# Monitor Network Services

## Monitor the AAA Network Service

Use this procedure to view and monitor all the 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**
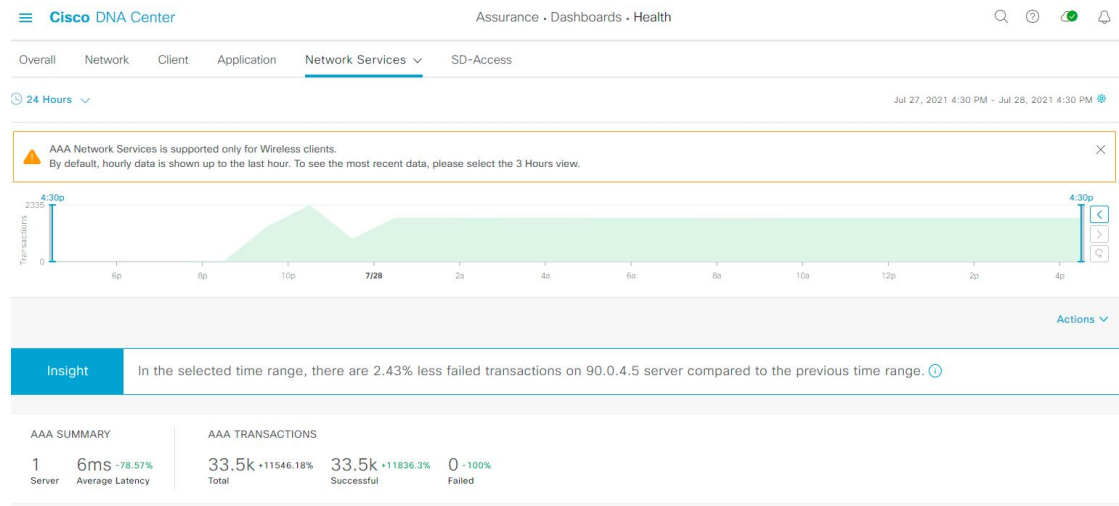
Ensure that you have installed a Cisco Catalyst 9800 Series Wireless Controller with version 17.6.1 or later and deployed with local mode AP.

**Step 1**    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. |

| AAA Server by WLC Dashlet | |
|---|---|
| **Item** | **Description** |
| ⬆ Export | Click **Export** to export the device information to a CSV file. |
| ⚙ | Customize the data that you want displayed in the table:<br><br>a. From the **Table Appearance** tab, set the table density and striping.<br><br>b. From the **Edit Table Columns** tab, check the check boxes for the data that you want displayed in the table.<br><br>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.

> **Note** **DHCP Limitations**
>
> • DHCP Network Service supports wireless clients and Local mode.
>
> • DHCP Network Service does not support the following:
>
>   • SD-Access fabric clients
>
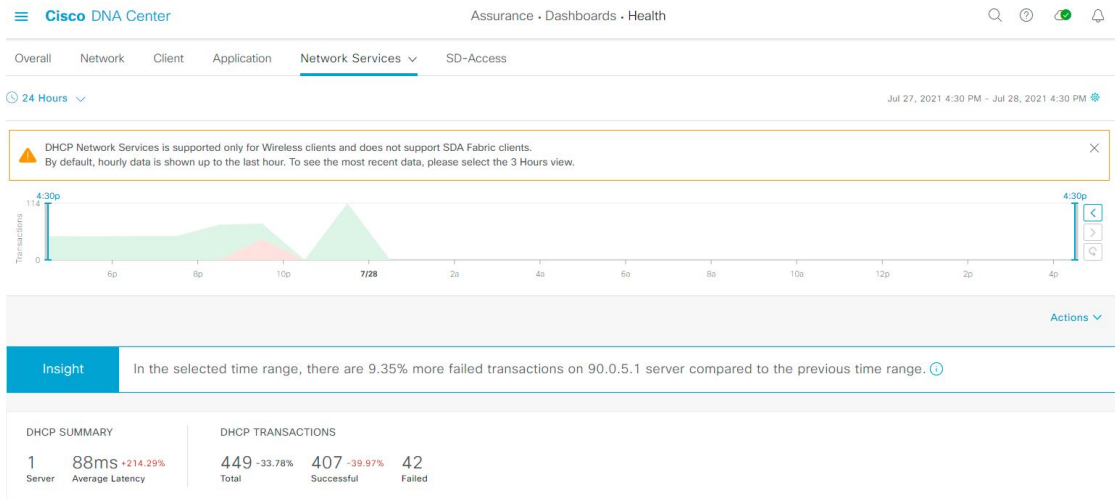>   • AireOS Wireless Controller
>
>   • Flex mode or fabric mode

**Before you begin**

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

**Step 1** 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. |

| DHCP Server by WLC Dashlet | |
|---|---|
| **Item** | **Description** |
| ⬆ 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**. |