IAC4500 Port-Location Mapping with the NP2724M VLAN Switch
Introduction
The following paper provides instructions on how to configure NetComm’s IAC4500 Internet Access Controller with NetComm’s NP2724M VLAN Switch. It specifically focuses on the IAC4500’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:
• IAC4500: version 1.02.05
• NP2724M: version 1.2.1

IAC4500 Port-Location Mapping (IEEE 802.1Q VLAN Tagging)
The IAC4500 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 IAC4500 is installed supports IEEE 802.1Q VLAN tagging for packets traveling between the IAC4500 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 IAC4500 User Guide for supported PMSs.

The IAC4500’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 IAC4500 and accept untagged packets being sent from the IAC4500 to the device.
Logical Network Diagram
The following diagram represents the logical setup of the network for room 101.

Port 1
VID: 101

Port 24:
PVID: 1
VID: 101

ADSL Modem
Configuring the NP2724M VLAN Switch for 802.1Q VLAN Tagging

The NP2724M 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 NP2724M 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 NP2724M are:
- IP address: 192.168.1.254
- Mask: 255.255.255.0
- Gateway: 0.0.0.0

Therefore, assign the PC connected to the NP2724M with the following network settings:
- IP address: 192.168.1.x (where “x” is a number between 1 to 253)
- Mask: 255.255.255.0

**STEP 1**
Login to the NP2724M using a web browser and insert this address [http://192.168.1.254](http://192.168.1.254), the factory default “admin” to login the switch with no password.
*“If the web browser asks for the certificate, please select “continue to this website”*
STEP 2
Click > VLAN:

STEP 3
In the “Create VLAN”, enter “101” and press Create.
STEP 4
In “VLAN ingress Filter”, select “Bypass” and press Proceed.

STEP 5
In the “VLAN Settings”, select “101” from the “VLAN Group” dropdown:
STEP 6
Select Port 01 as "UnTagged" and Port 24 as "Tagged" and save the setting.

STEP 7
In the VLAN Port, from the Port Number 01, select 101 in the PVID dropdown and leave Port Number 24 as the default "1". Press Save setting to save the settings.

Change PC's network settings to get IP address details automatically from IAC4500 (DHCP client) and connect to IAC4500.
Configuring the IAC4500 for Port-Location Mapping (Scenario A)

1. Setup Scenario A for Authentication

Login to the interface of the IAC4500 using a web browser (e.g. Internet Explorer 5 or above) and type in this address [http://10.59.1.1](http://10.59.1.1) – username / password = admin / admin:

![Image of web interface]

Version 1.02.05

Username: *admin*

Password: ***

Get Started

Navigate to **System Setting -> Authentication** and tick the “Build-in Authentication” then click **Select Option**:  

<table>
<thead>
<tr>
<th>Authentication Type</th>
<th>Configuration</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No Authentication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Agreement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Built-in Authentication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RADIUS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Best Viewed with Microsoft Internet Explorer 6.0 and above at 800 x 600 resolution

November 2008
Select Scenario A and click Apply:

<table>
<thead>
<tr>
<th>Scenario Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Express way to fit your business model</td>
</tr>
<tr>
<td>Items check</td>
</tr>
<tr>
<td>PMS billing system</td>
</tr>
<tr>
<td>Output bill to AD</td>
</tr>
</tbody>
</table>

Click Apply again on the Authentication webpage and restart the IAC4500 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 NP2724M 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:

<table>
<thead>
<tr>
<th>Billing Profile</th>
<th>PMS Configuration</th>
</tr>
</thead>
</table>

### Billing Profile

<table>
<thead>
<tr>
<th>No</th>
<th>Active</th>
<th>Name</th>
<th>Description</th>
<th>Profile Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>✔</td>
<td>Profile 1</td>
<td>1 day $10.00</td>
<td>Edit</td>
</tr>
<tr>
<td>02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03</td>
<td></td>
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</tbody>
</table>

Currency: $ (Number of decimal places: 2)
4. Select the Property Management System (PMS)
Click on PMS Configuration under System Settings -> Billing and select the PMS and click Apply:

<table>
<thead>
<tr>
<th>Billing Profile</th>
<th>PMS Configuration</th>
</tr>
</thead>
</table>

**PMS Configuration**

Many hotels use PMS as a hotel in-door billing system for their guests including room service, mini-bar, telephone usage, as well as Internet service. By integrating with a hotel’s PMS, the system can post charges for Internet access directly to a guest’s hotel bill.

- **Charge Mode (only for Port-Location Mapping enabled)**
  - Based on Room
  - Based on Subscriber

- **Regenerate password of static account with PMS checkout**
  - Enable (only for Scenario B)

- **PMS Type**
  - Micros Fidelio
  - Spectrum MK II
  - Marriott
  - Proprietary

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 IAC4500 to communicate with the PMS.

Click **Apply** to restart the system.
Port-Location Mapping in action
Now that PLM on the IAC4500 and VLAN tagging on the NP2724M have been setup, it is time to test it! Recall in the example that ports 1 and 24 on the NP2724M have a VLAN ID of 101.

Connect the PC to port 1 of the NP2724M and renew the PC’s IP address. Connect port 24 of the NP2724M switch to any the LAN port on the IAC4500. Make sure that the IAC4500 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 the rear of the IAC4500.

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: