Configure SDG Agents and Service Peers Through the Cisco DNA Center Template Editor Tool

About SDG Agent and Service Peer Configuration Through the Cisco DNA Center Template Editor Tool

The Cisco Wide Area Bonjour application on Cisco DNA Center does not push configurations to the SDG agent switches or service peer devices automatically. The SDG agents and service peers need to be configured either manually or through templates created by the template editor in Cisco DNA Center.

This section explains how to create templates for deploying SDG agents and service peers. The exact IP addresses, VLANs, and service types used in the template vary based on the deployment. You can add or remove service types as necessary.

Tag Cisco Catalyst SDG Agent Switches

You can create a tag and apply it to your SDG agents to make it easy to identify the switches when selecting templates to apply to them.

Step 1   In the Cisco DNA Center GUI, click the **Menu** icon (≡) and choose **Provision** > **Inventory**.

Step 2   Check the associated check box to choose the SDG agents that you want to tag.

Step 3   Click **Tag Device**.

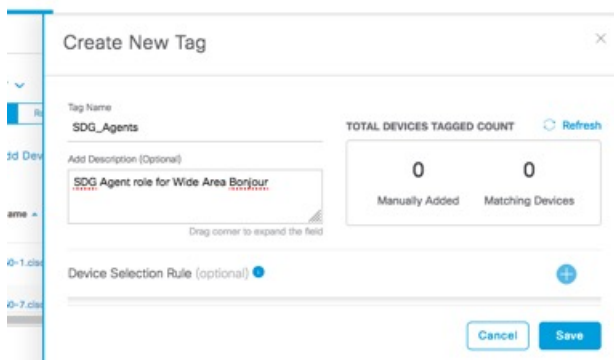The following image shows the **Tag Device** drop-down list.
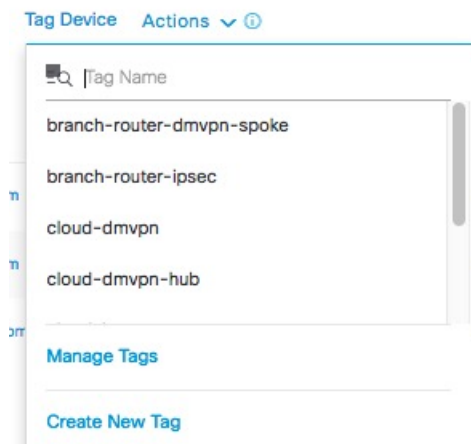
Step 4   From the drop-down list, choose the tag with which you want to tag the selected SDG agent.

If you need to create a tag, complete the following steps:

a.   Click **Create New Tag**.

b.   Enter the name of the tag and an optional description.

The following image shows the filled-in **Create New Tag** screen.

c.   (Optional) To set device selection rules, expand the **Device Selection Rules** section.

d.   Click **Save**.

The tag is created.

Step 5   Click **Apply**.

The tag is applied to the selected SDG agents.

Build Bonjour Policy CLI Templates

The following sections provide information about the various tasks to build Bonjour policy CLI templates.

Configure SDG Agents and Service Peers for Traditional Routed Access Networks

Step 1   From In the Cisco DNA Center GUI, click the **Menu** icon (≡) and choose **Tools** > **Template Editor**.

Step 2   In the Template Editor in Cisco DNA Center, click the settings icon to the right of a Day-N project.

Step 3   From the drop-down list, click **Add Template**.

Step 4   In the **Add New Template** screen, under **Template Type**, choose **Regular Template**.

Step 5   Enter a **Name** and **Description** for the template.

Step 6   Enter a tag for the switches to which the template needs to be added.

Step 7   Choose the **Device Type** to which the template will be applicable.

Step 8   Enter the **Software Type**.

Step 9   Click **Add**.

Step 10   Under the **Provision** page, choose the project under which the newly created template exists.

Step 11   Click the template name.

Step 12   In the **Template** screen, enter the CLI commands that the template needs to push to the SDG agent switches and service peer devices.

The following is a sample set of CLI commands:

```
mdns-sd gateway
 rate-limit 100
!
mdns-sd service-list INGRESS-SERVICE-LIST IN
 match apple-tv
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
 match apple-window-fileshare
 match apple-continuity
!
mdns-sd service-list WIDE-AREA-SERVICE-LIST OUT
 match apple-tv
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
 match apple-windows-fileshare
 match apple-continuity
!

mdns-sd service-policy LOCAL_AREA_POLICY
 service-list INGRESS-SERVICE-LIST IN
 service-list EGRESS-SERVICE-LIST OUT
!

mdns-sd service-list EGRESS-SERVICE-LIST OUT
 match apple-tv
```

```
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
 match apple-windows-fileshare
 match apple-continuity
!

mdns-sd service-policy WIDE_AREA_POLICY
 service-list WIDE-AREA-SERVICE-LIST OUT
!

service-export mdns-sd controller DNAC
 controller-address <DNAC IP>
 controller-service-policy WIDE_AREA_POLICY OUT
 controller-source-interface Loopback0
!

vlan configuration 101-103
mdns-sd gateway
 service-policy LOCAL_AREA_POLICY
 active-query timer 60
 source-interface Vlan4001
 transport both
 service-mdns-query ptr
!
```

You can apply or delete `match <service-type>` statements in the service-lists according to your deployment requirements.

Note Replace the VLAN with one or more VLANs that are specific to your deployment.

Step 13 In the **Actions** drop-down menu, click **SAVE**.

Step 14 In the **Actions** drop-down menu, click **COMMIT**.

The Template Editor provides the additional flexibility of customizing templates in multiple ways. You can use template variables and provision-time (text or form-based) data input. For more information about working with the Template Editor tool, see the *Cisco DNA Center User Guide*.

Configure SDG Agents on Traditional Multilayer Networks

Step 1 In the Cisco DNA Center GUI, click the **Menu** icon (☰) and choose **Tools** > **Template Editor**.

Step 2 In the Template Editor in Cisco DNA Center, click the settings icon to the right of Day-N project.

Step 3 From the drop-down list, click **Add Template**.

Step 4 In the **Add New Template** screen, under **Template Type**, choose **Regular Template**.

Step 5 Enter a **Name** and **Description** for the template.

Step 6 Enter the tag for the switches to which the template needs to be added.

Step 7 Choose the **Device Type** to which the template applies.

Step 8 Enter the **Software Type**.

Step 9   Click **Add**.

Step 10   Under the **Provision** page, choose the project under which the newly created template exists.

Step 11   Click the template name.

Step 12   In the **Template** screen, enter the CLI commands that the template needs to push to the SDG agent switches.

The following is a sample set of CLI commands.

```
mdns-sd gateway
 rate-limit 100
!
mdsn-sd service-list INGRESS-SERVICE-LIST IN
 match apple-tv
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
 match apple-windows-fileshare
 match apple-continuity
!
mdns-sd service-list EGRESS-SERVICE-LIST OUT
 match apple-tv
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
 match apple-windows-fileshare
 match apple-continuity
!
mdns-sd service-list WIDE-AREA-SERVICE-LIST OUT
 match apple-tv
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
 match apple-windows-fileshare
 match apple-continuity
!

mdns-sd service-policy LOCAL_AREA_POLICY
 service-list INGRESS-SERVICE-LIST IN
 service-list EGRESS-SERVICE-LIST OUT
!
mdns-sd service-policy WIDE_AREA_POLICY
 service-list WIDE-AREA-SERVICE-LIST OUT
!
service-export mdns-sd controller DNAC
 controller-address <DNAC IP>
 controller-service-policy WIDE_AREA_POLICY OUT
 controller-source-interface Loopback()
!

vlan configuration 101-103
mdns-sd gateway
!
```

You can add or delete `match <service-type>` statements in the service-lists according to your deployment requirements.

Note Replace the VLAN with one or more VLANs that are specific to your deployment.

Step 13 In the **Actions** drop-down menu, click **SAVE**.

Step 14 In the **Actions** drop-down menu, click **COMMIT**.

The Template Editor provides the additional flexibility of customizing templates in multiple ways. You can use template variables and provision-time (text or form-based) data input. For more information about working with the Template Editor tool, see the *Cisco DNA Center User Guide*.

Configure Service Peers on Traditional Multilayer Networks

Step 1 In the Cisco DNA Center GUI, click the **Menu** icon (≡) and choose **Tools** > **Template Editor**.

Step 2 In the Template Editor in Cisco DNA Center, click the settings icon to the right of a Day-N project.

Step 3 From the drop-down list, choose **Add Template**.

Step 4 In the **Add New Template** screen, under **Template Type**, choose **Regular Template**.

Step 5 Enter a **Name** and a **Description** for the template.

Step 6 Enter the tag for the switches to which the template needs to be added.

Step 7 Choose the **Device Type** to which the template applies.

Step 8 Enter the **Software Type**.

Step 9 Click **Add**.

Step 10 Under the **Provision** page, choose the project under which the newly created template exists.

Step 11 Click the template name.

Step 12 In the **Template** screen, enter the CLI commands that the template needs to push to the service peer devices.

The following is a sample set of CLI commands.

```
mdns-sd gateway
 mode service-peer
 rate-limit 100
!
mdns-sd service-list INGRESS-SERVICE-LIST IN
 match apple-tv
 match printer -ipp
 match printer -ipps
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
 match apple-windows-fileshare
 match apple-continuity
!
mdns-sd service-list EGRESS-SERVICE-LIST OUT
 match apple-tv
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
```

```
 match apple-screen-share
 match apple-rdp
 match pinter-lpd
 match apple-windows-fileshare
 match apple-continuity
 !

mdns-sd service-policy LOCAL_AREA_POLICY
 service-list INGRESS-SERVICE-LIST IN
 service-list EGRESS-SERVICE-LIST OUT
 !

vlan configuration 101-103
mdns-sd gateway
 service-policy LOCAL_AREA_POLICY
 active-query timer 60
 source-interface Vlan4001
 service-mdns-query ptr
 transport both
 sdg-agent 40.1.1.1
 !
```

You can add or delete `match <service-type>` statements in the service-lists according to your deployment requirements.

Note   Replace the VLAN with one or more VLANs that are specific to your deployment.

Step 13   In the **Actions** drop-down menu, click **SAVE**.

Step 14   In the **Actions** drop-down menu, click **COMMIT**.

The Template Editor provides the additional flexibility of customizing templates in multiple ways. You can use template variables and provision-time (text or form-based) data input. For more information about working with the Template Editor tool, see the *Cisco DNA Center User Guide*.

Configure SDG Agents on Distributed Anycast Gateway Without Service Peers

Step 1   In the Cisco DNA Center GUI, click the **Menu** icon (☰) and choose **Tools** > **Template Editor**.

Step 2   In the Template Editor in Cisco DNA Center, click the settings icon to the right of a Day-N project.

Step 3   From the drop-down list, choose **Add Template**.

Step 4   In the **Add New Template** screen, under **Template Type**, choose **Regular Template**.

Step 5   Enter a **Name** and **Description** for the template.

Step 6   Enter the tag for the switches to which the template needs to be added.

Step 7   Choose the **Device Type** to which the template applies.

Step 8   Enter the **Software Type**.

Step 9   Click **Add**.

Step 10   Under the **Provision** page, choose the project under which the newly created template exists.

Step 11   Click the template name.

Step 12   In the **Template** screen, enter the CLI commands that the template needs to push to the SDG agent switches and service peer networks.

The following is a set of sample CLI commands.

```
mdns-sd gateway
 rate-limit 100
!
mdns-sd service-list INGRESS-SERVICE-LIST IN
 match apple-tv
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
 match apple-windows-fileshare
 match apple-continuity
!
mdns-sd service-list EGRESS-SERVICE-LIST OUT
 match apple-tv
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
 match apple-windows-fileshare
 match apple-continuity
!
mdns-sd service-list WIDE-AREA-SERVICE-LIST OUT
 match apple-tv
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
 match apple-windows-fileshare
 match apple-continuity
!

mdns-sd service-policy LOCAL_AREA_POLICY
 service-list INGRESS-SERVICE-LIST IN
 service-list EGRESS-SERVICE-LIST OUT
!
mdns-sd service-policy WIDE_AREA_POLICY
 service-list WIDE-AREA-SERVICE-LIST OUT
!
service-export mdns-sd controller DNAC
 controller-address <DNAC IP>
 controller-service-policy WIDE_AREA_POLICY OUT
 controller-source-interface Loopback0
!

vlan configuration 101-103
member evpn-instance 1 vni 10001
mdns-sd gateway
 service-policy LOCAL_AREA_POLICY
 active-query timer 60
 source-interface Vlan4001
 transport both
 service-mdns-query ptr
!
```

You can add or delete `match <service-type>` statements in the service-lists according to your deployment requirements.

Note   Replace the VLAN with one or more VLANs that are specific to your deployment.

Step 13   In the **Actions** drop-down menu, click **SAVE**.

Step 14   In the **Actions** drop-down menu, click **COMMIT**.

The Template Editor provides the additional flexibility of customizing templates in multiple ways. You can use template variables and provision-time (text or form-based) data input. For more information about working with the Template Editor tool, see the *Cisco DNA Center User Guide*.

Configure SDG Agents on a Distributed Anycast Gateway with a Service Peer

Step 1   In the Cisco DNA Center GUI, click the **Menu** icon (≡) and choose **Tools** > **Template Editor**.

Step 2   In the Template Editor in Cisco DNA Center, click the settings icon to the right of a Day-N project.

Step 3   From the drop-down list, choose **Add Template**.

Step 4   In the **Add New Template** screen, under **Template Type**, choose **Regular Template**.

Step 5   Enter a **Name** and **Description** for the template.

Step 6   Enter the tag for the switches to which the template needs to be added.

Step 7   Choose the **Device Type** to which the template applies.

Step 8   Enter the **Software Type**.

Step 9   Click **Add**.

Step 10   Under the **Provision** page, choose the project under which the newly created template exists.

Step 11   Click the template name.

Step 12   In the **Template** screen, enter the CLI commands that the template needs to push to the SDG agent switches.

The following is a sample set of CLI commands.

```
mdns-sd gateway
 rate-limit 100
!
mdns-sd service-list INGRESS-SERVICE-LIST IN
 match apple-tv
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
 match apple-windows-fileshare
 match apple-continuity
!
mdns-sd service-list EGRESS-SERVICE-LIST OUT
 match apple-tv
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
```

```
 match apple-windows-fileshare
 match apple-continuity
 !
mdns-sd service-list WIDE-AREA-SERVICE-LIST OUT
 match apple-tv
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
 match apple-windows-fileshare
 match apple-continuity
 !

mdns-sd service-policy LOCAL_AREA_POLICY
 service-list INGRESS-SERVICE-LIST IN
 service-list EGRESS-SERVICE-LIST OUT
 !
mdns-sd service-policy WIDE_AREA_POLICY
 service-list IDE-AREA-SERVICE-LIST OUT
 !
service-export mdns-sd controller DNAC
 controller-address <DNAC IP>
 controller-service-policy WIDE_AREA_POLICY OUT
 controller-source-interface Loopback0
 !

vlan configuration 101-103
 member evpn-instance 1 vni 10001
 mdns-sd gateway
 !
```

You can add or delete `match <service-type>` statements in the service-lists according to your deployment requirements.

Note   Replace the VLAN with one or more VLANs that are specific to your deployment.

Step 13   In the **Actions** drop-down menu, click **SAVE**.

Step 14   In the **Actions** drop-down menu, click **COMMIT**.

The Template Editor provides the additional flexibility of customizing templates in multiple ways. You can use template variables and provision-time (text or form-based) data input. For more information about working with the Template Editor tool, see the *Cisco DNA Center User Guide*.

Configure Service Peers on a Distributed Anycast Gateway Multilayer Network

Step 1   In the Cisco DNA Center GUI, click the **Menu** icon (≡) and choose **Tools** > **Template Editor**.

Step 2   In the Template Editor in Cisco DNA Center, click the settings icon to the right of the Day-N project.

Step 3   From the drop-down list, choose **Add Template**.

Step 4   In the **Add New Template** screen, under **Template Type**, choose **Regular Template**.

Step 5   Enter a **Name** and a **Description** for the template.

Step 6   Enter the tag for the switches to which the template needs to be added.

Step 7   Choose the **Device Type** to which the template applies.

Step 8   Enter the **Software Type**.

Step 9   Click **Add**.

Step 10   Under the **Provision** page, choose the project under which the newly created template exists.

Step 11   Click the template name.

Step 12   In the **Template** screen, enter the CLI commands that the template needs to push to the service peer devices.

The following is a sample set of CLI commands:

```
mdns-sd gateway
 mode service-peer
 rate-limit 100
!
mdns-sd service-list INGRESS-SERVICE-LIST IN
 match apple-tv
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
 match apple-windows-fileshare
 match apple-continuity
!
mdns-sd service-list EGRESS-SERVICE-LIST OUT
 match apple-tv
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
 match appler-screen-share
 match apple-rdp
 match printer-lpd
 match apple-windows-fileshare
 match apple-continuity
!

mdns-sd service-policy LOCAL_AREA_POLICY
 service-list INGRESS-SERVICE-LIST IN
 service-list EGRESS-SERVICE-LIST OUT
!

vlan configuration 101-103
mdns-sd gateway
 service-policy LOCAL_AREA_POLICY
 active-query timer 60
 source-interface Vlan4001
 service-mdns-query ptr
 transport both
 sdg-agent 40.1.1.1
!
```

You can add or delete `match <service-type>` statements in the service-lists according to your deployment requirements.

Note   Replace the VLAN with one or more VLANs that are specific to your deployment.

Step 13   In the **Actions** drop-down menu, click **SAVE**.

Step 14   In the **Actions** drop-down menu, click **COMMIT**.

The Template Editor provides the additional flexibility of customizing templates in multiple ways. You can use template variables and provision-time (text or form-based) data input. For more information about working with the Template Editor tool, see the *Cisco DNA Center User Guide*.

Configure SDG Agents on a Centralized Gateway Network

Step 1   In the Cisco DNA Center GUI, click the **Menu** icon (☰) and choose **Tools** > **Template Editor**.

Step 2   In the Template Editor in Cisco DNA Center, click the settings icon to the right of a Day-N project.

Step 3   From the drop-down list, choose **Add Template**.

Step 4   In the **Add New Template** screen, under **Template Type**, choose **Regular Template**.

Step 5   Enter a **Name** and **Description** for the template.

Step 6   Enter the tag for the switches to which the template needs to be added.

Step 7   Choose the **Device Type** to which the template applies.

Step 8   Enter the **Software Type**.

Step 9   Click **Add**.

Step 10   Under the **Provision** page, choose the project under which the newly created template exists.

Step 11   Click the template name.

Step 12   In the **Template** screen, enter the CLI commands that the template needs to push to the SDG agent switches.

```
mdns-sd gateway
 ingress-client query-supression enable
 rate-limit 100
!
mdns-sd service-list INGRESS-SERVICE-LIST IN
 match apple-tv
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
 match apple-windows-fileshare
 match apple-continuity
!
mdns-sd service-list EGRESS-SERVICE-LIST OUT
 match apple-tv
 match printer-ipp
 match printer-ipps
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
 match apple-windows-fileshare
 match apple-continuity
!
mdns-sd service-list WIDE-AREA-SERVICE-LIST OUT
 match apple-tv
 match printer-ipp
 match printer-ipps
```

```
 match apple-airprint
 match web-server
 match apple-screen-share
 match apple-rdp
 match printer-lpd
 match apple-windows-fileshare
 match apple-continuity
!

mdns-sd aervice-policy LOCAL_AREA_POLICY
 service-list INGRESS-SERVICE-LIST IN
 service-list EGRESS-SERVICE-LIST OUT
!
mdns-sd service-policy WIDE_AREA_POLICY
 service-list WIDE-AREA-SERICE-LIST OUT
!
service-export mdns-sd controller DNAC
 controller-address <DNAC IP>
 controller-service-policy WIDE_AREA_POLICY OUT
 controller-source-interface Loopback0
!

vlan configuration 101
member evpn-instance 1 vni 10001
!
interface vlan 101
mdns-sd gateway
 service-policy LOCAL_AREA_POLICY
 active_query timer 60
 transport both
!
```

You can add or delete `match <service-type>` statements in the service-lists according to your deployment requirements.

Note　Replace the VLAN with one or more VLANs that are specific to your deployment.

Step 13　In the **Actions** drop-down menu, click **SAVE**.

Step 14　In the **Actions** drop-down menu, click **COMMIT**.

The Template Editor provides the additional flexibility of customizing templates in multiple ways. You can use template variables and provision-time (text or form-based) data input. For more information about working with the Template Editor tool, see the *Cisco DNA Center User Guide*.

# Create the Cisco Catalyst Switch Network Profile

With Cisco DNA Center, you can create a network profile for SDG agents and assign templates to them. This step creates a network profile for the SDG agents, and assigns both the templates created in the previous steps to the template. The network profile will be used to provision the SDG agents later.
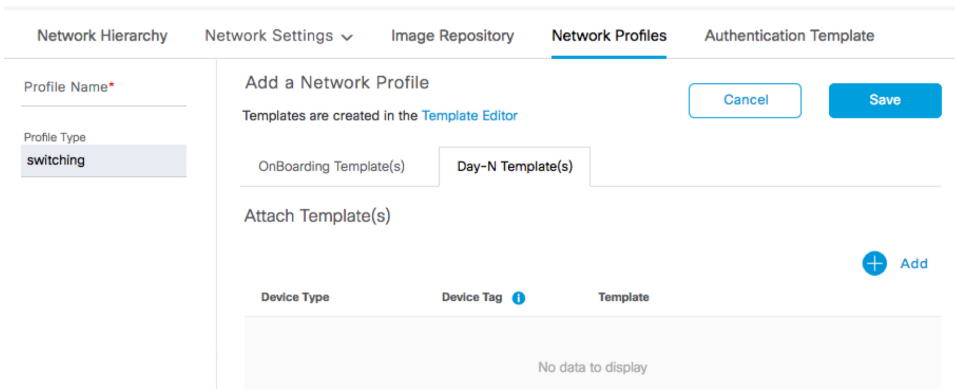
Step 1　In the Cisco DNA Center GUI, click the **Menu** icon (≡) and choose **Design** > **Network Profiles**.

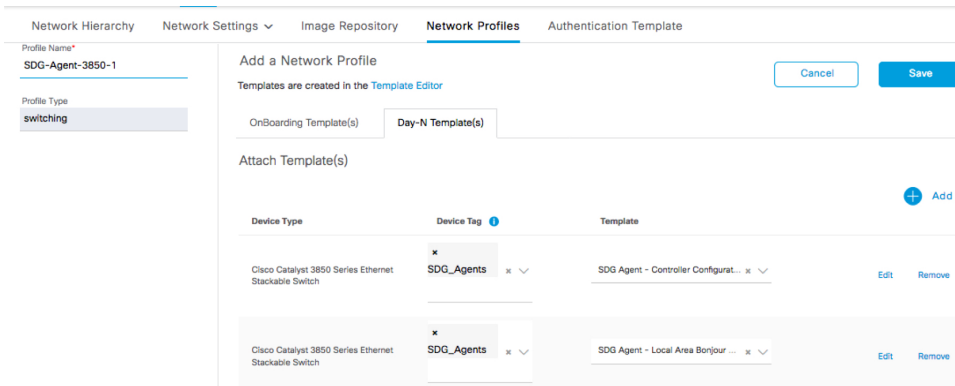**Step 2**　Click **Add Profile** and choose **Switching**.
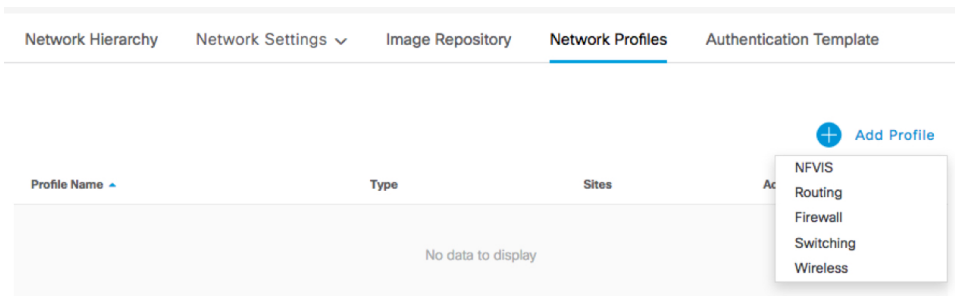
The following window is displayed.

Step 3   Click the **Day-N Template(s)** tab.

Step 4   Click **Add**.

Step 5   From the drop-down lists, choose the **Device Type**, **Device Tag**, and **Template** for the network profile that you want to create.

Step 6   To add another template, click **Add**.

Step 7   Click **Save**.

Provision Cisco Service Discovery Gateway Bonjour Policies

Provisioning the Cisco SDG Bonjour policies pushes the CLI configurations of the two templates assigned to the network profile, enabling the switch to process Bonjour announcements and queries, and to forward them to the Wide Area Bonjour Controller.

Step 1   In the Cisco DNA Center GUI, click the **Menu** icon (≡) and choose **Provision** > **Inventory**.

Step 2   Check the check box of the device to provision.

Step 3   From the **Actions** drop-down list, choose **Provision** > **Provision Device**.

Step 4   Enter the details of the site and click **Next**.

Step 5   Choose the devices for which to fill out the provisioning parameters and click **Next**.

Step 6   Review the details and ensure that both the required templates are listed under **Template Name**, then click **Deploy**.

Step 7   Choose **Now** to provision the template immediately, or choose **Later** to schedule the provisioning for a later date.

Step 8   Click **Apply**.

You can monitor the provisioning status from the **Inventory** page with the **Focus** set to **Provision**.