

Appendix C: VLAN Description and Example

Packets received by the switch will be treated in the following way with regard to the Switch's VLAN settings:

- 1) When an untagged packet enters a port, it will be automatically tagged with the port's default VLAN ID tag number. Each port has a default VLAN ID setting which is user configurable (the default setting is 1). The default VLAN ID setting for each port can be changed in that port's respective Port Configuration page.
- 2) When a tagged packet enters a port, the tag for that packet will be unaffected by the default VLAN ID Setting.
- 3) The packet will now proceed to the VLAN specified by it's VLAN ID tag number.
- 4) If the port in which the packet entered does not have membership with the VLAN specified by the packets VLAN ID tag, the packet will be dropped. Port VLAN membership settings are changed in the VLAN Membership page.
- 5) If the port has membership to the VLAN specified by the packet's VLAN ID, the packet will be able to be sent to other ports with the same VLAN ID membership.
- 6) Packets leaving the switch will be either tagged or untagged depending on the setting specified for that port's membership properties.
- 7) A 'U' for a given port and VLAN will mean that packets leaving the switch from that port and VLAN will be Untagged. Inversely, a 'T' for a given port and VLAN will mean that packets leaving the switch from that port and VLAN will be tagged with the respective VLAN ID in which it participated in.

Example:

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Telnet - 192.168.75.4
Connect Edit Terminal Help

Welcome to the Fast Ethernet World
System Manager/VLAN/VLAN Membership

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The specific ports above have the following Default VLAN ID settings (The Default VLAN ID settings for each port are configured in their respective Port Configuration page.):

Port 01: 2	Port 05: 5	Port 09: 10	Port 13: 10
Port 02: 1	Port 06: 1	Port 10: 10	Port 14: 15
Port 03: 1	Port 07: 1	Port 11: 10	Port 15: 1
Port 04: 1	Port 08: 1	Port 12: 10	Port 16: 1

The VLANs have the following IDs (The VLAN ID settings can be configured in the VLAN Administration page.):

default: 1
internal: 5
web: 10
collocat: 15

- 1) If an untagged packet enters Port 4, the switch will tag it with a VLAN tag value of 1. Since Port 4 does not have membership with VLAN ID 1 (named "default"), the packet will be dropped.
- 2) If a tagged packet with a VLAN tag value 5 enters Port 4, the packet will have access to Ports 5 and 1. If the packet leaves Port 5 and/or 1, it will be stripped of its tag becoming an untagged packet as it leaves the switch.
- 3) If an untagged packet enters Port 1, the switch will tag it with a VLAN tag value of 2. It will then be dropped since Port 1 has no membership with VLAN ID 2.
- 4) If a tagged packet with a VLAN tag value 10 enters Port 2, it will have access to Ports: 1, 9, 10, 11, and 12. If the packets leave Ports 1, 9, or 10, they will be tagged with a VLAN ID value of 10. If the packet leaves Ports 11 or 12, it will leave as an untagged packet.
- 5) If a tagged packet with a VLAN tag value 1 enters Port 9, it will be dropped since Port 9 does not have membership with VLAN ID 1.