Monitor Network Services

Monitor the AAA Network Service

Use this procedure to view and monitor all AAA server transactions reported by wireless controllers in your network.

Note   **AAA Limitations**

• AAA Network Service supports wireless clients and Local mode.

• AAA Network Service does not support the following:

- AireOS Wireless Controller

- Flex mode or fabric mode

Before you begin

Ensure that you have installed a Cisco Catalyst 9800 Series Wireless Controller with version 17.6.1 or later and deployed with local mode AP.

Step 1   From the top-left corner, click the menu icon and choose **Assurance** > **Health**.
The **Overall** health dashboard appears.

Step 2   Choose **Network Services** > **AAA**.

The **AAA** dashboard appears.

Figure 1: AAA Dashboard
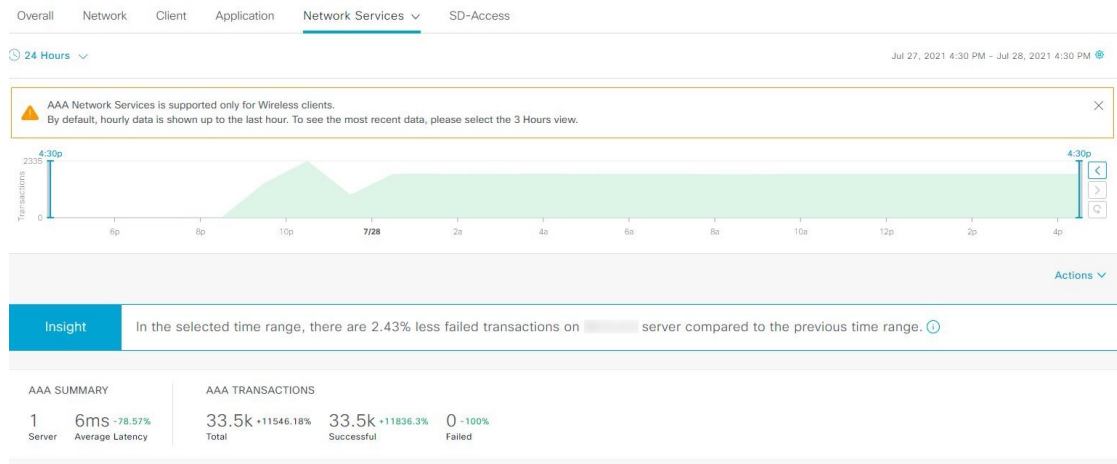
Step 3   Click the time range setting ( ) at the top-left corner to specify the time range of the data that you want displayed:

a) From the drop-down menu, choose a time range: **3 hours**, **24 hours**, or **7 days**.

b) Specify the **Start Date** and time and the **End Date** and time.

c) Click **Apply**.

Step 4   Click the autorefresh setting at the top-right corner to enable or disable the **Data Auto Refresh** on the supported Assurance pages in a 5-minute refresh interval.

Step 5   Use the timeline slider to view the information about the total successful and failed transactions of the AAA server over a period of time. The timeline slider has the following functionality:

• You can hover your cursor over the timeline slider to view the AAA server transactions for a 5-minute window.

• When you double-click the timeline, it brings the timeline slider to a 1-hour time period. The entire window is refreshed, providing updates for that hour.

Step 6   Click the **Actions** drop-down list below the timeline slider for the following functionality:

• **Edit Dashboard**: Enables you to customize the dashboard display. See Change the Position of a Dashlet and Create a Custom Dashboard.

Step 7   Use the **Insight** area, below the timeline, to view the percentage of successful AAA server transactions compared with the current and previous time range.

Step 8   Use the AAA summary dashlet to view the following information:

AAA Summary	
Item	**Description**
AAA Summary	Displays the number of AAA server and average latency (in ms) of your network.
AAA Transactions	Displays the percentage of total number of AAA transactions, successful transactions, and failed transactions in your network.

Step 9   Use the AAA server dashlets for the following functionality:

Top Sites by Highest Latency
The chart displays the top sites with the highest AAA server latency, in milliseconds. Click **View Details** to open a slide-in pane with additional details. From the slide-in pane, you can hover on a color segment in the chart to view the site with the highest AAA server latency. You can select the data displayed as horizontal bars to filter the client table based on the top AAA servers, sites, SSIDs, and APs.

Top Sites by Transaction Failures
The chart displays the top sites with the highest AAA server transaction failures. Click **View Details** to open a slide-in pane with additional details. From the slide-in pane, you can hover on a color segment in the chart or its corresponding legend to view the site with the most AAA server transaction failures. You can select the data displayed as horizontal bars to filter the client table based on the top AAA servers, sites, SSIDs, and APs.

AAA Server Latency
The chart displays the average AAA latency for each AAA server. You can filter the latencies based on **All**, **MAB**, or **EAP**. Click **View Details** to open a slide-in pane with additional details. From the slide-in pane, you can display the chart based on the filter selection to view the AAA server latencies. You can select the data displayed as horizontal bars to filter the client table based on the top AAA servers, sites, SSIDs, APs, and so on.

AAA Server Transactions
The chart displays the average AAA server transaction status for each AAA server reported by wireless controllers. You can filter the status based on **All**, **Failures**, or **Successes**. Click **View Details** to open a slide-in pane with additional details. From the slide-in pane, you can display the chart based on the filter selection to view the AAA server transactions. You can select the data displayed as horizontal bars to filter the client table based on the top AAA servers, sites, SSIDs, APs, and so on.

Step 10   Use the AAA Servers by WLC dashlets for the following functionality:

AAA Server by WLC Dashlet	
Item	**Description**
AAA Server table	View the AAA server information in a table format that contains AAA Server IP, WLC Name, WLC Location, Transactions, Failures, Avg Latency, and so on. Click **AAA Server IP** to open a slide-in pane that display the AAA server Avg Latency and Transaction charts. You can select the data displayed as horizontal bars to filter the client table based on the top AAA servers, sites, SSIDs, APs, and so on.
⬆ Export	Click **Export** to export the device information to a CSV file.

AAA Server by WLC Dashlet	
Item	**Description**
⚙	Customize the data that you want displayed in the table: a. From the **Table Appearance** tab, set the table density and striping. b. From the **Edit Table Columns** tab, check the check boxes for the data that you want displayed in the table. c. Click **Apply**.

Monitor the DHCP Network Service

Use this procedure to view and monitor all the DHCP server transactions reported by wireless controllers in your network.

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Note **DHCP Limitations**

- DHCP Network Service supports wireless clients and Local mode.

- DHCP Network Service does not support the following:

    - SD-Access fabric clients

    - AireOS Wireless Controller

    - Flex mode or fabric mode

Before you begin

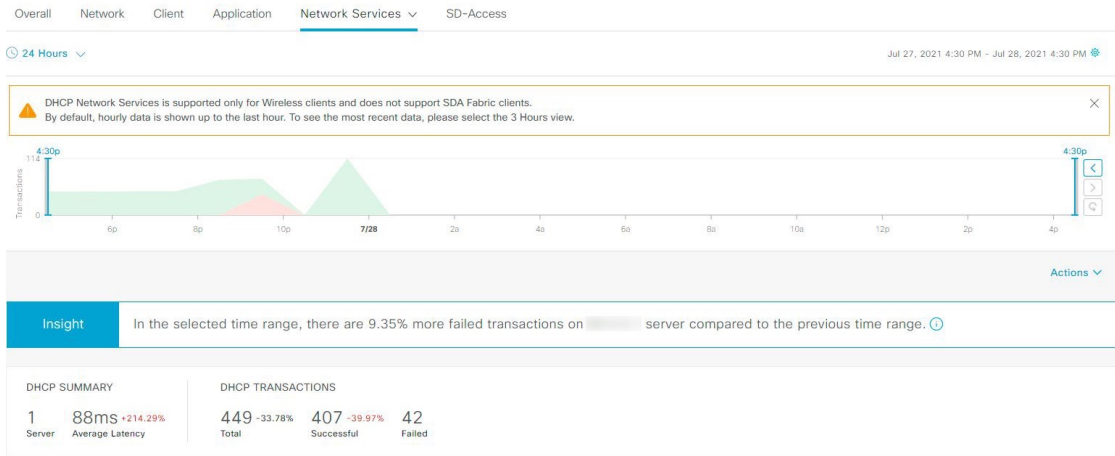Ensure that you have installed a Cisco Catalyst 9800 Series Wireless Controller with version 17.6.1 or later.

Step 1 From the top-left corner, click the menu icon and choose **Assurance** > **Health**.
The **Overall** health dashboard appears.

Step 2 Choose **Network Services** > **DHCP**.

The **DHCP** dashboard appears.

Figure 2: DHCP Dashboard

Step 3   Click the time range setting (🕐) at the top-left corner to specify the time range of the data that you want displayed in the window:

a)   From the drop-down menu, choose a time range: **3 hours**, **24 hours**, or **7 days**.

b)   Specify the **Start Date** and time and the **End Date** and time.

c)   Click **Apply**.

Step 4   Click the autorefresh setting ⚙ at the top-right corner to enable or disable the **Data Auto Refresh** on the supported Assurance pages in a 5-minute refresh interval.

Step 5   Use the timeline slider to view the information about the total successful and failed transactions of the DHCP server over a period of time. The timeline slider has the following functionality:

- You can hover your cursor over the timeline slider to view the DHCP server transactions for a 5-minute window.

- When you double-click the timeline, it brings the timeline slider to a 1-hour time period. The entire window is refreshed, providing updates for that hour.

Step 6   Click the **Actions** drop-down list below the timeline slider for the following functionality:

- **Edit Dashboard**: Enables you to customize the dashboard display. See Change the Position of a Dashlet and Create a Custom Dashboard.

Step 7   Use the **Insight** area below the timeline to view the percentage of successful DHCP server transactions compared with the current and previous time range.

Step 8   Use the DHCP summary dashlet to view the following information:

DHCP Summary	
Item	**Description**
DHCP Summary	Displays the count of DHCP servers and average latency (in ms) of your network.
DHCP Transactions	Displays the percentage of total number of DHCP transactions, successful transactions, and failed transactions in your network.

Step 9   Use the DHCP server dashlets for the following functionality:

Top Sites by Highest Latency

The chart displays the top sites with the highest DHCP server latency, in milliseconds.

Click **View Details** to open a slide-in pane with additional details. From the slide-in pane, you can hover on a color segment in the chart to view the site with highest DHCP server latency.

You can select the data displayed as horizontal bars to filter the client table based on the top DHCP servers, sites, SSIDs, and APs.

Top Sites by Transaction Failures

The chart displays the top sites with the most DHCP server transaction failures.

Click **View Details** to open a slide-in pane with additional details. From the slide-in pane, you can hover on a color segment in the chart or its corresponding legend to view the site with the most DHCP server transaction failures.

You can select the data displayed as horizontal bars to filter the client table based on the top DHCP servers, sites, SSIDs, and APs.

DHCP Server Latency

The chart displays the average DHCP latency for each DHCP server. You can filter the latencies based on **All**, **Discover-offer**, or **Request-Ack**.

Click **View Details** to open a slide-in pane with additional details. From the slide-in pane, you can display the chart based on the filter selection to view the DHCP server latencies.

You can select the data displayed as horizontal bars to filter the client table based on the top DHCP servers, sites, SSIDs, APs, and so on.

DHCP Server Transactions

The chart displays the average DHCP server transactions status for each DHCP server reported by wireless controllers. You can filter the status based on **All**, **Failures**, or **Successes**.

Click **View Details** to open a slide-in pane with additional details. From the slide-in pane, you can display the chart based on the filter selection to view the DHCP server transactions.

You can select the data displayed as horizontal bars to filter the client table based on the top DHCP servers, sites, SSIDs, APs, and so on.

Step 10   Use the DHCP Servers by WLC dashlets for the following functionality:

DHCP Server by WLC Dashlet

Item	Description
DHCP Server table	View the DHCP server information in a table format that contains AAA Server IP, WLC Name, WLC Location, Transactions, Failures, Avg Latency, and so on. Click **DHCP Server IP** to open the slide-in pane that display the Server Avg Latency and Transaction charts.
	You can select the data displayed as horizontal bars to filter the client table based on the top DHCP servers, sites, SSIDs, APs, and so on.
⬆ Export	Click **Export** to export the device information to a CSV file.

DHCP Server by WLC Dashlet	
Item	**Description**
⚙	Customize the data that you want displayed in the table: a. From the **Table Appearance** tab, set the table density and striping. b. From the **Edit Table Columns** tab, check the check boxes for the data you want displayed in the table. c. Click **Apply**.

Monitor the DNS Network Service

Use this procedure to monitor DNS server transactions reported by wireless controllers, switches, and routers in your network.

Before you begin

- Make sure NetFlow is enabled on the network devices you plan to monitor.

- Enable Application Telemetry on Catalyst Center. For information, see Configure Syslog, SNMP Traps, NetFlow Collector Servers, and Wired Client Data Collection Using Telemetry.

- Minimum supported versions for DNS telemetry support:

    - Cisco IOS XE Routers - 17.9

    - Traffic Telemetry Appliance - 17.9

    - Cisco Catalyst 9200/9300/9400 Series Switches - 17.9.2

    - Cisco Catalyst 9800 Series Wireless Controller - 17.10.1

Step 1   From the top-left corner, click the menu icon and choose **Assurance** > **Health**.
The **Overall** health dashboard appears.

Step 2   Choose **Network Services** > **DNS**.

The **DNS** dashboard appears.

Figure 3: DNS Dashboard
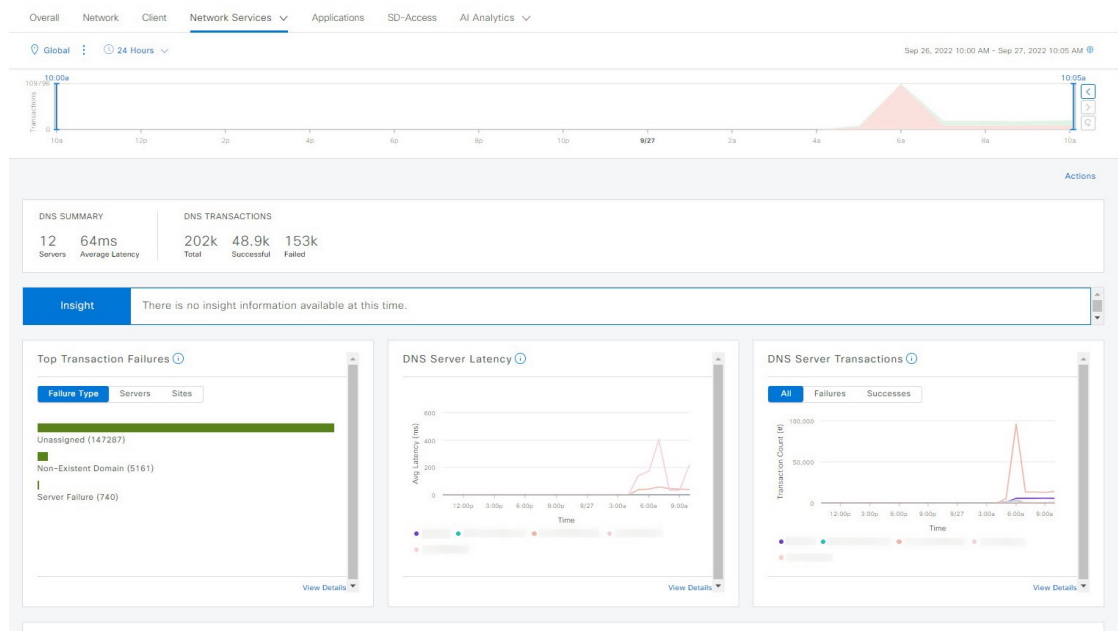
Step 3   Click the time range setting (🕐) at the top-left corner to specify the time range of the data that you want displayed in the window:

a) From the drop-down menu, choose a time range: **3 hours**, **24 hours**, or **7 days**.

b) Specify the **Start Date** and time and the **End Date** and time.

c) Click **Apply**.

Step 4   Click the autorefresh setting ⚙ at the top-right corner to enable or disable the **Data Auto Refresh** on the supported Assurance pages in a 5-minute refresh interval.

Step 5   Use the timeline slider to view the information about the total successful and failed transactions of the DNS server over a period of time. The timeline slider has the following functionality:

- You can hover your cursor over the timeline slider to view the DNS server transactions for a 5-minute window.

- When you double-click the timeline, it brings the timeline slider to a 1-hour time period. The entire window is refreshed, providing updates for that hour.

Step 6   To customize the dashboard display, click the **Actions** drop-down list below the timeline slider and choose **Edit Dashboard**. See Change the Position of a Dashlet and Create a Custom Dashboard.

Step 7   Use the DNS summary dashlet to view the following information:

DNS Summary	
Item	**Description**
DNS Summary	Displays the count of DNS servers and average latency (in ms) of your network.
DNS Transactions	Displays the percentage of total number of DNS transactions, successful transactions, and failed transactions in your network.

Step 8   Use the **Insight** area to view the percentage of successful DNS server transactions compared with the current and previous time range.

Step 9   Use the DNS server dashlets for the following functionality:

Top Transaction Failures
The chart displays the top DNS server transaction failure types, servers, and sites. You can hover your cursor on a color segment in the chart to view the number of transaction failures for each element.
Click **View Details** to open a slide-in pane with additional details. From the slide-in pane, you can click on a color segment in the chart to view more details about the failure.

DNS Server Latency
The chart displays the average DNS latency for each DNS server. You can hover your cursor over the chart to display the latency (in ms) of each server.
Click **View Details** to open a slide-in pane with additional details. From the slide-in pane, you can click the timeline to view more details.

DNS Server Transactions
The chart displays the average DNS server transactions status for each DNS server reported by wireless controllers. You can filter the status based on **All**, **Failures**, or **Successes**.
Click **View Details** to open a slide-in pane with additional details. From the slide-in pane, you can display the chart based on the filter selection to view the DNS server transactions.
You can select the data displayed as horizontal bars to filter the client table based on the top DNS servers, sites, SSIDs, APs, and so on.

Step 10   Use the DNS Servers by Device dashlet for the following functionality:

DNS Servers by Device	
Item	**Description**
DNS Server table	View the DNS server information in a table format that contains the DNS server name, IP address, location, and so on. Click a server name to open the slide-in pane that displays **Device 360** information.
⬆ Export	Click **Export** to export the device information to a CSV file.
⚙	Customize the data that you want displayed in the table: a. From the **Table Appearance** tab, set the table density and striping. b. From the **Edit Table Columns** tab, check the check boxes for the data you want displayed in the table. c. Click **Apply**.