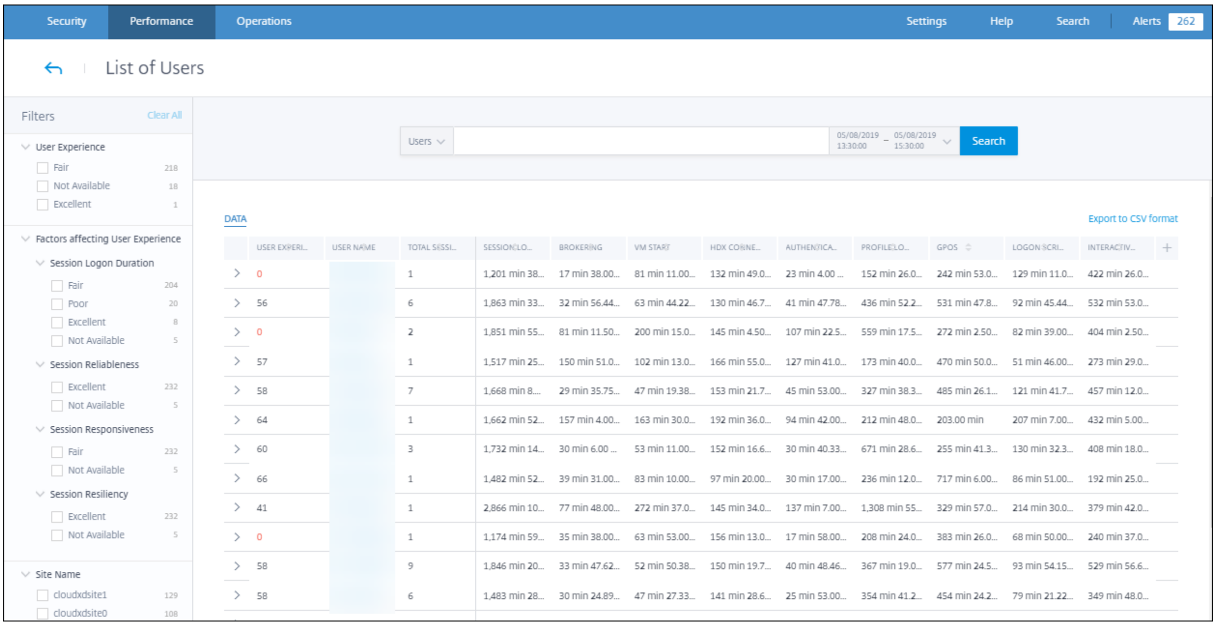
> **Note:**
>
> For more information on the self-service functionalities, like the usage of self-service search, scheduling an email for a search query and more, see Self-service search.

To view the Performance related events on the self-service page, select **Users**, **Sessions**, or **Machines** under **Performance** from the list in the search bar, select the time period, and then click **Search**.



Specific Users, Sessions, and Machines based self-service pages are also displayed upon clicking the users, sessions, or machines numbers respectively on the User experience dashboard and User Experience (UX) Factors pages.

You can use the search bar to enter your query to filter the results. You can also narrow down your search using the facets on the left hand pane. The set of users, sessions, or machines displayed is based on the selection criteria.



List of Users

Filters Clear All

User Experience
- □ Fair 218
- □ Not Available 18
- □ Excellent 1

Factors affecting User Experience

Session Logon Duration
- □ Fair 204
- □ Poor 20
- □ Excellent 8
- □ Not Available 5

Session Reliableness
- □ Excellent 232
- □ Not Available 5

Session Responsiveness
- □ Fair 232
- □ Not Available 5

Session Resiliency
- □ Excellent 232
- □ Not Available 5

Site Name
- □ cloudxdsite1 129
- □ cloudxdsite0 108

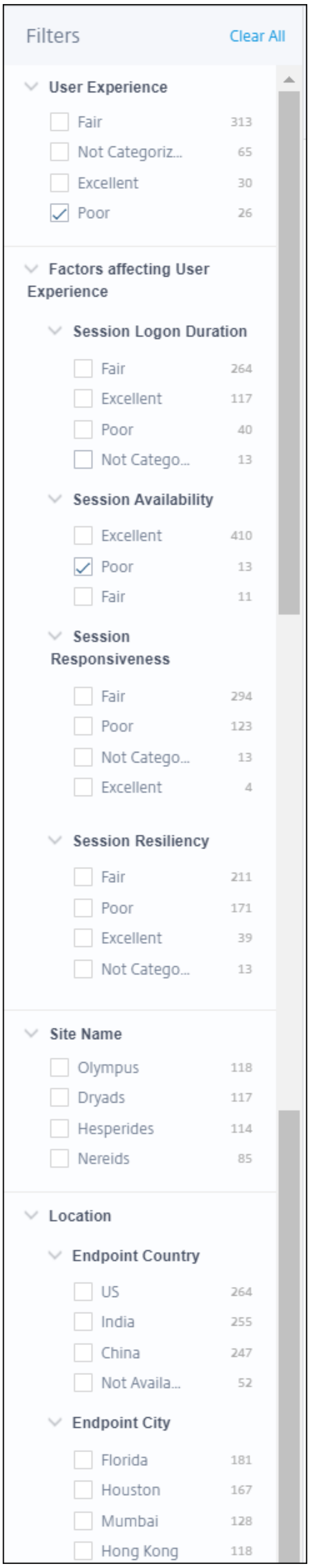
Users ⌄ | 05/08/2019 13:30:00 – 05/08/2019 15:30:00 | Search

DATA | Export to CSV format

	USER EXPERI...	USER NAME	TOTAL SESSI...	SESSIONLO...	BROKERING	VM START	HDX CONNE...	AUTHENTICA...	PROFILELO...	GPOS	LOGON SCRI...	INTERACTIV...	+
>	0	[redacted]	1	1,201 min 38...	17 min 38.00...	81 min 11.00...	132 min 49.0...	23 min 4.00 ...	152 min 26.0...	242 min 53.0...	129 min 11.0...	422 min 26.0...	
>	56	[redacted]	6	1,863 min 33...	32 min 56.44...	63 min 44.22...	130 min 46.7...	41 min 47.78...	436 min 52.2...	531 min 47.8...	92 min 45.44...	532 min 53.0...	
>	0	[redacted]	2	1,851 min 55...	81 min 11.50...	200 min 15.0...	145 min 4.50...	107 min 22.5...	559 min 17.5...	272 min 2.50...	82 min 39.00...	404 min 2.50...	
>	57	[redacted]	1	1,517 min 25...	150 min 51.0...	102 min 13.0...	166 min 55.0...	127 min 41.0...	173 min 40.0...	470 min 50.0...	51 min 46.00...	273 min 29.0...	
>	58	[redacted]	7	1,668 min 8....	29 min 35.75...	47 min 19.38...	153 min 21.7...	45 min 53.00...	327 min 38.3...	485 min 26.1...	121 min 41.7...	457 min 12.0...	
>	64	[redacted]	1	1,662 min 52...	157 min 4.00...	163 min 30.0...	192 min 36.0...	94 min 42.00...	212 min 48.0...	203.00 min	207 min 7.00...	432 min 5.00...	
>	60	[redacted]	3	1,732 min 14...	30 min 6.00 ...	53 min 11.00...	152 min 16.6...	30 min 40.33...	671 min 28.6...	255 min 41.3...	130 min 32.3...	408 min 18.0...	
>	66	[redacted]	1	1,482 min 52...	39 min 31.00...	83 min 10.00...	97 min 20.00...	30 min 17.00...	236 min 12.0...	717 min 6.00...	86 min 51.00...	192 min 25.0...	
>	41	[redacted]	1	2,866 min 10...	77 min 48.00...	272 min 37.0...	145 min 34.0...	137 min 7.00...	1,308 min 55...	329 min 57.0...	214 min 30.0...	379 min 42.0...	
>	0	[redacted]	1	1,174 min 59...	35 min 38.00...	63 min 53.00...	156 min 13.0...	17 min 58.00...	208 min 24.0...	383 min 26.0...	68 min 50.00...	240 min 37.0...	
>	58	[redacted]	9	1,846 min 20...	33 min 47.62...	52 min 50.38...	150 min 19.7...	40 min 48.46...	367 min 19.0...	577 min 24.5...	93 min 54.15...	529 min 56.6...	
>	58	[redacted]	6	1,483 min 28...	30 min 24.89...	47 min 27.33...	141 min 28.6...	25 min 53.00...	354 min 41.2...	454 min 24.2...	79 min 21.22...	349 min 48.0...	

Select facets to filter events

Use the facets on the left-hand side pane to filter the data. Some of the facets associated with the Citrix Analytics for Performance are as follows:



Filters Clear All

User Experience

- □ Fair 313
- □ Not Categoriz… 65
- □ Excellent 30
- ☑ Poor 26

Factors affecting User Experience

Session Logon Duration

- □ Fair 264
- □ Excellent 117
- □ Poor 40
- □ Not Catego… 13

Session Availability

- □ Excellent 410
- ☑ Poor 13
- □ Fair 11

Session Responsiveness

- □ Fair 294
- □ Poor 123
- □ Not Catego… 13
- □ Excellent 4

Session Resiliency

- □ Fair 211
- □ Poor 171
- □ Excellent 39
- □ Not Catego… 13

Site Name

- □ Olympus 118
- □ Dryads 117
- □ Hesperides 114
- □ Nereids 85

Location

Endpoint Country

- □ US 264
- □ India 255
- □ China 247
- □ Not Availa… 52

Endpoint City

- □ Florida 181
- □ Houston 167
- □ Mumbai 128
- □ Hong Kong 118

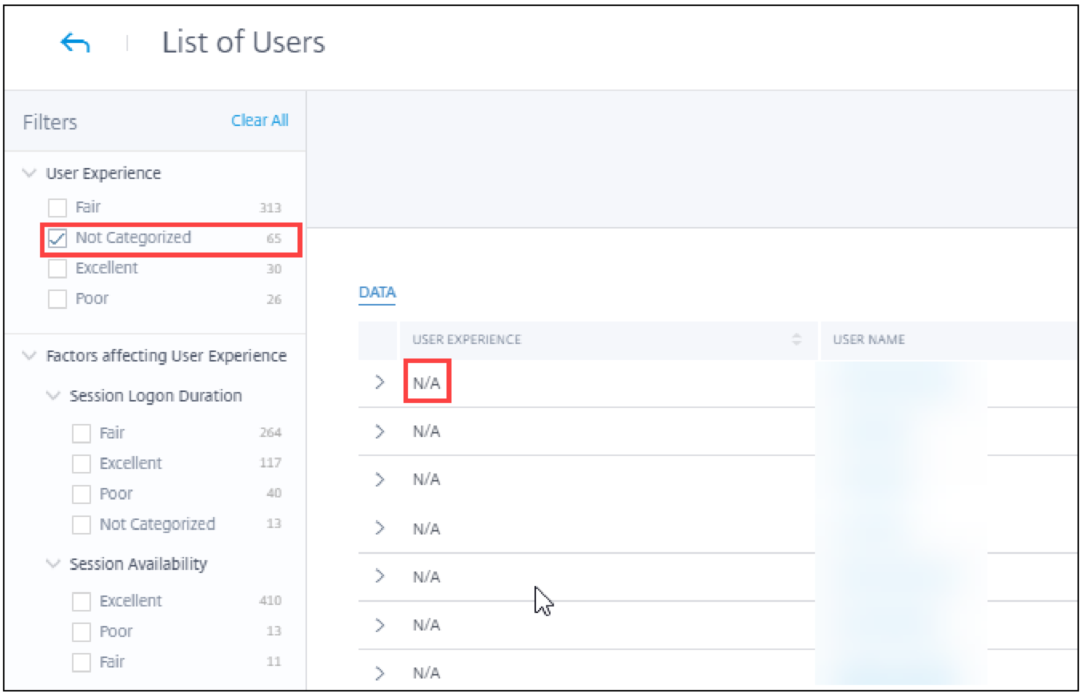
Session State

In the Sessions self-service view, you can select sessions based on the state of the session from among the following values:

- Unknown
- Connected
- Disconnected
- Terminated
- PreparingSession
- Active
- Reconnecting
- NonBrokeredSession
- Other
- Pending

User Experience

Search users based on the user experience being Excellent, Fair, or Poor. The User Experience score can be "Not Categorized"if either the Session Responsiveness or the Session Logon Duration factor measurements be unavailable for the selected time period. The User Experience Score and the Session Experience Score are displayed as N/A in the self-service search results in these cases.



List of Users

Filters Clear All

User Experience
□ Fair 313
☑ Not Categorized 65
□ Excellent 30
□ Poor 26

Factors affecting User Experience
Session Logon Duration
□ Fair 264
□ Excellent 117
□ Poor 40
□ Not Categorized 13
Session Availability
□ Excellent 410
□ Poor 13
□ Fair 11

DATA

USER EXPERIENCE	USER NAME
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	
N/A	

Session Experience

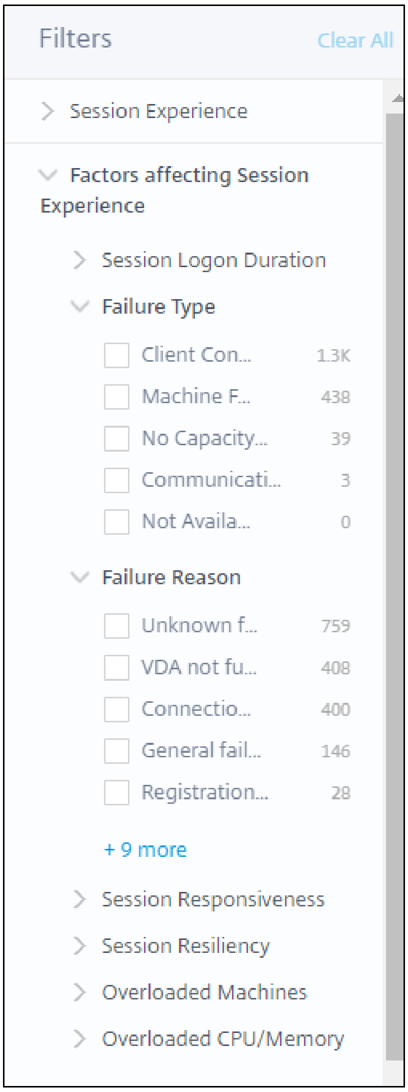
Search sessions based on the session experience being Excellent, Fair, or Poor. The Session Experience score can be “Not Categorized”if either the Session Responsiveness or the Session Logon Duration factor measurements are unavailable for the selected time period. The Session Experience Score is displayed as N/A in the self-service search results in these cases.

Factors affecting User Experience

Search users, sessions, and machines based on the individual factors affecting the user experience, such as Session Logon Duration, Session Responsiveness, Session Availability, or Session Resiliency.

Failure Type and Reason

In the Sessions self-service view, Failure Type and Failure Reason facets represents the Session Availability performance factors.



Filters Clear All

- Session Experience
- Factors affecting Session Experience
  - Session Logon Duration
  - Failure Type

□ Client Con...	1.3K
□ Machine F...	438
□ No Capacity...	39
□ Communicati...	3
□ Not Availa...	0

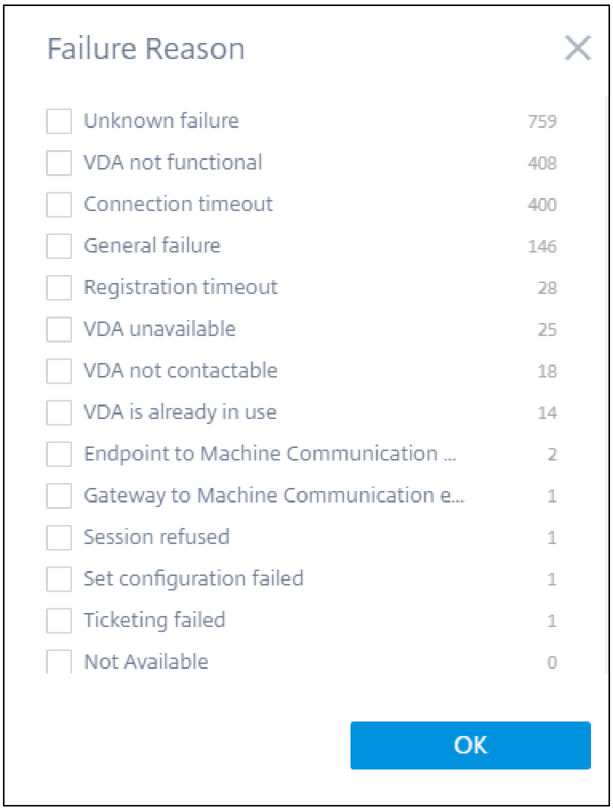
  - Failure Reason

□ Unknown f...	759
□ VDA not fu...	408
□ Connectio...	400
□ General fail...	146
□ Registration...	28

+ 9 more

  - Session Responsiveness
  - Session Resiliency
  - Overloaded Machines
  - Overloaded CPU/Memory

Failure Type provides filtering based on the type of session failures, such as Machine Failure, Client Connection Failure, Communication Failure. Failure Reason provides filtering based on the reason for session failure, such as a machine not functional, or a registration timeout.

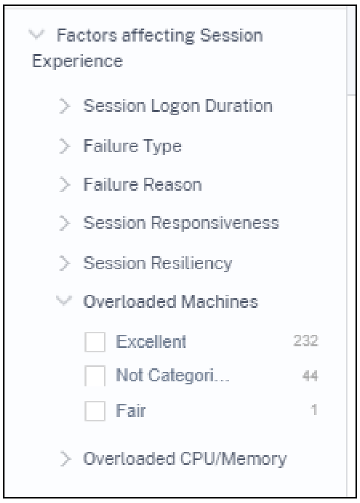


Failure Reason

□ Unknown failure	759
□ VDA not functional	408
□ Connection timeout	400
□ General failure	146
□ Registration timeout	28
□ VDA unavailable	25
□ VDA not contactable	18
□ VDA is already in use	14
□ Endpoint to Machine Communication ...	2
□ Gateway to Machine Communication e...	1
□ Session refused	1
□ Set configuration failed	1
□ Ticketing failed	1
□ Not Available	0

Overloaded Machines and CPU/Memory

The Overload facets help filter machines, users, and sessions based on the load on the CPU and memory resources.



Factors affecting Session Experience

- Session Logon Duration
- Failure Type
- Failure Reason
- Session Responsiveness
- Session Resiliency
- Overloaded Machines

□ Excellent	232
□ Not Categori...	44
□ Fair	1

- Overloaded CPU/Memory

Overloaded Machines provides filtering based on how overloaded the machine resources are. Overloaded CPU/Memory provides filtering based on whether CPU or memory caused the overload.

Endpoint OS

Search sessions based on the operating system running on the endpoint machine from which the session has been launched. This parameter helps identify issues that can be common among all endpoints running the same OS. The OS information is displayed as N/A for endpoints running **Citrix Workspace app for Windows version 1912 and earlier**.

Workspace App Version

Search sessions based on the Workspace App Version on the endpoint machine from which the session has been launched. This parameter helps identify issues specific to a particular Workspace App Version. The Workspace App Version information is displayed as N/A for endpoints running **Citrix Workspace app for Windows version 1912 and earlier**.

Delivery Group

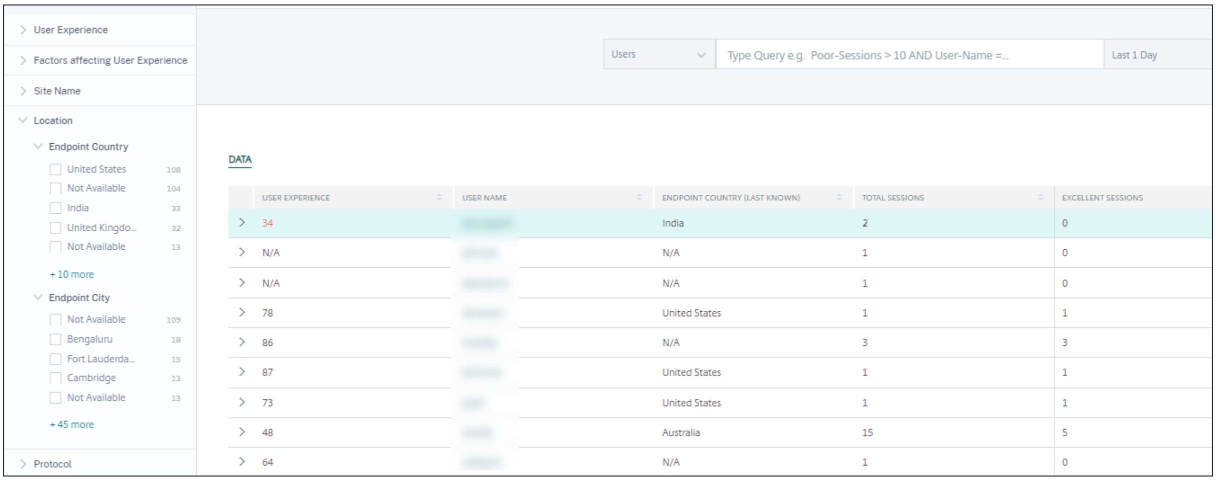
Filter users, sessions, and machines based on the Delivery Group the machines belong to.

Site Name

Filter users, sessions, and machines based on Site.

Location

You can now search users and sessions based on the location of the Endpoint Country or City. The Location facet helps isolating latency-related issues to a specific location.



□ United States 108
□ Not Available 104
□ India 33
□ United Kingdo... 32
□ Not Available 13

□ Not Available 109
□ Bengaluru 18
□ Fort Lauderda... 15
□ Cambridge 13
□ Not Available 13

USER EXPERIENCE	USER NAME	ENDPOINT COUNTRY (LAST KNOWN)	TOTAL SESSIONS	EXCELLENT SESSIONS
34	[redacted]	India	2	0
N/A	[redacted]	N/A	1	0
N/A	[redacted]	N/A	1	0
78	[redacted]	United States	1	1
86	[redacted]	N/A	3	3
87	[redacted]	United States	1	1
73	[redacted]	United States	1	1
48	[redacted]	Australia	15	5
64	[redacted]	N/A	1	0

The location information is extracted from the public IP address securely transmitted by the endpoint machine to Citrix Analytics. If your organization uses an on-premises StoreFront deployment, you can configure your StoreFront servers to enable Citrix Workspace app to send events to Citrix Analytics. Follow the steps as described in Onboard Virtual Apps and Desktops Sites using StoreFront.

You can disable the transmission of the IP address from the Citrix Workspace app on the endpoint machine by setting the **SendPublicIPAddress** registry entry to **`false`**. For more information, see Enhancement to Citrix Analytics Service in the Citrix Workspace app for Windows documentation.

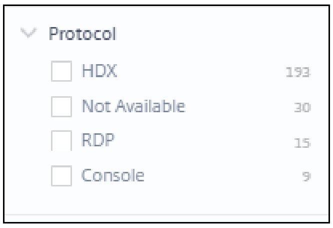
> **Note:**
>
> In the case of a closed customer environment where the endpoints are operating within an intranet, ensure that the URL `https://locus.analytics.cloud.com/api/locateip` is accessible to the endpoints.

Location of an endpoint can be `Not Available` or `N/A` for the following reasons:

- The session failed to launch.
- Communication time-out occurred with the URL, `https://locus.analytics.cloud.com/api/locateip`.
- The **SendPublicIPAddress** registry entry in the endpoint machine is set to disable the IP address transmission.
- The StoreFront server of your on-premises Site deployment is not configured with Citrix Analytics.
- The Citrix Workspace App for Windows version is earlier than 1912. See the Citrix Workspace app versions supported for other OS in the Citrix Workspace app Version Matrix article

Session Protocol

The Protocol facet helps you filter users and sessions based on the protocol of the session - HDX, Console, or RDP.



Protocol

□ HDX	193
□ Not Available	30
□ RDP	15
□ Console	9

This facet lists only the current protocols of sessions and not all supported session protocols.

Connection Type

Use the Connection Type facet to filter sessions based on whether the endpoints are directly connected to the machines or through a gateway. The Connection Type facet has the following elements,

- internal –for direct connections without Gateway
- external –for connections through Gateway

The Connection details are available for Endpoints running Citrix Workspace app version 20.12.0 or later for Windows. For all other endpoints, the Connection type is displayed as N/A.

This facet helps identify and troubleshoot issues related to the gateway easily.

Machine OS Type

This facet is available on the Machines based self-service view. It helps narrow down your search to a specific Machine OS type.

Launch Type

This facet shows the classification of sessions as ICA based or Connection leased on the Sessions Self-service view. It helps find the number of sessions that were launched via Connection Lease.

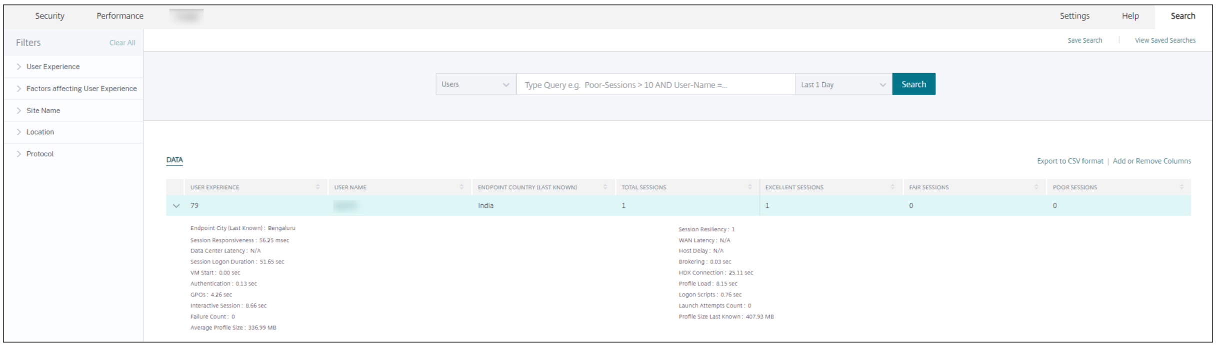
Aggregated State

This facet is available on the Machines based self-service view to help narrow down your search based on the Aggregated State of the machine. Aggregated state represents the least favorable state the machine has been in, from among Ready for use, Active, Maintenance, Unregistered and Failed in that order.

Load

The Load facet is available on the Machines based self-service view to help narrow down your search based on the load on the machine. You can select machines with High, Medium, or Low load. The machines might not be categorized if they are in shutdown, unregistered or failed state or if the resource data is not available for the machine.

Self-service search for Users



USER EXPERIENCE	USER NAME	ENDPOINT COUNTRY (LAST KNOWN)	TOTAL SESSIONS	EXCELLENT SESSIONS	FAIR SESSIONS	POOR SESSIONS
79	[redacted]	India	1	1	0	0

Endpoint City (Last Known) : Bengaluru
Session Responsiveness : 56.25 msec
Data Center Latency : N/A
Session Logon Duration : 51.65 sec
VM Start : 0.00 sec
Authentication : 0.13 sec
GPOs : 4.26 sec
Interactive Session : 8.66 sec
Failure Count : 0
Average Profile Size : 336.99 MB

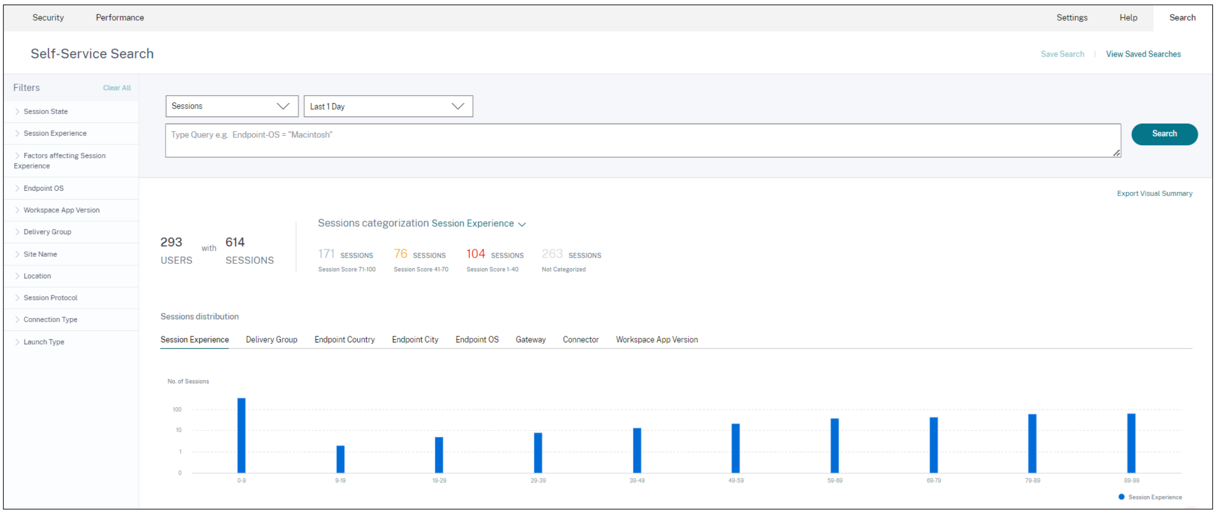
Session Resiliency : 1
WAN Latency : N/A
Host Delay : N/A
Brokering : 0.03 sec
HDX Connection : 25.11 sec
Profile Load : 8.15 sec
Logon Scripts : 0.76 sec
Launch Attempts Count : 0
Profile Size Last Known : 407.93 MB

The Users based self-service page is available on clicking the user classification numbers on the User experience dashboard and drilldown pages. You can also access the Users based self-service view from the **Search** menu in your Citrix Analytics. In the list of services in the **Search** tab, select **Users** under the **Performance** section.

This view provides the important performance metrics related to users, such as,

- **Total Sessions:** Number of sessions successfully launched by the user.
- **Launch attempts count:** Number of times the user attempted to launch a session.
- **Failure count:** Number of sessions that failed to establish.
- **User Experience:** Overall user experience score calculated across all the sessions launched by the user.
- **Classification of sessions**: User sessions classified as excellent, fair, and poor.
- **Factors and sub-factors metrics** Key performance indicators that affect the user experience.
- **Endpoint Country (last known) and Endpoint Country (last known):** Last known location.
- **Profile Load:** The time taken to load the user's profile.
- **Profile Size (last known):** The last measured value of profile size.
- **Average Profile Size:** Average profile size for the selected duration.

Self-service search for Sessions



The Sessions-based self-service is available on clicking the session classification numbers on the dashboard. You can also access the Sessions-based self-service view from the **Search** menu in your Citrix Analytics. In the list of services in the **Search** tab, select **Sessions** under the **Performance** section.

Visual Summary on Sessions self-service view

Visual Summary presents raw data in the Sessions self-service tables as charts to improve visibility into the session performance.

The Visual Summary chart displays session categorization based on chosen criteria. In addition, you can choose to view the session distribution pivoted on a specific parameter. This helps identify session performance issues related to the pivots.

Use the visualization to identify patterns in data and troubleshoot specific session performance issues.

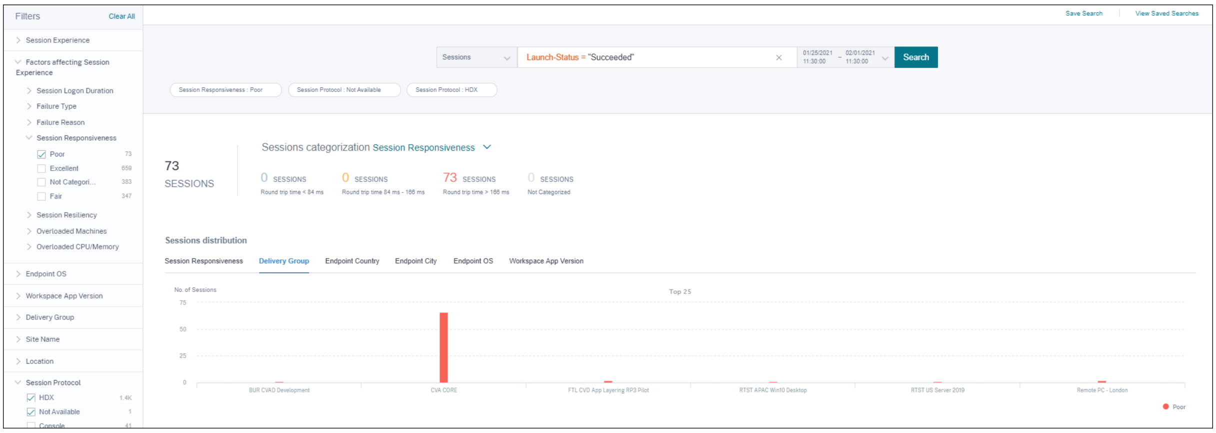
Factors Timeline(Preview) Factors Timeline pivot is added in the **Session Distribution** section of the Sessions self-service view under the **Session Responsiveness category**. You can use this pivot to analyze sessions based on Poor Output Bandwidth Usage, Poor Network Latency, and Poor ICARTT.

Use case - Access Visual Summary starting from the Dashboard You can use the Visual Summary chart to troubleshoot sessions having poor Session Logon Duration or Session Responsiveness experience displayed on the User Experience dashboard.

Click the poor sessions number in the Session Responsiveness chart to view the Visual Summary chart on the Sessions self-service view. A Visual Summary chart displays sessions categorized by Session

Responsiveness over the selected duration. This helps identify specific time intervals where the ICA RTT has been high.

Further, choose the pivot from among Delivery Group, Endpoint Country, Endpoint City, Endpoint OS, Connector, Gateway, and Workspace version to plot the session distribution. For example, selecting the Delivery Group pivot results in sessions plotted based on Delivery Groups. Use the chart to identify if sessions of a specific Delivery Group have high ICA RTT. Performance of sessions from Delivery Groups delivering business critical applications can be monitored easily using Visual Summary.

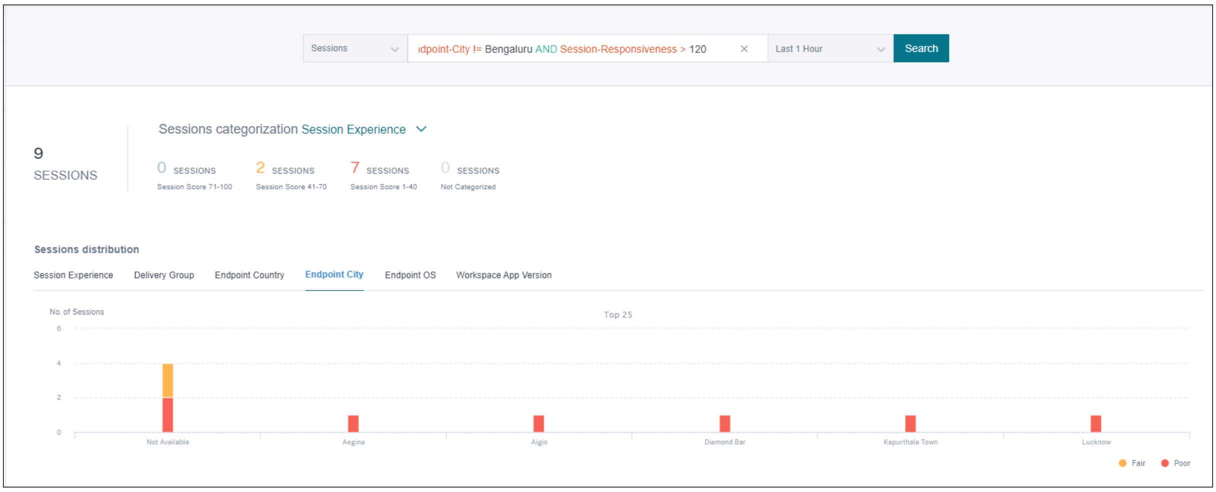


Sessions | Launch-Status = "Succeeded" | 01/25/2021 11:30:00 – 02/01/2021 11:30:00

Session Responsiveness : Poor | Session Protocol : Not Available | Session Protocol : HDX

Filters:
- Session Responsiveness: ☑ Poor 73, ☐ Excellent 659, ☐ Not Categori... 383, ☐ Fair 347
- Session Protocol: ☑ HDX 1.4K, ☑ Not Available 1, ☐ Console 41

Use case - Access Visual Summary using the Search menu You can visualize the result of your custom search query on the Sessions self-service view. In the **Search** tab, select **Sessions** under the **Performance** section. Enter your search query and click **Search**. To further customize the visualization of the results, choose the session categorization and distribution criteria.



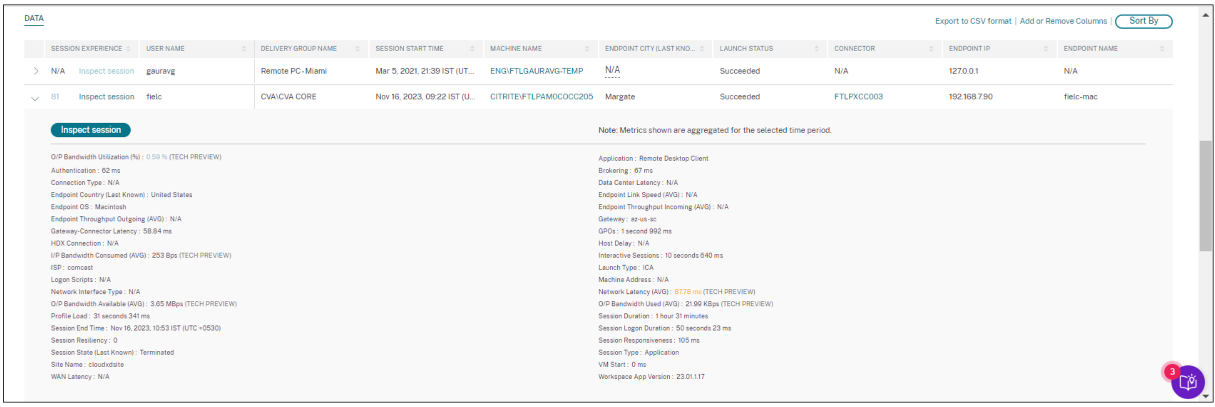
Sessions | ıdpoint-City != Bengaluru AND Session-Responsiveness > 120 | Last 1 Hour

The preceding example shows a query returning sessions with poor Session Responsiveness and not located in `Bengaluru`. Further pivoting on the Endpoint City gives visibility into other locations from where sessions have high ICA RTT.

This feature is especially useful in reporting, you can also save and reuse the query.

Tabular data

This Sessions self-service view provides important performance metrics related to sessions in tabular format. Expanding a row displays session metrics that are relevant for the session state. If the session was in a disconnected state during the selected time interval, session metrics related to responsiveness and bandwidth, that are not applicable for disconnected sessions are not displayed. For a failed session, the failure reason and type are displayed to help triage the reason for the session failure. Any columns added to the table that are not relevant for the session state is displayed as "–".



SESSION EXPERIENCE		USER NAME	DELIVERY GROUP NAME	SESSION START TIME	MACHINE NAME	ENDPOINT CITY (LAST KNO...	LAUNCH STATUS	CONNECTOR	ENDPOINT IP	ENDPOINT NAME
N/A	Inspect session	gauravg	Remote PC - Miami	Mar 5, 2021, 21:39 IST (UT...	ENG\FTLGAURAVG-TEMP	N/A	Succeeded	N/A	127.0.0.1	N/A
81	Inspect session	fielc	CVA\CVA CORE	Nov 16, 2023, 09:22 IST (U...	CITRITE\FTLPAM0COCC205	Margate	Succeeded	FTLPXCC003	192.168.7.90	fielc-mac

Note: Metrics shown are aggregated for the selected time period.

O/P Bandwidth Utilization (%) : 0.59 % (TECH PREVIEW)
Authentication : 62 ms
Connection Type : N/A
Endpoint Country (Last Known) : United States
Endpoint OS : Macintosh
Endpoint Throughput Outgoing (AVG) : N/A
Gateway-Connector Latency : 58.84 ms
HDX Connection : N/A
I/P Bandwidth Consumed (AVG) : 253 Bps (TECH PREVIEW)
ISP : comcast
Logon Scripts : N/A
Network Interface Type : N/A
O/P Bandwidth Available (AVG) : 3.65 MBps (TECH PREVIEW)
Profile Load : 31 seconds 341 ms
Session End Time : Nov 16, 2023, 10:53 IST (UTC +0530)
Session Resiliency : 0
Session State (Last Known) : Terminated
Site Name : cloudxdsite
WAN Latency : N/A

Application : Remote Desktop Client
Brokering : 67 ms
Data Center Latency : N/A
Endpoint Link Speed (AVG) : N/A
Endpoint Throughput Incoming (AVG) : N/A
Gateway : az-us-sc
GPOs : 1 second 992 ms
Host Delay : N/A
Interactive Sessions : 10 seconds 640 ms
Launch Type : ICA
Machine Address : N/A
Network Latency (AVG) : 87.78 ms (TECH PREVIEW)
O/P Bandwidth Used (AVG) : 21.99 KBps (TECH PREVIEW)
Session Duration : 1 hour 31 minutes
Session Logon Duration : 50 seconds 23 ms
Session Responsiveness : 105 ms
Session Type : Application
VM Start : 0 ms
Workspace App Version : 23.01.1.17

- **Session Experience:** Session Experience score based on the performance factors.
- **Session specific metrics:** Metrics such as the session start time and launch status.
- **Data Center Latency:** This ICARTT subfactor is the latency measured from the Citrix Gateway to the server. A high Data Center Latency indicates delays due to a slow server network.
- **WAN Latency:** This ICARTT subfactor is the latency measured from the virtual machine to the Gateway. A high WAN Latency indicates sluggishness in the endpoint machine network. WAN latency increases when the user is geographically farther from the Gateway.
- **Host Latency:** This ICARTT subfactor measures the Server OS induced delay. A high ICA RTT with low Data Center and WAN latencies, and a high Host Latency indicates an application error on the host server.

  > Note:
  >
  > To get the ICARTT subfactor metrics, configure L7 latency thresholding. For more information, see L7 Latency Thresholding.

- **Endpoint City (last known)** and **Endpoint Country (last known):** Last known location.
- **Workspace App version and Endpoint OS**
- **Average Profile Size:** Average profile size for the selected duration.
- **Connection Type:** `internal` for direct connections from machine to endpoint, `external` for connections through gateway.

- **Gateway address:** Gateway address for external connections.
- **Machine FQDN:** Machine address with port id for internal connections.
- **Launch Status:** Displays the launch status of the session as `Succeeded`, `Failed`, or `User Terminated` - in case the user voluntarily closed the session.
  Launch Status is supported with endpoints running:

  - Citrix Workspace app 20.9.0 or later for Android
  - Citrix Workspace app 20.8.0 or later for iOS
  - Citrix Workspace app 20.8.0 or later for Windows

  Launch Status is not available with endpoints running Workspace on the web.
- **Network Interface Type** Displays the network interface type of the client. Possible values for Network Interface Type are:

  - Ethernet
  - Wi-Fi
  - TokenRing
  - FDDI
  - PPP
  - Loopback
  - Slip
  - Other
  - UnknownType

  The value of this field is N/A for endpoints running Citrix Workspace app Windows version earlier than 2105.
- **Bandwidth and Latency metrics (Preview)** Displays the following values:

  - Average values of the bandwidth metrics - Input Bandwidth Consumed, Output Bandwidth Available, Output Bandwidth Used,
  - Percentage value of Output Bandwidth Utilization, and
  - Average value of the Network Latency

  These metrics are available out-of-the-box for Citrix DaaS (formerly the Citrix Virtual Apps and Desktops service).

  - You need machines running Citrix Virtual Apps and Desktops 7 2112 or later.
  - The **VDA data collection for Analytics** policy must be set to **Allowed** on machines to enable the Monitoring service to collect machine related performance metrics. For more information, see Policy for collecting data for Analytics.
- **Session Duration** Displays the length of the session.

- **ISP** Displays the Internet Service provider serving on the endpoint. This metric is available if the endpoint is running Citrix Workspace app for Windows versions 1912 and later. For more details regarding the availability of this feature with Citrix Workspace app for other OS, see the Workspace app matrix.
- **Connector** Displays the name of the connector. This column helps identify connectors through which sessions with poor responsiveness are routed. Connector is an optional column that can be added to the Sessions self-service view by clicking Add or Remove columns.

  Clicking the Connector name link opens the Connector Statistics view. For more information, see the Connector Statistics article.
- **Gateway** Displays the name of the Gateway for on-premises and the Gateway Point of Presence for Cloud customers. This information helps identify the gateways through which sessions with poor responsiveness are routed. It also helps identify the distribution of sessions routed from a user location through different Gateway PoPs. Gateway is an optional column that can be added to the Sessions self-service view by clicking **Add or Remove columns**.

  The value of the **Connector** might be N/A for any of the following reasons:

  - There was a delay in receiving Connector events.
  - Cloud Connector version is earlier than 16.0.0.7.

  Also, ensure that the data processing via your Cloud Connectors is on. To do this, you can check the **Data processing on** state on the Cloud Connectors tile from the **Performance** tab in **Citrix Analytics** > **Data Sources**.
- **Gateway-Connector Latency** Displays the latency value from the Connector to the Gateway Point of Presence that was used to establish the session. Gateway-Connector Latency is an optional column that can be added to the Sessions self-service view by clicking **Add or Remove columns**.
- **Launch Type** Displays if sessions are ICA based or Connection leased. This information helps find the number of sessions that were launched via Connection Lease. You can use the failure reason to troubleshoot Connection leased sessions that have failed to launch.
- **Endpoint Link Speed (Avg)** Link speed helps identify if the poor session experience was due to low speed.
- **Endpoint Throughput Incoming (Avg)** Displays the total bytes received.
- **Endpoint Throughput Outgoing (Avg)** Displays the total bytes sent.

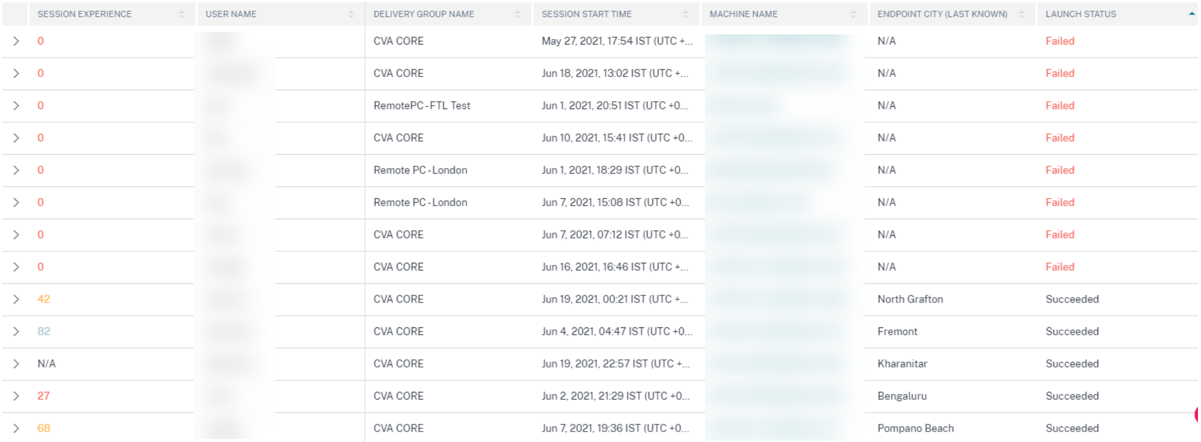
  > **Note:**
  >
  > The Endpoint metrics require that the StoreFront server of your on-premises Site deployment is configured with Citrix Analytics. For more information, see Onboard Virtual Apps

> and Desktops sites using StoreFront.

- **Endpoint IP** Displays the IP address of the endpoint.
- **Endpoint Name** Displays the IP name of the endpoint.
- **Failure Type** –Indicates the kind of failure from among the following values:
  - Client Connection Failure
  - Machine Failure
  - No Capacity Available
  - No Licenses Available
  - Configuration
  - Communication Failure
  - Unknown error
- **Failure Reasons** –Indicates the exact reason for the failure. You can resolve the failure using the corresponding recommended steps in Citrix Director failure reasons and troubleshooting. The failure columns are especially helpful when you navigate from the failed session count on the dashboard to a filtered set of failed sessions in Sessions self-service view.
- **Session Type** –Indicates if the session is an application or a desktop session.
- **Session State** –Indicates the state of the session from among the following values:
  - Unknown
  - Connected
  - Disconnected
  - Terminated
  - PreparingSession
  - Active
  - Reconnecting
  - NonBrokeredSession
  - Other
  - Pending
- **Session End Time** –Indicates the time at which the session ended.

Click the **Inspect Session** link from the Self-service view for Sessions to open the Session Details view for the session.

Tabular data on the Session-based self-service view is **color coded** to indicate the excellent, fair, or poor category the metrics belong to. This categorization is based on the individual threshold levels of the metrics. The thresholds are calculated dynamically, for more information, see How are Dynamic Thresholds calculated?.



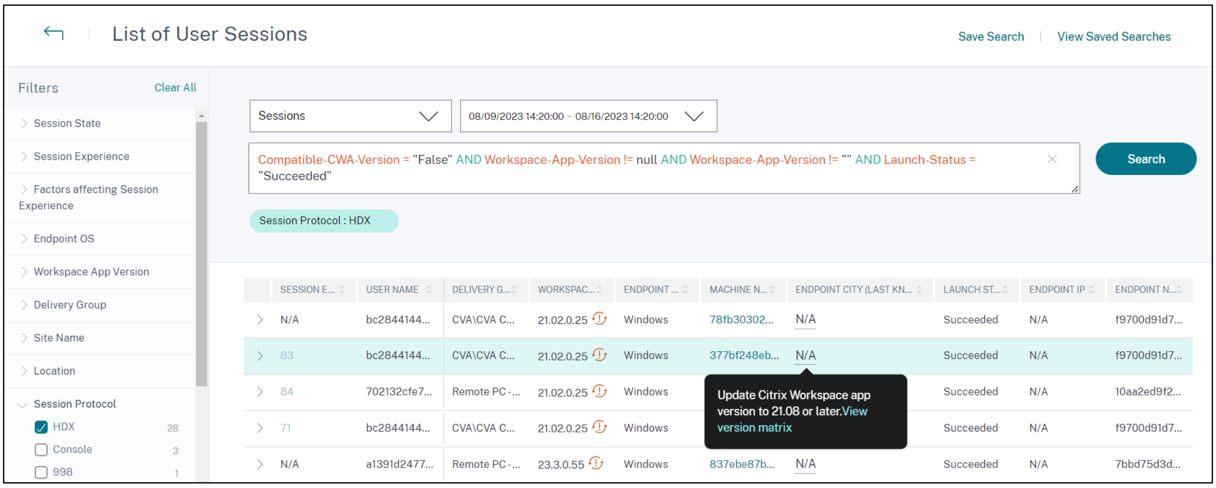
	SESSION EXPERIENCE	USER NAME	DELIVERY GROUP NAME	SESSION START TIME	MACHINE NAME	ENDPOINT CITY (LAST KNOWN)	LAUNCH STATUS
>	0	[redacted]	CVA CORE	May 27, 2021, 17:54 IST (UTC +...	[redacted]	N/A	Failed
>	0	[redacted]	CVA CORE	Jun 18, 2021, 13:02 IST (UTC +...	[redacted]	N/A	Failed
>	0	[redacted]	RemotePC - FTL Test	Jun 1, 2021, 20:51 IST (UTC +0...	[redacted]	N/A	Failed
>	0	[redacted]	CVA CORE	Jun 10, 2021, 15:41 IST (UTC +0...	[redacted]	N/A	Failed
>	0	[redacted]	Remote PC - London	Jun 1, 2021, 18:29 IST (UTC +0...	[redacted]	N/A	Failed
>	0	[redacted]	Remote PC - London	Jun 7, 2021, 15:08 IST (UTC +0...	[redacted]	N/A	Failed
>	0	[redacted]	CVA CORE	Jun 7, 2021, 07:12 IST (UTC +0...	[redacted]	N/A	Failed
>	0	[redacted]	CVA CORE	Jun 16, 2021, 16:46 IST (UTC +...	[redacted]	N/A	Failed
>	42	[redacted]	CVA CORE	Jun 19, 2021, 00:21 IST (UTC +...	[redacted]	North Grafton	Succeeded
>	82	[redacted]	CVA CORE	Jun 4, 2021, 04:47 IST (UTC +0...	[redacted]	Fremont	Succeeded
>	N/A	[redacted]	CVA CORE	Jun 19, 2021, 22:57 IST (UTC +...	[redacted]	Kharanitar	Succeeded
>	27	[redacted]	CVA CORE	Jun 2, 2021, 21:29 IST (UTC +0...	[redacted]	Bengaluru	Succeeded
>	68	[redacted]	CVA CORE	Jun 7, 2021, 19:36 IST (UTC +0...	[redacted]	Pompano Beach	Succeeded

Similar color coding is applied to the metrics available on expanding the rows on the Session-based self-service view.

Color coding visually aids in focusing on and identifying factors that are contributing to poor performance. It also gives an overview of the performance across various factors for the sessions that have been filtered to be seen in the current view.

Tool tips elaborating the reason for N/A values are now in available in the Sessions self-service view for the following endpoint-related metrics:

- Workspace App Version
- Endpoint Country (Last known)
- Endpoint City (Last known)
- Endpoint Link Speed (P95)
- Endpoint Throughput Incoming (P95)
- Endpoint Throughput Outgoing (P95)
- ISP (Internet Service Provider)



List of User Sessions

08/09/2023 14:20:00 - 08/16/2023 14:20:00

Compatible-CWA-Version = "False" AND Workspace-App-Version != null AND Workspace-App-Version != "" AND Launch-Status = "Succeeded"

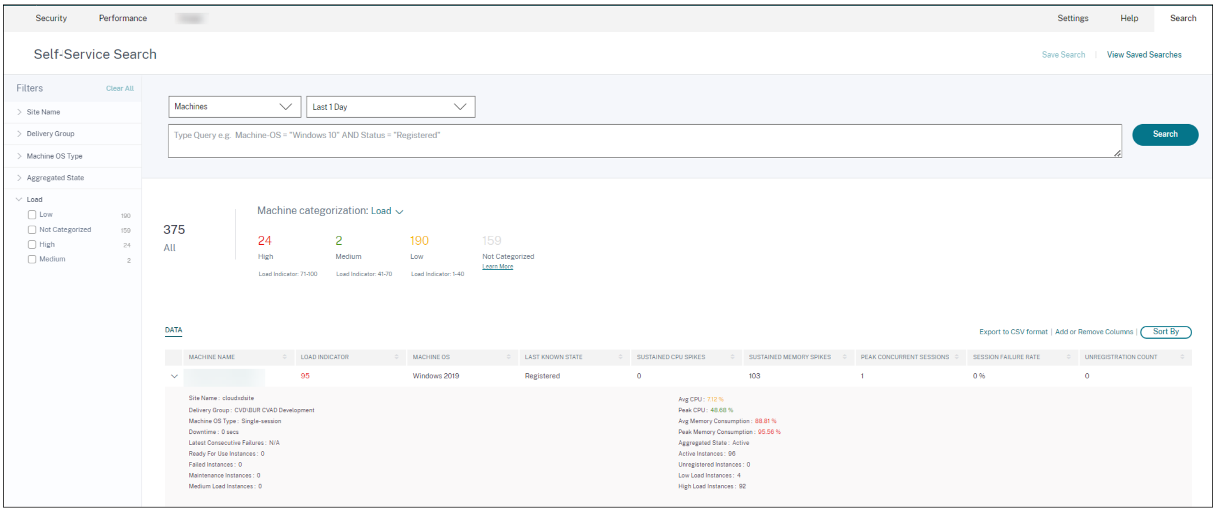
Session Protocol : HDX

	SESSION E...	USER NAME	DELIVERY G...	WORKSPAC...	ENDPOINT ...	MACHINE N...	ENDPOINT CITY (LAST KN...	LAUNCH ST...	ENDPOINT IP	ENDPOINT N...
>	N/A	bc2844144...	CVA\CVA C...	21.02.0.25	Windows	78fb30302...	N/A	Succeeded	N/A	f9700d91d7...
>	83	bc2844144...	CVA\CVA C...	21.02.0.25	Windows	377bf248eb...	N/A	Succeeded	N/A	f9700d91d7...
>	84	702132cfe7...	Remote PC -...	21.02.0.25	Windows			Succeeded	N/A	10aa2ed9f2...
>	71	bc2844144...	CVA\CVA C...	21.02.0.25	Windows			Succeeded	N/A	f9700d91d7...
>	N/A	a1391d2477...	Remote PC -...	23.3.0.55	Windows	837ebe87b...	N/A	Succeeded	N/A	7bbd75d3d...

Update Citrix Workspace app version to 21.08 or later.View version matrix

Tooltips are displayed on the N/A values of these metrics with the reasons as incorrect StoreFront onboarding, or sessions launched from endpoints that run unsupported OS platforms or incompatible Citrix Workspace app versions.

Self-service search for Machines



Load: □ Low 190, □ Not Categorized 159, □ High 24, □ Medium 2

Machines | Last 1 Day

Type Query e.g. Machine-OS = "Windows 10" AND Status = "Registered"

375 All

Machine categorization: Load

24 High (Load Indicator: 71-100) · 2 Medium (Load Indicator: 41-70) · 190 Low (Load Indicator: 1-40) · 159 Not Categorized

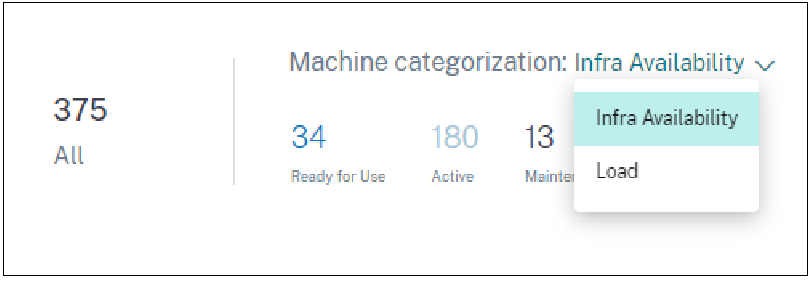
MACHINE NAME	LOAD INDICATOR	MACHINE OS	LAST KNOWN STATE	SUSTAINED CPU SPIKES	SUSTAINED MEMORY SPIKES	PEAK CONCURRENT SESSIONS	SESSION FAILURE RATE	UNREGISTRATION COUNT
[redacted]	95	Windows 2019	Registered	0	103	1	0 %	0

Site Name : cloudxdsite
Delivery Group : CVD\BUR CVAD Development
Machine OS Type : Single-session
Downtime : 0 secs
Latest Consecutive Failures : N/A
Ready For Use Instances : 0
Failed Instances : 0
Maintenance Instances : 0
Medium Load Instances : 0

Avg CPU : 7.12 %
Peak CPU : 48.68 %
Avg Memory Consumption : 88.81 %
Peak Memory Consumption : 95.56 %
Aggregated State : Active
Active Instances : 96
Unregistered Instances : 0
Low Load Instances : 4
High Load Instances : 92

You can access the Machines based self-service view from the **Search** menu in your Citrix Analytics. In the list of services on the **Search** tab, under the **Performance** section, select **Machines**. The Machines based self-service view is also available when you drill down from black hole machines. To access the view, on the User experience dashboard, in the **Failure Insights** section, click the **Black hole machines** number.

The Machines self-service view provides machine categorization based on availability and load. In the Machine categorization dropdown, select Infra Availability or Load.



375 All

Machine categorization: Infra Availability

34 Ready for Use · 180 Active · 13 Mainte

.

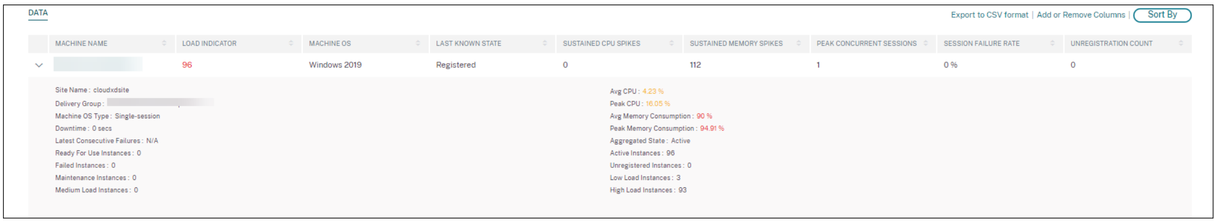
Machines are categorized as follows based on availability:

- Ready for Use - Machines in a healthy state with no active sessions.
- Active –Machines with at least one active session.
- Maintenance –Machines in Maintenance mode, no connections are accepted.
- Unregistered - Machines not registered with the Broker Service.

Machines are categorized based load using the Load Indicator of the machines. The load indicator for a machine is calculated based on the resource utilization, the overall user experience on the machine and the number of sessions hosted in the case of multi-session OS machines. The value is aggregated over the selected time period. This helps identify machines that are underutilized or overloaded. This enables proactive action to ensure optimal usage of the infrastructure and improve the overall machine performance. Machines are categorized as follows based on load:

- High(red) - Machines with Load Indicator in the range 71-100
- Medium(green) –Machines with Load Indicator in the range 41-70
- Low(amber) –Machines with Load Indicator in the range 1-40.
- Not Categorized - The machines might not be categorized if they are in shutdown, unregistered or failed state or if resource data is not available for the machine.

The Machines self-service view provides the important performance metrics related to machines.



MACHINE NAME	LOAD INDICATOR	MACHINE OS	LAST KNOWN STATE	SUSTAINED CPU SPIKES	SUSTAINED MEMORY SPIKES	PEAK CONCURRENT SESSIONS	SESSION FAILURE RATE	UNREGISTRATION COUNT
[redacted]	96	Windows 2019	Registered	0	112	1	0 %	0

Site Name : cloudxdsite
Delivery Group : [redacted]
Machine OS Type : Single-session
Downtime : 0 secs
Latest Consecutive Failures : N/A
Ready For Use Instances : 0
Failed Instances : 0
Maintenance Instances : 0
Medium Load Instances : 0

Avg CPU : 4.23 %
Peak CPU : 16.05 %
Avg Memory Consumption : 90 %
Peak Memory Consumption : 94.91 %
Aggregated State : Active
Active Instances : 96
Unregistered Instances : 0
Low Load Instances : 3
High Load Instances : 93

.

- **Status**: Last known machine state - `Registered`, `Unregistered`, `Powered off`, or`Failed`.
- **Sustained CPU Spikes**: Number of CPU spikes in the selected time period. Each CPU spike refers to sustained CPU utilization above the threshold of 80% for 5 min or more.
- **Sustained Memory Spikes:** Number of memory spikes in the selected time period. Each memory spike refers to sustained memory consumption above the threshold of 80% for 5 min or more.
- **Peak Concurrent Sessions:** Number of sessions running concurrently on the machine.
- **Unregistration Count:** Number of times the machine transitioned into an unregistered state during the selected period.
- **<`Aggregated State`/> Instances:** Aggregated state represents the least favorable state the machine has been in, from among the Ready for use, Active, Maintenance, Unregistered and Failed machine states in that order. <`Aggregated State`> Instances represent the number of instances (15 min intervals) the machine was in a specific Aggregated state during the selected period. The column names are available as Ready for use Instances, Active Instances, Maintenance Instances, Unregistered Instances, and Failed Instances.
- **Latest Consecutive Failures:** Number of consecutive session failures in the last 5 min.
- **Downtime:** Period in seconds during which the machine was in `Unregistered`, `Failed`, or `Powered off` state during the selected interval.
- **Avg CPU:** Average CPU utilization in the selected time period.
- **Peak CPU:** Maximum CPU utilization recorded in the selected time period.
- **Avg Memory Consumption:** Average memory consumption in the selected time period.

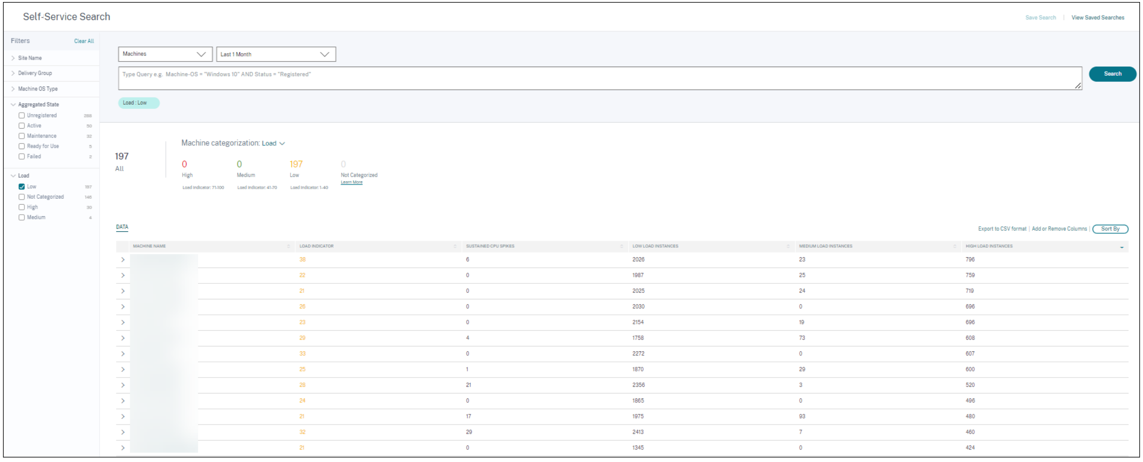
- **Peak Memory Consumption:** Maximum memory consumption recorded in the selected time period.
- **Load Indicator:** Load Indicator is a score indicating the load on the machine. It is calculated based on the resource utilization, the overall user experience on the machine and the number of sessions hosted in the case of multi-session OS machines. The value is aggregated over the selected time period.
- **High, Medium and Low Load Instances:** Number of instances during the selected period when the machine was in High Load (Load Indicator: 71-100), Medium Load (Load Indicator: 41-70) and Low Load (Load Indicator: 1-40). These metrics help quantify and evaluate the load on the specific machine.

This view helps admins identify specific machines contributing to poor user experience and correlate the machine resource parameters with the performance factor metrics.
Clicking the machine name on the Machines based self-service view opens the Machine Statistics view. For more information, see the Machine Statistics article.

> **Note:**
>
> The values of the metrics, Avg CPU, and Avg memory consumption is calculated only in the duration when the machine was overloaded.

Use case - Optimize Machine Usage using Machine Load metrics

1. Go to Machines self-service view. Choose a suitable time period.
2. Expand the **Load** facet and select the **Low** category. Machines with aggregated low load for the selected time period are displayed.
3. Now, add the High, Medium, and Low Load Instances columns to the view.
4. Sort the view on High Load Instances. The screenshot below shows the first page of the sorted view with machines that have aggregated low load during the past one week but a high number of high load instances.



Machines | Last 1 Month

Type Query e.g. Machine-OS = "Windows 10" AND Status = "Registered"

Load : Low

197 All

Machine categorization: Load

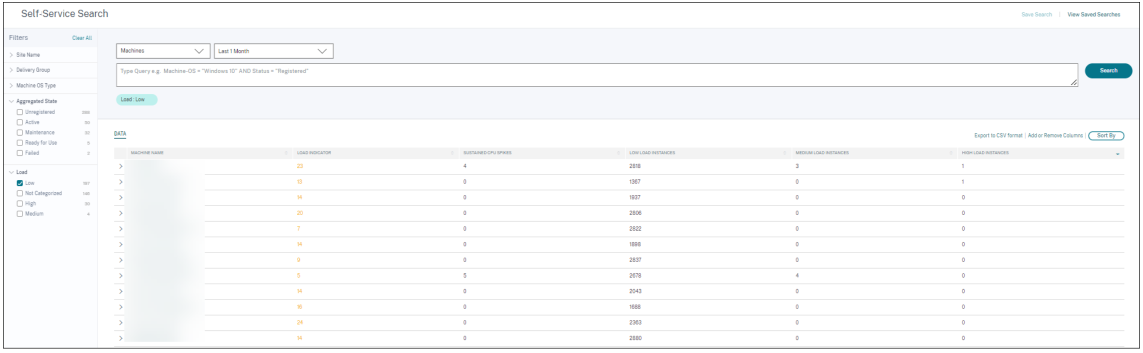
0 High (Load Indicator: 71-100) | 0 Medium (Load Indicator: 41-70) | 197 Low (Load Indicator: 1-40) | 0 Not Categorized (Learn More)

DATA

MACHINE NAME	LOAD INDICATOR	SUSTAINED CPU SPIKES	LOW LOAD INSTANCES	MEDIUM LOAD INSTANCES	HIGH LOAD INSTANCES
	38	6	2026	23	796
	22	0	1987	25	759
	21	0	2025	24	719
	26	0	2030	0	696
	23	0	2154	19	696
	29	4	1758	73	608
	33	0	2272	0	607
	25	1	1870	29	600
	28	21	2356	3	520
	24	0	1865	0	496
	21	17	1975	93	480
	32	29	2413	7	460
	21	0	1345	0	424

This indicates that though the overall load on these machines is low, the machines are well used. Click the machine name to see the Machine Statistics page. Analyze the usage pattern during the day to understand if more machines need to be onboarded onto the environment.

5. Scrolling to the last few machines in this list shows machines with low aggregate load and the least number of high load instances.



Aggregated State:
- □ Unregistered 288
- □ Active 50
- □ Maintenance 32
- □ Ready for Use 5
- □ Failed 2

Load:
- ☑ Low 197
- □ Not Categorized 146
- □ High 30
- □ Medium 4

Machines | Last 1 Month

Type Query e.g. Machine-OS = "Windows 10" AND Status = "Registered"

Load : Low

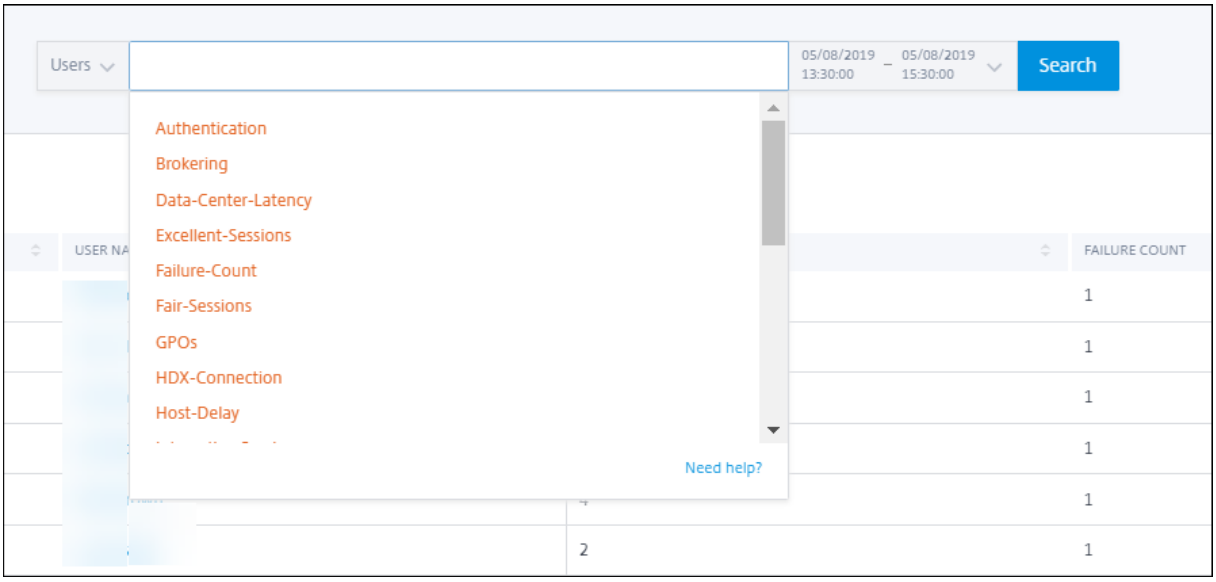
MACHINE NAME	LOAD INDICATOR	SUSTAINED CPU SPIKES	LOW LOAD INSTANCES	MEDIUM LOAD INSTANCES	HIGH LOAD INSTANCES
[redacted]	23	4	2818	3	1
[redacted]	13	0	1367	0	1
[redacted]	14	0	1937	0	0
[redacted]	20	0	2806	0	0
[redacted]	7	0	2822	0	0
[redacted]	14	0	1898	0	0
[redacted]	9	0	2837	0	0
[redacted]	5	5	2678	4	0
[redacted]	14	0	2043	0	0
[redacted]	16	0	1688	0	0
[redacted]	24	0	2363	0	0
[redacted]	14	0	2880	0	0

Click the machine name to see the Machine Statistics page and analyze the usage pattern. Also, the name of the Catalog the machine belongs to, is available here. This helps identify the least used machines that could possibly be shut down or switched on during specific periods during the day to reduce cost.

Using the Load facet to identify the aggregated load on the machines, and the instances columns to identify the machine load pattern during the time period helps optimize the infrastructure as per usage.

Specify search query to filter events

When you place your cursor in the search box, you get the list of search suggestions relevant for the Citrix Analytics for Performance. Use the search suggestions to specify your query and filter the events.



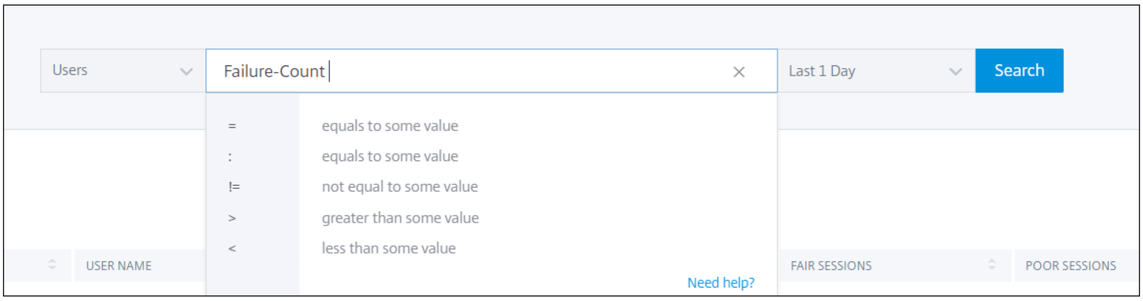
Authentication
Brokering
Data-Center-Latency
Excellent-Sessions
Failure-Count
Fair-Sessions
GPOs
HDX-Connection
Host-Delay

USER NA		FAILURE COUNT
[redacted]		1
[redacted]		1
[redacted]		1
[redacted]		1
[redacted]	4	1
[redacted]	2	1

You can also use operators in your search queries to narrow the focus of your search. For more information on the valid operators, see Use search query in the search box to filter events.

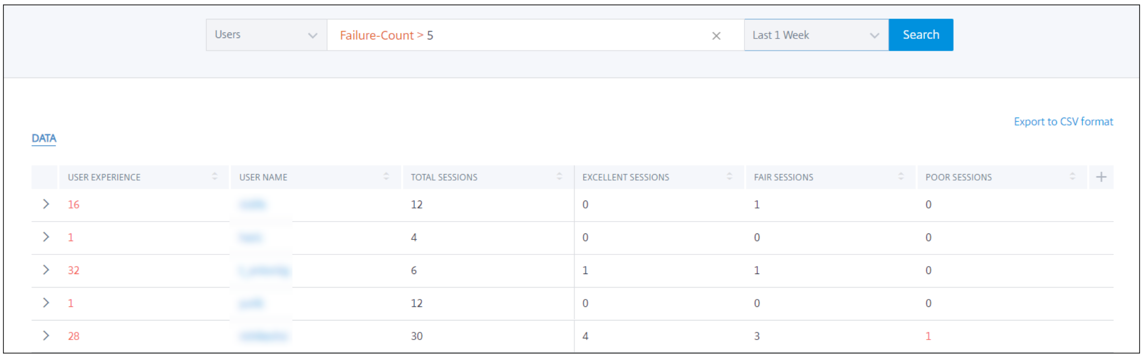
For example, you want to search events for users with Failure-count more than 5 in the past week. Specify the following query.

1. Click the search bar and select the **Failure-count** field.
2. Click **Failure-count**, select the > sign, and then specify the value "5".



=	equals to some value
:	equals to some value
!=	not equal to some value
>	greater than some value
<	less than some value

3. Click the time period drop-down list and select **Last 1 week**



Failure-Count > 5

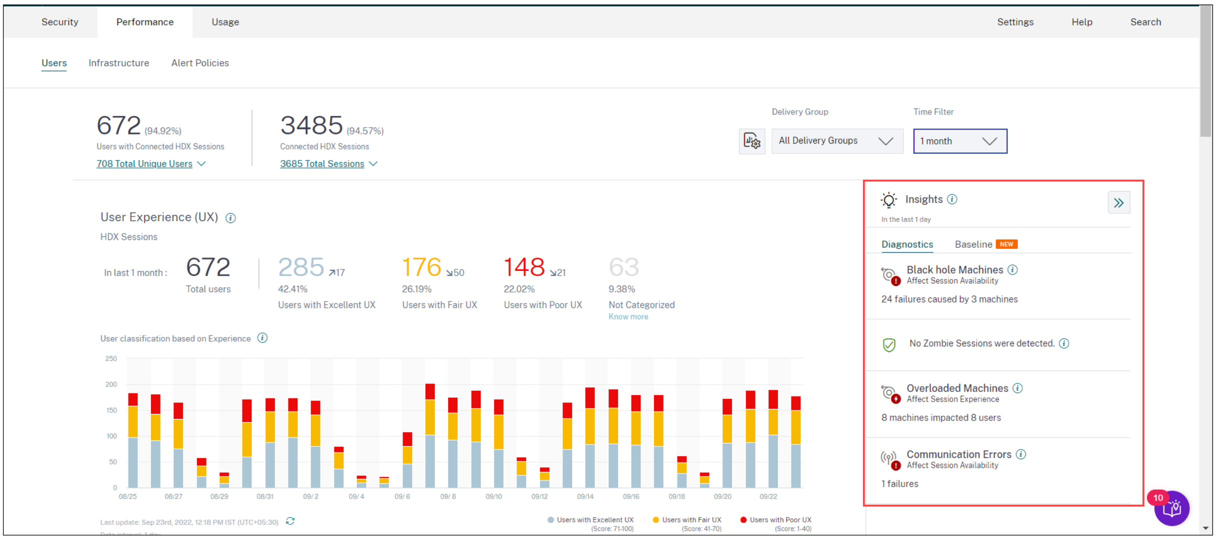
USER EXPERIENCE	USER NAME	TOTAL SESSIONS	EXCELLENT SESSIONS	FAIR SESSIONS	POOR SESSIONS
16	[redacted]	12	0	1	0
1	[redacted]	4	0	0	0
32	[redacted]	6	1	1	0
1	[redacted]	12	0	0	0
28	[redacted]	30	4	3	1

4. Click **Search** to view the events based on your search query.

Insights

September 25, 2023

The **Insights** panel provides information on the root causes for session failures in your environment. Drilling deeper into specific metrics with these insights helps troubleshoot and resolve session failures faster. Failure Insights specifically help administrators to improve the session availability, which is an important factor that determines user experience.
These insights are designed to aid in proactive monitoring of the user experience. Hence, Insights are displayed for a maximum duration of the 1 day even if a 1 month or 1 week time period is selected on the dashboard.



672 (94.92%) Users with Connected HDX Sessions
708 Total Unique Users

3485 (94.57%) Connected HDX Sessions
3685 Total Sessions

Delivery Group: All Delivery Groups
Time Filter: 1 month

User Experience (UX)
HDX Sessions

In last 1 month: 672 Total users | 285 ↗17 42.41% Users with Excellent UX | 176 ↘50 26.19% Users with Fair UX | 148 ↘21 22.02% Users with Poor UX | 63 9.38% Not Categorized Know more

User classification based on Experience

Last update: Sep 23rd, 2022, 12:18 PM IST (UTC+05:30)

Insights
In the last 1 day
Diagnostics | Baseline NEW

Black hole Machines
Affect Session Availability
24 failures caused by 3 machines

No Zombie Sessions were detected.

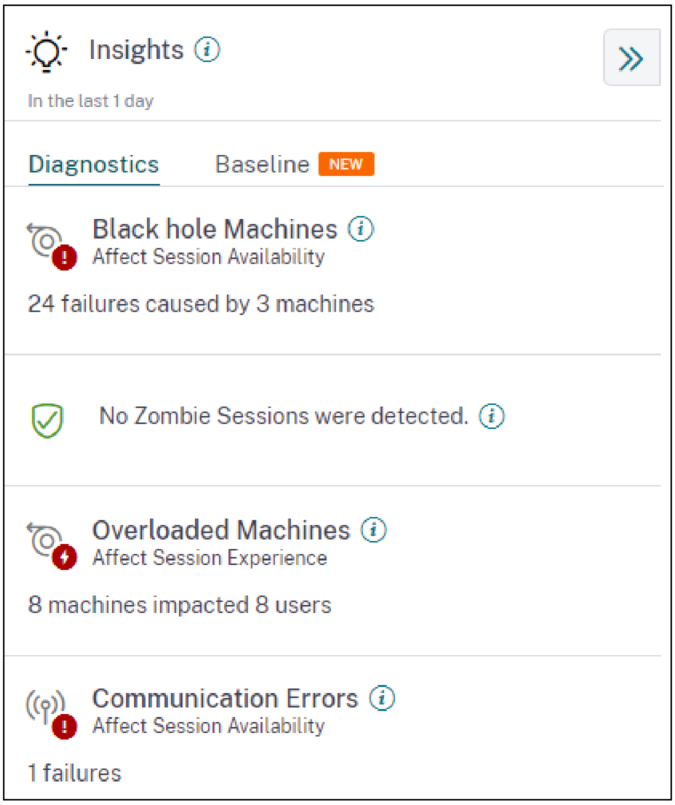
Overloaded Machines
Affect Session Experience
8 machines impacted 8 users

Communication Errors
Affect Session Availability
1 failures

Clicking the insight from the summary pane displays the insight pane with details about the insight and options to drilldown to the Self-service views.

Insights are displayed in two categories:

- **Diagnostic Insights:** The Diagnostic subpane shows crucial insights about failures that have occurred on the site. The Blackhole Machines, Zombie Sessions, Overloaded Machines, and Communication Error Diagnostic Insights are available in this subpane.
  Each insight upon expansion displays a link to the failed sessions or the machines hosting them. This leads to the self-service view containing the failed machines or sessions. Further drill-down is possible from here when you click a specific machine, session, or connector and see the timeline details and the detailed metrics.



Insights

In the last 1 day

Black hole Machines
Affect Session Availability

24 failures caused by 3 machines

No Zombie Sessions were detected.

Overloaded Machines
Affect Session Experience

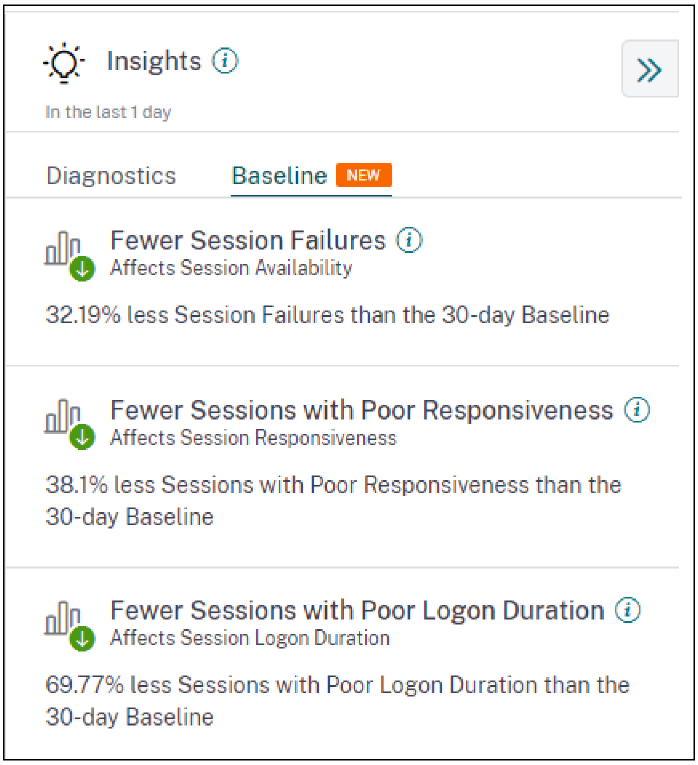
8 machines impacted 8 users

Communication Errors
Affect Session Availability

1 failures

Top failure patterns detected with respect to the site, Delivery Group, single or multi-OS session machines is displayed. These patterns are aimed to help you spot if there is a specific cohort of users experiencing the issue. In cases where the system is unable to highlight any pattern due to a distributed cohort, it is recommended to drill down to self-analyze. Also, actions that are recommended to be taken to troubleshoot and resolve the issues are shown.

- **Baseline Insights:** The Baseline Insights provide the deviation of key performance metrics from the historical baseline. These insights show if key metrics are improving or deteriorating in a glance. They help spot incident indicators quickly and take proactive steps to improve the performance of your environment.



Insights ⓘ

In the last 1 day

Fewer Session Failures ⓘ
Affects Session Availability

32.19% less Session Failures than the 30-day Baseline

Fewer Sessions with Poor Responsiveness ⓘ
Affects Session Responsiveness

38.1% less Sessions with Poor Responsiveness than the 30-day Baseline

Fewer Sessions with Poor Logon Duration ⓘ
Affects Session Logon Duration

69.77% less Sessions with Poor Logon Duration than the 30-day Baseline

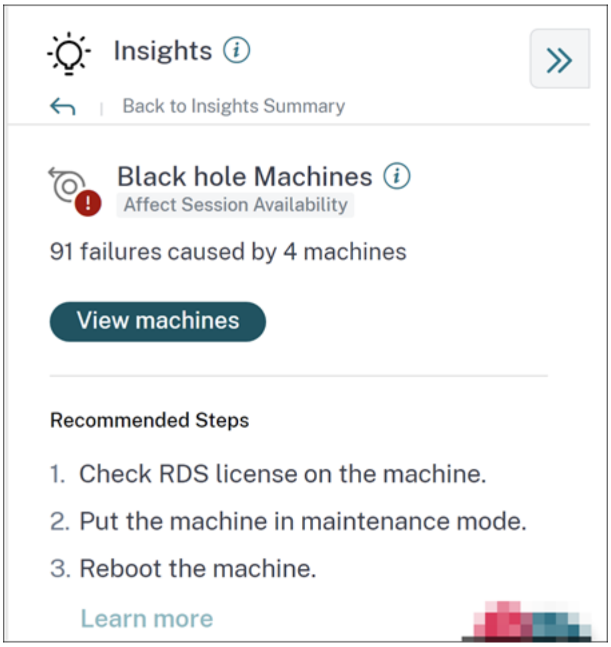
Baseline Insights for Poor Session Failures, Session Responsiveness, and Session Logon Duration are available on the **Baseline** subpane. The panes show if you have fewer or more sessions with Session Failures, Poor Session Responsiveness, and Poor Session Logon Duration.
The baseline is based on the P80 value of the metric over the last 30 days measured during the same time interval as the one for which the insight is being derived. The P80 value is used to ensure that outlier conditions like outages do not inflate the baseline.
For example, if the current time stamp is Sep 23, 2022, 02:35 PM, and you choose to see the Session Failure Baseline Insights for the last 2 hours. The baseline is calculated as the P80 value of Session Failures during the interval 012:35 p.m. - 02:35 p.m. over the last 30 days.

> **Note:**
>
> - Baseline Insights are available seven days after a new customer is onboarded.
> - Updating alert parameters also alters the calculation of the corresponding insight on the UX dashboard. For more information, see Alerts.

Diagnostic Insights: Black hole machines

Some machines in your environment though registered and appearing healthy might not service sessions brokered to them, resulting in failures. Machines that have failed to service four or more consecutive session requests are termed as Black hole machines. The reasons for these failures are related to various factors that might affect the machine, such as insufficient RDS licenses, intermittent net-

working issues, or instantaneous load on the machine. These failures do not include failures due to capacity or license availability. The presence of black hole machines in the environment increases session failures resulting in poor session availability.
The Black hole machines insights show the number of black hole machines identified in your environment during the selected time period.



91 failures caused by 4 machines

Recommended Steps

1. Check RDS license on the machine.
2. Put the machine in maintenance mode.
3. Reboot the machine.

Clicking **View machines** opens the Machines based self-service view that is filtered to show all the black hole machines in your environment during the selected time period. Here, you can analyze the individual performance metrics of the machine to identify and understand possible reasons for the machine not accepting session requests. For more information about the performance indicators available on the Machines based self-service view, see Self-service search for Machines.
Further, clicking the machine name opens the Machine Statistics view that helps correlate the resource performance parameters of the machine with the session performance parameters during the same time period. For more information see the Machine Statistics view article.

Recommended Steps to help reduce the number of black holes are provided,

- to check the RDS license status,
- to put the machine in maintenance mode, or
- to reboot the machine.

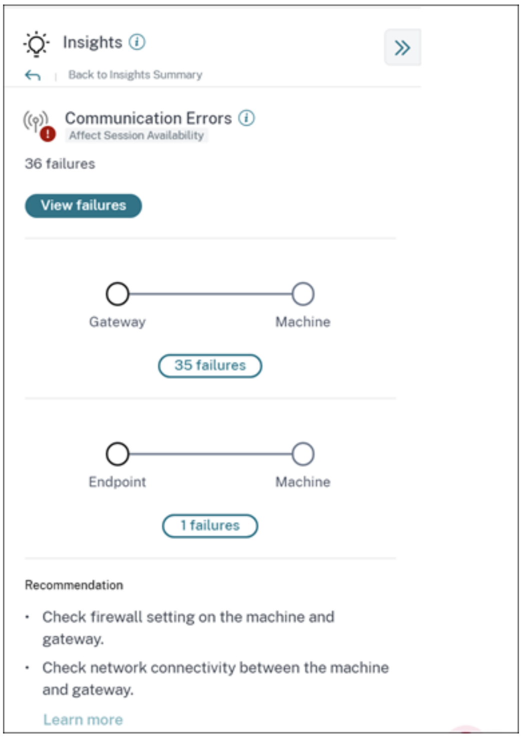
The **Patterns Detected** section shows the top three patterns noticed in black hole machines with respect to the following criteria:

- Number of black hole machines in each Delivery Group
- Number of black hole machines running single-session or multi-session OS

For more information about Black Hole Machine Alerts, see the Alerts article.

Diagnostic Insights: Communication Errors

The Communication Errors subpane lists the number of session failures due to communication errors between the endpoint (where the user launches the session) and the machine. These errors can occur due to incorrect firewall configurations or other errors on the network path.



Recommendation

- Check firewall setting on the machine and gateway.
- Check network connectivity between the machine and gateway.

Learn more

The two categories of communication errors are:

- Endpoint to machine—lists the sessions where communication errors have occurred between the endpoint and the machine.
- Gateway to machine—lists the sessions where communication errors have occurred between the gateway and the machine.

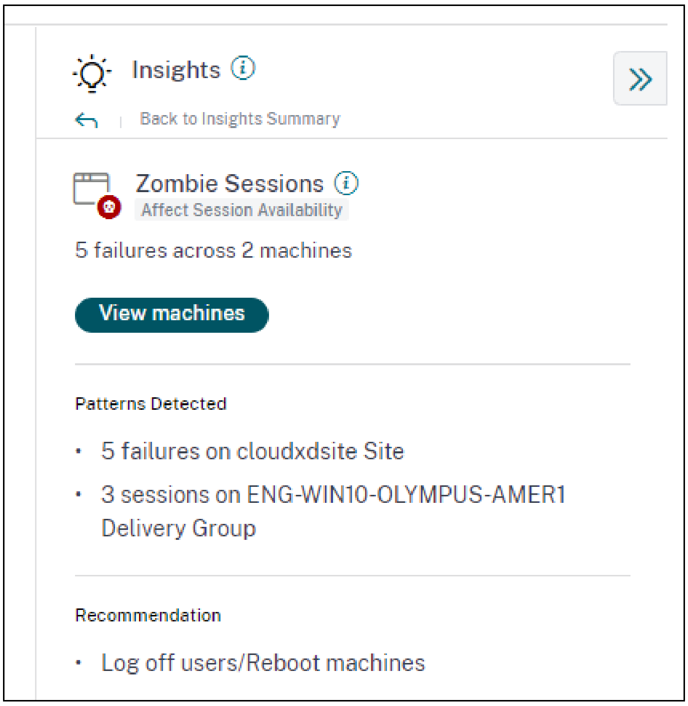
Additionally, the Communication Error subpane displays the following recommendations to resolve the errors.

- Check the firewall settings on the machine and gateway.
- Check network connectivity between the machine and gateway.

Clicking the failure number opens the sessions based self-service view that is filtered to show all the sessions that have failed due to communication errors in your environment during the selected time period. This view helps analyze the individual sessions that have failed and get a possible root cause. For more information about the indicators available on the sessions based self-service view, see Self-service search for sessions.

Diagnostic Insights: Zombie sessions

The Zombie Sessions subpane shows information on session failures that have occurred due to zombie sessions in the environment. A zombie session is an abandoned session on a single-session OS machine resulting in new session launches on the machine to fail. Attempts to launch sessions on this machine fails with an **Unavailable Capacity** error. All future session launch attempts fail until the abandoned session is terminated. Zombie Sessions insights aim to help in spotting these machines with abandoned sessions and to proactively mitigate these failures.



Insights

Back to Insights Summary

Zombie Sessions

Affect Session Availability

5 failures across 2 machines

View machines

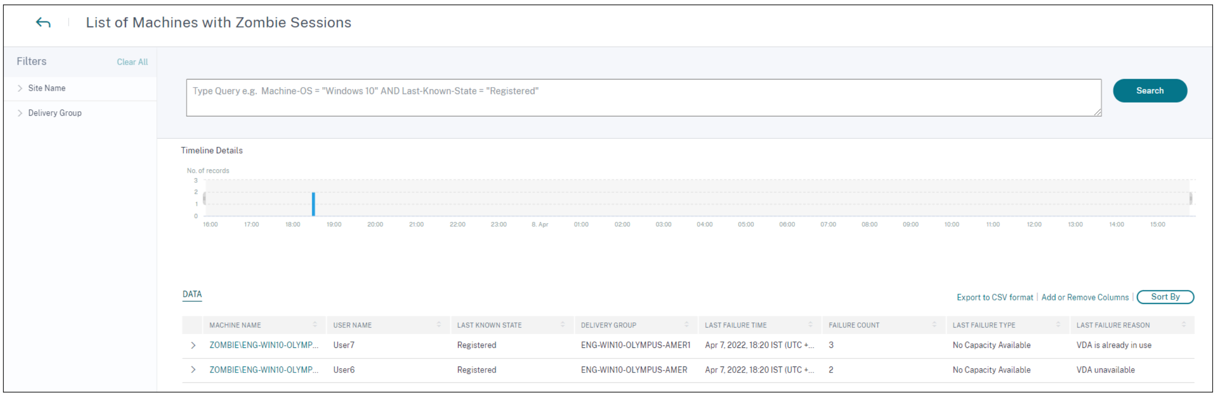
Patterns Detected

- 5 failures on cloudxdsite Site
- 3 sessions on ENG-WIN10-OLYMPUS-AMER1 Delivery Group

Recommendation

- Log off users/Reboot machines

Click **View machines** to go to the Self-service view filtered with the list of machines containing Zombie Sessions.



List of Machines with Zombie Sessions

Filters Clear All

Site Name

Delivery Group

Type Query e.g. Machine-OS = "Windows 10" AND Last-Known-State = "Registered"

Search

Timeline Details

DATA

Export to CSV format | Add or Remove Columns | Sort By

MACHINE NAME	USER NAME	LAST KNOWN STATE	DELIVERY GROUP	LAST FAILURE TIME	FAILURE COUNT	LAST FAILURE TYPE	LAST FAILURE REASON
ZOMBIE\ENG-WIN10-OLYMP…	User7	Registered	ENG-WIN10-OLYMPUS-AMER1	Apr 7, 2022, 18:20 IST (UTC +…	3	No Capacity Available	VDA is already in use
ZOMBIE\ENG-WIN10-OLYMP…	User6	Registered	ENG-WIN10-OLYMPUS-AMER	Apr 7, 2022, 18:20 IST (UTC +…	2	No Capacity Available	VDA unavailable

Here, **Failure Count** represents the number of session failures that have occurred in the selected interval. The **Last Failure Type and Reason** help root cause reasons for machines containing zombie sessions.

A Zombie session alert mail is generated when a new machine with a zombie session is detected in the environment in a 15 mins interval. For more information, see the [Alert for Machines with Zombie Sessions] Self-service search for sessions article.

Recommended actions for Zombie Sessions

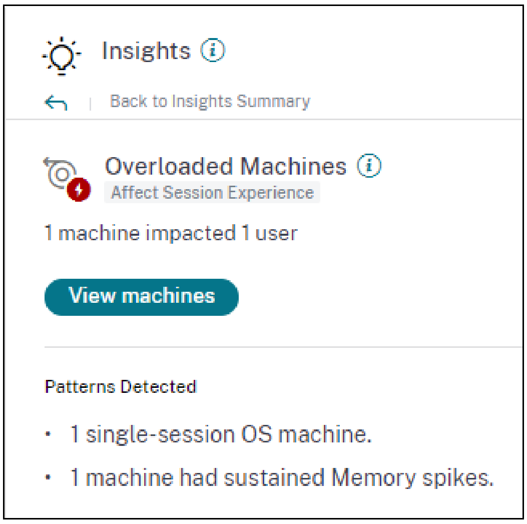
You can either log the users off or reboot the machines containing Zombie sessions.

- You can log the users out of the zombie sessions using Monitor for Citrix DaaS sites. For more information, see the Site Analytics article.
- You can reboot the machines containing zombie sessions from Performance Analytics, see the Machine actions article.

Diagnostic Insights: Overloaded Machines

Overloaded Machines Insight gives visibility into overloaded resources causing poor experience. Machines that have experienced sustained CPU spikes, or high memory usage, or both, that have lasted for 5 minutes or more, resulting in a poor user experience in the selected duration are considered to be overloaded. There might be other machines in the environment with high resource usage but not impacting the User Experience. These machines are not categorized as overloaded machines.

The Overloaded Machines Insight shows the number of overloaded machines and the number of users affected in the selected duration.



Insights

Back to Insights Summary

Overloaded Machines

Affect Session Experience

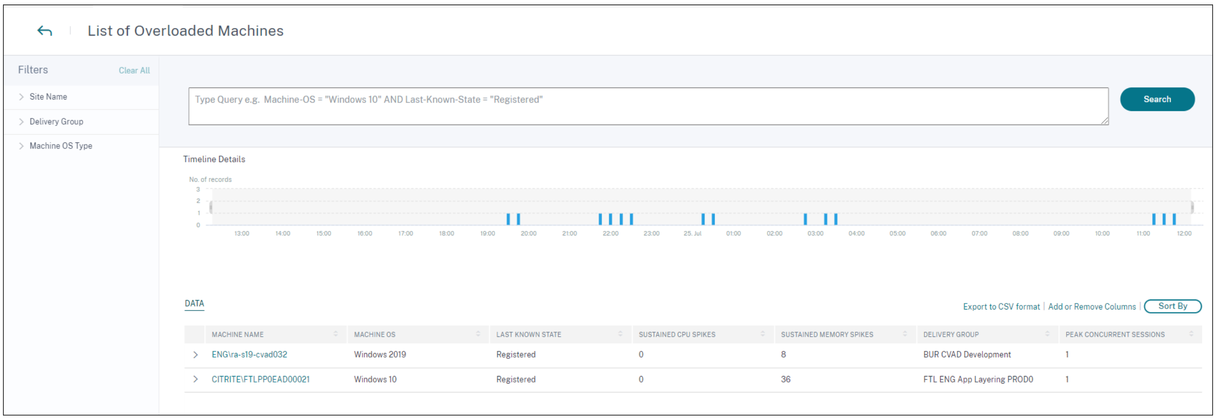
1 machine impacted 1 user

View machines

Patterns Detected

- 1 single-session OS machine.
- 1 machine had sustained Memory spikes.

Click **View Machines** to see the overloaded machines listed on the Machines self-service page for Overloaded Machines. Overloaded machines are listed with the number of Sustained Memory and CPU Spikes that have occurred on these machines during the selected interval.



Type Query e.g. Machine-OS = "Windows 10" AND Last-Known-State = "Registered"

MACHINE NAME	MACHINE OS	LAST KNOWN STATE	SUSTAINED CPU SPIKES	SUSTAINED MEMORY SPIKES	DELIVERY GROUP	PEAK CONCURRENT SESSIONS
ENG\ra-s19-cvad032	Windows 2019	Registered	0	8	BUR CVAD Development	1
CITRITE\FTLPP0EAD00021	Windows 10	Registered	0	36	FTL ENG App Layering PROD0	1

The timeline graph shows the number of machines that have been overloaded over the selected time interval plotted at a 15-minute interval.
You can further click a specific machine to see the Machine Statistics view.

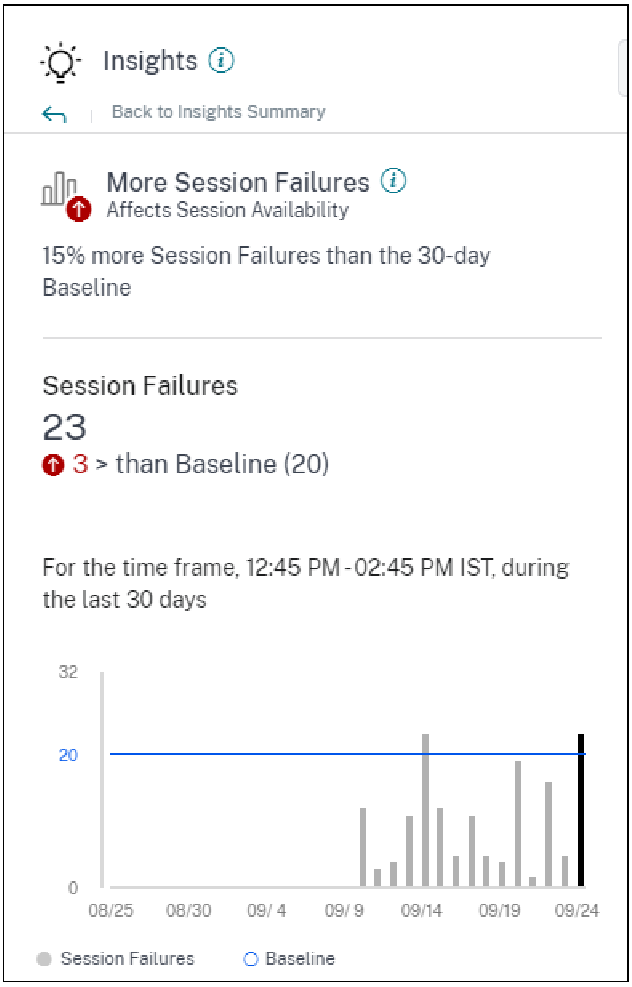
The **Patterns Detected** section shows the top three patterns noticed in overloaded machines with respect to the following criteria:

- Number of overloaded machines in each Delivery Group
- Number of overloaded machines running single-session or multi-session OS
- Number of overloaded machines with Sustained Memory or CPU spikes

For more information about Overloaded Machine Alerts, see the Alerts article.

Baseline Insights: Session Failures

This insight shows the deviation of the session failure count from the 30-day baseline value. The baseline value is calculated as the P80 value of the session failure count measured during the last 30 days for the same time frame.



More Session Failures
Affects Session Availability

15% more Session Failures than the 30-day Baseline

Session Failures
23
3 > than Baseline (20)

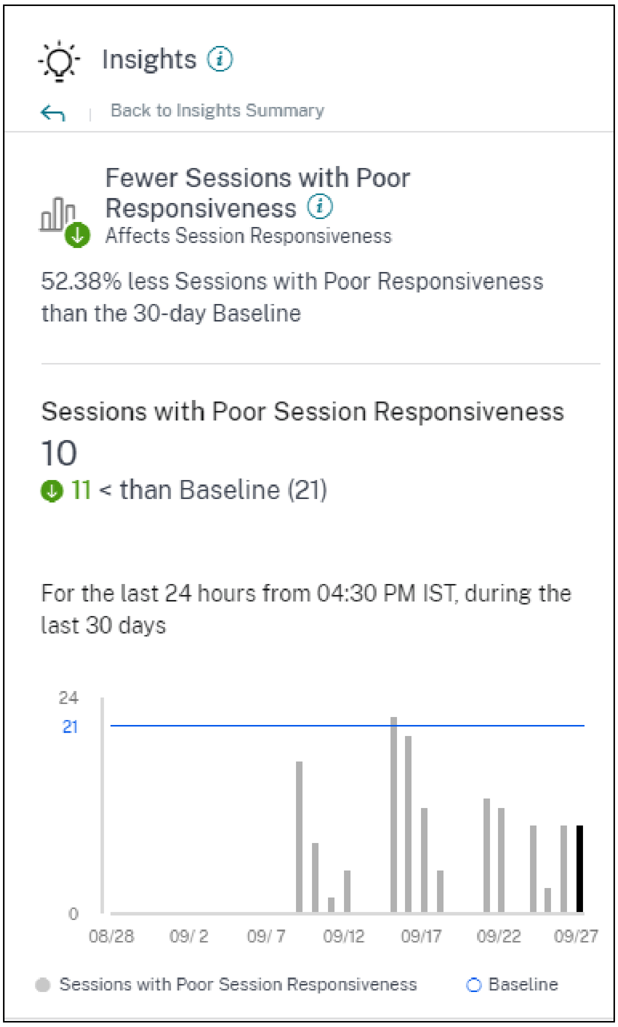
For the time frame, 12:45 PM - 02:45 PM IST, during the last 30 days

Session Failures Baseline insight on expansion shows the following:

- the percentage change in the current session failures count compared to the baseline value
- the current number of session failures
- increase or decrease in the number of session failures with respect to the baseline value
- a graph showing the baseline value and session failure count plotted over the last 30 days

Baseline Insights: Session Responsiveness

This insight shows the deviation of the number of sessions with poor responsiveness from the 30-day baseline value. The baseline value is calculated as the P80 value of the number of sessions with poor responsiveness measured during the last 30 days for the same time frame.



Insights

Back to Insights Summary

Fewer Sessions with Poor Responsiveness

Affects Session Responsiveness

52.38% less Sessions with Poor Responsiveness than the 30-day Baseline

Sessions with Poor Session Responsiveness

10

11 < than Baseline (21)

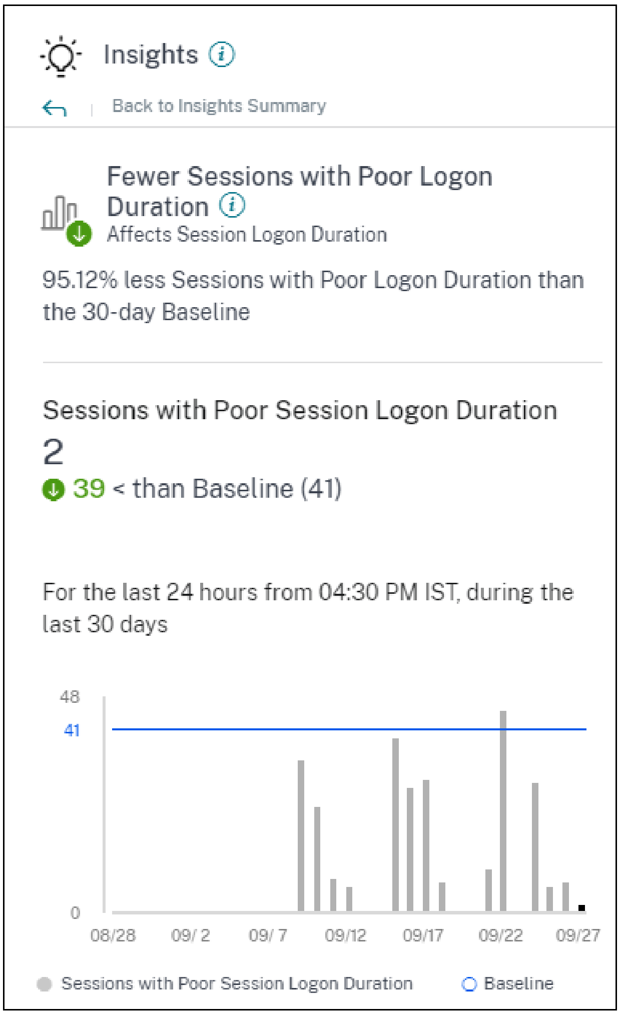
For the last 24 hours from 04:30 PM IST, during the last 30 days

Session Responsiveness Baseline insight on expansion shows the following:

- the percentage change in the current number of sessions with poor responsiveness value as compared with the baseline value.
- the current number of sessions with poor responsiveness.
- increase or decrease in the number of sessions with poor responsiveness with respect to the baseline value
- a graph showing the baseline value and number of sessions with poor responsiveness plotted over the last 30 days

Baseline Insights: Session Logon Duration

The **Sessions with Poor Logon Duration** Baseline Insight shows the deviation of the number of sessions with poor logon duration from the 30-day baseline value. The baseline value is calculated as the P80 value of the number of sessions with poor logon duration measured during the last 30 days for the same time frame.



Insights ⓘ

Back to Insights Summary

Fewer Sessions with Poor Logon Duration ⓘ

Affects Session Logon Duration

95.12% less Sessions with Poor Logon Duration than the 30-day Baseline

Sessions with Poor Session Logon Duration

2

39 < than Baseline (41)

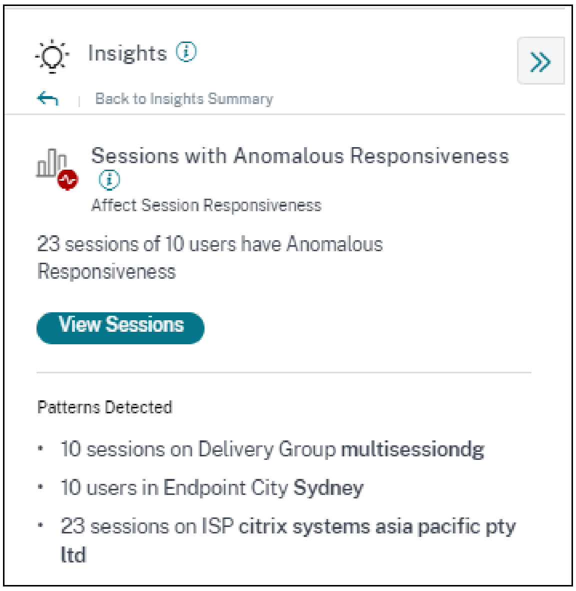
For the last 24 hours from 04:30 PM IST, during the last 30 days

Session Logon Duration Baseline insight on expansion shows the following:

- the percentage change in the current number of sessions with poor logon duration as compared with the baseline value
- the current number of sessions with poor logon duration
- increase or decrease in the number of sessions with poor logon duration with respect to the baseline value
- a graph showing the baseline value and number of sessions with poor logon duration plotted over the last 30 days

Baseline Insights: Sessions with Anomalous Responsiveness

This insight shows the number of sessions and users whose responsiveness is higher than the 30-day user-specific baseline value for responsiveness. The baseline value is calculated using the P95 ICARTT values measured over the last 30 days for the same time frame.



Insights

Back to Insights Summary

Sessions with Anomalous Responsiveness

Affect Session Responsiveness

23 sessions of 10 users have Anomalous Responsiveness

View Sessions

Patterns Detected

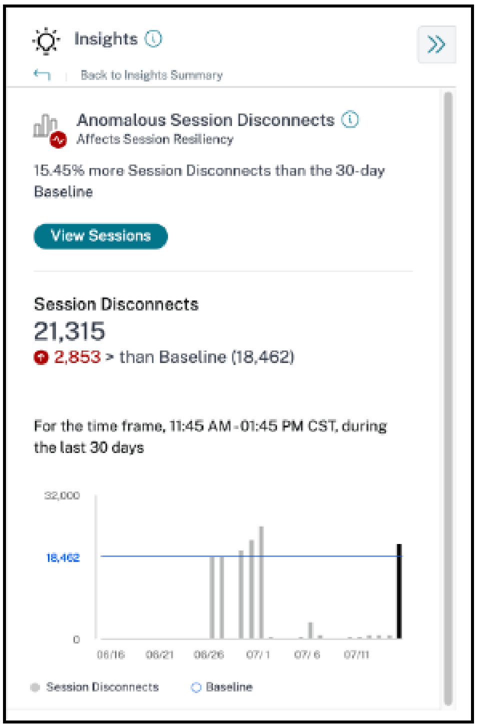
- 10 sessions on Delivery Group **multisessiondg**
- 10 users in Endpoint City **Sydney**
- 23 sessions on ISP **citrix systems asia pacific pty ltd**

This insight on expansion shows the following data:

- **View Sessions** link takes you to the Self-Service view listing the sessions with anomalous responsiveness during the selected time frame.
- Top patterns detected with respect to Delivery Group, Endpoint City and ISP are displayed to help you spot if there is a specific cohort of users experiencing the issue.

Baseline Insights: Anomalous Session Disconnects

The **Anomalous Session Disconnects** Baseline Insight shows the deviation of the number of session disconnects from the 30-day baseline value. The baseline value is calculated as the P80 value of the number of session disconnects measured during the last 30 days for the same time frame.



Insights

Back to Insights Summary

Anomalous Session Disconnects

Affects Session Resiliency

15.45% more Session Disconnects than the 30-day Baseline

View Sessions

Session Disconnects

21,315

2,853 > than Baseline (18,462)

For the time frame, 11:45 AM - 01:45 PM CST, during the last 30 days

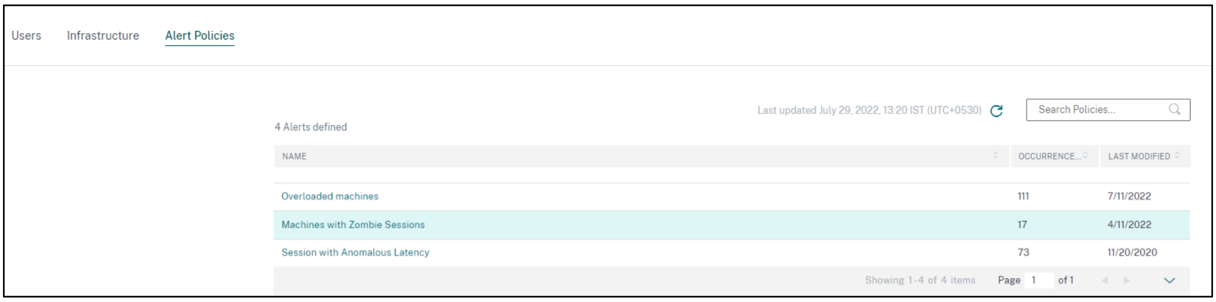
Session Disconnects Baseline insight on expansion shows the following:

- the percentage change in the current number of session disconnects as compared with the baseline value
- the current number of session disconnects
- increase or decrease in the number of session disconnects with respect to the baseline value
- a graph showing the baseline value and number of session disconnects plotted over the last 30 days

Alerts

March 21, 2024

Performance Analytics generates alerts to help administrators to monitor the environment proactively. The alerts are generated when factors affecting the user experience get deteriorated.



Last updated July 29, 2022, 13:20 IST (UTC+0530)

4 Alerts defined

NAME	OCCURRENCE...	LAST MODIFIED
Overloaded machines	111	7/11/2022
Machines with Zombie Sessions	17	4/11/2022
Session with Anomalous Latency	73	11/20/2020

Showing 1-4 of 4 items Page 1 of 1

The available policies are listed in the **Alert Policies** tab. The alerts are enabled by default, and can be disabled using the **Status** toggle. Alert email notifications for stakeholders can be enabled for recipients who don't have administrator access to your Citrix Cloud account. Click the alert name to edit the mail recipients list. For more information, see the Email distribution list article.

You must enable receiving email notifications for all recipients from the **Account Settings** menu in Citrix Cloud to receive the alert mails. For more information, see the Notifications article.

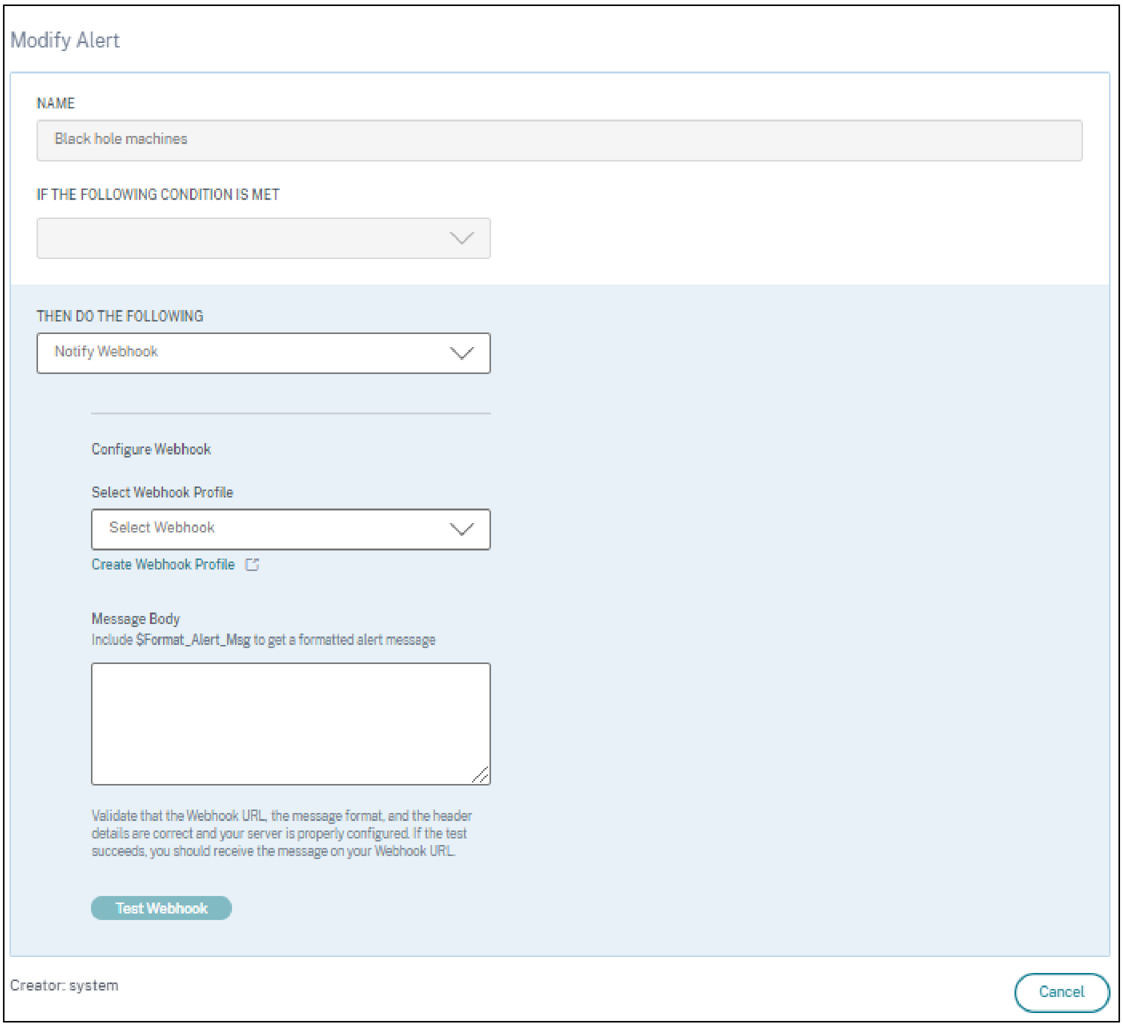
Webhook Support for Alert Notifications

You can publish alert notifications from Performance Analytics to a preferred Webhook listener such as Slack, JIRA. This helps enterprise customers automate the flow from incident detection to closure, and hence easily drive workflows in response to Performance Analytics Alert notifications.

For information about creating a webhook profile, see Create a Webhook Profile.

To configure a webhook-based alert notification:

1. Go to the **Alert Policies** tab.



Modify Alert

NAME

Black hole machines

IF THE FOLLOWING CONDITION IS MET

THEN DO THE FOLLOWING

Notify Webhook

Configure Webhook

Select Webhook Profile

Select Webhook

Create Webhook Profile

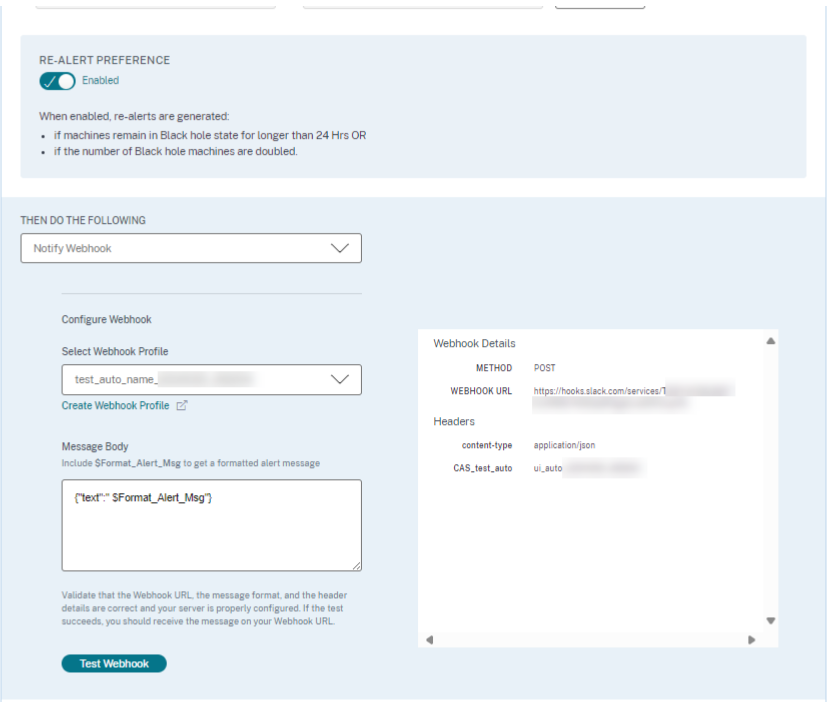
Message Body

Include $Format_Alert_Msg to get a formatted alert message

Validate that the Webhook URL, the message format, and the header details are correct and your server is properly configured. If the test succeeds, you should receive the message on your Webhook URL.

Creator: system

2. Click the policy that you want to configure with a webhook.
3. **Modify Alert** page opens. In the **Then do the following** drop-down list, select **Notify webhook or Email** or **Notify webhook** as required.
4. If you have the webhook profile already created, choose the correct webhook from the **Select Webhook Profile** drop-down list.
5. In the **Message Body** text box, include the `$Format_Alert_Msg` string to get a regular alert message with a templated string stored in the back-end. For example to send alert message to Slack, you can use this format: `{ "text":"$Format_Alert_Msg"}`.



RE-ALERT PREFERENCE

Enabled

When enabled, re-alerts are generated:

- if machines remain in Black hole state for longer than 24 Hrs OR
- if the number of Black hole machines are doubled.

THEN DO THE FOLLOWING

Notify Webhook

Configure Webhook

Select Webhook Profile

test_auto_name_[redacted]

Create Webhook Profile

Message Body

Include $Format_Alert_Msg to get a formatted alert message

```
{"text":" $Format_Alert_Msg"}
```

Validate that the Webhook URL, the message format, and the header details are correct and your server is properly configured. If the test succeeds, you should receive the message on your Webhook URL.

Test Webhook

Webhook Details

METHOD	POST
WEBHOOK URL	https://hooks.slack.com/services/T[redacted]

Headers

content-type	application/json
CAS_test_auto	ui_auto[redacted]

CSV attachments in alert mailers

Black hole Machines, Overloaded Machine and Zombie Session alerts emails have CSV attachments containing information about the affected machines and sessions.
The attachment has the following data:

- Machine Name
- Site ID
- Catalog Name
- Delivery Group Name
- Failure count (Number of failed machines or sessions as applicable).

The CSV attachments in alert mailers help identify faulting machines and sessions without having to log on to Citrix Analytics for Performance. This helps establish automation pipelines to create and forward tickets to stakeholders responsible for speedy resolution of issues.

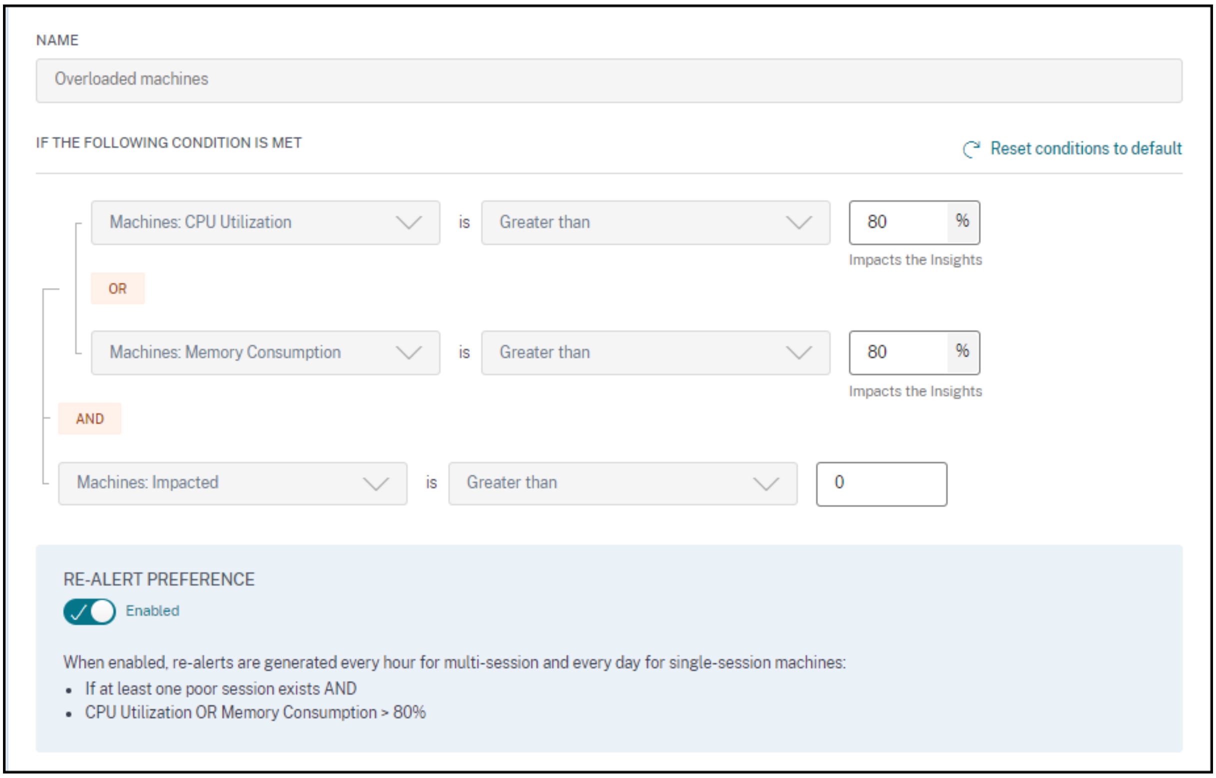
Exclude delivery groups from receiving alerts

You can now specify delivery groups to be excluded from receiving alert notifications. You can remove unused delivery groups or those created for testing purposes from the alerting process. Excluding delivery groups helps reduce alert fatigue and improve the relevance of alerts.

Customize Alert Parameters

Alert policies are pre-built with default parameter values. You can modify the alert parameters to make them more relevant to your environment.

Click the alert policy name to open the **Modify Alert** window. Modify the values of the listed parameters to suit your environment. Subsequent alert notifications are generated based on the custom conditions.



NAME

Overloaded machines

IF THE FOLLOWING CONDITION IS MET

Reset conditions to default

Machines: CPU Utilization is Greater than 80 %

Impacts the Insights

OR

Machines: Memory Consumption is Greater than 80 %

Impacts the Insights

AND

Machines: Impacted is Greater than 0

RE-ALERT PREFERENCE

Enabled

When enabled, re-alerts are generated every hour for multi-session and every day for single-session machines:

- If at least one poor session exists AND
- CPU Utilization OR Memory Consumption > 80%

> **Note:**
> Updating the alert parameters also alters the calculation of the corresponding insight on the UX dashboard.

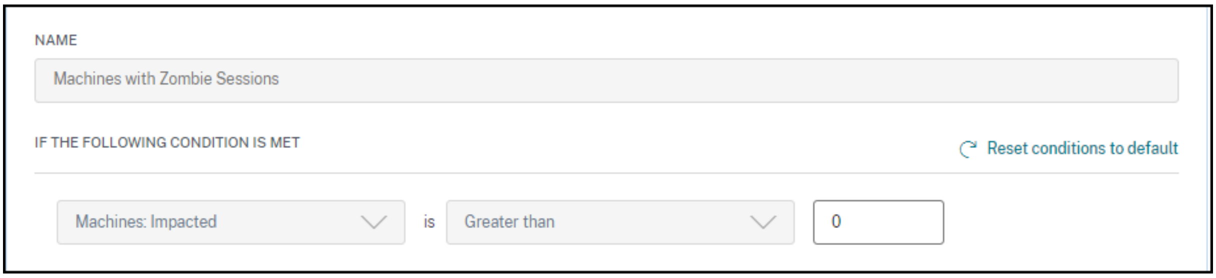
In alerts where re-alerting is supported, you can also control the re-alerting preference. Alert notifications are resent if the re-alert preference is set to **Enabled** and the conditions as specified in the re-alert preference persist.

Customized alerts are more relevant to your environment, they help identify anomalies easily, and are more dependable for proactive monitoring.

Alert for Machines with Zombie Sessions

The **Machines with Zombie Sessions** alert mail is generated when a new machine with a zombie session is detected in the environment in a 15 mins interval.

You can customize the alert conditions for the Machines with Zombie Sessions alert.



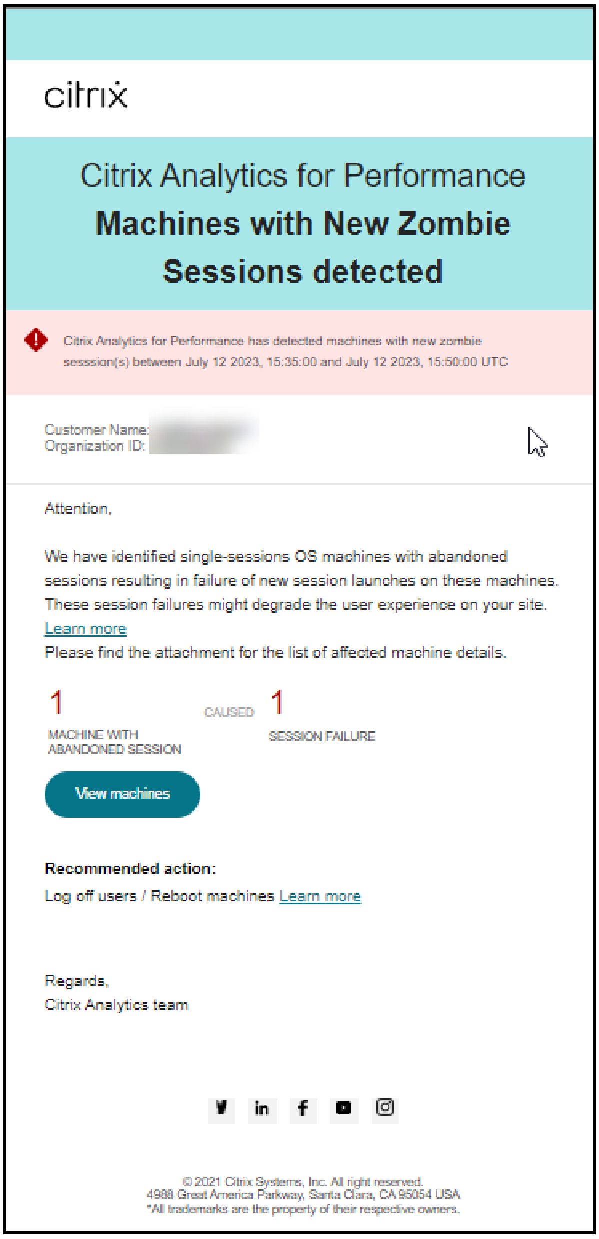
NAME

Machines with Zombie Sessions

IF THE FOLLOWING CONDITION IS MET

Machines: Impacted is Greater than 0

An email alert containing details of the number of machines with zombie sessions and session failures that have resulted due to zombie sessions is sent to the administrators. The numbers in the mailer are for the last 15 min interval.



citrix

Citrix Analytics for Performance

Machines with New Zombie Sessions detected

Citrix Analytics for Performance has detected machines with new zombie sesssion(s) between July 12 2023, 15:35:00 and July 12 2023, 15:50:00 UTC

Customer Name: [redacted]
Organization ID:

Attention,

We have identified single-sessions OS machines with abandoned sessions resulting in failure of new session launches on these machines. These session failures might degrade the user experience on your site. Learn more

Please find the attachment for the list of affected machine details.

1 MACHINE WITH ABANDONED SESSION CAUSED 1 SESSION FAILURE

Recommended action:

Log off users / Reboot machines Learn more

Regards,
Citrix Analytics team

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*All trademarks are the property of their respective owners.

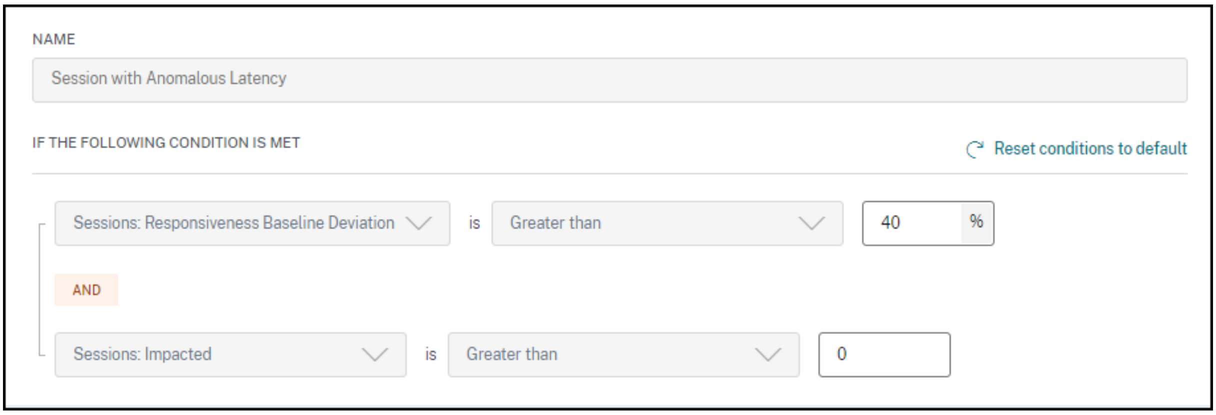
Click **View machines** in the mailer to see single-session machines with abandoned sessions on the Self-service view for Machines with Zombie Sessions. The view reflects the 15 min interval as per the mailer, use the time navigator to choose a larger time window.

Re-alerting on the same machine is done only if the same-abandoned session persists on the same machine for over 24 hours from the initial detection. The re-alerting preference for this alert cannot be set to disabled.

Alert for Sessions with Anomalous Latency

Anomalous Latency is the primary cause for poor session experience. The Anomalous Latency alerts help administrators when there is a significant deviation in the session latency values. The proactive alerting helps administrators identify specific users whose sessions have poor responsiveness.

You can customize the alert conditions for the Sessions with Anomalous Latency alert.



NAME

Session with Anomalous Latency

IF THE FOLLOWING CONDITION IS MET

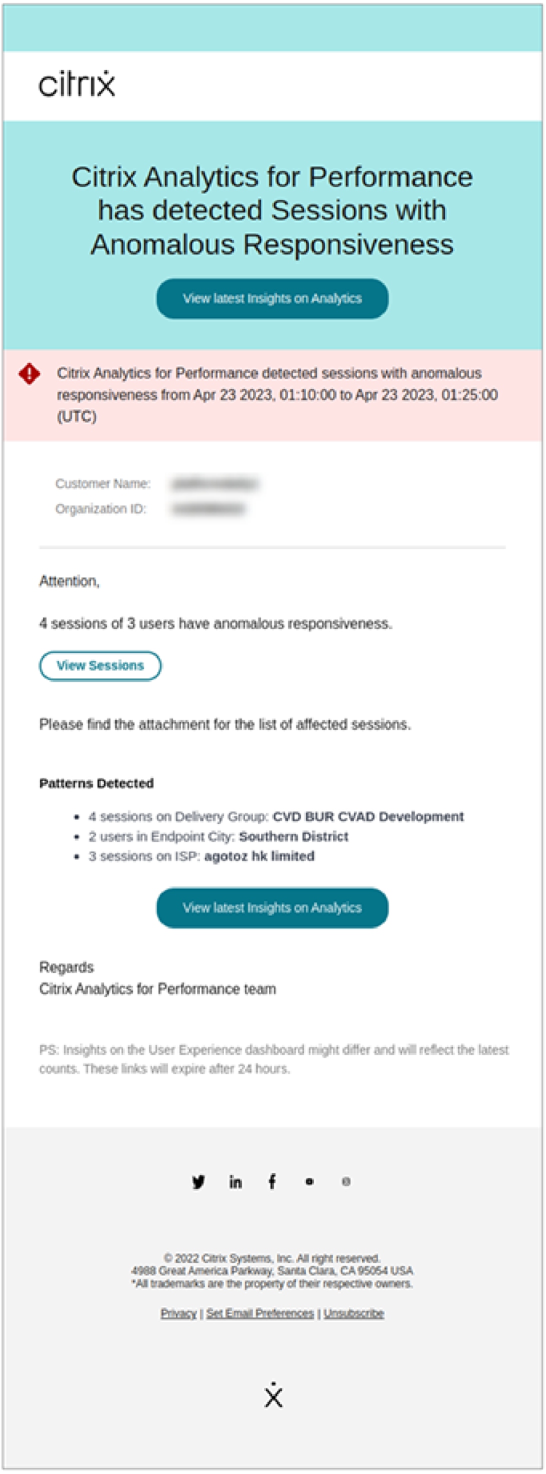
Sessions: Responsiveness Baseline Deviation is Greater than 40 %

AND

Sessions: Impacted is Greater than 0

Updating the parameters alters the calculation of the Baseline Insight for Sessions with Anomalous Responsiveness.

This alert shows the number of sessions and users whose session latency readings deviate from the user's 30-day baseline value. The user-specific baseline is calculated using the P95 ICARTT values measured over the last 30 days.



citrix

Citrix Analytics for Performance has detected Sessions with Anomalous Responsiveness

Citrix Analytics for Performance detected sessions with anomalous responsiveness from Apr 23 2023, 01:10:00 to Apr 23 2023, 01:25:00 (UTC)

Customer Name: [redacted]
Organization ID: [redacted]

Attention,

4 sessions of 3 users have anomalous responsiveness.

Please find the attachment for the list of affected sessions.

Patterns Detected

- 4 sessions on Delivery Group: **CVD BUR CVAD Development**
- 2 users in Endpoint City: **Southern District**
- 3 sessions on ISP: **agotoz hk limited**

Regards
Citrix Analytics for Performance team

PS: Insights on the User Experience dashboard might differ and will reflect the latest counts. These links will expire after 24 hours.

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Privacy | Set Email Preferences | Unsubscribe

The alert mail shows the number of sessions and users facing anomalous responsiveness in the mentioned time period. Click **View Sessions** to see the sessions with anomalous responsiveness listed in the Sessions self-service page.

The **Patterns Detected** section shows the top three patterns noticed in sessions with anomalous responsiveness based on the following criteria:

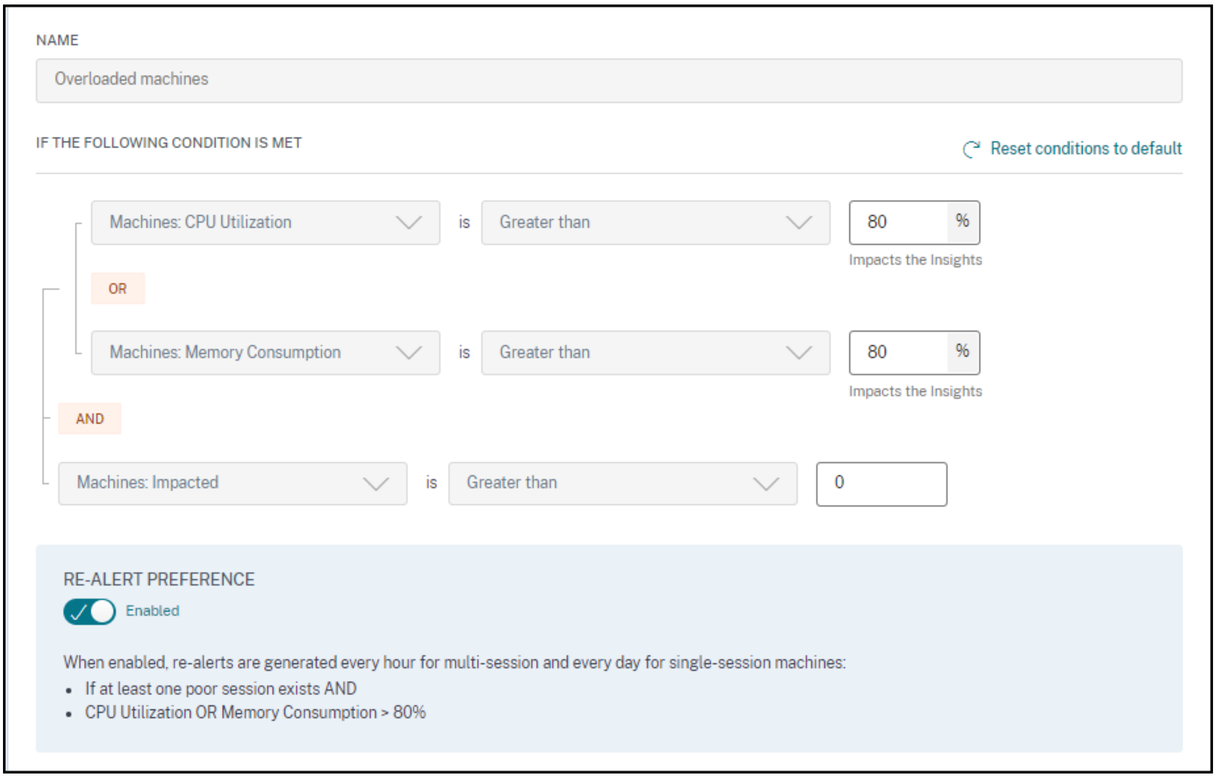
- Number of sessions with anomalous responsiveness in each Delivery Group
- Number of users with anomalous responsiveness in each Endpoint City
- Number of sessions with anomalous responsiveness in each ISP

The **View latest insights on Analytics** link leads to the User Experience dashboard showing the latest statistics in the **Insights** panel. Analyze the Location, ICARTT, ISP, Bandwidth, and Latency metrics for a specific session to root cause the issue. For more information about the indicators available in the Sessions based Self-service view, see Self-service search for sessions.

Alert for Overloaded Machines

Machines that have experienced sustained CPU spikes, or high memory usage, or both, that have lasted for 5 minutes or more, resulting in a poor user experience during the selected interval are considered to be overloaded.

You can customize the alert conditions and the re-alert preference for the Overloaded Machines alert.



NAME

Overloaded machines

IF THE FOLLOWING CONDITION IS MET

Machines: CPU Utilization is Greater than 80 %

Impacts the Insights

OR

Machines: Memory Consumption is Greater than 80 %

Impacts the Insights

AND

Machines: Impacted is Greater than 0

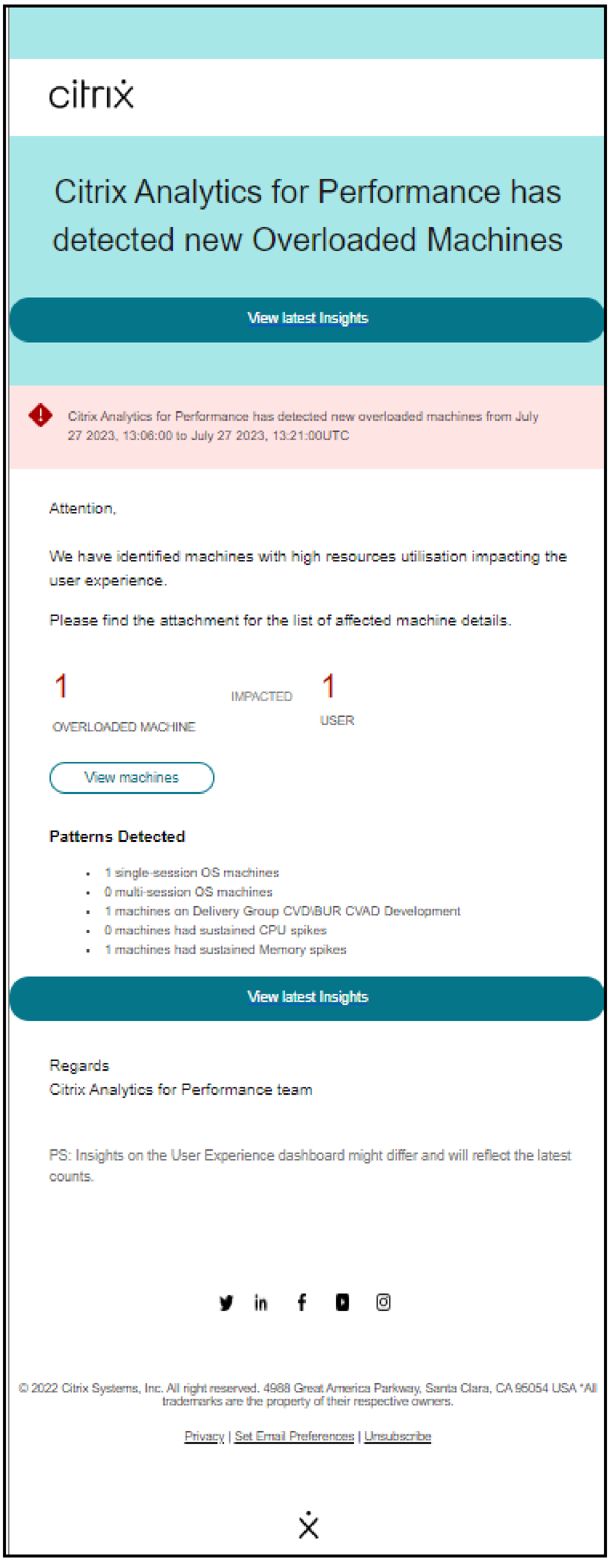
RE-ALERT PREFERENCE

Enabled

When enabled, re-alerts are generated every hour for multi-session and every day for single-session machines:

- If at least one poor session exists AND
- CPU Utilization OR Memory Consumption > 80%

An Overloaded Machines alert mail is sent to administrators when an overloaded machine is detected in the environment in a 15-minute interval.



Citrix Analytics for Performance has detected new Overloaded Machines

Citrix Analytics for Performance has detected new overloaded machines from July 27 2023, 13:06:00 to July 27 2023, 13:21:00UTC

Attention,

We have identified machines with high resources utilisation impacting the user experience.

Please find the attachment for the list of affected machine details.

1	IMPACTED	1
OVERLOADED MACHINE		USER

Patterns Detected

- 1 single-session OS machines
- 0 multi-session OS machines
- 1 machines on Delivery Group CVD\BUR CVAD Development
- 0 machines had sustained CPU spikes
- 1 machines had sustained Memory spikes

Regards
Citrix Analytics for Performance team

PS: Insights on the User Experience dashboard might differ and will reflect the latest counts.

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If the machine remains in an overloaded condition, re-alert mails are generated,

- in the case of a single-session machine, once in 24 hours,
- in the case of multi-session machines, up to three times on the first day if the machine has a

new session with poor Session Score and once after 24 hours.

The alert mail shows the number of overloaded machines causing poor user experience and the number of users affected during the selected duration.

Click **View Machines** to see the overloaded machines listed in the Machines self-service page for Overloaded Machines.

The **Patterns Detected** section shows the top three patterns noticed in overloaded machines with respect to the following criteria:

- Number of overloaded machines in each Delivery Group
- Number of overloaded machines running single-session or multi-session OS
- Number of overloaded machines with Sustained Memory or CPU spikes

The **View latest insights** link leads to the User Experience dashboard showing the latest statistics in the **Insights** panel.

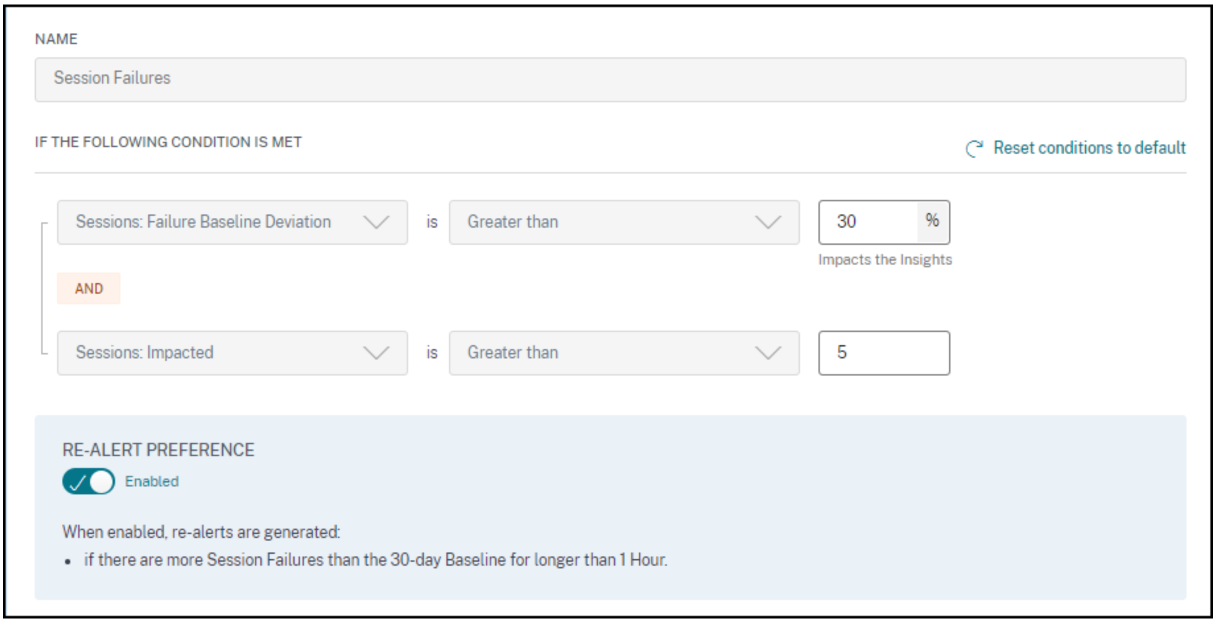
Updating the parameters alters the calculation of the Diagnostic Insight for Overloaded Machines.

For more information, see the Insights article.

Alert for Black Hole Machines

Citrix Analytics for Performance scans for black hole machines every 15 minutes and sends out an alert to enable administrators to proactively mitigate session failures faced by users due to black hole machines. Machines that have failed to service four or more consecutive session requests are termed as Black hole machines. With black hole failure alerting, administrators need not be logged into Performance Analytics to know the session failures that occurred due to black hole machines.

You can customize alert conditions and the re-alert preference for the Black Hole Machines alert.



NAME

Session Failures

IF THE FOLLOWING CONDITION IS MET

Sessions: Failure Baseline Deviation is Greater than 30 %

Impacts the Insights

AND

Sessions: Impacted is Greater than 5

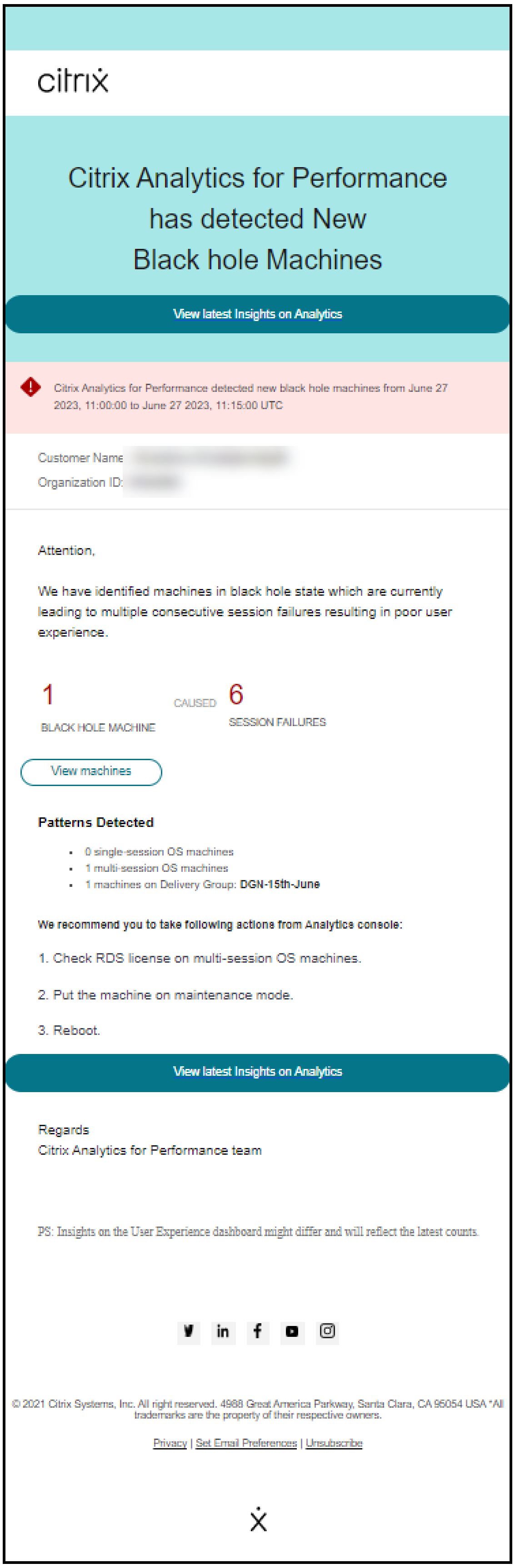
RE-ALERT PREFERENCE

Enabled

When enabled, re-alerts are generated:

- if there are more Session Failures than the 30-day Baseline for longer than 1 Hour.

Details of the machines and the session failures caused by them are sent in the alert mails to administrators. The **Black Hole Machines** alert policy must be enabled to receive these mails.



Citrix Analytics for Performance has detected New Black hole Machines

Citrix Analytics for Performance detected new black hole machines from June 27 2023, 11:00:00 to June 27 2023, 11:15:00 UTC

Customer Name [redacted]

Organization ID: [redacted]

Attention,

We have identified machines in black hole state which are currently leading to multiple consecutive session failures resulting in poor user experience.

1 BLACK HOLE MACHINE CAUSED 6 SESSION FAILURES

Patterns Detected

- 0 single-session OS machines
- 1 multi-session OS machines
- 1 machines on Delivery Group: **DGN-15th-June**

We recommend you to take following actions from Analytics console:

1. Check RDS license on multi-session OS machines.

2. Put the machine on maintenance mode.

3. Reboot.

Regards
Citrix Analytics for Performance team

PS: Insights on the User Experience dashboard might differ and will reflect the latest counts.

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Clicking the View machines link takes you to the Machines self-service view displaying the list of black hole machines during the 15 min interval. In addition, the timeline view shows black hole machines identified over the last 24 hours.
Administrators are re-alerted if the number of session failures due to the same black hole machine is doubled within 24 hours and the re-alerting preference is set to **Enabled**.

The **View latest insights** link leads to the User Experience dashboard showing the latest statistics in the **Insights** panel.

The **Patterns Detected** section shows the top three patterns noticed in black hole machines with respect to the following criteria:

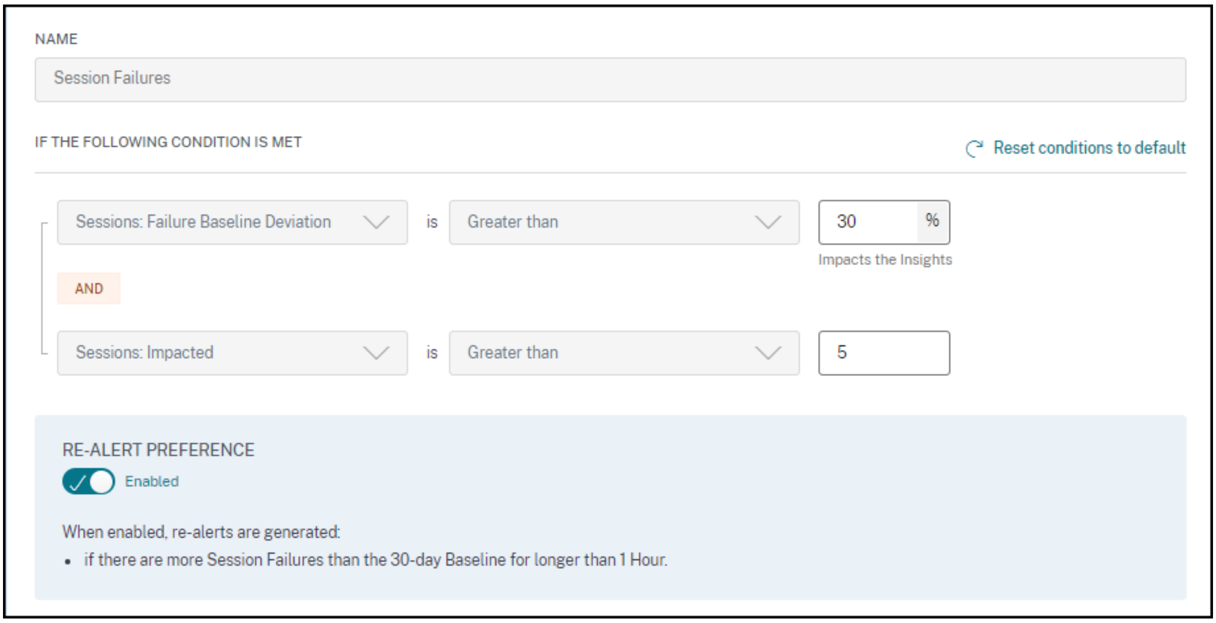
- Number of black hole machines in each Delivery Group
- Number of black hole machines running single-session or multi-session OS

Updating the parameters alters the calculation of the Diagnostic Insight for Black Hole Machines. For more information, see the Insights article.

Alert for Session Failures

The **Session Failures** alert is generated when the number of sessions that have failed to launch has exceeded by 30% or more from the 30-day baseline value and more than 5% of the total number of sessions have failed. The baseline value is calculated as the P80 value of the session failure count measured during the last 30 days for the same time frame.

You can customize alert conditions and the re-alert preference for the Session Failures alert.



NAME

Session Failures

IF THE FOLLOWING CONDITION IS MET

Reset conditions to default

Sessions: Failure Baseline Deviation is Greater than 30 %

Impacts the Insights

AND

Sessions: Impacted is Greater than 5

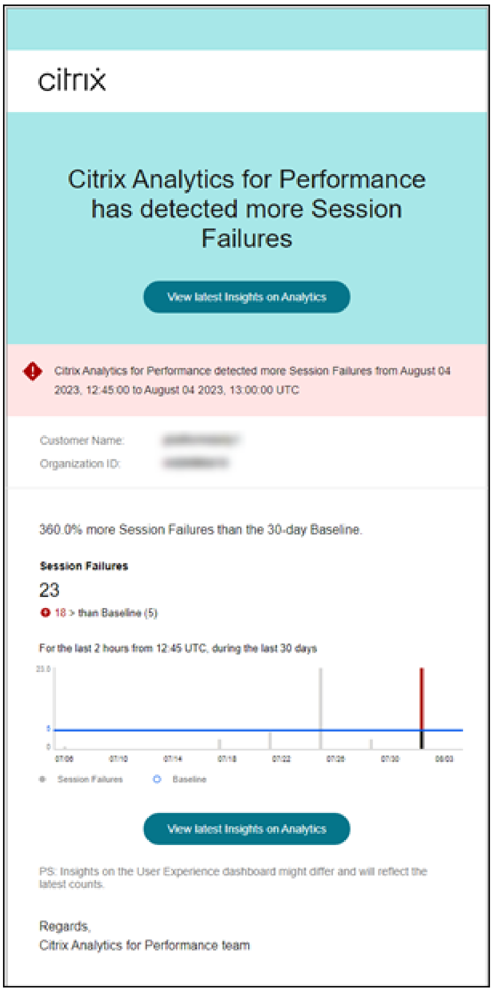
RE-ALERT PREFERENCE

Enabled

When enabled, re-alerts are generated:

- if there are more Session Failures than the 30-day Baseline for longer than 1 Hour.

Session Failures alert notification is mailed to all configured administrators.



Citrix Analytics for Performance has detected more Session Failures

Citrix Analytics for Performance detected more Session Failures from August 04 2023, 12:45:00 to August 04 2023, 13:00:00 UTC

Customer Name: [redacted]
Organization ID: [redacted]

360.0% more Session Failures than the 30-day Baseline.

Session Failures

23

18 > than Baseline (5)

For the last 2 hours from 12:45 UTC, during the last 30 days

PS: Insights on the User Experience dashboard might differ and will reflect the latest counts.

Regards,
Citrix Analytics for Performance team

The Session Failures alert mail displays the following information:

- the percentage change in the current session failure count compared to the baseline value
- the current number of session failures
- increase in the number of session failures with respect to the baseline value
- a graph showing the baseline value and session failure count plotted over the last 30 days.

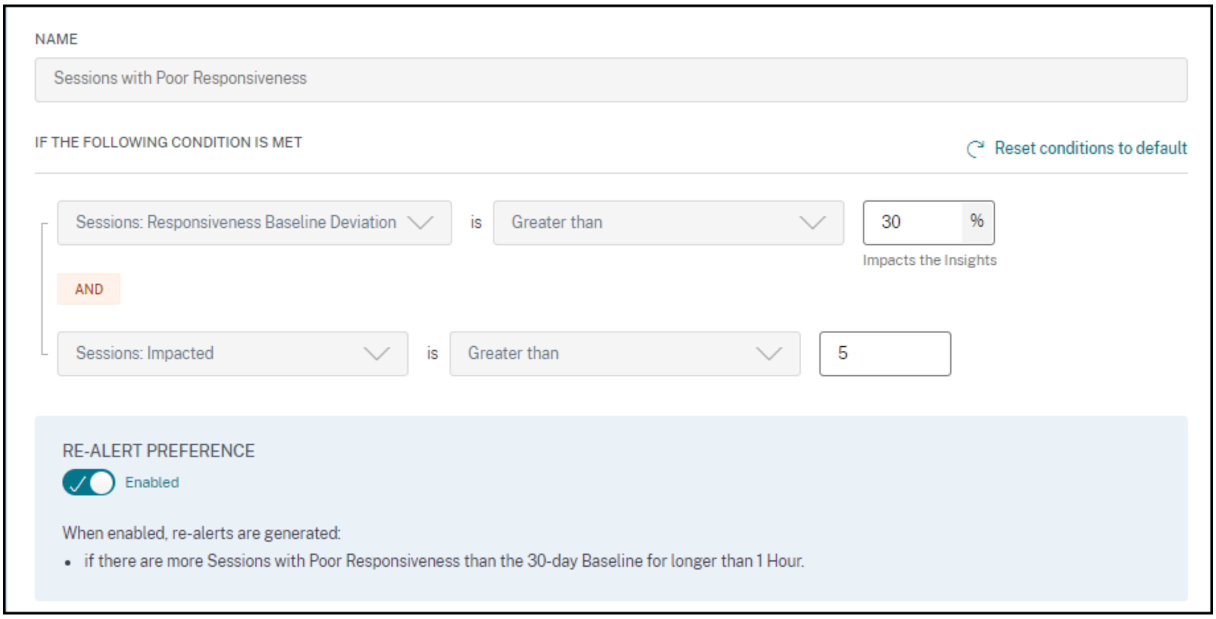
The **View latest insights** link leads to the User Experience dashboard showing the latest statistics in the **Baseline Insights** panel.

Updating the parameters alters the calculation of the Baseline Insight for Session Failures. For more information, see the Insights article.

Alert for Sessions with Poor Responsiveness

The **Sessions with Poor Responsiveness** alert is generated when the number of sessions with poor responsiveness has increased 30% or more from the 30-day baseline value and this increase impacts more than 5% of the sessions. The baseline value is calculated as the P80 value of the number of sessions with poor responsiveness measured during the last 30 days for the same time frame.

You can customize alert conditions and the re-alert preference for the Sessions with Poor Responsiveness alert.



NAME

Sessions with Poor Responsiveness

IF THE FOLLOWING CONDITION IS MET

Reset conditions to default

Sessions: Responsiveness Baseline Deviation is Greater than 30 %

Impacts the Insights

AND

Sessions: Impacted is Greater than 5

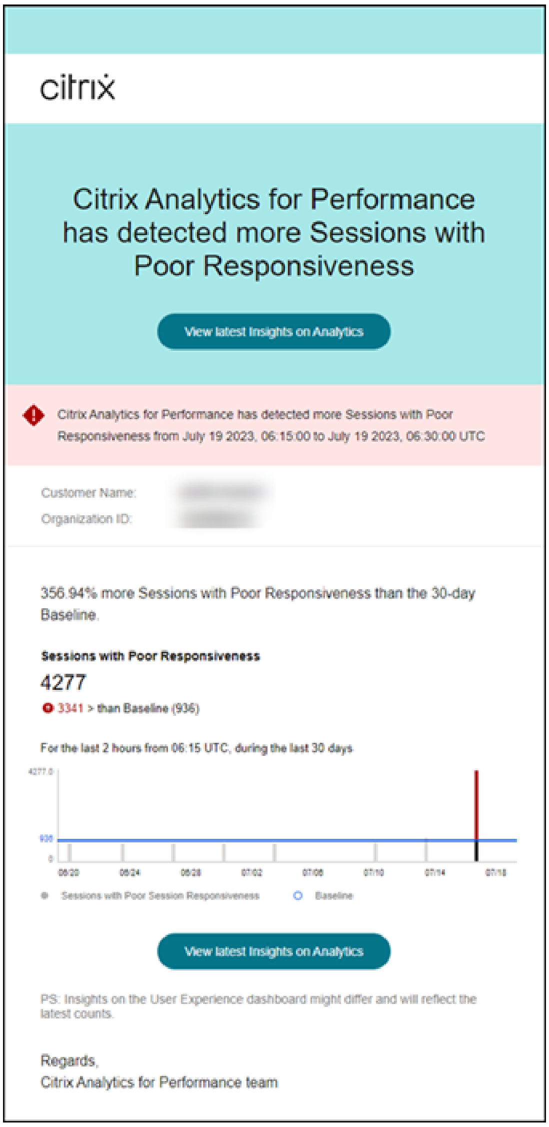
RE-ALERT PREFERENCE

Enabled

When enabled, re-alerts are generated:

- if there are more Sessions with Poor Responsiveness than the 30-day Baseline for longer than 1 Hour.

Sessions with Poor Responsiveness alert notification is mailed to the configured administrators.



Citrix Analytics for Performance has detected more Sessions with Poor Responsiveness

Citrix Analytics for Performance has detected more Sessions with Poor Responsiveness from July 19 2023, 06:15:00 to July 19 2023, 06:30:00 UTC

Customer Name: [redacted]
Organization ID: [redacted]

356.94% more Sessions with Poor Responsiveness than the 30-day Baseline.

Sessions with Poor Responsiveness

4277

● 3341 > than Baseline (936)

For the last 2 hours from 06:15 UTC, during the last 30 days

4277.0
936
0
06/20
06/24
06/28
07/02
07/06
07/10
07/14
07/18
● Sessions with Poor Session Responsiveness
○ Baseline
View latest Insights on Analytics

PS: Insights on the User Experience dashboard might differ and will reflect the latest counts.

Regards,
Citrix Analytics for Performance team

The alert mail contains the following information:

- the percentage change in the current number of sessions with poor responsiveness value compared to the baseline value
- the current number of sessions with poor responsiveness
- the increase or decrease in the sessions with poor responsiveness with respect to the baseline value
- a graph showing the baseline value and the number of sessions with poor responsiveness trend over the last 30 days.

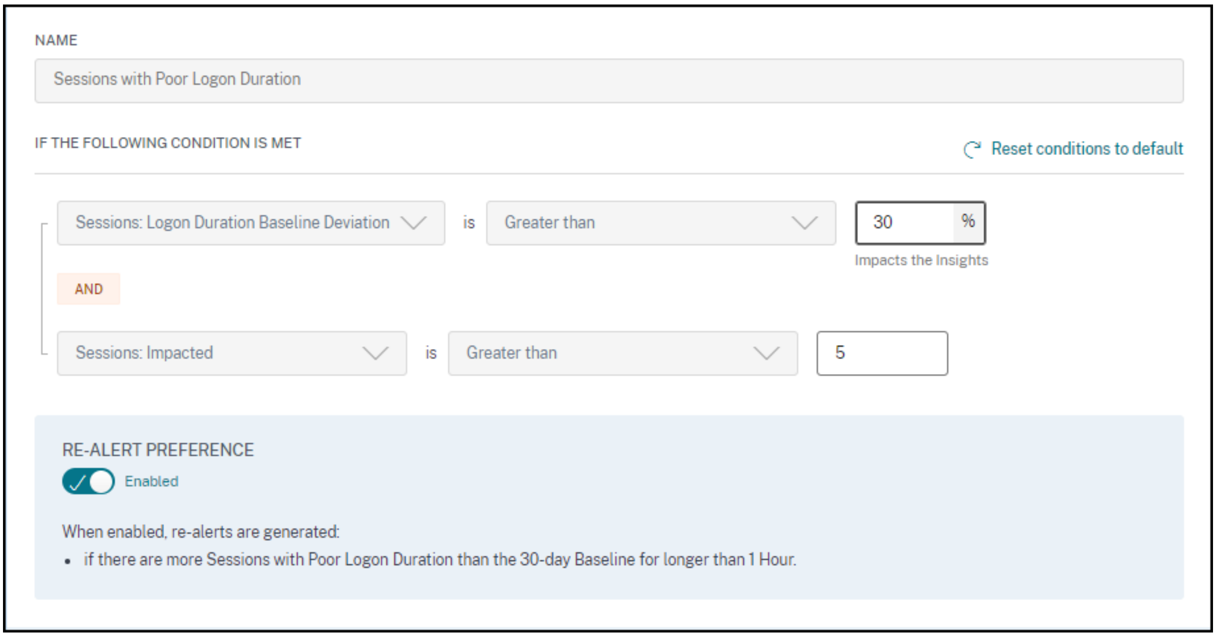
The **View latest insights** link leads to the User Experience dashboard showing the latest statistics in the **Insights** panel.

Updating the parameters alters the calculation of the Baseline Insight for Sessions with Poor Responsiveness. For more information, see the Insights article.

Alert for Sessions with Poor Logon Duration

The **Sessions with Poor Logon Duration** alert is generated when the number of sessions with poor logon duration has increased 30% or more from the 30-day baseline value and this increase impacts more than 5% of the sessions. The baseline value is calculated as the P80 value of the number of sessions with poor logon duration measured during the last 30 days for the same time frame.

You can customize alert conditions and the re-alert preference for the Sessions with Poor Logon Duration alert.



NAME

Sessions with Poor Logon Duration

IF THE FOLLOWING CONDITION IS MET

Reset conditions to default

Sessions: Logon Duration Baseline Deviation is Greater than 30 %

Impacts the Insights

AND

Sessions: Impacted is Greater than 5

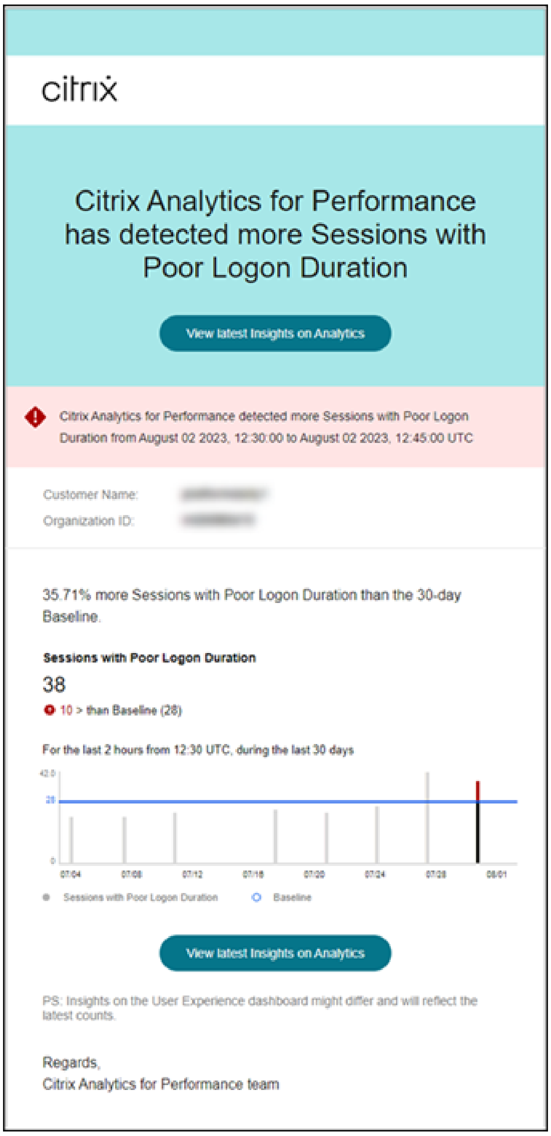
RE-ALERT PREFERENCE

Enabled

When enabled, re-alerts are generated:

- if there are more Sessions with Poor Logon Duration than the 30-day Baseline for longer than 1 Hour.

Sessions with Poor Logon Duration alert notification is mailed to the configured administrators.



Citrix Analytics for Performance has detected more Sessions with Poor Logon Duration

Citrix Analytics for Performance detected more Sessions with Poor Logon Duration from August 02 2023, 12:30:00 to August 02 2023, 12:45:00 UTC

Customer Name: [redacted]
Organization ID: [redacted]

35.71% more Sessions with Poor Logon Duration than the 30-day Baseline.

Sessions with Poor Logon Duration

38

● 10 > than Baseline (28)

For the last 2 hours from 12:30 UTC, during the last 30 days

42.0
28
0
07/04
07/08
07/12
07/16
07/20
07/24
07/28
08/01
● Sessions with Poor Logon Duration
○ Baseline
View latest Insights on Analytics

PS: Insights on the User Experience dashboard might differ and will reflect the latest counts.

Regards,
Citrix Analytics for Performance team

The Sessions with Poor Logon Duration alert mail shows the following information:

- the percentage change in the current number of sessions with poor logon duration value compared to the baseline value
- the current number of sessions with poor logon duration
- increase or decrease in the sessions with poor logon duration with respect to the baseline value
- a graph showing the baseline value and the number of sessions with poor logon duration plotted over the last 30 days

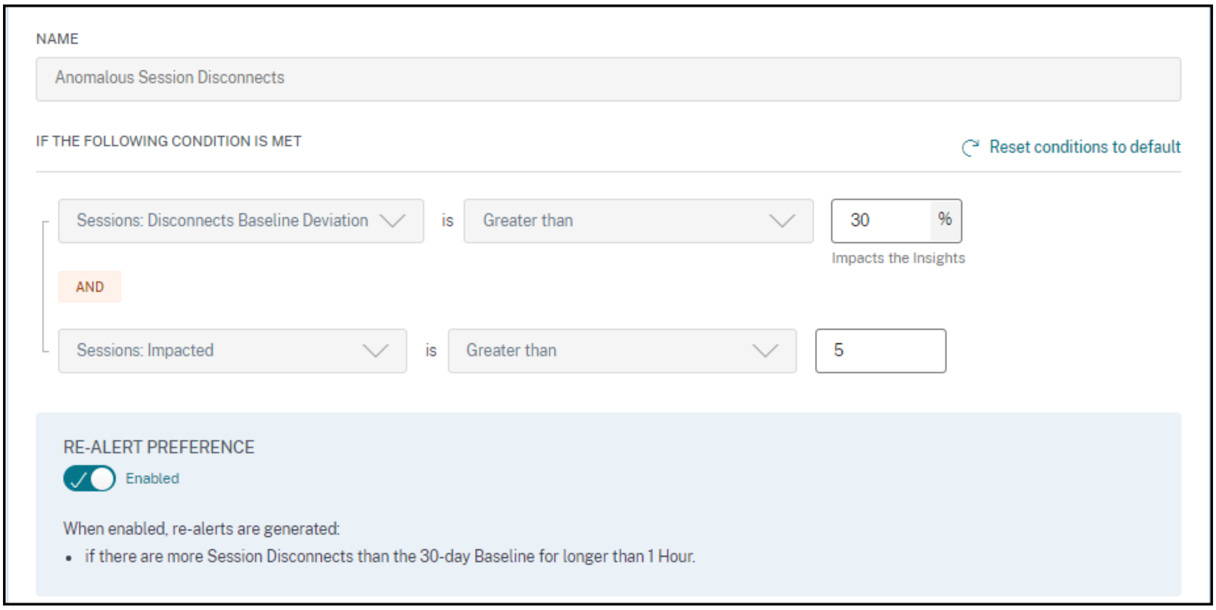
The **View latest insights** link leads to the User Experience dashboard showing the latest statistics in the **Baseline Insights** panel.

For more information, see the Insights article.

Alert for Anomalous Session Disconnects

The **Anomalous Session Disconnects** alert is generated when the session disconnects count has increased 30% or more from the 30-day baseline value and this increase impacts more than 5% of the sessions. The baseline value is calculated as the P80 value of the number of sessions disconnects measured during the last 30 days for the same time frame.

You can customize alert conditions and the re-alert preference for the Anomalous Session Disconnects alert.



NAME

Anomalous Session Disconnects

IF THE FOLLOWING CONDITION IS MET

Reset conditions to default

Sessions: Disconnects Baseline Deviation is Greater than 30 %

Impacts the Insights

AND

Sessions: Impacted is Greater than 5

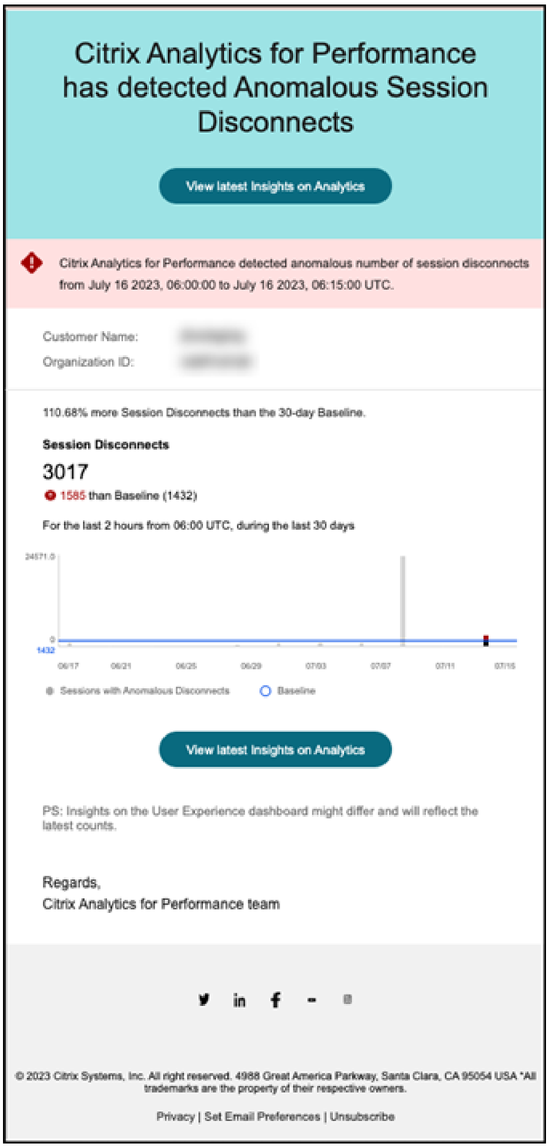
RE-ALERT PREFERENCE

Enabled

When enabled, re-alerts are generated:

- if there are more Session Disconnects than the 30-day Baseline for longer than 1 Hour.

Sessions with Poor Logon Duration alert notification is mailed to the configured administrators.



Citrix Analytics for Performance has detected Anomalous Session Disconnects

Citrix Analytics for Performance detected anomalous number of session disconnects from July 16 2023, 06:00:00 to July 16 2023, 06:15:00 UTC.

Customer Name: [redacted]
Organization ID: [redacted]

110.68% more Session Disconnects than the 30-day Baseline.

Session Disconnects

3017

1585 than Baseline (1432)

For the last 2 hours from 06:00 UTC, during the last 30 days

24571.0
0
1432
06/17
06/21
06/25
06/29
07/03
07/07
07/11
07/15
● Sessions with Anomalous Disconnects
○ Baseline
View latest Insights on Analytics

PS: Insights on the User Experience dashboard might differ and will reflect the latest counts.

Regards,
Citrix Analytics for Performance team

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The Anomalous Sessions Disconnects alert mail shows the following information:

- the percentage change in the current session disconnects count as compared to the baseline value
- the current number of session disconnects
- increase in session disconnects with respect to the baseline value
- a graph showing the baseline value and the number of session disconnects plotted over the last 30 days.

The **View latest insights** link leads to the User Experience dashboard showing the latest statistics in the **Baseline Insights** panel.

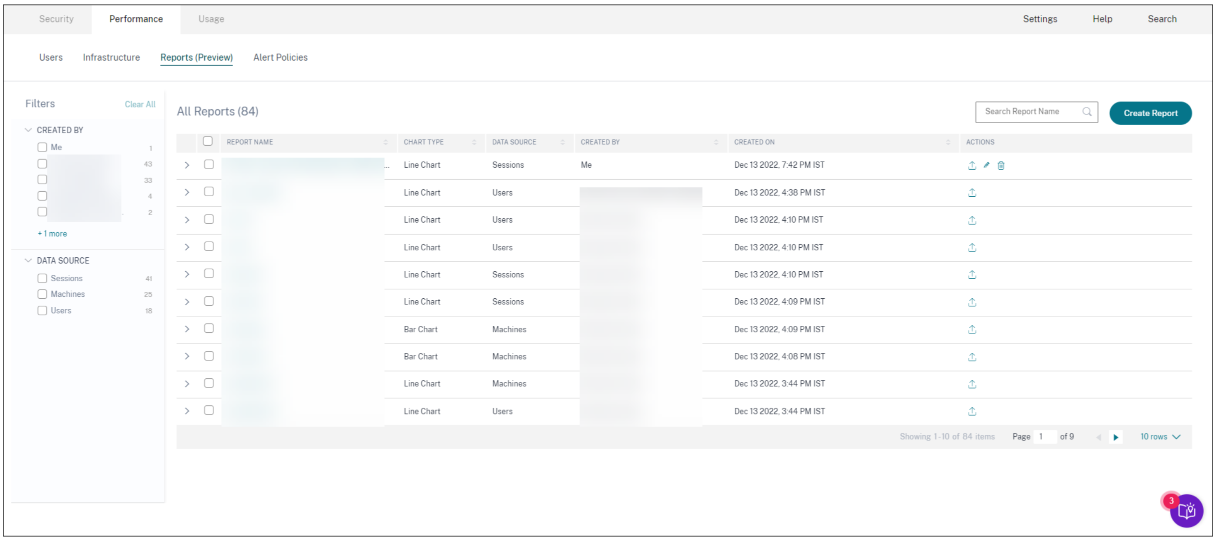
Updating the parameters alters the calculation of the Baseline Insight for Anomalous Session Disconnects. For more information, see the Insights article.

Custom Reports (Preview)

December 28, 2023

You can create and schedule custom reports using the performance metrics in Citrix Analytics for Performance. Custom reports help you to extract information of specific interest and organize the data graphically. It helps to create executive reports in a regular cadence and analyze the performance of your environment over time.

Click **Reports** in Performance Analytics to see the list of existing reports in the current tenant. Expand the report row to see a preview of the report.



All Reports (84)

REPORT NAME	CHART TYPE	DATA SOURCE	CREATED BY	CREATED ON	ACTIONS
[redacted]	Line Chart	Sessions	Me	Dec 13 2022, 7:42 PM IST	
[redacted]	Line Chart	Users	[redacted]	Dec 13 2022, 4:38 PM IST	
[redacted]	Line Chart	Users	[redacted]	Dec 13 2022, 4:10 PM IST	
[redacted]	Line Chart	Users	[redacted]	Dec 13 2022, 4:10 PM IST	
[redacted]	Line Chart	Sessions	[redacted]	Dec 13 2022, 4:10 PM IST	
[redacted]	Line Chart	Sessions	[redacted]	Dec 13 2022, 4:09 PM IST	
[redacted]	Bar Chart	Machines	[redacted]	Dec 13 2022, 4:09 PM IST	
[redacted]	Bar Chart	Machines	[redacted]	Dec 13 2022, 4:08 PM IST	
[redacted]	Line Chart	Machines	[redacted]	Dec 13 2022, 3:44 PM IST	
[redacted]	Line Chart	Users	[redacted]	Dec 13 2022, 3:44 PM IST	

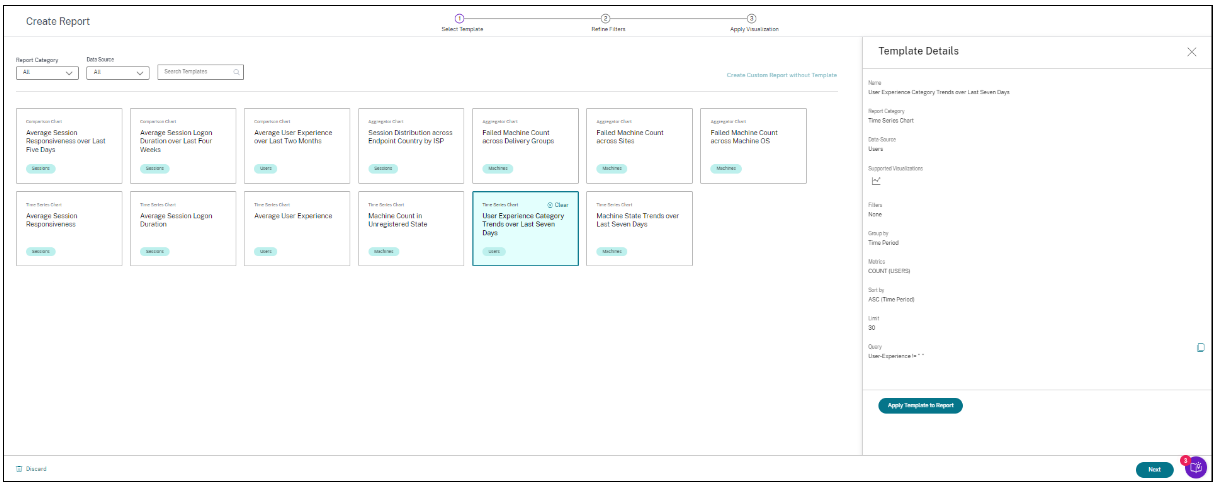
Showing 1-10 of 84 items Page 1 of 9 10 rows

You can perform the following actions on reports using this view:

- Click **Create Report** to create a custom report.
- Expand a row to see the preview of an existing custom report.
- Click the report name to see the report of an existing custom report.
- Click the export icon to export an existing custom report in CSV format, PDF format or both.
- Click the edit icon to edit the reports you have created.
- Click the delete icon to delete the reports you have created.

How to create a custom report

To create a custom report, click **Create Reports**. On the **Create Report** page, you can choose to create a custom report with or without templates.


Create Report
1 Select Template
2 Refine Filters
3 Apply Visualization
Report Category
All
Data Source
All
Search Templates
Create Custom Report without Template
Comparison Chart
Average Session Responsiveness over Last Five Days
Sessions
Comparison Chart
Average Session Logon Duration over Last Four Weeks
Sessions
Comparison Chart
Average User Experience over Last Two Months
Users
Aggregator Chart
Session Distribution across Endpoint Country by ISP
Sessions
Aggregator Chart
Failed Machine Count across Delivery Groups
Machines
Aggregator Chart
Failed Machine Count across Sites
Machines
Aggregator Chart
Failed Machine Count across Machine OS
Machines
Time Series Chart
Average Session Responsiveness
Sessions
Time Series Chart
Average Session Logon Duration
Sessions
Time Series Chart
Average User Experience
Users
Time Series Chart
Machine Count in Unregistered State
Machines
Time Series Chart
Clear
User Experience Category Trends over Last Seven Days
Users
Time Series Chart
Machine State Trends over Last Seven Days
Machines
Template Details
Apply Template to Report
Discard
Next
3

Name
User Experience Category Trends over Last Seven Days

Report Category
Time Series Chart

Data-Source
Users

Supported Visualizations

Filters
None

Group by
Time Period

Metrics
COUNT (USERS)

Sort by
ASC (Time Period)

Limit
30

Query
User-Experience != " "

To create a custom report with template, do the following:

1. Select a template. Choose the **Report Category** from among the following:

    - Time Series Chart: This chart helps analyze a selected metric across a period, like the Average Session Responsiveness.
    - Aggregator Chart: This chart plots aggregated values of a selected metric grouped by a characteristic (like region) over a period, such as the Session Distribution across Endpoint Country by ISP. It helps understand the session activity across different geographies and ISPs.
    - Comparison Chart: This chart plots the average metric value compared over a set of time periods like Average Session Responsiveness over Last Five Days. It helps understand the performance of a given metric across different time periods.

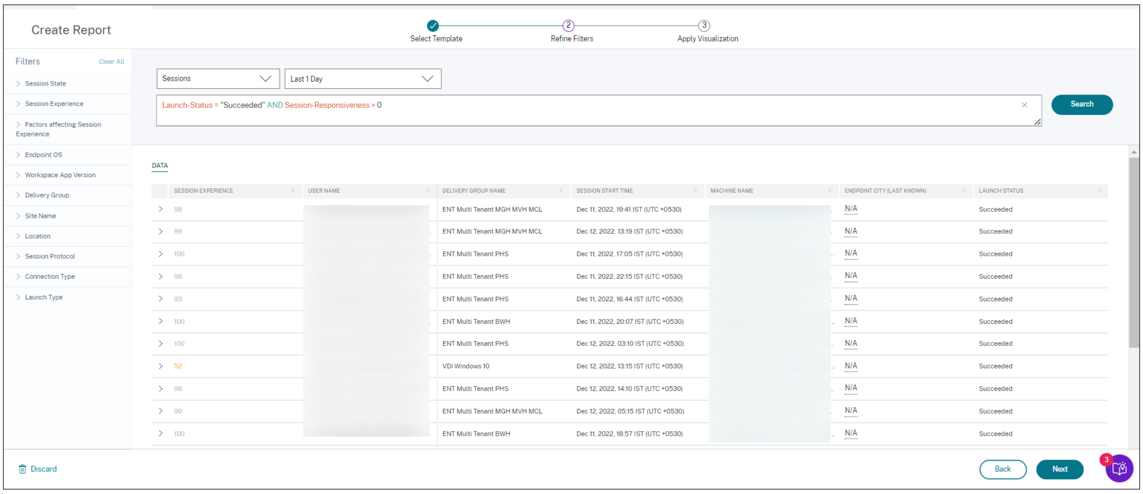
2. Choose a **Data Source** from among Users, Sessions, or Machines, and select one of the predefined templates for the chart.

    - Templates based on the Users Data source:
        - Average User Experience over Last Two Months
        - Average User Experience
        - User Experience Category Trends over Last Seven Days
    - Templates based on the Sessions Data source:
        - Average Session Responsiveness over Last Five Days
        - Average Session Logon Duration over Last Four Weeks
        - Session Distribution across Endpoint Country by ISP
        - Average Session Responsiveness
        - Average Session Logon Duration
    - Templates based on the Machines Data source:
        - Machine Count in Unregistered State

- Failed Machine Count across Delivery Groups
- Failed Machine Count across Sites
- Failed Machine Count across Machine OS
- Machine State Trends over Last Seven Days

3. Once you click a template, the template details are listed on the right. Click **Apply Template to Report** to enable the report to use the selected template.

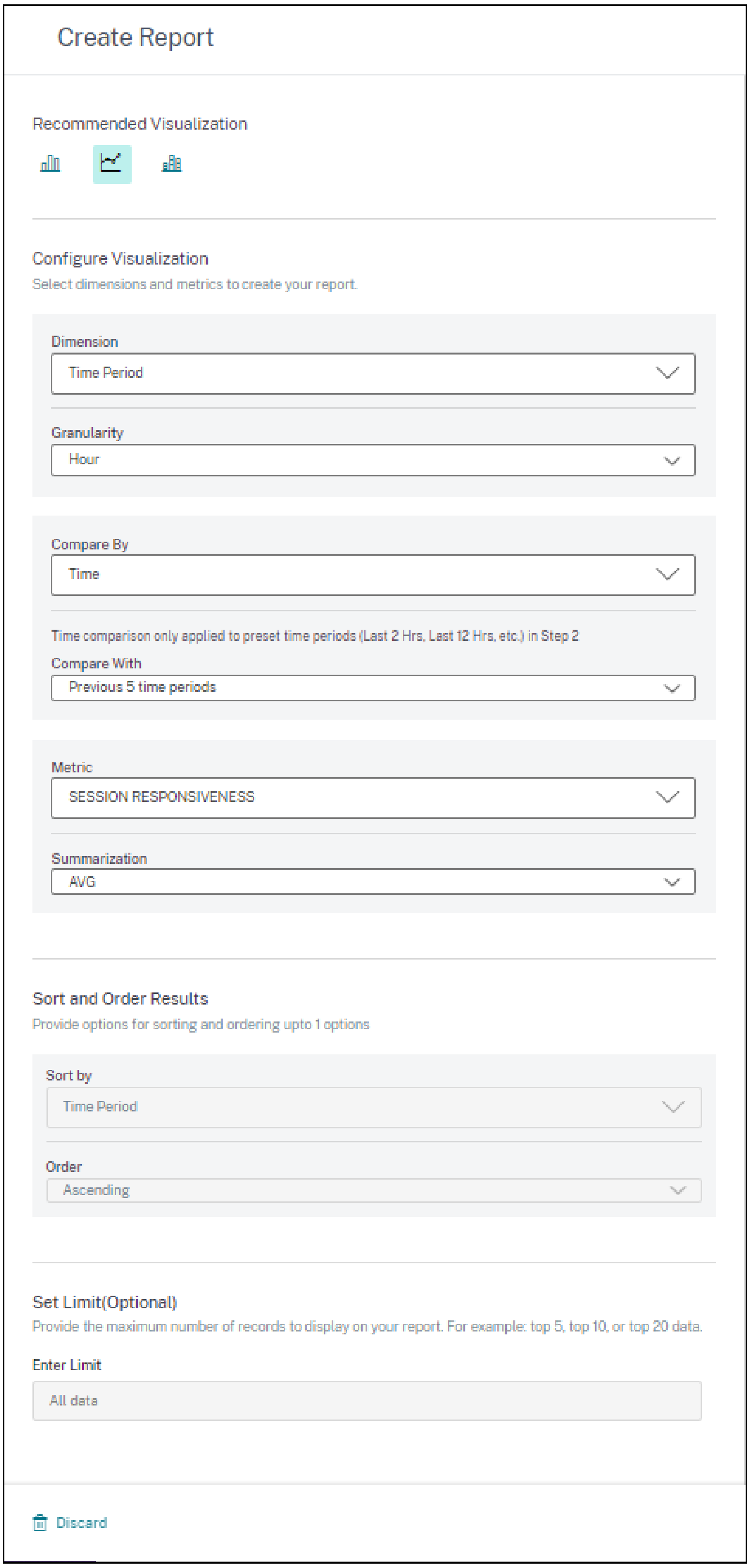
4. Refine Filters. On the **Refine Filters** page, the predefined filters as per the selected template are shown. Make the required changes and then click **Next**.



Launch-Status = "Succeeded" AND Session-Responsiveness > 0

SESSION EXPERIENCE	USER NAME	DELIVERY GROUP NAME	SESSION START TIME	MACHINE NAME	ENDPOINT CITY (LAST KNOWN)	LAUNCH STATUS
98	[redacted]	ENT Multi Tenant MGH MVH MCL	Dec 11, 2022, 19:41 IST (UTC +0530)	[redacted]	N/A	Succeeded
99	[redacted]	ENT Multi Tenant MGH MVH MCL	Dec 12, 2022, 13:19 IST (UTC +0530)	[redacted]	N/A	Succeeded
100	[redacted]	ENT Multi Tenant PHS	Dec 11, 2022, 17:05 IST (UTC +0530)	[redacted]	N/A	Succeeded
98	[redacted]	ENT Multi Tenant PHS	Dec 11, 2022, 22:15 IST (UTC +0530)	[redacted]	N/A	Succeeded
93	[redacted]	ENT Multi Tenant PHS	Dec 11, 2022, 16:44 IST (UTC +0530)	[redacted]	N/A	Succeeded
100	[redacted]	ENT Multi Tenant BWH	Dec 11, 2022, 20:07 IST (UTC +0530)	[redacted]	N/A	Succeeded
100	[redacted]	ENT Multi Tenant PHS	Dec 12, 2022, 03:10 IST (UTC +0530)	[redacted]	N/A	Succeeded
52	[redacted]	VDI Windows 10	Dec 12, 2022, 13:15 IST (UTC +0530)	[redacted]	N/A	Succeeded
98	[redacted]	ENT Multi Tenant PHS	Dec 12, 2022, 14:10 IST (UTC +0530)	[redacted]	N/A	Succeeded
99	[redacted]	ENT Multi Tenant MGH MVH MCL	Dec 12, 2022, 05:15 IST (UTC +0530)	[redacted]	N/A	Succeeded
100	[redacted]	ENT Multi Tenant BWH	Dec 11, 2022, 18:57 IST (UTC +0530)	[redacted]	N/A	Succeeded

5. Apply Visualization. Choose the parameters that make up the chart.



Create Report

Recommended Visualization

Configure Visualization

Select dimensions and metrics to create your report.

Dimension: Time Period

Granularity: Hour

Compare By: Time

Time comparison only applied to preset time periods (Last 2 Hrs, Last 12 Hrs, etc.) in Step 2

Compare With: Previous 5 time periods

Metric: SESSION RESPONSIVENESS

Summarization: AVG

Sort and Order Results

Provide options for sorting and ordering upto 1 options

Sort by: Time Period

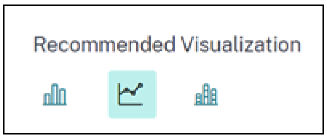
Order: Ascending

Set Limit(Optional)

Provide the maximum number of records to display on your report. For example: top 5, top 10, or top 20 data.

Enter Limit: All data

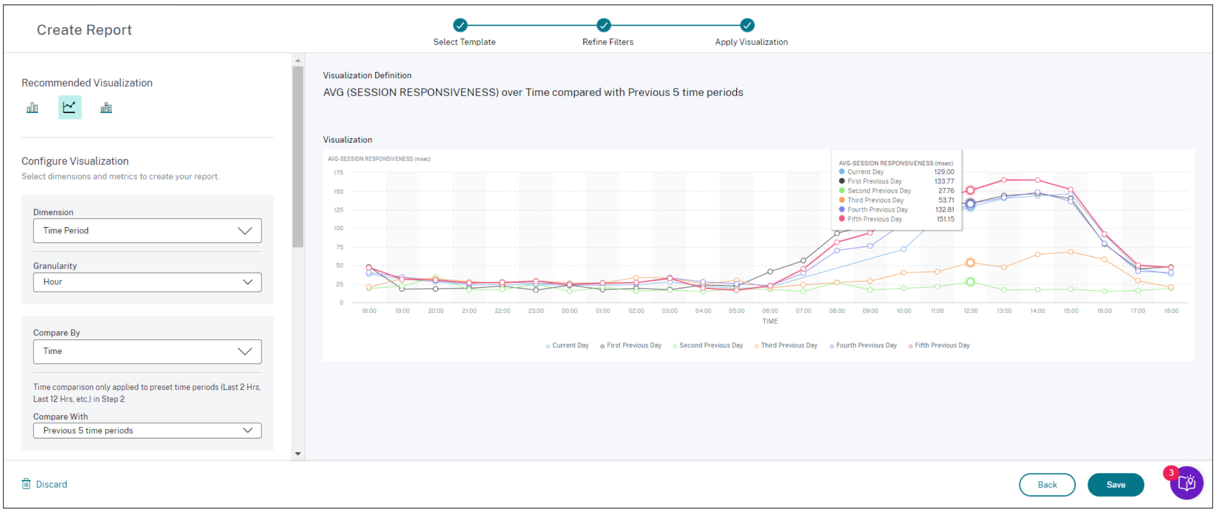
Select one of the available visualizations for displaying the report.



- Bar Chart: Presents data with vertical rectangular bars with height proportional to the values. Used for comparing events.
- Line chart: Presents data with dots connected by straight line segments. Used to visualize data trends over a time period.
- Stacked Column Chart: Presents data in the form of bars stacked one over the other. Used to visualize more than one data over the same time period.

6. Now configure the visualization with the following parameters:

   - Dimension for the x-axis,
   - Plotting granularity,
   - Metrics to be plotted in the y-axis,
   - Summarization or aggregation, such as average or count, to be applied to the metric,
   - Options for sorting and ordering
   - An optional limit for the maximum number of records to be displayed on the report.



Configure Visualization

Select dimensions and metrics to create your report.

Dimension: Time Period

Granularity: Hour

Compare By: Time

Time comparison only applied to preset time periods (Last 2 Hrs, Last 12 Hrs, etc.) in Step 2

Compare With: Previous 5 time periods

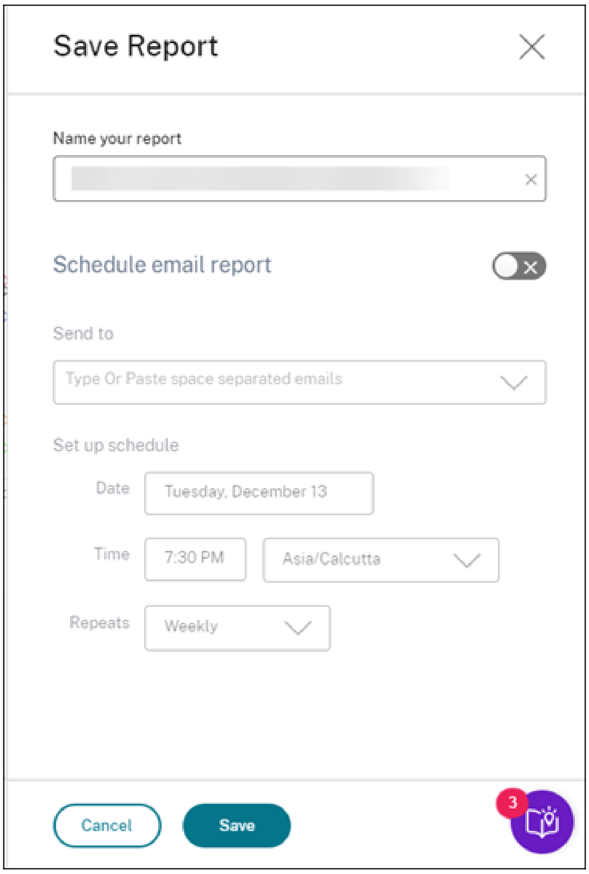
Visualization Definition

AVG (SESSION RESPONSIVENESS) over Time compared with Previous 5 time periods

Visualization

AVG-SESSION RESPONSIVENESS (msec)	
Current Day	129.00
First Previous Day	133.77
Second Previous Day	27.76
Third Previous Day	53.71
Fourth Previous Day	132.81
Fifth Previous Day	151.15

1. To save the report, click **Save**. Specify a title for your report.
2. You can schedule to email the report to the specified email ids and distribution lists on a specific date and time. Further, you can choose to repeat this daily, weekly, or monthly.



Save Report

Name your report

Schedule email report

Send to

Type Or Paste space separated emails

Set up schedule

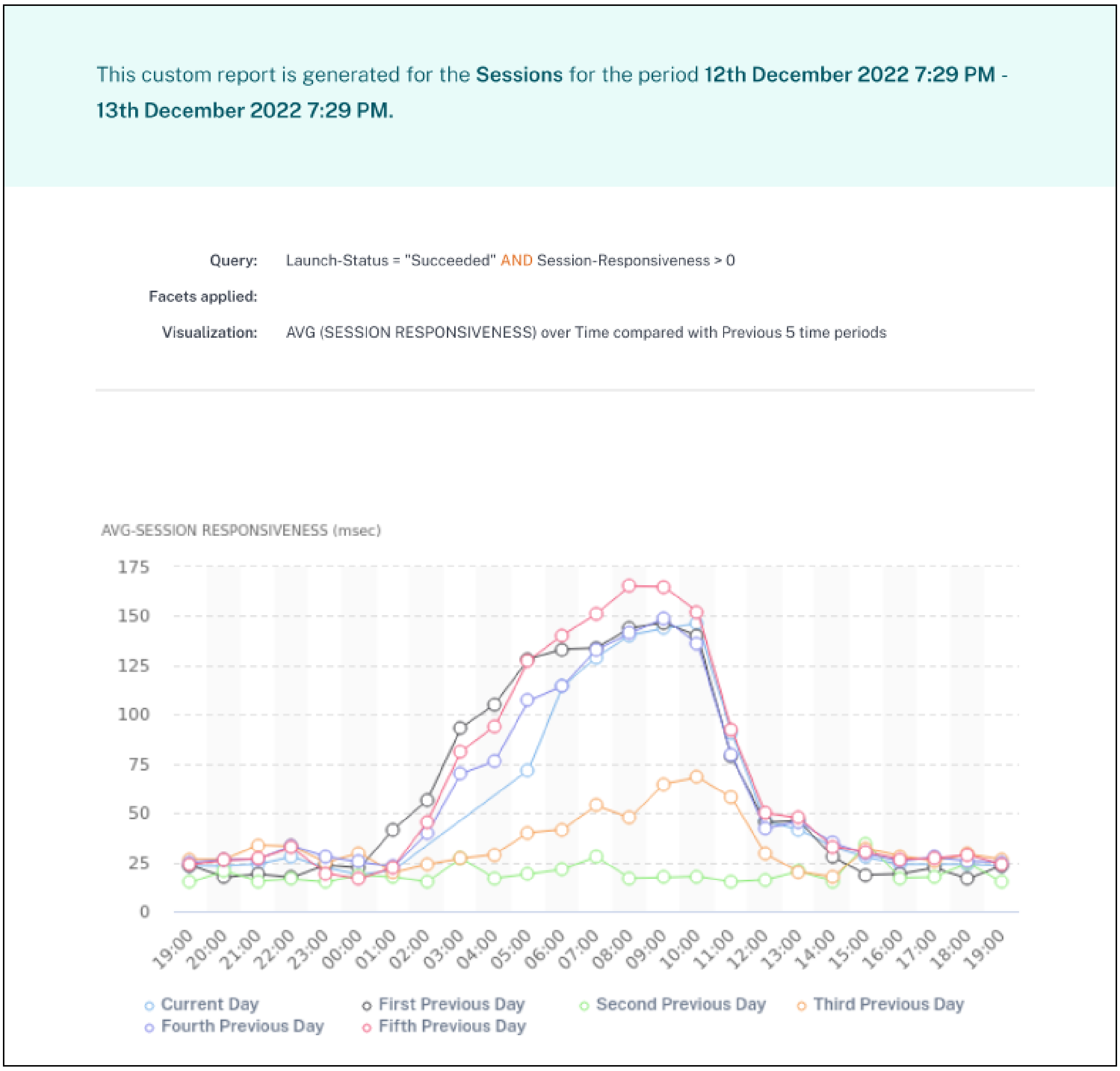
Date: Tuesday, December 13

Time: 7:30 PM Asia/Calcutta

Repeats: Weekly

3. After you have created and saved a report, you can view the report on the **Reports** page. You can also modify or delete a saved report.

4. Click the export icon to download the report in CSV format, PDF format or both formats.



This custom report is generated for the **Sessions** for the period **12th December 2022 7:29 PM - 13th December 2022 7:29 PM.**

Query: Launch-Status = "Succeeded" AND Session-Responsiveness > 0

Facets applied:

Visualization: AVG (SESSION RESPONSIVENESS) over Time compared with Previous 5 time periods

You can also create a custom report without a predefined template. Click the **Create Custom Report without Template** link. Follow the steps to define the filters, apply visualization, save, and schedule the report.

Citrix Analytics offerings

November 28, 2023

Citrix Analytics for Security

Collates and provides visibility into user and application behavior, collected from customers' connected data sources, such as Secure Private Access, Citrix Virtual Apps and Desktops, Citrix DaaS Site, or NetScaler Gateway. You can track every aspect of the behavior, and by leveraging advanced Machine Learning algorithms, you can distinguish between normal behavior and a malicious attacker. Thus, enabling you to proactively identify and manage internal and external threats.

Learn more: Citrix Analytics for Security

Citrix Analytics for Performance

Provides holistic end-to-end visibility across hybrid deployments of Citrix Virtual Apps and Desktops and Citrix DaaS sites. Performance is indicated by the User Experience Score which quantifies historical factors and metrics that define the experience a user has while using a Citrix-provided published application, published desktop, or Remote PC.

Learn more: Citrix Analytics for Performance

Citrix Analytics - Usage (End of Life)

> **Note**
>
> **Attention**: Citrix Usage Analytics has reached its end of life and is no longer available to users.