

Application Note

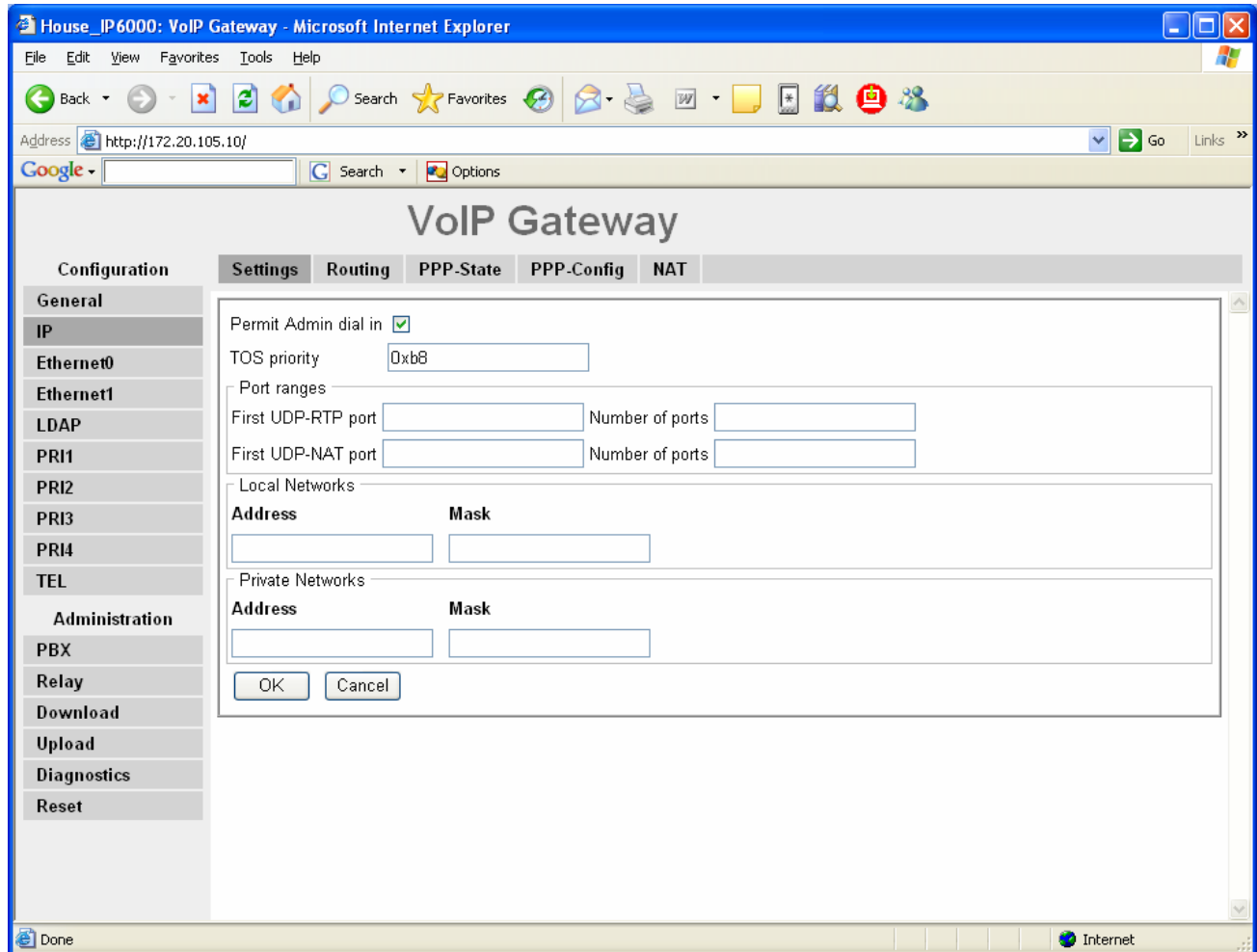
Product: FreeNET VoIP Gateway
Purpose: Cisco Catalyst Switch parameters for proper QoS
Date: 03/08/2007

Introduction

This document will outline the necessary parameters needed to integrate and properly configure Quality of Service (QoS) for an Ascom VoIP Gateway with a Cisco Catalyst switch.

Ascom VoIP Gateway (IGWP)

In order to ensure the use of expedited forwarding queue for VOIP traffic between the IGWP and Ascom VoWiFi handsets, the Type of Service (TOS) setting in the IGWP needs to be set to "0xb8".



Application Note

Product: FreeNET VoIP Gateway
Purpose: Cisco Catalyst Switch parameters for proper QoS
Date: 03/08/2007

Cisco Switchport Setup

Ascoms recommends configuring the switchport as a trunk port when connecting to the Ascom IGWP.

Note: One way speech has been experienced, on some Cisco switches, when the Cisco switchport that the Ascom IGWP was connected to was configured as an access port.

```
Switch# conf t
Switch(config)# int fa1/0/13 - (select your interface port , the example is used port 13)
Switch(config-if)# description Link to Ascom IGWP
Switch(config-if)# switchport trunk encapsulation dot1q
Switch(config-if)# switchport mode trunk
Switch(config-if)# spanning-tree portfast trunk
Switch(config-if)# spanning-tree bpduguard enable
```

If the Catalyst switch is running Internetworking Operating System (IOS) release 12.2(25)SE or higher, and the switch is configured to use QoS with the **mls qos** command, then you will need to disable Differentiated Services Code Point (DSCP) rewrites in order to keep the VOIP DSCP values intact. If you do not disable DSCP rewrites then the Cisco switch will rewrite the DSCP values to 0 and the VOIP traffic will become best effort traffic and will not be able to use the expedited forwarding queue. See Note (1)

```
Switch(config)# no mls qos rewrite ip dscp
```

*If your switch is not using **QOS** with the **mls qos** command then DSCP values will remain intact and you will not have make the above modification to the switch. See Note (1)*

(1) Catalyst 3750 Switch Software Configuration Guide
78-16180-03
Chapter 32 Configuring QoS
Configuring Standard QoS

In Cisco IOS Release 12.2(25)SE or later, the switch supports the DSCP transparency feature. It affects only the DSCP field of a packet at the egress. By default, DSCP transparency is disabled. The switch modifies the DSCP field in an incoming packet, and the DSCP field in the outgoing packet is based on the quality of service (QoS) configuration, including the port trust setting, policing and marking, and the DSCP-to-DSCP mutation map.

*If DSCP transparency is enabled by using the **no mls qos rewrite ip dscp** command, the switch does not modify the DSCP field in the incoming packet, and the DSCP field in the outgoing packet is the same as that in the incoming packet.*

Application Note

ascom
Ascom® Wireless Solutions Inc.

Product: FreeNET VoIP Gateway

Purpose: Cisco Catalyst Switch parameters for proper QoS

Date: 03/08/2007

Additional Information

If you have any questions about this bulletin, please contact Ascom Technical Services at 1-877-712-7266 option 3.