

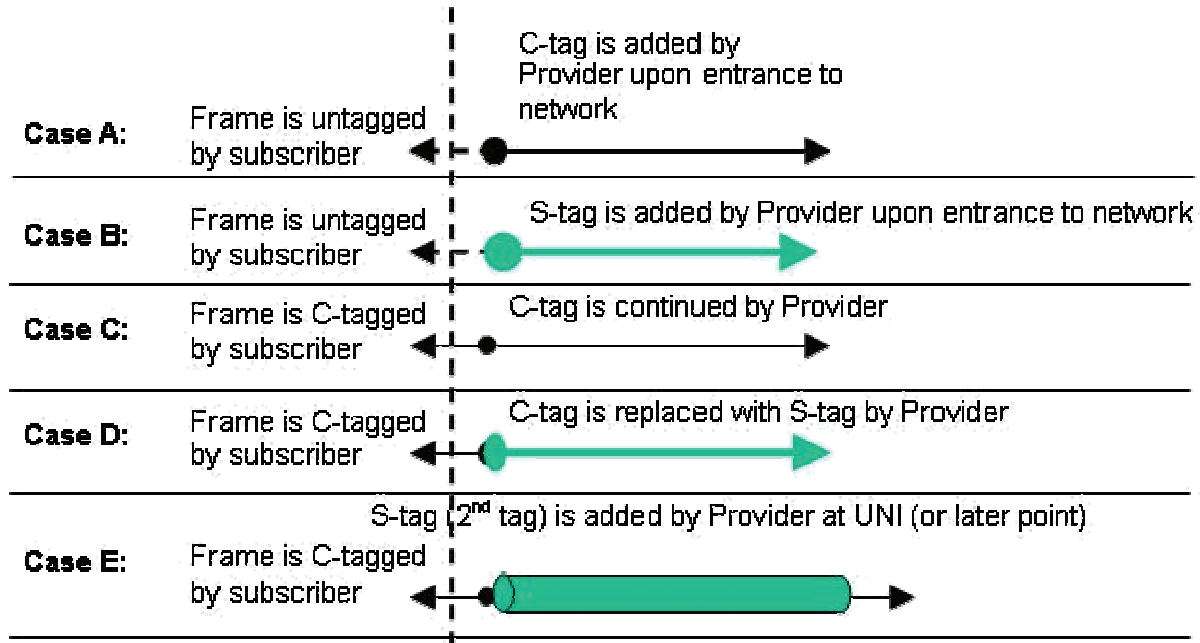
Configuring VLAN

App Note 302 – Configuring VLAN C-Tags and T-Tags

Configuring VLAN C-Tags and T-tags

Application note:

This application note describes how to properly configure customer and service provider tags (Ethertype x88A8) using the case studies B and E below simultaneously.



Note: There are (4) different VLAN properties for a port configured in a VLAN entry at the System Level in the VLAN database:

- 1) memEgressNomod – the frame maps to this VLAN egress unmodified out on this port (frame maps to a VLAN id when it ingresses a port, the VLAN id is mapped based on either the existing VID if it is already tagged or the port default VLAN ID if untagged)
- 2) memEgress Tag – the frame maps to this VLAN egress tagged out on this port
- 3) memEgress UnTag – the frame maps to this VLAN egress untagged out on this port
- 4) notMember – frame maps to this VLAN will not be forwarded out on this port



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The ports can be configured in one of the (3) Frame Tag Modes:

- 1) Customer – this is VLAN unaware mode. This means, if a VLAN entry has this port member property as memEgressTag or memEgressUntag.
- 2) Network (This enables Dot1.Q Mode) - Whenever tagging/untagging is required, all the participating ports must be configured as Network. This includes the port that is facing the untagged traffic as well.
- 3) Provider (Provider Ether types 8100,9100,X88A8) - this mode will ensure the frame egressing this port will always have S-Tag added, irrespective of the ingress frame was already C-Tagged(Case-E) or plain untagged(Case-B).

Step 1: Add the VLAN ID into the VLAN DB from the VLAN main Page.

Select REM-S323x, VLAN Tab, Enter VLAN ID =100,
Set Port 1 to memEgressNoMod.
Set Port 2 to memEgressNoMod.
Click Add

ION System Web Interface - Windows Internet Explorer

http://172.16.45.200/web.html

TRANSITION NETWORKS

System View Help

ION System

MAIN ADVANCED SNTP HTTPS SSH RADIUS ACL MAC **VLAN** SOAM

VLANs

VLAN ID	FDB ID	Priority Override	Priority	Member Tag Port 1	Member Tag Port 2
1	0	Disabled	0	memEgressNoMod	memEgressNoMod
100	0	Disabled	0	memEgressNoMod	memEgressNoMod

VLAN ID: 100 FDB ID: 0 Priority Override: Disabled Priority: 0

Member Tag Port 1: memEgressNoMod Member Tag Port 2: memEgressNoMod

Refresh Add Edit Delete Help

Getting all records finished Version: 0.4.6

Step 2: Configure the “Provider Port” under port level config. Go to REM S3230-1040, Port 2 Click on Advance

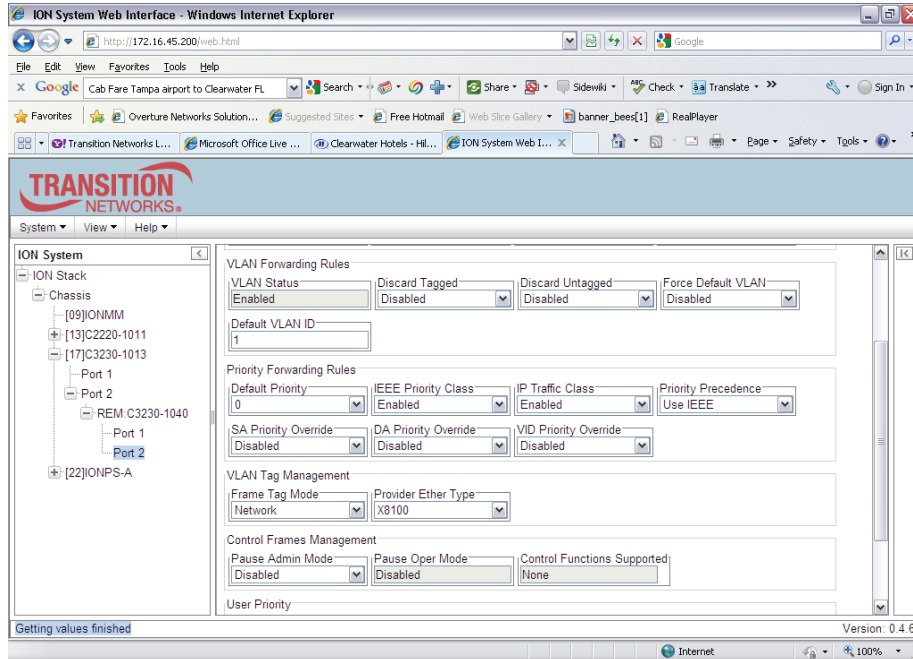


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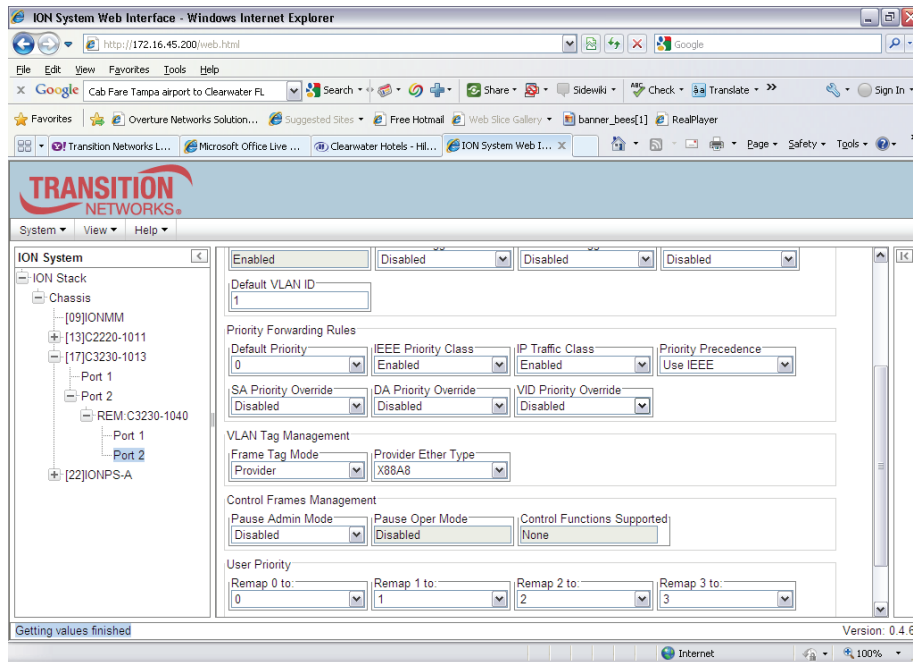
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Step 3: Set Frame Tag Mode to Provider, Set Ethertype as x88A8, Save



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Step 4: Configure the “Customer Port” under port level config: Go to REM S3230-1040, Port 1 Click on Advance

The screenshot displays the ION System Web Interface in a Windows Internet Explorer browser. The interface is titled "ION System Web Interface - Windows Internet Explorer" and shows the URL "http://172.16.45.200/web.html". The main content area is divided into a left-hand navigation tree and a right-hand configuration panel. The navigation tree shows the hierarchy: ION Stack > Chassis > [09]IONMM > [13]C2220-1011 > [17]C3230-1013 > Port 1. The configuration panel is currently set to the "ADVANCED" tab and shows the following settings:

- Bandwidth Allocation:** Rate Limiting Mode: Counts All Layer 1; Egress Rate Limit: Unlimited; Ingress Rate Limit: Unlimited.
- MAC Security:** SA Lock: Disabled; SA Lock Action: Discard and Notify; Filter Unknown Unicast: Disabled; Filter Unknown Multicast: Disabled.
- VLAN Forwarding Rules:** VLAN Status: Enabled; Discard Tagged: Disabled; Discard Untagged: Disabled; Force Default VLAN: Disabled. Default VLAN ID: 1.
- Priority Forwarding Rules:** Default Priority: 0; IEEE Priority Class: Enabled; IP Traffic Class: Disabled; Priority Precedence: Use IEEE. SA Priority Override: Disabled; DA Priority Override: Disabled; VID Priority Override: Disabled.

The status bar at the bottom indicates "Getting values finished" and "Version: 0.4.6".

Step 5: Verify VLAN database for correct set-up:
Select REM-C323x, VLAN Tab



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The screenshot displays the ION System Web Interface within a Windows Internet Explorer browser window. The browser's address bar shows the URL `http://172.16.45.200/web.html`. The interface features a navigation menu with tabs for MAIN, ADVANCED, SNTP, HTTPS, SSH, RADIUS, ACL, MAC, VLAN (selected), and SOAM. On the left, a tree view shows the network hierarchy: ION Stack -> Chassis -> [09]IONMM -> [13]C2220-1011 -> [17]C3230-1013 -> Port 2 -> REM: C3230-1040. The main content area is titled 'VLANs' and contains a table with the following data:

VLAN ID	FDB ID	Priority Override	Priority	Member Tag Port 1	Member Tag Port 2
1	0	Disabled	0	memEgressNoMod	memEgressNoMod
100	0	Disabled	0	memEgressNoMod	memEgressNoMod

Below the table, there are input fields for configuring a new VLAN: VLAN ID (empty), FDB ID (0), Priority Override (Disabled), and Priority (0). There are also dropdown menus for Member Tag Port 1 and Member Tag Port 2, both currently set to 'memEgressNoMod'. At the bottom of the configuration area are buttons for Refresh, Add, Edit, Delete, and Help. The status bar at the bottom of the browser window indicates 'Getting all records finished' and 'Version: 0.4.6'.



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