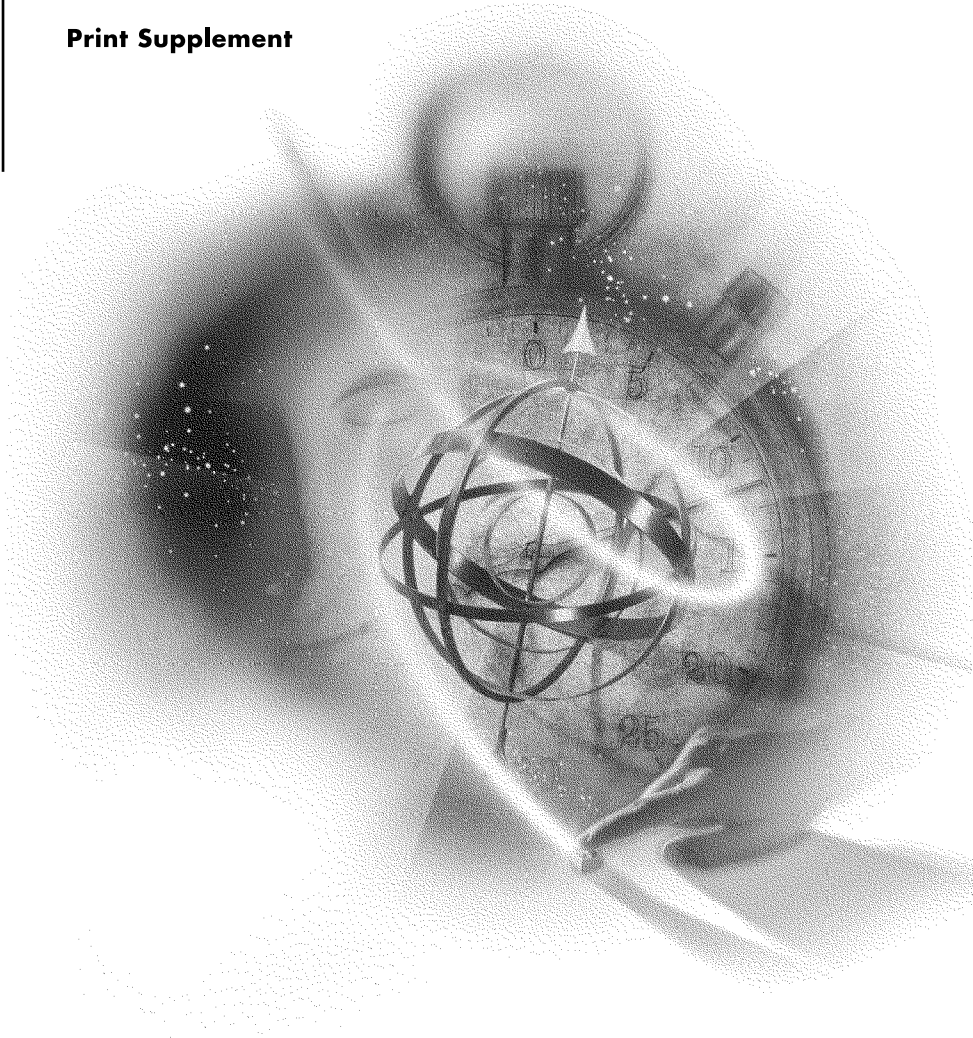


NetWare for Macintosh

Print Supplement



NetWare[®] 3.12
NETWORKING SOFTWARE

Novell[®]

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NetWare for Macintosh v3.12 Print Services Supplement

This publication describes ATPS (AppleTalk Print Services) functionality provided by NetWare for Macintosh v3.12, above and beyond the feature set described in the NetWare for Macintosh *Installation and Maintenance* manual provided with this release of the software.

Conventions Used in This Supplement

This Supplement uses these typographic conventions:

- ◆ *Italic text* indicates titles of manuals and conveys emphasis.
- ◆ *Italic type* also indicates variables in commands for which you must substitute an actual value.
- ◆ **Bold type** indicates keywords or commands that must be typed as shown.

For instance, the text **load** *utility* means that you type the word "load" and supply an actual utility's name in the command.

ATPS.NLM Features

NetWare for Macintosh v3.12 provides several print configuration capabilities not documented in the *Installation and Maintenance* manual:

- ◆ Hold queues
- ◆ Keep queues
- ◆ Printer logs

- ◆ Printer accounting
- ◆ Default forms
- ◆ Optional user notification
- ◆ Explicit queue names
- ◆ Enhanced administrative features
- ◆ Additional LOAD command line option
- ◆ Support for additional printer drivers

Read the sections following this list for details about each feature. Refer to the NetWare for Macintosh *Installation and Maintenance* manual for information about other print services.

Hold Queues

NetWare for Macintosh v3.12 includes two configuration-line options for print spoolers, **-do** and **-du**.

The **-do** option directs AppleTalk jobs to be submitted by the spooler to the queue with an Operator Hold already in place. This option could be used by a supervisor who wants to approve and clear each job explicitly before it is sent to the printer.

Here is an example:

```
-o "Secure Q" -f applwpls -l -wb -do
```

This configuration line creates a spooler visible in the Chooser as "Secure Q." Macintosh jobs submitted to this spooler are placed in queue "SECURE_Q" in a state of Operator Hold. Presumably, the queue will be serviced by PSERVER or a print server other than ATPS. A Queue Operator must remove the hold on a job (in PCONSOLE or the NetWare Tools Print Queue utility) in order for the job to be sent to a printer.

The **-du** option directs AppleTalk jobs to be submitted by the spooler to the queue with a User Hold already in place. This option gives Macintosh users the flexibility to print their jobs to a queue, and to have them sent to the printer at a later time, perhaps after changing the print job's parameters (in PCONSOLE or the NetWare Tools Print Queue utility).

Here is an example:

```
"her printer:mktg-zone" -o "Hold Q" -du
```


This configuration line creates a spooler, visible in the Chooser as "Hold Q," that submits Macintosh jobs to queue HOLD_Q in a state of User Hold. <her printer:LaserWriter@mktg-zone> services the queue. The Macintosh user must remove the hold on his job (in PCONSOLE or the NetWare Tools Print Queue utility) in order for the job to be sent to the printer.

Three console commands allow you to change spooler hold options dynamically:

- ◆ To instruct a spooler to submit all AppleTalk jobs with an Operator Hold, use this console command:

```
atpsohold spoolername | all
```

- ◆ To instruct a spooler to submit all AppleTalk jobs with a User Hold, use this console command:

```
atpsuhold spoolername | all
```

- ◆ To instruct a spooler to submit all AppleTalk jobs for immediate output (i.e., with neither an Operator Hold nor an User Hold) use this console command:

```
atpsfree spoolername | all
```

Keep Queues

You can use a configuration-line option for print servers (**-k**) to specify that jobs sent to the printer by the ATPS print server will remain on User Hold and not be removed from the queue, so that they are available for reprinting. Jobs are reprinted by removing the User Hold, at which time they will be reprinted and placed on hold again, unless the Keep option is no longer active. Here is an example:

```
"myprinter:eng-zone" -o KEEP_Q -k
```

This example creates a spooler and a queue, which are both named "KEEP_Q." Jobs in KEEP_Q are designated to be sent to printer <myprinter:LaserWriter@eng-zone> but are kept in the queue on User Hold for later printing.

You can use these console commands to change this option dynamically:

- ◆ To instruct ATPS that jobs that are either printed from a queue associated with a particular spooler or sent to a particular printer remain in the queue, available for subsequent reprinting, use this console command:

```
atpskeep printername | spoolername | all
```

- ♦ To instruct ATPS that jobs printed from a queue associated with a particular spooler or sent to a particular printer are not to be kept in the queue and thus are not to remain available for reprinting, use this console command:

```
atpsrel printername | spoolername | all
```

Printer Logs

A configuration-line option (**-g**) for printers instructs ATPS to maintain a log file for the printer in the ATPS directory. The file holds a history of jobs printed (queue, number, size, title, owner, errors) as well as printer actions (resets, dictionary version, hiding, unhiding). The log files are stored in the ATPS directory, and they use the naming convention PR*.LOG, where * is a number. Note that new information cannot be written to the logs while they are being viewed. Logging is a function of the ATPS print server and therefore is only available for printers on AppleTalk. Here is an example of the usage of the **-g** option:

```
"your printer: test-zone" -g
```

This example creates a spooler visible in the Chooser as "NW your printer" that sends jobs to queue "NW_YOUR_PRINTER." Jobs from this queue are sent to <your printer:LaserWriter@test-zone>. A log file will be maintained for the printer in the ATPS directory.

Printer Accounting

A configuration-line option for printers (**-uX**) specifies the amount per page (when applied to PostScript printers) or per job size (when applied to all other printer types) to charge to a user's NetWare account when dequeuing and printing the user's jobs.

If a user without a sufficient account balance submits a job, the job is placed on Operator Hold, and the user is notified that his job won't be printed. The *X* parameter in the configuration-line option specifies the number of NetWare accounting points per page to charge for PostScript printers, or the number of bytes per point (rounding up) for other printers. Non-error banner pages are printed free of any charge to the user's account.

Account balances are viewed and set for users under the "User Information" menu in the DOS utility SYSCON. Accounting is a function of the ATPS print server and thus is only available for printers on AppleTalk.

The **-a** configuration-line option should be used when configuring spoolers for the queue if Macintosh users are to be correctly identified and charged for their print jobs.

Here is an example of how to specify accounting for a non-PostScript printer:

```
"A printer:A Zone" -t ImageWriter -u1000 -h -a
```

This creates a spooler, visible in the Chooser as "NW A Printer," that places jobs in queue "NW_A_PRINTER." Macintosh users must be logged in to the server via AFP, and they must be designated Queue Users in order to print to the spooler. Bypass printing is not allowed. The queue is serviced by <A Printer:ImageWriter@A Zone>, and users are charged one NetWare accounting point for each thousand bytes in their print jobs.

Here is how accounting works for a non-PostScript printer:

1. The AppleTalk print server, as it dequeues a print job, determines its size.
2. The print server then checks the job owner's NetWare account balance and credit limit to determine whether the account has enough points to cover the cost of the entire job, using this formula:

$$\text{points} = \text{copies} * \text{size} / X \quad (\text{rounded up})$$

If the account balance is insufficient, the job is placed on Operator Hold, the user is notified, and the print server continues to service the next job in the queue.

3. If the user's account balance is sufficient, the job is sent to the printer.
4. The appropriate number of points is subtracted from the user's balance after the job is successfully printed.

Here is an example of accounting for a PostScript printer:

```
"B printer:B Zone" -o "B spooler" -u3 -h -a
```

This creates a spooler, visible in the Chooser as "B Spooler," that places jobs in queue "B_SPOOLER." Macintosh users must be logged in to the server via AFP, and they must be designated Queue Users to print to the spooler. Bypass printing is not allowed. The queue is serviced by <B Printer:LaserWriter@B Zone>, and users are charged three NetWare accounting points for each page in their print job.

Here is how accounting works for PostScript printers (including LaserWriters):

1. The AppleTalk print server dequeues a job and tries to determine its page count:
 - a. The AppleTalk print server looks for the "%Pages:" comment in the job's PostScript code, which indicates number of pages in a copy of the printed document.
 - b. If the AppleTalk print server cannot find the "%Pages:" comment, it uses this estimate: $\text{pages} = \text{size (bytes)} / 5000$ (values are rounded up to the nearest whole page).
2. The AppleTalk print server then checks the owner's NetWare account balance and credit limit to determine whether the account has enough points to cover the estimated cost of the entire job ($\text{points} = X * \text{pages} * \text{copies}$). If the account balance is insufficient, the job is placed on Operator Hold and the user is notified.
3. If the user's account balance is sufficient, the printer is queried for the total number of pages it has ever printed.
4. The job is sent to the printer.
5. The printer is queried again for the total number of pages it has ever printed.
6. The total page count for the job is determined by subtracting the results of the two queries.
7. The appropriate number of points is subtracted from the user's account balance.

Default Forms

You can use a configuration-line option for print spoolers to set a default NetWare form that will be associated with Macintosh jobs received by a spooler (`-mform_number`). Forms are used by PSERVER to ensure that jobs are printed on the right type of paper; administrators can define forms in PRINTDEF. DOS users can choose default forms in PRINTCON and change forms for individual jobs in PCONSOLE. Forms are ignored by the ATPS print server.

Here is an example:

```
-o "Lino Q" -f applwg -l -m3 -wb
```

This configuration-line creates a spooler name "Lino Q" for queue "LINO_Q." Macintosh jobs submitted to this spooler are marked for printing on form number 3 as defined in PRINTDEF.

If you do not specify a form number in a configuration line, the default form 0 (zero) is used.

For more information on forms and how they are used by PSERVER please see the *NetWare Print Server* manual.

Special Issues Regarding Forms in Macintosh Print Jobs

Macintosh print jobs, when viewed in PCONSOLE, will display the correct form number but a blank form name. This absence of the form name does not indicate a printing problem. If a print job's form is changed in PCONSOLE, then the form name will be displayed correctly.

A Macintosh print job's page length and page width (related to the number of characters) are not assigned according to the default form of the print spooler. Instead, all Macintosh print jobs have a default width of 80 characters and a default length of 66 lines. If you select a different form for your print job in PCONSOLE, the length and width values will be set according to the form that you selected. However, these values are only used in conjunction with the REWIND function in PSERVER, and in any case, using the REWIND function in PSERVER with most Macintosh print jobs is not recommended.

Optional Notification

You can use a configuration-line option for print spoolers (**-y**) that marks jobs submitted to the spooler so that the AppleTalk users are *not* notified when their jobs are completed.

Here is an example:

```
-o "Quiet Q" -f applw -l -wb -y
```

This configuration creates a spooler, visible as "Quiet Q" in the Chooser, that submits jobs to queue "QUIET_Q." Macintosh users who submit their jobs to this spooler will not be notified by the print server servicing their jobs that the print jobs are completed.

All users (DOS or Macintosh) are notified of print job errors if they are logged in to the server by the ATPS print server and have not turned off messages with CASTOFF or the NetWare Tools Messaging utility.

Explicit Queue Names

You can use a configuration-line option for spoolers or servers (`-q`) that allows the user to explicitly state the name of the queue (rather than have it derived from the spooler name, which may in turn be derived from the printer name).

Here are two examples of the syntax:

```
LaserWriter1 -o Marketing -q MARKETING_QUEUE
```

This configuration line specifies a queue "MARKETING_QUEUE" that is to be serviced by <LaserWriter1:LaserWriter@*> and can be printed to by Macintosh users who select the LaserWriter called "Marketing" in the Chooser can print to the queue.

```
"LaserWriter2" -q DOS_ONLY -wf
```

This configuration line specifies a queue called "DOS_ONLY" that is serviced by <LaserWriter2:LaserWriter@*>. In this instance, `-q` directly replaces the `-o` option.

This feature allows you to set up more than one spooler (in the same zone) for a single queue, each spooler with a different configuration. Consider the example of these three lines taken together:

```
-o "Lino Q w/ Form 1" -q LINO_Q -wb -f applwpls -m1 -o "Lino  
  Q w/ Form 2" -q LINO_Q -wb -f applwpls -m2 -o "Lino Q w/  
  Form 3" -q LINO_Q -wb -f applwpls -m3
```

This set of three configuration lines allows users to select the forms they want to print on by selecting one of three different spoolers in the Chooser. Jobs received by any of the three are placed in queue "LINO_Q" and marked for printing with the selected form.

Similarly, consider this pair of configuration lines:

```
"LW Plus" -o "LW Plus w/ banner" -q NW_LW_PLUS -b "LW Plus"  
  -o "LW Plus w/o banner" -q NW_LW_PLUS -wb
```

This pair of lines allows the Macintosh user to choose whether or not a banner is printed with their job by selecting one of the two different spoolers.

Alternatively, consider these lines:

```
"LW Plus" -o "LW Plus + notify" -q NW_LW_PLUS"LW Plus" -o  
"LW Plus + don't notify" -q NW_LW_PLUS -y -wb
```

These two lines together allow the user to choose whether he or she wants to be notified when the job completes, again by selecting one of the two different spoolers.

Providing different spoolers for the same queue is a useful way to give Macintosh users more control over their individual print jobs' configurations.

Enhanced Administrative Services

NetWare for Macintosh v3.12 provides enhanced administrative services for both Macintosh workstation users and network administrators:

- ◆ The status message returned to a printing Macintosh now identifies the server and queue that the job is being spooled to. This is visible in PrintMonitor or the foreground printing window. The user has a way of associating the spooler name in the Chooser with a particular NetWare queue. The NetWare queue is the entity visible in DOS utilities or the NetWare Tools Print Queue utility.
- ◆ In addition, upon unloading ATPS, the administrator is prompted to choose whether to restore any or all currently hidden AppleTalk printers, if any printers were previously configured as hidden printers. The prompt appears on the ATPS Unload Screen at the console. This allows the administrator to keep AppleTalk printers hidden even when ATPS is not running, or to avoid the delays in unloading necessitated by restoring hidden printers.
- ◆ A console command, **atpshelp**, lists all the ATPS console commands.

New Printing Software

NetWare for Macintosh v3.12 includes versions of PSERVER and RPRINTER that have been tested with ATPS.NLM. These versions correct problems in some released versions of PSERVER and RPRINTER that could prevent their successful operation with ATPS. If you are using NetWare v3.11 with NetWare for Macintosh v3.12, you may need to use the versions of PSERVER and RPRINTER provided with NetWare for Macintosh v3.12. For more information, see the README.MAC file accompanying this release.

ATPS LOAD Command Line Option

An ATPS load line option (**-s**) prevents ATPS from writing any but severe error messages to the System Log (SYS\$LOG.ERR). This feature is provided to address complaints by some users that ATPS messages clutter their System Log and consume too much disk space. For example, consider this line:

```
load atps -s -v
```

In this case, informational and error messages are displayed on the ATPS screen but not logged to the SYS\$LOG.ERR file.

Printer Drivers

The AppleTalk printer drivers for the Hewlett-Packard DeskWriter, DeskWriter C, PaintWriter XL, and PaintJet XL300 are now supported by the ATPS print spooler. Specific features that are *not* supported include these:

- ◆ Hand-feed printing (PaintWriter XL)
- ◆ Envelope printing (DeskWriter and DeskWriter C)
- ◆ Interactive switching of pens between color and black (DeskWriter C)
- ◆ Reporting of clogged or bad print cartridges (DeskWriter and DeskWriter C)
- ◆ The HP DeskWriter 550C driver is not supported by NetWare for Macintosh v3.12.

Here are some examples:

```
"Publications:K-Engineering" -t DeskWriter
```

This configuration line specifies a DeskWriter (monochrome) or DeskWriter C with black cartridge installed.


```
"Color DW:K-Sales" -t DeskWriter -c
```

This configuration line specifies a DeskWriter C with a color ink cartridge installed. The **-c** option specifies the color cartridge.

```
"My PW XL: Admin" -t "PaintWriter XL"
```

This configuration line specifies a PaintWriter XL.

```
-o "XL300 Queue" -t "PaintJet XL300" -wb
```

This configuration line specifies a PaintJet XL300 for a non-AppleTalk printer.

