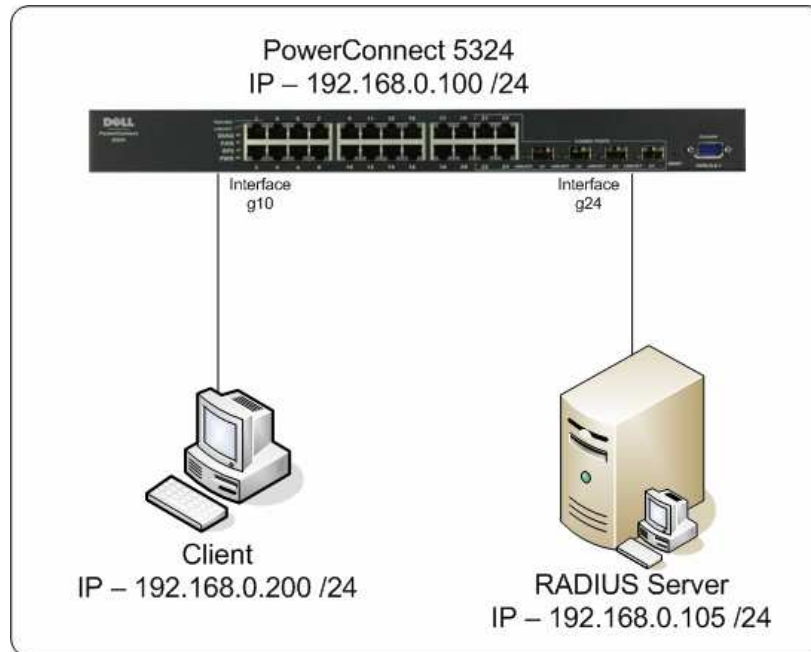


# Configuring 802.1x authentication on a PowerConnect 5324 using the Windows XP client & Steel Belted Radius

Written by: Greg Gibbs 12/2/2004

The configuration listed in this document is based on the following topology:



## Step 1 – Configuring the switch (from defaults)

Configure the IP address for VLAN 1:

```
console# config
console(config)# interface vlan 1
console(config-if)# ip address 192.168.0.100 /24
```

Configure a local user named user1 with password user1 and level 15 privilege:

```
console(config)# username user1 password user1 level 15
```

Define the RADIUS server and specify the shared secret key “mysecretkey”

```
console(config)# radius-server host 192.168.0.105
console(config)# radius-server key mysecretkey
```

Enable 802.1x globally:

```
console(config)# dot1x system-auth-control
```

Configure the default authentication for dot1x to use the RADIUS server:

```
console(config)# aaa authentication dot1x default radius
```

Set the authorization state of the client port to auto:  
*console(config)# interface ethernet g10*  
*console(config-if)# dot1x port-control auto*

## Step 2 – Installing and Configuring the RADIUS server

Install Steel Belted Radius. A demo version can be downloaded from Funk Software at the following link:

[http://www.funk.com/radius/enterprise/enterprise\\_radius.asp](http://www.funk.com/radius/enterprise/enterprise_radius.asp)

\*\*EAP is not enabled on the RADIUS server by default. To enable the proper EAP support, you must edit the %ROOT\Radius\Service\eap.ini file. Under the [Native-user] section, uncomment (remove the preceding semicolon) the following lines:

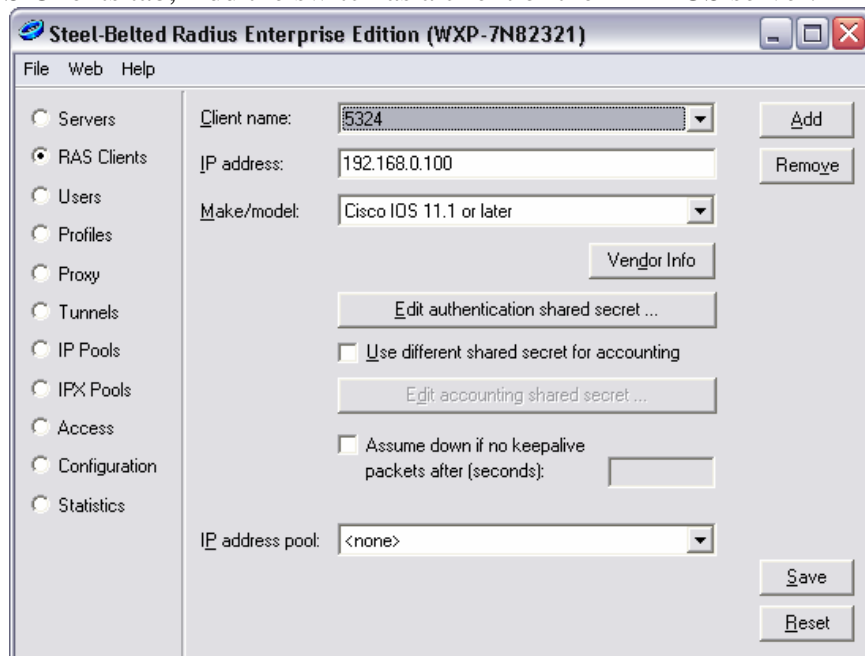
EAP-Only = 0  
EAP-Type = MD5-Challenge  
First-Handle-via-Auto-EAP = 1

Save the changes to the file. Open the Windows Services snap-in and restart the Steel-Belted Radius service.

Verify that the Local radio button is selected and click the Connect button.

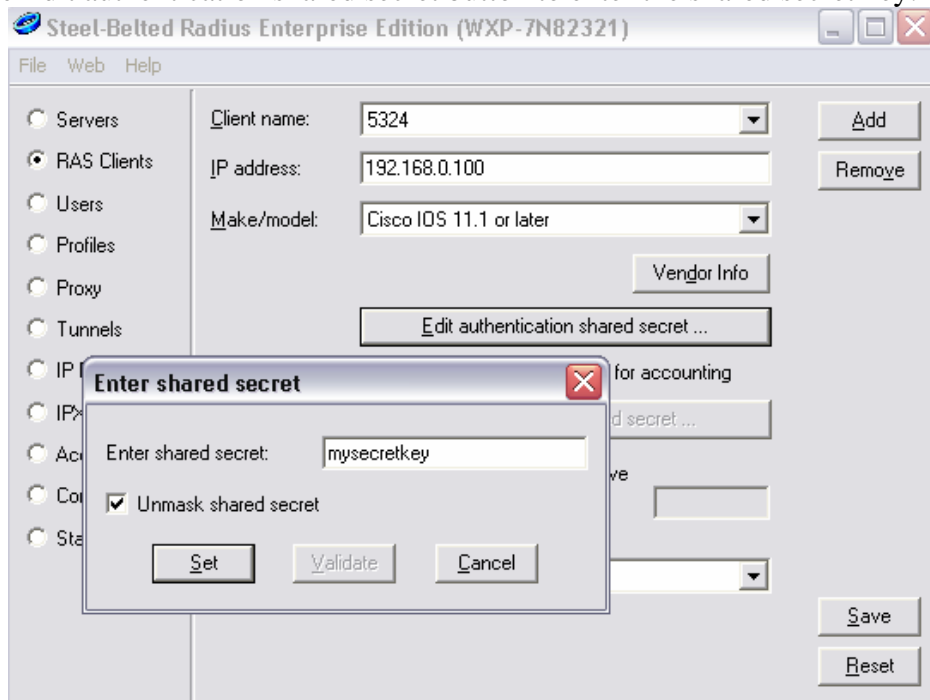
\*\*Note: The PowerConnect 5324 only supports EAP using MD5 Challenges. The use of Digital Certificates is not supported.

On the RAS Clients tab, Add the switch as a client of the RADIUS server:



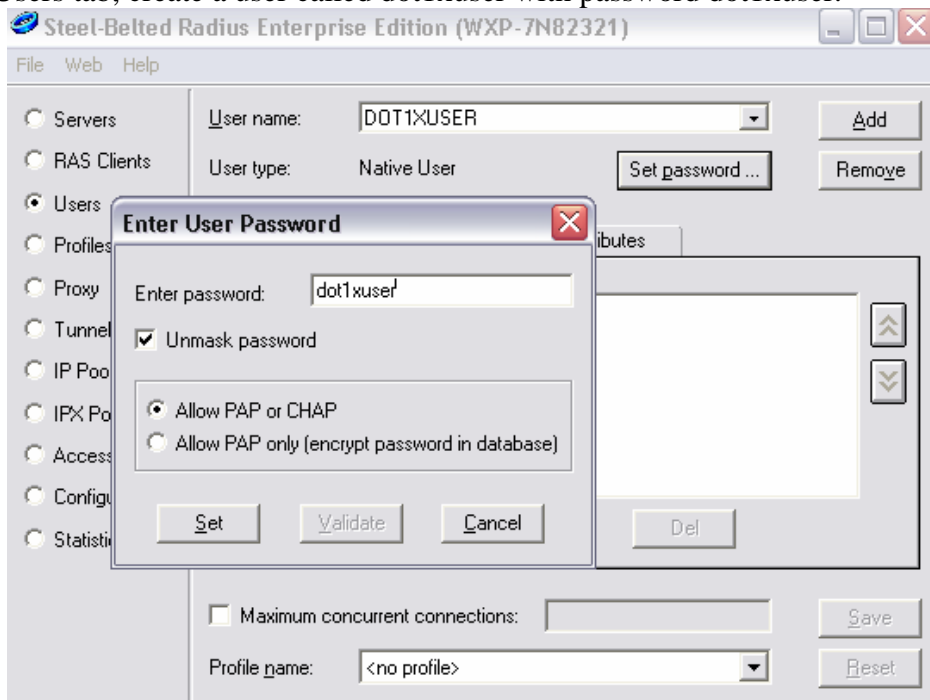
\*\* Note: Be sure the Make/model is configured for Cisco IOS \*\*

Click the Edit authentication shared secret button to enter the shared secret key:



Save the RAS Client configuration

On the Users tab, create a user called dot1xuser with password dot1xuser.

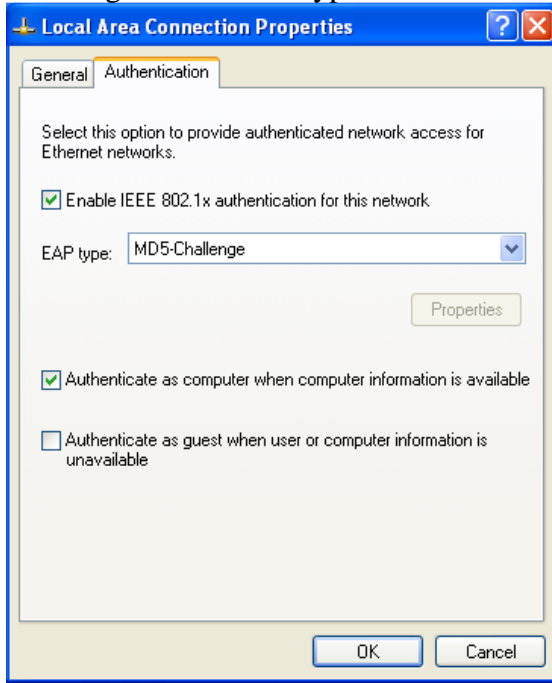


Verify that the Check list attributes and Return list attributes tabs are blank.

Save the changes to the Users tab.

### Step 3 –Configuring the XP client

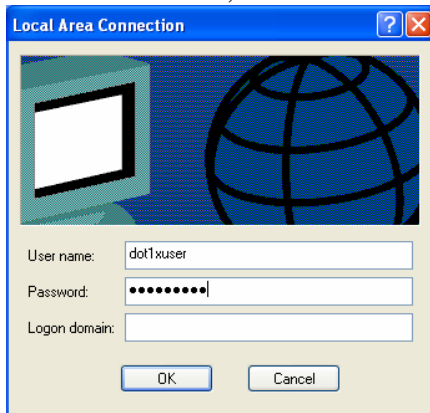
Select the Authentication tab in the Local Area Connection Properties window. Verify that the Enable IEEE 802.1x box is checked and use the drop-down box to select MD5-Challenge for the EAP type:



Log off of the Windows session, then log back in as a valid user. When the network connection is initialized, you will be prompted to click a balloon near the taskbar to enter your authentication credentials:



Click the balloon, and enter the credentials specified for dot1xuser:

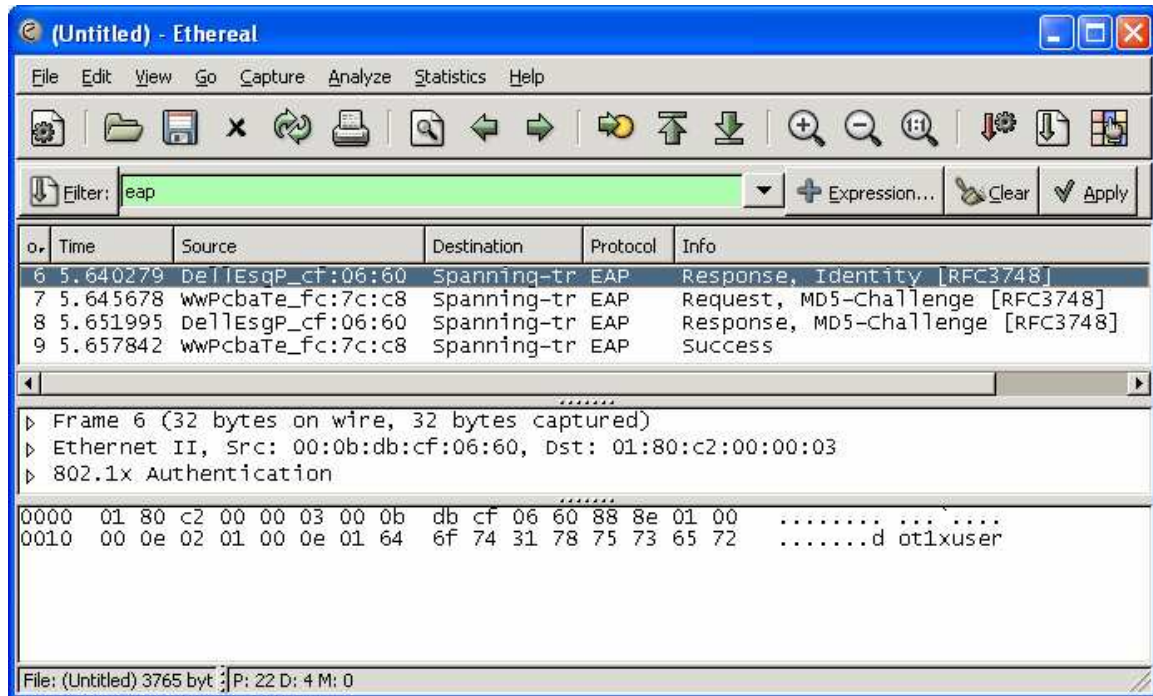


Once the port is authenticated, the client should be able to communicate with the rest of the network.

You can use Ethereal to sniff traffic and look at the authentication process. Ethereal can be downloaded from the following link:

<http://www.ethereal.com>

A successful authentication capture will show the following communication between the client and the 5324:



\*\*\*Note: By default, Windows XP can take up to two minutes to prompt for 802.1x authentication credentials. This process can be expedited by modifying the registry using the following procedure:

\*\*\*CAUTION: Dell does not support modifying the registry. We cannot be held responsible for any problems caused by manually editing/creating registry values. Before making any modifications, we recommend backing up your current registry.\*\*\*

1. Click on Start, Select Run, and run regedit.exe
2. Navigate to the "HKEY\_LocalMachine/Software/Microsoft/EAPOL/Parameters/General/Global" key
3. Right-click on Global and select New and DWORD Value
4. Name the new value SupplicantMode
5. Once created, Right click this new option and select Modify
6. Change the Value data to 3
7. Reboot the system for the new registry changes to take effect.