

Enabling VLAN Tagging

You can configure the routing platform to receive and forward single-tag frames, dual-tag frames, or a mixture of single-tag and dual-tag frames. For more information, see the following sections:

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NOTE: If you configure VLAN tagging on Gigabit Ethernet IQ, IQ2 and IQ2-E interfaces on M320, M120, and T-series routing platforms, the JUNOS software creates an internal logical interface that reserves 50 Kbps of bandwidth from Gigabit Ethernet IQ interfaces and 2 Mbps of bandwidth from Gigabit Ethernet IQ2 and IQ2-E interfaces. As a result, the effective available bandwidth for these interface types is now 999.5 Mbps and 998 Mbps, respectively.

Configuring Single-Tag Framing

To configure the routing platform to receive and forward single-tag frames with 802.1Q VLAN tags, include the `vlan-tagging` statement at the `[edit interfaces interface-name]` hierarchy level:

```
[edit interfaces interface-name]
vlan-tagging;
```

Configuring Dual Tagging

To configure the routing platform to receive and forward dual-tag frames with 802.1Q VLAN tags, include the `stacked-vlan-tagging` statement at the `[edit interfaces interface-name]` hierarchy level:

```
[edit interfaces interface-name]
stacked-vlan-tagging;
```

Configuring Mixed Tagging

Mixed tagging is supported for Gigabit Ethernet interfaces on Gigabit Ethernet IQ2 and IQ2-E, and IQ or IQE PICs on M-series and T-series routing platforms, for all MX-series router Gigabit and 10-Gigabit Ethernet interfaces, and for aggregated Ethernet interfaces with member links in IQ2 and IQ2-E PICs or in MX-series DPCs. Mixed tagging lets you configure two logical interfaces on the same Ethernet port, one with single-tag framing and one with dual-tag framing.



NOTE: Mixed tagging is not supported on Fast Ethernet interfaces or on J-series Services Routers.

To configure mixed tagging, include the **flexible-vlan-tagging** statement at the [edit interfaces *ge-fpc/pic/port*] hierarchy level. You must also include the **vlan-tags** statement with **inner** and **outer** options or the **vlan-id** statement at the [edit interfaces *ge-fpc/pic/port* unit *logical-unit-number*] hierarchy level:

```
[edit interfaces ge-fpc/pic/port]
flexible-vlan-tagging;
unit logical-unit-number {
    vlan-id number;
    family family {
        address address;
    }
}
unit logical-unit-number {
    vlan-tags inner tpid.vlan-id outer tpid.vlan-id;
    family family {
        address address;
    }
}
```



NOTE: When you configure the physical interface MTU for mixed tagging, you must increase the MTU to 4 bytes more than the MTU value you would configure for a standard VLAN-tagged interface.

For example, if the MTU value is configured to be 1018 on a VLAN-tagged interface, then the MTU value on a flexible VLAN tagged interface must be 1022—4 bytes more. The additional 4 bytes accommodates the future addition of a stacked VLAN tag configuration on the same physical interface.

If the same physical interface MTU value is configured on both the VLAN and flexible VLAN-tag routers, the L2 circuit configuration does not come up and a MTU mismatch is logged. However, normal traffic flow is unaffected.

Configuring Mixed Tagging Support for Untagged Packets

For 1-, 4-, and 8-port Gigabit Ethernet IQ2 and IQ2-E PICs, for 1-port 10-Gigabit Ethernet IQ2 and IQ2-E PICs, for all MX-series router Gigabit Ethernet, Tri-Rate Ethernet copper, and 10-Gigabit Ethernet interfaces configured for 802.1Q flexible VLAN tagging, and for aggregated Ethernet interfaces on IQ2 and IQ2-E PICs or MX-series DPCs, you can configure mixed tagging support for untagged packets on a port. Untagged packets are accepted on the same mixed VLAN-tagged port. To accept untagged packets, include the **native-vlan-id** statement and the **flexible-vlan-tagging** statement at the [edit interfaces *interface-name*] hierarchy level:

```
[edit interfaces ge-fpc/pic/port]
```

```
flexible-vlan-tagging;  
native-vlan-id number;
```

The logical interface on which untagged packets are to be received must be configured with the same native VLAN ID as that configured on the physical interface. To configure the logical interface, include the `vlan-id` statement (matching the `native-vlan-id` statement on the physical interface) at the [edit interface *interface-name* unit *logical-unit-number*] hierarchy level.

Example: Configuring Mixed Tagging

The following example configures mixed tagging. Dual-tag and single-tag logical interfaces are under the same physical interface:

```
[edit interfaces ge-3/0/1]  
flexible-vlan-tagging;  
unit 0 {  
  vlan-id 232;  
  family inet {  
    address 10.66.1.2/30;  
  }  
}  
unit 1 {  
  vlan-tags outer 0x8100.222 inner 0x8100.221;  
  family inet {  
    address 10.66.1.2/30;  
  }  
}
```

For information about binding VLAN IDs to logical interfaces, see [Binding VLAN IDs to Logical Interfaces](#). For information about configuring dual VLAN tags using the `vlan-tag` statement, see [Stacking a VLAN Tag](#).

Example: Configuring Mixed Tagging to Support Untagged Packets

The following example configures untagged packets to be mapped to logical unit number 0:

```
[edit interfaces ge-0/2/0]  
flexible-vlan-tagging;  
native-vlan-id 232;  
unit 0 {  
  vlan-id 232;  
  family inet {  
    address 10.66.1.2/30;  
  }  
}  
unit 1 {  
  vlan-tags outer 0x8100.222 inner 0x8100.221;  
  family inet {  
    address 10.66.1.2/30;  
  }  
}
```

