Apex Plus Recommended Software and Configurations

Summary

The recommended software for ApexPlus radios depends on the Hardware ID. The hardware ID is located on the label on the outside of the radio or can be viewed from the command line using the *version* command.

<u>**HWID 1 both ends of link**</u>

Version 3.1.5 recommended. This version solves several firmware bugs and improves radio performance dramatically. In Band Management (IBM) inside a VLAN or Out of Band Management (OBM) may be used for radio management.

1) Traffic Slowdown/Stop problem that occurs when the Ethertype 0x888e packets traverse the link resolved.
2) Internal switch buffer size increased to provide better performance in the presence of bursty traffic or heavily loaded networks running near capacity.
3) Flow control improved between the internal switch and the modem to improve performance during ACM shifting for all packet sizes. The Egress margin should be set to 10 for best performance.

   Setup

1) Load V3.1.5 software
2) Smart Mode must be turned off using the *smart_mode off* command.
3) Set egress margin to 10 using the *egress_margin 10* command
4) Save config using the *config save* command
5) Reboot

<u>**HWID 2 both ends of link**</u>

Version 3.2.0 recommended. This version solves several firmware bugs and improves radio performance dramatically. IBM inside a VLAN, IBM untagged or OBM may be used for radio management.

1) Traffic Slowdown/ Stop problem that occurs when the Ethertype 0x888e packets traverse the link resolved.
2) Internal switch buffer size increased to provide better performance in the presence of bursty traffic or heavily loaded networks running near capacity.
3) Flow control improved between the internal switch and the modem to improve performance during ACM shifting for all packet sizes. The Egress margin should be set to 10 for best performance.
4) Learning enabled on switch
5) Traffic VLANs assigned to ports allows port mapping from copper to fiber.

Setup

1) Load V3.2.0 software
2) The VLANs used must be assigned to the connected Ethernet port using the *vlan_add <port#> VLANID* command.
3) The configuration must be saved using the *config save* command.
4) Reboot

HWID 1 plus HWID 2 Combination Link

When combining HWID1 and HWID2, the following conditions are required for operation. Operation is limited to tagged traffic only (no untagged) on GE1 and management via the OBM port.

Setup

1) HWID 1 unit must be loaded with v 3.1.5, HWID 2 unit must be loaded with v 3.2.0
2) IBM must be turned off using the *ibm enable off* command – Only OBM may be used for management.
3) Only the GE1 RJ45 traffic port may be used. The SFP port must be disabled using the *port eth 2 enable off* command.
4) Smart Mode must be turned off using the *smart_mode off* command.
5) On the HWID2 radio, the VLANs used most be assigned to the connected Ethernet port using the *vlan_add <port#> VLANID* command.
6) The configuration must be saved using the *config save* command.
7) The radios must be rebooted.

Limitations for ApexPlus

LACP control packets do not pass over the link. If 2+0 is being used, it is recommended to use static channel bonding on the connected switch. For Cisco switches, this is referred to as "static port channels". The Channel mode is "On" (not active/passive).