

NetScaler Insight Center 10.1

Feb 04, 2016

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Release Notes

May 22, 2015

NetScaler Insight Center is a virtual appliance, running on XenServer or on VMWare ESX that analyses the traffic flowing through the NetScaler appliances at your site and generates performance reports. It has two main components:

- Web Insight delivers data analytics for web applications.
- HDX Insight delivers data analytics for XenApp and XenDesktop applications.

Release notes describe the enhancements, changes, bug fixes, and known issues for a particular release or build of the NetScaler Insight Center software. The release notes are categorized into:

- [Build 127.10](#)
- [Build 126.12](#)
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- [Main Release 112.15](#)

Note: For release 10.1 build 128.8 onwards, see [Maintenance Releases](#)

This release provides support for the following major features:

- Monitoring CloudBridge 2000, 3000, 4000, and 5000 appliances.
- Monitoring NetScaler Gateway appliances deployed in double-hop mode.
- Adaptive Threshold Functionality.
- Installing NetScaler Insight Center on Microsoft Hyper-V.
- Configuring the ICA session timeout value for inactive sessions.

Note: This release does not support monitoring NetScaler Gateway appliances deployed in multi-hop mode.

Build 127.10

Updated: 2014-07-14

The NetScaler Insight Center release notes is now included as a part of NetScaler release notes. See [Build 127.10](#).

Build 126.12

Updated: 2014-06-17

This release notes covers the following fixes and known issues identified in this release.

Bug Fixes

- Issue ID 0401514: On an HTTP virtual server, after you enable AppFlow by selecting the expression TRUE and the HTML Injection box, if you change the policy expression and disable HTML injection, the rewrite and responder policies are still bound to the load balancing virtual server.
- Issue ID 0409885: The report for desktop session count also includes the count of XenApp sessions, which are launched

by the user.

- Issue ID 0451609: If a NetScaler ADC is deployed in transparent mode for HDX Insight, Citrix Receiver fails to launch the applications or desktops if use source IP (USIP) is enabled and use subnet IP (USNIP) is disabled.
- Issue ID 0452989: If a NetScaler ADC is deployed in transparent mode for HDX Insight, Citrix Receiver fails to launch the applications or desktops if the appflow policy is not bound to a global bind point.
- Issue ID 0456449: On the Dashboard > Web Insight > Applications page, the report for a specific application does not display the client type and client version details.
- Issue ID 0453764: On the dashboard, HDX Insight reports do not display the active sessions and also displays an incorrect value for session launch count.

Known Issues

- Issue ID 0368967: In a graph that displays a very low number of data points, the time value displayed on the x-axis includes milliseconds. The value displayed for milliseconds has no significance.
- Issue ID 0446120: In some instances, the bar line on a graph appears outside the time points on the x-axis.
- Issue IDs 0379876, 0424686, 0437964: The time values on the graphs display overlapping values, mostly in the 5-minute-interval view.
- Issue ID 0385821: When an ICA session is initiated by launching XenDesktop, the user name is displayed along with the domain name (user-id@domain-name).
- Issue ID 0386911: When launching n instances of an application, the NetScaler appliance sends n-1 termination records for the application. Consequently, the HDX Insight node displays only a single instance of this application as active.
- Issue ID 0394526: On the Dashboard > Web Insight > Applications page, the values shown when you select Response Time from the drop-down list can be incorrect.
- Issue ID 0397236: On the Dashboard > HDX Insight > Users page, the report for user sessions displays incorrect values. The left pane displays the average values for the entire session, but, the right pane displays the values for the period selected from the drop-down list.
- Issue ID 0399626: In transparent mode, after you initiate a session and launch an application through Citrix Receiver (Enterprise edition) from a Windows 8 client, the session terminates and resumes when you launch subsequent applications. Consequently, HDX Insight reports include session termination records.
- Issue ID 0409634: All the metrics except bandwidth and hits display the average values.
- Issue ID 414160: The following error message appears when NetScaler Insight Center installed on VMware ESX is powered on or off: The VMware Tools power-on script did not run successfully in this virtual machine. If you have configured a custom power-on script in this virtual machine, make sure that it contains no errors. You can also submit a support request to report this issue.
- Issue ID 414214: On the HDX Insight reports, a Y-axis value of 0 is sometimes shown at a location higher than the x axis.
- Issue ID 0424673: Upgrading NetScaler Insight Center on a VMware ESX server from build 118.7 or 119.7 to build 120.13 or later is not supported. However, upgrading from build 120.13 to later builds is supported.
Workaround: To upgrade to build 120.13 or later build, perform a fresh installation. To retain your existing configurations, make sure that the IP address of the NetScaler appliance and the IP address of NetScaler Insight Center remain the same .
- Issue ID 0324010: A higher than normal load on NetScaler Insight Center or on the database can cause the afdecoder subsystem to stop functioning. As a result, NetScaler Insight Center is unable to connect to the database.
Workaround: Restart the appliance by running the following command on the command line interface:

```
#!/etc/rc.d/analyticsd restart
```
- Issue ID 0331944: If no devices have been added to the inventory, the Getting Started wizard is displayed. You cannot

access the Configuration tab.

- Issue IDs 0333555 and 346171: After you enable appflow on some virtual servers, even though no error message appears, the Insight column does not display a check box indicating that the feature is enabled.
Workaround: Refresh the screen. If appflow is enabled, the check box in the Insight column is selected.
- Issue ID 0350977: When you enable Appflow from NetScaler Insight Center, complex policy expressions are not accepted. This issue occurs when you directly type the complex expression in the text box.
Workaround: Copy and paste the expression from a Notepad.
- Issue IDs 0388096 and 0423109: When you launch XenApp through Citrix Receiver (standard edition), the app launch duration is not calculated and is shown as zero.
- Issue IDs 0388563 and 0438710: The following behavior is seen during a high availability failover on a NetScaler appliance that has active ICA session applications launched:
 - The applications stop functioning, but are visible on the browser.
 - The Citrix Receiver displays a dialog box, with a message stating that the connection is disconnected.
 - When you click OK on the dialog box, the applications are not displayed anymore.
 - If you launch any fresh applications without re-login, all the previously launched applications will resume with the previous status.
- Issue ID 0388875: When you navigate to Configuration > Inventory and click on a NetScaler IP address, only one page of load balancing virtual servers is displayed. For example, if you have selected a page size of 25, and the number of load balancing virtual servers (including those associated with content switching virtual servers) exceeds 25, n-25 load balancing virtual servers are not displayed.
- Issue ID 0402105: The following error can occur when you use an IE8 browser to access NetScaler Insight Center from XenDesktop 5.6 or XenApp 6.5:
" Object does not support this property or method."
- Issue IDs 0404100 and 0404822: The VPN option on the View drop- down list is available for NetScaler 10.0 appliances.
- Issue ID 0404204: NetScaler 10 appliances do not support clearing AppFlow configurations from a virtual server.
- Issue ID 0404477: If you use Internet Explorer to open Desktop Director on an RDP machine, the graph displays extra dotted lines even though everything works fine functionally.
- Issue ID 0405853: If AppFlow is enabled for a virtual server on more than one NetScaler Insight Center virtual appliance, then the clear AppFlow configurations (select Configuration > Inventory > <ipaddress> > Application List > <ipaddress> > Action > Clear AppFlow Configuration) does not work on the virtual server that has the lowest priority.
- Issue ID 0405951: The count of embedded objects displayed in the waterfall chart can be wrong for recurrent page requests if the NetScaler integrated cache or browser cache is enabled.
- Issue ID 0405953: The waterfall chart displays a blank tooltip when you hover over the blank space between the x-axis and the y-axis.
- Issue ID 421657: If the ICMP port used to verify the network reachability of a NetScaler appliance from NetScaler Insight Center is blocked, the internal routing in NetScaler Insight Center is disrupted and the HDX Insight node is not displayed on the dashboard.

Build 125.9

Updated: 2014-05-22

This release notes covers the following fixes and known issues identified in this release.

Known Issues

- Issue ID 0324010: A higher than normal load on NetScaler Insight Center or on the database can cause the afdecoder subsystem to stop functioning. As a result, NetScaler Insight Center is unable to connect to the database.
Workaround: Restart the appliance by running the following command on the command line interface:
`#/etc/rc.d/analyticsd restart`
- Issue ID 0331944: If no devices have been added to the inventory, the Getting Started wizard is displayed. You cannot access the Configuration tab.
- Issue ID 0333555 and 346171: After you enable AppFlow on some virtual servers, even though no error message appears, the Insight column does not display a check box indicating that the feature is enabled.
Workaround: Refresh the screen. If AppFlow is enabled, the check box in the Insight column is selected.
- Issue ID 0350977: When you enable AppFlow from NetScaler Insight Center, complex policy expressions are not accepted. This issue occurs when you directly type the complex expression in the text box.
Workaround: Copy and paste the expression from a Notepad.
- Issue ID 0368967: In a graph that displays a very low number of data points, the time value displayed on the x-axis includes milliseconds. The value displayed for milliseconds has no significance.
- Issue ID 0379876: The graphs display overlapping time values, mostly in the 5-minute-interval view.
- Issue ID 0385821: When an ICA session is initiated by launching XenDesktop, the user name is displayed along with the domain name (user-id@domain-name).
- Issue ID 0386911: While launching n instances of an application, the NetScaler appliance sends n-1 termination records for the application. Consequently, the HDX Insight node displays only a single instance of this application as active.
- Issue ID 0388096: When you launch XenApp through Citrix Receiver (standard edition), the app launch duration is not calculated and is shown as zero.
- Issue ID 0388875: Only one page of load balancing virtual servers is displayed. For example, if you have selected a page size of 25, and the number of load balancing virtual servers (including those associated with content switching virtual servers) exceeds 25, n-25 load balancing virtual servers are not displayed.
- Issue ID 0394526: On the Dashboard > Web Insight > Applications page, the values shown when you select **Response Time** from the drop-down list can be incorrect.
- Issue ID 0399626: In transparent mode, after you initiate a session and launch an application through Citrix Receiver (Enterprise edition) from a Windows 8 client, the session terminates and resumes when you launch subsequent applications. Consequently, HDX Insight reports include session termination records.
- Issue ID 0401514: On an HTTP virtual server, after you enable AppFlow by selecting the expression TRUE and the HTML Injection box, if you change the policy expression and disable HTML injection, the rewrite and responder policies are still bound to the load balancing virtual server.
- Issue ID 0402105: The following error can occur when you use an IE8 browser to access NetScaler Insight Center from XenDesktop 5.6 or XenApp 6.5:
Object does not support this property or method.
- Issue ID 0404100: The VPN option on the View drop-down list is available for NetScaler 10.0 appliances.
- Issue ID 0404204: NetScaler 10 appliances do not support clearing AppFlow configurations from a virtual server.
- Issue ID 0404477: If you use Internet Explorer to open Desktop Director on an RDP machine, the graph displays extra dotted lines even though everything works fine functionally.
- Issue ID 0405853: If AppFlow is enabled for a virtual server on more than one NetScaler Insight Center virtual appliance, the clear AppFlow configurations (Configuration > Inventory > <ipaddress> > Application List > <ipaddress> > Action > Clear AppFlow Configuration) does not work on the virtual server that has the lowest priority.

- Issue ID 0405951: The count of embedded objects displayed in the waterfall chart can be wrong for recurrent page requests if the NetScaler integrated cache or browser cache is enabled.
- Issue ID 0405953: The waterfall chart displays a blank tooltip when you hover over the blank space between the x-axis and the y-axis.
- Issue ID 0409885: The report for desktop session count also includes the count of XenApp sessions, which are launched by the user.
- Issue ID 0414214: On the HDX Insight reports, a Y-axis value of 0 is sometimes shown at a location higher than the x axis.
- Issue ID 0414160: The following error message appears when NetScaler Insight Center installed on VMware ESX is powered on or off: The VMware Tools power-on script did not run successfully in this virtual machine. If you have configured a custom power-on script in this virtual machine, make sure that it contains no errors.
- Issue ID 0424673: Upgrading NetScaler Insight Center on a VMware ESX server from build 118.7 or 119.7 to build 120.13 or later is not supported. However, upgrading from build 120.13 to later builds is supported.
Workaround: To upgrade to 120.13 or later builds, perform a fresh installation. To retain your existing configurations, make sure that the IP address of the NetScaler appliance and the IP address of NetScaler Insight Center remain the same.
- Issue ID 0421657: If the ICMP port used to verify the network reachability of a NetScaler appliance from NetScaler Insight Center is blocked, the internal routing in NetScaler Insight Center is disrupted and the HDX Insight node is not displayed on the dashboard.
- Issue ID 0446120: On the HDX Insight reports, the bar in the chart is sometimes shown at a location higher than the X axis.
- Issue ID 0456449: On the Dashboard > Web Insight > Applications page, the report for a specific application does not display the client type and client version details.
- Issue ID 0456440: On the Dashboard > HDX Insight > Desktops page, the report for a specific user displays the desktop record for that user, but it does not include the desktop records for all users.

Build 124.13

Updated: 2014-03-19

This release notes covers the following bug fixes and known issues identified in this release.

Bug Fixes

- Issue ID 0414155: If you move columns and refresh the page, the column ordering is sometimes reset to default.
- Issue ID 0424610: On the dashboard, the table that appears when you navigate to HDX Insight > Gateways might display a blank desktop name.
- Issue ID 0439992: The HDX Insight dashboard displays the host delay as server-side NetScaler delay.

Known Issues

- Issue ID 0324010: A higher than normal load on NetScaler Insight Center or on the database can cause the afdecoder subsystem to stop functioning. As a result, NetScaler Insight Center is unable to connect to the database.
Workaround: Restart the appliance by running the following command on the command line interface:
`#!/etc/rc.d/analyticcsd restart`
- Issue ID 0331944: If no devices have been added to the inventory, the Getting Started wizard is displayed. You cannot access the Configuration tab.

- Issue ID 0333555 and 346171: After you enable appflow on some virtual servers, even though no error message appears, the Insight column does not display a check box indicating that the feature is enabled.
Workaround: Refresh the screen. If appflow is enabled, the check box in the Insight column is selected.
- Issue ID 0350977: When you enable Appflow from NetScaler Insight Center, complex policy expressions are not accepted. This issue occurs when you directly type the complex expression in the text box.
Workaround: Copy and paste the expression from a notepad.
- Issue ID 0368967: In a graph that displays a very low number of data points, the time value displayed on the x-axis includes milliseconds. The value displayed for milliseconds has no significance.
- Issue ID 0379876: The time values on the graphs display overlapping values, mostly in the 5-minute-interval view.
- Issue ID 0385821: When an ICA session is initiated by launching XenDesktop, the user name is displayed along with the domain name (user-id@domain-name).
- Issue ID 0386911: While launching n instances of an application, the NetScaler appliance sends n-1 termination records for the application. Consequently, the HDX Insight node displays only a single instance of this application as active.
- Issue ID 0388096: When you launch XenApp through Citrix Receiver (standard edition), the app launch duration is not calculated and is shown as zero.
- Issue ID 0388875: Only one page of load balancing virtual servers is displayed. For example, if you have selected a page size of 25, and the number of load balancing virtual servers (including those associated with content switching virtual servers) exceeds 25, n-25 load balancing virtual servers are not displayed.
- Issue ID 0394526: On the Dashboard > Web Insight > Applications page, the values shown when you select **Response Time** from the drop-down list can be incorrect.
- Issue ID 0399626: In transparent mode, after you initiate a session and launch an application through Citrix Receiver (Enterprise edition) from a Windows 8 client, the session terminates and resumes when you launch subsequent applications. Consequently, HDX Insight reports include session termination records.
- Issue ID 0401514: On an HTTP virtual server, after you enable AppFlow by selecting the expression TRUE and the HTML Injection box, if you change the policy expression and disable HTML injection, the rewrite and responder policies are still bound to the load balancing virtual server.
- Issue ID 0402105: The following error may occur when you access NetScaler Insight Center appliance from XenDesktop 5.6 or XenApp 6.5 using IE8 browser:
Object does not support this property or method.
- Issue ID 0404100: The VPN option on the View drop-down list is available for NetScaler 10.0 appliances.
- Issue ID 0404204: NetScaler 10 appliances do not support clearing AppFlow configurations from a virtual server.
- Issue ID 0404477: If you use Internet Explorer to open Desktop Director on an RDP machine, the graph displays extra dotted lines even though everything works fine functionally.
- Issue ID 0405853: If AppFlow is enabled for a virtual server on more than one NetScaler Insight Center virtual appliance, then the clear AppFlow configurations (select Configuration > Inventory > <ipaddress> > Application List > <ipaddress> > Action > Clear AppFlow Configuration) does not work on the virtual server having the least priority.
- Issue ID 0405951: The count of embedded objects displayed in the waterfall chart can be wrong for recurrent page requests if the NetScaler integrated cache or browser cache is enabled.
- Issue ID 0405953: The waterfall chart displays a blank tooltip when you hover over the blank space between the x-axis and the y-axis.
- Issue ID 0409885: The report for desktop session count also includes the count of XenApp sessions, which are launched by the user.
- Issue ID 0414214: On the HDX Insight reports, a Y-axis value of 0 is sometimes shown at a location higher than the x axis.

- Issue ID 0414160: The following error message appears when NetScaler Insight Center installed on VMware ESX is powered on or off: The VMware Tools power-on script did not run successfully in this virtual machine. If you have configured a custom power-on script in this virtual machine, make sure that it contains no errors.
- Issue ID 0424673: Upgrading NetScaler Insight Center on VMware ESX server from build 118.7 or 119.7 to 120.13 or later builds is not supported. However, upgrade from build 120.13 to later builds is supported.
Workaround: To upgrade to 120.13 or later builds, perform a fresh installation. To retain your existing configurations, make sure that the IP address of the NetScaler appliance and the IP address of NetScaler Insight Center remain the same .
- Issue ID 0421657: If the ICMP port used to verify the network reachability of a NetScaler appliance from NetScaler Insight Center is blocked, the internal routing in NetScaler Insight Center is disrupted and the HDX Insight node is not displayed on the dashboard.
- Issue ID 0446120: On the HDX Insight reports, the bar in the chart is sometimes shown at a location higher than the X axis.

Build 123.11

Updated: 2014-03-19

This release notes covers the following bug fixes and known issues identified in this release.

Enhancements

- Issue ID 0431957: On the configuration tab, you can now configure the ICA session timeout value for inactive sessions.
- Issue ID 0432702: HDX Insight reports now include details about CloudBridge in an ICA session path.

Bug Fixes

- Issue ID 0405849: NetScaler entity names are case insensitive, but NetScaler Insight Center expects the virtual server names or policy names to be case sensitive.
- Issue ID 0412129: The WAN jitter and DC jitter values are not displayed in the NetScaler Insight Center reports.
- Issue ID 0424610: On the dashboard, the table that appears when you navigate to HDX Insight > Gateways might display a blank desktop name.
- Issue IDs 0437475 and 0439088: In certain scenarios, if data sent from the XenApp server to the client receiver is delayed because of network congestion or increased network latency, the client re-transmits the ICA magic string, which causes the Netscaler Gateway to fail. This failure happens because the NetScaler Gateway was not expecting two packets containing the magic string.
- Issue ID 0439992: The HDX Insight dashboard displays the host delay as server side server-side NetScaler delay.

Known Issues

- Issue ID 0324010: A higher than normal load on NetScaler Insight Center or on the database can cause the afdecoder subsystem to stop functioning. As a result, NetScaler Insight Center is unable to connect to the database.
Workaround: Restart the appliance by running the following command on the command line interface:
`#/etc/rc.d/analyticsd restart`
- Issue ID 0331944: If no devices have been added to the inventory, the Getting Started wizard is displayed. You cannot access the Configuration tab.
- Issue ID 0333555 and 346171: After you enable appflow on some virtual servers, even though no error message appears, the Insight column does not display a check box indicating that the feature is enabled.

Workaround: Refresh the screen. If appflow is enabled, the check box in the Insight column is selected.

- Issue ID 0350977: When you enable Appflow from NetScaler Insight Center, complex policy expressions are not accepted. This issue occurs when you directly type the complex expression in the text box.

Workaround: Copy and paste the expression from a notepad.

- Issue ID 0368967: In a graph that displays a very low number of data points, the time value displayed on the x-axis includes milliseconds. The value displayed for milliseconds has no significance.
- Issue ID 0379876: The time values on the graphs display overlapping values, mostly in the 5-minute-interval view.
- Issue ID 0385821: When an ICA session is initiated by launching XenDesktop, the user name is displayed along with the domain name (user-id@domain-name).
- Issue ID 0386911: While launching n instances of an application, the NetScaler appliance sends n-1 termination records for the application. Consequently, the HDX Insight node displays only a single instance of this application as active.
- Issue ID 0388096: When you launch XenApp through Citrix Receiver (standard edition), the app launch duration is not calculated and is shown as zero.
- Issue ID 0388875: Only one page of load balancing virtual servers is displayed. For example, if you have selected a page size of 25, and the number of load balancing virtual servers (including those associated with content switching virtual servers) exceeds 25, n-25 load balancing virtual servers are not displayed.
- Issue ID 0394526: On the Dashboard > Web Insight > Applications page, the values shown when you select **Response Time** from the drop-down list can be incorrect.
- Issue ID 0399626: In transparent mode, after you initiate a session and launch an application through Citrix Receiver (Enterprise edition) from a Windows 8 client, the session terminates and resumes when you launch subsequent applications. Consequently, HDX Insight reports include session termination records.
- Issue ID 0401514: On an HTTP virtual server, after you enable AppFlow by selecting the expression TRUE and the HTML Injection box, if you change the policy expression and disable HTML injection, the rewrite and responder policies are still bound to the load balancing virtual server.
- Issue ID 0402105: The following error may occur when you access NetScaler Insight Center appliance from XenDesktop 5.6 or XenApp 6.5 using IE8 browser:
Object does not support this property or method.
- Issue ID 0404100: The VPN option on the View drop-down list is available for NetScaler 10.0 appliances.
- Issue ID 0404204: NetScaler 10 appliances do not support clearing AppFlow configurations from a virtual server.
- Issue ID 0404477: If you use Internet Explorer to open Desktop Director on an RDP machine, the graph displays extra dotted lines even though everything works fine functionally.
- Issue ID 0405853: If AppFlow is enabled for a virtual server on more than one NetScaler Insight Center virtual appliance, then the clear AppFlow configurations (select Configuration > Inventory > <ipaddress> > Application List > <ipaddress> > Action > Clear AppFlow Configuration) does not work on the virtual server having the least priority.
- Issue ID 0405951: The count of embedded objects displayed in the waterfall chart can be wrong for recurrent page requests if the NetScaler integrated cache or browser cache is enabled.
- Issue ID 0405953: The waterfall chart displays a blank tooltip when you hover over the blank space between the x-axis and the y-axis.
- Issue ID 0409885: The report for desktop session count also includes the count of XenApp sessions, which are launched by the user.
- Issue ID 0414155: If you move columns and refresh the page, the column ordering is sometimes reset to default.
- Issue ID 0414214: On the HDX Insight reports, a Y-axis value of 0 is sometimes shown at a location higher than the x axis.
- Issue ID 0414160: The following error message appears when NetScaler Insight Center installed on VMware ESX is

powered on or off: The VMware Tools power-on script did not run successfully in this virtual machine. If you have configured a custom power-on script in this virtual machine, make sure that it contains no errors.

- Issue ID 0424673: Upgrading NetScaler Insight Center on VMware ESX server from build 118.7 or 119.7 to 120.13 or later builds is not supported. However, upgrade from build 120.13 to later builds is supported.
Workaround: To upgrade to 120.13 or later builds, perform a fresh installation. To retain your existing configurations, make sure that the IP address of the NetScaler appliance and the IP address of NetScaler Insight Center remain the same .
- Issue ID 0421657: If the ICMP port used to verify the network reachability of a NetScaler appliance from NetScaler Insight Center is blocked, the internal routing in NetScaler Insight Center is disrupted and the HDX Insight node is not displayed on the dashboard.

Build 122.17

Updated: 2014-03-19

This release notes covers the following bug fixes and known issues identified in this release.

Enhancements

- Issue ID 0392016: HDX Insight reports now include details about session reconnects, client-side retransmissions, and server-side retransmissions.
- Issue ID 0398322: HDX Insight now provides a report about active sessions, grouped by server IP and gateway IP.
- Issue ID 0418196: The top-right corner of the page now displays a percentile icon, which you can click to display percentile values and the highest and lowest values for a selected metric.
- Issue ID 0423207: You can now select which columns to show in the tables in the NetScaler Insight Center graphical user interface (GUI), and you can rearrange the columns. Each user can make his or her changes persistent across his or her sessions.

Changes

- Issue ID 0409634: All the metrics except bandwidth and hits display the average values.

Bug Fixes

- Issue ID 0394613: The **Total App Launch Count** is not displayed when you navigate to Dashboard > HDX Insight > Gateways and view the summary for a particular user.
- Issue ID 0398844: On the Dashboard > HDX Insight > Users page, the report for a specific user does not display data for the Total Application Launch count.
- Issue ID 0399329: Even when Appflow is disabled for a virtual server, you can still clear the configurations on the NetScaler Insight Center by selecting the Clear AppFlow Configurations from the Action list.
- Issue ID 0403665: If the values for certain metrics are zero, the graphs display these values incorrectly.

Known Issues

- Issue ID 0324010: A higher than normal load on NetScaler Insight Center or on the database can cause the afdecoder subsystem to stop functioning. As a result, NetScaler Insight Center is unable to connect to the database.
Workaround: Restart the appliance by running the following command on the command line interface:
`#/etc/rc.d/analyticcsd restart`

- Issue ID 0331944: If no devices have been added to the inventory, the Getting Started wizard is displayed. You cannot access the Configuration tab.
- Issue ID 0333555 and 346171: After you enable appflow on some virtual servers, even though no error message appears, the Insight column does not display a check box indicating that the feature is enabled.
Workaround: Refresh the screen. If appflow is enabled, the check box in the Insight column is selected.
- Issue ID 0350977: When you enable Appflow from NetScaler Insight Center, complex policy expressions are not accepted. This issue occurs when you directly type the complex expression in the text box.
Workaround: Copy and paste the expression from a notepad.
- Issue ID 0368967: In a graph that displays a very low number of data points, the time value displayed on the x-axis includes milliseconds. The value displayed for milliseconds has no significance.
- Issue ID 0379876: The time values on the graphs display overlapping values, mostly in the 5-minute-interval view.
- Issue ID 0385821: When an ICA session is initiated by launching XenDesktop, the user name is displayed along with the domain name (user-id@domain-name).
- Issue ID 0386911: While launching n instances of an application, the NetScaler appliance sends n-1 termination records for the application. Consequently, the HDX Insight node displays only a single instance of this application as active.
- Issue ID 0388096: When you launch XenApp through Citrix Receiver (standard edition), the app launch duration is not calculated and is shown as zero.
- Issue ID 0388875: Only one page of load balancing virtual servers is displayed. For example, if you have selected a page size of 25, and the number of load balancing virtual servers (including those associated with content switching virtual servers) exceeds 25, n-25 load balancing virtual servers are not displayed.
- Issue ID 0394526: On the Dashboard > Web Insight > Applications page, the values shown when you select **Response Time** from the drop-down list can be incorrect.
- Issue ID 0397258: On the Dashboard > HDX Insight > Users page, the line graph plots might not add up to the summary shown to the left of the line graph for average bandwidth.
- Issue ID 0399626: In transparent mode, after you initiate a session and launch an application through Citrix Receiver (Enterprise edition) from a Windows 8 client, the session terminates and resumes when you launch subsequent applications. Consequently, HDX Insight reports include session termination records.
- Issue ID 0401514: On an HTTP virtual server, after you enable AppFlow by selecting the expression TRUE and the HTML Injection box, if you change the policy expression and disable HTML injection, the rewrite and responder policies are still bound to the load balancing virtual server.
- Issue ID 0402105: The following error may occur when you access NetScaler Insight Center appliance from XenDesktop 5.6 or XenApp 6.5 using IE8 browser:
Object does not support this property or method.
- Issue ID 0404100: The VPN option on the View drop-down list is available for NetScaler 10.0 appliances.
- Issue ID 0404204: NetScaler 10 appliances do not support clearing AppFlow configurations from a virtual server.
- Issue ID 0404477: If you use Internet Explorer to open Desktop Director on an RDP machine, the graph displays extra dotted lines even though everything works fine functionally.
- Issue ID 0405849: NetScaler entity names are case insensitive, but NetScaler Insight Center expects the virtual server names or policy names to be case sensitive.
- Issue ID 0405853: If AppFlow is enabled for a virtual server on more than one NetScaler Insight Center virtual appliance, then the clear AppFlow configurations (select Configuration > Inventory > <ipaddress> > Application List > <ipaddress> > Action > Clear AppFlow Configuration) does not work on the virtual server having the least priority.
- Issue ID 0405936: After the NetScaler upgrade or downgrade operation, NetScaler Insight Center does not report any data on the dashboard.

Workaround: Restart the NetScaler Insight Center appliance.

- Issue ID 0405951: The count of embedded objects displayed in the waterfall chart can be wrong for recurrent page requests if the NetScaler integrated cache or browser cache is enabled.
- Issue ID 0405953: The waterfall chart displays a blank tooltip when you hover over the blank space between the x-axis and the y-axis.
- Issue ID 0409885: The report for desktop session count also includes the count of XenApp sessions, which are launched by the user.
- Issue ID 0412129: The WAN jitter and DC jitter values are not displayed in the NetScaler Insight Center reports.
- Issue ID 0414155: If you move columns and refresh the page, the column ordering is sometimes reset to default.
- Issue ID 0414214: On the HDX Insight reports, a Y-axis value of 0 is sometimes shown at a location higher than the x axis.
- Issue ID 0414160: The following error message appears when NetScaler Insight Center installed on VMware ESX is powered on or off: The VMware Tools power-on script did not run successfully in this virtual machine. If you have configured a custom power-on script in this virtual machine, make sure that it contains no errors.
- Issue ID 0417415: If you add a NetScaler appliance to a NetScaler Insight Center setup while ICA sessions are enabled, NetScaler Insight Center does not report the existing ICA sessions. It reports only the ICA sessions initiated after the appliance is added.
- Issue ID 0424610: On the dashboard, the table that appears when you navigate to HDX Insight > Gateways might display a blank desktop name.
- Issue ID 0424673: Upgrading NetScaler Insight Center on VMware ESX server from build 118.7 or 119.7 to 120.13 or later builds is not supported. However, upgrade from build 120.13 to later builds is supported.
Workaround: To upgrade to 120.13 or later builds, perform a fresh installation. To retain your existing configurations, make sure that the IP address of the NetScaler appliance and the IP address of NetScaler Insight Center remain the same .
- Issue ID 0421657: If the ICMP port used to verify the network reachability of a NetScaler appliance from NetScaler Insight Center is blocked, the internal routing in NetScaler Insight Center is disrupted and the HDX Insight node is not displayed on the dashboard.
- Issue IDs 0437475 and 0439088: In certain scenarios, if data sent from the XenApp server to the client receiver is delayed because of network congestion or increased network latency, the client re-transmits the ICA magic string, which causes the Netscaler Gateway to fail. This failure happens because the NetScaler Gateway was not expecting two packets containing the magic string.

Build 121.10

Updated: 2013-10-25

This release notes covers the following bug fixes and known issues identified in this release.

Enhancements

- ENH ID 0404805: NetScaler Insight Center now saves the following:

Granular Data	Time to purge
7 seconds data	6 min

5 minutes data	65 minutes
Hourly data	25 hours
Daily data	8 days
Weekly data	5 weeks

Bug Fixes

- Issue ID 0416889: In some cases, NetScaler Insight Center reports incorrect values for XenApp launch count.

Known Issues

- Issue ID 0331944: When there are no devices added in the inventory, the welcome screen is displayed for the configuration tab along with the dashboard tab which makes it unable to perform any basic configurations.
- Issue ID 0333555 and 346171: After you enable appflow on some virtual servers, even though no error message appears, the check box does not appear in the Insight column .
Workaround: Refresh the screen. If appflow is enabled, the check box in the Insight column is selected.
- Issue ID 0350977: When you enable Appflow from NetScaler Insight Center, complex policy expressions are not accepted. This issue occurs when you directly type the complex expression in the text box.
Workaround: Copy and paste the expression from a notepad.
- Issue ID 0368967: In a graph that displays a very low number of data points, the time value displayed on the x-axis includes milliseconds. The value displayed for milliseconds has no significance.
- Issue ID 0379876: The time values on the graphs display overlapping values, mostly in the 5-minute-interval view.
- Issue ID 0385821: When an ICA session is initiated by launching XenDesktop, the user name is displayed along with the domain name (user-id@domain-name).
- Issue ID 0386911: While launching n instances of an application, the NetScaler appliance sends n-1 termination records for the application. Consequently, the HDX Insight node displays only a single instance of this application as active.
- Issue ID 0388096: When you launch XenApp through Citrix Receiver (standard edition), the app launch duration is not calculated and is shown as zero.
- Issue ID 0388875: Only one page of load balancing virtual servers is displayed. For example, if you have selected a page size of 25, and the number of load balancing virtual servers (including those associated with content switching virtual servers) exceeds 25, n-25 load balancing virtual servers are not displayed.
- Issue ID 0394526: On the Dashboard > Web Insight > Applications page, the values shown when you select **Response Time** from the drop-down list can be incorrect.
- Issue ID 0394613: The **Total App Launch Count** is not displayed when you navigate to Dashboard > HDX Insight > Gateways and view the summary for a particular user.
- Issue ID 0397258: On the Dashboard > HDX Insight > Users page, the line graph plots might not add up to the summary shown to the left of the line graph for average bandwidth.
- Issue ID 0398844: On the Dashboard > HDX Insight > Users page, the report for a specific user does not display data for Total Application Launch count.
- Issue ID 0399626: In transparent mode, after you initiate a session and launch an application through Citrix Receiver

(Enterprise edition) from a Windows 8 client, the session terminates and resumes when you launch subsequent applications. Consequently, HDX Insight reports include session termination records.

- Issue ID 0401514: On an HTTP virtual server, after you enable AppFlow by selecting the expression TRUE and the HTML Injection box, if you change the policy expression and disable HTML injection, the rewrite and responder policies are still bound to the load balancing virtual server.
- Issue ID 0402105: The following error may occur when you access NetScaler Insight Center appliance from XenDesktop 5.6 or XenApp 6.5 using IE8 browser:
Object does not support this property or method.
- Issue ID 0404100: The VPN option on the View drop-down list is available for NetScaler 10.0 appliances.
- Issue ID 0404204: NetScaler 10 appliances do not support clearing AppFlow configurations from a virtual server.
- Issue ID 0404477: If you use Internet Explorer to open Desktop Director on an RDP machine, the graph displays extra dotted lines even though everything works fine functionally.
- Issue ID 0405849: NetScaler entity names are case insensitive, but NetScaler Insight Center expects the virtual server names or policy names to be case sensitive.
- Issue ID 0405853: If AppFlow is enabled for a virtual server on more than one NetScaler Insight Center virtual appliance, then the clear AppFlow configurations (select Configuration > Inventory > <ipaddress> > Application List > <ipaddress> > Action > Clear AppFlow Configuration) does not work on the virtual server having the least priority.
- Issue ID 0405936: After the NetScaler upgrade or downgrade operation, NetScaler Insight Center does not report any data on the dashboard.
Workaround: Restart the NetScaler Insight Center appliance.
- Issue ID 0405951: The count of embedded objects displayed in the waterfall chart can be wrong for recurrent page requests if the NetScaler integrated cache or browser cache is enabled.
- Issue ID 0405953: The waterfall chart displays a blank tooltip when you hover over the blank space between the x-axis and the y-axis.
- Issue ID 0409885: The report for desktop session count also includes the count of XenApp sessions, which are launched by the user.
- Issue ID 0412129: The WAN jitter and DC jitter values are not displayed in the NetScaler Insight Center reports.
- Issue ID 0414155: If you move columns and refresh the page, the column ordering is sometimes reset to default.
- Issue ID 0414214: On the HDX Insight reports, a Y-axis value of 0 is sometimes shown at a location higher than the x axis.
- Issue ID 0414160: The following error message appears when NetScaler Insight Center installed on VMware ESX is powered on or off: The VMware Tools power-on script did not run successfully in this virtual machine. If you have configured a custom power-on script in this virtual machine, make sure that it contains no errors. You can also submit a support request to report this issue.
- Issue ID 0417415: If you add a NetScaler appliance to a NetScaler Insight Center setup while ICA sessions are enabled, NetScaler Insight Center does not report the existing ICA sessions. It reports only the ICA sessions initiated after the appliance is added.

Build 120.13

Updated: 2013-10-18

This release notes covers the following bug fixes and known issues identified in this release.

Fixes

- Issue ID 0369664: For an Active session, data is sent to the AppFlow collector even if the policy rule is changed to FALSE

when the session is active.

- Issue ID 0395022: On the Dashboard > HDX Insight > Users page, the **Active Apps** count is not updated instantly on the left pane.
- Issue ID 0402458: If the memory usage on the NetScaler Insight Center reaches the maximum limit, the appliance fails to respond to further memory-allocation requests by other modules and becomes unresponsive.
- Issue ID 0402727: If you have installed NetScaler Insight Center virtual appliance on ESX, then the console may display watchdog timeout errors or the Graphical User Interface (GUI) may freeze sometimes.
- Issue ID 0402959: In certain situations, the NetScaler appliance incorrectly interprets the compression buffer size negotiation between the client and the server, and enabling AppFlow on the ICA connection causes the appliance to fail when the connection is used to launch an application or desktop. This problem most commonly occurs when a CloudBridge appliance or any WAN optimization device is placed between the client and the NetScaler appliance.
- Issue ID 0405818/ 0405273: On the Dashboard > Users page, ICA RTT values displayed on the graph in the left panel do not match the values displayed below the graph, or there is a delay in the updating the values.
- Issue ID 0408495: During installation of a virtual NetScaler Insight Center on VMware ESX, NetScaler Insight allocates only 14 GB of space in the var directory, even though the OVF file specifies 120 GB.
- Issue ID 0411107: In a mixed XenApp/XenDesktop server farm, if the XenApp and XenDesktop versions are older than 6.5 and 5.0 respectively, the applications fail to launch because the NetScaler appliance incorrectly parses the ICA packets.
- Issue ID 0413016/0414140 : NetScaler appliance may fail to respond when AppFlow is enabled on the NetScaler Insight Center and the user tries to access the XenApp/XenDesktop farm.
- Issue ID 0414844: HDX Insight does not support XenApp versions earlier than 6.5.
- Issue ID 0415812: If a CloudBridge appliance is placed between the client and a NetScaler appliance, and AppFlow is enabled for ICA traffic, the XenApp/XenDesktop applications fail to launch and the NetScaler appliance fails.
- Issue ID 0413657: In some situations, the NetScaler appliance fails after parsing ICA traffic incorrectly.

Known Issues

- Issue ID 0331944: When there are no devices added in the inventory, the welcome screen is displayed for the configuration tab along with the dashboard tab which makes it unable to perform any basic configurations.
- Issue ID 0350977: When you enable Appflow from NetScaler Insight Center, complex policy expressions are not accepted. This issue occurs when you directly type the complex expression in the text box.
Workaround: Copy and paste the expression from a notepad.
- Issue ID 0368967: In a graph that displays a very low number of data points, the time value displayed on the x-axis includes milliseconds. The value displayed for milliseconds has no significance.
- Issue ID 0379876: The time values on the graphs display overlapping values, mostly in the 5-minute-interval view.
- Issue ID 0385821: When an ICA session is initiated by launching XenDesktop, the user name is displayed along with the domain name (user-id@domain-name).
- Issue ID 0386911: While launching n instances of an application, the NetScaler appliance sends n-1 termination records for the application. Consequently, the HDX Insight node displays only a single instance of this application as active.
- Issue ID 0388096: When you launch XenApp through Citrix Receiver (standard edition), the app launch duration is not calculated and is shown as zero.
- Issue ID 0388875: Only one page of load balancing virtual servers is displayed. For example, if you have selected a page size of 25, and the number of load balancing virtual servers (including those associated with content switching virtual servers) exceeds 25, n-25 load balancing virtual servers are not displayed.
- Issue ID 0394526: On the Dashboard > Web Insight > Applications page, the values shown when you select **Response Time** from the drop-down list can be incorrect.
- Issue ID 0394613: The **Total App Launch Count** is not displayed when you navigate to Dashboard > HDX Insight >

Gateways and view the summary for a particular user.

- Issue ID 0397258: On the Dashboard > HDX Insight > Users page, the line graph plots might not add up to the summary shown to the left of the line graph for average bandwidth.
- Issue ID 0398844: On the Dashboard > HDX Insight > Users page, the report for a specific user does not display data for Total Application Launch count.
- Issue ID 0399626: In transparent mode, after you initiate a session and launch an application through Citrix Receiver (Enterprise edition) from a Windows 8 client, the session terminates and resumes when you launch subsequent applications. Consequently, HDX Insight reports include session termination records.
- Issue ID 0401514: On an HTTP virtual server, after you enable AppFlow by selecting the expression TRUE and the HTML Injection box, if you change the policy expression and disable HTML injection, the rewrite and responder policies are still bound to the load balancing virtual server.
- Issue ID 0402105: The following error may occur when you access NetScaler Insight Center appliance from XenDesktop 5.6 or XenApp 6.5 using IE8 browser:
Object does not support this property or method.
- Issue ID 0403665: If the values for certain metrics are zero, the graphs display these values incorrectly.
- Issue ID 0404100: The VPN option on the View drop-down list is available for NetScaler 10.0 appliances.
- Issue ID 0404204: NetScaler 10 appliances do not support clearing AppFlow configurations from a virtual server.
- Issue ID 0404477: If you use Internet Explorer to open Desktop Director on an RDP machine, the graph displays extra dotted lines even though everything works fine functionally.
- Issue ID 0405849: NetScaler entity names are case insensitive, but NetScaler Insight Center expects the virtual server names or policy names to be case sensitive.
- Issue ID 0405853: If AppFlow is enabled for a virtual server on more than one NetScaler Insight Center virtual appliance, then the clear AppFlow configurations (select Configuration > Inventory > <ipaddress> > Application List > <ipaddress> >Action > Clear AppFlow Configuration) does not work on the virtual server having the least priority.
- Issue ID 0405936: After the NetScaler upgrade or downgrade operation, NetScaler Insight Center does not report any data on the dashboard.
Workaround: Restart the NetScaler Insight Center appliance.
- Issue ID 0405951: The count of embedded objects displayed in the waterfall chart can be wrong for recurrent page requests if the NetScaler integrated cache or browser cache is enabled.
- Issue ID 0405953: The waterfall chart displays a blank tooltip when you hover over the blank space between the x-axis and the y-axis.
- Issue ID 0409885: The report for desktop session count also includes the count of XenApp sessions, which are launched by the user.
- Issue ID 0412129: The WAN jitter and DC jitter values are not displayed in the NetScaler Insight Center reports.
- Issue ID 0424673: Upgrading NetScaler Insight Center on VMware ESX from build 118.7 or 119.7 to 120.13 is not supported.
Workaround: To upgrade to build 120.13, perform a fresh installation. To retain your existing configurations, make sure that the IP address of the NetScaler appliance and the IP address of NetScaler Insight Center remain the same.

Build 119.7

Updated: 2013-08-29

This release notes covers the following bug fixes and known issues identified in this release.

Enhancements

- ENH ID 0400867: HDX Insight reports now include details about Client Side NS Latency, Server Side NS Latency and Host Delay.

Fixes

- Issue ID 0332854: Unable to add the IP address in the inventory which contains the number 255 in any quadrant.
- Issue ID 0400545: The help page on the Graphical User Interface (GUI) displays incorrect information for enabling data collection.
- Issue ID 0400665: The HDX Insight node is not displayed for Enterprise licenses of NetScaler appliances.
- Issue ID 0400900: The load time and render time metrics are not displayed for standard or enterprise licenses of NetScaler appliances.
- Issue ID 0405177: During an ICA session, the NetScaler appliance fails to respond when you access its invalid memory space.
- Issue ID 0403134/0403195: During an ICA session, the NetScaler appliance fails to respond due to a NULL pointer access.

Known Issues

- Issue ID 0331944: When there are no devices added in the inventory, the welcome screen is displayed for the configuration tab along with the dashboard tab which makes it unable to perform any basic configurations.
- Issue ID 0369664: In HDX Insight mode, data is sent to the AppFlow collector even if the policy rule is set to FALSE.
Workaround: Start the session again.
- Issue ID 0379876: The time values on the graphs display overlapping values, mostly in the 5-minute-interval view.
- Issue ID 0385821: When an ICA session is initiated by launching XenDesktop, the user name is displayed along with the domain name (user-id@domain-name).
- Issue ID 0386911: While launching n instances of an application, the NetScaler appliance sends n-1 termination records for the application. Consequently, the HDX Insight node displays only a single instance of this application as active.
- Issue ID 0388096: In transparent mode, when you launch XenApp through Citrix Receiver (standard edition), the app launch duration is shown as zero.
- Issue ID 0388875: If the number of load balancing virtual servers (including those associated with content switching virtual servers) exceeds 25, and the page size is set to 25, only the first 25 virtual servers are shown. The list does not continue on another page.
- Issue ID 0394526: On the Dashboard > Web Insight > Applications page, the values shown when you select **Response Time** from the drop-down list can be incorrect.
- Issue ID 0394613: The **Total App Launch Count** is not displayed when you navigate to Dashboard > HDX Insight > Gateways and view the summary for a particular user.
- Issue ID 0395022: On the Dashboard > HDX Insight > Users page, the **Active Apps** count is not updated instantly on the left pane.
Workaround: The correct value is displayed in the Dashboard > HDX Insight > Applications page.
- Issue ID 0397236 :On the Dashboard > HDX Insight > Users page, the report for user sessions displays incorrect values. The left pane displays the average values for the entire session, but, the right pane displays the values for the period selected from the drop-down list.
- Issue ID 0397258: On the Dashboard > HDX Insight > Users page, the line graph plots might not add up to the summary shown to the left of the line graph for average bandwidth.
- Issue ID 0398844: On the Dashboard > HDX Insight > Users page, the report for a specific user does not display data for Total Application Launch count.

- Issue ID 0399626: In transparent mode, after you initiate a session and launch an application through Citrix Receiver (Enterprise edition) from a Windows 8 client, the session terminates and resumes when you launch subsequent applications. Consequently, HDX Insight reports display session termination records.
- Issue ID 0401514: On an HTTP virtual server, after you enable AppFlow by selecting the expression TRUE and the HTML Injection box, if you change the policy expression and disable HTML injection, the rewrite and responder policies are still bound to the load balancing virtual server.
- Issue ID 0404204: NetScaler 10 appliances do not support clearing AppFlow configurations from a virtual server.
- Issue ID 402105: The following error may occur when you access NetScaler Insight Center appliance from XenDesktop 5.6 or XenApp 6.5 using IE8 browser:
Object does not support this property or method.
- Issue ID 0402458: If the analytics decoding process requires more than 100% of RAM memory, the system fails to respond to further memory-allocation requests by other modules.
- Issue ID 0402727: If you have installed NetScaler Insight Center virtual appliance on ESX, then the console may display watchdog timeout errors or the Graphical User Interface (GUI) may freeze sometimes.
- Issue ID 0403665: If the values for certain metrics are zero, the graphs display these values incorrectly.
- Issue ID 0404477: If you use Internet Explorer to open Desktop Director on an RDP machine, the graph displays extra dotted lines even though everything works fine functionally.
- Issue ID 0405953: The waterfall chart displays a blank tooltip when you hover over the blank space between the x-axis and the y-axis.
- Issue ID 0405818/ 0405273: On the Dashboard > Users page, ICA RTT values displayed on the graph in the left panel do not match the values displayed below the graph, or there is a delay in the updating the values.
- Issue ID 0404100: The VPN option on the View drop-down list is available for NetScaler 10.0 appliances.
- Issue ID 0405849: Sometimes, the commands used in the NetScaler Insight Center command line interface are case sensitive.
- Issue ID 0405853: If AppFlow is enabled for a virtual server on more than one NetScaler Insight Center virtual appliance, then the clear AppFlow configurations (select Configuration > Inventory > <ipaddress> > Application List > <ipaddress> > Action > Clear AppFlow Configuration) does not work on the virtual server having the least priority.
- Issue ID 0405936 : If the NetScaler Insight Center virtual appliance remains inactive for a longer duration, the data will not be logged.
Workaround: Restart the appliance by running the following command on the command line interface:

`#/etc/rc.d/analyticsd restart`
- Issue ID 0408495: During installation of a virtual NetScaler Insight Center on VMware ESX, NetScaler Insight allocates only 14 GB of space in the var directory, even though the OVF file specifies 120 GB.

Build 118.7

Updated: 2013-10-03

This release notes covers the following bug fixes and known issues identified in this release.

Enhancements

- ENH ID 0341904: NetScaler Insight Center supports clearing AppFlow configurations from a virtual server.
- ENH ID 0381072: NetScaler Insight Center supports sending syslog messages to an external syslog server.
- ENH ID 0388409: On the Dashboard > HDX Insight > Users > <user name> page, the application and gateway reports display the active applications by default.
- ENH ID 0392732: The HTML Injection feature is now available for Web Insight data collection on platinum licenses of

NetScaler 10.0 appliances and on all licenses of NetScaler 10.1 appliances.

Changes and Fixes

In this release, the following issues have been fixed:

- Issue IDs 0377737 and 0365977: NetScaler Insight Center appliance fails to respond.
- Issue ID 0378044: On the Configuration > Inventory > Application List page, the values for number of applications displayed and total number of applications can be incorrect.
- Issue ID 0378652: The Page analysis button is in the wrong place and not functional on the Dashboard > Web Insight > URL page.
- Issue ID 0381522: On the Dashboard > HDX Insight > Applications page, the Total Session Launch count displays an incorrect number of sessions launched.
- Issue ID 0385895: The graph of user applications, which appears when you navigate to Dashboard > HDX Insight > Users <username> > <sessionID> > Applications > More <application name>, is incorrectly plotted.
- Issue ID 0386543: No graph is plotted for users on the page that appears when you click the Dashboard > HDX Insight > Users <username> > <SessionID> > Applications > More button.
- Issue ID 0387257: The introduction that appears when you log on to a new NetScaler Insight Center appliance provides only Web Insight information. It does not provide information about HDX Insight.
- Issue ID 0388093: When the Dashboard tab displays reports, the text that appears when you on click the orange icon beside a metric does not accurately describe the licensing issue.
- Issue ID 0388453: On the Configuration > Inventory > Application List page, after you right-click a VPN application and select Enable AppFlow, then clear the **ICA** check-box and click **Enable AppFlow**, AppFlow is shown enabled, but no data is collected and therefore no reports are displayed on the Dashboard > HDX Insight page.
- Issue ID 0388650: NetScaler appliance crashes when AppFlow is enabled on the virtual servers from Netscaler Insight Center appliance.
- Issue ID 0390581: On the Dashboard tab, in some cases, the breadcrumb navigation does not display any text for labels.
- Issue ID 0391336: The HDX Insight node appears even if all NetScaler appliances have only standard licenses. The node is supposed to appear only when at least one appliance has an Enterprise or Platinum license.
- Issue ID 0391477: You cannot enable Appflow on a VPN application for which you have specified an expression from the drop-down list.
- Issue ID 0392515: Data collection cannot be enabled on virtual servers (load balancing, content switching, or VPN) that have space characters in their names.

Known Issues

- Issue ID 0369664: In HDX Insight mode, data is sent to the AppFlow collector even when the policy rule is set to FALSE. Workaround: Start the session again.
- Issue ID 0379876: The time values on the graphs display overlapping values, mostly in the 5-minute-interval view.
- Issue ID 0385821: When an ICA session is initiated by launching XenDesktop, the user name is displayed along with the domain name (user-id@domain-name).
- Issue ID 0386911: While launching n instances of an application, the NetScaler appliance sends n-1 termination records for the application. Consequently, the HDX Insight node displays only a single instance of this application as active.
- Issue ID 0388096: In transparent mode, when you launch XenApp through Citrix Receiver (standard edition), the app launch duration is shown as zero.
- Issue ID 0388875: If the number of load balancing virtual servers (including those associated with content switching virtual servers) exceeds 25, and the page size is set to 25, only the first 25 virtual servers are shown. The list does not

continue on another page.

- Issue ID 0394526: On the Dashboard > Web Insight > Applications page, the values shown when you select **Response Time** from the drop-down list can be incorrect.
- Issue ID 0394613: The **Total App Launch Count** is not displayed when you navigate to Dashboard > HDX Insight > Gateways and view the summary for a particular user.
- Issue ID 0395022: On the Dashboard > HDX Insight > Users page, the **Active Apps** count is not updated instantly on the left pane.

Workaround: The correct value is displayed in the Dashboard > HDX Insight > Applications page.

- Issue ID 0397236 :On the Dashboard > HDX Insight > Users page, the report for user sessions displays incorrect values. The left pane displays the average values for the entire session, but, the right pane displays the values for the period selected from the drop-down list.
- Issue ID 0397258: On the Dashboard > HDX Insight > Users page, the line graph plots might not add up to the summary shown to the left of the line graph for average bandwidth.
- Issue ID 0398844: On the Dashboard > HDX Insight > Users page, the report for a specific user does not display data for Total Application Launch count.
- Issue ID 0399626: In transparent mode, after you initiate a session and launch an application through Citrix Receiver (Enterprise edition) from a Windows 8 client, the session terminates and resumes when you launch subsequent applications. Consequently, HDX Insight reports display session termination records.
- Issue ID 0400545: The help page on the Graphical User Interface (GUI) displays incorrect information for enabling data collection.

Workaround: To view the details, click the help icon in the graphical user interface when the help page opens, click on the TOC tab and navigate to **NetScaler Insight Center 10.1 > Enabling Data Collection**.

- Issue ID 0400665: The HDX Insight node is not displayed for Enterprise licenses of NetScaler appliances.
- Issue ID 0400900: The load time and render time metrics are not displayed for Standard Licenses of NetScaler appliances.
- Issue ID 0402727: If you have installed NetScaler Insight Center virtual appliance on ESX, then the console may display watchdog timeout errors or the Graphical User Interface (GUI) may freeze sometimes.
- Issue ID 0408495: During installation of a virtual NetScaler Insight Center on VMware ESX, NetScaler Insight allocates only 14 GB of space in the var directory, even though the OVF file specifies 120 GB.

Build 112.15 (Main Release)

Updated: 2013-07-19

This release notes covers the following known issues identified in NetScaler Insight Center release 10.1.

Web and HDX Insight

- Issue ID 0377737 and 0365977: NetScaler Insight Center appliance fails to respond.
Workaround: Stop and restart the processes. From the shell:
 1. Change directory to /etc/rc.d.
 2. Stop processes by executing **analyticsd stop**.
 3. Start processes by executing **analyticsd start**.
- Issue ID 0378044: On the Configuration > Inventory > Application List page, the value for number of applications displayed and total number of applications can be incorrect.
- Issue ID 0388093: On the Dashboard tab, the text that appears when you click the orange icon beside a metric does not

accurately describe the licensing issue.

Workaround: Click the **Learn More** button to get more information about the issue.

- Issue ID 0390581: Data collection cannot be enabled on applications (load balancing, content switching or VPN) that have space characters in their names.
- Issue ID 0387257: The introduction that appears when you log on to a new NetScaler Insight Center appliance provides only Web Insight information. It does not provide information related to HDX Insight.

Web Insight

- Issue ID 0378652: The **Page Analysis** button is in the wrong place and not functional on the Dashboard > Web Insight > URL page.
- Issue ID 0388875: If the number of load balancing virtual servers (including those associated with content switching virtual servers) exceeds 25, and the page size is set to 25, only the first 25 virtual servers are shown. The list does not continue on another page.

HDX Insight

- Issue ID 0381522: On the Dashboard > HDX Insight > Applications page, the **Total Session Launch count** displays an incorrect number of sessions launched.
- Issue ID 0385895: The graph is incorrectly plotted for user applications. This issue is observed on navigating to Dashboard > HDX Insight > Users > <user name> > <sessionID> > Applications > More > <application name>.
- Issue ID 0386543: The graph is not plotted for user applications. This issue is observed upon navigating to Dashboard > HDX Insight > Users > <sessionID> > Applications > More button.
- Issue ID 0388453: On the Configuration > Inventory > Application List page, click a VPN virtual server, and select Enable AppFlow from the Action drop-down list. When you uncheck the ICA check-box and click Enable AppFlow, you will see AppFlow enabled but no data is collected and therefore no reports are displayed in the Dashboard > HDX Insight page.
- Issue ID 0391336: The HDX Insight node appears even when all NetScaler appliances have only standard licenses. The node is supposed to be visible only when at least one appliance has an Enterprise or Platinum license.
- Issue ID 391477: You cannot enable Appflow on a VPN application for which you have selected an expression from the drop-down list.

Workaround: Manually set the expression for the VPN application to TRUE, or select a different expression.

FAQs

Jun 13, 2016

Basic Information

What is NetScaler Insight Center?

NetScaler Insight Center is a reporting and monitoring tool that collects AppFlow traffic generated across NetScaler ADCs and generates reports.

What are the main components of NetScaler Insight Center support?

NetScaler Insight Center combines Web Insight for HTTP analytics and HDX Insight for ICA visibility.

Is NetScaler Insight Center hardware or software?

NetScaler Insight Center is a virtual appliance designed to be installed on a XenServer hypervisor or VMware ESX. Currently, only single server deployment is supported on all platforms. For scale-out deployment, see [Installing NetScaler Insight Center Scale-Out Deployment](#).

What configurations do I have to verify on the XenApp or XenDesktop server?

On a XenApp or XenDesktop server running version 6.5, if you require RTT calculations for idle connections, then make sure that the **ICA round trip calculations for Idle Connections** option is enabled for NetScaler Insight Center. If the option is disabled, enable it and execute the **gpupdate** command.

Note: The RTT calculation interval should be less than 60 seconds. By default, it is set to 30 seconds.

What type of reports does NetScaler Insight Center generate?

NetScaler Insight Center generates analytical reports, from which users can view the performance of applications, identify problem areas, and intelligently troubleshoot issues with performance and access.

Is there any physical connection required between the NetScaler appliances to be monitored and the XenServer?

No.

How do I specify the NetScaler appliances to be monitored by NetScaler Insight Center?

You add the NetScaler appliances to the NetScaler Insight Center Inventory list. To do so, you have to specify the IP address, user name, and password of the NetScaler appliance.

After I add the NetScaler appliance, does NetScaler Insight Center start collecting information?

No. You must first enable AppFlow on CloudBridge devices or on the applications managed by the NetScaler appliance. When you enable AppFlow, you should specify an expression to identify the traffic for which the NetScaler appliance will generate AppFlow records.

Should I access the individual NetScaler appliance for enabling AppFlow?

No. All configuration is done from the NetScaler Insight Center user interface, which lists the virtual servers for a specific NetScaler appliance. In addition, for HDX Insight, ICA ports can be configured at a global level so that traffic flowing to these ports is inspected and Appflow records are generated.

Are all virtual servers on a NetScaler appliance listed for enabling AppFlow?

Currently, the NetScaler Insight Center user interface lists the load balancing, content switching, VPN, and NetScaler Gateway virtual servers for enabling AppFlow.

Should the virtual server be UP when you enable AppFlow on it?

Yes. To verify that the virtual server is UP, you can view its operational status on the NetScaler Insight Center user interface.

After I integrate NetScaler Insight Center with Desktop Director, Desktop Director does not display any records in my Chrome browser. What should I do?

If Desktop Director does not display any records, make sure that both Desktop Director and NetScaler Insight Center have either HTTPS or HTTP enabled. For details about NetScaler Insight Center configurations, see [Modifying System Security Settings](#).

Q. How do I attach an additional disk to NetScaler Insight Center?

To attach an additional disk to NetScaler Insight Center:

1. Shut down the NetScaler Insight Center virtual machine.
2. In the hypervisor, attach an additional disk of the required disk size to NetScaler Insight Center virtual machine.
For example, for a NetScaler Insight Center virtual machine of 120 GB, if you want to increase its disk space to 200 GB, you then need to attach a disk space of 200 GB instead of 80 GB. Newly attached 200 GB of disk space will be used to store Database data, NetScaler Insight Center log files. The existing 120 GB disk space will be used to store core files, Operating system log files, and so on.
3. Start the NetScaler Insight Center virtual machine.

NetScaler Appliance Specifications

Is there any specification for a NetScaler appliance to be monitored?

Yes, only NetScaler nCore appliances running version 9.3 or later software can be monitored. In addition, for HDX Insight, only Netscaler appliances running version 10.1 software can be monitored.

Can I add NetScaler appliances running different licenses?

Any nCore appliances running software version 9.3 or later build can be monitored by NetScaler Insight Center. However, the full set of counters and reports are generated only for Platinum-licensed NetScaler 10.1 appliances.

Can NetScaler Insight Center monitor a NetScaler high availability setup?

Yes. NetScaler Insight Center can monitor appliances in a high availability setup. Citrix recommends that you add both the appliances (primary and secondary) to the NetScaler Insight Center appliance. When the primary appliance fails, the secondary appliance generates the performance reports. You do not have to explicitly enable AppFlow on the secondary appliance.

Can a NetScaler cluster be monitored by NetScaler Insight Center?

No. NetScaler Insight Center does not support cluster nodes.

CloudBridge Appliance Specifications

Which version of NetScaler Insight Center can I use to monitor CloudBridge appliances?

CloudBridge monitoring is supported on NetScaler Insight Center release 10.5 build 51.10 and later.

Which CloudBridge appliances can I monitor using NetScaler Insight Center?

Only CloudBridge datacenter appliances (CloudBridge 2000, 2000WS, 3000, 4000, and 5000) can be monitored by NetScaler Insight Center.

Which version of CloudBridge software is supported by NetScaler Insight Center?

The CloudBridge version supported is 7.3.0 build 194 and later.

Does NetScaler Insight Center monitor both CloudBridge datacenter appliances and branch office appliances?

NetScaler insight Center only monitors the CloudBridge datacenter appliances.

However, CloudBridge datacenter appliances aggregate information from the CloudBridge branch-office appliances.

What CloudBridge deployment modes are supported by NetScaler Insight Center?

Supported Deployments	Unsupported Deployments
<ul style="list-style-type: none"> • Inline Mode • Virtual Inline Mode (WCCP mode and PBR mode) • High- Availability Mode (Only the primary node sends records) 	Group Mode

What are the minimum XenApp or XenDesktop versions and Citrix Receiver versions required by NetScaler Insight Center to monitor CloudBridge appliances?

Table 1. XenApp/XenDesktop Versions and builds

Product	HDX Insight
XenApp	6.5, build 6682 with HRP01
XenDesktop	5.6, build 56060
	7.0 and higher versions

Table 2. Operating systems and receiver details

Operating system	Receiver version
Windows 7	3.4 Enterprise Edition
	4.0 Standard Edition
Windows 8	3.4 Enterprise Edition
	4.0 Standard Edition
Mac	11.8, build 238301 and above Note: Mac client does not support ICA RTT reports for CloudBridge version 7.3.0.
Linux	13 and above

Which appliance is monitored, when both NetScaler ADC (with ICA proxy mode enabled) and CloudBridge appliances are in the network path?

NetScaler Insight Center monitors NetScaler ADC.

Which IP address is used by NetScaler Insight Center to monitor CloudBridge appliances?

- For CloudBridge 2000, 2000WS and 3000 appliances, NetScaler Insight Center uses CloudBridge Instance IP address.
- For CloudBridge 4000 and 5000 appliances, NetScaler Insight Center uses CloudBridge Accelerator IP address.

What are the default credentials to access CloudBridge appliances?

The default credentials are:

- Username: admin
- Password: admin_passwd

Can Management Service IP address (running on CloudBridge 4000 and 5000 appliances) be used to discover CloudBridge appliances?

No.

Can I use a CloudBridge VPX to demonstrate how NetScaler Insight Center collects reports from CloudBridge appliances?

NetScaler Insight Center does not support CloudBridge VPX.

However, if you want to use CloudBridge VPX for demonstration purpose, make sure that the CloudBridge VPX has primary and accelerated pairs (apA) configured.

For details, see the section "Configuring Inline Mode" in [CloudBridge 7.3 Product Documentation](#).

What are the prerequisites to monitor CloudBridge appliances?

Before you start using NetScaler Insight Center to monitor a CloudBridge appliance, make sure that you have met the following prerequisites:

- The NTP server must be configured on both the CloudBridge appliance and NetScaler Insight Center. To add an NTP server to NetScaler Insight Center, see [Configuring Clock Synchronization](#). These NTP servers must be closely synchronized to each other.
- Make sure that the CloudBridge appliances can communicate with NetScaler Insight Center by using port 4739.
- When both NetScaler ADC and CloudBridge appliance is located in the same network path, you cannot configure a single NetScaler Insight Center to monitor both the appliances. NetScaler ADC and CloudBridge appliance should use different NetScaler Insight Center virtual appliances for generating HDX Insight reports.
- Make sure that the CloudBridge appliance should only use the primary interface for sending Appflow records.
- Do not configure the CloudBridge appliance at the branch office to send Appflow records to NetScaler Insight Center.
- Verify that the CloudBridge appliance, XenApp or XenDesktop, and Receiver versions are supported by NetScaler Insight Center.
- To monitor the CloudBridge appliance, NetScaler Insight Center must successfully discover the CloudBridge appliance.
- Enable HDX data set on the CloudBridge appliance. To verify, on the Configuration tab, navigate to Appliance Settings > AppFlow.
- Make sure that the Update Interval is set to one minute on the CloudBridge appliance. Also, make sure that the IP address and port values are not deleted. To verify, on the Configuration tab, navigate to Appliance Settings > AppFlow.
- Make sure that CloudBridge ICA connections are accelerated with Disk Based Compression (DBC) policy. To verify, on the Configuration tab, navigate to Optimization Rules > Service Classes and in the right pane, expand ICA and click Edit. The Acceleration policy must be Disk.

Does the CloudBridge appliance generate AppFlow reports for non-accelerated ICA connections?

No. NetScaler Insight Center reports are generated only when CloudBridge ICA connections are accelerated with Disk Based Compression (DBC) policy.

To verify, on the Configuration tab, navigate to Optimization Rules > Service Classes and in the right pane, expand ICA and click Edit. The Acceleration policy must be Disk ICA connections. The ICA Service class policies that are not accelerated and configured with Flow Control policy, do not generate HDX Insight reports.

NetScaler insight Center does not generate reports if CloudBridge ICA connections are accelerated with flow control policy.

Does NetScaler Insight Center support Multi Stream ICA (MSI) for CloudBridge appliances?

Currently NetScaler Insight center does not support collecting data records for MSI connections.

Is the CloudBridge Plug-In supported by NetScaler Insight Center reports?

Yes. ICA connections from Plug-in-equipped systems must be accelerated with DBC compression policy.

To verify, on the Configuration tab of the CloudBridge appliance, navigate to Optimization Rules > Service Classes and in the right pane, expand ICA and click Edit. The Acceleration policy must be Disk.

Are thin clients supported by NetScaler Insight Center?

NetScaler Insight Center supports thin clients, but the client type details in the User Agent reports display incorrect values.

Can a CloudBridge datacenter appliance and NetScaler ADC be added to the same NetScaler Insight Center, present in the same datacenter location?

No. This is not supported in this release.

Can I add multiple CloudBridge datacenter appliances (present in the same datacenter location) to the same NetScaler Insight Center?

Yes.

Can a CloudBridge appliance at the branch office be monitored by NetScaler Insight Center?

Currently NetScaler Insight Center does not support this.

Is the CloudBridge appliance supported with Desktop Director?

Yes. CloudBridge appliance is supported with Desktop director. However, the WAN Jitter and DC Jitter values are not supported.

Why is the DC Latency value more than ICA RTT?

Ideally ICA RTT should be greater than the sum of WAN Latency and DC latency.

If the application is not actively sending data, then it does not work as expected. This is because, the TCP RTT estimation works only on active connections. If a connection is not very active or if it is idle, the DC latency value will be more than ICA RTT or WAN Latency.

What are the limitations of using Desktop Director Plug-in for generating HDX Insight reports for CloudBridge appliances?

- Desktop director does not correlate data across user sessions with NetScaler Insight Center, if CloudBridge generates a **Replacement Session GUID** (instead of using an Genuine GUID).

To verify, on the CloudBridge appliance, navigate to Monitoring > ICA Advanced > Conn Info.

This occurs if the customer is using an unsupported ICA Client or XenApp or XenDesktop server. For supported versions, see [Supported Software](#).

- Desktop Director does not support WAN Jitter and LAN Jitter values.

General Information

If I change the host name of the NetScaler appliance, will the NetScaler Insight Center inventory and Dashboard reflect the change?

Yes. NetScaler Insight Center reflects the changes every 30 minutes.

If the logon credentials of my NetScaler ADC change, should I update that information in NetScaler Insight Center?

Yes. Fifteen seconds after the logon credentials of a NetScaler ADC change, the NetScaler Insight Center inventory displays the state of the NetScaler ADC as OUT-OF-SERVICE , but you can view the reports for the NetScaler ADC. However, to continue collecting AppFlow records for the virtual servers managed by the NetScaler ADC, you must update the logon credentials in NetScaler Insight Center. For more information about updating the logon credentials in the NetScaler Insight Center, see [Updating Logon Credentials of NetScaler Appliances](#).

If I update the login credentials, will the state of the NetScaler ADC be "UP" immediately?

The state of the NetScaler ADC in the NetScaler Insight Center inventory changes to "UP" after a few seconds.

My NetScaler appliance uses it's Subnet IP address (SNIP) as the source IP address for management access. Does NetScaler Insight Center collect data from the NetScaler appliances?

Yes. NetScaler Insight Center collects data from the NetScaler appliance. When adding the NetScaler appliance to NetScaler Insight Center Inventory, specify the SNIP address used for management access as the IP address of the appliance.

Reports

How do I view the reports?

By default, the Dashboard page displays a performance chart of the NetScaler ADCs monitored by NetScaler Insight Center. You can click on the chart to move to the next level of information.

Are reports generated for all NetScaler ADCs added to the NetScaler Insight Center inventory?

No. Only if you enable AppFlow on a CloudBridge appliance, or at least one virtual server in the NetScaler appliance does NetScaler Insight Center collect data from that appliance and generate reports.

How are the reports organized?

You can view reports for devices, applications, URLs, clients and servers on the Web Insight node, and reports for users, applications, desktop, gateways and licenses on the HDX Insight node, by clicking on the respective data-point on the Dashboard. When you access the reports from one of these data points, you get a consolidated report for that data point. For example, click Applications to display the performance chart for all applications (across all NetScaler appliances) monitored by NetScaler Insight Center.

Even when the Appflow is enabled on a NetScaler ADC, I do not see the reports on the Dashboard. What are the possible reasons?

Even if Appflow is enabled on the virtual servers, the services bound to the virtual servers might have **AppFlow logging** set to disabled. In that case, you might not see the reports in the dashboard. On the NetScaler appliance, enable **AppFlow logging** at the service level to view the reports. For more information, see [Troubleshooting Tips](#).

How is NetScaler Insight Center different from the Reporting tool on the NetScaler appliance?

The following table explains the basic differences between the Reporting tool and NetScaler Insight Center:

NetScaler Reporting tool	NetScaler Insight Center
Web based interface accessed from the NetScaler appliance	A virtual machine hosted on a vitalization server like XenServer or VMware ESX server. Multiple NetScaler appliances can be added to the NetScaler Insight Center for monitoring.

NetScaler Reporting tool Displays performance statistics of the NetScaler appliance on which it runs.	NetScaler Insight Center Displays L3-L7 performance statistics of all connected NetScaler instances.
Statistics are collected by the nscollect utility.	Statistics are collected from the AppFlow records generated by the NetScaler appliances. NetScaler Insight Center adds itself as an AppFlow collector on the NS appliance.

Can I generate a diagnostics bundle from NetScaler Insight Center?

Yes. You can generate a diagnostics bundle and then contact Technical Support to debug an issue.

To generate the diagnostics bundle, on the Configuration tab, navigate to Diagnostics > Technical Support.

You can choose to collect the detailed debug information for the active sessions, and also collect database related detailed statistics.

For more information, see [Contacting Technical Support](#).

How do I generate the diagnostics bundle by using the command line interface?

You can follow the below procedure if access to the GUI fails, or you are unable to generate the diagnostics bundle by using the GUI.

1. SSH to NetScaler Insight Center.
2. Log on by using the following credentials:

Username: nsrecover

Password: <password of nsroot user>

3. Run the following command to generate the technical support file:

```
/mps/scripts/techsupport.pl
```

After the command is executed, the location of the technical support file is displayed.

For example, var/mps/tech_support/InsightCenter__14Dec2015_05_55_28.tar.gz.

If there are multiple XenApp 6.5 and XenDesktop 7.0 farms, can I uniquely identify AppFlow data for each farm and display the unique data through Desktop Director?

HDX Insight integrated with Desktop Director in a XenDesktop 7.0 farm is limited to one HDX Insight collector per Desktop Director instance. You must have as many Desktop Director instances as you have farms, and configure each Desktop Director to monitor a different farm to obtain the HDX Insight data.

Can NetScaler Insight Center generate custom reports to display specific browser version information for each connection made?

No. This report is not available in NetScaler Insight Center at this time.

Is there a way to filter reports based on domain name?

No. This report is not available in NetScaler Insight Center at this time.

Supported Software

Nov 26, 2014

NetScaler Insight Center is compatible with the following products.

Table 1. Software versions and builds

Product	NetScaler Insight Center Component	
	Web Insight	HDX Insight
NetScaler	9.3, build 61.2 and later	10.1 build 112.15 and later
	10.0, build 73.5 and later	
	10.1, build 112.15 and later	
XenApp	-	6.5, build 6682 with HRP01
XenDesktop	-	5.6, build 56060
		7.0, build 3018
CloudBridge	-	7.3.0.61 and later

Note: The NetScaler Gateway feature (branded as Access Gateway Enterprise for versions 9.3 and 10) must be available on the NetScaler appliance. NetScaler Insight Center does not support standalone Access Gateway Standard appliances. NetScaler Insight Center can generate reports for applications that are published on XenApp or XenDesktop and accessed through Citrix Receiver. However, this capability depends on the operating system on which the receiver is installed.

The following table lists the supported operating systems:

Table 2. Operating systems and receiver details

Operating system	Receiver version
Windows 7	3.4 Enterprise Edition
	4.0 Standard Edition
Windows 8	3.4 Enterprise Edition

Operating system	4.0 Standard Edition Receiver version
Mac	11.8, build 238301 and above Note: Mac client does not support ICA RTT reports for CloudBridge version 7.3.0.
Linux	13 and above

The following table lists the supported web browsers:

Web Browser	Version
Internet Explorer	IE 9 or later
Google Chrome	Chrome 19 or later
Safari	Safari 5.1.1 or later
Mozilla Firefox	Firefox 3.6.25 or later

Overview

May 20, 2015

NetScaler Insight Center is a virtual appliance that collects and provides detailed information about web traffic and virtual desktop traffic that passes through your NetScaler appliances. It has two components:

- Web Insight, which monitors HTTP traffic (web-application traffic) passing through load balancing and content switching virtual servers defined on a NetScaler appliance.
- HDX Insight, which monitors ICA traffic (virtual-desktop traffic) passing through NetScaler Gateway virtual servers defined on a NetScaler appliance.

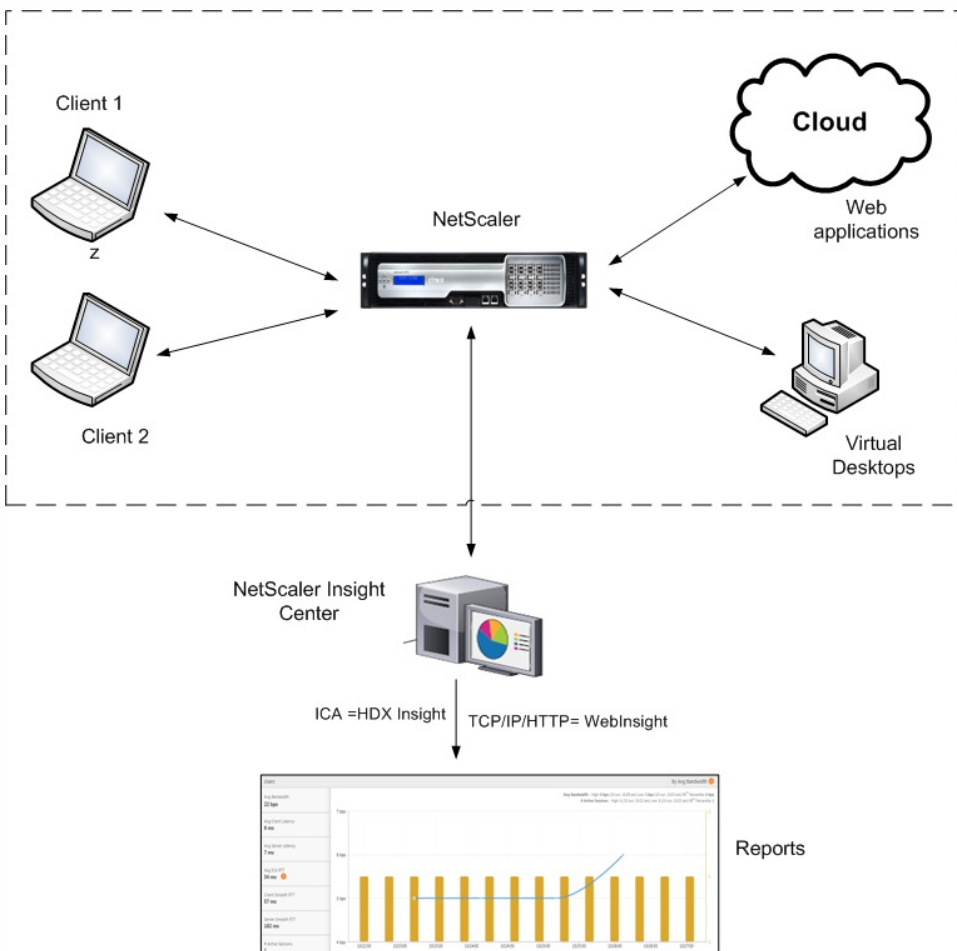
NetScaler Insight Center collects information about applications from the virtual servers to which the applications are bound as services.

The objective of a NetScaler Insight Center virtual appliance is to retrieve AppFlow logging information for each monitored application, analyze the information, and present it as visual reports.

Note: ICA is a Citrix proprietary protocol used in XenApp/XenDesktop traffic. It is composed of virtual channels. A virtual channel is a bidirectional, error-free connection used for the exchange of generalized packet data between a Citrix host for online delivery (XenApp or XenDesktop) and the Citrix Receiver online plug-in. Connections for sound, graphics, client drive mapping, printing, and end user experience monitoring are a few examples of the virtual channels.

The following figure depicts the network deployment of a NetScaler Insight Center.

Figure 1. Network Deployment of NetScaler Insight Center



This topic includes the following details:

- [Web Insight](#)
- [HDX Insight](#)
- [Features and Benefits](#)
- [Limitations](#)
- [Licensing Information](#)
- [Ports](#)

Web Insight

Web Insight provides visibility into web applications and allows IT administrators to monitor all web applications being served by NetScaler ADCs. It generates visual reports that provide critical information such as user and server response time, enabling IT organizations to improve web application performance. Key features of Web Insight include application-specific reports and URL-specific reports. Information about client-side parameters enables you to evaluate user experience. Along with other capabilities, you can identify the top web applications accessed by clients and track their peak usage.

HDX Insight

HDX Insight provides administrators of Citrix XenApp and Citrix XenDesktop environments with an easy way to monitor users and the performance of the applications hosted on those products. HDX Insight captures data about the ICA traffic that flows between the clients and the servers, generates AppFlow records by doing deep inspection of the data, and presents the records as visual reports on the HDX Insight tab on the dashboard. HDX Insight enables IT administrators to troubleshoot as well as proactively monitor customer issues in matter of minutes.

Note: HDX is built on top of the Citrix ICA protocol.

HDX Insight supports collecting ICA data from NetScaler appliances in the following scenarios:

- [Single-Hop Mode](#): This is applicable when a NetScaler Gateway appliance is used to connect to the XenApp and XenDesktop applications.
- [Transparent Mode](#): This is applicable when the user is local to the XenApp and XenDesktop applications.

This release does not support Multi-Hop mode. Also, NetScaler Insight Center does not generate reports for ICA traffic when a CloudBridge appliance is placed between the NetScaler and the client.

This release of NetScaler Insight Center is compatible with the following XenApp and XenDesktop version and builds.

Table 1. Software versions and builds

Software	Version and Builds
XenApp	6.5, build 6682 with HRP01
XenDesktop	5.6, build 56060
	7.0, build 3018 and later
CloudBridge	7.3.0.61 and later

Note: NetScaler Insight Center can also be integrated with Desktop Director. In that case, to enable HDX network analysis, you must configure the NetScaler Insight Center virtual appliance in Desktop Director. For more information, see [Configure HDX Insight](#).

Features and Benefits

Because NetScaler Insight Center is installed on a XenServer server, it has no dependency on an external database and requires no additional hardware. It provides visual reports that administrators can use to:

- Monitor and help improve performance of web applications being served by the NetScaler appliance (Web applications are served by content switching and load balancing virtual servers).
- Monitor users of Citrix XenApp and XenDesktop environments.
- Monitor performance of applications hosted on Citrix XenApp and XenDesktop environments.
- Identify problem areas without accessing individual devices.
- Identify user experience with respect to client-side parameters.
- Know the top applications accessed by clients.
- Track peak usage.
- View the performance of applications in the last 5 minutes, 1 hour, 1 day, 1 week, and 1 month.
- Identify URL-specific information: URL-level response time, render time, and load time.
- Navigate from one report to another.

Limitations

The limitations of NetScaler Insight Center are listed below:

- NetScaler Insight Center does not support IPv6 address.
- You can enable a maximum of four AppFlow collectors on a NetScaler appliance.

Licensing Information

The data collected by the NetScaler Insight Center depends on the version and licenses of the NetScaler appliance being monitored.

Web Insight







Web Insight reports are displayed for NetScaler appliances running releases 9.3, 10, and 10.1 as shown in Table 1, where  indicates that the reports do not include response time, load time, render time, server processing time, client network latency, server network latency, or waterfall charts.

Table 2. Web Insight License Information

License/ Version	9.3	10	10.1
Standard			✓
Enterprise			✓
Platinum		✓	✓

HDX Insight

HDX Insight reports are displayed only for NetScaler Platinum and Enterprise appliances running release 10.1 and 10.5.

Table 3. HDX Insight License Information

License/Duration	5 minutes	1 Hour	1 Day	1 Week	1 Month
Standard	✗	✗	✗	✗	✗
Enterprise	✓	✓	✗	✗	✗
Platinum	✓	✓	✓	✓	✓

For appliances running a Platinum edition of XenApp or XenDesktop, HDX Insight reports can also be integrated with Director.

Important: On NetScaler appliances running release 10.1 or later, you must install a Platinum license if you want to use third party collectors to extract HDX Insight reports.

Note: For information about reports, see [Viewing Reports](#).

Ports

Updated: 2014-09-12

NetScaler Insight Center uses the NetScaler ADC's NetScaler IP (NSIP) address to communicate with the ADC. For communication purposes, the following ports must be open between the NetScaler ADC and NetScaler Insight Center.

Table 4. Ports

Component	Type	Port	Details
NetScaler Insight Center	TCP	80/443	For NITRO communication from NetScaler Insight Center to NetScaler
	TCP	22	For SSH communication from NetScaler Insight Center to NetScaler
	UDP	4739	For AppFlow communication from NetScaler to NetScaler Insight Center
	ICMP	No reserved port	To detect the network reachability from NetScaler Insight Center to NetScaler

Installing NetScaler Insight Center on XenServer

May 15, 2015

To install NetScaler Insight Center virtual appliances on Citrix XenServer, you use XenCenter.

This topic includes the following details:

- [Prerequisites for Installing NetScaler Insight Center](#)
- [Installation Procedure](#)

Prerequisites for Installing NetScaler Insight Center

You install NetScaler Insight Center as a virtual appliance on a XenServer server. Before installing the NetScaler Insight Center virtual appliance, verify that the following requirements have been met:

- XenServer version 5.6 or later is installed on hardware that meets the minimum requirements.
- XenCenter is installed on a management workstation that meets the minimum requirements. You have to use XenCenter to install NetScaler Insight Center on XenServer.
- You have downloaded the NetScaler Insight Center .xva image file.

XenServer Requirements for NetScaler Insight Center

The following table lists the virtual computing resources that XenServer must provide for each NetScaler Insight Center virtual appliance.

Table 1. Minimum Virtual Computing Resources Required for Running NetScaler Insight Center

Component	Requirement
RAM	3 GB or more
Virtual CPU	2 or more
Storage space	120 GB required*
Virtual Network Interfaces	1
Throughput	1 Gbps or 100 Mbps

For production use of NetScaler Insight Center, Citrix recommends that you set CPU priority (in virtual machine properties) to the highest level, to improve scheduling behavior and network latency.

On a XenApp or XenDesktop server running version 6.5, make sure that the **ICA round trip calculations for Idle Connections** option is enabled. If the option is not enabled, enable it and execute the `gpupdate` command. Also, the EUEM service must be running on the server.

Note: Verify that correct date, time, and time zone is configured on XenServer before NetScaler Insight Center is installed. For information about XenServer, see the documentation at [XenServer 6.5](#).

XenCenter System Requirements

XenCenter is a Windows client application. It cannot run on the same machine as the XenServer host. The following table describes the minimum system requirements.

Table 2. Minimum System Requirements for XenCenter Installation

Component	Requirement
Operating System	Windows 7, Windows XP, Windows Server 2003, or Windows Vista
.NET framework	Version 2.0 or later
CPU	750 megahertz (MHz), Recommended: 1 gigahertz (GHz) or faster
RAM	1 GB, Recommended: 2 GB
Network Interface Card	100 megabits per second (Mbps) or faster NIC

Installation Procedure

The number of NetScaler Insight Center instances that you can install depends on the memory available on the XenServer server.

To install NetScaler Insight Center

1. Start XenCenter on your workstation.
2. On the Server menu, click Add.
3. In the Add New Server dialog box, in the Hostname text box, type the IP address or DNS name of the XenServer that you want to connect to.
4. In the User Name and Password text boxes, type the administrator credentials set up during the XenServer installation, and then click Add. The XenServer server name appears in the navigation pane with a green circle, which indicates that the server is connected.
5. In the navigation pane, right-click the name of the XenServer server on which you want to install NetScaler Insight Center, and then click Import.
6. In the Import dialog box, from the Import Source node, browse to the location where you saved the NetScaler Insight Center .xva image file. Make sure that the Exported VM option is selected, and then click Next.
7. Select the XenServer server on which you want to install the virtual appliance, and then click Next.
8. Select the local storage repository in which to store the virtual appliance, and then click Import to begin the import process.
Note: Citrix recommends using local storage repository to store the virtual appliance.
9. You can add, modify, or delete virtual network interfaces as required. When finished, click Next.
10. Click Finish to complete the import process.
Note: To view the status of the import process, click the **Logs** tab.
When the import is complete, the kernel reboots.
11. Select the **Console** tab to display the NetScaler Insight Center Initial Network Configuration options for specifying the

initial IPv4 address, subnet mask (Netmask), and Gateway IP address for the NetScaler Insight Center virtual server.
Note: If the wizard closes and you want to update the network details, run the `networkconfig` command from the command line interface.

12. If you want to install another NetScaler Insight Center virtual appliance, repeat steps 5 through 11.

* After provisioning NetScaler Insight Center, you cannot increase the amount of storage space allocated to it, even if more space becomes available.

Installing NetScaler Insight Center on VMware ESX

May 15, 2015

To install NetScaler Insight Center virtual appliances on VMware ESX, use VMware vSphere client.

This topic includes the following details:

- [Prerequisites for Installing NetScaler Insight Center](#)
- [Installation Procedure](#)

Prerequisites for Installing NetScaler Insight Center

Before you begin installing a virtual appliance, verify that the following requirements have been met:

- Install VMware ESX version 4.1 or later hardware that meets the minimum requirements.
- Install VMware Client on a management workstation that meets the minimum system requirements.
- Install VMware OVF Tool (required for VMware ESX version 4.1) on a management workstation that meets the minimum system requirements.
- Download the NetScaler Insight Center set up files.

VMware ESX Hardware Requirements

The following table lists the virtual computing resources that VMware must provide for each NetScaler Insight Center virtual appliance.

Table 1. Minimum Virtual Computing Resources Required for Running NetScaler Insight Center

Component	Requirement
RAM	3 GB or more
Virtual CPU	2 or more
Storage space	120 GB required*
Virtual Network Interfaces	1
Throughput	1 Gbps or 100 Mbps

Installation Procedure

The number of NetScaler Insight Center instances that you can install depends on the memory available on the VMware server.

To install NetScaler Insight Center

1. Start the VMware vSphere client on your workstation.
2. In the IP address / Name text box, type the IP address of the VMware ESX server that you want to connect to.

3. In the User Name and Password text boxes, type the administrator credentials, and then click Login.
4. On the File menu, click Deploy OVF Template.
5. In the Deploy OVF Template dialog box, in Deploy from a file or URL, browse to the location where you saved the NetScaler Insight Center setup files, select the .ovf file, and click Next.
Note: If a warning message appears with the following text: **The operating system identifier is not supported on the selected host**, check to see if the VMware server supports FreeBSD operating system.
6. On the OVF Template Details page, click Next.
7. Type a name for the NetScaler Insight Center virtual appliance, and then click Next.
8. Specify the Disk Format by selecting either **Thin provisioned format** or **Thick provisioned format**.
Note: Citrix recommends that you select **Thick provisioned format**.
9. Map the networks shown in the OVF template to the networks that you configured on the ESX host.
10. Click Next to start installing the NetScaler Insight Center virtual appliance on VMware ESX. When installation is complete, a pop-up window informs you of the successful installation.
11. Click Finish to complete the installation process.
Note: To view the status of the installation process, click the **Logs** tab.
12. You are now ready to start the NetScaler Insight Center virtual appliance. In the navigation pane, select the virtual appliance that you just installed and, from the right-click menu, select Power On.
13. Select the **Console** tab to display the NetScaler Insight Center Initial Network Configuration options for specifying the initial IPv4 address, subnet mask (Netmask), and Gateway IP address for the NetScaler Insight Center virtual appliance. Once the installation is complete, the VMware client reboots.
14. If you want to install another NetScaler Insight Center virtual appliance, repeat steps 4 through 10.

* After provisioning NetScaler Insight Center, you cannot increase the amount of storage space allocated to it, even if more space becomes available.

Upgrading NetScaler Insight Center

Dec 30, 2014

To upgrade NetScaler Insight Center to a new build, you must first download the application build file. Upgrading to a new build is a simple procedure.

Note: Upgrading NetScaler Insight Center on VMware ESX server from build 118.7 or 119.7 to 120.13 or later builds is not recommended. However, upgrade from build 120.13 to later builds is supported. To upgrade to 120.13 or later builds, perform a fresh installation. The old configurations on the NetScaler appliance and on NetScaler Insight Center will remain the same and continue to work if the IP address of NetScaler Insight Center remains the same.

To upgrade NetScaler Insight Center

1. Upload the latest software image to the NetScaler Insight Center application.
 1. On the Configuration tab, navigate to NetScaler Insight Center > Software Images.
 2. In the details pane, from the Action drop-down list, select Upload.
 3. In the Upload NetScaler Insight Center Software Image dialog box, click Browse and navigate to the folder that contains the build file, and then double-click the build file.
 4. Click Upload.

Note: You can create a backup of the software image by selecting an image and then selecting the Download option from the Action drop-down list.
2. Upgrade NetScaler Insight Center to a new version.
 1. On the Configuration tab, navigate to System.
 2. In the System pane, under System Administration, click Upgrade Netscaler Insight Center
 3. In the Upgrade Netscaler Insight Center dialog box, in Software Images, select the file of the build to which you want to upgrade.
 4. Click OK.

Accessing NetScaler Insight Center

May 20, 2015

After installing NetScaler Insight Center, you can access it by using the graphical user interface (GUI). To access the GUI, in the address bar of the browser, type the IP address of the NetScaler Insight Center virtual appliance.

Enter the logon credentials that you specified when you installed the NetScaler Insight Center appliance. After you validate your credentials, the Welcome screen appears.

Note: The default username and password to log on to NetScaler Insight Center are nsroot and nsroot, respectively.

NetScaler Insight Center is supported on the following browsers:

- Internet Explorer—IE 9 and later
- Google Chrome—Chrome 19 and later
- Safari—Safari 5.1.1 and later
- Mozilla Firefox—Mozilla Firefox 3.6.25 and later

To programmatically access and configure the NetScaler Insight Center, see [NITRO API](#).

This topic includes the following details:

- [Getting Started](#)
- [Understanding the GUI](#)

Getting Started

When you access NetScaler Insight Center for the first time, a welcome screen directs you to get started by specifying the NetScaler ADCs as devices to be monitored. To continue using the appliance, you must add at least one NetScaler device to the NetScaler Insight Center inventory.

To add a NetScaler ADC, at the bottom of the page click Get Started. When the NetScaler Insight Center Inventory Setup screen appears, provide the following details to add a NetScaler device or CloudBridge device and provide the following information:

- NetScaler IP address
- User name
- Password

To add additional NetScaler appliances, see [Adding Netscaler Devices](#).

Understanding the GUI

After you add a NetScaler ADC to the inventory, and when you subsequently access the NetScaler Insight Center appliance, the Dashboard tab and the Configuration tab appear.

Dashboard Tab

The dashboard tab displays reports about the applications that you configure on the configuration tab. The dashboard displays the analyzed reports in the form of tables and charts.

The left pane of the dashboard tab displays the following nodes:

- Web Insight—Provides reports that give an insight into the performance of the applications being monitored.
- HDX Insight—Provides administrators of Citrix XenApp and Citrix XenDesktop environments with an efficient way of monitoring performance of the applications hosted on those products.

Note: The HDX Insight node is displayed only if at least one of the NetScaler appliances in the inventory has a license that is higher than a standard license.

The right pane of the dashboard displays the Web Insight and HDX Insight reports that provide information about the performance of the applications.

Configuration Tab

The configuration tab provides the interface for configuring the NetScaler Insight Center appliance. Some of the key operations you can perform from the configuration tab are:

- Adding a NetScaler ADC
- Enabling AppFlow for applications
- Upgrading NetScaler Insight Center
- Troubleshooting NetScaler Insight Center
- Managing NetScaler Insight Center

Adding NetScaler Devices

May 21, 2015

In addition to the NetScaler ADC or CloudBridge appliance that you added to the inventory when you accessed NetScaler Insight Center for the first time, you must add any additional appliances that you want to monitor.

Points to remember

- Only nCore NetScaler appliances running version software 9.3 or later can be added to the inventory. You cannot add standalone Access Gateway appliances.
- If the NetScaler appliance uses its Subnet IP address (SNIP) as the source IP address for AppFlow records, specify the SNIP address as the NetScaler IP address.
- You cannot monitor a NetScaler cluster setup.
- NetScaler Insight Center can monitor appliances in a high availability setup. Citrix recommends that you add both the appliances (primary and secondary) to the NetScaler Insight Center appliance. When the primary appliance fails, the secondary appliance generates the performance reports. You do not have to explicitly enable AppFlow on the secondary appliance.
- Make sure that both the NetScaler appliance and the NetScaler Insight Center appliance have either HTTP access or HTTPS access enabled. For details about configurations, see [Modifying System Security Settings](#).

To add a NetScaler appliance

1. On the Configuration tab, navigate to Inventory, and click Add. All NetScaler appliances that are added to the NetScaler Insight Center are displayed on the **Inventory** page.
2. Enter the source IP address that the NetScaler appliance uses for AppFlow records. Also enter the user name and password required for access to the NetScaler appliance.
3. Click Add. When the NetScaler appliance is added, information about the appliance appears in the Inventory list.

Note: You can delete NetScaler appliances from the Inventory list by selecting the row that lists the NetScaler appliance and clicking Delete. If you delete the entire list, the Welcome screen appears.

Enabling Data Collection

Aug 22, 2014

You must enable data collection to start gathering information about the traffic flowing through the NetScaler ADCs or CloudBridge appliances.

To monitor NetScaler ADCs, NetScaler Insight Center gathers metrics from load balancing, content switching, and NetScaler Gateway virtual servers. To enable data collection, you must enable AppFlow on each virtual server from which you want to collect data. When enabling AppFlow, you must specify policy expressions to identify the traffic for which you want the NetScaler Insight Center virtual appliance to retrieve data. The NetScaler ADC then generates AppFlow records for traffic that matches the expression.

For information on policy expressions, see "[Policies and Expressions](#)".

When you enable data collection, NetScaler Insight Center starts collecting information about the applications represented by the virtual servers and presents the collected information as performance reports on the dashboard.

Points to remember

- Make sure that the services bound to the virtual servers also have AppFlow logging enabled.
- If you want to use NTP server time on the NetScaler Insight Center, make sure that you configure NTP before enabling AppFlow on the CloudBridge appliances or virtual servers of the NetScaler ADCs. For information about synchronizing the local time of a NetScaler Insight Center appliance with the NTP server, see [Configuring an NTP Server](#).

Note:

- Web Insight supports HTTP, SSL and TCP virtual servers and HDX Insight supports VPN virtual servers.
- If AppFlow is enabled for a virtual server on more than one NetScaler Insight Center virtual appliance, the one on which the AppFlow was most recently enabled collects the information. For example, if AppFlow is enabled for virtual server **abc** on a NetScaler Insight Center virtual appliance at 10.102.60.89 on 1/3/2013, and on 3/3/2013 AppFlow is enabled for virtual server **abc** on another virtual appliance at 10.102.56.78, the virtual appliance at 10.102.60.89 stops retrieving information from virtual server **abc**.
- You cannot enable AppFlow from a NetScaler Insight Center for a NetScaler ADC on which Appflow is already enabled for four AppFlow collectors. Each NetScaler insight Center functions as an AppFlow collector, and you can put only four AppFlow collectors on one NetScaler ADC.
- Citrix does not recommend adding IPv6 NetScaler appliances and virtual servers. NetScaler Insight Center does not support IPv6.

Enabling Web Insight Data Collection

Aug 21, 2014

When AppFlow is enabled for Web Insight data collection, the NetScaler Insight Center retrieves the performance reports of web applications (load balancing and content switching virtual servers) that are bound to the NetScaler ADC.

To enable data collection on a virtual server for Web Insight

1. On the Configuration tab, click Inventory.
2. From the inventory list, select the IP address of the ADC on which you want to enable data collection.
3. On the NetScaler Insight Center Inventory Setup screen, in the Application List pane, from the **View** drop-down list, select the type of virtual server (Load Balancing or Content Switching).

The virtual servers of the specified type populate a table that includes the following information:

- IP Address—IP address of the virtual server
 - Name—Name of the virtual server
 - State—Current operational state of the virtual server. Can be UP or DOWN
 - Type—Service type of the virtual server
 - Insight—Data-collection status of the virtual server (ENABLED or DISABLED)
4. Select a virtual server for which you want to enable data collection.
Note: You can enable data collection on a virtual server only if the operational state of the virtual server is UP.
 5. From the Action drop-down list, select Enable Appflow.
 6. In the Enable AppFlow dialog box, from the Select Expression drop-down list, specify the traffic to be filtered by selecting one of the available expressions or by manually typing the expression. You can also use multiple expressions by using the logical operators AND (&&) or OR (| |).

The following are examples of some expressions that can be used:

- To collect information about HTTP requests where URL contains the word images, specify the expression `HTTP.REQ.URL.CONTAINS("images")`
- To collect information about HTTP virtual servers which have greater than 15000 connections, specify the expression `HTTP.REQ.LB_VSERVER.CONNECTIONS.GE(15000)`
- To collect information about HTTP requests where URL suffix is not json and css, specify the expression `HTTP.REQ.URL.SUFFIX.EQ("json").NOT && HTTP.REQ.URL.SUFFIX.EQ("css").NOT`
- To collect information about HTTP requests where hostname contains the word abc.com and HTTP requests where cookie contains the word JSESSIONID, specify the expression `HTTP.REQ.HOSTNAME.CONTAINS("abc.com")&&HTTP.REQ.COOKIE.CONTAINS("JSESSIONID")`
- To collect the information for all the traffic that flows through the virtual server, specify the expression `true`

For more information on expressions, see "[Policies and Expressions](#)".

Note: After enabling data collection on a virtual server, if you want to edit the expression that you selected, select the virtual server, and then select Edit AppFlow Expression from the Action drop-down list.

7. Select the HTML Injection check box. When this option is selected, the web insight reports will include information about load time and render time, which is useful for comparing the performance of web applications.

Note: On NetScaler 10 appliances, the HTML Injection feature is available only for Platinum licenses. On NetScaler 10.1 appliances, it is available for all licenses.

8. Click OK to save the configuration. If data collection is enabled, the Insight column in the Application List table for that

virtual server displays the word Enabled.

Note: If AppFlow logging is not enabled for the respective services or service groups on the NetScaler appliance, the NetScaler Insight Center dashboard does not display the records, even if the Insight column shows Enabled.

9. To return to the inventory list, from the Action drop-down, select Return to Inventory list.

Enabling HDX Insight Data Collection

May 20, 2015

HDX Insight collects data about virtual desktop connections. The NetScaler ADCs from which HDX Insight collects data can be deployed in either single-hop mode or transparent mode.

Data collection for single-hop mode is configured through the NetScaler Insight Center interface. For transparent mode, you configure data collection on the NetScaler ADC, by using the command line interface.

This release of NetScaler Insight Center is compatible with the following XenApp and XenDesktop version and builds.

Table 1. Software Versions and Builds

Software	Version	Build
XenApp	6.5	6682 with HRP01
XenDesktop	5.6	56060
	7.0	3018

This topic includes the following details:

- [Single-Hop Mode](#)
- [Transparent Mode](#)

Single-Hop Mode

In single-hop mode, users access the NetScaler appliances through a virtual private network (VPN).

To enable data collection in single-hop mode

1. On the Configuration tab, click **Inventory**.
2. From the inventory list, select the IP address of the appliance on which you want to enable data collection.
3. On the NetScaler Insight Center Inventory Setup screen, in the Application List pane, from the **View** drop-down list, select VPN. A list of the SSL VPN virtual servers configured on the appliance populates a table with the following information about each virtual server:
 - IP Address—IP address of the virtual server
 - Name—Name of the virtual server
 - State—Current operational state of the virtual server. Can be UP or DOWN.
 - Type—Service type of the virtual server.
 - Insight—Data-collection status of the virtual server (ENABLED or DISABLED).
4. Select the SSL VPN virtual server for which you want to enable data collection.
Note: You can enable data collection on a virtual server only if the operational state of the virtual server is UP.
5. From the Action drop-down list, select Enable Appflow.
6. In the Enable AppFlow dialog box, from the Select Expression drop-down list, specify the traffic to be filtered.
Note: Currently, the only expression supported is true.

For more information on expressions, see [Policies and Expressions](#).

7. Click OK to save the configuration. If data collection is enabled, the Insight column in the Application List table displays as enabled.

Note: If AppFlow logging is not enabled for the respective services or service groups on the NetScaler appliance, the NetScaler Insight Center dashboard does not display the records, even if the Insight column shows Enabled.

8. To return to the inventory list, from the Action drop-down, select Return to Inventory list.

Note: The following commands are executed in the background when you enable AppFlow in single-hop mode. These commands are explicitly specified here for troubleshooting purposes.

- add appflow collector <name> -IPAddress <ip_addr>
- add appflow action <name> -collectors <string>
- set appflow param -flowRecordInterval <secs>
- disable ns feature AppFlow
- enable ns feature AppFlow
- add appflow policy <name> <rule> <expression>
- set appflow policy <name> -rule <expression>
- bind vpn vserver <vsname> -policy <string> -type <type> -priority <positive_integer>
- set vpn vserver <name> -appflowLog ENABLED
- save ns config

Transparent Mode

If a NetScaler appliance is deployed in transparent mode in a XenApp/XenDesktop environment, the ICA traffic is not transmitted over a VPN. In that case, you have to add NetScaler Insight Center as an AppFlow collector on each NetScaler appliance, and you must configure an Appflow policy to collect all or specific ICA traffic that flows through the appliance.

Note:

- Use the NetScaler command line interface to configure transparent-mode data collection manually on a NetScaler appliance. You cannot configure it in the NetScaler Insight Center Graphical User Interface (GUI).
- For detailed information about the commands and their usage, see [Command Reference](#).
- For information on policy expressions, see [Policies and Expressions](#).

To configure data collection on a NetScaler appliance by using the command line interface

At the command prompt, do the following:

1. Log on to an appliance.
2. Specify the ICA ports at which the NetScaler appliance listens for traffic.
set ns param --icaPorts <port>...

Example:

```
set ns param -icaPorts 2598 1494
```

Note:

- You can specify up to 10 ports with this command.
 - The default port number is 2598. You can modify the port number as required.
3. Add NetScaler Insight Center as an appflow collector on the NetScaler appliance.
add appflow collector <name> -IPAddress <ip_addr>

Example:

```
add appflow collector MyInsight -IPAddress 192.168.1.101
```

Note: A NetScaler appliance supports a maximum four Appflow collectors. If there are already four Appflow collectors configured, you cannot add another AppFlow collector (in this case, NetScaler Insight Center) to the NetScaler appliance. Delete an existing Appflow collector to add a new collector. To view the appflow collectors configured on the NetScaler appliance, use the show appflow collector command.

4. Create an appflow action and associate the collector with the action.

```
add appflow action <name> -collectors <string> ...
```

Example:

```
add appflow action act -collectors MyInsight
```

5. Create an appflow policy to specify the rule for generating the traffic.

```
add appflow policy <policyname> <rule> <action>
```

Example:

```
add appflow policy pol true act
```

6. Bind the appflow policy to a global bind point.

```
bind appflow global <policyname> <priority> -type <type>
```

Example:

```
bind appflow global pol 1 -type ICA_REQ_DEFAULT
```

Note: The value of type should be ICA_REQ_OVERRIDE or ICA_REQ_DEFAULT in order to apply to ICA traffic.

7. Set the value of the flowRecordInterval parameter for Appflow to 60 seconds.

```
set appflow param -flowRecordInterval 60
```

Example:

```
set appflow param -flowRecordInterval 60
```

8. Save the configuration. save ns config

Disabling and Clearing Data Collection

Jul 29, 2013

Disabling data collection stops the NetScaler Insight Center from retrieving the data collected by a virtual server. Clearing data collection removes the NetScaler Insight Center configuration from a virtual server.

Note: These procedures are applicable to both Web Insight and HDX Insight.

To disable data collection on a virtual server

1. On the Configuration tab, click Inventory.
2. From the Inventory list, select the IP address of the appliance on which you want to disable data collection.
3. In the Application List pane, from the View drop-down list, select the type of virtual server.
4. Select a virtual server for which you want to disable data collection.
Note: You can disable data collection on a virtual server only if the operational state of the virtual server is UP.
5. From the Action list, select Disable Appflow.
6. Click Yes when prompted for confirmation. The Enabled option on Insight column in the Application List is no longer displayed.

To clear data collection on a virtual server

To clear data collection, follow steps 1 through 4 in the above procedure and then select Clear AppFlow Configuration from the Action list.

The following commands are executed in the background when you clear Web Insight data collection:

- unbind <vserver_type> vserver <vserver_name> -policyName <responder_policy_name>
- unbind <vserver_type> vserver <vserver_name> -policyName __ESNS_PREBODY_POLICY
- unbind <vserver_type> vserver <vserver_name> -policyName __ESNS_POSTBODY_POLICY
- unbind <vserver_type> vserver <vserver_name> -policyName __ESNS_REWRITE_POLICY
- unbind <vserver_type> vserver <vserver_name> -policyName __ESNS_REWRITE_POLICY_APPFLOW
- remove responder policy <responder_policy_name>
- unbind lb vserver <vservname> -policyName <af_policy_name>
- remove appflow policy <af_policy_name>

The following commands are executed in the background when you clear HDX Insight data collection :

- unbind vpn vserver <vservname> -policyName <af_policy_name>
- remove appflow policy <af_ploicy_name>

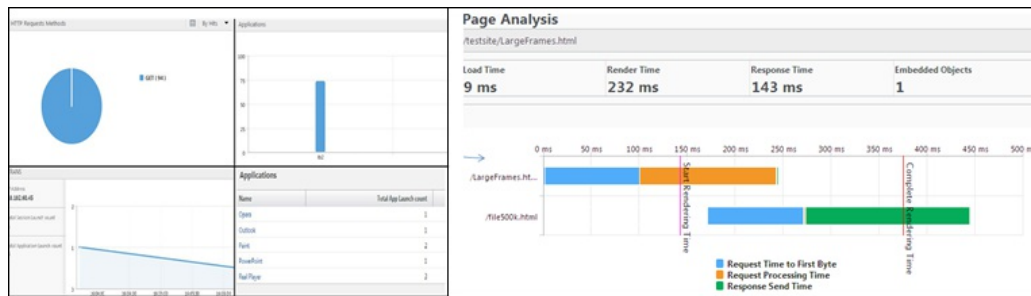
Viewing the Reports

May 22, 2015

NetScaler Insight Center reports provide a detailed view of the performance of the NetScaler ADCs. With the help of these reports, you can analyze the devices being monitored by NetScaler Insight Center and track performance issues.

When you enable data collection, NetScaler Insight Center collects traffic data, analyzes the collected data, and presents it as reports on the dashboard, in various formats as displayed in the following figure.

Figure 1. An example of the various visual representations



The data collected from the NetScaler ADCs is aggregated to display the data collected during the last 5 minutes, 1 hour, 1 day, 1 week, and 1 month. You can choose to view the data for a particular period.

The list of parameters displayed in the report depends on the metrics selected at the top right corner of the page. When you select an entity, duration, and metric from the drop-down-list, NetScaler Insight Center displays the relevant values in multiple formats.

For example, if you select Devices from the Web Insight node, select **Day** as duration and select **Hits** as the metric to display, then the dashboard displays a bar chart. Below the chart is a tabular representation of the data. In the table you can click on an entry to display a more detailed report, with all of the applicable values shown as both a bar chart and a pie chart.

Note: By default, the dashboard bases the performance chart for the NetScaler ADCs or CloudBridge appliances on the number of hits. To display more details of an appliance's performance, click on its host name, or click on the chart. All components that affect the performance of the appliance are represented in charts.

Web Insight Reports

Jun 11, 2014

For application traffic, the reports generated by NetScaler Insight Center are available on the **Web Insight** node on the Dashboard. The reports include the following categories of entities:

- **Devices.** Displays the reports for all NetScaler appliances accessed by the clients.
- **Applications.** Displays the reports for all applications used by the clients across all the NetScaler appliances.
- **URLs.** Displays the reports for all the application URLs accessed by the clients.
- **Clients.** Displays the reports for all clients accessing the applications across all the NetScaler appliances.
- **Servers.** Displays the reports for all the servers responding to the client requests.

Web Insight reports consolidate the following data:

- Applications managed by the selected NetScaler appliances
- Top five clients details
- Top five servers details
- HTTP request methods used by the clients
- HTTP Response Status
- Operating Systems used by the clients
- User agents (browsers) used by the clients

Note: You can click on a chart to view details of the selected component.

The following table lists the Web Insight metrics available with different licenses:

Table 1. Web Insight Metrics with Applicable Licenses

Metrics		Description	NS 10 Platinum edition, and NS 10.1 all editions	NS 10 (Standard and Enterprise editions, and NS 9.3 (All editions)
Devices	Hits	Number of requests received by NetScaler.	Yes	Yes
	Bandwidth	Total bytes processed by NetScaler appliance.	Yes	Yes
Applications	Hits	Number of requests received by application.	Yes	Yes
	Bandwidth	Total bytes sent to the application.	Yes	Yes
	Response Time	Elapsed time between the end of an enquiry and the beginning of a response from the application. Response time consists of Client Network Latency, Server Processing Time and Server Network Latency.	Yes	No

URLs	Hits	Number of requests received for a URL.	Yes	Yes
	Load time	Elapsed time, from when the browser starts to receive the first byte of a response until the user starts to interact with the page. At this stage, some of the page content might not yet have been loaded.	Yes	No
	Render Time	Elapsed time, from when the browser starts to receive the first byte of a response until either all page content has been rendered or the page load action has timed out.	Yes	No
	Waterfall Chart	A chart that displays the reports for web pages with embedded objects that are accessed by clients. It includes details about load time, render time, response time and number of embedded objects. Note: To view the waterfall chart: 1. Navigate to Dashboard > URLs 2. Select a particular URL and click Page Analysis.	Yes	No
Clients	Requests	Number of requests sent by the client.	Yes	Yes
	Render time	Elapsed time, from when the browser starts to receive the first byte of a response until either all page content has been rendered or the page load action has timed out.	Yes	No
	Client Network Latency	Latency caused by client-side network.	Yes	Yes
Servers	Hits	Number of requests received by the servers.	Yes	Yes
	Bandwidth	Total bytes received by the servers.	Yes	Yes
	Server Processing Time	Elapsed time, from when the server starts to receive the first byte of a request from the NetScaler appliance until the NetScaler appliance receives the first byte to response.	Yes	No
	Server	Latency caused by server network.	Yes	Yes

	Network Latency			
HTTP Request Methods	Hits	Number of requests received, distributed with respect to various request methods.	Yes	Yes
	Bandwidth	Total bytes received, with respect to HTTP request methods.	Yes	Yes
HTTP Response Status	Hits	Number of responses sent, segregated with respect to HTTP response status.	Yes	Yes
	Bandwidth	Total bytes received, segregated with respect to HTTP response status.	Yes	Yes
	Render Time	Average render time experienced by clients segregated with respect to HTTP status responses.	Yes	No
Operating Systems	Hits	Number of client requests received, segregated with respect to user agents used.	Yes	Yes
	Bandwidth	Total bytes received from clients, segregated with respect to OS used.	Yes	Yes
	Render Time	Average Render time experienced by clients, segregated with respect to OS used.	Yes	No
User Agents	Hits	Number of client requests received, segregated with respect to the user agents used.	Yes	Yes
	Bandwidth	Total bytes received, from clients segregated with respect to user agents used.	Yes	Yes
	Render Time	Averaged Render time experienced by clients, segregated with respect to user agents used.	Yes	No

HDX Insight Reports

Dec 29, 2014

For virtual desktop traffic, the reports generated by NetScaler Insight Center are available on the **HDX Insight** node of the Dashboard. The HDX Insight reports provide complete visibility of the ICA traffic. The reports include the following categories of entities:

- **Users.** Displays the reports for all the users accessing the applications in a selected time slot.
- **Applications.** Displays the reports for total number of applications, and the total number of times the applications were launched, within the specified time slot.
- **Gateways.** Displays the reports on the NetScaler appliances that act as gateways for incoming traffic.
- **Desktops.** Displays the reports for the desktops used in the selected time frame.
- **Licenses.** Displays the reports for total SSL VPN licenses used within the specified time slot.

Note: The Licenses value does not apply to CloudBridge appliances.

The following table lists HDX Insight metrics:

Table 1. HDX Insight Metrics

Metrics		Description
Users	WAN Latency	Average latency caused by the client side network.
	DC Latency	Average latency caused by the server network.
	ICA RTT	Average ICA RTT is the screen lag that the user experiences while interacting with an application or desktop hosted on XenApp or XenDesktop, respectively.
	Bandwidth	Rate at which data is transferred over the ICA session.
	Client Side NS Latency	Average latency caused by a NetScaler appliance when ICA traffic flows from client network to server network.
	Server Side NS Latency	Average latency caused by a NetScaler appliance when ICA traffic flows from server network to client network.
	Host Delay	Average delay in ICA traffic that passes through the NetScaler ADCs, caused by server network.
	Client side zero window size event	This counter indicates how many times the client advertised a zero TCP window (in this interval).
	Server side zero	This counter indicates how many times the server advertised a zero TCP window (in this interval).

	window size event	this interval).
	Client side fast RTO	This counter indicates how many times the retransmit timeout got invoked on the client side connection (in this interval).
	Server side fast RTO	This counter indicates how many times the retransmit timeout got invoked on the server side connection (in this interval).
	Client side CB	Checks whether CloudBridge is present on the client side in the ICA session path.
	Server side CB	Checks whether CloudBridge is present on the server side in the ICA session path.
Applications	Total Session Launch Count	Total number of active sessions started during a given time interval.
	Launch Duration	Average time taken to launch an application.
	Apps	Total number of applications active during a time period on the network.
	Client Type	Type of client which accesses the applications.
	Client Version	The receiver version.
	EUEM Session	Indicates the availability of EUEM data when an EUEM channel is established between the client and server.
	Session Reconnects	Number of times the session reconnected.
	MSI	Indicates if the connection is multi-stream ICA.
	ACR (Automatic Client Reconnects)	Total number of times a client automatically reconnects users to disconnected sessions.
Desktop	Bandwidth	Average rate at which data is transferred over the ICA session.
Gateways	Total Session Launch Count	Total number of unique user sessions created during a given time interval.

	Total Application Launch Count	Total number of unique applications launched during a given time interval.
Licenses	Licenses in use	Licenses in use for SSL VPN and ICA traffic.

Managing NetScaler Insight Center

May 22, 2015

The configuration tab provides the interface through which you can manage the NetScaler Insight Center virtual appliance. You can perform management activities such as modify the network configuration, update logon credentials of devices, configure user accounts, and manage client sessions. You can also restart NetScaler Insight Center and configure security settings. You can further configure mail notifications to receive emails whenever an alert is raised.

This topic includes the following details:

- [Managing ICA Sessions](#)
- [Modifying the Network Configuration](#)
- [Updating Logon Credentials of NetScaler Appliances](#)
- [Modifying the Time Zone](#)
- [Configuring User Accounts](#)
- [Managing Client Sessions](#)
- [Restarting the NetScaler Insight Center](#)
- [Modifying System Security Settings](#)

Managing ICA Sessions

You can use the ICA session timeout feature to specify the time period for which an ICA session can remain in the idle state before being terminated. By default, if there is no flow of traffic, the session remains in active state for the first 2 minutes and then moves to Idle state.

For example, if you set the ICA session timeout value to 5 minutes, a session in which there is no traffic remains active for 2 minutes and then enters the idle state. If there is still no traffic at the end of another 5 minutes, the session is terminated. If the session has any traffic during the (2+5=) 7-minute period, the session moves to active state.

To set the ICA session time out value

1. In the navigation pane, on the Configuration tab, click System.
2. In the System pane, under System Settings, click Change ICA Session Timeout.
3. In the Change ICA Session Timeout dialog box, set the Session Timeout value and click OK.

Modifying the Network Configuration

You can change the NetScaler Insight Center IP address, network mask, and gateway address that you specified for the NetScaler Insight Center virtual appliance during initial configuration.

To modify the network configuration of NetScaler Insight Center

1. On the Configuration tab, in the navigation pane, click System.
2. In the System pane, under Setup NetScaler InsightSetup NetScaler Insight Center, click Network Configuration.
3. In the Modify Network Configuration dialog box, set the following parameters:
 - NetScaler Insight IP Address—IP address of the NetScaler Insight Center.
 - Netmask—Subnet mask for the subnet in which the NetScaler Insight Center is located.
 - Gateway—The default gateway for the network.
4. Click OK.

Updating Logon Credentials of NetScaler appliances

If the logon credentials of a NetScaler appliance changes after it is added to the inventory, NetScaler Insight Center is not able to connect to that appliance. In the user interface, the State column in the Inventory list displays a yellow or red circle in the row that lists the appliance.

Note: There can be many other reasons for this state change. A change in logon credentials is just one of the possible causes. To resolve this issue, you must acquire information about the credential change from the administrator of the NetScaler appliance and update NetScaler Insight Center.

To update logon credentials for the NetScaler appliance

1. On the Configuration tab, click Inventory.
2. Select the device for which you want to update the credentials, and from the Action drop-down list, select Update Login Credentials.
3. On the Update Login Credentials screen, enter the new credentials for the device.

Modifying the Time Zone

You can modify the time zone used by the NetScaler Insight Center virtual appliance's clock. The default time zone is UTC.

To modify the time zone

1. On the Configuration tab, in the navigation pane, click System.
2. In the System pane, under System Settings, click Change Time Zone.
3. In the Modify Time Zone dialog box, select a time zone from the drop-down list, and then click OK.

Configuring User Accounts

To allow a user to access NetScaler Insight Center virtual appliance, you must create an account for the user. Users are authenticated locally, on the virtual appliance. You can also enable external authentication for the user and specify the amount of time for which the a user can remain logged on.

To configure a user account

1. On the Configuration tab, in the navigation pane, expand System, and then click Users. The Users pane displays a list of existing user accounts, with their permissions.
2. In the Users pane, do one of the following:
 - To create a user account, click Add.
 - To modify a user account, select the user, and then click Modify.
3. In the Create System User or Modify System User dialog box, set the following parameters:
 - Name—User name for the account. The following characters are allowed: letters a through z and A through Z, numbers 0 through 9, period (.), space (), and underscore (_). Maximum length: 128 characters. You cannot change the name after the account is created.
 - Password—Password for logging on to the NetScaler Insight Center virtual appliance.
 - Confirm Password The password.
 - Permission—User's privileges on the virtual appliance. Possible values:
 - Superuser—Can perform all administration tasks related to the NetScaler Insight Center.
 - Readonly—Can only monitor the system and change the password of the account.Default: superuser.
4. Click Create or OK, and then click Close. The user account that you created is listed in the details pane.

Managing Client Sessions

A client session is created when a user logs on to the NetScaler Insight Center virtual appliance. You can view all current client sessions in the Sessions pane, and you can end the session for a user.

To view client sessions, on the Configuration tab, in the navigation pane, expand System, and then click Sessions.

In the Sessions pane, you can view the following details:

- **User Name**—User account that is being used for the session.
- **IP Address**—IP address of the client from which the session has been created.
- **Port**—Port being used for the session.
- **Login Time**—Time at which the current session was created on NetScaler Insight Center.
- **Last Activity Time**—Time at which user activity was last detected in the session.
- **Session Expires In**—Time remaining before session expiry.

To end a client session, in the Sessions pane, click the session that you want to remove, and then click End Session.

Note: You cannot end a session from the client that initiated that session.

Restarting the NetScaler Insight Center

Restarting NetScaler Insight Center does not affect the NetScaler appliances monitored by NetScaler Insight Center. The NetScaler appliances continue to function during the restart process.

To restart NetScaler Insight Center

1. On the Configuration tab, in the navigation pane, click System.
2. In the System pane, under System Administration, click Reboot NetScaler Insight Center.
3. At the confirmation prompt, Click Yes.

Modifying System Security Settings

For security reasons, you can specify that all communication between NetScaler Insight Center and a NetScaler appliance must be over a secure channel. You can also specify HTTPS-only access to NetScaler Insight Center user interface.

To modify system settings

1. On the Configuration tab, in the navigation pane, click System.
2. In the System pane, under System Settings, click Change System Settings.
3. In the Modify System Settings dialog box, select **https** from the NetScaler Insight Center to NetScaler Communication drop-down list.
4. To specify secure-only access to NetScaler Insight Center, select the Secure Access only check box.
5. Click OK.

Working with SSL Files

May 15, 2015

Before installing an SSL certificate, you must upload the SSL files to NetScaler Insight Center. Installing an SSL certificate terminates all current client sessions with the NetScaler Insight Center, so you have to log in again for any additional configuration tasks.

This topic includes the following details:

- [Uploading SSL files to the NetScaler Insight Center](#)
- [Installing an SSL Certificate](#)
- [Viewing SSL Certificate Details](#)

Uploading SSL files to the NetScaler Insight Center

For any SSL transaction, the server needs a valid certificate and the corresponding private and public key pair. The certificate file must be present on the NetScaler Insight Center virtual appliance when you install the SSL certificate on NetScaler Insight Center. You can also download the SSL Certificate and key files to a local computer as a backup.

To upload SSL certificate files to NetScaler Insight Center

1. On the Configuration tab, expand NetScaler Insight Center, and then click SSL Certificate files.
2. In the SSL Certificates pane, from the Action drop-down list, select Upload.
3. In the Upload SSL Certificate dialog box, click Browse and select the certificate file that you want to upload.

To create a backup for an SSL certificate file

On the SSL Certificates pane, select the file that you want to download, and then from the Action drop-down list, select Download and browse to the location where you want to save the file.

Installing an SSL Certificate

After installing the certificate and key files, you can install the SSL certificate.

To install an SSL certificate on NetScaler Insight Center

1. On the Configuration tab, in the navigation pane, click System.
2. In the System pane, in **Setup NetScaler Insight Center**, click Install SSL Certificate.
3. In the Install SSL Certificate dialog box, set the following parameters:
 - Certificate File— File name of a valid certificate. The certificate file must be present on the NetScaler Insight Center virtual appliance.
 - Key File— File name of the private key used to create the certificate. The key file must be present on the NetScaler Insight Center virtual appliance.
 - Password — Pass phrase that was used to encrypt the private key. This option can be used to load encrypted private keys. Maximum length: 32 characters.
Note: Password protected private keys are supported only for the PEM format.
4. Click OK, and then click Close.

Viewing SSL Certificate Details

The NetScaler Insight Center virtual appliance uses an SSL certificate for secure client connections. After installing the certificate, you can view details such as certificate's validity status, issuer, subject, days to expiration, valid from and to dates, version, and serial number.

To view the SSL certificate on NetScaler Insight Center

1. In the navigation pane, click System.
2. In the System pane, under Setup NetScaler InsightSetup NetScaler Insight, click View SSL Certificate. The certificate details appear.

Managing Threshold

May 21, 2015

The adaptive threshold functionality in NetScaler Insight Center dynamically sets the threshold value for the maximum number of hits on each URL. If the maximum number of hits on a URL is greater than the threshold value set for the URL, a syslog message is sent to an external syslog server. The threshold value interval can be either days or weeks

Threshold-value calculation uses the following formula: Threshold value = Max hit * Threshold multiplier, where

- Max hit is the maximum number of hits on a URL.
- Threshold multiplier is a user-defined integer value (default: 2).

Note: The adaptive threshold functionality is supported only on NetScaler 10.1.e and NetScaler release 10.5 onwards.

Example

In the following example, duration of the threshold has been set to Day, and the threshold multiplier is 2.

On day 1, a syslog message is not sent, because a threshold value is not calculated by NetScaler Insight Center for the previous day. The largest number of hits on any URL is 15 on day 1.

On day 2, the maximum number of hits on any URL is 60, and the threshold value set by NetScaler Insight Center is 30 (Max Hit on day 1 * Threshold multiplier). The threshold value on day 2 is less than the maximum number of hits on day 2. Therefore, a syslog message is sent to an external syslog server.

On day 3, the maximum number of hits on any URL is 10, and the threshold value is 120 (maximum hit on day 2 * Threshold multiplier). The threshold value on day 3 is greater than the maximum number of hits on day 3. Therefore, a syslog message is not sent to an external syslog server.

The following table shows an example of how a threshold value is calculated:

Day	URL	Max Hit	Threshold Multiplier	Threshold value = Max Hit * Threshold multiplier	Syslog sent
Day 1	URL1	15	2	No threshold value is configured for Day1	No
Day 2	URL1	60	2	$15 * 2 = 30$	Yes Day 2 Max Hit (60) > Day 2 threshold value (30)
Day 3	URL1	10	2	$60 * 2 = 120$	No Day3 Max hit (10) < Day 3 threshold value (120)

Note: To configure a syslog server, see [Monitoring Syslog Events](#).

To enable adaptive threshold

1. On the Configuration tab, in the navigation pane, click System and in the right pane click Change Adaptive Threshold Settings.
2. On the Change Adaptive Threshold Settings page, select the check box and click OK.

To set the threshold value in NetScaler Insight Center

1. On the Configuration tab, navigate to NetScaler Insight Center>Thresholds.
2. Click Add.
3. In the Create Thresholds dialog box, set the following parameters:
 - Name—Threshold name
 - Resource Type—URL
 - Duration—Duration of the threshold (Day or Week)
 - Threshold Multiplier—User-defined integer value
4. Click Create.

Configuring Clock Synchronization

May 15, 2015

You can configure your NetScaler Insight Center virtual appliance to synchronize its local clock with the Network Time Protocol (NTP) server used by your servers and NetScaler appliance. NetScaler Insight Center then has the same date and time settings as the other servers and appliances in your network. The clock synchronization configuration does not change if NetScaler Insight Center is restarted, upgraded, or downgraded.

The clock is synchronized immediately if you add a new NTP server or change any of the authentication parameters. You can also explicitly enable and disable NTP synchronization.

Note: If you do not have a local NTP server, you can find a list of public and open access NTP servers at the official NTP site, <http://www.ntp.org>. Before configuring a NetScaler appliance or other network entity to use a public NTP server, be sure to read the **Rules of Engagement** page (link included on all Public Time Servers pages).

This topic includes the following details:

- [Configuring an NTP Server](#)
- [Enabling an NTP Synchronization](#)
- [Modifying the Authentication Options](#)

Configuring an NTP Server

To synchronize the local time of the NetScaler Insight Center appliance, you have to first configure an NTP server.

To add an NTP server

1. On the Configuration tab, expand System > NTP Servers.
2. In the details pane, do one of the following:
 - To add a new NTP server, click Add.
 - To modify settings for an existing NTP server, select the NTP server, and then click Modify.
3. In the Add NTP Server dialog box, set the following parameters:
 - Server Name/IP Address—Domain name of the NTP server or the IP address of the NTP server. The name or IP address cannot be changed for an existing NTP server.
 - Minimum Poll Interval—Minimum number of seconds after which the NTP server must poll the NTP messages, expressed as a power of 2. Minimum value: 4 ($2^4=16$ seconds). Maximum value: 6 ($2^6=64$ seconds). Default: 6 ($2^6=64$ seconds).
 - Maximum Poll Interval—Maximum number of seconds after which the NTP server must poll the NTP messages, expressed as a power of 2. Minimum value: 10 ($2^{10}=1024$ seconds). Maximum value: 17 ($2^{17}=36$ hours). Default : 10 ($2^{10}=1024$ seconds).
 - Key Identifier—Key to be used for the specified server. This key identifier should be added to the list of Trusted Key IDs in the authentication parameters. Minimum value: 1. Maximum value: 65534.
Note: Do not add a key if you select Autokey.
 - Autokey—Use the Autokey protocol for the specified server.
 - Preferred—Synchronize with this server first. Applicable if more than one server is configured.
4. Click Add, and then click Close.
5. In the details pane, verify that the settings displayed for the NTP server that you just configured are correct.

Enabling an NTP Synchronization

After configuring the NTP server, you must enable the NTP synchronization for the Insight appliance to synchronize its local time with the NTP server.

To enable an NTP synchronization

On the Configuration tab, navigate to System > NTP Servers, Then, in the users pane, from the Action drop-down list, select NTP Synchronization and enable NTP synchronization.

Modifying the Authentication Options

You can modify the options for authenticating an NTP server.

To modify the authentication options

On the Configuration tab, navigate to System > NTP Servers, and in users pane, from the Action drop-down list, select Authentication Parameters and modify the authentication options.

1. In the navigation pane, expand System, and then click NTP Servers.
2. In the details pane, from the Action drop-down list, select Authentication Parameters.
3. In the Modify Authentication Options dialog box, set the following parameters:
 - Authentication—Enable NTP authentication. Possible values: YES, NO. Default: YES.
 - Trusted Key IDs—Identifiers of trusted keys. While adding an NTP server, you select a key identifier from this list. Minimum value: 1. Maximum value: 65534.
 - Revoke Interval—Interval between re-randomization of certain cryptographic values used by the Autokey scheme, as a power of 2, in seconds. Default value: 17 ($2^{17}=36$ hours).
 - Automax Interval—Interval between regeneration of the session key list used with the Autokey protocol, as a power of 2, in seconds. Default value: 12 ($2^{12}=1.1$ hours).
4. Click OK.

Diagnostics

May 20, 2015

If you have problems with your NetScaler Insight Center deployment, see [Troubleshooting Tips](#). If you do not find a solution there, check the audit logs and task logs for a possible reason for the problem. These logs are also useful for monitoring NetScaler Insight Center operations. You can supplement them by designating a syslog server to which to redirect system log messages.

This topic includes the following details:

- [Using Audit Logs](#)
- [Using Task Logs](#)
- [Monitoring Syslog Events](#)
- [Contacting Technical Support](#)

Using Audit Logs

Audit logs provide detailed information about user-initiated operations that are performed on the NetScaler Insight Center.

To view audit logs

1. On the Configuration tab, navigate to System > Audit.
2. View the following details of operations performed:
 - **User name**—Name of the user who performed the operation.
 - **IP Address**—IP address of the NetScaler ADCs on which the operation was performed.
 - **Port**—Port at which the system was sending and receiving data when the operation was performed.
 - **Resource Type**—Type of resource on which the operation was performed.
 - **Resource Name**—Name of the resource used to perform the operation, and the user name used to log in.
 - **Audit Time**—Time when the audit log was generated.
 - **Operation**—Task that was performed, such as add, delete, or log out.
 - **Status**—Status of the audit, such as success or failure.
 - **Message**—Message describing the status of a task and the cause of failure (if the operation failed).

Using Task Logs

Tasks logs provide detailed information about the operations that NetScaler Insight Center performs on NetScaler appliances. The Task Logs category includes subcategories for devices and commands. The three types of logs can be described as follows:

- **Task Logs**—The operations that were performed.
- **Device Logs**—The NetScaler ADCs on which the operations were performed.
- **Command Logs**—The NetScaler or CloudBridge commands that were executed.

To view the task logs

1. On the Configuration tab, navigate to Diagnostics > Task Log.
2. View the following details of tasks that were performed on the NetScaler ADCs.
 - **Name**—Name of the task that is being executed or has already been executed.
 - **Status**—Status of the task, such as In progress, Completed, or Failed.
 - **Executed by**—NetScaler Insight Center user who performed the operation.

- **Start time**—Time at which the task started.
 - **End time**—Time at which the task ended.
3. Click a task to view the device logs. This is a list of the devices on which the operation was executed.
 - **Status**—Status of the operation, such as In progress, Completed, or Failed.
 - **IP address**—IP address of the NetScaler ADC.
 - **Start Time**—Time at which the operation started.
 - **End Time**—Time at which the operation ended.
 4. Click a device to view the command logs. This is a list of the commands that were executed on that device.
 - **Status**—Status of the operation, such as In progress, Completed, or Failed.
 - **Message**—Message describing the status of operation.
 - **Command**—The command that was executed.
 - **Start Time**—Time at which the command started.
 - **End Time**—Time at which the command ended.

Monitoring Syslog Events

You can monitor the syslog events generated by the NetScaler ADCs in the NetScaler Insight Center inventory if you have configured the NetScaler Insight Center virtual appliance to redirect all syslog messages to the syslog servers. To monitor syslog events, you have to designate a syslog server. A syslog server is an external server that displays the log events generated by NetScaler Insight Center. After you configure the syslog server, you can view the details of the events generated by the NetScaler ADCs.

Designating a Syslog Server

1. On the Configuration tab, navigate to System > Syslog Servers.
2. In the Syslogs Servers pane, click Add.
3. Enter the following details in the Add SysLog Server dialog box:
 - **Name**—Name of the syslog server.
 - **IP Address**—IP address of the syslog server.
 - **Port**—Port at which the system sends and receives data when the operation is performed.
By default, the port value is 514.
 - **Log Levels**—Select any of the log levels displayed.
4. Click Add. The syslog server is displayed on the Syslogs Servers pane.

Note: You can also select the date and time format to be displayed in the logs by selecting System Logs Parameters from the Action drop-down list.

Viewing Syslogs

1. On the Configuration tab, navigate to System > System logs.
2. The following details are displayed on System Logs pane:
 - **Severity**—Severity of the issue
 - **Source**—IP address of the virtual server
 - **Date**—Time and date when the issue was logged
 - **Category**—Category of the issue
 - **Message**—Details of the issue

Contacting Technical Support

Citrix recommends that before contacting technical support for debugging an issue, you generate an archive of the NetScaler Insight Center data and statistics. The archive is a TAR file that you send to the technical support team.

To create and send an archive file

1. On the Configuration tab, navigate to Diagnostics > Technical Support.
2. Generate the file, on the appliance as follows:
 1. In the Technical Support pane, from the Action drop-down list, select Generate Technical Support File.
Note: Be sure to clear the selection of any downloaded file.
 2. In the Generate Technical Support File dialog box, from the Mode drop-down list, select the mode and click OK.
The archive file is created as a TAR file.
3. Download the file.
 1. In the Technical Support pane, select the file to be downloaded.
 2. From the Action drop-down list, select the Download option.
 3. In the File Download message box, click Save.
 4. In the Save As message box, browse to the location where you want to save the file, and then click Save.
4. Email the file to the Citrix technical support team.

Troubleshooting Tips

Dec 30, 2015

Following are some reported problems and their resolutions.

I cannot see any records on the NetScaler Insight Center dashboard.

If no reports appear on the dashboard after you have enabled AppFlow for at least one virtual server on a NetScaler ADC or NetScaler Gateway that has been added to the inventory, check the following:

- Is the NetScaler Insight Center version the same as or higher than the NetScaler ADC version?
- Does the NetScaler ADC have the required license for NetScaler Insight Center to collect data? For details, see [Licensing Information](#).
- Are all the configurations implemented from NetScaler Insight center, and not from the NetScaler ADC?
- Did you wait for 5 minutes for the data to appear on the dashboard? If not, wait for at least 5 minutes for NetScaler Insight Center to display the data.
- Is the configuration utility displaying any repeating error messages? If so, check to see if there are any core dumps in the /var/core directory.
- Is AppFlow enabled on the NetScaler appliance?
- Is AppFlow logging enabled on the virtual servers (load balancing, content switching, or VPN virtual servers) of the NetScaler appliance?
- Is AppFlow enabled for the services and service groups that are bound to the load balancing virtual servers?
- Does the AppFlow policy for the virtual server have the highest priority for which AppFlow is most recently enabled? (If AppFlow is enabled for a virtual server on more than one NetScaler Insight Center virtual appliance, the virtual appliance on which AppFlow was most recently enabled for the NetScaler appliance collects the information). Follow the below procedure to check the priority:
 1. On the NetScaler appliance, navigate to Traffic Management.
 2. Expand Load Balancing, or expand Content Switching and then click Virtual servers.
 3. Double-click the virtual server for which you want to see if AppFlow is enabled.
 4. In the **Configure Virtual Server (Load Balancing)** or **Configure Virtual Server (Content Switching)** dialog box, on the **Policies** tab, click the arrow in the right corner of the dialog box.
 5. Select **AppFlow** from the drop-down list.
 6. Check if the AppFlow policy name has the highest priority.

Also, from the command line interface, run the `sh appflow global` command to make sure that the global AppFlow policies do not override the virtual server policies.

- Are the NetScaler Insight Center virtual appliances and port values set correctly on the NetScaler appliance? To check:
 1. On the Configuration tab of NetScaler appliance, navigate to System > AppFlow.
 2. Under Policy manager select AppFlow policy Manager.
 3. Select a virtual server (LB virtual server or CS Virtual server).
 4. Double click **Action Name** and verify that if the NetScaler Insight Center IP address and port are correct.
- On the NetScaler appliance, is traffic flowing through the virtual server for which data collection was enabled in NetScaler Insight Center? Also verify that the hits counter is increasing on the AppFlow policy, by running the following command from the NetScaler command line interface:

```
sh appflow policy <policyname>
```
- Is UDP port 4739 on the NetScaler Insight Center virtual appliance reachable from NetScaler appliance?
- To see Web Insight records, run the following command on the NetScaler command line interface to check if Log only

client-side traffic is set to **NO**.

show appflow param

Example

```
> show appflow param
```

```
AppFlow parameters
```

```
IPFIX template refresh interval: 3600 seconds
```

```
Appname refresh interval: 60 seconds
```

```
IPFIX flow record export interval: 60 seconds
```

```
IPFIX UDP Path MTU: 1472 bytes
```

```
HTTP URL logging: ENABLED
```

```
AAA username logging: ENABLED
```

```
HTTP cookie logging: ENABLED
```

```
HTTP referer logging: ENABLED
```

```
HTTP method logging: ENABLED
```

```
HTTP host logging: ENABLED
```

```
HTTP user-agent logging: ENABLED
```

```
HTTP Content-Type header logging: ENABLED
```

```
HTTP Authorization header logging: ENABLED
```

```
HTTP Via header logging: ENABLED
```

```
HTTP X-Forwarded-For header logging: ENABLED
```

```
HTTP Location header logging: ENABLED
```

```
HTTP Setcookie header logging: ENABLED
```

```
HTTP Setcookie2 header logging: ENABLED
```

```
Log only client-side traffic: NO
```

```
Connection Chaining: DISABLED
```

If Log only client-side traffic is set to YES, then run the following command to change the setting to NO:

```
set appflow param -clientTrafficOnly (YES | NO)
```

Example:

```
set appflow param -clientTrafficOnly NO
```

- Is NetScaler Insight Center receiving data records from the device?

To verify that NetScaler Insight Center is receiving data records,

- On the NetScaler Insight Center virtual machine, open the mps_afdecoder.log file located in /var/mps/log/ and check to see if the file displays text similar to the following once every second:

```
Monday, 22 Dec 14 20:12:03 +0000 [Debug] For AFProto Thread id :: 34473829696, Elapsed time is: 1010014 micro sec, Packet pick up is: 19, Packet processed is: 19, Decode rate is: 18/sec, Mean decode rate is: 13/sec, Data record processed is: 29, Data record routed is: 15
```

Following are descriptions of the parameters in the above text:

- Elapsed time is: Time consumed, in microseconds, since NetScaler Insight Center last displayed this text.
- Packet pick up is: Number of UDP packets that NetScaler Insight Center has received in the elapsed time.
- Packet processed is: Number of UDP packets that NetScaler Insight Center has processed in the elapsed time.
- Decode rate is and Mean decode rate is: Rate at which NetScaler Insight Center has received UDP packets.
- Data record processed is: Number of data records present in the UDP packets that were successfully decoded. (One UDP packet can contain more than one data record).

- Data record routed is: Number of data records that were routed properly to a proper handler (such as Web Insight or HDX Insight).

If the **Data record routed is** parameter's value is consistently zero, the NetScaler Insight Center virtual machine is not receiving any valid data records. Check the device's AppFlow configuration, or contact the technical support team to debug the issue.

- On the NetScaler Insight Center virtual machine, in the mps_afdecoder.log file located at /var/mps/log/, check to see if NetScaler Insight Center displays the data records, such as :
 - ica_session_setup, ica_session_network_update, and ica_session_update, every second for HDX Insight.
 - l7_clt_to_ns, ns_es4ns_client_load and ns_es4ns_client_render records every second for Web Insight.

If it displays these records, the data records are being sent to NetScaler Insight Center. Otherwise, check the device's AppFlow configuration.

- Are the data record logs enabled for Web Insight and/or HDX Insight?

To check, on the Configuration tab, click System, and in the right pane, select Change Data Record Log Settings and verify that the HDX Insight Logs or/and Web Insight logs option is selected.

Note: Web Insight logs are disabled by default.

Enable Web Insight Logs only if the value of **Data record routed is** parameter in the var/mps/log/mps_afdecoder.log file is in the range of 1 to 20. If the value is more than 20, disable AppFlow on the virtual server that has high traffic. If you enable Web Insight logs for a virtual server that has high traffic, the load on the mps_afdecoder.log file can become heavy and the appliance can become unresponsive.

NetScaler Insight Center does not display reports for a particular user name. What should I do?

If you suspect that a particular user report is not being displayed, on the NetScaler Insight Center virtual machine, open the mps_afdecoder.log files located in /var/mps/log/ file and run the following command:

```
grep <username> < mps_afdecoder.log>
```

If the output includes the user name, the user record is displayed in the reports. If the output does not display the user name, verify that the Citrix Receiver version being used is supported by NetScaler Insight Center. For details, see [Supported Software](#).

Why does the WAN latency and DC latency metrics display the values zero?

If the latency is less than 1 millisecond, the WAN latency and DC latency values are displayed as zero.

I am not able to add a NetScaler appliance. What are the possible reasons?

- Make sure that NetScaler appliance you add is UP and reachable when you add it to the Inventory. If the appliance is DOWN, or OUT-OF-SERVICE, you cannot add it to the Inventory.
- Make sure that you have not added a standalone Access Gateway Standard appliance.

The session up time value is incorrect.

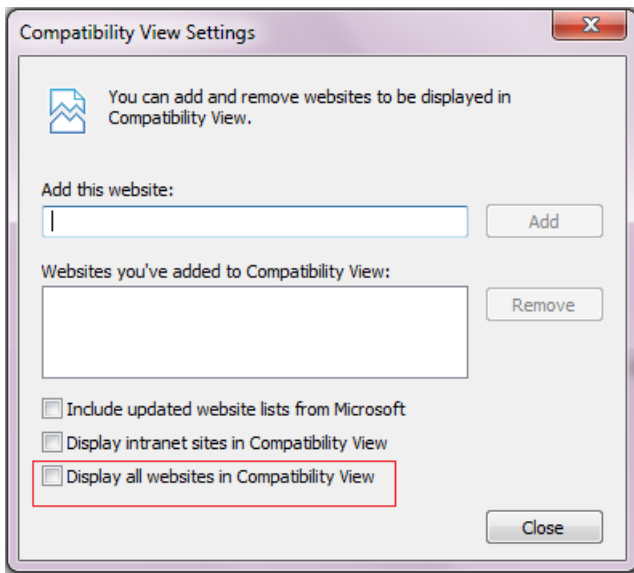
Make sure that the times set for the NetScaler appliance and NetScaler Insight Center are correct and in sync. For more information, see [Configuring Clock Synchronization](#).

The graphs are not clearly displayed or they look scrambled.

Clear the browser cache and retry. Also make sure the NetScaler Insight Center is supported on the browser. For details, see [Accessing NetScaler Insight Center](#).

I am unable to log on to NetScaler Insight Center through the Internet Explorer browser.

The browser might be set in compatibility mode. To disable compatibility mode, go to **Tools >Compatibility View Settings** and clear the **Display all websites in Compatibility View** check box.



If you still cannot access NetScaler Insight Center after you disable the compatibility mode in Internet Explorer version 8 or 9, make sure that the browser mode and document mode in the browser are set to the same version. To view the configuration, press F12. Set the values to either Internet Explorer 8 or Internet Explorer 9.

Why does the RTT metric display an incorrect value? Or, The ICA RTT is shown as N/A on the NetScaler Insight Center reports. What should I do?

To debug this issue, check to see if the EUEM value on XenApp or XenDesktop is enabled or not. If EUEM is disabled, then NetScaler Insight Center does not display the ICA RTT values. If EUEM is enabled, and ICA RTT is shown as N/A, then perform each of the following diagnostic operations sequentially till the issue is resolved.

- Check if the Citrix End User Experience Monitoring (EUEM) configurations are enabled on the XenApp server:
 1. From the Citrix AppCenter, navigate to Citrix Resources > XenApp > Farm > Policies.
 2. On the Settings tab, go to ICA > End User Monitoring and make sure that the following configurations are enabled:
 - ICA Round Trip Calculation
 - ICA Round Trip Calculation Interval
 - ICA Round Trip Calculation for Idle Connections
 3. Verify the configurations.
 1. Check for ICA RTT policy entries in the registry.
 1. Open the command prompt from your Windows machine.
 2. Type regedit and press Enter.
 3. Navigate to HKEY_LOCAL_MACHINE > Software > Policies > Citrix > EndUserMonitoring.
 4. Make sure that the following configurations are available:
 - ICA Round Trip Calculation
 - ICA Round Trip Calculation Interval
 - ICA Round Trip Calculation for Idle Connections
 2. Make sure that the services for these configurations are set to **Automatic**.
 1. Open the command prompt from your Windows machine.
 2. Type services.msc and press Enter.
 3. In the Services dialog box, make sure that **Citrix End User Experience Monitoring** is listed and the Startup Type is set to **Automatic**.
- If you are using a virtual desktop application, make sure that the Startup Type is set to **Automatic**. This has to be done on the master image.
 1. Open the command prompt from your Windows machine.

2. Type services.msc and press Enter.
 3. In the Services dialog box, make sure that **Citrix End User Experience Monitoring** is listed and the Startup Type is set to **Automatic**.
- Make sure that the Citrix EUEM Hotfix is available.
 1. Open the command prompt from your Windows machine.
 2. Type appwiz.cpl and press Enter.
 3. On the Uninstall or Change a Program dialog box, make sure that the **Citrix HotFix XA650R01W2K8R2X64064** for the XenApp 6.5 with R01 server is installed.
 - Make sure that the value of flowRecordInterval parameter on the NetScaler ADC is set to 60 seconds. To verify, run the following command on the NetScaler appliance:
show appflow param

Confirm by checking if the following output parameter is set to 60:

IPFIX flow record export interval: 60 seconds

If the value is not 60, then set the value by running the following command:

set appflow param -flowRecordInterval 60

- After you start the XenApp or XenDesktop traffic, wait for two or three minutes and check to see the ICA RTT value in NetScaler Insight Center reports.
- Check if NetScaler Insight Center dashboard displays session ID as NON-EUEM as shown in the following image:
Figure 1. NetScaler Insight Center Report

Current Application Sessions								
Diagram	ID	RTT	WAN latency	DC latency	Bandwidth	Start Time	Up Time	Client IP Address
	03d0...5040000 (NON EUEM)	-NA-	157 ms	1 ms	72.33 Kbps	Tue, 14 Oct 2014 03:13:44 GMT	1 h: 43 m: 59s	172.16.1.115

- Make sure that the ICA connections actively send data.
- Verify the XenApp or XenDesktop versions.

Table 1. XenApp/XenDesktop Versions and builds

Product	HDX Insight
XenApp	6.5, build 6682 with HRP01
XenDesktop	5.6, build 56060
	7.0 and higher versions

Table 2. Operating systems and receiver details

Operating system	Receiver version

Operating system	Receiver Version
Windows 7	3.4 Enterprise Edition 4.0 Standard Edition
Windows 8	3.4 Enterprise Edition
	4.0 Standard Edition
Mac	11.8, build 238301 and above Note: Mac client does not support ICA RTT reports for CloudBridge version 7.3.0.
Linux	13 and above

- Make sure that the ICA RTT calculation for idle connections is enabled on the XenApp server.

Note: If none of the debugging options work, contact technical support to install the Sems Com Plugin test tool on Xenapp Server to see if you receive ICA RTT events.

An error message is displayed when I add the NetScaler appliance to the NetScaler Insight Center inventory.

Make sure that the GUI is accessible, by verifying that port is open for communication. To do so, run the following command from the command line interface:

```
show ns ip <ipaddress>
```

Example: show ns ip 10.102.60.31

```
IP: 10.102.60.31
```

```
Netmask: 255.255.255.128
```

```
Type: NetScaler IP
```

```
...
```

```
...
```

```
...
```

```
gui: Enabled
```

```
...
```

```
...
```

```
...
```

If GUI is set to **secureonly**, then make sure that all communication between NetScaler Insight Center and a NetScaler appliance is over a secure channel. For more information, see [Modifying System Security Settings](#).

Also, make sure that proper licenses are available for the NetScaler appliances that are added in NetScaler Insight Center inventory. For more information, see [Licensing Information](#). Also check if the required ports are open for communication. For more details, see [Ports](#).

I am not able to clear all the AppFlow related configurations for a selected virtual server by using the NetScaler Insight Center graphical user interface.

Log on to the NetScaler appliance by using the graphical user interface and delete the required collector and action. To delete the action name, perform the following procedure:

1. Navigate to System > AppFlow > Actions.
2. Select the AppFlow action name that you want to delete.
3. Click Remove.

To delete the collector, perform the following procedure:

1. Navigate to System > AppFlow > Collectors.
2. Select the Collector name that you want to delete.
3. Click Remove.

The following error is displayed when I upgrade the NetScaler Insight Center appliance: "Backup/ Restore operation in progress. Try after some time."

Reboot the NetScaler Insight Center appliance or run the following commands at the NetScaler Insight Center shell prompt:

```
/etc/rc.d/analyticsd stop  
/etc/rc.d/analyticsd start
```

The HDX Insight node does not appear on the NetScaler Insight Center dashboard.

Make sure that proper licenses are available for the NetScaler appliances that are added in NetScaler Insight Center inventory. For more information, see [Licensing Information](#). Also check if the required ports are open for communication. For more details, see [Ports](#).

An error message is displayed when I access NetScaler Insight Center using Internet Explorer 8.

Some features of NetScaler Insight Center are not support on Internet Explorer 8. You can access the appliance using Internet Explorer 9. For more details on browser support, see [Accessing NetScaler Insight Center](#).

I cannot see the waterfall chart or the Page Analysis button on the NetScaler Insight Center dashboard.

Check the following possible causes:

1. Is the HTML Injection check box selected?
2. Is the URL response content type of the web page in text or HTML format? NetScaler Insight Center does not display the waterfall charts if the response type is anything other than text or HTML.
3. Was the transaction for the web page successful? Make sure the response header indicates 200 OK.
4. Were the page rendering and loading successful? If either fails, the timing information is not received from the client and the waterfall charts are not be displayed.
5. Check to see if the transactions are served by the NetScaler appliance (either NetScaler generated or served from NetScaler cache). If so, the waterfall charts are not displayed.
6. Is the appropriate license installed on the NetScaler appliance?

NetScaler Insight Center does not display the HDX Insight reports for CloudBridge appliances. What should I do?

- Check the firewall configuration and make sure that the CloudBridge appliance and NetScaler Insight Center communicate over port 4739.
- Wait for 2 to 3 minutes after the traffic is generated. NetScaler Insight Center usually takes two to three minutes to display the HDX Insight reports for a user.
- Check the CloudBridge discovery status on the NetScaler Insight Center Inventory.
- Make sure that CloudBridge ICA connections are accelerated with Disk Based Compression (DBC) policy. To verify, on the **Monitoring** tab, navigate to Optimization > Connections, and in the right pane check to see if the Compression Type is Disk for ICA service class.

Also, on the Configuration tab, navigate to Optimization Rules > Service Classes and in the right pane, expand ICA and click Edit. The Acceleration Policy selected must be Disk.

- On the CloudBridge appliance, make sure that the configuration for Appflow HDX Data set is enabled. Also, make sure that the update Interval is set to one minute and NetScaler Insight Center collector IP or port should not be deleted. To verify, on the Configuration tab, navigate to Appliance Settings > AppFlow and verify the values on the right pane.

The HDX Insight reports display the Uptime as 'Negative.' What should I do?

Make sure that the NTP server is configured on both CloudBridge appliance and NetScaler Insight Center. To add an NTP server on NetScaler Insight Center, see [Configuring Clock Synchronization](#).

Note: If you have configured the NTP server at a later point of time, then, run the `drop_table` command from the NetScaler Insight Center Command Line Interface (CLI). Then discover the appliance again and establish a new ICA connection.

NetScaler Insight Center does not display the geo maps. What should I do?

If NetScaler Insight Center does not display the geo maps, then make sure to follow the below steps:

1. Make sure to upload the geo database file:
 1. On the Configuration tab, expand NetScaler Insight Center, and then click Geo Database Files.
 2. From the Action drop-down menu, select Upload.
 3. In the Upload Geo Database File window, click Browse.
 4. Navigate to the location of the geo database file, GeoLiteCity.dat, and then click Upload.
2. Enable geo data collection.
 1. On the Configuration tab, click Inventory.
 2. From the inventory list, select the IP address of the NetScaler appliance for which you want to enable geo data collection.
 3. In the NetScaler Insight Center Inventory Setup pane, select the Enable geo data collection check box.
3. If the geo maps are not displayed even after uploading the geo database file and enabling geo data collection, remove (drop) the tables in NetScaler Insight Center.
 1. Run the following commands from the NetScaler insight Center command line interface:

```
/etc/rc.d/analyticd stop  
cd /mps  
./drop_table
```
 2. Restart NetScaler Insight Center.

NITRO API

Jun 03, 2014

With the NetScaler Insight Center NITRO protocol, you can configure and monitor the NetScaler Insight Center virtual appliance programmatically.

NITRO exposes its functionality through Representational State Transfer (REST) interfaces. Therefore, NITRO applications can be developed in any programming language. Additionally, for applications that must be developed in Java or .NET, NITRO APIs are exposed through relevant libraries that are packaged as separate Software Development Kits (SDKs).

Note: You must have a basic understanding of NetScaler Insight Center before using NITRO.

To use the NITRO protocol, the client application needs only the following:

- Access to a NetScaler Insight Center virtual appliance.
- To use REST interfaces, you must have a system that can generate HTTP or HTTPS requests (payload in JSON format) to the NetScaler Insight Center virtual appliance. You can use any programming language or tool.
- For Java clients, you must have a system on which Java Development Kit (JDK) 1.5 or above version is available. The JDK can be downloaded from <http://www.oracle.com/technetwork/java/javase/downloads/index.html>.
- For .NET clients, you must have a system on which .NET framework 3.5 or above version is installed. The .NET framework can be downloaded from <http://www.microsoft.com/downloads/en/default.aspx>.

Obtaining the NITRO Package

Jun 03, 2014

The NITRO package is available as a tar file on the Downloads page of the NetScaler Insight Center virtual appliance's configuration utility. You must download and un-tar the file to a folder on your local system. This folder is referred to as <NITRO_SDK_HOME> in this documentation.

The folder contains the NITRO libraries in the lib subfolder. The libraries must be added to the client application classpath to access NITRO functionality. The <NITRO_SDK_HOME> folder also provides samples and documentation that can help you understand the NITRO SDK.

Note:

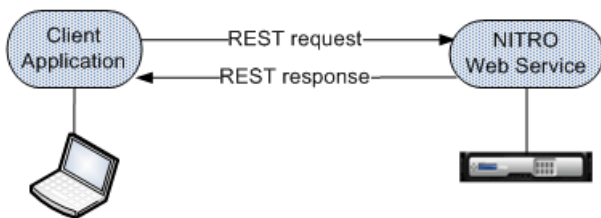
- The REST package contains only documentation for using the REST interfaces.

How NITRO Works

Jun 03, 2014

The NITRO infrastructure consists of a client application and the NITRO Web service, which runs on a NetScaler Insight Center virtual appliance. The communication between the client application and the NITRO web service is based on REST architecture and uses HTTP or HTTPS.

Figure 1. NITRO execution flow



As shown in the above figure, a NITRO request is executed as follows:

1. The client application sends a REST request message to the NITRO web service. When using the SDKs, an API call is translated into the appropriate REST request message.
2. The web service processes the REST request message.
3. The NITRO web service returns the corresponding REST response message to the client application. When using the SDKs, the REST response message is translated into the appropriate response for the API call.

To minimize network traffic, you retrieve the whole state of a resource from the server, modify the state of the resource locally, and then upload it back to the server in one network transaction.

Note: Local operations on a resource (changing its properties) do not affect its state on the server until the state of the object is explicitly uploaded.

NITRO APIs are synchronous in nature. The client application waits for a response from the NITRO web service before executing another NITRO API.

Java SDK

May 15, 2015

You can use NetScaler Insight Center NITRO APIs to programmatically register a NetScaler appliance with the NetScaler Insight Center virtual appliance, gather performance data, and generate a report on this data. You can also troubleshoot NITRO operations by using the `nitro_exception` class.

This topic includes the following details:

- [Logging on to the NetScaler Insight Center Appliance](#)
- [Registering a NetScaler Appliance](#)
- [Gathering Performance Data about an Application](#)
- [Generating Performance Reports](#)
- [Exception Handling](#)

Logging on to the NetScaler Insight Center Appliance

The first step toward using NITRO is to establish a session with the NetScaler Insight Center virtual appliance and then authenticate the session by using the administrator's credentials.

On the client system, create an object of the `com.citrix.insight.nitro.service.nitro_service` class by specifying the IP address of the NetScaler Insight Center virtual appliance and the protocol for connecting to the virtual appliance (HTTP or HTTPS). You then use this object to log on to the appliance.

Note: You cannot log on to a NetScaler Insight Center virtual appliance unless you have a user account on the virtual appliance. The configuration operations that you perform are limited by the administrative roles assigned to your account.

The following sample code establishes an HTTPS session with a NetScaler Insight Center virtual appliance with IP address 10.102.126.213:

```
//Specify the NetScaler Insight appliance IP address and protocol
nitro_service ns_insight_session = new nitro_service("10.102.126.213", "https");
```

```
//Specify the login credentials
ns_insight_session.login("admin", "verysecret");
```

Note: You must use the `nitro_service` object in all further NITRO operations on the appliance.

Note: By default, the connection to the appliance expires after 30 minutes of inactivity. You can modify the timeout period by specifying a new timeout period (in seconds) in the `login` method. For example, to modify the timeout period to 60 minutes:

```
ns_insight_session.login("admin", "verysecret", 3600);
```

Registering a NetScaler Appliance

The `com.citrix.insight.nitro.resource.config.mps.managed_device` class provides APIs to register a NetScaler appliance with the NetScaler Insight Center virtual appliance. You must specify the NetScaler IP (NSIP) address, the user name, and the password of the NetScaler appliance.

The following sample code registers a NetScaler appliance with IP address 10.102.29.60:

```
managed_device obj = new managed_device();
```

```
obj.set_ip_address("10.102.29.60");
obj.set_profile_username("admin");
obj.set_profile_password("verysecret");
obj.set_type("ns");
```

```
managed_device managed_device_result = managed_device.add(ns_insight_session, obj);
```

Updating a NetScaler Appliance's Login Credentials

If the login credentials of a NetScaler appliance are updated after it is registered to a NetScaler Insight Center virtual appliance, they have to be updated on the virtual appliance.

The following sample code updates the credentials of a NetScaler appliance:

```
managed_device device[] = managed_device.get(ns_insight_session);
device_profile result[] = device_profile.get_filtered(ns_insight_session, "name:" + device[1].get_profile_name());
device_profile obj = result[0];
obj.set_username("admin");
obj.set_password("newverysecretpassword");
device_profile.update(ns_insight_session, obj);
```

Gathering Performance Data about an Application

To gather performance data from applications (virtual servers) available on NetScaler appliances that are registered with the NetScaler Insight Center appliance, you must:

1. Identify the application (virtual server) from which you want to collect information.
2. Specify the expression on which the virtual server information must be filtered.
3. Enable AppFlow on that application.

The appliance starts gathering performance data for the application. To display the performance data, see [Generating Performance Reports](#).

The following sample code gets the list of all the available load balancing virtual servers that are available on the NetScaler appliance 10.102.29.60 and enables appflow on a load balancing virtual server named `http_test`:

```
// Get the list of all load balancing virtual servers
String filter = "ns_ip_address:10.102.20.60,type:lb";
ns_vserver_appflow_config result[] = ns_vserver_appflow_config.get_filtered(client, filter);
for (int i = 0; i < result.length; i++)
{
    System.out.println("Name: " + result[i].get_name() + ", IP Address: " + result[i].get_ip_address() + ", Type: " + result[i].get_type()+ ", Appflow State: " + result[i].get_a
}
```

```
// Enable appflow on one of the virtual servers
```

```
ns_vserver_appflow_config new_obj = new ns_vserver_appflow_config();
new_obj.set_ns_ip_address("10.102.29.60");
new_obj.set_type("lb");
```

```
//Virtual server whose performance data must be gathered
new_obj.set_name("http_test");
new_obj.set_servicetype("http");
```

```
// Policy rule
new_obj.set_appflow_policy_rule("true");
```

```
// Enable appflow data collection log
new_obj.set_appflowlog("enabled");
```

```
// Enable client side data collection log
new_obj.set_es4nslog("enabled");
```

```
ns_vserver_appflow_config ns_vserver_appflow_config_result = ns_vserver_appflow_config.add(client, new_obj);
```

Note: To stop gathering data, disable AppFlow on the application.

Generating Performance Reports

The `com.citrix.insight.nitro.resource.config.af.device` class provides the APIs to generate and view reports about applications. You must retrieve the details of the application and specify the period for which you want the details.

The following sample code generates a report for a load balancing virtual server named `http_test`:

```
device device_obj = new device();
```

```
options option_obj = new options();
option_obj.set_duration("last_1_month");
option_obj.set_pageno(1);
option_obj.set_pagesize(25);
option_obj.set_args("app_unit_name:http_test");
```

```
device.get_with_options(ns_insight_session, option_obj);
```

```
for (int i = 0; i < result.length; i++)
```

```
{
    System.out.println("Application: " + result[i].get_name() + ", Total requests: " + result[i].get_total_requests() + ", Total bytes: " + result[i].get_total_bytes() + ", Appli
}
```

Exception Handling

The status of a NITRO request is captured in the `com.citrix.insight.nitro.exception.nitro_exception` class. This class provides the following details about the exception:

- **Session ID.** The session in which the exception occurred.
- **Error code.** The status of the NITRO request. An error code of 0 indicates that the NITRO request is successful. A non-zero error code indicates an error in processing the NITRO request.
- **Error message.** A brief description of the exception.

Note: For a list of error codes, see the `errorlisting.html` file available in the `<NITRO_SDK_HOME>/doc/api_reference` folder.

.NET SDK

May 15, 2015

You can use NetScaler Insight Center NITRO APIs to programmatically register a NetScaler appliance with the NetScaler Insight Center virtual appliance, gather performance data, and generate a report on this data. You can also troubleshoot NITRO operations by using the `nitro_exception` class.

This topic includes the following details:

- [Logging on to the NetScaler Insight Center Appliance](#)
- [Registering a NetScaler Appliance](#)
- [Gathering Performance Data about an Application](#)
- [Generating Performance Reports](#)
- [Exception Handling](#)

Logging on to the NetScaler Insight Center Appliance

The first step toward using NITRO is to establish a session with the NetScaler Insight Center virtual appliance and then authenticate the session by using the administrator's credentials.

On the client system, create an object of the `com.citrix.insight.nitro.service.nitro_service` class by specifying the IP address of the NetScaler Insight Center virtual appliance and the protocol for connecting to the virtual appliance (HTTP or HTTPS). You then use this object to log on to the appliance.

Note: You cannot log on to a NetScaler Insight Center virtual appliance unless you have a user account on the virtual appliance. The configuration operations that you perform are limited by the administrative roles assigned to your account.

The following sample code establishes an HTTPS session with a NetScaler Insight Center virtual appliance with IP address 10.102.126.213:

```
//Specify the NetScaler Insight appliance IP address and protocol
nitro_service ns_insight_session = new nitro_service("10.102.126.213", "https");
```

```
//Specify the login credentials
ns_insight_session.login("admin", "verysecret");
```

Note: You must use the `nitro_service` object in all further NITRO operations on the appliance.

Note: By default, the connection to the appliance expires after 30 minutes of inactivity. You can modify the timeout period by specifying a new timeout period (in seconds) in the `login` method. For example, to modify the timeout period to 60 minutes:

```
ns_insight_session.login("admin", "verysecret", 3600);
```

Registering a NetScaler Appliance

The `com.citrix.insight.nitro.resource.config.mps.managed_device` class provides APIs to register a NetScaler appliance with the NetScaler Insight appliance. You must specify the NetScaler IP (NSIP) address, the user name, and the password of the NetScaler appliance.

The following sample code registers a NetScaler appliance with IP address 10.102.29.60:

```
managed_device obj = new managed_device();
```

```
obj.ip_address = "10.102.29.60";
obj.profile_username = "admin";
obj.profile_password = "verysecret";
obj.type = "ns";
```

```
managed_device managed_device_result = managed_device.add(ns_insight_session, obj);
```

Updating NetScaler Appliance's Logon Credentials

If the login credentials of a NetScaler appliance are updated after it is registered to a NetScaler Insight Center appliance, they have to be updated in the Insight appliance.

The following sample code updates the credentials of a NetScaler appliance:

```
managed_device device[] = managed_device.get(ns_insight_session);
device_profile result[] = device_profile.get_filtered(ns_insight_session, "name:" + device[1].profile_name);
device_profile obj = result[0];
obj.username = "admin";
obj.password = "newverysecretpassword";
device_profile.update(ns_insight_session, obj);
```

Gathering Performance Data about an Application

To gather performance data from applications (virtual servers) available on NetScaler appliances that are registered with the NetScaler Insight Center appliance, you must:

1. Identify the application (virtual server) from which you want to collect information.
2. Specify the expression with which to filter the virtual server information.
3. Enable AppFlow on the virtual server.

The appliance starts gathering performance data about the application. To display the performance data, see [Generating Performance Reports](#).

The following sample code gets the list of all the available load balancing virtual servers that are available on the NetScaler appliance 10.102.29.60 and enables appflow on a load balancing virtual server named `http_test`:

```
// Get the list of all load balancing virtual servers
String filter = "ns_ip_address:10.102.20.60,type:lb";
ns_vserver_appflow_config result[] = ns_vserver_appflow_config.get_filtered(client, filter);
for (int i = 0; i < result.length; i++)
{
    Console.WriteLine("Name: " + result[i].name + ", IP Address: " + result[i].ip_address + ", Type: " + result[i].type + ", Appflow State: " + result[i].appflowlog);
}
```

```
// Enable appflow on one of the virtual servers
```

```

ns_vserver_appflow_config new_obj = new ns_vserver_appflow_config();
new_obj.ns_ip_address = "10.102.29.60";
new_obj.type = "lb";

//Virtual server whose performance data must be gathered
new_obj.name = "http_test";
new_obj.servicetype = "http";

// Policy rule
new_obj.appflow_policy_rule = "true";

// Enable appflow data collection log
new_obj.appflowlog = "enabled";

// Enable client side data collection log
new_obj.es4nslog = "enabled";

ns_vserver_appflow_config ns_vserver_appflow_config_result = ns_vserver_appflow_config.add(client, new_obj);
Note: To stop gathering data, disable AppFlow on the application.
Generating Performance Reports

```

The `com.citrix.insight.nitro.resource.config.af.device` class provides the APIs to generate and view reports of applications. You must retrieve the details and specify the period for which you want the details.

The following sample code generates a report for a load balancing virtual server named `http_test`:

```

device device_obj = new device();

options option_obj = new options();
option_obj.duration = "last_1_month";
option_obj.pageno = 1;
option_obj.pagesize = 25;
option_obj.args = "app_unit_name:http_test";

device.get_with_options(ns_insight_session, option_obj);

for (int i = 0; i < result.length; i++)
{
    Console.WriteLine("Application: " + result[i].name + ", Total requests: " + result[i].total_requests + ", Total bytes: " + result[i].total_bytes + ", Application response t
}
Exception Handling

```

The status of a NITRO request is captured in the `com.citrix.insight.nitro.exception.nitro_exception` class. This class provides the following details about the exception:

- **Session ID.** The session in which the exception occurred.
- **Error code.** The status of the NITRO request. An error code of 0 indicates that the NITRO request is successful. A non-zero error code indicates an error in processing the NITRO request.
- **Error message.** A brief description of the exception.

Note: For a list of error codes, see the `errorlisting.html` file available in the `<NITRO_SDK_HOME>/doc/` folder.

REST Web Service

May 15, 2015

REST (REpresentational State Transfer) is an architectural style based on simple HTTP requests and responses between the client and the server. REST is used to query or change the state of objects on the server side. In REST, the server side is modeled as a set of entities where each entity is identified by a unique URL.

Each resource also has a state on which the following operations can be performed:

- **Create.** Clients can create new server-side resources on a "container" resource. You can think of container resources as folders, and child resources as files or subfolders. The calling client provides the state for the resource to be created. The state can be specified in the request by using XML or JSON format. The client can also specify the unique URL that identifies the new object. Alternatively, the server can choose and return a unique URL identifying the created object. The HTTP method used for Create requests is POST.
- **Read.** Clients can retrieve the state of a resource by specifying its URL with the HTTP GET method. The response message contains the resource state, expressed in JSON format.
- **Update.** You can update the state of an existing resource by specifying the URL that identifies that object and its new state in JSON or XML, using the PUT HTTP method.
- **Delete.** You can destroy a resource that exists on the server-side by using the DELETE HTTP method and the URL identifying the resource to be removed.

In addition to these four CRUD operations (Create, Read, Update, and Delete), resources can support other operations or actions. These operations use the HTTP POST method, with the request body in JSON specifying the operation to be performed and parameters for that operation.

This topic includes the following details:

- [Logging on to the NetScaler Insight Center Appliance](#)
- [Registering a NetScaler Appliance](#)
- [Gathering Performance Data about an Application](#)
- [Generating Performance Reports](#)
- [Exception Handling](#)

Logging on to the NetScaler Insight Center Appliance

The first step toward using NITRO is to establish a session with the NetScaler Insight Center virtual appliance and then authenticate the session by using the administrator's credentials. You must specify the username and password in the login object. The session ID that is created must be specified in the request header of all further operations in the session.

Note: You cannot log on to the NetScaler Insight Center virtual appliance unless you have a user account on the appliance. The configuration operations that you can perform are limited by the administrative roles assigned to your account.

To connect to a NetScaler Insight virtual appliance with IP address 10.102.126.213 by using the HTTPS protocol:

- **URL.** <https://10.102.126.213/nitro/v1/config/login/>

- **HTTP Method.** POST

- **Request Payload**

object=

```
{
  "login":
  {
    "username": "admin",
    "password": "verysecret"
  }
}
```

- **Response Payload.**

```
{
```

```
"errorcode":0,  
"message":"Done",  
"sessionid": "%23%2354B9.." }  
}
```

Note: You must use the session ID in all further NITRO operations on the virtual appliance.

Note: By default, the connection to the virtual appliance expires after 30 minutes of inactivity. You can modify the timeout period by specifying a new timeout period (in seconds) in the login object. For example, to modify the timeout period to 60 minutes, the request payload is:

```
object=  
{  
  "login":  
  {  
    "username": "admin",  
    "password": "verysecret",  
    "timeout": 3600  
  }  
}
```

To disconnect from the virtual appliance, use the DELETE method:

- **URL.** <https://10.102.126.213/nitro/v1/config/login>
- **HTTP Method.** DELETE
- **Cookie.** SESSID=%23%2354B9...

Registering a NetScaler Appliance

To register a NetScaler appliance with the NetScaler Insight Center appliance, you must specify the NetScaler IP (NSIP) address, the user name, and the password of the NetScaler appliance in the managed_device object.

To register a NetScaler appliance with NSIP address 10.102.29.60:

- **URL.** https://10.102.126.213/nitro/v1/config/managed_device/
- **HTTP Method.** POST
- **Cookie.** SESSID=%23%2354B9...
- **Request Payload.**
object=
{
 "managed_device":
 {
 "ip_address": "10.102.29.60",
 "profile_username": "admin",
 "profile_password": "verysecret",
 "type": "ns"
 }
}

To retrieve a list of NetScaler appliances configured on an Insight appliance:

- **URL.** http://10.102.126.213/nitro/v1/config/managed_device/
- **HTTP Method.** GET
- **Cookie.** SESSID=%23%2354B9...

Among other parameters, the response payload provides an identity for each NetScaler appliance. You must use this ID to identify a NetScaler in further operations.

Updating NetScaler Appliance's Login Credentials

If the login credentials of a NetScaler appliance are updated after it is registered to a NetScaler Insight Center appliance, they have to be updated on the Insight appliance.

To update the password of a NetScaler appliance with IP address 10.102.29.60:

- **URL.** https://10.102.126.213/nitro/v1/config/device_profile
- **HTTP Method.** PUT
- **Cookie.** SESSID=%23%2354B9...
- **Request Payload.**

```
{
  "device_profile":
  {
    "username":"admin",
    "password":"verysecret-new",
    "id":"507be920475294e414f90889"
  }
}
```

Note: The ID of the NetScaler appliance must be obtained by using the GET HTTP method on the http://10.102.126.213/nitro/v1/config/managed_device/ URL.

Gathering Performance Data about an Application

To gather performance data from an appliance, you must select the virtual server, specify the filter condition, and then enable Appflow on the appliance in the `ns_vserver_appflow_config` object. The appliance then starts gathering performance data for the applications (services) bound to the virtual server.

Note: This operation gathers the performance data but does not display.

To gather performance data of an application linked to virtual server with name "http_test":

- **URL.** http://10.102.126.213/nitro/v1/config/ns_vserver_appflow_config
- **HTTP Method.** PUT
- **Cookie.** SESSID=%23%2354B9...
- **Request Payload.**

```
{
  "ns_vserver_appflow_config":
  {
    "appflow_policy_rule":"TRUE",
    "appflowlog":"enabled",
    "es4nslog":"enabled",
    "name":"http_test",
    "state":"UP",
    "ns_ip_address":"10.102.29.60",
    "ip_address":"10.102.126.237",
    "type":"lb",
    "servicetype":"HTTP"
  }
}
```

Generating Performance Reports

To generate a report of the performance data of an application (a virtual server), you must specify the period for which you want the data in the URL.

To generate a report of the performance data for a device with IP address 10.102.71.201, for the past one month:

- **URL.** http://10.102.60.45/nitro/v1/appflow/user_agent?

args=device_ip_address:10.102.71.201&asc=no&order_by=total_requests&pagesize=25&type=total_requests&duration=last_1_month
where,

- asc=no: Displays records in descending order.
 - order_by=total_requests: Orders records on the basis of the total requests.
 - pagesize=25: Displays 25 records per page.
 - type=total_requests: Total requests to be displayed.
 - duration=last_1_month: Records of the last one month must be displayed.
- **HTTP Method.** GET
 - **Response Payload.**

```
{
  "errorcode": 0,
  "message": "Done",
  "user_agent":
  [
    {
      "__count": "-1",
      "http_resp_status_name": "",
      "server_ip_address": "",
      "name": "Chrome",
      "http_req_method_name": "",
      "rpt_sample_time": "-1",
      "total_bytes": "16644969",
      "device_ip_address": "10.102.71.201",
      "uri_url": "",
      "max_transaction_time": "-1",
      "app_unit_name": "",
      "render_time": "14",
      "client_ip_address": "",
      "id": "",
      "app_unit_ip_address": "",
      "total_requests": "245",
      "operating_system_name": ""
    },
    {
      "__count": "-1",
      "http_resp_status_name": "",
      "server_ip_address": "",
      "name": "Unknown",
      ...
      ...
    }
  ]
}
```

Exception Handling

The response header provides the status of an operation by using HTTP status codes and the response payload provides the requested resource object (for GET method) and error details (for unsuccessful operation). NITRO does not provide a response payload for successful POST, PUT and DELETE methods. For successful GET method, the response payload consists only the requested resource object.

For a more detailed description of the error codes, see the API reference available in the <NITRO_SDK_HOME>/doc folder.