



## Map-Server Per-Site Support

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### Map server per site support

A map server per site support is a network feature that

- selects the map server based on the client's subnet to enable per-site segmentation. The controller supports multiple sites and segregates each site's traffic
- allows both Enterprise and Guest sites to use dedicated or shared map servers, and
- enables flexible virtual network assignment using the Layer 2 Virtual Network Identifier (VNID) selection.

This list shows the map server selection order for AP query and client registration:

- Per-L3 VNID map server.
- Per site (ap-group) map server.
- Default or global map server.

#### Benefits

Some of the benefits of using the map server per site feature are:

- You can use a single large site with horizontal-scaling of the map server and border nodes.
- You can share the controller across multiple sites. Each site can have its own map server and virtual network (VNID), and traffic can still be segmented from each site.

- You can share the guest map server across multiple sites while keeping the enterprise map server separate.
- You can use the same SSID across different sites. Within a site, the SSIDs can belong to different virtual network domains.

## Configure the default map server (GUI)

Set up the default map server to manage control plane operations within the wireless fabric.

### Procedure

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- Step 1** Choose **Configuration** > **Wireless** > **Fabric**.
  - Step 2** On the **Fabric** page, click the **Control Plane** tab.
  - Step 3** In the **Control Plane Name** list, click **default-control-plane**.
  - Step 4** In the **Edit Control Plane** window that is displayed, click **Add**.
  - Step 5** Enter the IP address of the map server.
  - Step 6** Set the **Password Type** as either **Unencrypted** or **AES**.
  - Step 7** Enter the **Pre Shared Key**.
  - Step 8** Click **Save**.
  - Step 9** Click **Update & Apply to Device**.
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## Configure the default map server (CLI)

To configure a wireless fabric control-plane with a specified map server and pre-shared key for LISP control-plane redundancy and secure AP/client join processes.

### Before you begin

- The global map server is the default map server that is used for both AP query (when an AP joins) as well as for client registration (when a client joins).
- We recommend that you configure map servers in pairs to ensure redundancy because the LISP control-plane does not support redundancy inherently.
- To share a map server set, create a map server group, which can be shared across site profiles, fabric profiles, Layer 2 and Layer3 VNID, as well with the default map server.

### Procedure

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- Step 1** Enter the global configuration mode.

**Example:**

```
Device# configure terminal
```

**Step 2** Configure the control plane name.

**Example:**

```
Device(config)# wireless fabric control-plane control-plane-name test-map
```

If you do not provide a control plane name, the default-control-plane that is auto generated is used.

**Step 3** Configure the IP address and the key for the control plane.

**Example:**

```
Device((config-wireless-cp)# ip address 10.12.13.14 key pre-shared-key secret
```

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## Configure a map server per site (GUI)

Configure the primary and backup map server controllers for a specific site using the GUI.

**Before you begin**

Ensure you have configured an AP Join Profile before setting up the primary and backup controllers.

**Procedure**

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- Step 1** Choose **Configuration > Tags & Profiles > AP Join**.
  - Step 2** On the **AP Join Profile** page, click the AP Join Profile name.
  - Step 3** In the **Edit AP Join Profile** window, click the **CAPWAP** tab.
  - Step 4** In the **High Availability** tab under **Backup Controller Configuration**, check the **Enable Fallback** check box.
  - Step 5** Enter the primary and secondary controller names and IP addresses.
  - Step 6** Click **Update & Apply to Device**.
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## Configure a map server per site (CLI)

Set up a map server for each site or AP group.

**Before you begin**

You can configure map server for each site or each AP group. If a map server is not configured for each VNID or subnet, per-site map server is used for AP queries and client registration.

### Procedure

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**Step 1** Enter the global configuration mode.

**Example:**

```
Device# configure terminal
```

**Step 2** Configure a site tag and enter the site tag configuration mode.

**Example:**

```
Device(config)# wireless tag site site-tag test-site
```

**Step 3** Associate a fabric control plane name with a site tag.

**Example:**

```
Device(config-wireless-site)# fabric control-plane map-server-name test-map
```

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## Create a map server for each VNID (GUI)

Configure map servers for Layer 2 VNIDs to enable secure fabric communication.

### Procedure

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**Step 1** Choose **Configuration > Wireless Plus > Fabric > Fabric Configuration**.

**Step 2** In the **Profiles** tab, click **Add** to add a new Fabric Profile.

**Step 3** In the **Add New Profile** window that is displayed, enter a name and description for the profile.

**Step 4** Specify the L2 VNID and SGT Tag details.

**Step 5** In the **Map Servers** section, specify the IP address and preshared key details for Server 1.

**Step 6** Optionally, you can specify the IP address and preshared key details for Server 2.

**Step 7** Click **Save & Apply to Device**.

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## Create a map server for each VNID (CLI)

Follow the procedure given below to configure map server for each VNID in Layer 2 and Layer 3 or a map server for a client VNID.

### Procedure

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**Step 1** Enter the global configuration mode.

**Example:**

```
Device# configure terminal
```

- Step 2** Configure a map server for each VNID in Layer 2 and Layer 3 or a map server for a client VNID. Use one of the following:

**Example:**

```
Device(config)# wireless fabric name vnid-map test1 l2-vnid l2-vnid l3-vnid l3vnid 10 ip network-ip subnet-mask 10.8.6.2 255.255.255.236 control-plane control-plane-name cp1
```

**Example:**

```
Device(config)# wireless fabric name vnid-map test1 l2-vnid l2-vnid control-plane control-plane-name cp1
```

## Create a fabric profile and associate a tag and VNID (GUI)

Use these steps to create a fabric profile in the Cisco wireless GUI and associate it with a tag and VNID.

### Procedure

- Step 1** Choose **Configuration > Wireless > Fabric**.
- Step 2** In the **Profiles** tab on **Fabric Configuration** page, click **Add** to add a new profile.
- Step 3** In the **Add New Profile** window that is displayed, enter a name and description for the profile.
- Step 4** Specify the L2 VNID and SGT Tag details.
- Step 5** Click **Save & Apply to Device**.

## Create a fabric profile and associate a tag and VNID (CLI)

Follow the procedure given below to create a fabric profile and associate the VNID to which the client belongs and the SGT tag to this profile.

### Procedure

- Step 1** Enter the global configuration mode.

**Example:**

```
Device# configure terminal
```

- Step 2** Configure a fabric profile.

**Example:**

```
Device(config)# wireless profile fabric fabric-profile-name test-fabric
```

**Step 3** Configure an SGT tag.

**Example:**

```
Device(config-wireless-fabric)# sgt-tag value 5
```

**Step 4** Configure a client Layer 2 VNID.

**Example:**

```
Device(config-wireless-fabric)# client-l2-vnid vnid 10
```

## Verify the map server configuration

Use the following commands to verify the map server configuration:

```
Device# show wireless fabric summary
```

```
Fabric Status      : Enabled
```

Control-plane:

Name	IP-address	Key	Status
test-map	10.12.13.14	test1	Down

Fabric VNID Mapping:

Name	L2-VNID	L3-VNID	IP Address	Subnet
Control plane name				
test1	12	10	10.6.8.9	255.255.255.236
test2				

```
Device# show wireless fabric vnid mapping
```

Fabric VNID Mapping:

Name	L2-VNID	L3-VNID	IP Address	Subnet	Control Plane Name
fabric1	1	0	9.6.51.0	255.255.255.0	map-server-name

```
Device# show wireless profile fabric detailed profile-name
```

```
Profile-name      : fabric-ap
VNID              : 1
SGT               : 500
Type              : Guest
```

Control Plane Name      Control-Plane IP      Control-Plane Key

Ent-map-server	5.4.3.2	guest_1
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```
Device# show ap name ap-name config general
```

```
Fabric status           : Enabled  
RLOC                    : 2.2.2.2  
Control Plane Name     : ent-map-server
```

```
Device# show wireless client mac mac-address detail
```

```
Fabric status : Enabled  
RLOC          : 2.2.2.2  
Control Plane Name : ent-map-server
```

```
Device# show wireless tag site detailed site-tag
```

```
Site Tag Name      : default-site-tag  
Description        : default site tag  
-----  
AP Profile         : default-ap-profile  
Local-site         : Yes  
Fabric-control-plane: Ent-map-server
```

