On the IBM NAS boxes, Services for Netware only supports Netware Server Emulation up to 3.12. This is also known as Bindary mode. This is a Microsoft limitation as they designed the interface to support native IPX or Server emulation up to 3.12 only. If the network environment is set up for Novell ver 4.X or higher, Microsoft recommends that the client access the box, using CIFS or IP. Novell ver 4.X or "NDS Mode", is configured via IP connectivity. **Possible alternatives:** In the event the NAS box will be in a "mixed" IPX/Netware environment (which includes vers 3.12, 4.X and higher) you may be able to set the client software (4.83 Netware Client for Windows ) to dual access mode. This may allow clients to access both, the NDS Netware servers as well as the NAS appliance. Note: The reader is advised that this alternative was not tested in a mixed environment.

The following explains how to install the service on the NAS Appliance... To install Netware on a NAS Windows 2000 Server (Non Clustered) Release 2

#### **Step 1:** *Install the Protocol on the Adapter*

On the desktop, right-click **My Network Places**, and then click **Properties**. Right-click **Local Area Connection**, and then click **Properties**. Click **Install**.

Select	Protocol	, and	then c	lick <b>Ac</b>	ld.

Local Area Connection Propert	ies		<u> </u>
General			
Connect using:			
IBM Netfinity 10/100 Eth	ernet Adapte	er.	
			<u>C</u> onfigure
Components checked are used	by this conn	ection:	
<ul> <li>✓ ■ Client for Microsoft Netw</li> <li>✓ ■ File and Printer Sharing</li> <li>✓ ↓ Internet Protocol (TCP/I</li> </ul>	vorks for Microsofi P)	Networks	\$
Install Ur	ninstall	P <u>i</u>	operties
Description Allows your computer to access resources on a Microsoft network. Sho <u>w</u> icon in taskbar when connected			
		ок	Cancel
Select Network Component Ty	ре	?	×
Click the type of network component Client Service Protocol Description A protocol is a language your c communicate with other compu	ent you wan omputer use ters.	t to install: s to	
Add		Cancel	

Select Network Protocol		×
Click the Network Pro an installation disk for	otocol that you want to install, then click OK. If you have r this component, click Have Disk.	
<u>M</u> anufacturers:	Network <u>P</u> rotocol:	
Microsoft	AppleTalk Protocol DLC Protocol NetBEUI Protocol Network Monitor Driver NWLink IPX/SPX/NetBIOS Compatible Transport Pro	
	<u>H</u> ave Disk	
	OK Cancel	

## Select the NWLink IPX/SPX/NetBIOS Comatible Transport Protocol

Step 2: Install the Netware Services on the NAS Box

On the desktop, right-click **My Network Places**, and then click **Properties**. Right-click **Local Area Connection**, and then click **Properties**. Click **Install**.

Select Service, and then click Add.

Select Network Component Type
Click the type of network component you want to install:
Description Services provide additional features such as file and printer sharing.
Add Cancel

#### Click Have Disk.

Important

• If File and Print Services for NetWare appears in the **Select Network Service** window list, **do not** select it; instead, click **Have Disk**.

Insert the Microsoft Services for NetWare (version 5) compact disc in the computer CD-ROM drive. (Note: In this case we will use the NAS Supplemental CD 2 of 2)

The path is *drive*:\snF5\FPNW, where *drive* is the drive letter of the CD-ROM drive. follow the path shown here and hit OK;

Install Fro	om Disk	×
_	Insert the manufacturer's installation disk into the drive selected, and then click OK.	OK Cancel
	Copy manufacturer's files from: F:\Sfn5\FPNW	Browse

When the window comes up, select File and Print Services for NetWare, and click OK.

Select Net	work Service X
	Click the Network Service that you want to install, then click OK.
Network <u>S</u>	<u>S</u> ervice:
File and	Print Services for NetWare
	OK Cancel

# **Step 2a:** Where to install the SYSVOL file and the Format **Important when the window below comes up...**

Because of the default security restrictions on the *systemroot*\ folder, it is strongly recommended that you create the SYSVOL directory in another location. In this example we will use E: **not** C: You should do this in order to avoid restricting user access to File and Print Services for NetWare files and directories.

**Note:** To optimize the use of Windows 2000 security features, it is also recommended that you create the SYSVOL directory on an NTFS partition.

Install File and Print Servi	ces for NetWare	×		
Directory for SYS Volume:	E:\SYSVOL	ОК		
<u>S</u> erver Name:	IBM5194-23Y7114_FPNW	Cancel		
Supervisor Account		<u>H</u> elp		
Password:				
Confirm Password:				
- Tuning				
C <u>M</u> inimize Memory l	Jsage			
○ <u>B</u> alance between	Memory Usage and Performance			
Maximize Performa	ince			

Complete the **Install File and Print Services for NetWare** dialog box. For more information about the dialog box, click **Help**.

If you are installing File and Print Services for NetWare in a domain, you are prompted to type a password for the FPNW Service Account.

If you install File and Print Services for NetWare on multiple domain controllers in a domain, you must specify the same password for each account on domain controllers where you install it. Restart the computer to complete the installation.

Check the My Network Places>Properties and ensure the protocol was installed

Local Area Connection Properties	? ×			
General				
Connect using:				
BM Netfinity 10/100 Ethernet Adapter				
	<u>C</u> onfigure			
Components checked are used by this conne	ction:			
File and Printer Sharing for Microsoft Networks      File and Printer Sharing for Microsoft Networks      NWLink NetBIOS      NWLink IPX/SPX/NetBIOS Compatible Transport Proto      T      T      T      T				
Install Uninstall	P <u>r</u> operties			
Description				
Allows your computer to access resources on a Microsoft network.				
Sho <u>w</u> icon in taskbar when connected				
Cic	ose Cancel			

#### Step 3: Creating a Share.

First create a new folder under the Share Drive In this example we will use IPX Share **Step 3a**:

Next, Go to My Computer>Manage>Shared Folders>Shares>New File Share

📮 Computer Management 📃 📃				
Action View   ← → 1 € 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
Tree	Shared F 🛆	Shared Path	Туре	# Client Redirecti
Computer Management (Local)    System Tools    System Tools    System Information    Shared Folders   Shared Folders   Shares   Device Manager  Cocal Users and Groups   Storage	Shared F A ADMIN\$ C\$ C\$ C\$ C\$ C\$ C\$ C\$ C\$ C\$ C\$ C\$ C\$ C\$	Shared Path           C:\WINNT           C:\           D:\           E:\           G:\           C:\           C:\	Type Windows Windows Windows Windows Windows NetWare NetWare	<u># Client Redirecti</u> 0 0 0 0 0 0
<ul> <li>Disk Management</li> <li>Disk Defragmenter</li> <li>Logical Drives</li> <li>⊕ a Removable Storage</li> <li>⊕ Services and Applications</li> </ul>				

From here you can create the new IPX share.

Create Shared Folder			×
	Computer: <u>F</u> older to share: <u>Share name:</u> Share <u>d</u> escription Accessible from Microsoft <u>Microsoft</u> No <u>v</u> ell Nei Apple <u>Mar</u>	IBM5194-23Y7114 E:\IPX Share IPX Share : the following clients: <u>W</u> indows tWare cintosh	Browse
	< <u>B</u>	ack <u>N</u> ext >	Cancel

Hitting Next, allows you to browse where you have created shares on the Drive.

Browse For Folder	? ×
Pick a folder you'd like to share.	
🖳 My Computer	<b>_</b>
😟 🖅 🚽 3½ Floppy (A:)	
😟 🖅 🖅 System (C:)	
😟 🚍 MAINTENANCE (D:)	
🚊 🖅 🚍 Data (E:)	
IPX Share	
🗄 🛅 SYSVOL	
🗄 🖄 Compact Disc (F:)	<b>+</b>
	_
Folder: IPX Share	
OK Cancel <u>N</u> ew Fo	lder

Setting up permissions on the Share. In this example we select the default of; All users have full control.

Create Shared Folder	×
	<ul> <li>Use one of the following basic share permissions, or create custom permissions.</li> <li>All users have full control</li> <li>Administrators have full control; other users have gead-only access</li> <li>Administrators have full control; other users have go access</li> <li>Customize share and folder permissions</li> <li>Custom</li> </ul> Because share permissions only control network access to the share, you should set permissions on individual files and folders.
	< <u>B</u> ack Finish Cancel

#### Step 4: Create a User account

Under Computer Management>Local Users and Groups>Users>New User Create the New User.

📮 Computer Management				
Action View $4 \Rightarrow 12$ $12$ $12$ $12$ $12$				
Tree	Name	Full Name	Description	
Computer Management (Local) System Tools System Toils System Information Performance Logs and Ale Shared Folders Device Manager Local Users and Groups Groups Source Sales and States Subset Sales and States	Administrator Guest ILS_ANONYM IPXUSER1 IPXUSER2 IUSR_IBMNAS IWAM_IBMNAS Ieitner Ieitnerj Sfuuser	ILS Anonym IPXUSER1 IPXUSER2 Internet Gu Launch IIS P jleitner leitnerj sfuuser	Built-in account Built-in account Anonymous Acc IPXUSER1 IPXUSER2 Built-in account Built-in account User account us	
Storage Disk Management	Supervisor TsInternetUser	TsInternetUser	File and Print Se This user accour	

When you get to properties, ensure you select to <u>Maintain Netware compatible login</u> This will allow a Windows Client to log into the share volumes. Also note: to enter the <u>Netware Home Directory Relative Path</u>: name

IPXUSER1 Properties
Sessions Remote control Terminal Services Profile Dial-in General Member Of Profile NetWare Services Environment
Maintain NetWare compatible login
<u>N</u> etWare compatible password expired <u>E</u> dit Login Script
Object ID: ED030000
Grace logins
⊂ <u>U</u> nlimited
⊙ Unlimite <u>d</u>
C Limit <u>t</u> o
NetWare <u>H</u> ome Directory Relative Path:
IPX Share
OK Cancel Apply

#### Enter the Password for the new user

Set Password for IPX	JSER1		? ×
To enable this account password for both Wind	for NetWare Serv lows Server and N	vices, set the password NetWare Services.	. Use this
<u>N</u> ew password:	******		
<u>C</u> onfirm password:	*****		
		ОК	Cancel

## Then you can add the new users to the properties for the folder.

Select Users or Groups		<u>? ×</u>
Look in: 📕 IBM5194-23Y7114		•
Name	In Folder	
🕵 IPXUSER2	IBM5194-23Y7114	
🖸 😰 IUSR_IBMNAS	IBM5194-23Y7114	
	IBM5194-23Y7114	
🖸 🖸 ileitner	IBM5194-23Y7114	
🙍 😰 leitnerj	IBM5194-23Y7114	
📓 sfuuser	IBM5194-23Y7114	
📓 Supervisor	IBM5194-23Y7114	-
Add Check Names		
IBM5194-23Y7114\IPXUSER1; IBM5194-23Y7114\ji	eitner	
	OK Cance	

#### To Monitor the Service go to Start>Control Panel>FPNW

🗟 Control Panel			
<u> </u>	Tools Help		
$] \leftarrow Back + \Rightarrow + \textcircled{1}   \textcircled{2}Sea$	rch 🖫 Folders 🎯 History   階 🧏 🗙 🖄   🎽		
Address 🐼 Control Panel	<b>▼</b> ∂°∞		
Name 🛆	Comment		
SAdd/Remove Hardware	Installs, removes, and troubleshoots hardware		
Add/Remove Programs	Installs and removes programs and Windows component		
🗃 Administrative Tools	Configures administrative settings for your computer		
😼 Date/Time	Sets the date, time, and time zone for your computer		
😼 Display	Customizes your desktop display and screen saver		
Folder Options	Customizes the display of files and folders, changes f		
A Fonts	Displays and manages fonts on your computer		
FPNW	File and Print Services for NetWare		
Controllers	Adds, removes, and configures game controller hardv		
<b>S</b> GSNW	Gateway Service for NetWare		
🎁 Intel(R) PROSet II	Configures and tests Intel(R) PRO family of adapters		
Internet Options	Configures your Internet display and connections set		
🛗 Keyboard	Customizes your keyboard settings 📃 💌		
File and Print Services for NetWare			

The following window appears. From here you can monitor various activities. As well as get Help on further configuration.

File and Print Services f	or NetWare on IBM5194-23Y7114	X	
File Server Information			
Software Version:	File and Print Services for NetWare v5.0	OK	
Connections Supported:	10000	Cancel	
Connections In Use:	0		
Available Volumes:	1	Help	
Number of Open Files:	0	<u>O</u> verview	
Number of File Locks:	0		
Network Address:	DCFD3B9D		
Node Address:	00000000001		
FPNW Server <u>N</u> ame:	IBM5194-23Y7114_FPNW		
Description:			
Home directory root path:	SYS:		
Default gueue:	•		
🔽 Allow new users to log	in		
Respond to Find_Nearest_Server requests			
Image: Series         Image: Series			

# Looking at Users from the FPNW Control Panel:

Users on IBM5194-23Y	7114		×
<u>C</u> onnected Users	Network Address	Node Address	Login Time
👷 JLEITNER	0000002	0010A478A3CE	00:17
Connected Users: 1			
Resources	Driv	'es	Opens
Resources	Driv	res	Opens 0
Resources	Driv	'es	Opens 0 0
Resources	Driv	res	Opens O O O
Resources	Driv	ves	Opens O O O

Looking at Volume Usage from the FPNW Control Panel:			
Volumes Usage on IBM5194-23Y7114			
<u>V</u> olume Users Max Users Path			
🚨 IPX SH	1 Unlimited	E:N	
🛛 🔁 IPX SH	1 Unlimited	E:\IPX SHARE	
SCRE	0 Unlimited	C:\DESKTOP\S0	CREEN SHOTS
🔁 SYS	1 Unlimited	E:\SYSVOL	
<u>C</u> onnected	d Users	Connection Time	Opens
👷 JLEITNEI	R	00:10	No
Connected Users: 1			
Close	<u>D</u> isconnect	Disconnect <u>A</u> ll	<u>H</u> elp