In this scenario I have a center switch which will be extended in the near future with more edge devices and features. The requirement was to have 3 independent IP Groups. DHCP and XVSS Authentication has been asked for. I've put the DHCP Server onto LDAP Server using WinRoute 3.04 and configured 3 scopes for Group 5, 6 & 7. Using the relay function on the switch will pass DHCP request direct to the DHCP Server and provide the client regarding the group membership with the proper IP out of the group's scope.

To have above drawing as a compete setup running, you have to perform a couple of steps, which may take a while.

1. Create and fill out an installation template
2. Installing Windows NT Server 4.0 (preferable US Version) and upgrade to Service Pack 4
4. Configure Netscape Directory Server with Object Class and Attributes to be used for Authentication
5. Getting User’s into the database and define Group membership
6. Configure Switch for Authentication and Relay
7. Installing XVSS Client on a WIN95 or WIN NT 4 Workstation
8. Verify your configuration and have a good feeling once it is running
1. Create and fill an installation template

Before you start to install make sure you have a Windows NT 4.0 Server in Standalone mode installed with Service Pack 4 upgraded. A template should be used during installation and also as a reference for further use.

Netscape Directory Server Parameters

Issue in a DOS BOX the command `ipconfig -all` and get the output in here

c:\> ipconfig -all > c:\temp\ipconfig.txt

<table>
<thead>
<tr>
<th>Windows NT IP Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host Name</td>
</tr>
<tr>
<td>DNS Servers</td>
</tr>
<tr>
<td>Node Type</td>
</tr>
<tr>
<td>NetBIOS Scope ID</td>
</tr>
<tr>
<td>IP Routing Enabled</td>
</tr>
<tr>
<td>WINS Proxy Enabled</td>
</tr>
<tr>
<td>NetBIOS Resolution Uses DNS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ethernet adapter E100B20:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
</tr>
<tr>
<td>Physical Address</td>
</tr>
<tr>
<td>DHCP Enabled</td>
</tr>
<tr>
<td>IP Address</td>
</tr>
<tr>
<td>Subnet Mask</td>
</tr>
<tr>
<td>Default Gateway</td>
</tr>
</tbody>
</table>

Administration Accounts, Passwords and additional Information

Server and Stations

<table>
<thead>
<tr>
<th>Server Name</th>
<th>Ip Address</th>
<th>Application</th>
<th>Service Pack</th>
<th>User</th>
<th>Password</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freebird</td>
<td>192.168.10.150</td>
<td>4.0 Server</td>
<td>4</td>
<td>admin</td>
<td>switch</td>
</tr>
<tr>
<td>Freebird</td>
<td>192.168.10.150</td>
<td>Directory Server Admin</td>
<td>4</td>
<td>admin</td>
<td>secret99</td>
</tr>
<tr>
<td>Freebird</td>
<td>192.168.10.150</td>
<td>Directory Manager</td>
<td>Directory Manager</td>
<td>Directory Manager</td>
<td>secret99</td>
</tr>
<tr>
<td>o=xylan.com</td>
<td>192.168.10.150</td>
<td>Directory Root</td>
<td>used as RDN on switch</td>
<td>RBemsel</td>
<td>malibu</td>
</tr>
<tr>
<td>Default DHCP</td>
<td>192.168.10.150</td>
<td>WinRoute 3</td>
<td></td>
<td>admin</td>
<td>switch</td>
</tr>
</tbody>
</table>

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Installing Windows NT Server 4.0 (preferable US Version) and upgrade to Service Pack 4

I assume that I don’t need to explain how to install Windows NT Server and do a Service Pack upgrade. Just remember to install the server as “Standalone”

Also have Netscape Communicator 4.7 installed before you start installing Directory Server

Installing the Netscape Directory Server 4.12

Execute the installation file (d412diu.exe) and follow the directions:

You will see a welcome window and continue with clicking on next. You should read to Software License Agreement and if you are happy with it, click on yes.

Select Netscape Servers Installation, which is already default marked and click on yes. Next windows let you choose from Express – Typical – Custom type installation, where you should choose Custom.
Now you can define the Installation Directory and Product Selections. On Select Products you should have selected

- Netscape Server Products Core Components
- Netscape Directory Suite
- Administration Services

If you want to check with **change** button, the selected features are all pre-selected and should remain like that.

After clicking next you should see **“This instance will be the configuration directory server”** selected, which should remain like that. Also you will be notified on the next window with pre selected **“Store data in this directory server”**. Server port is grayed, as well as **Bind As** and **Suffix**. Compare it with your template (should be seen or if not already filled, get the missing data in you template).

Another **Server Settings** Window will give you the opportunity the change Server Identifier, Server Port & Suffix, which should already be filled with correct data. Don’t change it here, better go back and change first the Windows NT Network settings. Done this, you will have to set Directory Server Administrator’s password, which I have set to **secret99**.
Now going to verify the Administration Domain. Also here is xylan.com (it’s based on DNS setting on NT Server TCP/IP Properties) prewritten and should remain. Click on next and set the password for the Directory Manager also to secert99. (It’s easier to remember that both admin parts on Directory Server are having the same password).

When getting the Configuration Window for Server Replication you should have “Do not configure as a Supplier” and also “Do not configure as a Consumer” selected.

Done this you could choose to install Sample Original Structure, but don’t populate Database as you don’t have a proper LDIF file available.

You may have seen in the SNS User’s manual (Section IP Control) to disable Schema checking. Do not disable yet, as if really needed you can disable Schema checking on Server’s Console as well. So leave the default, which is not disabling.
Done this, you set again a pre valued **Server IP Address**, which is the local NT Server’s IP Address. Please verify if this is correct with your server, otherwise change it here.

After having IP Address checked you may want to change the server’s Administrator port, as this number is chosen randomly and you always have to remember this port, otherwise you won’t be able to connect to the user’s interface of LDAP Database. If you are using this document, you may choose 15417, as this is the number I personally always use and still remember without any template.

Now you have done with custom setting and you may want to verify them. You will get a Configuration Summary Window, which have listed here.

**CONFIGURATION SUMMARY**

[Netscape Server Products]
  Installation Directory/Server Root: F:\Netscape\Server4
[Server Core Binaries]

[Netscape Server Products Core Components]
[Core Java classes]
[Java Runtime Environment]

[Netscape Server Products Common files]
[Core Java classes]
[Java Runtime Environment]

[Netscape Directory Suite]
[Netscape Directory Server]
[Netscape Directory Management Console]

[Netscape Directory Server]
Directory Server Settings
  Server Identifier: freebird
  Suffix: o=xylan.com
  Port: 389
  Configuration Directory Administrator ID: admin
  Administration Domain: xylan.com
  Directory Manager DN: cn=Directory Manager
  Install Sample Organizational Structure: yes
  Populate Database with:
  Disable Schema Checking: no

[Netscape Directory Management Console]

[Administration Services]

[Netscape Administration Server]
[Administration Server Console]

[Netscape Administration Server]
  Administration User ID: admin
  Administration Port: 15417
  Administration URL: http://freebird.xylan.com:15417
  Administration IP Address: 192.168.10.150

[Administration Server Console]

After having the installation process finished you will have to restart the PC
Configure Netscape Directory Server with Object Class and Attributes to be used for Authentication

**NOTE:** You will read sometimes “freebird”, which I used as the computer name for all LDAP Installations I described in here. You may use your own computer name and remember always the different name.

1. Open Netscape Directory Console and logon as **admin** using password **secret99** (if you haven’t changed my example). Administration URL should be predefined as http://freebird.xylan.com:15417

2. Expand Directory Server under Console Tab until you get to Directory Server. Select **Directory Server** (freebird) and click on right upper side on **open**.
4. When Directory Server is open you see the entry with Task tab activated. Click on Configuration, expand Database and click on Schema.

5. Once you have clicked on Schema the right part of the window has changed. Click on Attributes and you will see an empty window at User defined Attributes. Below that window there’s a create button to add user defined attributes, which are need for User Authentication using Omni Products.
6. After clicked on create you now have to possibility to add all needed attributes for User Authentication.

You will have to create each of below’s attributes here. Attribute OID doesn’t need to be filled.

Following Attributes needs to be added in here

<table>
<thead>
<tr>
<th>Attribute Name</th>
<th>Syntax</th>
</tr>
</thead>
<tbody>
<tr>
<td>switchGroups</td>
<td>integer</td>
</tr>
<tr>
<td>numberOfSwitchGroups</td>
<td>integer</td>
</tr>
<tr>
<td>accountFailTime</td>
<td>Case Ignore String</td>
</tr>
<tr>
<td>accountStartTime</td>
<td>Case Ignore String</td>
</tr>
<tr>
<td>accountStopTime</td>
<td>Case Ignore String</td>
</tr>
<tr>
<td>switchSerialNumber</td>
<td>Case Ignore String</td>
</tr>
<tr>
<td>switchSlotPort</td>
<td>Case Ignore String</td>
</tr>
<tr>
<td>clientMACAddress</td>
<td>Case Ignore String</td>
</tr>
<tr>
<td>clientIPAddress</td>
<td>Case Ignore String</td>
</tr>
</tbody>
</table>

**NOTE:** clientMACAddress and clientIPAddress are only used for single authority mode

Once above attributes had been added you should see in the window "User defined Attributes" new values. OID values are added automatically
To verify: Check out your directory\Netscape\Server4\slapd-freebird\config, you should find a new time set to slapd.user_at.conf and by opening the file you see new addings.

For your convenience you may also just copy the file into your Directory Server's slapd-<servername>\config\*. Accept to overwrite. If you already have a pre-installed Directory Server with user defined attributes use an editor and extend your file with the entries.

# User defined attributes
# These attributes can be updated via LDAP by modifying the cn=cn=definition entry. The attributes in slapd.at.conf can not be updated
attribute switchGroups switchGroups-oid int single
attribute numberOfSwitchGroups numberOfSwitchGroups-oid int single
attribute accountFailTime accountFailTime-oid cis single
attribute accountStartTime accountStartTime-oid cis single
attribute accountStopTime accountStopTime-oid cis single
attribute switchSerialNumber switchSerialNumber-oid cis single
attribute switchSlotPort switchSlotPort-oid cis single
attribute clientMACAddress clientMACAddress-oid cis single
attribute clientIPAddress clientIPAddress-oid cis single

8. After having attributes added (which you will need for user defined object classes) proceed to add values into slapd.user_oc.conf.
Click on Object Classes tab and on create to open a new Create Object Class Windows.

During the Creation Process you have to copy all required User Defined Attributes in the Box named Allowed Attributes.

Here’s the summary:

<table>
<thead>
<tr>
<th>Name:</th>
<th>xylanAuthenticationPerson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent:</td>
<td>top</td>
</tr>
<tr>
<td>Required Attributes:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>accountFailTime</td>
</tr>
<tr>
<td></td>
<td>accountStartTime</td>
</tr>
<tr>
<td></td>
<td>accountStopTime</td>
</tr>
<tr>
<td></td>
<td>clientIpAddress</td>
</tr>
<tr>
<td></td>
<td>clientMACAddress</td>
</tr>
<tr>
<td></td>
<td>numberOfSwitchGroups</td>
</tr>
<tr>
<td></td>
<td>switchGroups</td>
</tr>
<tr>
<td></td>
<td>switchSerialNumber</td>
</tr>
<tr>
<td></td>
<td>switchSlotPort</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Allowed Attributes:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

**To verify:** Check out your directory* \Netscape\Server4\slapd-freebird\config, you should find a new time set to slapd.user_oc.conf and by opening the file you see new addings.
For your convenience you may also just copy the file into your Directory Server's
slapd-freebird\config\slapd.user_oc.conf. Accept to overwrite. If you already have a pre-installed Directory Server
with user defined attributes use an editor and extend your file with the entries.

```
# user defined objectclasses
# These ObjectClasses are read/writable over LDAP
# The ObjectClasses in slapd.oc.conf are read only and may not be updated
objectclass xylanauthenticationperson
  oid xylanauthenticationperson-oid
  superior top
  allows
  accountFailTime,
  accountStartTime,
  accountStopTime,
  clientIPAddress,
  clientMACAddress,
  numberOfSwitchGroups,
  switchGroups,
  switchSerialNumber,
  switchSlotPort
```

Now it's time to get user's into your directory

Getting User's into the database and define Group membership

9. Move forward to Directory tab, highlight **xylan.com** (or the domain you are administering) and click on right
mouse button. From here you can add The switch's RND to be used for **avllschain** on the switch with your
directory.

![Directory Server Interface](image_url)

10. I have used my own name, which will be also used in the switch configuration. As password I have used
**malibu**, as you will have to remember this, when configuring the switch with **avllschain** when setting the value for
RDN.
11. Again get back to Directory Window and highlight People – click on right mouse button and go to create new users. These Users are the ones, which have to authorize using XVSS Client connected to OmniSwitches. Do it the same way as you have created the Xylan.com top user. Instead of creating the users on top, you have to highlight People.

12. When having added the new user to the database the new name appears on the right side. Highlight the name, click on right mouse button and open the properties. When the window is open, click on Advanced to add some new attributes and values, which are mandatory to have Authentication working. Click on Object Class within this window, click on right mouse button and choose add value. A new window appears, scroll down to the end, finding xylanauthenticationperson. Highlight and click on OK.

You should see a new value inside the Object Class box. Now click on Edit and highlight add Attribute.
Scroll down to find numberOfSwitchGroups. Highlight and click on OK. The new attribute appears in Property Window. Do it again and get attribute switchgroups into the properties. Don’t forget to set values.

- numberOfSwitchGroups = 1
- switchgroups= <authenticated group> i.e. Wesley Snipes is an actor and should have access to Group No. 7, so I will set the value to 7

Another way to get user into the database is by importing the LDIF as described in step <<<<XXX>>>. It’s almost the same way as you did, after modifying the additional entries into the LDIF file.

Please see my exported User LDIF, which I created using Directory Server. The manual modified entries I have colorized "red"

dn: o=xylan.com
creatorsname: cn=Directory Manager
createtimestamp: 20000810232133Z
objectclass: top
objectclass: organization
o: xylan.com
aci: (targetattr = "**") (version 3.0; acl "Allow self entry modification"; allow (write)(userdn = "ldap:///self");aci: (targetattr !="userPassword") (version 3.0; acl "Anonymous access"; allow (read, search, compare)(userdn = "ldap:///anyone");aci: (targetattr = "**") (version 3.0; acl "Configuration Administrator"; allow (all)(userdn = "ldap:///uid=admin, ou=Administrators, ou=TopologyManagement, o=NetscapeRoot");aci: (targetattr = "**") (version 3.0; acl "Configuration Administrators Group"; allow (all)(groupdn = "ldap:///cn=Configuration Administrators, ou=Groups, ou=TopologyManagement, o=NetscapeRoot");aci: (targetattr = "**") (version 3.0; acl "Directory Administrators Group"; allow (all)(groupdn = "ldap:///ou=Directory Administrators, o=xylan.com");)aci: (targetattr = "**") (version 3.0; acl "SIE Group": allow (all)(groupdn = "ldap:///cn=slapd-freebird, cn=Netscape Directory Server, cn=Server Group, cn=f reebird.xylan.com, ou=xylan.com, o=NetscapeRoot");modifiersname: cn=Directory Manager
modifytimestamp: 20000810232136Z
dn: ou=Directory Administrators, o=xylan.com
description: Entities with administrative access to this directory server
creatorsname: cn=Directory Manager
createtimestamp: 20000810232133Z
objectclass: top
objectclass: organizationalunit
objectclass: groupofuniquenames
ou: Directory Administrators
cn: Directory Administrators
modifiersname: cn=Directory Manager
modifytimestamp: 20000810232136Z
dn: ou=Groups, o=xylan.com
objectclass: top
objectclass: organizationalunit
ou: Groups
creatorsname: cn=Directory Manager
modifiersname: cn=Directory Manager
createtimestamp: 20000810232136Z
modifytimestamp: 20000810232136Z
dn: ou=People, o=xylan.com
objectclass: top
objectclass: organizationalunit
ou: People
aci: (targetattr = "userpassword | telephonenumber | facsimiletelephonenumber") (version 3.0; acl "Allow self entry modification"; allow (write)(userdn = "ldap:///self");aci: (targetattr !="cn | sn | uid") (targetfilter = "(ou=Accounting)" (version 3.0; acl "Accounting Managers Group Permissions", allow (write)(groupdn = "1dap://cn=Accounting Managers,ou=groups,o=xylan.com")modifiersname: cn=Directory Manager
modifytimestamp: 20000810232136Z
Resources)* (version 3.0; acl "HR Group Permissions"; allow (write) (groupdn = "ldap:///cn=HR Managers,ou=groups,o=xylan.com"); acl: (targetattr !="cn || sn || uid") (targetfilter = "(ou=Product Testing)") (version 3.0; acl "QA Group Permissions"; allow (write) (groupdn = "ldap:///cn=QA Managers,ou=groups,o=xylan.com"); acl: (targetattr !="cn || sn || uid") (targetfilter = "(ou=Product Development)")) (version 3.0; acl "Engineering Group Permissions"; allow (write) (groupdn = "ldap:///cn=pd managers,ou=groups,o=xylan.com");)
creatorsname: cn=Directory Manager
modifiersname: cn=Directory Manager
createtimestamp: 20000810232136Z
modifytimestamp: 20000810232136Z
dn: ou=Special Users,o=xylan.com
objectclass: top
objectclass: organizationalUnit
ou: Special Users
description: Special Administrative Accounts
creatorsname: cn=Directory Manager
modifiersname: cn=Directory Manager
createtimestamp: 20000810232136Z
modifytimestamp: 20000810232136Z
dn: uid=JCarpenter,ou=People, o=xylan.com
switchgroups: 5
mail:
objectclass: top
objectclass: person
objectclass: organizationalPerson
objectclass: inetOrgPerson
objectclass: xylanauthenticationperson
cn: John Carpenter
uid: JCarpenter
givenname: John
sn: Carpenter
numberofswitchgroups: 1
creatorsname: uid=admin,ou=Administrators,ou=TopologyManagement,o=NetscapeRoot
createtimestamp: 20000818163638Z
modifytimestamp: 20000818164945Z
dn: uid=rvzant,ou=People, o=xylan.com
switchgroups: 6
objectclass: top
objectclass: person
objectclass: organizationalPerson
objectclass: inetOrgPerson
objectclass: xylanauthenticationperson
cn: Ronnie VanZant
uid: rvzant
givenname: Ronnie
sn: VanZant
userpassword: freebird
numberofswitchgroups: 1
creatorsname: uid=admin,ou=Administrators,ou=TopologyManagement,o=NetscapeRoot
modifytimestamp: 20000818163757Z
modifytimestamp: 20000818163757Z
dn: uid=WSnipes,ou=People, o=xylan.com
switchgroups: 7
objectclass: top
objectclass: person

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objectclass: organizationalPerson
objectclass: inetOrgPerson
objectclass: xylanauthenticationperson
cn: Wesley Snipes
uid: WSnipes
givenname: Wesley
sn: Snipes
userpassword: blade
numberofswitchgroups: 1
creatorsname: uid=admin,ou=Administrators,ou=TopologyManagement,o=NetscapeRoot
modifytimestamp: 20000818163858Z

objectclass: top
objectclass: person
objectclass: organizationalPerson
objectclass: inetOrgPerson
objectclass: xylanauthenticationperson
cn: Mel Gibson
uid: MGibson
givenname: Mel
sn: Gibson
userpassword: payback
numberofswitchgroups: 1
creatorsname: uid=admin,ou=Administrators,ou=TopologyManagement,o=NetscapeRoot
modifytimestamp: 20000818164021Z
switchgroups: 7

objectclass: top
objectclass: person
objectclass: organizationalPerson
objectclass: inetOrgPerson
objectclass: xylanauthenticationperson
cn: Joe Walsh
uid: jwalsh
givenname: Joe
sn: Walsh
userpassword: rocky
numberofswitchgroups: 1
creatorsname: uid=admin,ou=Administrators,ou=TopologyManagement,o=NetscapeRoot
modifytimestamp: 20000818164324Z

objectclass: top
objectclass: person
objectclass: organizationalPerson
objectclass: inetOrgPerson
objectclass: xylanauthenticationperson
cn: Jerry Bruckheimer
uid: JBruck
givenname: Jerry
sn: Bruckheimer
userpassword: conair
numberofswitchgroups: 1
Configure Switch for Authentication and Relay

Verify your hardware

LDAPAUTH-1 / >slot

<table>
<thead>
<tr>
<th>Slot</th>
<th>Module-Type</th>
<th>Adm-Status</th>
<th>HW</th>
<th>Board</th>
<th>Mfg</th>
<th>Firmware-Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>1*</td>
<td>MPM 1G</td>
<td>Enabled</td>
<td>A6</td>
<td>71221951</td>
<td>03/20/97</td>
<td>4.1.3 GA</td>
</tr>
<tr>
<td></td>
<td>Empty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>00:20:da:8b:5c:7f</td>
</tr>
<tr>
<td>2</td>
<td>Ether/12</td>
<td>Enabled</td>
<td>E2</td>
<td>71245118</td>
<td>10/24/97</td>
<td>4.1.3 GA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>00:20:da:7e:33:4</td>
</tr>
</tbody>
</table>

LDAPAUTH-1 / >

Turn Group Mobility on

LDAPAUTH-1/ >gmcfg

Group Mobility is Disabled. Enable Group Mobility ? [yes/no] (no): y
move_to_def is set to Disabled. Set to Enable ? [yes/no] (no): <return>
def_group is set to Enable. Set it to Disable ? [yes/no] (no): <return>

LDAPAUTH-1/ >

Disable IP on Default Group

LDAPAUTH-1/ >modvl 1

Current values associated with GROUP 1.1 are as follows:
1) GROUP Number - 1:1
2) Description - Default GROUP (#1)
   IP parameters:
3) IP enabled - Y
4) IP Network Address - 192.168.10.1

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This technical document has been created and evaluated by myself with the purpose to help friends to get into new technology and installations. There is no financial interest, however, please respect the copyright.
Select Protocol for this group:
1. IP
2. IPX
3. DECNET
4. APPLETALK
5. Protocol specified by ether-type (in hex)
6. Protocol specified by DSAP and SSAP (in hex)
7. Protocol specified by SNAP (in hex)
8. ALL PROTOCOLS
Enter protocol type (1): 8
Configure binding rules for this group [y/n]: n
LDAPAUTH-1/ >

Create your authenticated User Groups

GROUP No. 5
LDAPAUTH-1/ >
LDAPAUTH-1/ > crgp
GROUP Number ( 3) : 5
Description (no quotes) : MOVIE DIRECTORS
Enable WAN Routing? (n): n
Enable ATM CIP? (n): n
Enable IP (y) :
IP Address : 192.168.5.1
IP Subnet Mask (0xffffffff) :
IP Broadcast Address (192.168.10.255) :
Description (30 chars max) :
Configure as Loopback? (n) :
Disable routing? (n) :
Enable NHRP? (n) :
IP RIP mode {Deaf(d), Silent(s), Active(a), Inactive(i)} (s) :
Enable IPX? (y) :
Enter a priority level (0...7)(0) :
Enable Group Mobility on this Group ? [y/n] (y) :
Enable User Authentication for this Group [y/n] (y) :
Enable Spanning Tree for this group [y/n] (y) :
Do you wish to configure the interface group for this Virtual LAN at this time? (y) :

Group 5 has been added to the system
You may modify interfaces to this group using the addvp, modvp and rmvp commands at a later date if you choose.
Configure Auto-Activated LEC service ? [y/n] (n) :
Select Protocol for this group:
1. IP
2. IPX
3. DECNET
4. APPLETALK
5. Protocol specified by ether-type (in hex)
6. Protocol specified by DSAP and SSAP (in hex)
7. Protocol specified by SNAP (in hex)
8. ALL PROTOCOLS
Enter protocol type (1): 8
Configure binding rules for this group [y/n] (y) :
LDAPAUTH-1/ >

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GROUP No. 6
LDAPAUTH-1/ >
LDAPAUTH-1/ > crgp
GROUP Number ( 2) : 6
Description (no quotes) : ROCK STARS
Enable WAN Routing? (n): 
Enable ATM CIP? (n): 
Enable IP (y) :
IP Address : 192.168.6.1
IP Subnet Mask (0xffffffff00) :
IP Broadcast Address (192.168.10.255 ) :
Description (30 chars max) :
Configure as Loopback? (n) :
Disable routing? (n) :
Enable NHRP? (n) :
IP RIP mode {Deaf(d), Silent(s), Active(a), Inactive(i)} (s):
Default framing type {Ethernet II(e), Ethernet 802.3 SNAP(8)} (e):
Enable IPX? (y): n
Enter a priority level (0...7)(0):
Enable Group Mobility on this Group ? [y/n](n): y
Enable User Authentication for this Group [y/n](n): y
Enable Spanning Tree for this group [y/n](y):
Do you wish to configure the interface group for this Virtual LAN at this time? (y) n

Group 6 has been added to the system
You may modify interfaces to this group using the addvp, modvp and rmvp commands at a later date if you choose.
Configure Auto-Activated LEC service ? [y/n](y):
Select Protocol for this group:
1. IP
2. IPX
3. DECNET

4. APPLETALK
5. Protocol specified by ether-type (in hex)
6. Protocol specified by DSAP and SSAP (in hex)
7. Protocol specified by SNAP (in hex)
8. ALL PROTOCOLS
Enter protocol type (1): 8
Configure binding rules for this group [y/n](y): n
LDAPAUTH-1/ >

GROUP No. 7
LDAPAUTH-1/ >
LDAPAUTH-1/ > crgp
GROUP Number ( 2) : 7
Description (no quotes) : ACTORS
Enable WAN Routing? (n): 
Enable ATM CIP? (n): 
Enable IP (y) :
IP Address : 192.168.7.1
IP Subnet Mask (0xffffffff00) :
IP Broadcast Address (192.168.10.255 ) :
Description (30 chars max) :
Configure as Loopback? (n) :
Disable routing? (n) :
Enable NHRP? (n):
This technical document has been created and evaluated by myself with the purpose to help friends to get into new technology and installations. There is no financial interest, however, please respect the copyright.
Configure Directory Server Connection

LDAP AUTH-1/ > avllschain
LDAP server search base? () : o=xylan.com
LDAP server super user rdn? () : uid=RBenmsel
LDAP super user password? () : malibu (this entry is hidden)
Please enter password once more: () : malibu (this entry is hidden)
Enter LDAP server in the format: IPAddress:Port. Separate each server by space.
LDAP server chain? () : 192.168.10.150:389
LDAP server type to?
(1=Generic Schema, 2=Netscape Directory Server)
(3=Novell NDS, 4=Sun Directory Services) : () : 2
LDAP server retry attempts: () : 3
LDAP server response timeout (Seconds): () : 30
LDAP server accounting? (on/off: 1=on, 2=off) : () : 1
LDAP server login fail log identifier? () : DENIED !!!
LDAP AUTH-1/ >

Check connectivity to Directory Server

LDAP AUTH-1/ > avlslserver
LDAP server (192.168.10.150:389) is alive and happy
LDAP AUTH-1/ >

Configure Ports for Authentication

LDAP AUTH-1/ > avlports
LDAP AUTH-1/ > avlports
Do you wish to add or delete a port (add) : <return>
Which ports do you wish to add : 2/3, 2/4, 2/8, 2/9, 2/10, 2/11
LDAP AUTH-1/ >

Configure DHCP Relay Function

LDAP AUTH-OS4024 / > relayc
UDP Relay Configuration
1) BOOTP/DHCP Enabled : No
2) NBNS Enabled : No
3) NBDD Enabled : No
4) +Generic Services Menu
Command {Item=Value/?/Help/Quit/Redraw/Save} (Redraw) : 1=yes
UDP Relay Configuration
1) BOOTP/DHCP Enabled : Yes
11) Server Address {list/add/delete} : UNSET
12) Forward Delay : 3
13) Maximum Hops : 4
2) NBNS Enabled : No
3) NBDD Enabled : No
4) +Generic Services Menu
Command {Item=Value/?/Help/Quit/Redraw/Save} (Redraw) : 11=add
FOREWARD TO Server List
Item Server address Server Name (if known)
Enter IP address or host name of server to be added to list [\'h\' for help/<ret> to exit] : 192.168.10.150
FOREWARD TO Server List
Item Server address Server Name (if known)
1) 192.168. 10.150
Enter IP address or host name of server to be added to list [\'h\' for help/<ret> to exit] : <return>
UDP Relay Configuration
1) BOOTP/DHCP Enabled : Yes
11) Server Address {list/add/delete} : SET
12) Forward Delay : 3

Installing XVSS Client on a WIN95 or WIN NT 4 Workstation

Please refer to one of my older OmniTips: “Authentication with Radius” where I have described the steps to install the XVSS Client. Make sure you have DLC 32Bit Protocol available, as you need it to get XVSS running.

Verify your configuration and have a good feeling once it is running

A nice demonstration is by verifying the group membership of the port.

Do a `vi` on a certain port, where you have a XVSS client connected. You should group membership 1 (as the default). After authorizing using XVSS you should see a change at the group membership, which should now say either 5, 6 or 7, depending, what user you have used to authorize. Also open up the IP configuration tool on Windows 95 (`winipcfg.exe`) and see the proper IP Address.

If you have any questions, please do not hesitate to contact me via `rbemsel@ind.alcatel.com`.