

CISCO Redundant Root Access Point RAP Ethernet Daisy Chaining User Guide

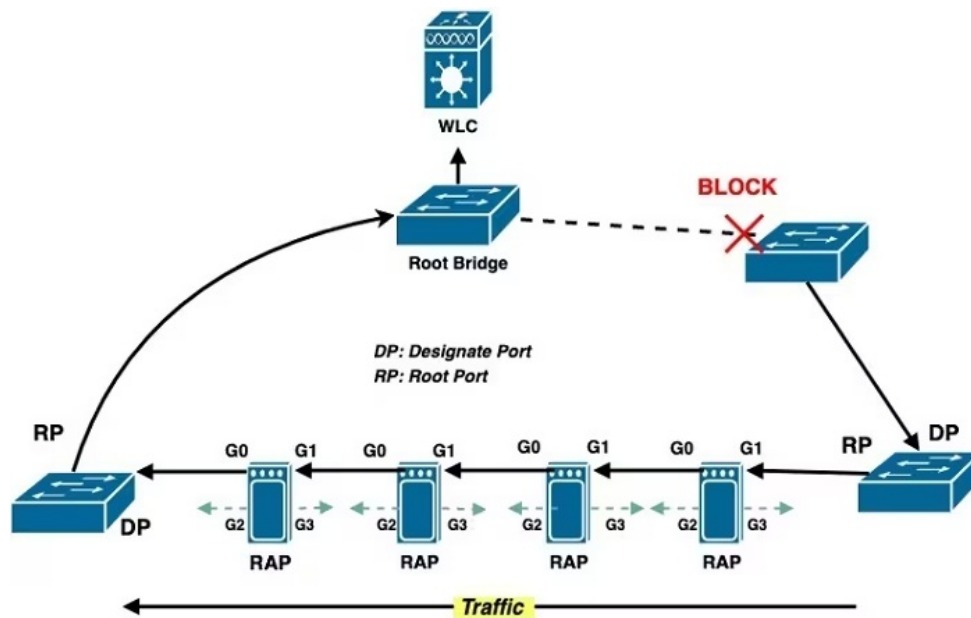
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CISCO Redundant Root Access Point RAP Ethernet Daisy Chaining



Product Information

Specifications

- Product Name: Redundant Root Access Point (RAP) Ethernet Daisy Chaining
- Supported Model: IW6300 AP
- Supported Configuration: Cisco IOS access points only
- Supported Uplink: Wired uplink configuration

Overview of Redundant RAP Ethernet Daisy Chaining

The Redundant RAP Ethernet Daisy Chaining feature allows for the connection of multiple Cisco IOS access points in a daisy chain topology. This feature is supported on the IW6300 AP model. In case of an uplink loss on the first RAP connected to the switch, the entire chain loses its uplink. To improve recovery time, if the RAP ethernet daisy chain is enabled, the CAPWAP data keepalive is extended to three times.

Prerequisites for Redundant RAP Ethernet Daisy Chaining Support

- The daisy chain strict RAP configuration is applicable to Cisco IOS access points only.
- The AP should be configured in Bridge or Flex Bridge mode Root AP.

Configuring Redundant RAP Ethernet Daisy Chaining Support (CLI)

Follow the procedure given below to enable redundant RAP ethernet daisy chaining on a mesh profile:

1. Enter global configuration mode: `configure terminal`
2. Create a mesh profile and enter mesh profile configuration mode: `wireless profile mesh profile-name`
3. Configure daisy chain STP redundancy:
`daisychain-stp-redundancy`

Verifying Daisy Chain Redundancy (CLI)

To verify the ethernet daisy chain summary, use the following command: `show wireless mesh ethernet daisy-chain summary`

To verify the ethernet daisy chain Bridge Group Name (BGN) details, use the following command: `show wireless mesh ethernet daisy-chain bgn`

To verify the mesh profile, use the following command:
`show wireless profile mesh detailed profile-name`

FAQ (Frequently Asked Questions)

Q: Which access point models support Redundant RAP Ethernet Daisy Chaining?

A: The Redundant RAP Ethernet Daisy Chaining feature is supported on the IW6300 AP model.

Q: Can I use wireless uplink configuration for Redundant RAP Ethernet Daisy Chaining?

A: No, only wired uplink configuration is valid for Redundant RAP Ethernet Daisy Chaining.

Q: What happens if there is an uplink loss on the first RAP connected to the switch in a daisy chain topology?

A: If a CAPWAP loss occurs on the first RAP connected to the switch, the entire chain loses its uplink. Recovery time is improved when the RAP ethernet daisy chain is enabled, as the CAPWAP data keepalive is extended to three times.

Redundant Root Access Point (RAP) Ethernet Daisy Chaining

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Overview

Overview of Redundant RAP Ethernet Daisy Chaining

The Root Access Point (RAP) Ethernet Daisy Chaining is a feature where RAPs are chained using wired Ethernet to avoid latency in backhaul link failure recovery.

This feature proposes a redundancy in the daisy chain, wherein, two switches act as a redundant Designated Port (DP), each connected to either end of the daisy chain. In case of a link failure, the link direction is reversed using a new STP root.

A redundant RAP ethernet daisy chain has similar capabilities to the existing mesh daisy chain feature. In a redundant RAP ethernet daisy chain topology, the packet is encapsulated with CAPWAP header and forwarded to the controller from its wireless client for each AP. The packet is bridged to its primary ethernet interface from its secondary ethernet interface including the other AP's wireless client CAPWAP packets. Both 2.4G and 5G radio are used for client access.

Note The daisy chain strict RAP configuration is applicable to Cisco IOS access points only.

Redundant RAP ethernet daisy chain is supported on the IW6300 AP model.

In case of ethernet daisy chain topology, if a CAPWAP loss occurs on the first RAP connected to switch, the entire chain loses its uplink. This takes a long time to recover. Thereby, if the RAP ethernet daisy chain is enabled, the CAPWAP data keepalive is extended to three times.

Note Only wired uplink configuration is valid, if you configure an AP as Bridge or Flex Bridge mode Root AP.

Prerequisites for Redundant RAP Ethernet Daisy Chaining Support

- Ethernet bridging on should be enabled.
- Strict-wired-uplink feature should be enabled.

Configuring Redundant RAP Ethernet Daisy Chaining Support (CLI)

Follow the procedure given below to enable redundant RAP ethernet daisy chaining on a mesh profile:

Procedure

	Command or Action	Purpose
Step 1	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 2	wireless profile mesh <i>profile-name</i> Example: Device(config)# wireless profile mesh default-mesh-profile	Configures a mesh profile and enters mesh profile configuration mode.
Step 3	daisychain-stp-redundancy Example: Device(config-wireless-mesh-profile)# daisychain-stp-redundancy	Configures daisy chain STP redundancy.

Verifying Daisy Chain Redundancy (CLI)

To verify the ethernet daisy chain summary, use the following command:

```
Device# show wireless mesh ethernet daisy-chain summary
```

AP Name	BVI MAC	BGN	Backhaul	Ethernet				STP Red
RAP4	683b.78bf.15f0	IOT	Ethernet0	Up	Up	Dn	Dn	Enabled
RAP3	683b.78bf.1634	IOT	Ethernet0	Up	Up	Dn	Dn	Enabled
RAP1	6c8b.d383.b4d4	IOT	Ethernet0	Up	Up	Dn	Dn	Enabled
RAP2	6c8b.d383.b4e8	IOT	Ethernet0	Up	Up	Up	Dn	Enabled

To verify the ethernet daisy chain Bridge Group Name (BGN) details, use the following command:

```
Device# show wireless mesh ethernet daisy-chain bgn <IOT>
```

AP Name	BVI MAC	BGN	Backhaul	Ethernet				STP Red
RAP4	683b.78bf.15f0	IOT	Ethernet0	Up	Up	Dn	Dn	Enabled
RAP3	683b.78bf.1634	IOT	Ethernet0	Up	Up	Dn	Dn	Enabled
RAP1	6c8b.d383.b4d4	IOT	Ethernet0	Up	Up	Dn	Dn	Enabled
RAP2	6c8b.d383.b4e8	IOT	Ethernet0	Up	Up	Up	Dn	Enabled

To verify the mesh profile, use the following command:

```
Device# show wireless profile mesh detailed default-mesh-profile
```


```
Mesh Profile Name : default-mesh-profile
```

```
-----
Description : default mesh profile
Bridge Group Name : IOT
Strict match BGN : ENABLED
Amsdu : ENABLED
Background Scan : ENABLED
Channel Change Notification : ENABLED
Backhaul client access : ENABLED
Ethernet Bridging : ENABLED
Ethernet Vlan Transparent : DISABLED
Daisy Chain STP Redundancy : ENABLED
Full Sector DFS : ENABLED
IDS : ENABLED
Multicast Mode : In-Out
Range in feet : 12000
Security Mode : EAP
Convergence Method : Standard
LSC only Authentication : DISABLED
Battery State : ENABLED
Authorization Method : eap_methods
Authentication Method : eap_methods
Backhaul tx rate(802.11bg) : auto
Backhaul tx rate(802.11a) : auto
=====
```

Redundant Root Access Point (RAP) Ethernet Daisy Chaining

Prerequisites for Redundant RAP Ethernet Daisy Chaining Support

Documents / Resources

	<p>CISCO Redundant Root Access Point RAP Ethernet Daisy Chaining [pdf] User Guide Redundant Root Access Point RAP Ethernet Daisy Chaining, Access Point RAP Ethernet Daisy Chaining, Point RAP Ethernet Daisy Chaining, Ethernet Daisy Chaining, Daisy Chaining, Chaining</p>
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References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)