

Layer 2 Mesh Transparency

- Layer 2 mesh transparency, on page 1
- Configure and verify Layer-2 protocols forwarding using CLI, on page 2
- Configure Layer-2 protocol forwarding using GUI, on page 3

Layer 2 mesh transparency

Layer 2 mesh transparency is a feature that allows selective forwarding of specific ether-types across URWB networks in MPLS Layer 2 mode.

Reserved ether-types

This list of reserved ether-types cannot be configured:

Table 1: List of reserved ether-types

Ether-type range	Forwardable	Additional information
0x0000 – 0x05FF	User-configurable	Ethernet-I frames. STP and CDP are subject to other configuration options.
0x0800	Yes	IPv4
0x0806	Yes	ARP (IPv4)
0x0900 – 0x09FF	No	URWB signaling protocols
0x8100	Yes	IEEE 802.1Q VLAN encapsulation
0x8847 – 0x8848	No	MPLS
0xFFFF	No	IANA reserved

These functionalities are supported using the URWB data plane mesh network when used in MPLS Layer 2 mode:

- Ether-types present in URWB network are detected and reported automatically.
- You can add and remove ether-types from the allowlist.

- You can configure full transparency to enable all Layer 2 protocols easily.
- The feature supports both CLI and GUI.

Configure and verify Layer-2 protocols forwarding using CLI

This task allows you to manage Layer 2 protocol forwarding by adding, deleting, or clearing ethernet types from allowlists and configuring Ethernet-I protocol behavior.

Use this procedure to control which ethernet types are allowed for Layer 2 protocol forwarding in your MPLS configuration. After you clear the detected ethernet types, the detection process operates in the background.

Procedure

Step 1 Use the **configure mpls ether-filter allow-list add** *ether-type-value* command to add an ethernet type to allowlist.

Example:

```
Device# configure mpls ether-filter allow-list add 0x86DD
```

Step 2 (Optional) Use the **configure mpls ether-filter allow-list delete** *ether-type-value* command to delete an ethernet type from allowlist.

Example:

```
Device# configure mpls ether-filter allow-list delete 0x86DD
```

Step 3 (Optional) Use the **configure mpls ether-filter allow-list clear** command to clear all ethernet types from allowlist.

Example:

```
Device# configure mpls ether-filter allow-list clear
```

Step 4 (Optional) Use the **configure mpls ether-filter allow-list add all** command to add all ethernet types to allowlist.

Example:

```
Device# configure mpls ether-filter allow-list add all
```

Note
The **all** keyword sets the ether filter to all-pass mode by filling the allowlist with a single entry, 0x0000.

Step 5 (Optional) Use the **configure mpls ether-filter table clear** command to clear list of detected ether-types.

Example:

```
Device# configure mpls ether-filter table clear
```

Note
The detection process works in the background after clearing the detected ethernet types.

Step 6 (Optional) Use the **configure mpls ether-filter ethernet-I forward** command to configure Ethernet – I protocol to forward.

Example:

```
Device# configure mpls ether-filter ethernet-I forward
```

Step 7 (Optional) Use the **configure mpls ether-filter ethernet-I block** command to configure Ethernet – I protocol to block.

Example:

```
Device# configure mpls ether-filter ethernet-I block
```

Step 8 (Optional) Use the **show mpls config** command to verify list of allowed ether-types.

Example:

```
Device# show mpls config
...
Ethernet Filter allow-list: 0x8892 0x8204 0x86dd, ethernet-I block
...
```

Step 9 (Optional) Use the **show mpls ether-filter table** command to verify list of detected ether-types.

Example:

```
Device# show mpls ether-filter table
Ether-type   Direction   Description
0x8899        INGRESS       ---
0x86DD        INGRESS       IPv6
```

Configure Layer-2 protocol forwarding using GUI

This task allows you to manage ethernet filter configurations including adding specific and detected ether types to the allowlist, clearing ethernet types, and configuring ethernet protocol settings.

Use the ethernet filter functionality to control which ethernet types and protocols are permitted. This configuration helps manage network traffic filtering at the Layer-2 level.

Procedure

Step 1 In the **ADVANCED SETTINGS**, click **ethernet filter**.

The **Ethernet Filter** window appears.

Step 2 Add an ether type to the allowlist.

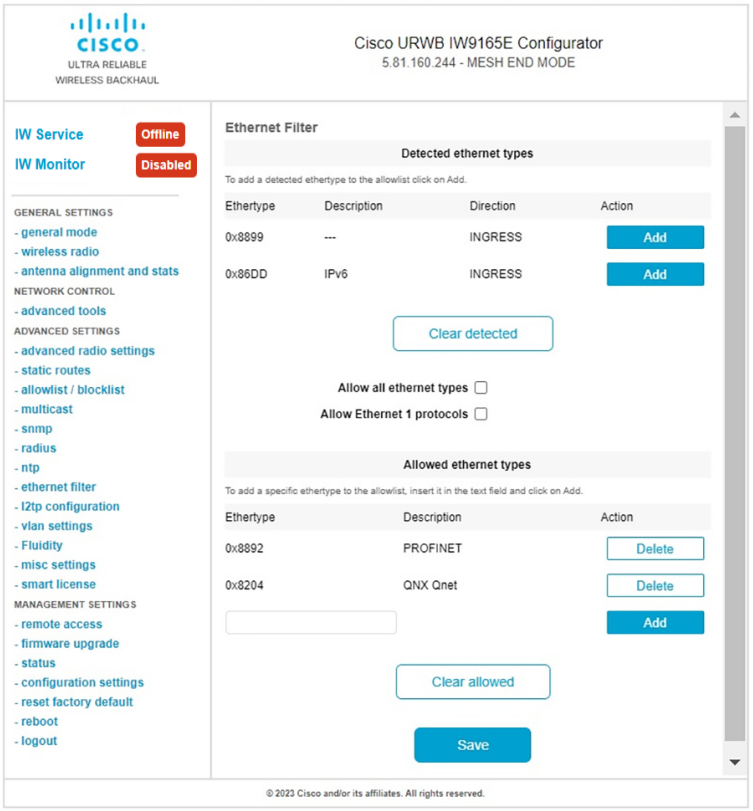
a) Click **Add** in the **Detected ethernet types** section.

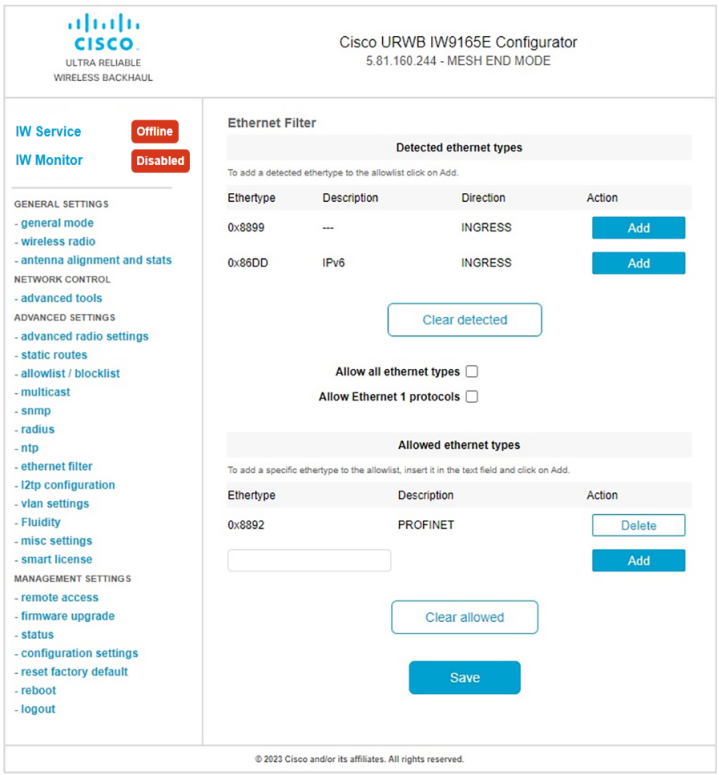
b) In the **Allowed ethernet types** section, enter the **Ethertype** name in the text box and click **Add**.

You can view the added ether types reflected in the **Allowed Ethernet type** section.

The following images show the specific and detected ether types added to the allowlist:

Configure Layer-2 protocol forwarding using GUI





Step 3 Clear all allowed ethernet types from the allowlist.

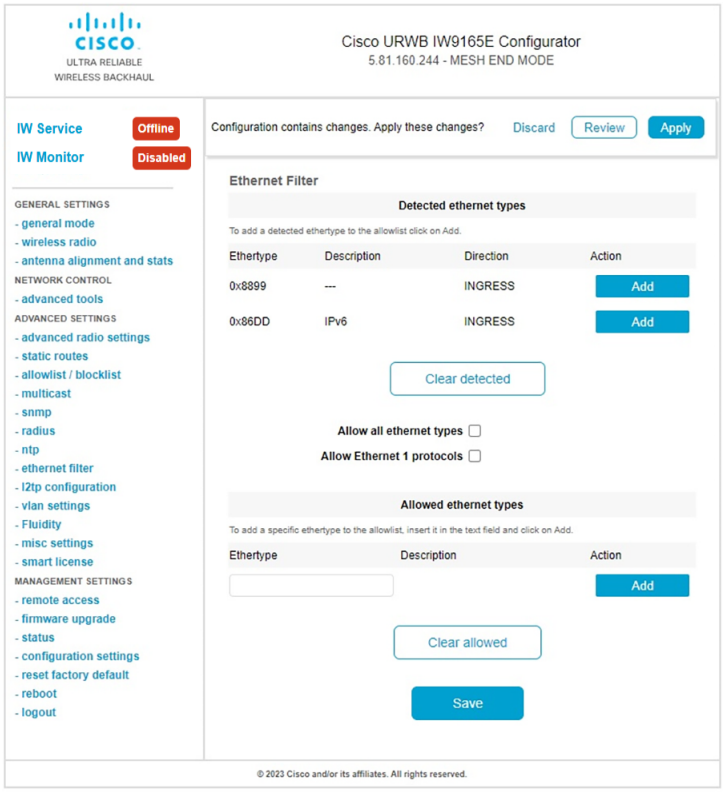
a) In the **ADVANCED SETTINGS**, click **ethernet filter**.

The **Ethernet Filter** window appears.

b) Click **Clear allowed** in the **Allowed ethernet types** section to remove all ethernet types from the allowlist.

All ethernet types are removed from the allowlist.

The following image shows all allowed ethernet types cleared from the allowlist:



Step 4 Clear all detected ethernet types from the allowlist.

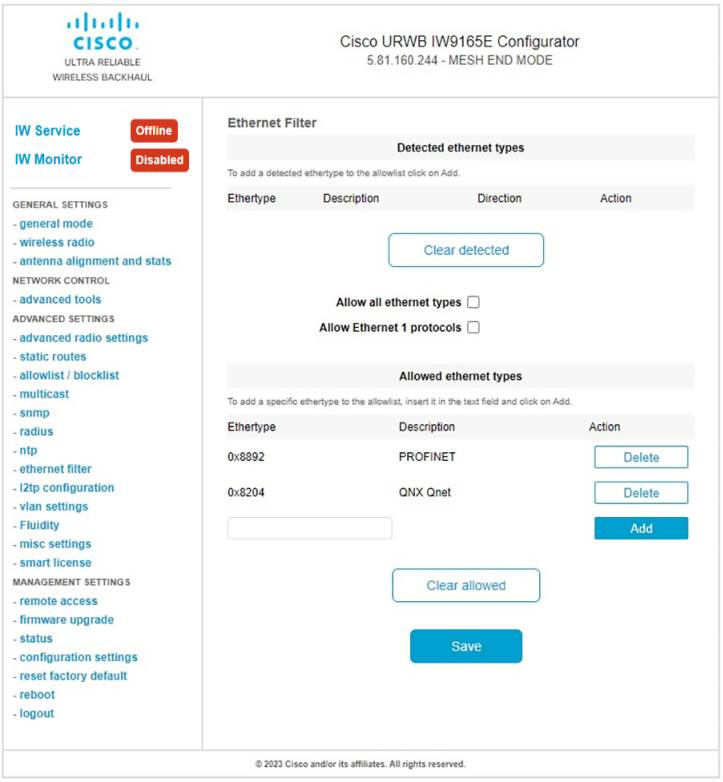
a) In the **ADVANCED SETTINGS**, click **ethernet filter**.

The **Ethernet Filter** window appears.

b) Click **Clear detected** in the **Detected ethernet types** section to remove the detected ethernet types from the allowlist.

All detected ethernet types are removed from the **Detected ethernet types** section.

The following image shows all detected ethernet types cleared from the allowlist:



c)

Step 5 Add or allow all ethernet types to the allowlist.

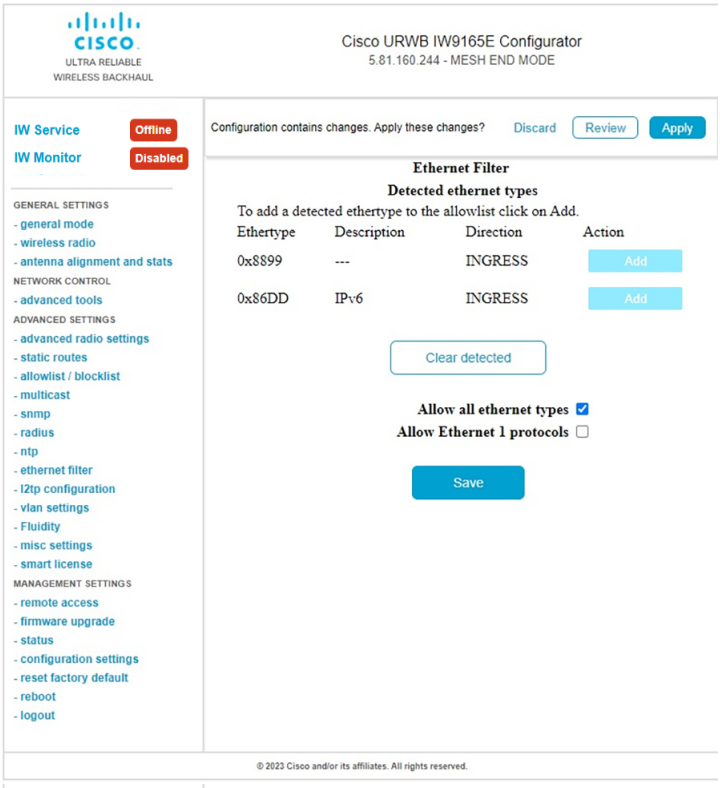
a) In the **ADVANCED SETTINGS**, click **ethernet filter**.

The **Ethernet Filter** window appears.

b) Check the **Allow all ethernet types** check box in the **Ethernet Filter** section to allow all ethernet type to allowlist.

c) Click **Save** and then **Apply** to change the configuration.

The following image shows adding of all ethernet types to the allowlist:



Step 6 Configure an Ethernet 1 protocol.

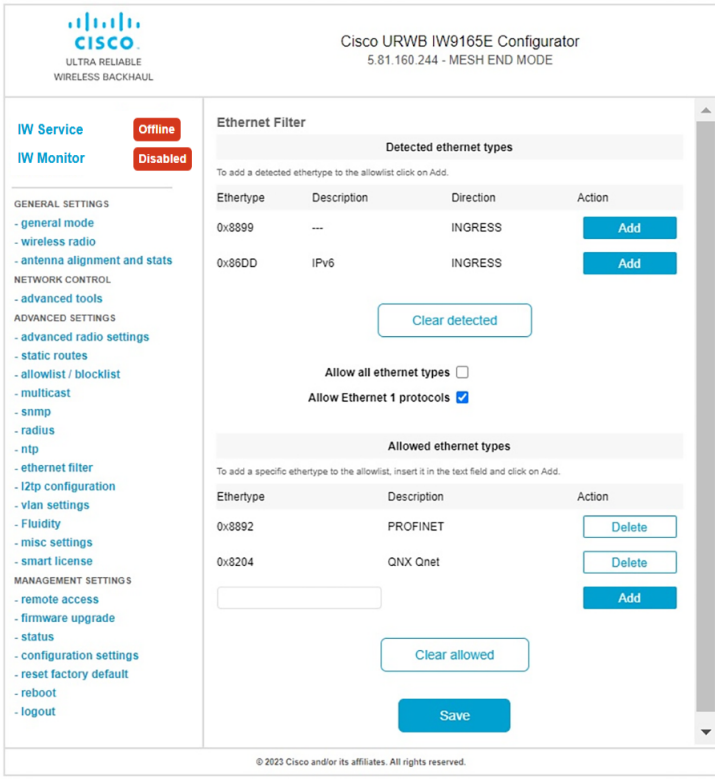
a) In the **ADVANCED SETTINGS**, click **ethernet filter**.

The **Ethernet Filter** window appears.

b) Check the **Allow Ethernet 1 protocols** check box in the **Ethernet Filter** section to enable ethernet 1 protocol mode.

c) Click **Save** and then **Apply** to change the configuration.

The following image shows the configuration of allowing an ethernet 1 protocol:


Cisco URWB IW9165E Configurator
5.81.160.244 - MESH END MODE
ULTRA RELIABLE
WIRELESS BACKHAUL
IW Service
Offline
IW Monitor
Disabled
GENERAL SETTINGS
- general mode
- wireless radio
- antenna alignment and stats
NETWORK CONTROL
- advanced tools
ADVANCED SETTINGS
- advanced radio settings
- static routes
- allowlist / blocklist
- multicast
- snmp
- radius
- ntp
- ethernet filter
- l2tp configuration
- vlan settings
- Fluidity
- misc settings
- smart license
MANAGEMENT SETTINGS
- remote access
- firmware upgrade
- status
- configuration settings
- reset factory default
- reboot
- logout
Ethernet Filter
Detected ethernet types
To add a detected ethertype to the allowlist click on Add.
Ethertype
Description
Direction
Action
0x8899

INGRESS
Add
0x86DD
IPv6
INGRESS
Add
Clear detected
Allow all ethernet types
Allow Ethernet 1 protocols
Allowed ethernet types
To add a specific ethertype to the allowlist, insert it in the text field and click on Add.
Ethertype
Description
Action
0x8892
PROFINET
Delete
0x8204
QNX Qnet
Delete
Add
Clear allowed
Save
© 2023 Cisco and/or its affiliates. All rights reserved.