IAC4000 Port-Location Mapping
with the NP2624M VLAN Switch

Introduction

The following paper provides instructions on how to configure NetComm's IAC4000 Internet Access Controller with NetComm's NP2624M VLAN Switch. It specifically focuses on the IAC4000's *Port-Location Mapping* feature which requires IEEE 802.1Q VLAN tagging in order to work.

This document is being created at a time when the following versions of firmware were in production:

- IAC4000: version 1.09.02
- NP2624M: version 2.02.07

IAC4000 Port-Location Mapping (IEEE 802.1Q VLAN Tagging)

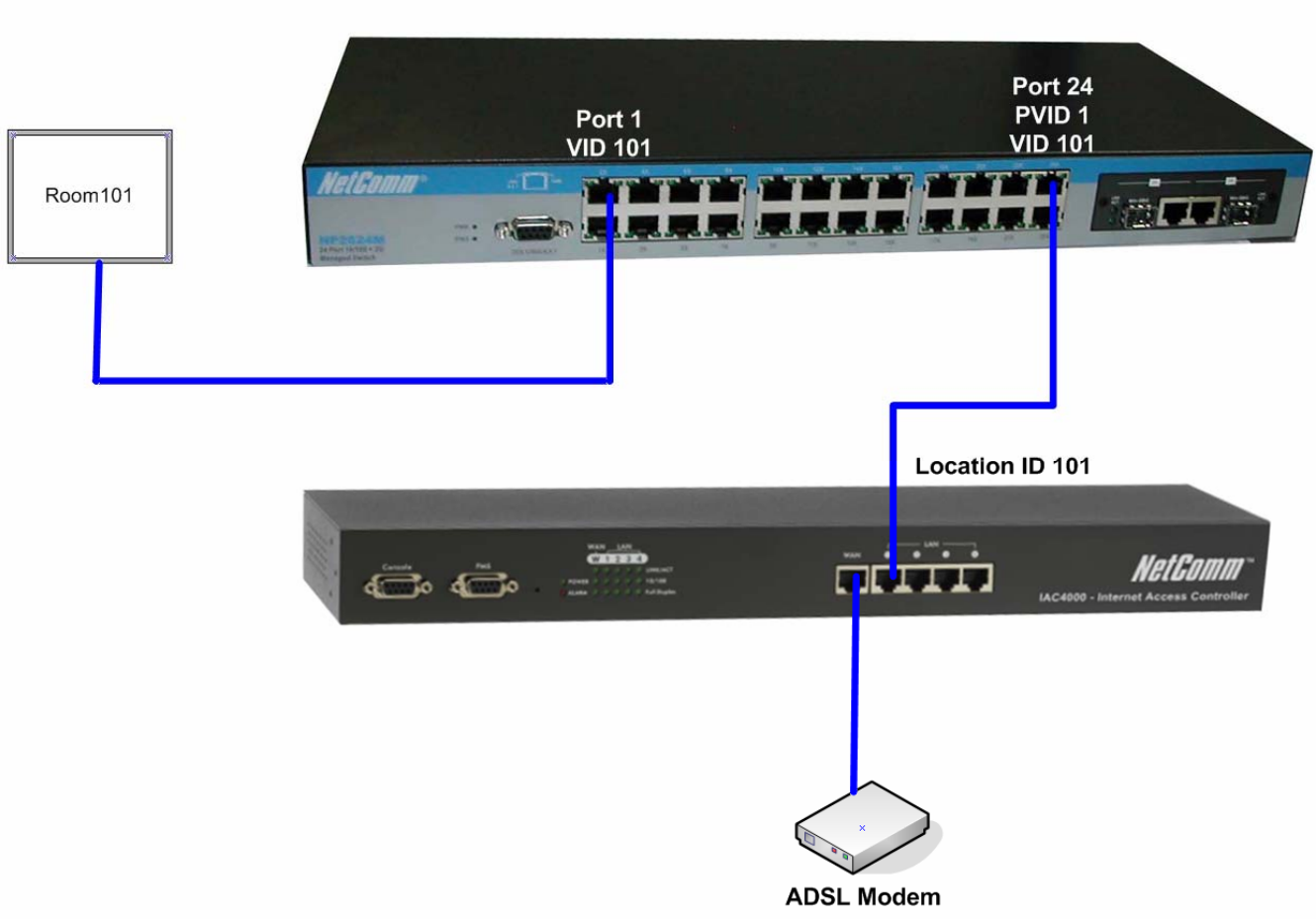
The IAC4000 uses Port-Location Mapping (henceforth PLM) for *Scenario A* authentication only. Scenarios B and C are not covered in this paper. PLM insists that the network into which the IAC4000 is installed supports IEEE 802.1Q VLAN tagging for packets traveling between the IAC4000 and the network.

As the name suggests, PLM assigns a unique VLAN ID (VID) to each room or location in order to bill the room using a Property Management System (PMS, e.g. Micros Fidelio) installed at the premises. Note that in order to make use of PLM the site will need to have both IEEE 802.1Q VLAN tagging capability and a PMS system. Please refer to the IAC4000 User Guide for supported PMSs.

The IAC4000's PLM feature will *accept* 802.1Q VLAN *tagged* packets and send back *untagged* packets to the device connected to a particular port. It is therefore important to confirm with the manufacturer of the 802.1Q VLAN device used on the network that it supports the ability to tag packets being sent to the IAC4000 and accept untagged packets being sent from the IAC4000 to the device.

Logical Network Diagram

The following diagram represents the logical setup of the network for room 101.



Configuring the NP2624M VLAN Switch for 802.1Q VLAN Tagging

The NP2624M can be configured using a console (e.g. Hyperterminal) or through a web browser (e.g. Internet Explorer 5 or above). In this example the switch will be configured for room 101 in a hotel. Note that the NP2624M cannot be configured using a web browser if the switch is connected to another router. Make sure you disconnect any routers connected to the switch before attempting web browser configuration.

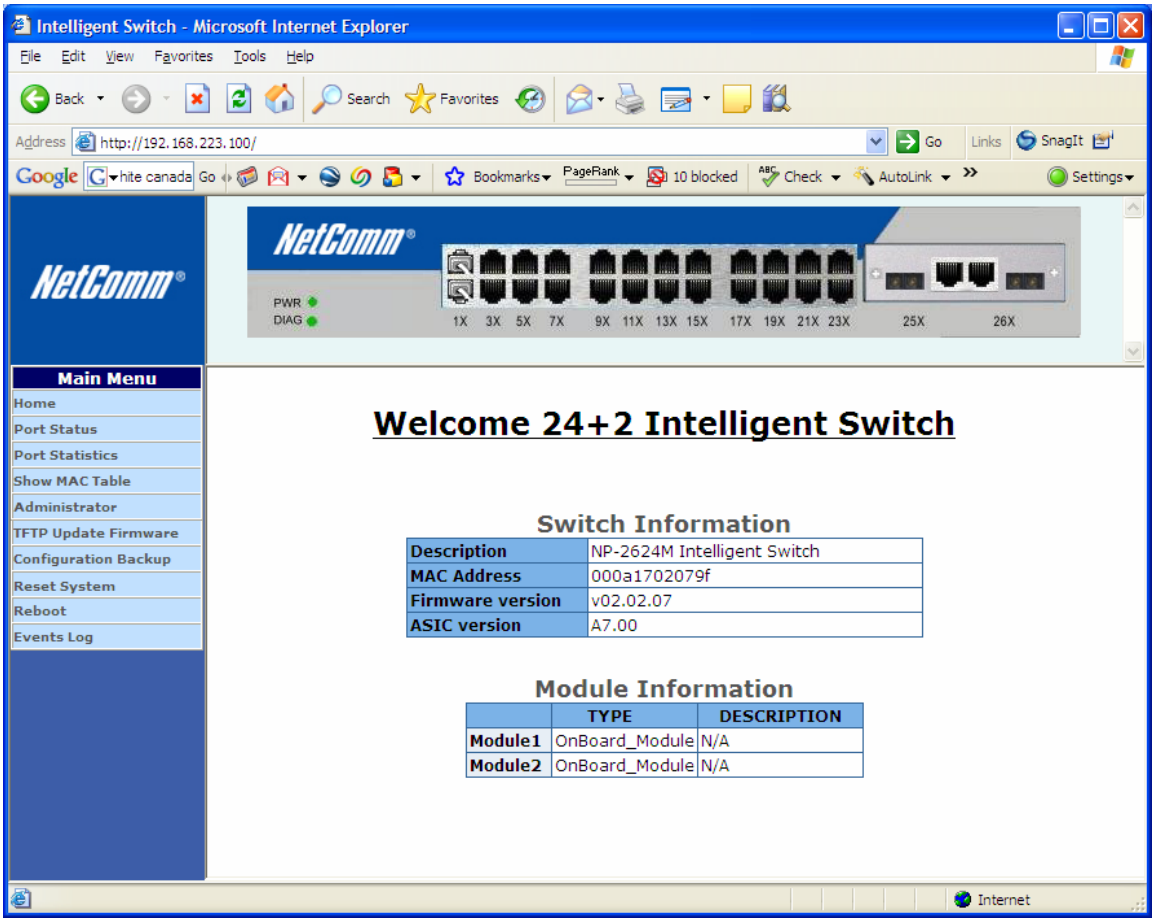
The default settings for the NP2624M are:

- IP address: 192.168.223.100
- Mask: 255.255.255.0
- Gateway: 192.168.223.254

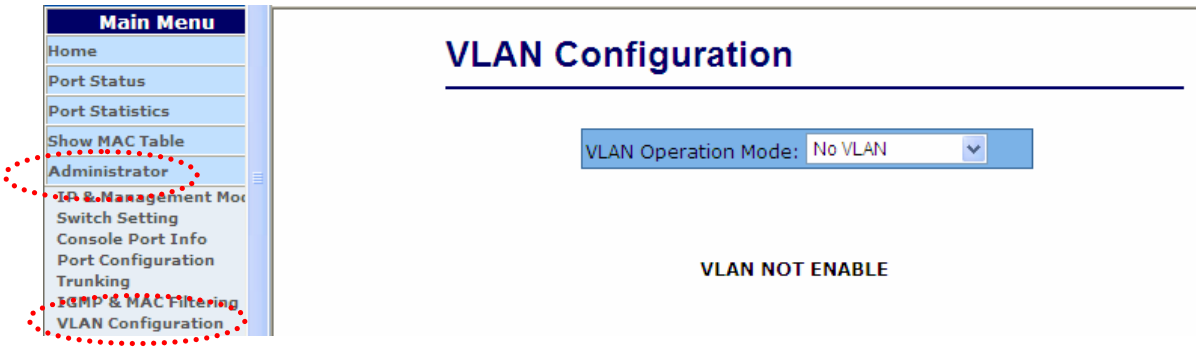
Therefore, assign the PC connected to the NP2624M with the following network settings:

- IP address: 192.168.223.101 (anything except 192.168.223.100)
- Mask: 255.255.255.0

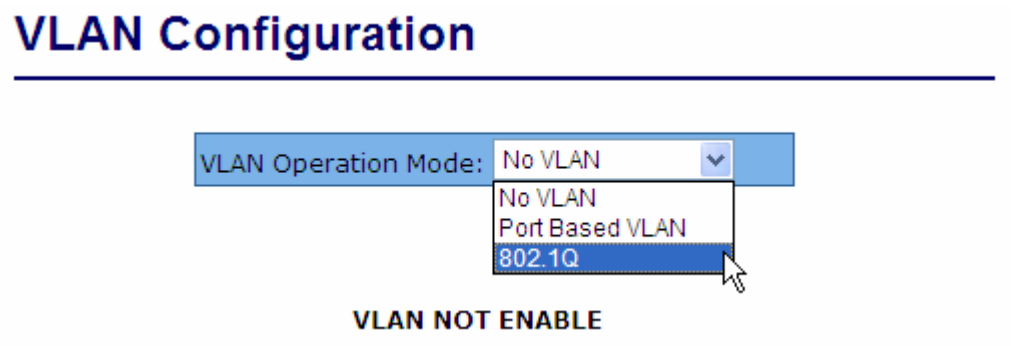
Login to the NP2624M using a web browser (username / password: *admin* / *admin*):



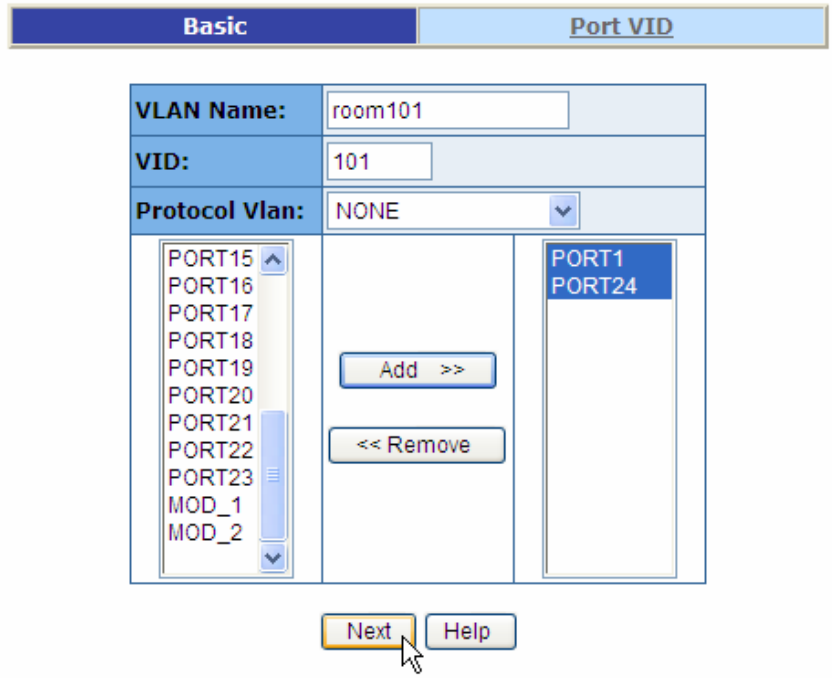
Click *Administrator* → *VLAN Configuration*:



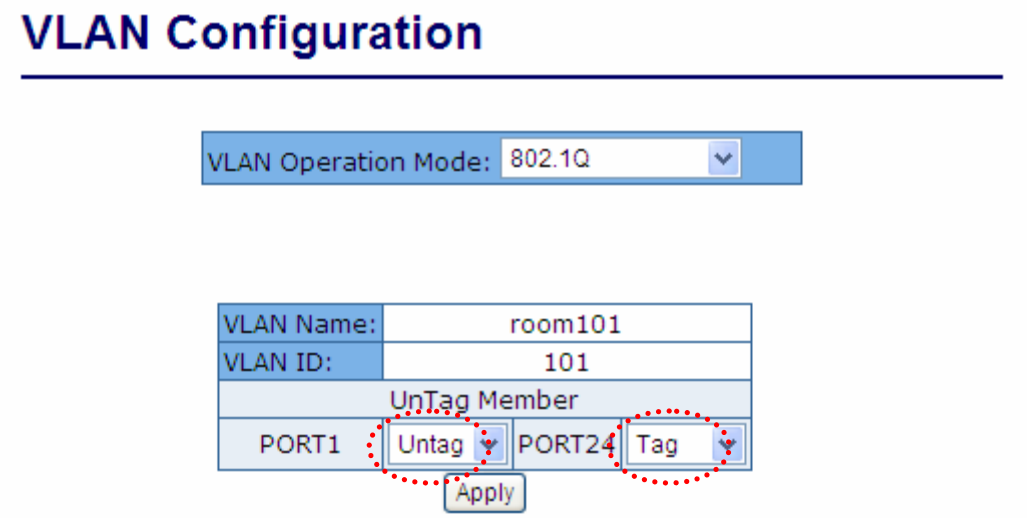
Select *802.1Q* from the *VLAN Operation Mode* dropdown:



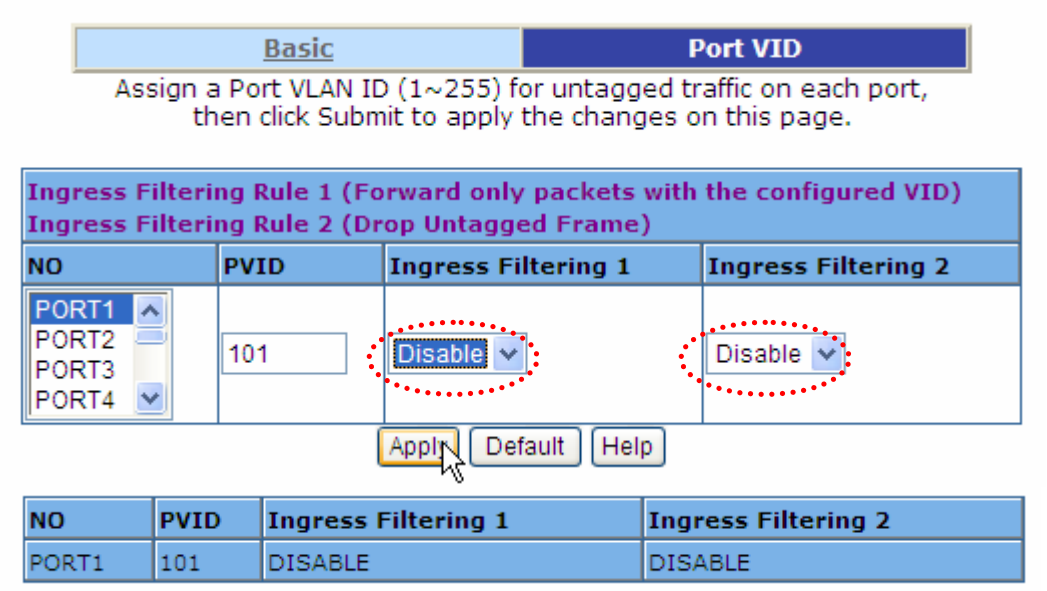
Enter the *VLAN Name* as *room101*, the *VLAN ID (VID)* as *101* (this has to be identical to the *Location ID* and *Port ID* in the IAC4000). There is no need to select a *Protocol VLAN*. Add PORT1 and PORT24 to this VLAN and click *Next*:



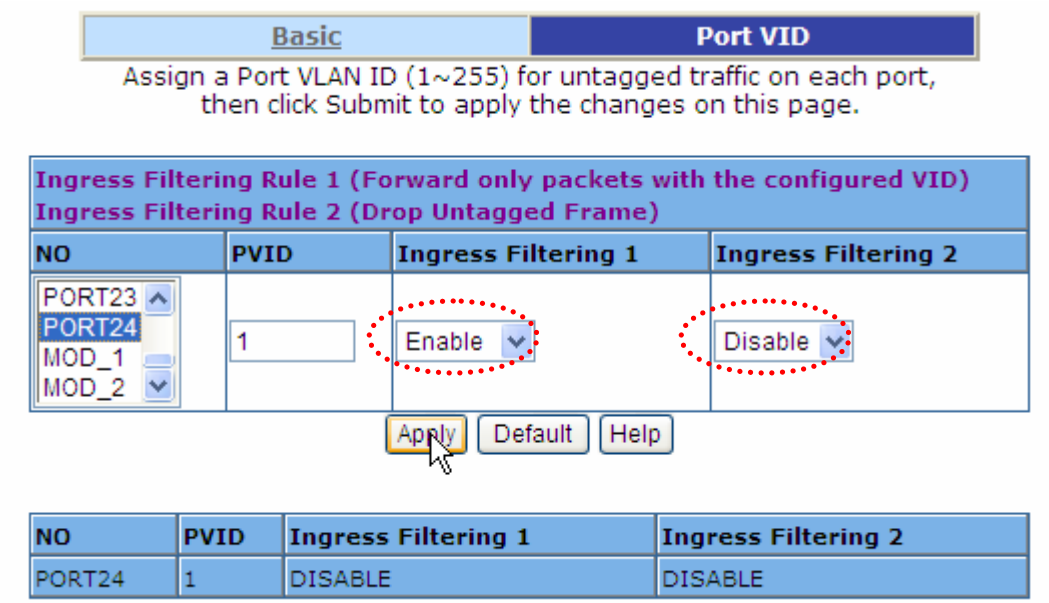
Packets traveling into PORT1 are *untagged* and packets traveling into PORT24 need to be *tagged* before they are sent to the IAC4000. Click *Apply* once done:



Click on *Port VID* and select *PORT1*. Change the *PVID* to 101 and disable *Ingress Filtering 1* and *Ingress Filtering 2*. Click *Apply*:



Select *PORT24*. Disable *Ingress Filtering 1* and *Ingress Filtering 2*. Click *Apply*:



Configure other ports and reboot the NP2624M for settings to take effect. Then connect Port24 of the NP2624M to one of the LAN ports on the IAC4000.

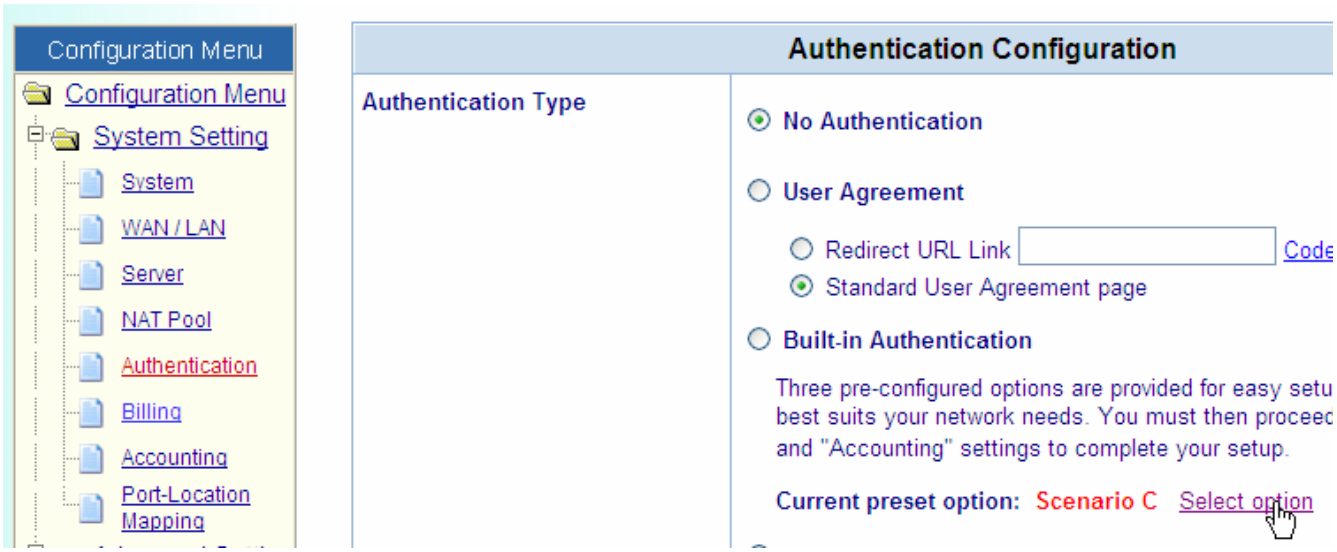
Change PC's network settings to get IP address details automatically from IAC4000 (DHCP client) and connect to IAC4000.

Configuring the IAC4000 for Port-Location Mapping (Scenario A)

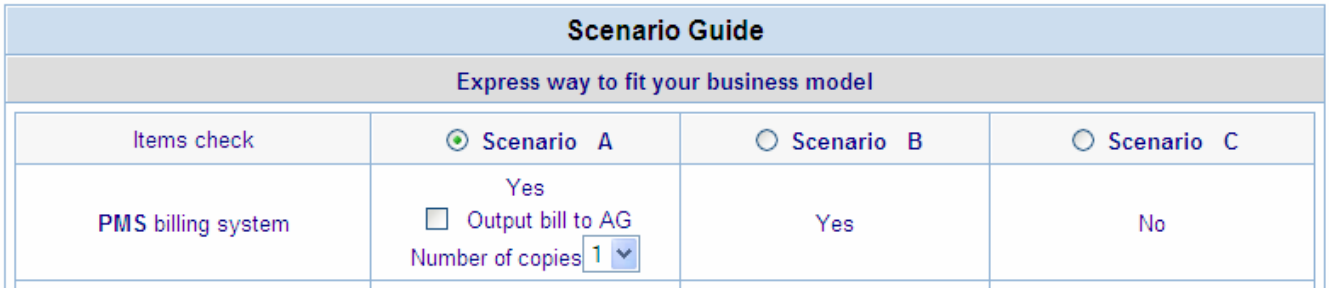
1. Setup Scenario A for Authentication

Login to the interface of the IAC4000 using a web browser (e.g. Internet Explorer 5 or above) – username / password = admin / admin:

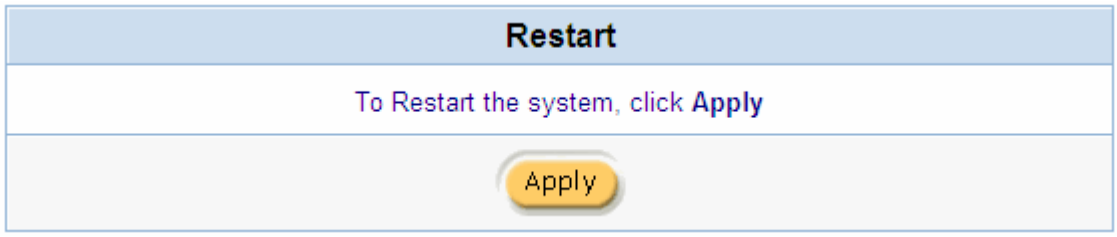
Navigate to *System Setting* → *Authentication* and click *Select Option*:



Select *Scenario A* and click *Apply*:

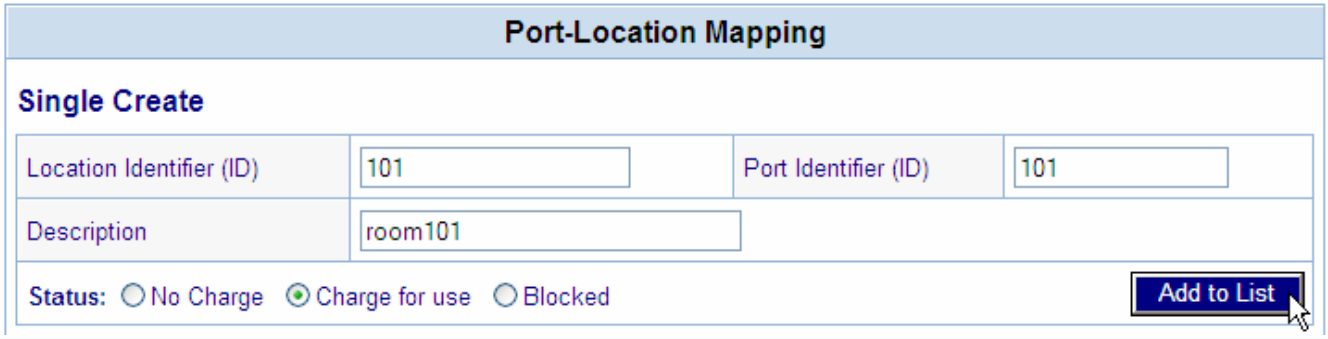


Click *Apply* again on the *Authentication* webpage and restart the IAC4000 for the settings to take effect:



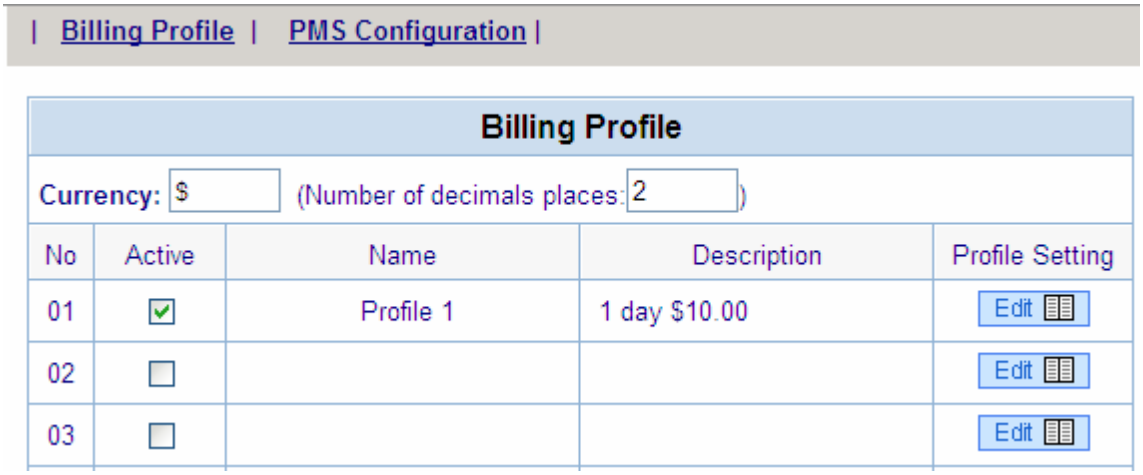
2. Setup Port-Location Mapping for Room 101

Navigate to *System Setting* → *Port-Location Mapping*. Enter the *Location Identifier (ID)*, *Port Identifier (ID)* and *Description*. The Location ID and Port ID need to be the same as the VLAN ID setup in the NP2624M VLAN switch and click *Add to List*:



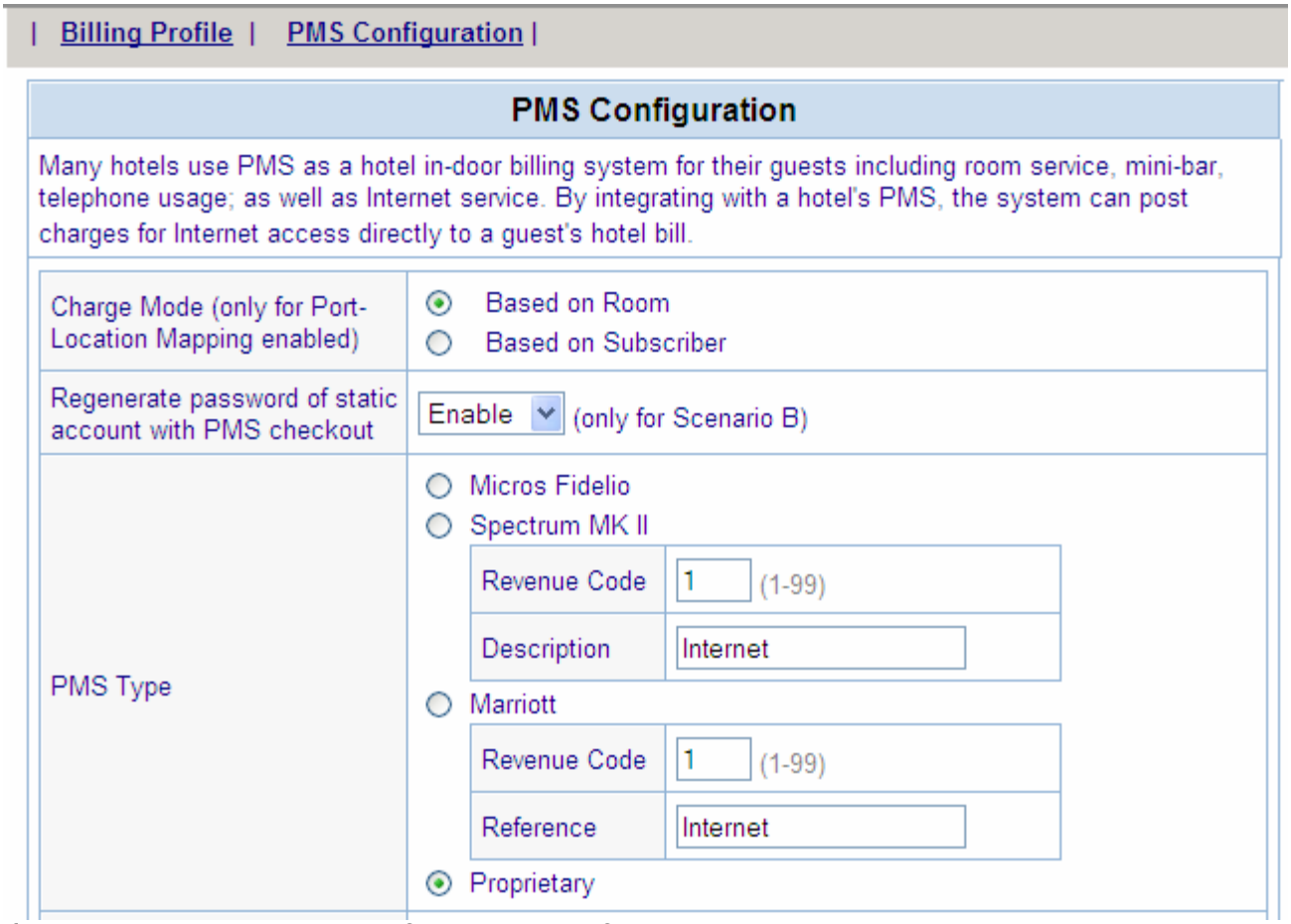
3. Setup Billing profiles for users to select Internet usage

Navigate to *System Setting* → *Billing* and setup the billing profiles:



4. Select the Property Management System (PMS)

Click on *PMS Configuration* under *System Settings* → *Billing* and select the PMS and click *Apply*:



If the site does not have a listed PMS (Micros Fidelio, Spectrum MK II or Marriott, then select Proprietary and use Net Retriever software to allow the IAC4000 to communicate with the PMS.[1]

Click *Apply* to restart the system.

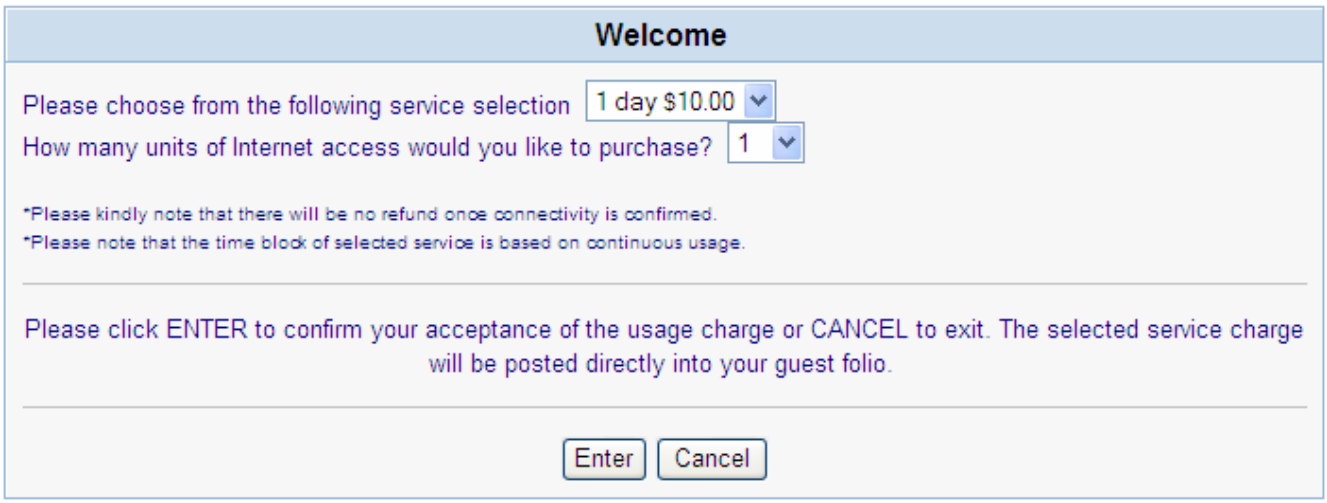
[1] Net Retriever is designed by Votech in Surfers Paradise, QLD – http://www.votech.com.au, info@votech.com.au

Port-Location Mapping in action

Now that PLM on the IAC4000 and VLAN tagging on the NP2624M have been setup, it is time to test it! Recall in the example that ports 1 and 24 on the NP2624M have a VLAN ID of 101.

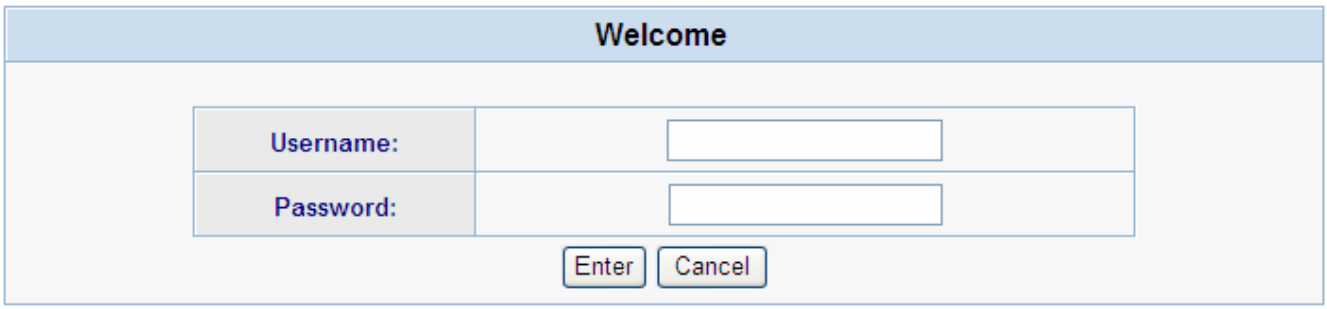
Connect the PC to port 1 of the NP2624M and renew the PC's IP address. Connect port 24 of the NP2624M switch to any available LAN port on the IAC4000. Make sure that the IAC4000 is connected to the Internet through its WAN port.

Attempt to access the Internet by browsing a website. If PLM has been setup correctly, the following page will be presented:



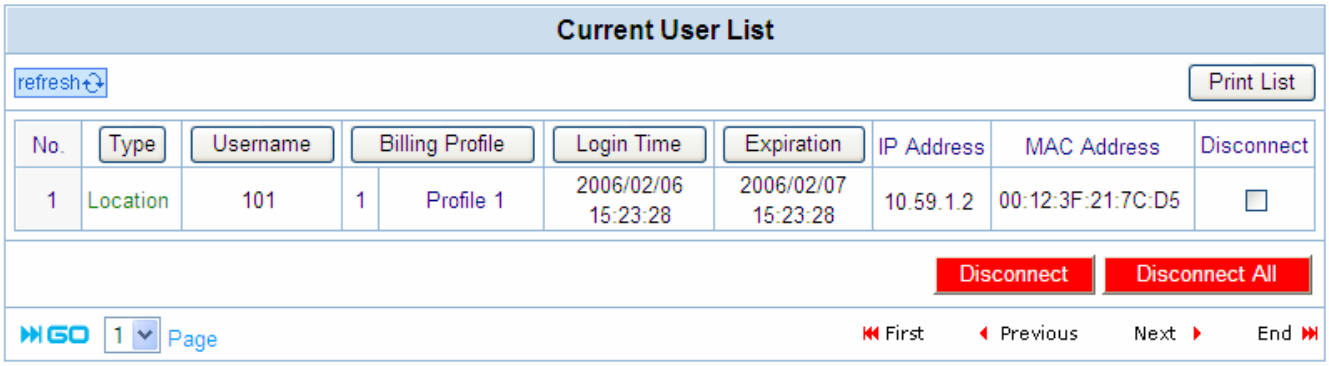
Click the *Enter* button to accept the charge. This information will be sent to the PMS system via the console port on t he rear of the IAC4000.

Note: if the following page is presented instead of the login page above, then the setup is incorrect. Please review the above steps and try again or call NetComm support.



With the login page above it is possible to create Static accounts to issue to guests in locations that don't support PLM (i.e. locations that are public – e.g. the bar or swimming pool). With Net Retriever software this data is capable of being sent to the PMS and charge the user's room.

Navigate to *System Status* → *Current User List* and the following information should be presented:



If you have any questions, please email Brett Stevens (bretts@netcomm.com.au) for clarification.