



IBM eServerJ iSeriesJ

Session: 406170
26GB

iSeries NetServer: File and Print Serving Basics

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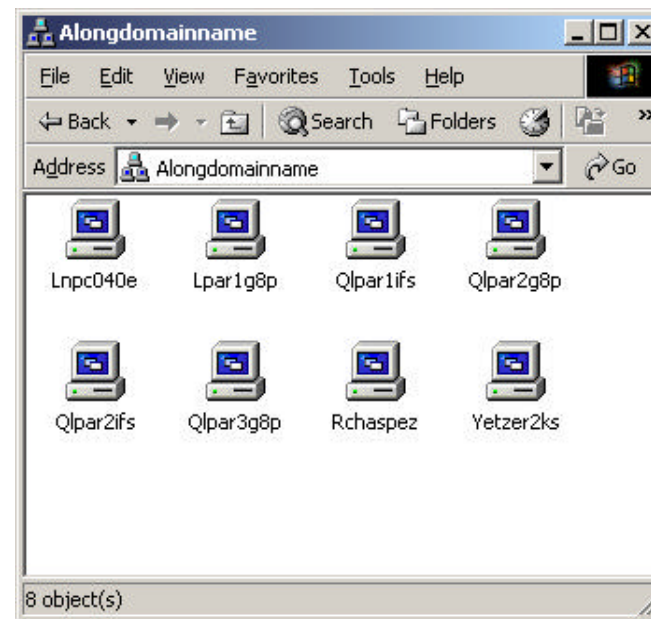
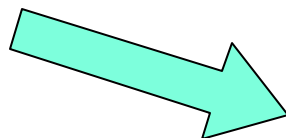
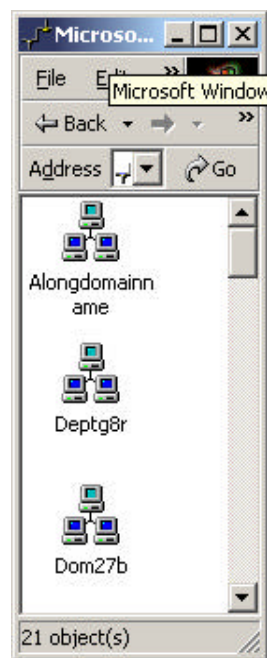
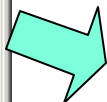
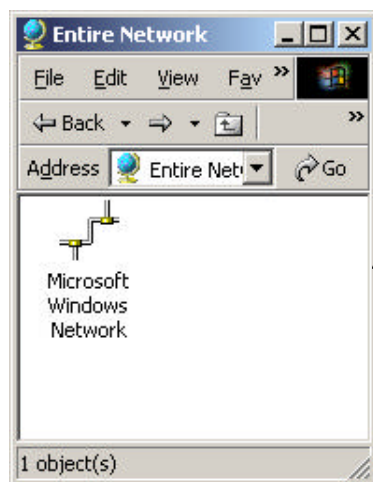
Agenda

- Welcome to the Neighborhood
- What is iSeries NetServer
- Using iSeries NetServer
- Configuration
- Administration
 - ▶ Setting up and using file shares
 - ▶ Setting up and using print shares
 - ▶ Managing iSeries NetServer activity
- What's new!
- Resources & Information

Welcome to the Neighborhood

Microsoft Windows Network

The Network Neighborhood



File Sharing Example

Qiserver shares:

Public

Home

Home/Chuck

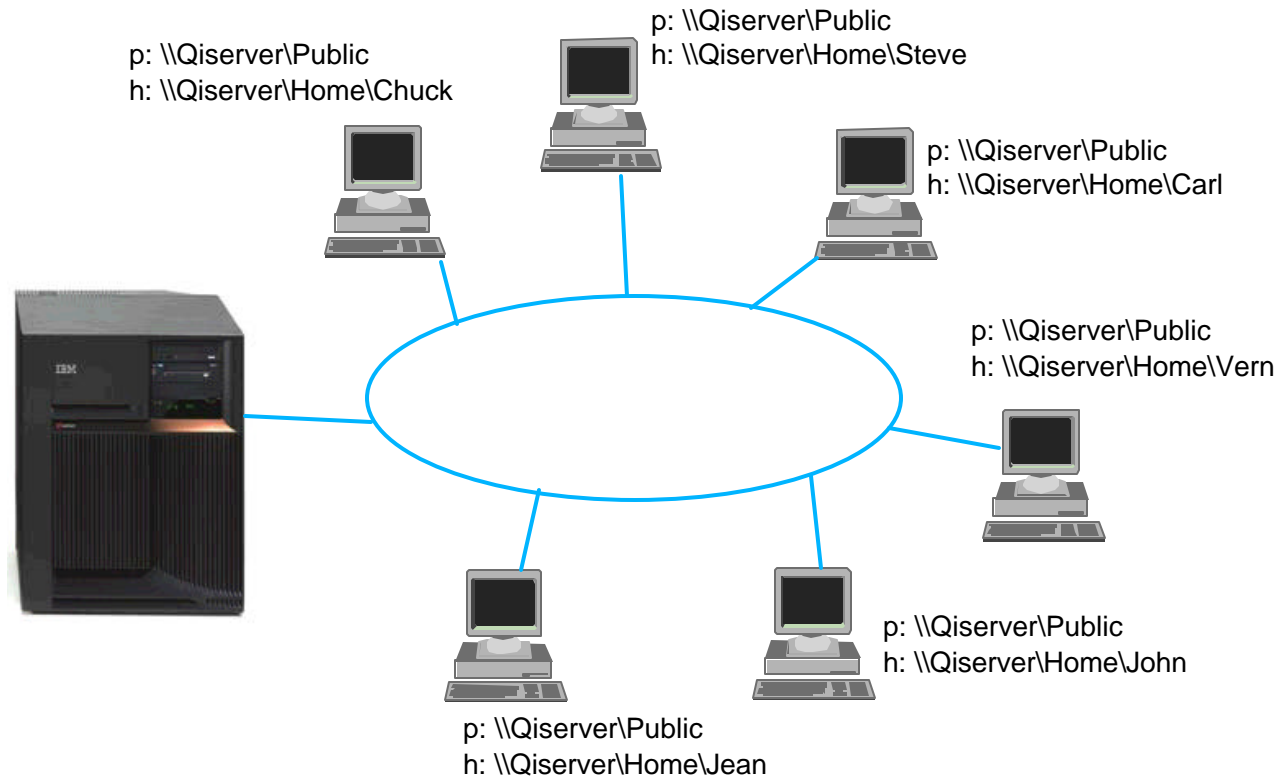
Home/Steve

Home/Carl

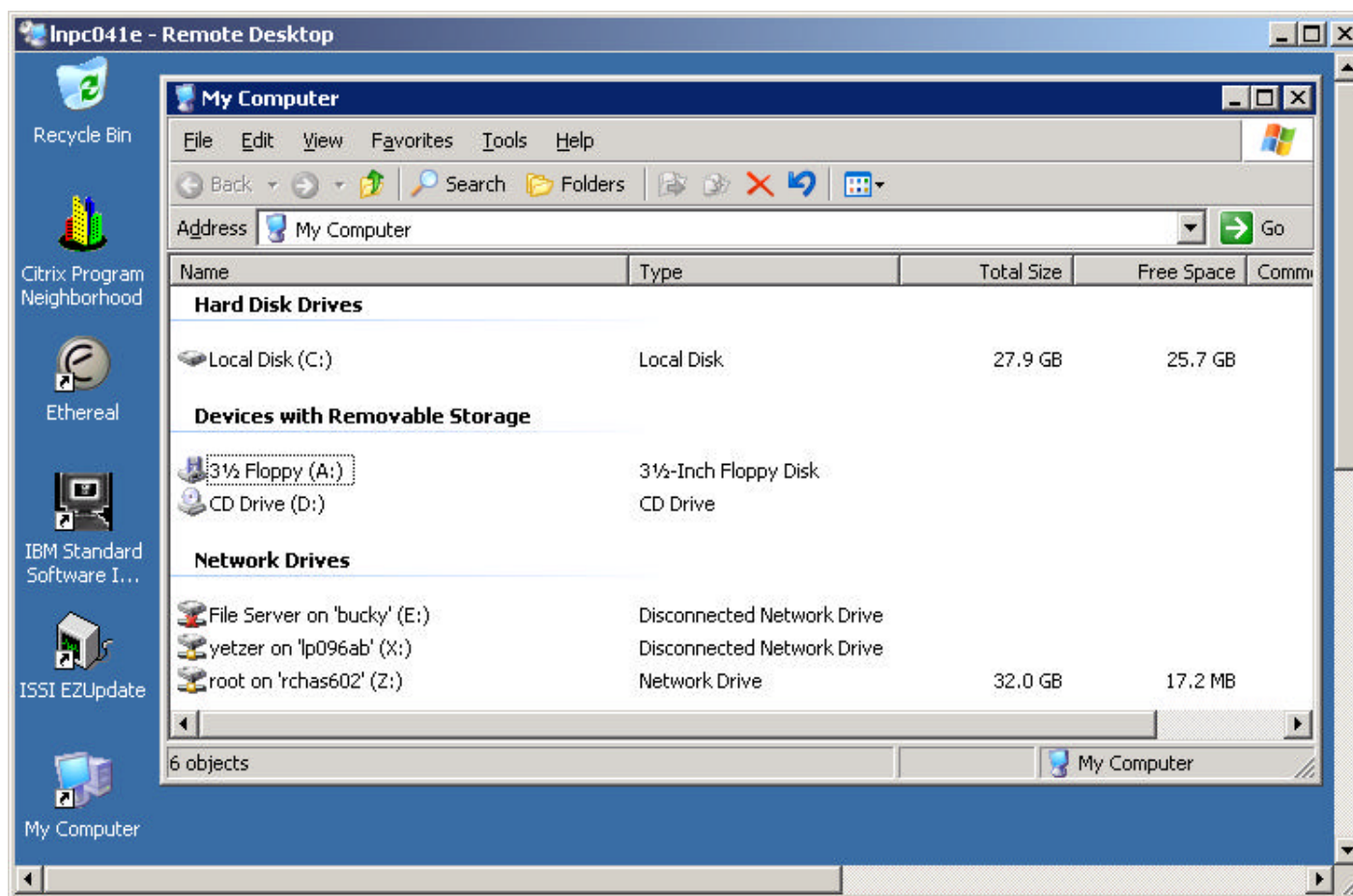
Home/Vern

Home/John

Home/Jean



My Computer



iSeries NetServer Uses:

Some examples:

- Share office documents (or .MP3 files) between users
- Install / use applications from a central server (files or CD)
- Access data in any iSeries file system
- Use iSeries as a logon server for Windows users and store user profile settings on the server

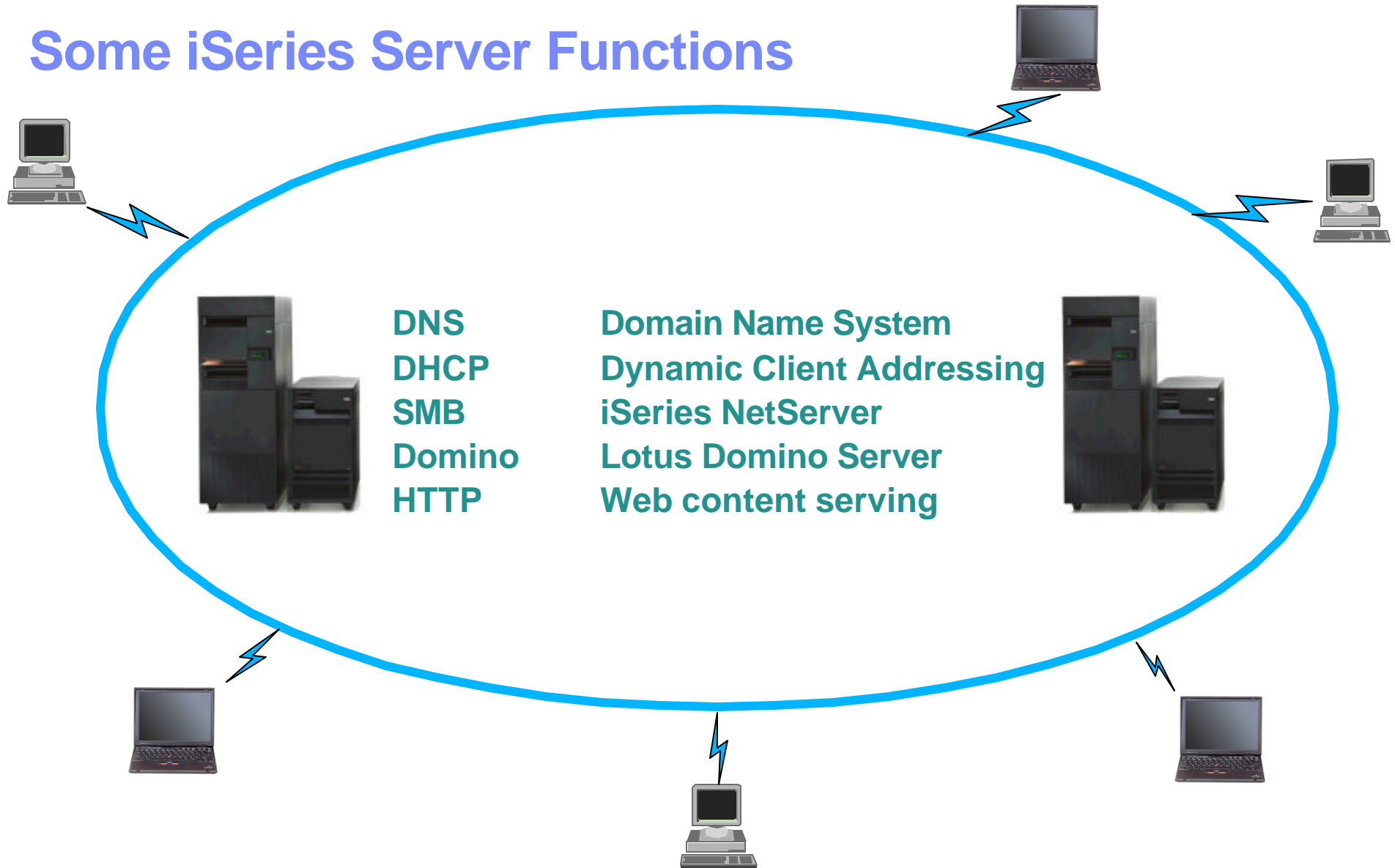
What is NetServer ?

What is iSeries NetServer ?

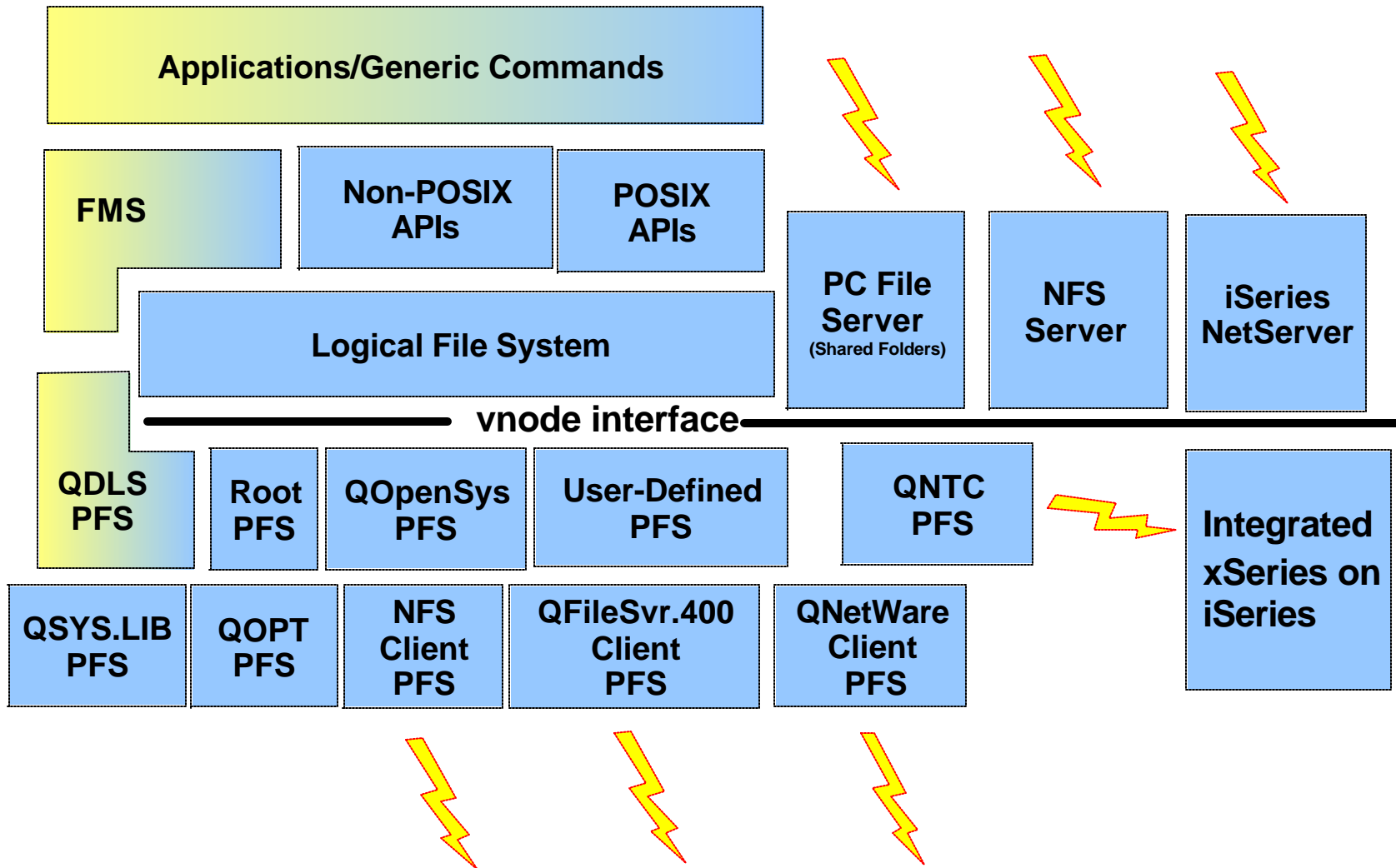
"iSeries Support for Windows Network Neighborhood"

- File and print serving for CIFS clients
- Compatible with Microsoft Networking
- Part of the base OS/400 Operating System
- Uses TCP/IP for connectivity

Some iSeries Server Functions



Integrated File System



Supported Clients

iSeries NetServer - Currently Supported Clients

- Windows 98
- Windows Me
- Windows NT 4.0
- Windows NT 4.0 Terminal Server Edition
- Windows 2000
- Windows XP Professional (V5R2)
- Linux/Samba (V5R1 w/PTFs)
- Windows 2003 (V5R2)

iSeries NetServer vs PC Server?

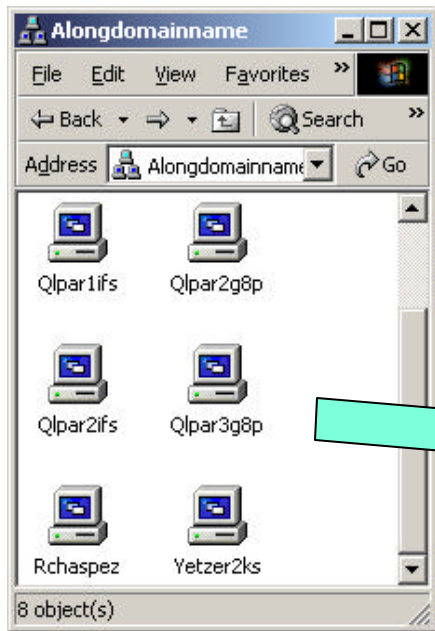
- Eliminate cost of administering multiple server platforms
 - ▶ Uses iSeries user profiles and security
 - ▶ OS/400 is single point for software maintenance
- Reduced TCO vs PC servers
- Standard Windows client interface, no retraining required

Using iSeries NetServer

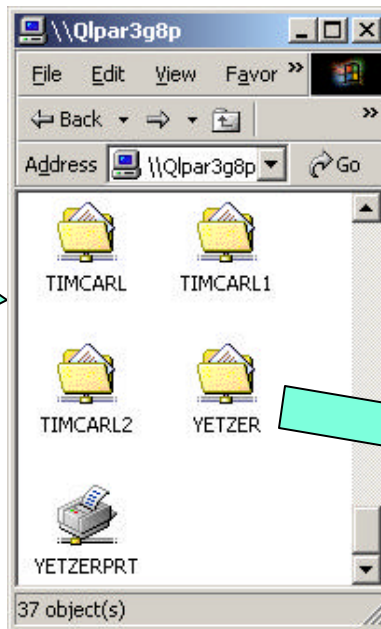
Using iSeries NetServer

- **Network Neighborhood (My Network Places)**
- **Search for computers**
- **Connecting to a share**
- **Working with output queues**
- **Using Network DOS commands**
- **Encrypted password security**

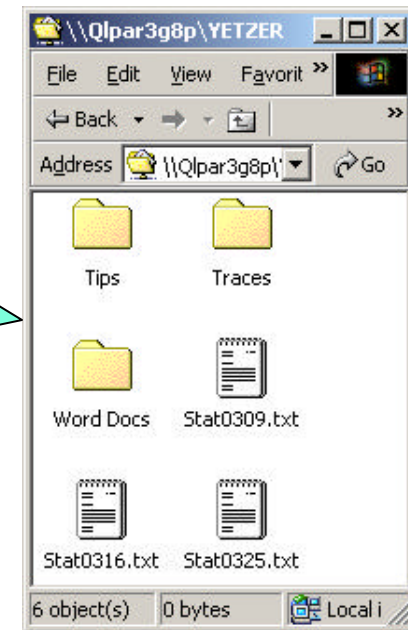
Network Neighborhood and iSeries NetServer "Shares"



Servers



Shared Drives and Printers



Files & Directories

"Search for Computers" - Connecting with Windows 2000



Open

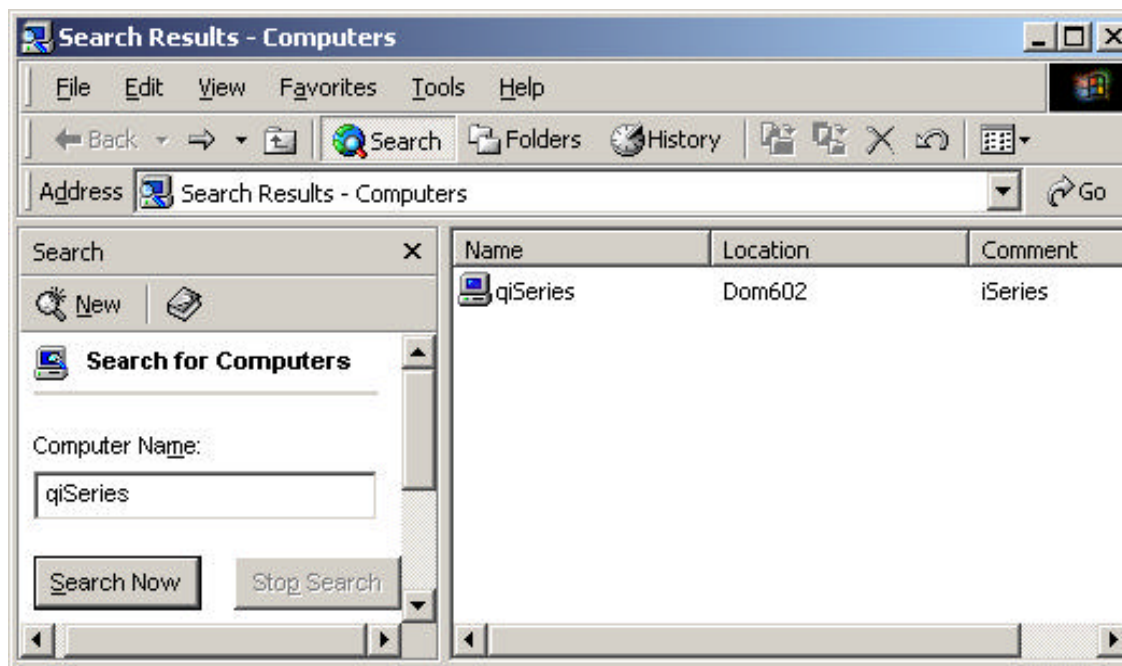
Classical Dir
DEV/2000 Cmd Prompt Here
Explore
ez on Dir

Search for Computers...

Map Network Drive...
Disconnect Network Drive...

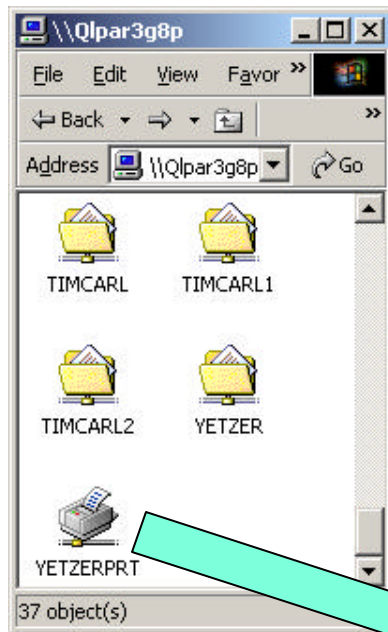
Create Shortcut
Rename

Properties

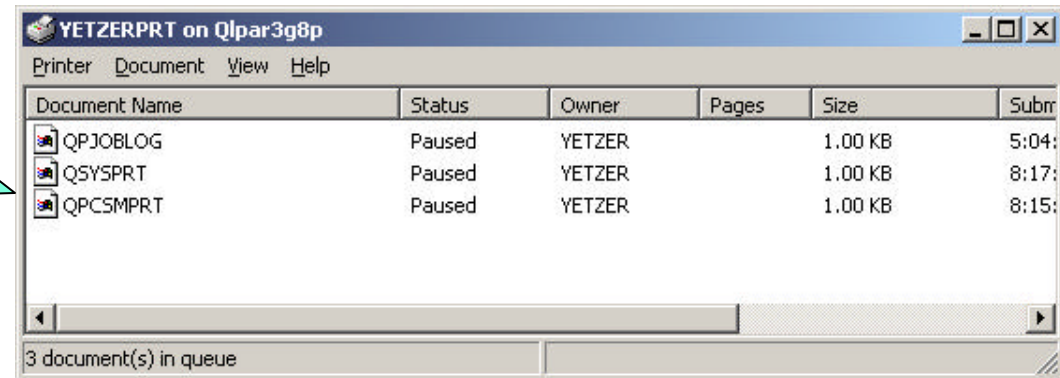


Ctrl+Meta key+f = Search for Computers

iSeries NetServer Printers



Shared Drives
and Printers



Output Queue

Access from a Command Prompt

```

C:\>net use L: \\LPAR3G8P\YETZER
The command completed successfully.

C:\>DIR L:
Volume in drive L has no label.
Volume Serial Number is 0000-0000

Directory of L:\
07/14/2003  03:18p    <DIR>          .
07/11/2003  08:27a    <DIR>          ..
07/14/2003  03:15p    <DIR>          Word Docs
07/14/2003  03:15p    <DIR>          Traces
07/14/2003  03:16p    <DIR>          Tips
07/14/2003  03:17p             0 Stat0309.txt
07/14/2003  03:17p             0 Stat0316.txt
07/14/2003  03:17p             0 Stat0325.txt
                3 File(s)          0 bytes
                5 Dir(s)  21,463,769,088 bytes free

C:\>_

```

```

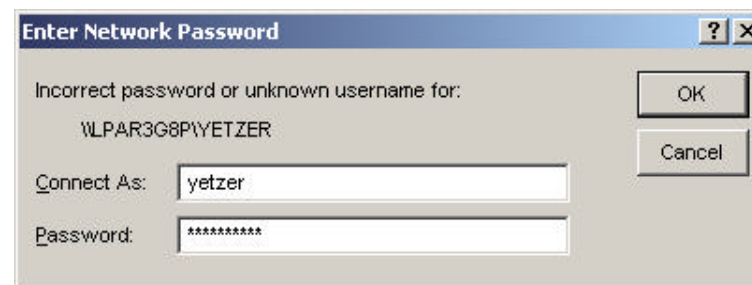
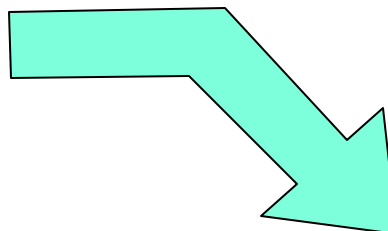
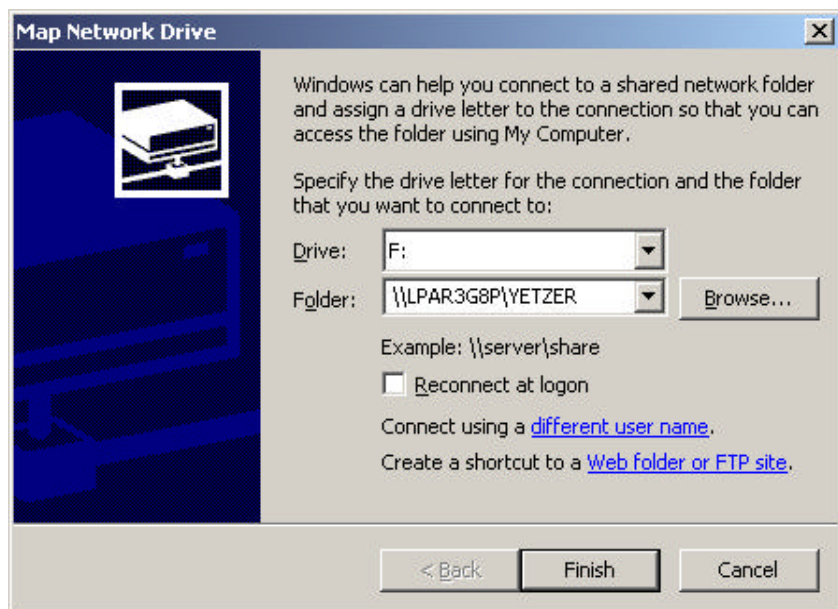
C:\>net print \\LPAR3G8P\YETZERPRI
Printers at \\LPAR3G8P

Name                               Job #    Size    Status
-----
YETZERPRI Queue                    3 jobs
  YETZER                             1      1024    *Printer Active*
  YETZER                             2      1024    Held in queue
  YETZER                             3      1024    Held in queue
The command completed successfully.

C:\>_

```

Security



Configuration

Configuring iSeries NetServer

- Prerequisites
- iSeries Navigator Interfaces
- iSeries Configuration
- New configuration wizard
- Properties

iSeries Setup - Prerequisites

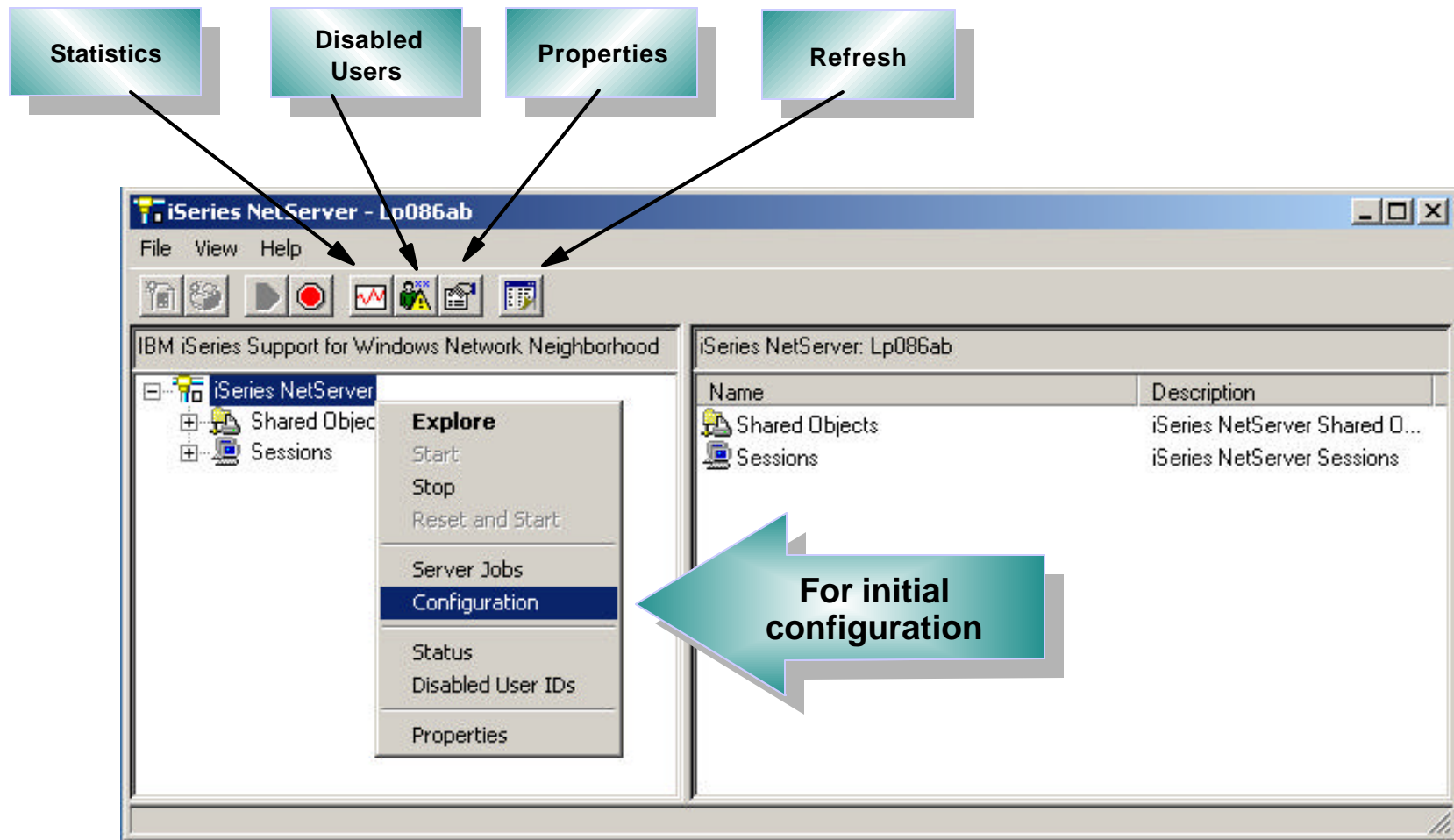
- TCP/IP support configured
- QSERVER subsystem started
 - ▶ STRSBS SBS(QSERVER)
 - ★ If using the subsystem support provided in V5R2, the alternate subsystems must be started as well.

Locating iSeries NetServer in iSeries Navigator

The screenshot shows the iSeries Navigator interface. On the left, a tree view under 'My Connections' shows the path: Management Central (Lp086ab) > My Connections > Lp086ab > Network > TCP/IP Configuration > TCP/IP. The 'iSeries NetServer' icon is highlighted. A context menu is open over it, with 'Open' selected. Another context menu is open over 'File Shares' in the tree view, with 'Open iSeries NetServer' selected. The main pane on the right displays a table of services for 'Lp086ab: TCP/IP'.

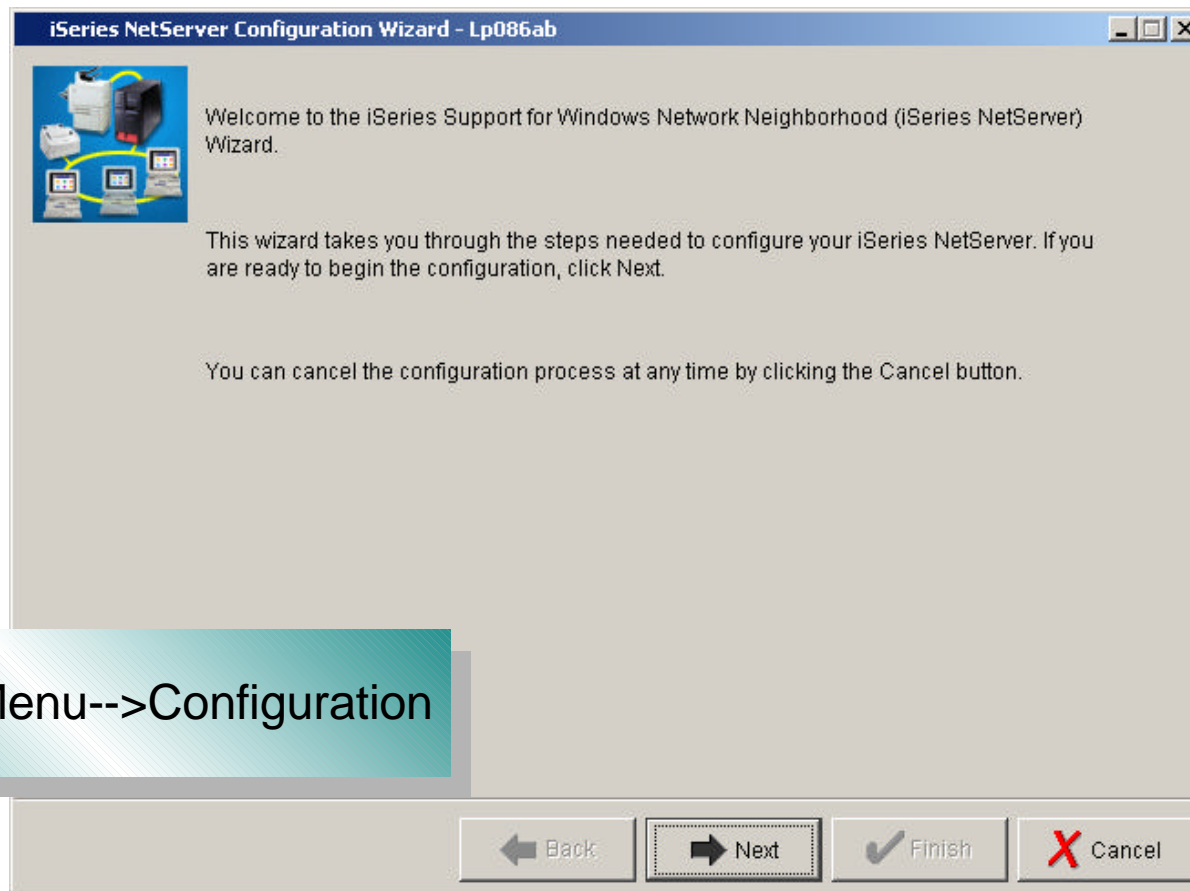
Server Name	Status	Description
BOOTP/DHCP Relay Agent	Stopped	Bootp relay agent
BOOTP	Stopped	Bootp
DDM	Started	DDM
DHCP	Stopped	DHCP
RouteD	Stopped	RouteD
RPC	Stopped	RPC
TFTP	Stopped	Trivial FTP
NFS	Stopped	Network file system
iSeries NetServer	Started	iSeries Support for Windows Network Neighborhood
INETD	Stopped	INETD
EDRSQL	Stopped	Extended Dynamic Remote SQL
SNTP	Stopped	SNTP
QoS	Stopped	Quality of Service
RADIUS NAS	Stopped	RADIUS Network Access Server
WebFacing	Stopped	WebFacing server
System Debug	Stopped	Graphical system debug server
Management Cent	Stopped	Management Central
DLFM	Stopped	Datalinks File Server
ASFTomcat	Stopped	ASFTomcat server
Triggered Cache M	Stopped	Triggered cache manager
FTP	Stopped	FTP
LPD	Started	LPD
POP	Stopped	POP
Remote Execution	Stopped	Remote execution
SMTP	Started	SMTP
TELNET	Started	TELNET
HTTP administration	Stopped	HTTP administration
Directory	Started	Directory

iSeries NetServer Management Window



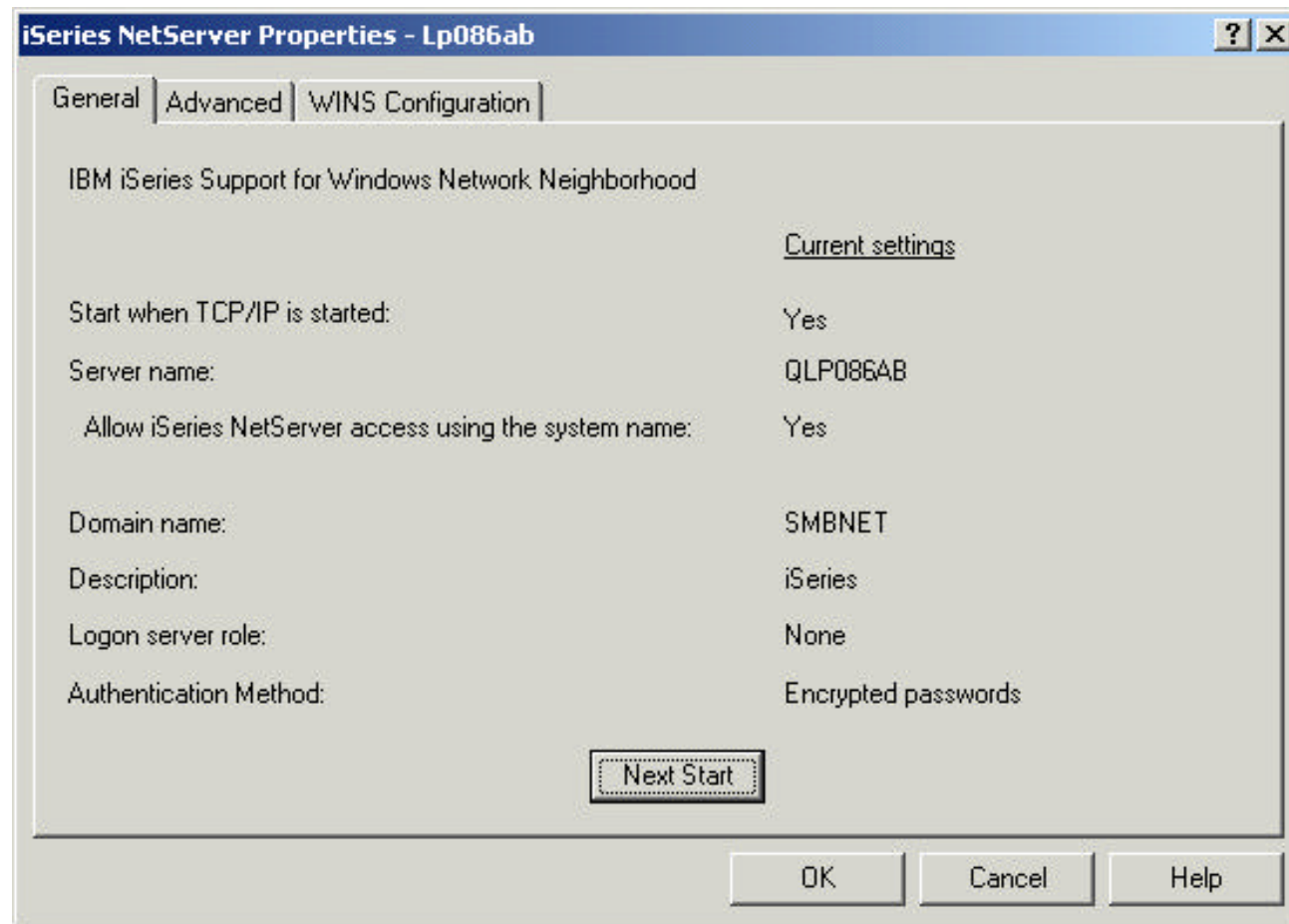
V5R2 View

Use the Wizard for Initial Configuration



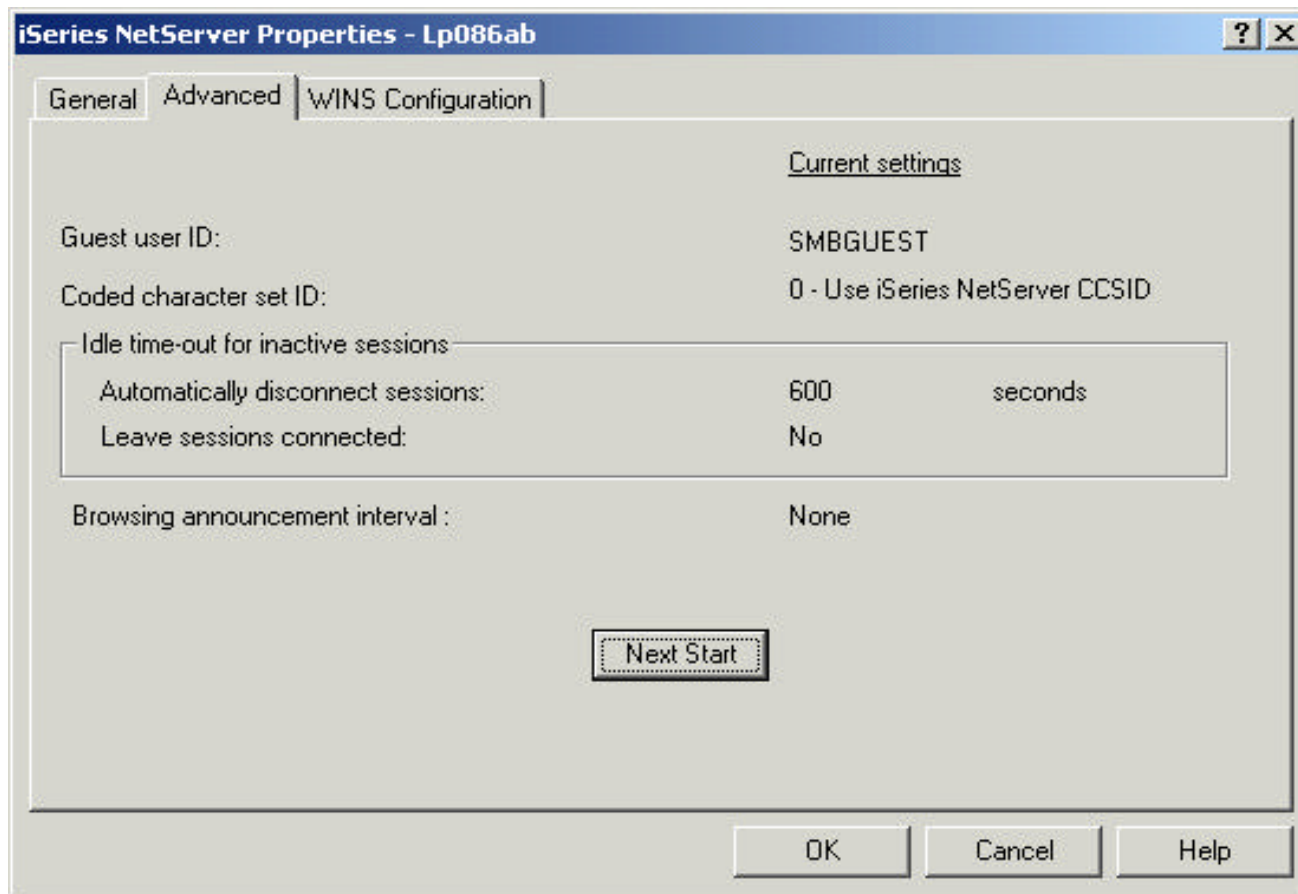
Choose File Menu-->Configuration

Properties: General Tab



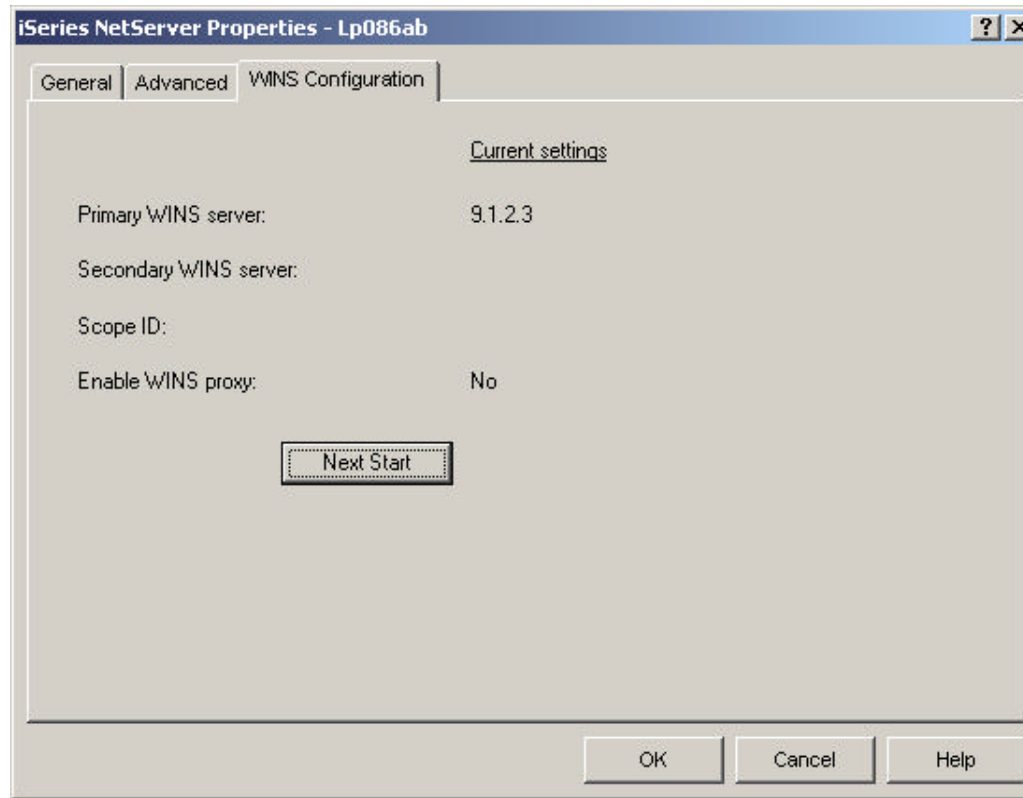
V5R2 Properties dialog

Properties: Advanced Tab



V5R2 Properties dialog

WINS configuration tab



V5R2 Properties dialog

WINS Configuration - iSeries NetServer

iSeries NetServer WINS Configuration Next Start - Lp086ab

IBM iSeries Support for Windows Network Neighborhood

Primary WINS server: 1.2.3.4

Secondary WINS server: 1.2.3.5

Scope ID:

Enable WINS proxy

Reset to Current

OK Cancel Help

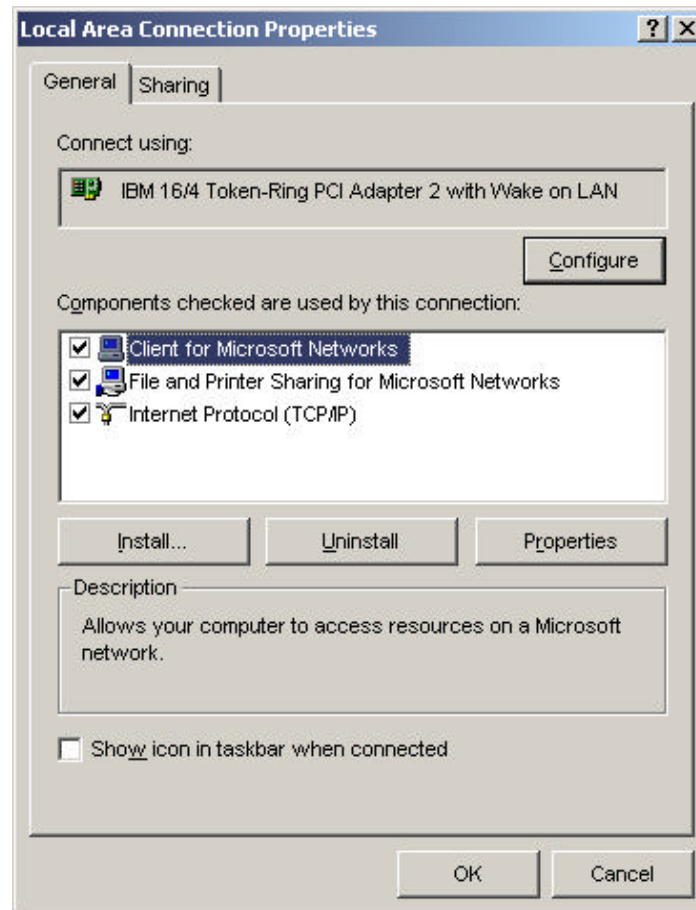
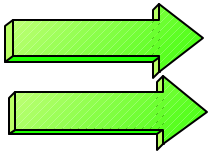
'Next Start' dialog for iSeries NetServer

PC Client Configuration

- Client for Microsoft Networks
- Complex TCP/IP networks
- Name resolution considerations
- WINS
- Mapping a Drive

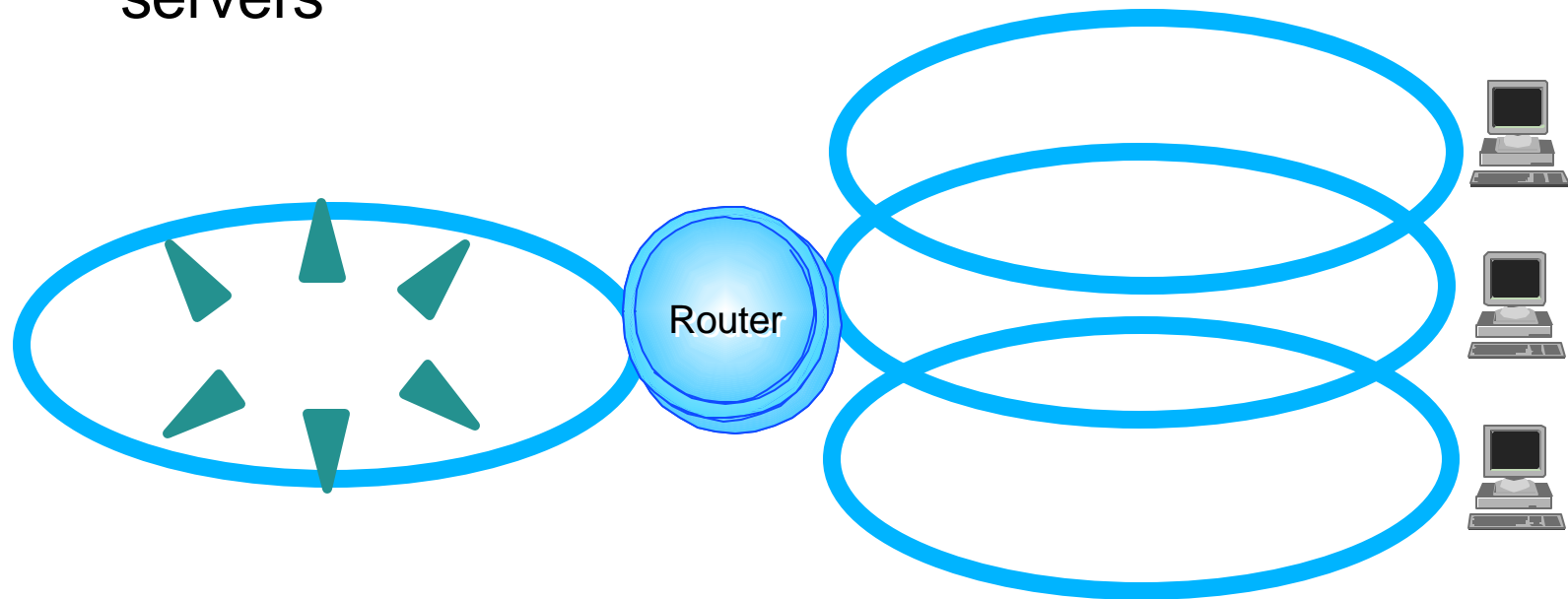
PC Setup

Use "Client for Microsoft Networks"

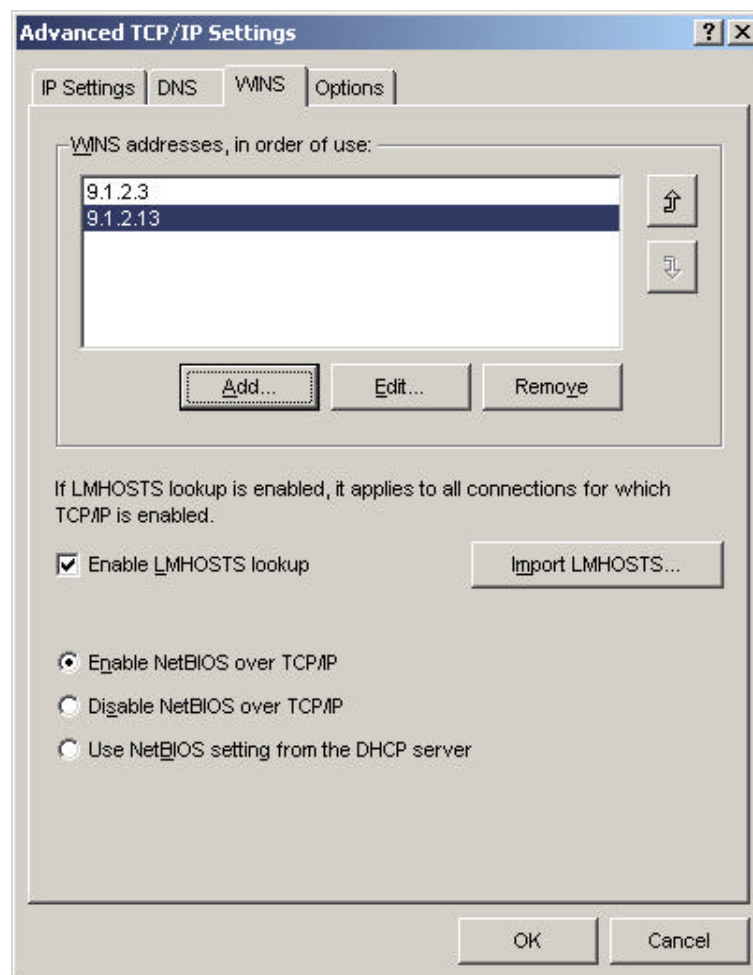


Complex TCP/IP Networks

- Broadcasts get discarded by routers
- Need some other method for clients to locate servers

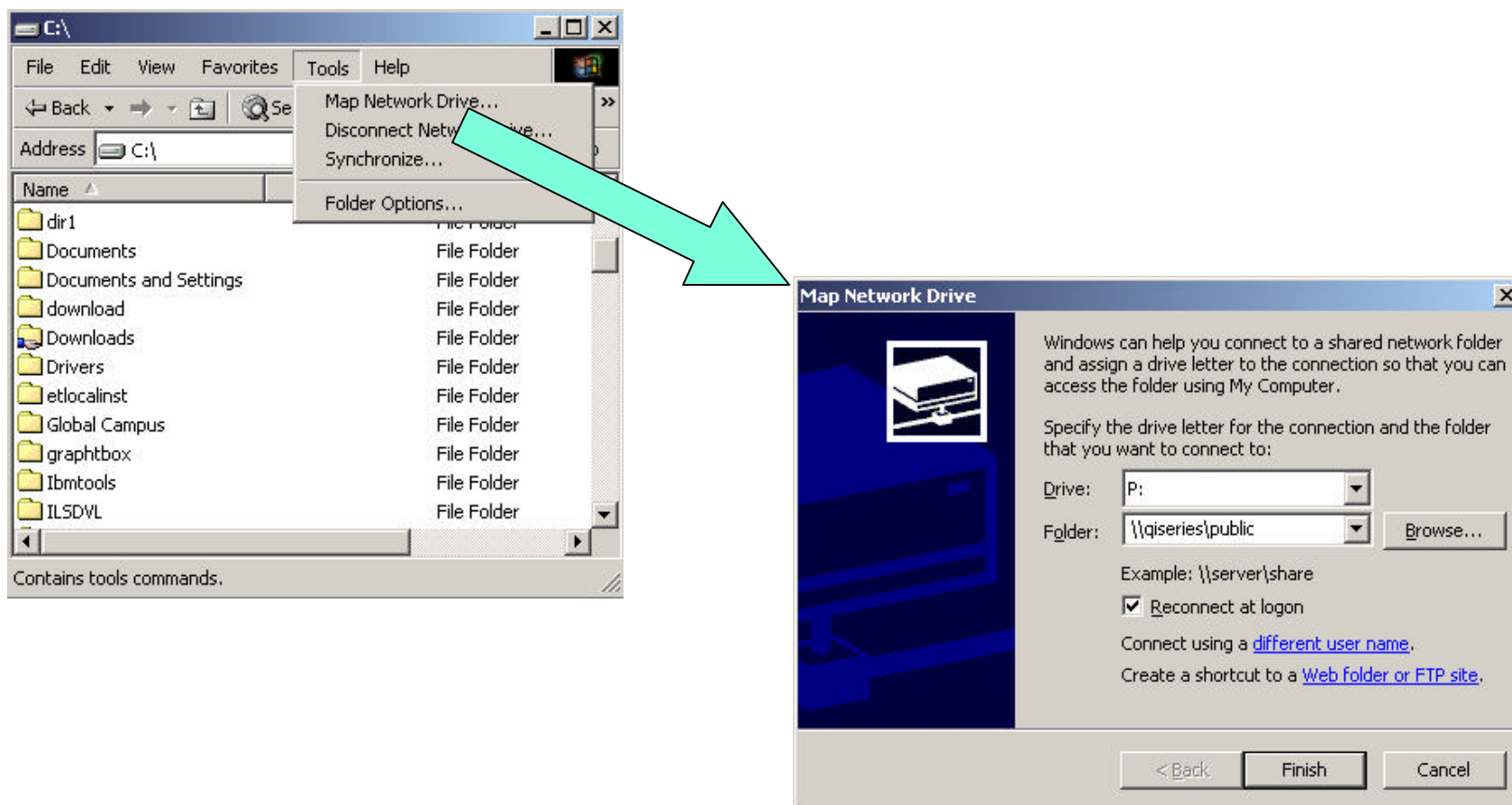


Client WINS configuration

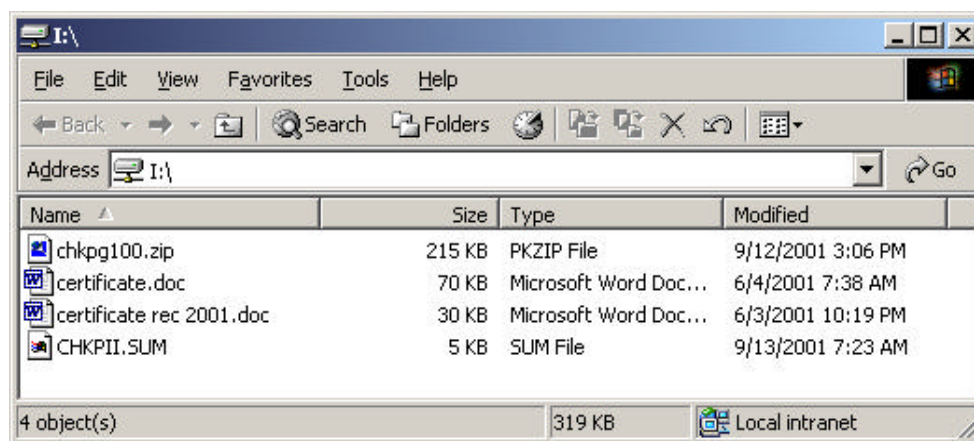


Windows 2000 example

Mapping drives



Mapped Drive on Client



Administration

Administration - File Sharing

- Designing a file sharing solution
- Creating the directory structure
- Sharing Files and Printers
- Text conversion
- IFS directory permission considerations

Administration - File Sharing Considerations

- **What** files and directories should be accessed ?
- **Where** will the users be when they access the data?
- **Who** needs access to files and directories?
- **How** much authority and disk space do users need ?
- Are there any special considerations ?

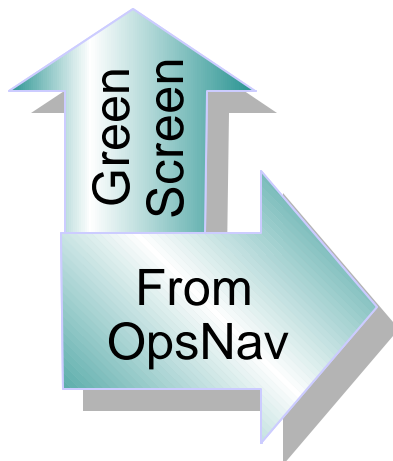
Administration - File Sharing Considerations

- **What** files and directories should be accessed ? *create shares*
- **Where** will the users be when they access the data? *text conversion*
- **Who** needs access to files and directories? *permissions*
- **How** much authority and disk space do users need ? *permissions/profile*
- Are there any special considerations ? *exit programs*

Creating the directories

MKDIR DIR('\NetServer')

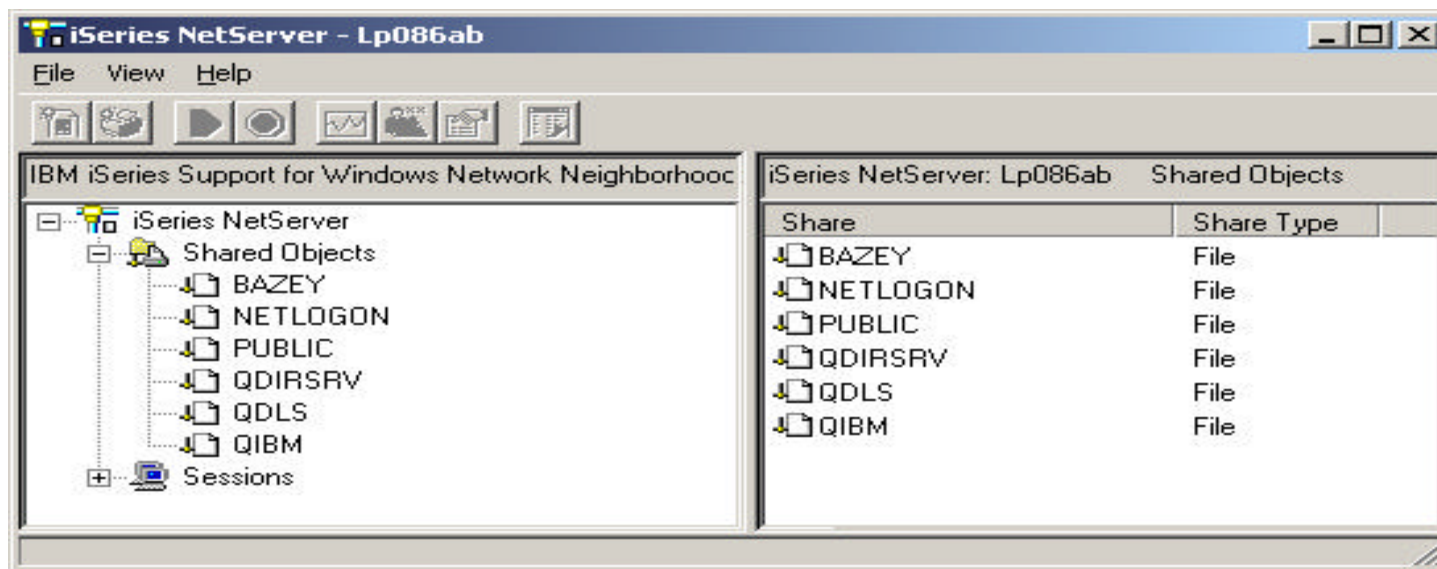
- Create the iSeries NetServer branch of the iSeries integrated file system



The screenshot shows the AS/400 Operations Navigator interface. The left pane displays a tree view of the file system with 'NetServer' selected. A context menu is open over 'NetServer', and 'New Folder...' is highlighted. The right pane shows the contents of the 'NetServer' directory, which currently contains a folder named 'Presentation'. A 'New Folder - Cndorman' dialog box is open, prompting the user to enter a new name for the object. The text 'Public' is entered in the input field. Below the dialog box, a bullet point states: 'Create the public directory where applications are stored'.

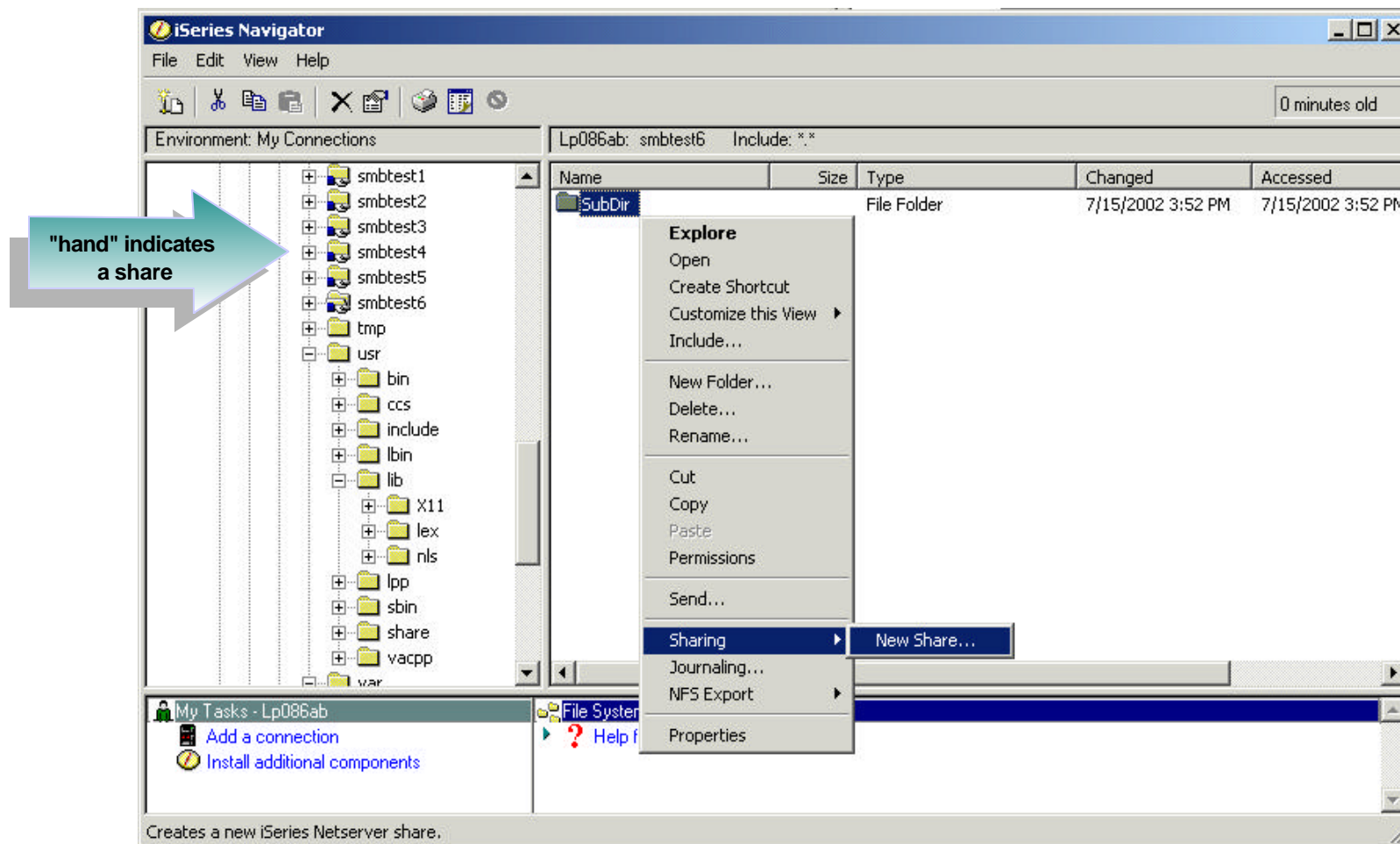
Name	Size	Type	Modified
Presentation		File Folder	9/7/00 9:49 AM

Open iSeries NetServer



Viewing shares from the iSeries NetServer window with additional administrative options.

iSeries Navigator Shows Shares



Sharing iSeries Directories

The screenshot shows a Windows-style dialog box titled "iSeries NetServer File Share - Lp086ab". It has two tabs: "General" and "Text Conversion", with "General" selected. The dialog is for configuring a file share named "Public" with the description "Public Applications". The access level is set to "Read only". Under "Maximum number of users", the "No maximum" radio button is selected. The "Path name" is set to "/NetServer/Public". At the bottom are "OK", "Cancel", and "Help" buttons.

iSeries NetServer File Share - Lp086ab

General | Text Conversion

IBM iSeries Support for Windows Network Neighborhood

Share name: Public

Description: Public Applications

Access: Read only

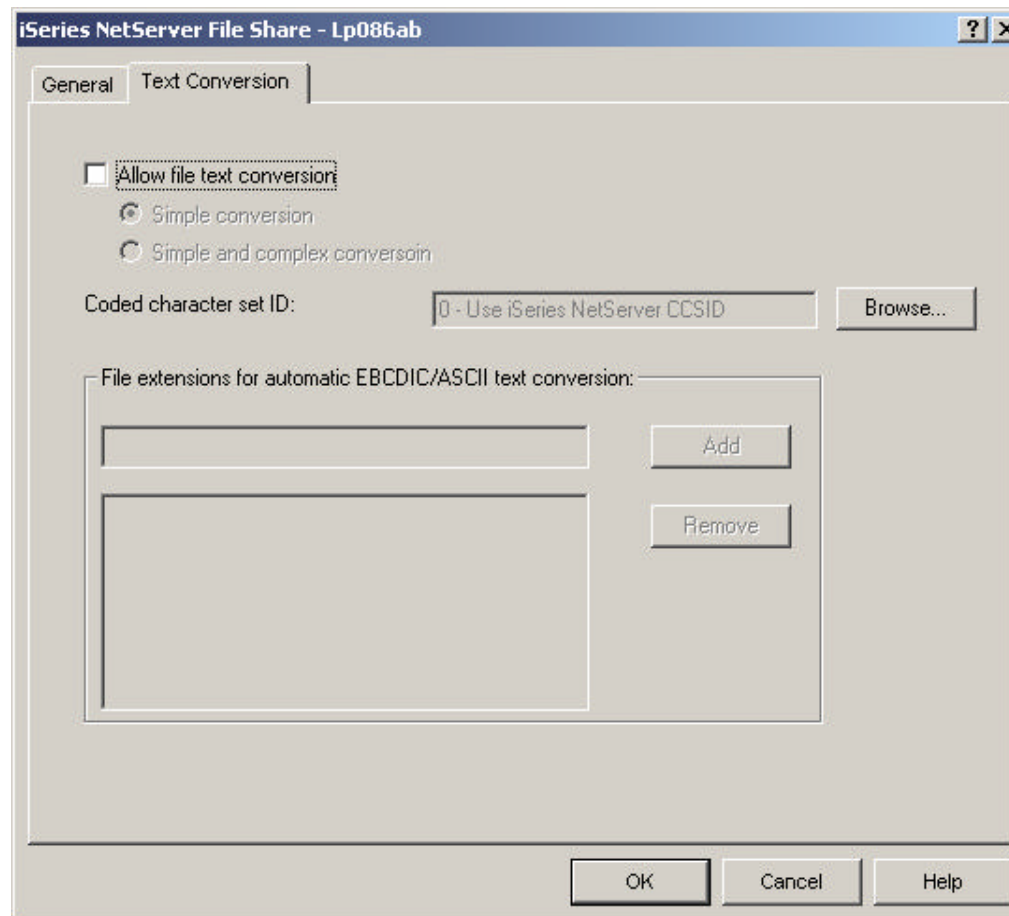
Maximum number of users:

- No maximum
- Maximum users (0 - 2147483647): 0

Path name: /NetServer/Public Browse...

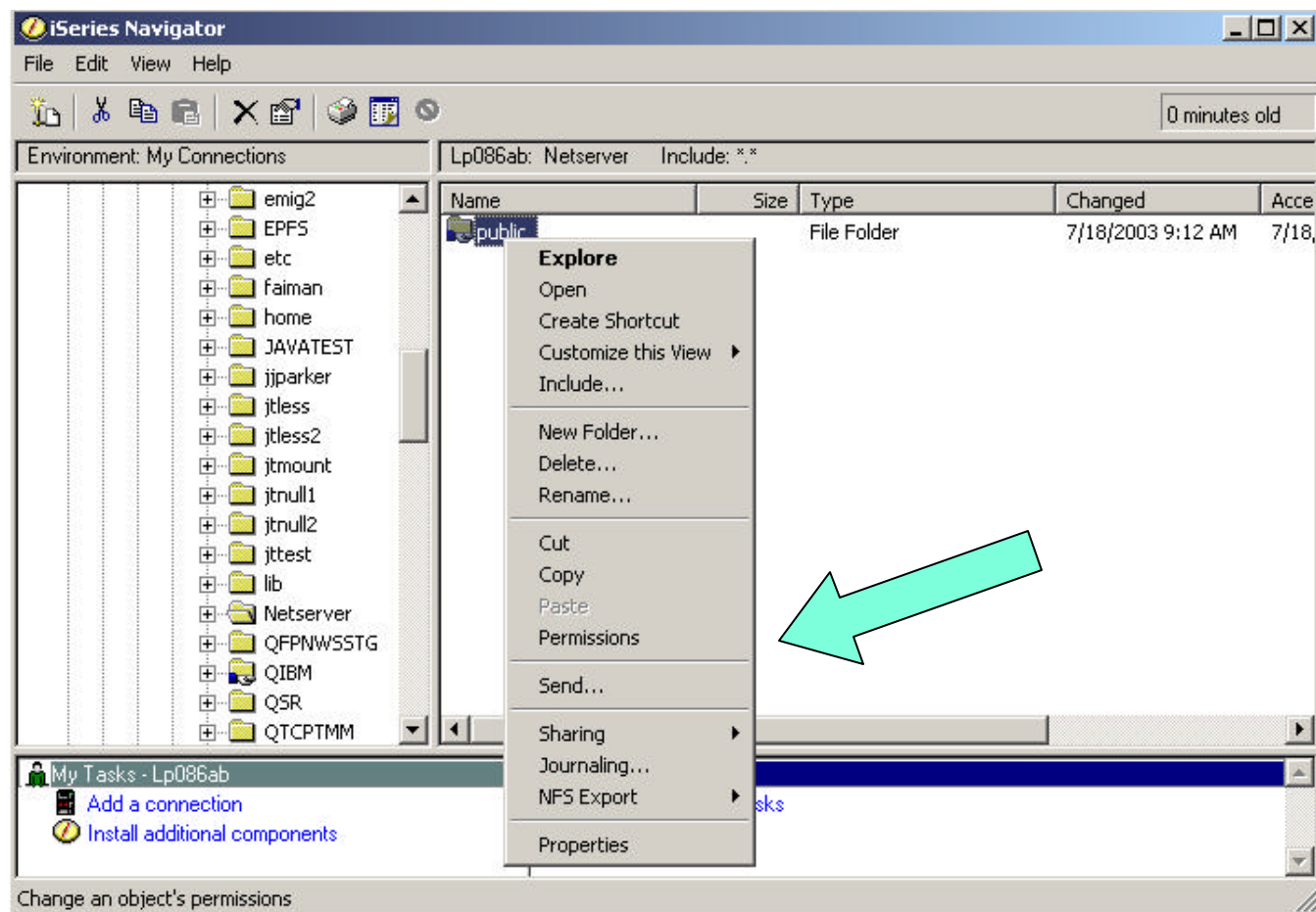
OK Cancel Help

Text Conversion

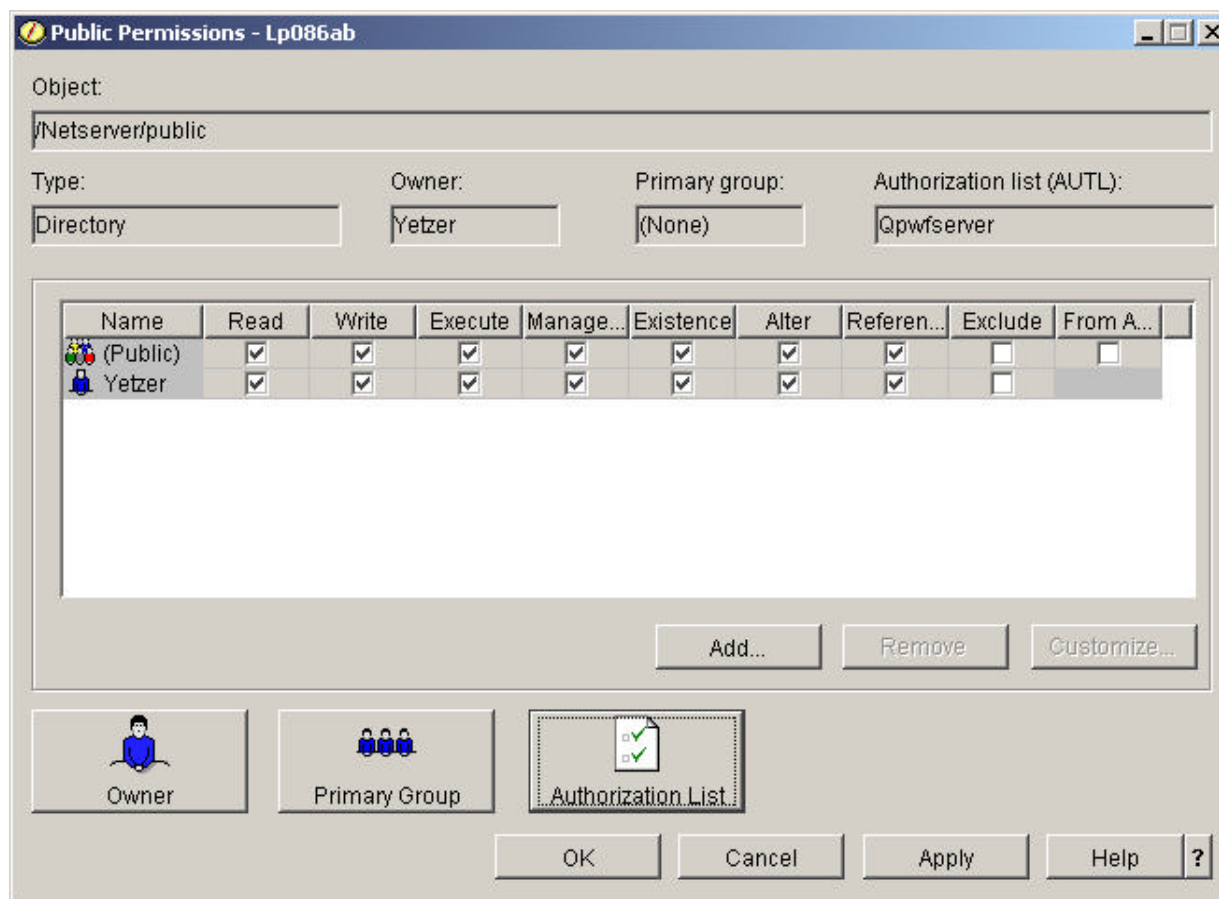


Allow users to see text files in character set of choice

Configuring Directory Permissions

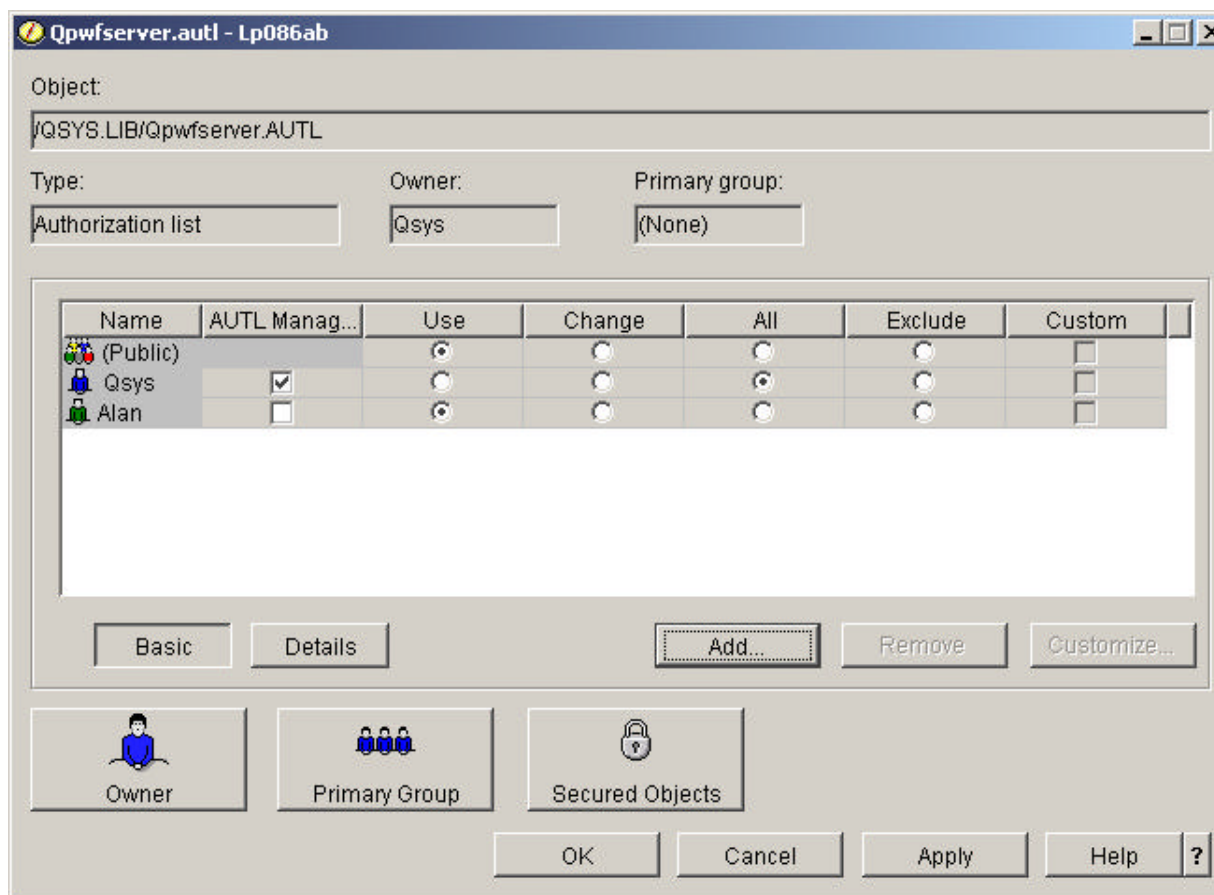


iSeries directory permissions



iSeries directory permissions

Authorization Lists



Administration - Print Sharing

Setting Up Print Shares

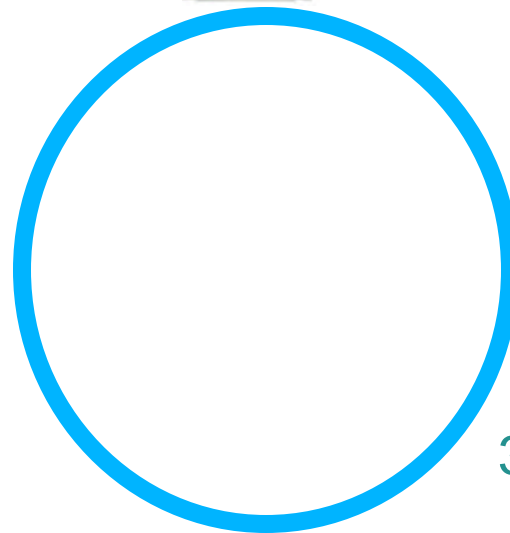
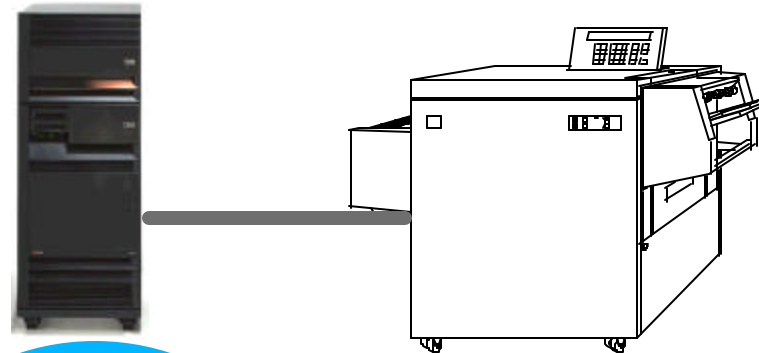
- Sharing an output queue
- Installing a network printer on the client
- TCP/IP printing

Print share example

PC printing to AFP printer

1. Create OUTQ on the iSeries for AFP printer

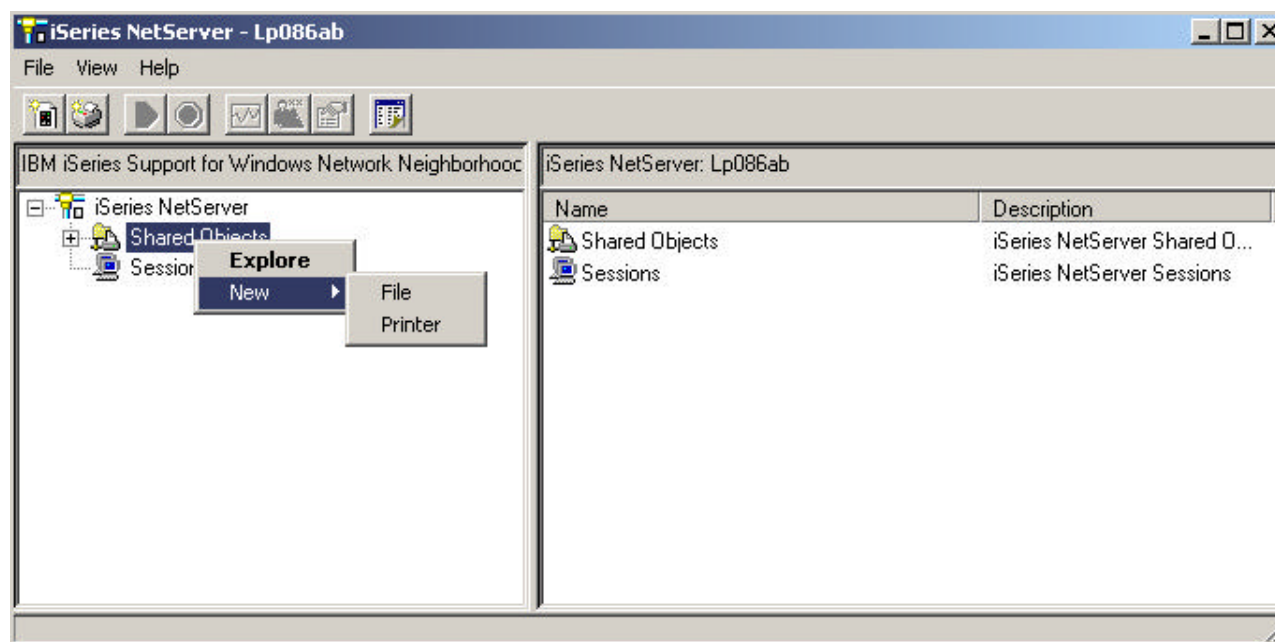
2. Share the OUTQ with "IBM AFP 3820" printer driver, *AFP spool file type



3. Use the share, using IBM AFP 3820 print driver

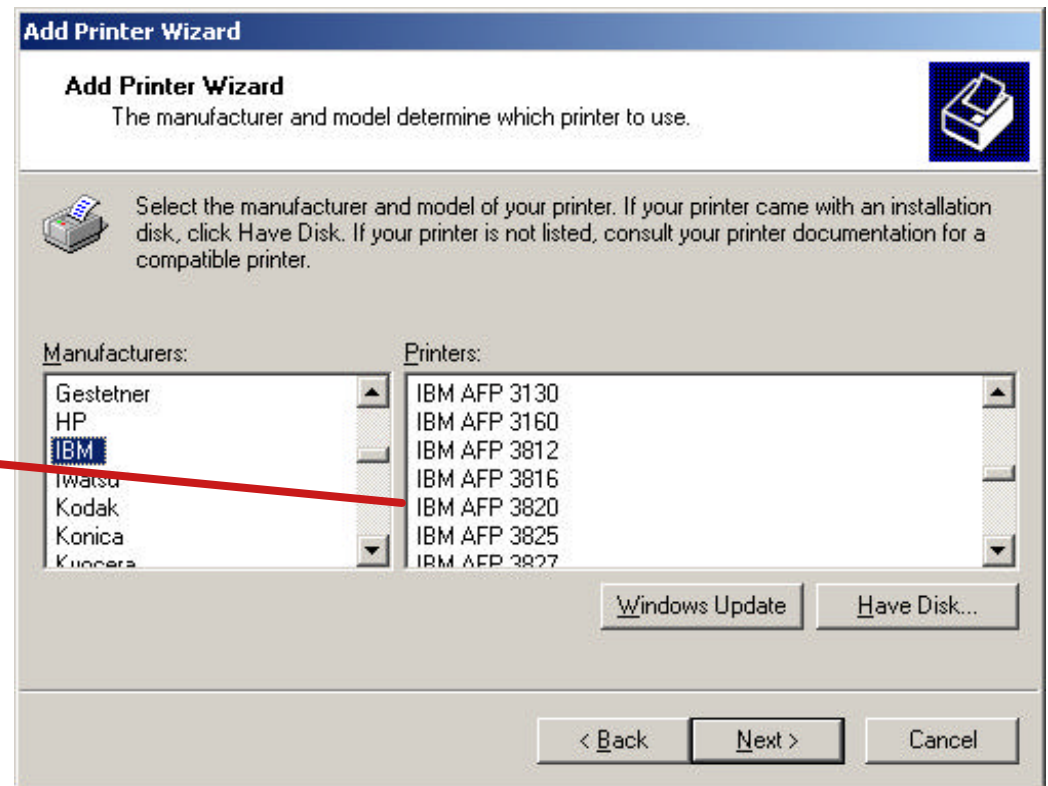
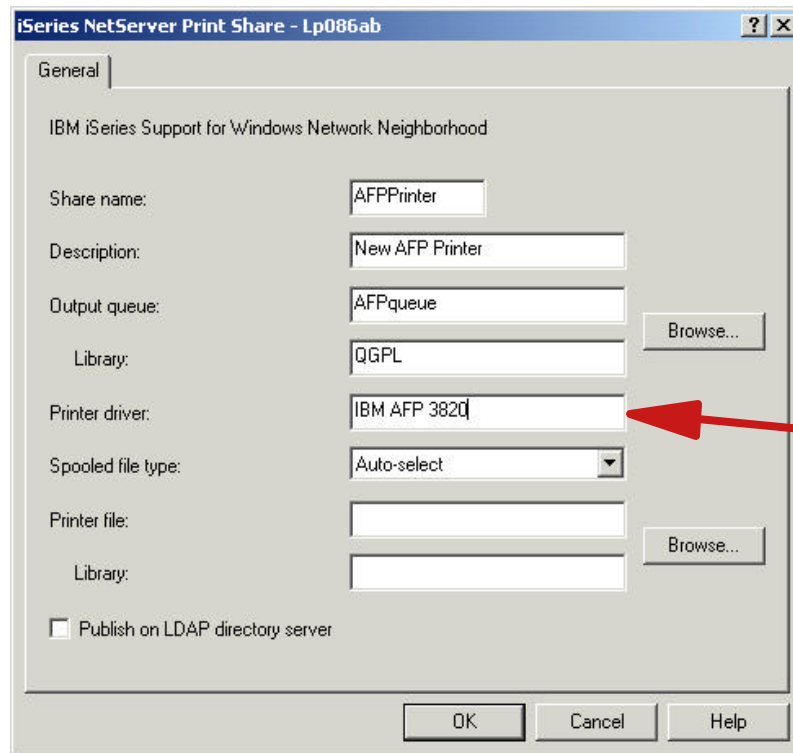
Sharing a Printer

Use Operations Navigator to create the printer share.



Sharing a Printer

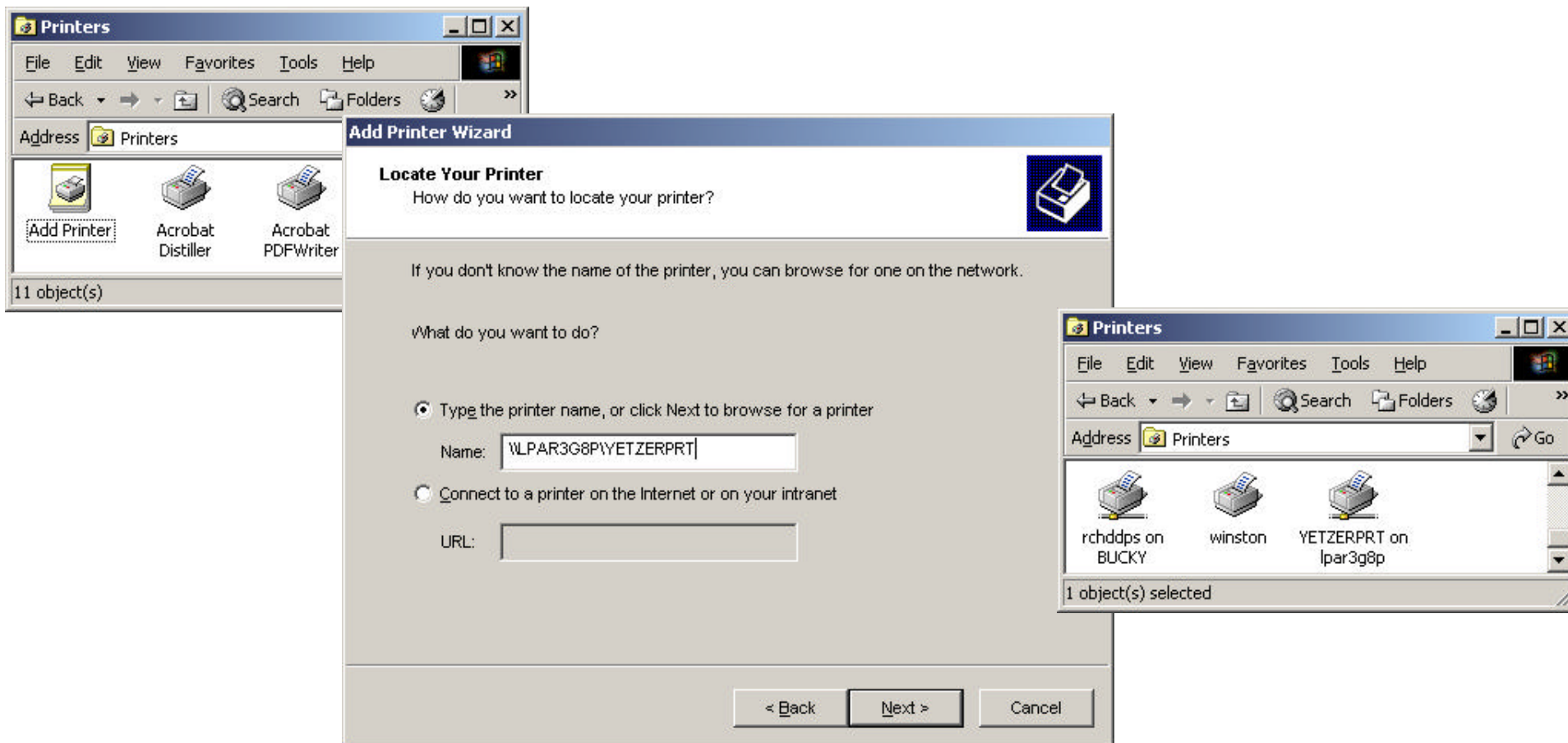
Connect OUTQ to the Printer Share



Use the *Add Printer Wizard* to see the list of printer drivers that your computer knows about.

Installing a network printer

Connect to the print share from a client PC

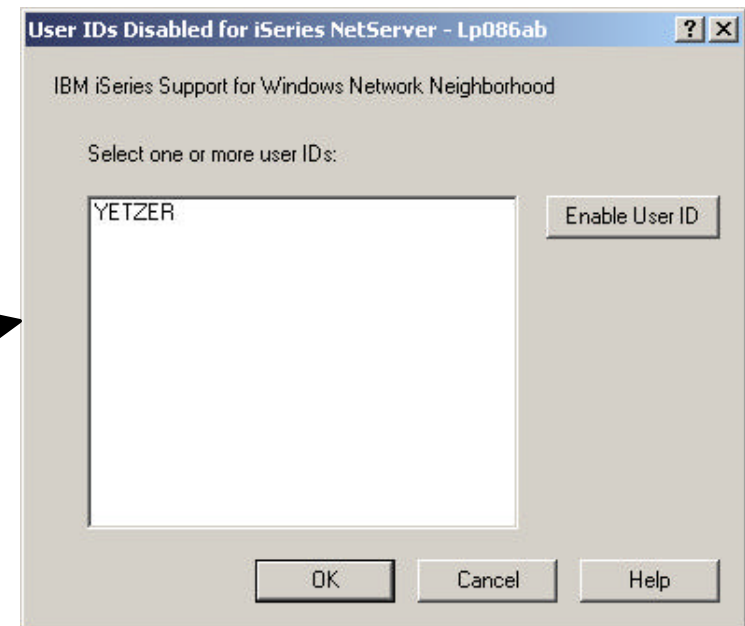
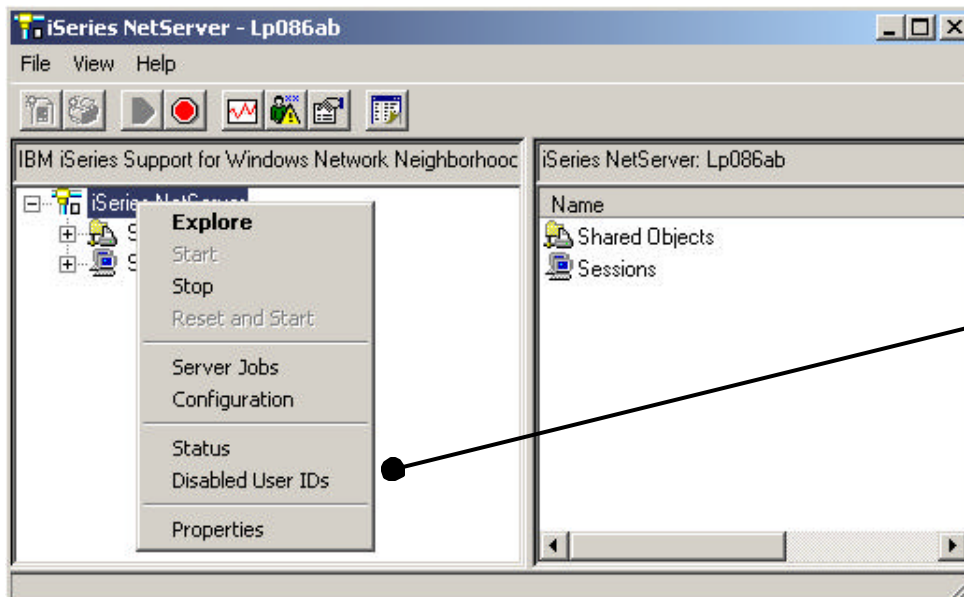


Administration - Managing Activity

- Disabled Users
- Save/Restore
- Viewing statistics
- Working with sessions
- Working with jobs
- Checking print readiness

Disabled Users

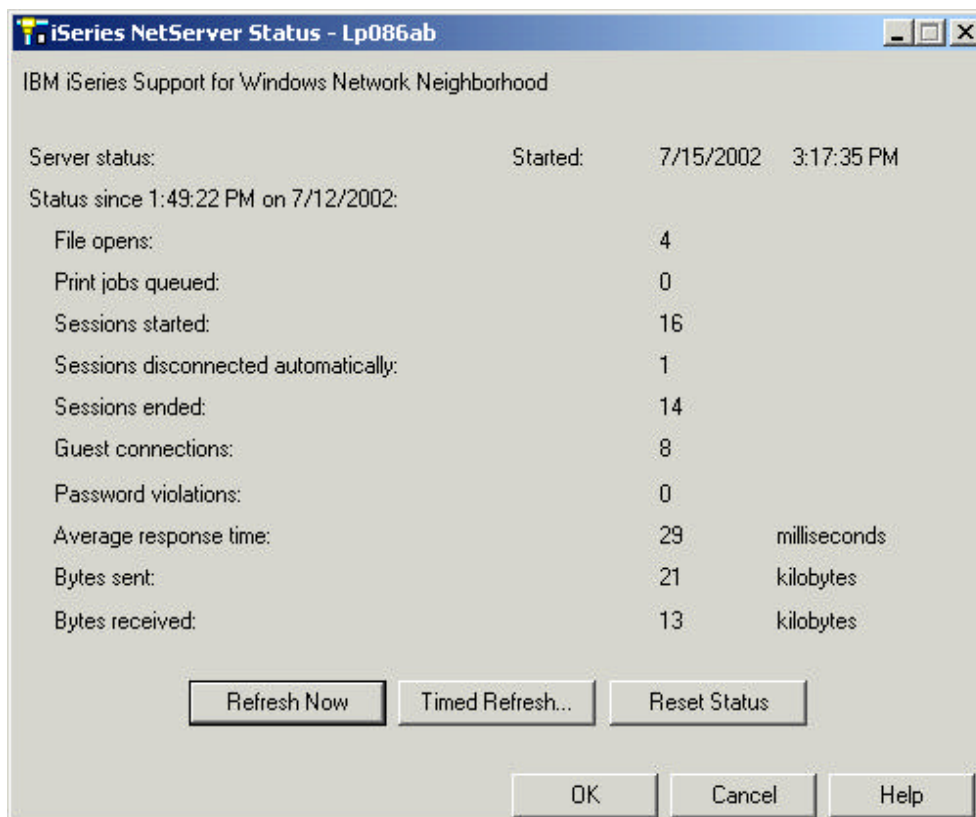
- A user becomes disabled for iSeries NetServer access when the number of password violations exceeds the QMAXSIGN system value.
 - ▶ A disabled NetServer user is NOT a disabled user profile (i.e. they can still signon)
 - ▶ Prior to V5R1, this could easily happen from a Windows client if you didn't increase the value for QMAXSIGN



Save and restore made simple

- No additional steps required for the end user
- Use established iSeries backup and restore strategy
 - ▶ SAV command to save directories
 - ▶ RST command to restore directories
- Build seamlessly on emerging technologies
 - ▶ Journaled File Systems
 - ▶ Independent ASPs

iSeries NetServer Status



iSeries NetServer Status - Lp086ab

IBM iSeries Support for Windows Network Neighborhood

Server status: Started: 7/15/2002 3:17:35 PM

Status since 1:49:22 PM on 7/12/2002:

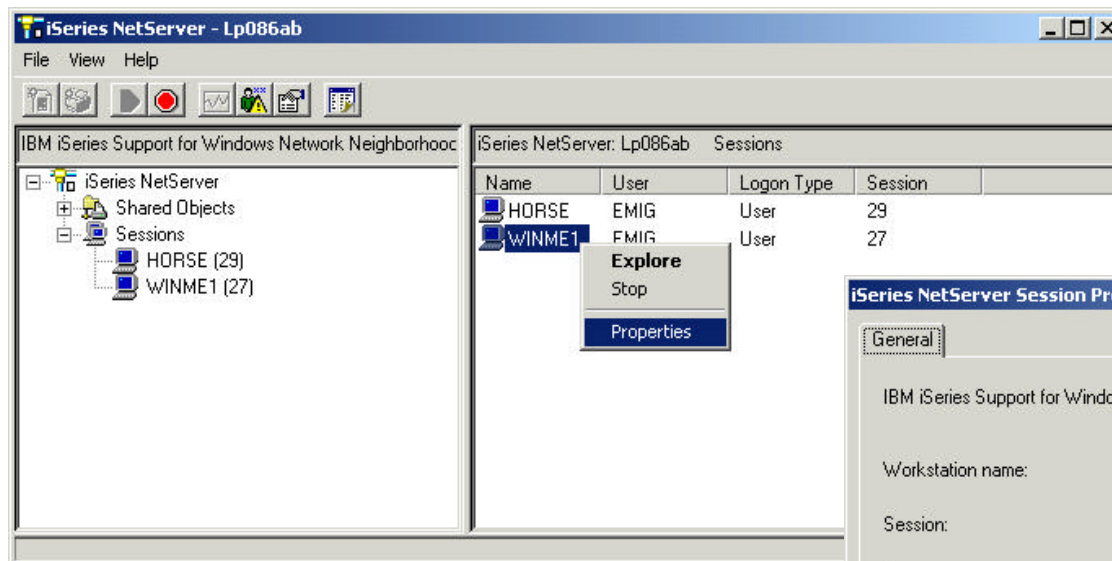
File opens:	4	
Print jobs queued:	0	
Sessions started:	16	
Sessions disconnected automatically:	1	
Sessions ended:	14	
Guest connections:	8	
Password violations:	0	
Average response time:	29	milliseconds
Bytes sent:	21	kilobytes
Bytes received:	13	kilobytes

Refresh Now Timed Refresh... Reset Status

OK Cancel Help

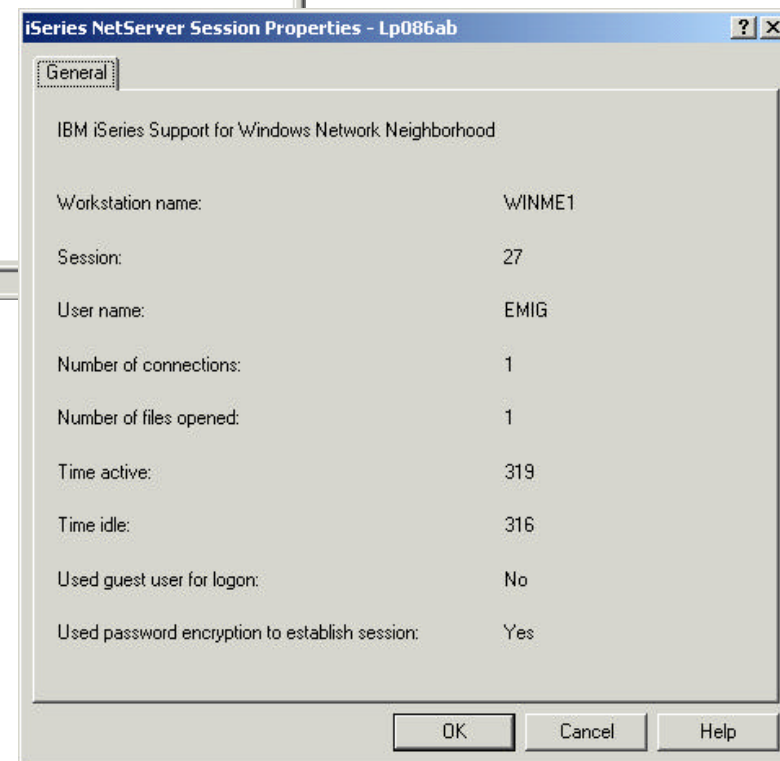
V5R2 Status Window

Who is Connected to iSeries NetServer



Working with Sessions

Properties displays the session connection status information



Work with Jobs

QZLSFILE jobs : Managing the active connections

Environment: My Connections | Lp086ab: Qserver | Type: All | Subsystem: Qserver | Elapsed time: 00:00:00 | 8 minutes old

Job Name	Detailed Status	Current User	Type
Qserver	Waiting for dequeue	Qsys	Subsystem
Qpwfserv	Waiting for request	Quser	Prestart batch
Qpwfserv	Waiting for request	Quser	Prestart batch
Qpwfserv	Waiting for request	Quser	Prestart batch
Qpwfservsd	Waiting for select	Quser	Batch - Server
Qpwfservso	Waiting for dequeue	Emig	Prestart batch - Server
Qpwfservso	Waiting for request	Quser	Prestart batch - Server
Qpwfservso	Waiting for request	Quser	Prestart batch - Server
Qpwfservss	Waiting for request	Quser	Prestart batch - Server
Qpwfservs2	Waiting for request	Quser	Prestart batch - Server
Qserver	Waiting for event	Qpgmr	Autostart
Qtfpjtcp	Waiting for request	Quser	Prestart batch - Server
Qzdainit	Waiting for request	Quser	Prestart communications
Qzdasrvsd	Waiting for select	Quser	Batch - Server
Qzlsfile	Waiting for request	Quser	Prestart batch - Server
Qzlsfile	Waiting for request	Quser	Prestart batch - Server
Qzlsfile	Waiting for request	Quser	Prestart batch - Server
Qzlsfile	Waiting for request	Quser	Prestart batch - Server
Qzlsserver	Waiting for event	Qpgmr	Batch - Server

Management Tips

Determining Print Readiness

The screenshot shows the iSeries Navigator interface with the following details:

- Environment:** My Connections
- Subsystem:** Qsyswrk
- Type:** All
- Elapsed time:** 00:01:02
- Job List:**

Job Name	Detailed Status	Current User	Type
Qsyswrk	Waiting for dequeue	Qsys	Subsystem
Crtprfdta	Waiting for dequeue	Qsys	Batch - Server
Qdirsrv	Waiting for signal	Qdirsrv	Batch - Server
Qgldpuba	Waiting for signal	Qdirsrv	Autostart - Server
Qgldpube	Waiting for signal	Qdirsrv	Autostart - Server
Qhttp	Waiting for select	Qtmhhttp	Batch
Qiwvppjt	Waiting for request	Quser	Prestart batch - Server
Qmsf	Waiting for dequeue	Qmsf	Batch
Qneosoem	Waiting for time interval	Quser	Autostart
Qneosoem	Waiting for time interval	Quser	Batch
Qneosoem	Waiting for time interval	Quser	Batch
Qnpservd	Waiting for select	Quser	Batch - Server
Qpasvrp	Waiting for dequeue	Qsys	Batch
Qpasvrs	Waiting for time interval	Qsys	Batch
Qpasvrs	Waiting for time interval	Qsys	Batch
Qpasvrs	Waiting for time interval	Qsys	Batch
Qpasvrs	Waiting for time interval	Qsys	Batch
Qpasvrs	Waiting for time interval	Qsys	Batch
Qrwtlstn	Waiting for select	Quser	Batch - Server
Qsnmpsa	Waiting for dequeue	Qtcp	Batch - Server
Qsqsrvr	Waiting for condition	Qdirsrv	Prestart batch - Server
Qsqsrvr	Waiting for condition	Qsys	Prestart batch - Server

A callout box with a green arrow points to the **Qnpservd** job, containing the text: "Network print server in QSYSWRK SBS".

Additional Information

- **Web resources**
- **Books**
- **Informational APARs**
- **What's New in V5R1**
- **What's New in V5R2**

Resources...

- iSeries NetServer Web Site:
 - ▶ <http://www.ibm.com/servers/eserver/series/netserver/>
 - Introduction Articles and Presentations
 - What's New?
 - Information APARs
 - Links to Technical References
 - Operations Navigator Instructions
- iSeries Infocenter
 - ▶ <http://www.ibm.com/eserver/series/infocenter>
- Diagnostics Aids Volume 2
 - ▶ Expansion of VLOGs
 - ▶ Expansion of Trace Points
- The AS/400 NetServer Advantage Redbook: SG24-5196

Other resources...

- PTF information for supported releases
 - ▶ http://www.ibm.com/eserver/series/netserver/ptfs_main.htm

- iSeries NetServer Informational APARs
 - ▶ II11081 - V4R2 PTF Information
 - ▶ II11239 - Tips and Techniques
 - ▶ II11435 - Support of Windows Terminal Server Edition
 - ▶ II11938 - Support of Windows 2000
 - ▶ II11752 - V4R3 PTF information
 - ▶ II12091 - V4R4 PTF Information
 - ▶ II12537 - V4R5 PTF Information

iSeries NetServer Advanced Support

What's New in V5R2?

- Name change to iSeries NetServer
- Support for Kerberos V5 authentication
- User defined subsystems for iSeries NetServer jobs
- QUSRTOOL for menu driven use of iSeries NetServer API's
- Linux/Samba support integrated into the server
- Support for Windows XP Professional

iSeries NetServer: What's New - 409113

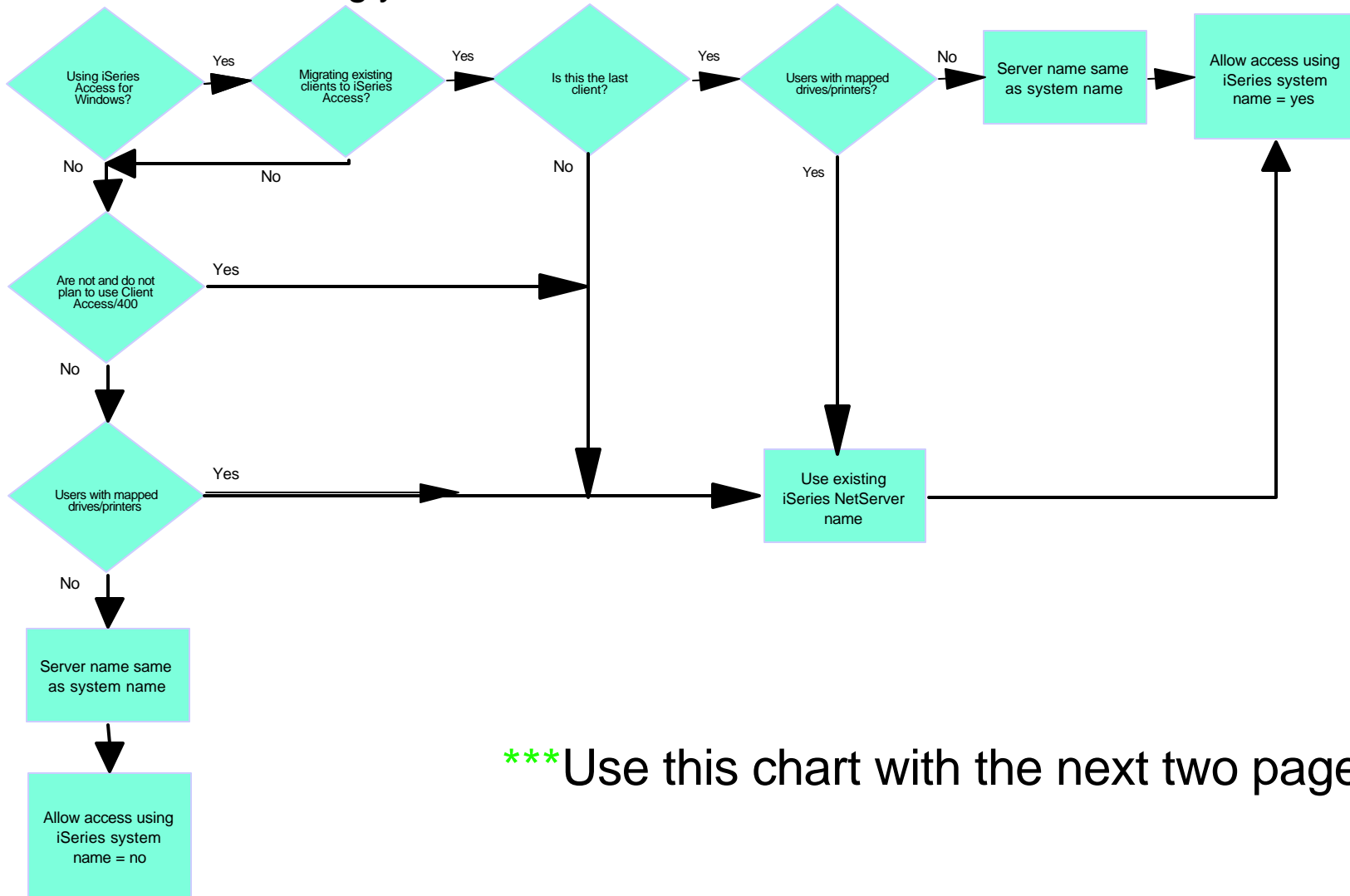
Questions?

- Welcome to the Neighborhood
- What is iSeries NetServer
- Using iSeries NetServer
- Configuration
- Administration
 - ▶ Setting up and using file shares
 - ▶ Setting up and using print shares
 - ▶ Managing iSeries NetServer activity
- What's new!
- Resources & Information
- Conclusion

Appendix
Naming iSeries NetServer

Naming an iSeries NetServer

Decision tree for naming your iSeries NetServer



*** Use this chart with the next two pages

Naming iSeries NetServer (Continued)

- Use same name as iSeries system name?
 - ▶ There are no Client for Microsoft Networks-iSeries NetServer clients with network drives currently mapped using an iSeries NetServer name different than the iSeries system name.
 - ▶ Are not using Client Access network file and print (other than Express) in network, now and in the future.
- Use name **different** than iSeries system name?
 - ▶ There is a mixed environment with both Client Access network file and print users (other than Express), and Client for Microsoft Networks-iSeries NetServer users.
- Select 'Allow iSeries NetServer access using iSeries name'?
 - ▶ There are Client for Microsoft Network-iSeries NetServer clients with network drives and printers mapped using an iSeries NetServer name different than the iSeries system name.
 - ▶ Migration from previous Client Access Family members to Express is complete for all clients in the network and you do not plan on using Client Access network drives and printers (other than Express) in the future.
 - ▶ There are no Client Access network drives and printers users (other than Express) in the network.

iSeries NetServer Properties - Next Start

Be cautious when you choose to select the Allow iSeries NetServer access using system name box. The iSeries system name is not enabled by default because this can cause conflicts if you still have Client Access Family members (other than Express) in your network.

When Client Access and iSeries NetServer use the same server name, both servers will attempt to answer a client request. The first one to satisfy the client's request takes control, producing inconsistent results for the client.

If you have ONLY Express clients in your network and do not have resources mapped to iSeries NetServer using a name that is not the same as the system name, then it is safe (and recommended) that iSeries NetServer and the system name are the same.

The screenshot shows a Windows-style dialog box titled "iSeries NetServer General Next Start - Lp086ab". The dialog contains the following fields and controls:


- IBM iSeries Support for Windows Network Neighborhood
- Start when TCP/IP is started
- Server name: LP086AB
- Allow iSeries NetServer access using the system name
- Domain name: MyDomain
- Description: OS/400 SMB Logon Server
- Logon server role: Server (dropdown menu)
- Authentication method: Encrypted passwords (dropdown menu)
- Reset to Current button
- OK, Cancel, and Help buttons

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