Map-Server Per-Site Support

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Information About Map Server Per Site Support

The Map Server Per Site feature supports per-site map server and the selection of map server based on the client's subnet. This enables the controller to support multiple sites and to segregate each site's traffic.

This feature is applicable to both Enterprise and Guest map servers. For the Layer 2 virtual extensible LAN network identifier-based (L2VNID-based) map server, the appropriate map server should be selected based on the L2 VNID.

The following 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 Map Server Per Site feature are listed below:

- 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, with each site can having its own map server and virtual network or VNID and still segment traffic from each site.
- You can share 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, they can belong to a different virtual network domain.

Configuring the Default Map Server (GUI)

Procedure

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**.

Configuring the Default Map Server (CLI)

Follow the procedure given below to configure the default map server.

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 s 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

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 2	**wireless fabric control-plane** *control-plane-name*	Configures the control plane name.

	Command or Action	Purpose
	Example: `Device(config)# wireless fabric control-plane test-map`	If you do not provide a control plane name, the default-control-plane that is auto generated is used.
Step 3	**ip address** *ip-address* **key** *pre-shared-key* **Example:** `Device((config-wireless-cp)#ip address 10.12.13.14 key secret`	Configures IP address and the key for the control plane.

Configuring a Map Server Per Site (GUI)

Before you begin

Ensure that you have configured an AP Join Profile prior to configuring the primary and backup controllers.

Procedure

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**.

Configuring a Map Server Per Site (CLI)

Follow the procedure given below to configure per-site MAP server under site-tag.

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

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.

	Command or Action	Purpose
Step 2	**wireless tag site** *site-tag* **Example:** `Device(config)# wireless tag site test-site`	Configures a site tag and enters site tag configuration mode.
Step 3	**fabric control-plane** *map-server-name* **Example:** `Device(config-wireless-site)# fabric control-plane test-map`	Associates a fabric control plane name with a site tag.

Creating a Map Server for Each VNID (GUI)

Procedure

Step 1 Click **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.**

Creating a Map Server for Each VNID

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

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 2	Choose one of the following: • **wireless fabric name** *vnid-map* **l2-vnid** *l2-vnid* **l3-vnid** *l3vnid* **ip** *network-ip subnet-mask* **control-plane** *control-plane-name*	Configures a map server for each VNID in Layer 2 and Layer 3 or a map server for a client VNID.

	Command or Action	Purpose

	• **wireless fabric name** *vnid-map* **l2-vnid** *l2-vnid* **control-plane** *control-plane-name*
	Example:
	`Device(config)# wireless fabric name test1 l2-vnid 12 l3-vnid 10 ip 10.8.6.2 255.255.255.236 control-plane cp1`
	Example:
	`Device(config)# wireless fabric name test1 l2-vnid 22 control-plane cp1`	

Creating a Fabric Profile and Associating a Tag and VNID (GUI)

Procedure

Step 1 Click **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**.

Creating a Fabric Profile and Associating 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

	Command or Action	Purpose
Step 1	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 2	**wireless profile fabric** *fabric-profile-name* **Example:** `Device(config)# wireless profile fabric test-fabric`	Configures a fabric profile.
Step 3	**sgt-tag** *value* **Example:**	Configures an SGT tag.

	Command or Action	Purpose
	`Device(config-wireless-fabric)# sgt-tag 5`	
Step 4	**client-l2-vnid** *vnid* **Example:** `Device(config-wireless-fabric)# client-l2-vnid 10`	Configures a client Layer 2 VNID.

Verifying 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

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
```