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Appendix C - More on Novell

Overview

This file provides additional information for Novell environments. It should be used if you cannot find what you need in the M205/M206 product manual.

Key Features

Within this file, you will find information about:

- Host software available - *Host Software* on page C-2.
- RPRINTER configuration for NetWare 3.x environments - *NetWare Version 3.x RPRINTER Setup* on page C-4.
- RPRINTER configuration for NetWare 4.x environments - *NetWare Version 4.x RPRINTER/NPRINTER Setup* on page C-6.
- *Optional Commands* on page C-8 including: preferred file server, setting password security, enabling/disabling the “keepalive” packet, adjusting polling time, setting frame type, and setting print server name.
- Troubleshooting tips - *Troubleshooting* on page C-11.

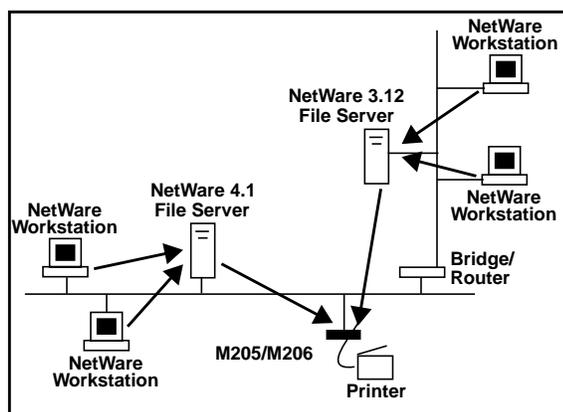
M205/M206 Configuration

As mentioned in the M205/M206 product manual and release notes, there are no mandatory Novell settings needed before the print server can be detected on the network. However, there can be some mandatory settings needed before a Novell print queue can be serviced by the M205/M206. These mandatory settings are covered separately for NetWare 3.x and 4.x under the *Host Configuration* heading.

The print server setup in a Novell environment is much simpler than that required in a TCP/IP one. No addresses, masks, or router entries are necessary and in most cases, the M205/M206 can simply be connected to the network, turned on, and then configured for printing from a Novell station through PCONSOLE. See Figure 1: *Novell Setup* for an example of a Novell network, showing the use of file servers and how they relate to the print server.

However, there are some optional parameters you may wish to change such as the preferred file server(s), print server password, status of the “keepalive” packet, polling time, frame type and the print server name. For more information, refer to *Optional Commands* on page C-8.

Figure 1: Novell Setup



Host Configuration

The M205/M206 product manual and release notes cover PSERVER setups under NetWare 3.x and NetWare 4.x environments. However, RPRINTER (or NPRINTER under NetWare 4.x) setups are also allowed. This section covers these additional setups for you.

The M205/M206 supports encrypted passwords and is capable of servicing up to 16 pservers and 32 queues as a PSERVER. One M205/M206 can handle eight RPRINTER setups.

Host Software

NetWare’s PCONSOLE is generally used to change passwords, add print servers, add remote printers, and add queues to be serviced. It can be used

for both a PSERVER or RPRINTER setup.

Even though the entire print set-up is done through PCONSOLE, you may want to communicate directly with the print server in order to modify settings, monitor the unit, etc. The optional host software, **npsh.exe**, is included with the unit. **npsh.exe** is a DOS executable program that can be run from a DOS prompt on a NetWare workstation.

npsh.exe does these things:

npsh nvplist	Lists all of the M205/M206's on the network; each name is in the format M_XXXXXX (where XXXXXX equals the last six digits of the unit's Ethernet address) by default regardless of whether it is configured as a PSERVER or a RPRINTER.
npsh unitname	Starts a telnet-like session with the named print server, allowing you to configure, monitor, and troubleshoot the unit with its built-in command set.
npsh unitname command	Initiates a single command with guest access only to the unit instead of entering into a complete session.

To communicate with the unit using npsh.exe, you will need to:

1. From a DOS prompt on a Novell workstation, begin a **npsh** session with the unit. This starts a telnet-like session with the named print server with **guest** access only.

npsh unitname

2. To obtain **root** access to the unit, type:

supervisor

A standard login screen is displayed prompting you for the login name and password.

3. Login to the unit as a **root** user.

root

Note: Root users require the use of a password as configured in the unit's user list.

4. Enter the password. If this password is not yet set, press **<Enter>** at the password prompt. Otherwise, enter the password that is already stored on the unit

password

You are now logged into the unit as a root user and can access any npsh command on the unit

note: because npsh.exe makes use of broadcasts, you may have problems communicating across a router.

NetWare Version 3.x RPRINTER Setup

This procedure associates an existing PSERVER with a remote M205/M206 acting as a RPRINTER in a NetWare 3.x environment. It is the PSERVER's responsibility to get jobs from the queue and to pass them off to the M205/M206 acting as the remote printer. Unlike a PSERVER set-up, the M205/M206 does not deal directly with the queues.

Note: as a RPRINTER, the print server does not use a login ID. In addition, a non-M205/M206 print server (e.g. PSERVER.NLM or PSERVER.EXE) must be running for RPRINTER to operate.

A RPRINTER set up requires the use of a configuration file. This file is required to tell the print server to act as a RPRINTER upon boot up since RPRINTER settings do not hold their effect through a power cycle.

Note: If the M205/M206 loses a connection to a PSERVER, it will automatically reconnect when that server becomes available again.

Once the unit boots up, the print server gets a server list from the first file server it contacts. For each server found on that list, it then looks for a file called **SYS:\LOGIN\M_XXXXXX\CONFIG** where **XXXXXX** represents the last six hexadecimal digits in the Ethernet address found on the bottom of the unit.

This file contains one **set rprinter** command for each RPRINTER serviced by the M205/M206. If it finds this file, it reads in each entry as if it were an **npsh** command entered right on the unit.

Note: to ensure that the M205/M206 contacts the file server that contains the CONFIG file, set up the appropriate file server as a preferred file server. For more information, please see *Preferred File Server* on page C-8

CAUTION If you are using a configuration file and you have changed the name of the M205/M206, you must change the name of the directory containing this file.

To configure a new **RPRINTER** on a **NetWare 3.x** (or earlier) network, you will need to:

1. Log into Novell as a **Supervisor**.
2. Enter **PCONSOLE**; the main menu displays.
3. Select "Print Queue Information" from the PCONSOLE Main Menu. A list of currently defined queues comes up.
4. Press **INSERT** to add a new queue.
5. Type in the name of this new queue when prompted and press **ENTER**. The name can be in any format.

6. Press ESCAPE to return to PCONSOLE's Main Menu.
7. Select "Print Server Information" and press ENTER.
8. Press INSERT when the list of existing print servers displays.
9. Select the print server that you want the M205/M206 to service as an RPRINTER. This is the PSERVER.NLM loaded earlier. PRINTER *N* CONFIGURATION windows displays where *N* equals the selected printer.
10. Select "Print Server Configuration" from the menu that displays.
11. Select "Printer Configuration" from the next menu to display a list of configured printers (printers associated with the print server).
12. Select an item from the list (i.e. either an existing printer name or a "Not Installed" one) to display the printer's configuration window.
13. Assign a name (if not an existing printer) to this printer.
14. At the "Type" field, select "Remote Other/Unknown".
15. Press ESCAPE to save the changes.
16. Press ESCAPE until back at the "Print Server Configuration" Menu.
17. Select "Queues Serviced by Printer" to display a list of defined printers.
18. Select the printer you just defined and press ENTER.
19. At the list of queues that displays, press INSERT view a list of available queues.
20. Select the queue defined earlier (the one you want this printer to service) and press ENTER.
21. When prompted for a priority, press ENTER to select the default or select a priority.
22. Press ESCAPE until you have exited PCONSOLE. You are now at the command prompt.
23. Start the PSERVER.NLM or PSERVER.EXE so the M205/M206 can service it as a RPRINTER.
24. In SYS VOLUME on the file server, change to the \LOGIN directory.
25. Create a directory named after the M205/M206. By default, this will be **M_XXXXXX** where **XXXXXX** is the last six digits of the unit's Ethernet address (e.g. M_000BF5).
26. Within this directory, create a file called CONFIG and open it for editing.

27. Enter the line:

```
set rprinter add pservername printername destname
```

where **pservername** equals the existing PSERVER name, **printername** equals the defined number for this printer in that PSERVER, and **destname** equals a M205/M206 destination (e.g. d1prn).

28. Re-power the M205/M206 by unplugging and plugging in the power supply. The M205/M206 will boot up and read the entry from the CONFIG file and set itself to act as an RPRINTER.

29. Wait two minutes and then check your PSERVER to see if the appropriate printer is being serviced. The printer should say something about "Waiting for job".

At this point, the M205/M206 knows to receive any jobs this PSERVER.NLM has to send to it through the defined printer.

NetWare Version 4.x RPRINTER/NPRINTER Setup

NetWare 4 introduces NDS and some new frame types. The M205/M206 can be used in a Netware 4 environment with either of these options:

- Set the M205/M206 up as a PSERVER replacing a dedicated workstation running PSERVER.EXE or PSERVER.NLM on the file server. The M205/M206 replaces these loadable PSERVER's so they are no longer needed. (refer to *NetWare Version 3.x PSERVER Setup* on page 39 of the *Quick Installation and Configuration Guide*).
- Set the M205/M206 up as a RPRINTER/NPRINTER (instructions follow)

To configure the unit as a RPRINTER/NPRINTER in a NetWare 4.x environment, you will need to:

1. Login to the NDS tree as a user with administrator privileges.
2. Now, using PCONSOLE in NDS mode, either select an existing print server or create the print server you want to establish a RPRINTER/NPRINTER connection with. If you want to use an existing print server, go to step 15. Otherwise, continue with step 3.
3. Select **PRINT SERVERS** to view a list of existing print servers.
4. Press **INSERT** to add a new print server.
5. Type the **relative distinguished name** of the new print server (for example, Department-PS1). The new print server is added to the list.

Note: You can use the distinguished name instead of the relative distinguished name if you precede the name with a leading period (this makes the name relative to [root] instead of the current context (i.e. the context of the user you in as).

6. Select this new print server.
7. From PCONSOLE, select **Printers**. A list of defined printers comes up.
8. Press **INSERT** to add a printer to the list.
9. Select the new printer and press **ENTER**.

Note: **When you create or select a printer** for this new object (i.e. P1), make note of the printer number associated with it.

10. Press **ENTER** at the type field and select “**Defined Elsewhere**”. If “Defined Elsewhere” is not available, choose “others/unknown”. This will bring you back to the printer’s window.
11. Press **ENTER** on the “Print Queues Assigned” field to display a list of available queues.
12. Press **INSERT** to display all queues; add a new queue (e.g. Printer-Type-Q1).
13. You are prompted for the volume (it will usually be in the form of *fileservername_sys*). Type the relative distinguished name of the volume and press **ENTER**.

Note: You can use the distinguished name instead of the relative distinguished name if you precede atheneum with a leading period (this makes the name relative to [root] instead of the current context (i.e. the context of the user you in as).

14. Press **ESCAPE** until you are back at the main menu.
15. The next step is to start up the necessary services. On the file server console, load the PSERVER.NLM which services the PS1 object. Again, the context of the NLM file is relative to the root of the NDS tree.

```
load pserver PS1.microplex
```

If the above steps were followed correctly, the print server screen will display a “Printer Status” option in the menu.

16. Exit the file server console.
17. Begin a npsh session with the M205/M206, and execute the rprinter command (refer to *Host Software* on page C-2 for instructions about starting npsh sessions).

```
set printer add pservername printernumber dest-name
```

For example,

```
set rprinter add PS1 0 dlprn
```

This will initiate a connection to the Novell pserver so that the M205/M206 can act as a remote printer (for more information, refer to: *set rprinter add pservername printernumber destname* on page G-12). It takes about 10 seconds for the RPRINTER to establish a connection with PSERVER.NLM. If all goes well, it will respond with “OK”.

18. Verify that the print server has been configured successfully by entering:
`list rprinter`
19. Verify that the RPRINTER has been set up correctly by selecting **Printer Status** in PSERVER.NLM.

Optional Commands

Preferred File Server

The M205/M206 allows you to specify a list of preferred file servers in a Novell environment. This feature is useful in a large Novell network so that the M205/M206 does not ignore important file servers. If this feature is not enabled, the M205/M206 will only acknowledge the first 16 file servers it senses.

This firmware version introduces a slight modification to the preferred server feature under Novell environments. With version 5.6.5, *if there are more than 16 file servers in total*, the desired file server should be set as a preferred server on the M205/M206.

The M205/M206 will only acknowledge 32 file servers and there's no guarantee that the desired file server will be one of these 32 servers. Therefore, the preferred setting will guarantee the right server is recognized. To view which file servers the M205/M206 does acknowledge at a given time, type:

```
debug novell fserver
```

Note: if you have **any firmware version prior to 5.6.5**, the **preferred server feature should not be used** for any reason. If you have more than 16 file servers or would like improved file server connection, please upgrade to version 5.6.5.

To **add** a preferred file server to the M205/M206:

1. Login to the M205/M206 through an **npsh** session as a root user.
2. At the **npsh** prompt, enter:
`store pserver novell fserver add fservername`

where **fservername** is the name of the Novell file server you want to add as a preferred file server. This adds the specified file server as a preferred file server on the M205/M206.

3. Repeat steps 1 and 2 to add additional preferred file servers.
4. Reset the unit to ensure the changes take effect.
`reset`

To **remove** a preferred file server from the M205/M206:

1. Login to the M205/M206 through an **npsh** session as a root user.
2. At the **npsh** prompt, enter:
store pserver novell fserver del fservername

where **fservername** is the name of the Novell file server you want to remove as a preferred file server.

3. Repeat steps 1 and 2 to remove additional preferred file servers.
4. Reset the unit to ensure the changes take effect.
reset

Setting Password Security

Besides the general security measures mentioned in (insert X-ref), a Novell setup provides further password security. A password can be set on the M205/M206 and within your PCONSOLE setup so that when the M205/M206 tries to login to the file server, the passwords are compared.

Note: these steps may vary for NetWare 4.x environments.

To configure a PSERVER setup with password protection:

1. Establish a password on the M205/M206 by entering:
store pserver novell passwd [password]
2. Reset or re-boot the print server to make the password take effect.
reset
3. Enter PCONSOLE as **supervisor** on your Novell host.
4. Select **Print Server Information** from the main menu.
5. Select the appropriate printer and press **ENTER**.
6. Select **Change Password**.
7. At the prompts, type and re-type the new password. Press **ENTER** when you are finished.

Note: The passwords entered in PCONSOLE must match the password set on the unit.

Enabling/Disabling “Keepalive” Packets

The M205/M206 allows the user to disable the keepalive packets sent by the unit to the host. This allows the user to maintain an SPX connection with the host. The [-] disables **spxkeepalive**.

To disable the keepalive packets:

1. Login to the M205/M206 through an **npsh** session as a root user.

2. At the **npsh** prompt, enter:
`store pserver novell opts [-spxkeepalive]`
3. Reset the unit to ensure the changes take effect.
`reset`

To enable the keepalive packets:

1. Login to the M205/M206 through an **npsh** session as a root user.
2. At the **npsh** prompt, enter:
`store pserver novel opts [spxkeepalive]`
3. Reset the unit to ensure the changes take effect.
`reset`

Adjust Polling Time

The M205/M206 allows you to store the time (in seconds) between polling by the unit so see if print jobs are in the queue on the file server. The M205/M206's NET LED will flash according to the duration of the `polltime`.

Note: This is applicable to a PSERVER setup only

To alter the polling time:

1. Login to the M205/M206 through an **npsh** session as a root user.
2. At the **npsh** prompt, enter:
`store pserver novell polltime [time]`
3. Reset the unit to ensure the changes take effect.
`reset`

Changing the M205/M206 Name

When defining a new print queue on a Novell file server, a new print server must be defined to represent the M205/M206. This name must match the pre-defined name given to the print server. By default, this name is in the format "M_XXXXXX" where "XXXXXX" equals the last six digits of the M205/M206's Ethernet address found on the bottom of the device (e.g. M_071C1A).

To change the print server name:

1. Login to the M205/M206 through an **npsh** session as a root user.
2. At the **npsh** prompt, enter:
`store pserver name newname`

For example, to change the name to **micro1**:

```
store pserver name micro1
```

3. Reset the unit to make the changes take effect.

reset

Changing the M205/M206 Frame Type

The M205/M206 allows the user to store a particular frame type for the unit to adhere to in a Novell environment.

To set a particular frame type:

1. Login to the M205/M206 through an **npsh** session as a root user.
2. At the **npsh** prompt, enter:
store pserver novell frametype [ethernet2 | 802.3 | 802.2 | 802.2snap | autosense]

note: the M205/M206 provides simultaneous support for all Novell frame types.

3. Reset the unit to make the changes take effect.

reset

Troubleshooting Communication Related

Unable to Connect with the M205/M206

If there is no connection with the M205/M206 after you have completed the print setup, there are several things to confirm. These apply whether you have configured the Print Server as a PSERVER or as a RPRINTER.

- Have you tried repowering the M205/M206 Wait about a minute before checking to see if it has logged in and attached to a queue.
- Is the network connector fastened tightly to the unit?
- When going through the setup steps, did you name the M205/M206 **M_XXXXXX** where **XXXXXX** equals the last six digits of the Ethernet address? This is the default format of the unit's name whether it is acting as a PSERVER or as a RPRINTER.

Note: This **M_XXXXXX** name must have six digits after the “_” so if necessary, pad out each byte with a zero (0).

- Has the M205/M206's name been changed from its default of **M_XXXXXX** and if so, have you incorporated this new name into your setup?
- When setting the M205/M206 up as a PSERVER, did you specify a destination on the M205/M206 (e.g. d1prn) for the printer name and did you remember this name is *case sensitive*?

Note: M205/M206 destinations are case sensitive so they will not be recognized if they are typed incorrectly. By default, they are all in *lowercase*. If you are setting up in a NetWare 4 environment, the destination must be renamed to *uppercase* to match PCONSOLE's entry. Please see *set dest destination name newname* on page G-6 for information on changing names.

- In a PSERVER setup, did you ensure that you were in bindery emulation mode? If you were, then did you do your entire print setup (i.e. queue, print server, printer) in this mode? It is important to create all print setup elements in this mode.
- Is there a password set for the Print Server to utilize when it is logging in to the file server? Make sure the M205/M206's PSERVER password matches that of the PCONSOLE's PSERVER setup or set both places to *no* password.
- Is there an entry when a **list rprinter** is done on the M205/M206? When the M205/M206 is configured as an RPRINTER, this command should produce the appropriate entry. Please see *Host Software* on page C-2 for details on using the provided DOS host software, **npsh.exe**, to communicate with the unit in a Novell-only environment.
- Have you tried using the M205/M206's **debug novell** command to see if it even recognizes any file servers on the network? You can use the DOS host software, **npsh.exe**, to communicate with the unit.
- If you look in CURRENT QUEUE STATUS within the PRINT QUEUE INFORMATION menu in PCONSOLE, can new servers attach to this queue?
- If you're configuring the M205/M206 as an RPRINTER, have you setup the CONFIG file accordingly? Is SYS VOLUME correct for your particular environment or was it configured differently upon your Novell installation?
- If the M205/M206 has logged in to the file server but has not attached to the queue, there may be a permission problem. Make sure the appropriate users have rights to this queue (they should be in the group "everyone.") Also, you may have to assign the queue to "root" so that is available to everyone.

If none of these help your situation, you may want to try the whole setup again. Completely delete the setup that is giving you trouble and go through the setup again following each step carefully.

Note: Be sure to reboot the M205/M206 before beginning a new setup and after completing either a PSERVER or RPRINTER setup. Wait at least a minute for the Print Server to login and attach to a queue.

Printing Related

The job goes to the queue but nothing prints

If nothing is printing, make sure you have a connection to the M205/M206 first. Please see *Communication Related* on page C-11 if you are having connection-related problems. Otherwise, consider these points to solve any printing problems you may be having in your Novell environment:

- Does the job leave the queue or is it stuck there indefinitely? If it leaves properly, the problem points to the actual printing mechanism on your Novell system (i.e. CAPTURE, NPRINT, etc.), to the print job format, or to the printer itself. Otherwise, concentrate on the configuration steps you've taken on your system.
- Have you confirmed that you can print from the M205/M206 to the printer ignoring the Novell setup altogether? Please see *start fox/tts/loopb prn* on page G-23 for a good test you can try.
- Is anything happening on the printer when the print job is sent? Sometimes, the print job may have gotten to the printer but just may need a manual form feed. If this is the case, please see *Set Commands* on page G-6 for information on trailer strings.
- Is the printing mechanism you are using (i.e. CAPTURE, NPRINT, etc.) configured to service the appropriate queue?
- Is the M205/M206 configured as the queue's **Currently Attached Server**? If not, make sure you have associated the queue and the printer. Please see *Host Configuration* on page C-2.
- Is there a hold on the print job? If you select the job from PCONSOLE's CURRENT PRINT JOB ENTRIES, change the **User Hold** or **Operator Hold** to *no*.
- If you look in PCONSOLE's CURRENT QUEUE STATUS within the PRINT QUEUE INFORMATION menu, is the server configured to service entries in this queue? It is possible to turn servicing *off* here.

These are just a few things to confirm. If you are still having printing problems at this point, try rebooting the M205/M206 and either go over every step you took in your configuration process, or try a new setup paying special attention to each step explained in *Host Configuration* on page C-2.

The job prints incorrectly

This category really can be broken down into several sub-categories such as lost characters, garbled data, extra banner pages, or blank pages at the end of the job. However, the reason for these mishaps can generally be traced to the printing mechanism used on your Novell system. These points should be considered when configuring your print method (i.e. CAPTURE, NPRINT, etc.):

- Did you include the **No Tabs** option?
- Did you specify **No Banner** with PostScript printers?
- Did you turn off banner pages and form feeds if this is already taken care of within an application or on the M205/M206? Doubling up of these types of print features is easy to do since these options are provided both on the M205/M206 (in a *model*) and within the print command.
- Are you running the latest version of PSERVER (later than 1.22)? If not, upgrade the PSERVER software.
- In a PSERVER setup, did you ensure that the printer name (e.g. d1prn) was set up as “*Defined Elsewhere*”?
- Is the timeout option in the CAPTURE command set high enough so the printer doesn’t time out before the print processing has had a chance to complete? This can be a problem with graphic jobs.

Some other things to consider when garbled data persists are:

- tab expansion (**xtab**) set on (in a *model*) with graphic jobs,
- the right driver for the printer if printing from within Windows,
- cable used between the M205/M206 and the printer,
- type of flow control being used on the M205/M206 and a printer.

With other print methods, the only thing to remember here is to configure the print job for **Byte Stream**. This will pass the data to the M205/M206 untouched.

For additional information on these suggestions or on various Novell printing mechanisms, please refer to your NetWare user manuals.