Hewlett Packard Enterprise   HPE Support Center

HP 5412-96G zl Switch - How to Configure a Voice Vlan on a ProCurve Switch

Information

How is a voice Vlan configured on a HP ProCurve Switch?

Details

Create voice Vlan such as Vlan 3 and configure the ports that will be connected to phones as **"tagged"** in Vlan 3. Add the voice parameter to make it a voice Vlan.

```
ProCurve Switch# conf t
ProCurve Switch(config)# Vlan 3
ProCurve Switch(Vlan-3)# voice
ProCurve Switch(Vlan-3)# name "Voice_Vlan"     (add a name to the voice Vlan if you want)
ProCurve Switch(Vlan-3)#
```

If the PC and phone are on the same port, the port is tagged in the voice Vlan and the port is untagged in the data Vlan. (By default all ports are untagged in Vlan 1 on an HP switch)

The HP edge switches would normally be configured with the PC Vlan **"untagged"** and the voice Vlan **"tagged"**. (Tagging allows for 802.1Q Tag for phones)

```
ProCurve Switch# config t
ProCurve Switch(config)# Vlan 3
ProCurve Switch(Vlan-3)# voice
ProCurve Switch(Vlan-3)# name "Voice_Vlan"
ProCurve Switch(Vlan-3)# tagged A1-A12  (ports dedicated for Phones)
```

For a layer 3 switch that is doing the routing, enable ip routing:

```
ProCurve Switch# config t
ProCurve Switch(config)#ip routing
```

Assign an ip address to voice Vlan 3.

```
ProCurve Switch# conf t
ProCurve Switch(config)# Vlan 3
ProCurve Switch(Vlan-3)# voice
ProCurve Switch(Vlan-3)# name "Voice_Vlan"
ProCurve Switch(Vlan-3)# tagged A1-A12
ProCurve Switch(Vlan-3)# ip address 192.168.3.1 255.255.255.0
```

Use the CLI in the HP ProCurve switch and issue the `ip helper-address` command on the Voice Vlan in the switch.

```
ProCurve Switch# conf t
ProCurve Switch(config)# Vlan 3
ProCurve Switch(Vlan-3)# voice
ProCurve Switch(Vlan-3)# name "Voice_Vlan"
ProCurve Switch(Vlan-3)# tagged A1-A12
ProCurve Switch(Vlan-3)# ip address 192.168.3.1 255.255.255.0
ProCurve Switch(Vlan-3)# ip helper-address 192.168.2.125 (ip address of DHCP server for IP Phones on the data network)
```

Layer 2 switch using external router:

The HP L2 switch needs each Vlan added to the interface the router is linked to. Make sure Vlans are **"tagged"** on that interface except for whichever Vlan is **"native"** on the router interface that Vlan needs to be **"untagged"** on the HP switch.

Voice Vlan troubleshooting:

One essential step if users are not entirely sure what is going on is to configure one port on the HP switch to be **"untagged"** in the voice Vlan. Place a laptop on this port to test voice Vlan DHCP and basic connectivity in the voice Vlan.

Configuration example:

Set up the Vlans on L3 switch, one for voice and one for data. Give them the .1 address for that Vlan. Make sure whichever ports on L3 switch that will link to L2 switches are set as tagged for the voice Vlan, and untagged for data. Then set up the Vlan on L2 switches and give them the .2 addresses. As an example,

L3 switch configuration example:

```
ip routing
Vlan 2
name "Data_Vlan"
untagged 48      (port is linked to your L2 switch for that Vlan)
ip address 192.168.2.1 255.255.255.0
```

```
Vlan 3
name "Voice_Vlan"
qos dscp 101110
ip address 192.168.3.1 255.255.255.0
tagged 48        (port is linked to your L2 switch for that Vlan)
voice
ip helper-address 192.168.2.125
```

And then user would link port 48 to L2 switch port 26, and set up the config as follows:

L2 switch configuration example:

```
no lacp 25-26 (these are the two uplink ports on a 24 port ProCurve switch)
Vlan 2
name "Data_Vlan"
ip address 192.168.2.2 255.255.255.0
untagged 1-24
tagged 25-26

Vlan 3
name "Voice_Vlan"
ip address 192.168.3.2 255.255.255.0
tagged 1-26
primary-Vlan 1
ip default-gateway 192.168.1.1
ip helper-address 192.168.2.125
```

That should do it. User should be able to route between the two Vlan and split the data and voice traffic.