Manage Your
Business Critical Output

ClusterQue® User Guide
version 4

ClusterQue is a server based network printing solution that automatically distributes large print files across a cluster of HP printers to increase printing throughput; detects errors on a printer/cluster to ensure that print jobs are only sent to functional printers; and is a complete print queue management solution.

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Introduction

The purpose of this document is to present **ClusterQue** users with a simple and easy-to-follow guide for the two main tasks involved in the printing process:

1. *How to Print* to the **ClusterQue** print server, and
2. *How to Manage* print jobs once they are on the **ClusterQue** print queue.

The first part of this document, *How to Print*, describes common scenarios in a printing environment, how to print from each, and how to adjust the settings at the user level so common mistakes and incorrect settings can be resolved before involving a System or Network Administrator.

The second part of this document, *How to Manage the Queue*, starts out by introducing the ClusterQue print queue manager programs, followed by a list of common tasks with simple step-by-step instructions and a troubleshooting guide for common error messages that can be resolved by a user.

This document assumes that the ClusterQue print server is installed and properly configured. For installation and configuration refer to the *ClusterQue Installation and Configuration Guide.*

HOW TO PRINT

Sending a Print Request from a Windows Desk-Top Application

A user can send a print request to the **ClusterQue** print server from a Windows application as they would to any other Windows-defined printer. A Windows printer able to send a print request to a ClusterQue printer can be one of three types:

1) A network-shared printer installed using UniQueNT Port software

2) A local printer installed using UniQueNT Port software

3) A local printer on an LPR port.

A System Administrator would help identify which type of printer is available for a user. It is common to find a *Print* command in the application's *File* menu. The *Print* command displays a list of available printers defined on the system from which the user selects the Windows printer identified by the System Administrator.

Did the Print Job Reach the Queue?

If a job fails to print, then the first step is to find out if it was received by the ClusterQue print server. The ClusterQue manager programs display a list of jobs on the queue. If the print job is on the queue then the Windows printer settings are correct. Note the status of the print job and refer to the next section, *How to Manage the Queue for* instructions on how to handle printer errors, assistance required messages, releasing a print job, etc.

The Print Job Did NOT Reach the Queue

If the job is not on the queue, then the following guidelines should help get it there:

1) Locate the printer icon. On most Windows OS the list of available printers is displayed by clicking the *Printers* icon found in the *Control Panel*.

2) Verify printer port settings. The *Properties* command from the printer's right-click menu launches the printer's properties dialog. The *Ports* tab contains the relevant information.

   Network Shared printer
   - Port should be displayed as *ServerName**PrinterShareName*
   - User must have access to the network resource.

   Local Printer installed using LPR software (LPR Port)
   - Port should be displayed as ServerName:PrinterName

- ServerName is the name of the ClusterQue print server.
- PrinterName is the name of a ClusterQue Printer.
- ClusterQue MUST be listening on port 515.

Local Printer installed using UniQueNT Port software

- Description should read UniQueNT Printer Port.
- The Configure Port button should launch the Configure UniQueNT Port dialog. See Appendix C – UniQueNT Port Dialog for screen shot and fully detailed explanation of each option.

If ClusterQue is listening on port 515, then running *lpq* from the windows command prompt should display the status of a printer or any error messages if either host or printer is not found. (The *lpq* utility comes with most recent versions of Windows OS)

lpq command line syntax:

```
lpq  -S<ClusterQueServerName> -P<ClusterQuePrinterName>
```

Sending a Print Request from a Windows Server Application

There are basically four methods that can be used by Windows server applications in order to send a print request to the ClusterQue print server:

1) Printing to a Windows printer

2) Using the `ulpr.exe` program provided by ClusterQue.

3) Using the `ulp` program ONLY if the application resides on the same machine where the ClusterQue print server is running.

4) Using the `lpr` command-line utility provided by Windows TCP/IP services.

Printing to a Windows printer

A Windows server application can send a print request to the **ClusterQue** print server the same way that a Windows desktop application would (described in the previous section). If a Windows print driver is selected for formatting (i.e. Hp LaserJet 4), then print jobs will print through ClusterQue just like they would print to any Windows printer. If a generic text printer driver is selected, then the ClusterQue print drivers will be used (i.e. Forms&Fonts) to format the data.

Using ulp

The `ulp` program is available from the DOS and Interix* command line on the machine where the ClusterQue print server is running. A Windows server application could run this program from a batch file, windows shell script, Interix Shell script or directly from the command line.

For ulp command line syntax see Appendix A - *ulp* / *ulpr* Command-Line Syntax.

*Interix is a multi-user UNIX environment that operates on computers running Windows provided by SFU (Microsoft Services for UNIX). Interix provides Windows command-line utilities called `posix` and `psxrun` that start an Interix process from a Windows environment. A Windows server application can use these utilities to start an Interix shell script (C shell and Korn Shell) from a windows process. Refer to the SFU help files for more information on these utilities.

Using ulpr.exe

The `ulpr.exe` program, used to submit files for printing from Windows *client* machines, is usually executed from with in a batch file, Windows shell script or directly from the command line. `Ulpr.exe` requires that a file called `UniQueNT1.dll` be in the same directory. Even though this is a client program, it is also available on the on the machine where the ClusterQue print server is running.

For `ulpr.exe` command line syntax see Appendix A - *ulp* / *ulpr* Command-Line Syntax.

Using lpr

The `lpr` program is available from the Windows command prompt. It is provided by Windows TCP/IP utilities and services. This command-line utility may be used to send a print request to the ClusterQue print server *PROVIDED* that ClusterQue is listening on port 515. Refer to your OS help files for command line syntax and availability.

Did the Print Job Reach the Queue?

If a job fails to print, then the first step is to find out if it was received by the ClusterQue print server. The ClusterQue manager programs display a list of jobs on the queue. If the print job is on the queue, then the Windows printer settings are correct. Note the status of the print job and refer to the next section, *How to Manage the Queue for* instructions on how to handle printer errors, assistance required messages, releasing a print job, etc.

If the Print Job Did NOT Reach the Queue

If the print job is not listed on the ClusterQue print queue and the application is using a Windows printer, then refer to the previous section to learn how to troubleshoot a print request made using this method.

If the print job is not listed on the ClusterQue print queue and the application is using either `ulpr.exe` or `ulp` programs, then try running the same command from the command prompt and note any errors displayed. Refer to the next section to learn the meaning of the most common error messages and how to handle them.

Sending a Print Request from a UNIX/Linux Server Application

There are basically four methods that can be used by UNIX/Linux server applications in order to send print request to the ClusterQue print server:

1) Printing to a LPR/LPD printer.

2) Using the `ulp` program provided by LBM Systems.

3) Using the `ulpr` program provided by LBM Systems.

4) Using the `lpr` command-line utility.

Printing to an LPR Printer

A UNIX application can print to a ClusterQue printer in the same way that the application would print to any LPR printer PROVIDED that the ClusterQue print server is listening on port 515 (that is the ulpd daemon process should be listening on port 515). The printers appear to the UNIX machine like any other network printer supporting this TCP/IP protocol and should be installed in the same way.

Using ulpr

If the server application does not run on the same machine as the ClusterQue print server, then it would use the ulpr program to send a print request to the ClusterQue print server. Ulpr is usually executed from with in a shell script or directly from the command line. For ulpr command line syntax, see *Appendix A - ulp / ulpr Command-Line Syntax.*

Using ulp

The ulp program is available from the UNIX/Linux command line on the machine where the ClusterQue print server is running. For ulp command line syntax, see *Appendix A - ulp / ulpr Command-Line Syntax.*

Using lpr

The lpr command-line utility may be used to send a print request to the ClusterQue print server provided that ClusterQue is listening on port 515. Refer to your OS help files for command line syntax and availability.

Did the Print Job Reach the Queue?

If a job fails to print, then the first step is to find out if it was received by the ClusterQue print server. The ClusterQue manager programs display a list of jobs on the queue. If the print job is on the queue then the print request was sent successfully. Note the status of the print job and refer to the section titled *How to Manage the Queue for* instructions on how to handle printer errors, assistance required messages, releasing a print job, etc.

The Print Job Did NOT Reach the Queue

If the print job is not listed on the ClusterQue print queue and the application is using either ulpr or ulp programs then try running the same command from the command prompt and note any errors displayed. Refer to the next section, *Sending a Print Request from* a Command Prompt, to learn the meaning of the most common error messages and how to handle them.

Sending a Print Request from a Command Prompt

There are two command-line programs, provided by LBM Systems, used to send print requests to the ClusterQue print server: `ulp` and `ulpr`.

ULP (command-line printing from the ClusterQue server)

The `ulp` program is available from the command line (UNIX/Linux, Interix, DOS) for printing files; it can *only* be used to send print requests from the machine where the ClusterQue print server is running. By default the ulp program is found in the *uprint* directory.

ULPR (command-line printing from clients)

The `ulpr` program is used to send print requests from any networked workstation to the ClusterQue print server. A version of ulpr for most commonly used UNIX/Linux operating systems is distributed on the ClusterQue Installation Package (CD or downloaded files). Contact LBM Systems (www.LBMSys.com) to get a copy of this program for a particular operating system if one is not provided in this package.

A version of ulpr for Windows, `ulpr.exe`, is available from the DOS prompt. It can be used to send a print request from any Windows client PC on the network, provided that a second file, `UniQue1.dll`, is found in the same directory where this program resides.

Although `ulp` and `ulpr` are the preferred programs used to send print request to ClusterQue because of the additional features they provide (print job disposition, forms, print mode, class scheduling, email notification, etc) any third party tool program that sends a print request using the LPR (Line Printer Remote) protocol may be used *PROVIDED* that ClusterQue is listening on port 515. An example of such programs is the lpr command-line utility provided by most operating systems.

Regardless of which method is used to send a print request from the command prompt, it is essential that the following information is known:

- Name of the server (or Host) where ClusterQue is running.
- Port on which ClusterQue is listening.
- Printer destination.
- Path of the file to be printed.

Following is an overview of the ulpr and ulp command line syntax. For a detailed explanation of all arguments available for ulp and ulpr see *Appendix A - ulp / ulpr Command-Line Syntax.*

Use the -? option to display usage.

ulp Command Line Syntax

ulp [destination] [options] [filenames]
destination A destination of a print request is specified by a combination of the following arguments: ▪ Printer Name *–d<printer>* ▪ Printer Number *–P<Number>* ▪ printer class *–C<class>* ▪ Group *–G<group>* The destination of a ulp print request is ultimately a ClusterQue printer. Class and group scheduling functions allow print jobs to be sent to a class or a group, ClusterQue will re-route the print job to the first available, least-used printer in the requested class or group. If no destination is specified, the default printer, as defined in the ulpdef configuration file, will be used. Valid characters for printer names are letters and numbers (the first character cannot be a number), as well as hyphens and underscores.

Options
The options of a print request are arguments that direct the ClusterQue print queue what to do when a print job gets to the queue, how to process a job, and what to do after the job prints. For instance, a job may be sent on hold (–Mhold) for a user to review and release manually at a later time. ClusterQue may be directed to send a Windows message or email to notify a user that a print request was received. Finally the job may be sent so that when it prints it is removed from the queue and deleted (scratched) from the file system.
filenames (default is *STDIN*) A list of one or more space separated filenames to print.

ulpr Command line syntax

ulpr [-H<host>] [–p<Port>] [destination] [options] [filenames]
The purpose of this program is to send a print request from a client machine to the ClusterQue print server, therefore, the user must specify where the ClusterQue print server is running *–H<host>* and what port it is listening on *–p<port>.* If these arguments are omitted the program will assume the ClusterQue print server is running on the current host and that it is listening on port 31269.

The *ClusterQue Installation and Configuration Guide* provides instructions of how to automate the location of the ClusterQue print server on a client machines using environment variables or system configuration files.
destination, options, and *filenames* are the same as those described for the `ulp` command.

Common Error Messages

Remote host name {ServerName} not found

Verify that the value of the argument used after the –H option is the name of the machine where the ClusterQue print server is running. This value is NOT case sensitive.

Connection refused: (errno=111, connect_status=-1)
Remote ulpd daemon is probably not running on port {xxx}

Verify that the value of the argument used after the –p option is the port number on which the ClusterQue Print server is listening on. Default values for ClusterQue running on Windows servers is 515, and for UNIX servers is 31269.

Host does not recognize {PrinterName}. Check printer name.

Verify that the value of the argument used after the –d option is the name of a printer as defined in ClusterQue. This value IS case sensitive.
Tip: The ClusterQue manager programs display a list of ClusterQue printers.

No files specified. Spooling <stdin>.

Although this message is not an error, it means that the program has not received input and is waiting for standard input via the keyboard.
The program is expecting input, be it a file or standard input provided by redirection or a pipe.

- If the program is expecting output from another program or script, then run that program and verify that the output generated is as expected.
- If the program is expecting a file, then verify that the file exists, that the path to the file is correct, and that the program has access (appropriate security settings) to that location and/or file.

No files specified. Spooling <stdin>.
Error opening temporary file /usr/tmp/stdin.2808: No such file or directory
Unable to spool <stdin>
Closing connection ...

This message should appear if a user is trying to send a print request using `ulpr` and no file or input stream is supplied. When this happens, the program tries to create a temporary file in the `C:\usr\tmp` directory to capture standard input. If this directory does not exist, or the user running ulpr does not have access to it, then this message will be displayed.

Although it is very rare to use the program like this, if a user would like to enable `ulpr` so that it captures standard input via the keyboard, then they should create the `C:\usr\tmp` directory and assign it appropriate (Windows) security settings.

---

ulp: Cannot read //C/dummy.txt
File //C/dummy.txt NOT queued.
Closing connection ...

Path to file or file name are probably incorrect.

Bad mode {Mode value used}

Verify that the value or values specified after the –M option are valid. This IS case sensitive; all values should be lower case, separated by comas with no spaces between them. Even though there is an error message displayed, it does not prevent the file from being queued; the server's default print mode setting will be assigned to the print job.

HOW TO MANAGE THE QUEUE

The manager programs provide a set of control capabilities that include the ability to:

- Modify the parameters of a print request
  - number of copies
  - form
  - banner page option
  - disposition of the file after printing
  - etc.
- Stop and restart print jobs.
- Defer (delay) printing of specified jobs to a later time.
- Redirection of a print job to a different destination.
- Monitor the status of currently printing jobs.
- Check the status of printers.
- Control the load and scheduling of all printers.
- Display the *contents* of a print job as it will be printed.

Choosing the Manager Program

There are two versions of ClusterQue print queue manager programs:

1) Terminal based programs (run inside a character cell terminal window) and
2) Java program that can run as an applet from within a browser or as a standalone application (provided a Java Interpreter is available).

There are three programs provided by LBM Systems:

ClusterQue A terminal program used to monitor and control **ClusterQue** from the server itself.

rUniQue A terminal program used to monitor and control **ClusterQue** from a remote UNIX/Linux client. Its interface is the same as the UniQue manager program.

jUniQue A GUI version as a Java applet or standalone application. This version is used to monitor and control **ClusterQue** on the server, from a remote UNIX/Linux X-Windows client, or a remote Windows client. This version of the manager program is the most commonly used.

Running the Manager Programs

Even though the three manager programs are executed differently, this information is common to all and needs to be known by a user:

- Name of the server (or Host) where ClusterQue is running.
- Port on which ClusterQue is listening.
- Path to the manager program executable file (unique, runique, or junique.zip).

Running the ClusterQue Manager Program

By default the executable, called `unique`, that runs the **ClusterQue** manager program, is:

```
/usr/spool/uprint/unique
```

This program only runs on the machine where the ClusterQue print server is running. It is available form the UNIX/Linux/Interix command line.

ClusterQue command line syntax

unique [options]	
-g <group>	Used to restrict the jobs and printers displayed to those in a single group by adding an argument (-g) followed by the group name (for example, 3rdfloor) to display.
-j	In the default display mode, the cursor follows the currently active job. By specifying the `-j` option, the cursor will remain at the current position as jobs are released.
-q	Starts `ClusterQue` in *quiet mode*, meaning that no errors are written to standard error.
-Q	Specify that updates the display should only occur for a period of *one minute since the last keystroke* (the program will be idle and disconnected from the daemon after this idle timeout).
-F	By default, the request for modification of the *form* or *printer* will show a pull-down menu of valid choices for these fields. Running the program with the -F option, however, will allow *free-form* text entry in these fields.
-P	Display *only* the printers screen (see below);
-J	Display *only* the queue (job) screen.

Running the rUniQue Manager Program

By default the executable, called `runique`, that runs the **rUniQue** manager program, is:

```
runique
```

This program only runs on UNIX/Linux clients. It is available form the UNIX/Linux/Interix command line.

Note: rUniQUe is available for Windows clients, *provided* SFU (Microsoft Services for UNIX) is installed.

runique command line syntax

runique [-H<host>] [–p<PortNumber>] [options]	
-H<host>	The ClusterQue server to send the job to:
host	IP address or hostname, indicates the machine on which the ulpd daemon is running.
-p<PortNumber>	ClusterQue Port Number. The port on which the ulpd process is listening.
PortNumber	The default port number for ClusterQue on Windows platforms is 515 and, for ClusterQue on UNIX/Linux platforms it is 31269.
options	same as for the unique program.

There are methods available used to automated the server information (host name/port number) using environment variables or system configuration files. For more information refer to the ClusterQue Installation and Configuration Guide.

Running the jUniQue Manager Program

Since the jUniQue Manager program is written in *Java*, it runs identically on any machine that can run a Java-enabled Web browser. The jUniQue Manager Program can be invoked as:

1. A java *applet* from an HTML page on a web server.

2. From the command line (or Windows shortcut) as a *stand-alone* Java application using a Java interpreter such as *Sun Microsystems's Java™ Runtime Environment* (JRE) or *Microsoft's Java Virtual Machine* (JVM).

jUniQue as a Java Applet

The user needs to type the URL that points to the web page that launches this program.

For example: `http://WebServerName/UniQue/UlpApplet.htm`

The applet runs with a browser window on the background.

For HTML code samples refer to the jUniQue HTML Help files.

jUniQue as a Standalone Application

The jUniQue standalone application is usually launched from a pre-configured shell script, batch file, Windows shortcut, or directly from the command line.

In order to run this program from the command line, these two components are needed:

1) *Java* interpreter program (jre, java(JDK), jview, wjview)
2) A file called junique.zip

Although command line syntax varies depending on the Java interpreter used the arguments for jUniQue are common to all.

Java Interpreter	Command Line Syntax
JRE	`jre <-classpath> <path to junique.zip> UlpGUI [arguments]`
JDK	`java <-classpath> <path to junique.zip> UlpGUI [arguments]`
jview	`jview </cp> <path to junique.zip> UlpGUI.class [arguments]`
wjview	`wjview </cp> <path to junique.zip> UlpGUI.class [arguments]`

jUniQue [arguments]

Argument	Description
hostname[x]	If the *hostname* is specified, the hostname field in the logon window will be automatically filled in with the value specified with this argument. The field can be changed to a different hostname at logon time.
user[x]	If the *user* is specified, the logon window will *not* be displayed. In addition, the *Set User and Password...* choice in the *Network* menu will be disabled. This significantly strengthens the *security* of the print queue. This automatic logon method is only functional for levels of security that do *NOT* require password authentication.
port[x]	This is the port that the *ulpd daemon* is listening to. Port *515* for **ClusterQue** on Windows platforms and **31269** for **ClusterQue** on UNIX/Linux platforms.
group[x]	The *group filter* can be specified on the command line. If a group filter is specified, the *Set Group filter...* choice from the *Network* menu is *deactivated*. In addition, the *Modify* options will show only printers *in the group*.
Printjobsshowmine	This option (0 or 1), determines the *initial* view of the print queue. 1 is user's jobs, 0 is all jobs.
update	(default is *10*) This option sets the value of the *refresh interval* (in seconds).

Following are some examples of command lines that illustrate the use of jUniQUe arguments; taken from jUniQue running on Windows client, executed using JVM (Microsoft Java Virtual Machine).

Example 1: Automatic logon (No logon screen)

When these arguments are passed, the logon screen is not shown; further more, when the "Open Connection.." command is executed, the user input box is grayed out.

```
jview /cp C:\UniGui\junique.zip UlpGUI.class hostname=ServerName
port=515 user=UserName
```

Example 2: Automatic logon (No logon screen) for Multiple Connection Settings

```
jview /cp C:\UniGui\junique.zip UlpGUI.class hostname1=ServerName1
port1=515 user1=UserName1 hostname2=ServerName2 port2=31269
user2=UserName2 hostname3=ServerName3 port3=515 printjobsshowmine=1
```

Example 3: Only show jobs of the user logging on

```
jview /cp C:\UniGui\junique.zip UlpGUI.class hostname=ServerName
port=515 printjobsshowmine=1
```

Example 4: Group Filter

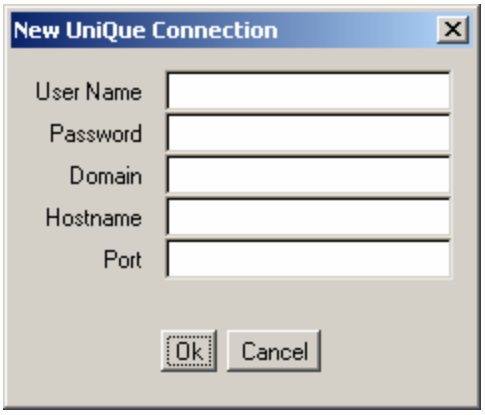
Show only jobs printers sent to printers assigned to a group, show only printers assigned to this group:

```
jview /cp C:\UniGui\junique.zip UlpGUI.class hostname=ServerName
port=515 group=groupname
```

Note: JRE (Java Runtime Environment) is available at the Sun Microsystems web site. Check the Microsoft web site for JVM (Microsoft Java Virtual Machine) availability. JVM is included in some Windows operating systems. jView.exe is the DOS version of the JVM java viewer; it runs Java applications from a DOS window that is displayed in the background. wjView.exe is the Windows version of the JVM, it will not display a DOS window in the background. Keep in mind that Sun Microsystems' JRE for Windows can be used to run jUniQue if JVM is not available on a particular version of Windows.

User Login

The jUniQue manager program provides a secure environment for displaying files on the queue by means of a user login procedure. Login can be automatically set by supplying the user name via the command line arguments (*See Examples 1 and 2*) or by means of the login screen:



Users will only be able to manage their print jobs, while operators will have full control of the print queue.

ClusterQue Manager Programs Overview

ClusterQue/rUniQue User Interface Overview

Each screen is designed to operate in a *point and shoot* fashion. That is, the *arrow and TAB, Page-Up, Page-Dn keys* may be used to scroll through the list and position the cursor to select the *file* or *item* of interest. *Quick-action keys* activate the desired command; there is a function key and a keyboard letter (*action*) key available for each command.

Labels at the bottom of each screen indicate which function (F) keys are active (available) and what each does. For single letter *action keys* the most obvious choices have been picked. These single letter action keys are *not case sensitive*.

Note that on all screens, if the value of a particular field is too large to fit, **ClusterQue** will indicate this by placing a plus sign ("+") at the left or right edge (last visible character) indicating that part of the data cannot be seen. The field will *scroll* left and right as appropriate when entering data. In addition, there are *quick-action* keys to scroll the data on demand.

Quick-Action scroll keys

- `t` (Top) Go to top line of the display.
- `b` (Bottom) Go to the bottom line of the display.
- `[` (Scroll Field Left) Scroll an overflow field to the left.
- `]` (Scroll Field Right) Scroll an overflow field to the right.
- `u` Equivalent to *Page-Up*.
- `d` Equivalent to *Page-Dn*.
- `j` Equivalent to *Up-Arrow*.
- `k` Equivalent to *Dn-Arrow*.

jUniQue User Interface Overview

Figures one through four (shown ahead) illustrate the jUniQue user-interface. The title bar displays *who* is logged on to *which* server on *what* port in the form user@ServerName:PortNumber.

A menu bar displays a set of menus with a list of commands that may vary from screen to screen. The set of commands for print jobs and printers are available from the *Commands* menu, command buttons, and print job/printer right-click menu.

Use a mouse to navigate the components of these screens. To select or highlight a print job or printer, a user must click on the entry in the list. The relevant buttons and commands will highlight depending on the nature of the entry selected. A range of print jobs may be selected at the same time by using *Ctrl-Click* or *Shift-Click* combinations.

When information is not displayed completely a tool tip with will pop-up when the mouse rolls over an entry See *Figure 2: Additional Print Job Information View.*

Both lists, print jobs and printers, may be sorted by clicking on each column header in the list. Sorting options are also available from the *Display* menu.

Available from the *Network* menu, a *Group* filter may be set so that the program only displays print jobs and printers assigned to a group. The list of print jobs may be restricted to display only user specific print jobs or all print jobs on the ClusterQue print queue (*Show All Users'* and *Show Mine* from the *Display* menu).

There are a number of configurable options (title, display font, filters, user connectivity, program viewer, and more) that can be set using *the Java Configuration Utility* (`JavaAppletConf.exe`) available from the *Options* menu *Program Set-Up* option.

Please refer to the jUniQue help files, available from the Help menu, for a detailed explanation of each command on these screens and Guide to the Java Configuration Utility.

The Four Views of the Printing System

The manager programs provide four views of the printing system.

1) Main Print Job Information View
2) Additional Print Job Information View
3) Main Printer Information View
4) Additional Printer Information View

The following are screen shots taken from jUniQue manager program. A user will find that the information displayed on both versions of the manager programs is very similar, even though the presentation is different (GUI vs. character-cell). We will refer to these screenshots for the remainder of this document.

For ClusterQue/rUniQue sample screen shots see *Appendix B - ClusterQue Manager Programs.*

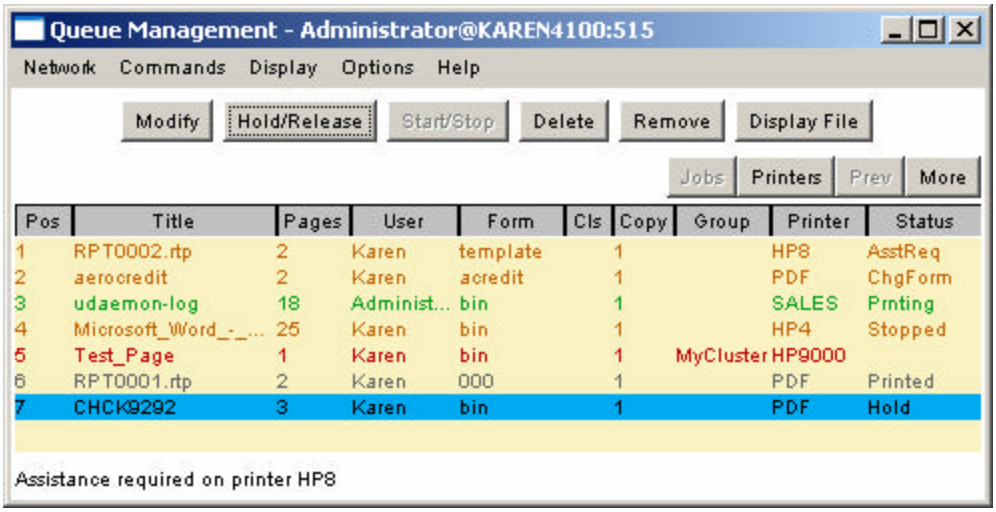


Figure 1: Main Print Job Information View

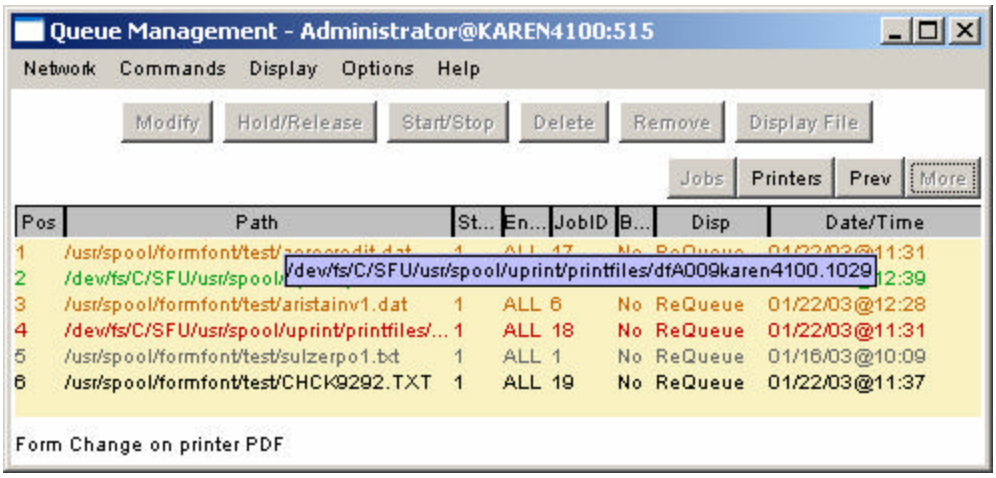


Figure 2: Additional Print Job Information View

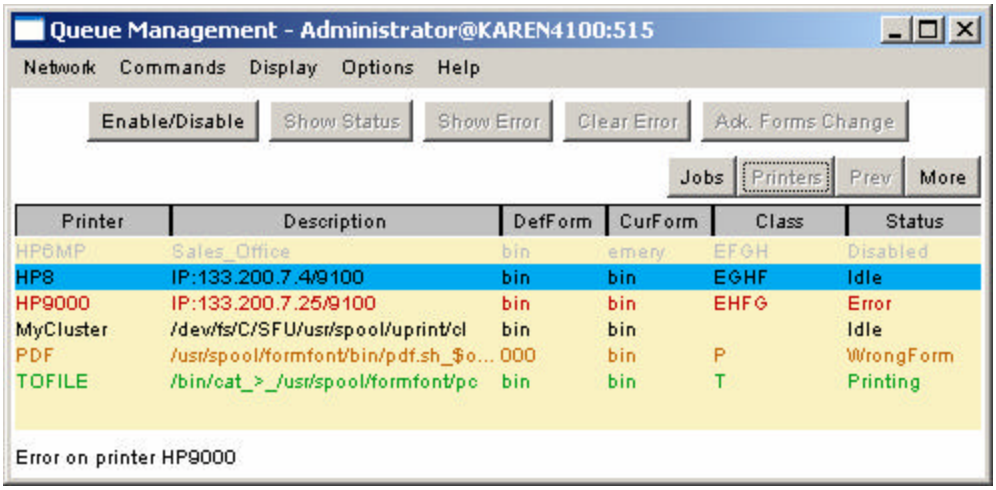


Figure 3: Main Printer Information View

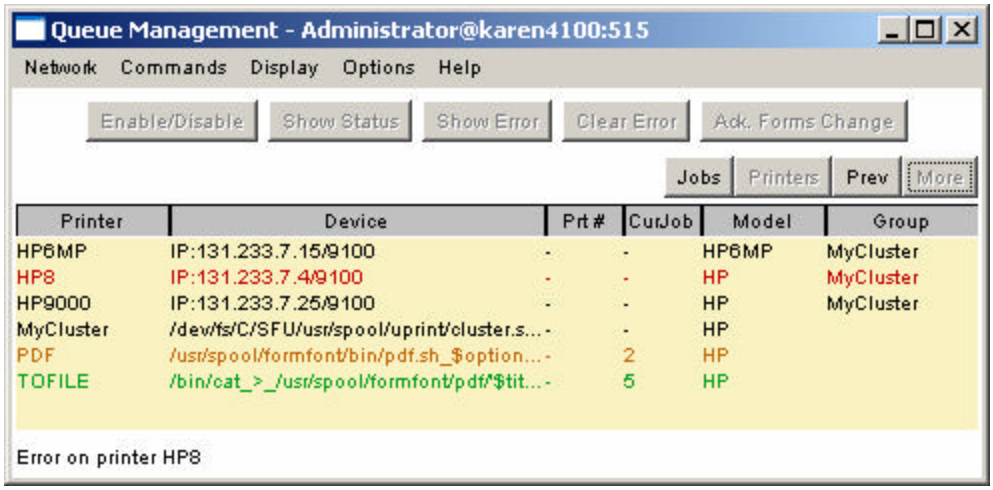


Figure 4: Additional Printer Information View

Print job and *Printer* properties are displayed in a column like fashion. Column headers name the property; most of them are self explanatory. *Appendix B - ClusterQue Manager Programs* provides a detailed explanation of all print job and printer properties displayed by the manager programs.

Most Common Tasks

The *Status* property plays an important role in this section; its value indicates a state of a print job or printer and requires specific user intervention in order to accomplish a *task*. Each task will be explained for both versions of the manager programs, starting with jUniQue and followed by a common explanation for ClusterQue and rUniQue.

How to toggle between views

jUniQue

Use the display buttons to change between the four views of the printing system:

ClusterQue/rUniQue

F9 (*[Ctrl-F]09* or O) Toggles between main and additional information views corresponding to current view displayed.
F10 (*[Ctrl-F]10 or P/Q*) Toggle between print job and printer views.

Releasing a Print Job

A file on the queue is referred to as a print job. Releasing a print job means "to send a file to the printer". A print job may be released if the value of the *Status* column is *Printed*, *Hold or Blank*. To release a print job, run the *Hold/Release* command from the manager program while the job is selected or highlighted.

jUniQue

1) Click or scroll to the desired entry in the list of print jobs.
2) Click the *Hold/Release* command button, *Hold/Release* from right-click menu, or *Hold/Release* from *Commands* menu.

ClusterQue/rUniQue:

1) Use the arrow keys to position the cursor at the desired print job
2) Press *F3, [Ctrl-F]03,* or *H* to release the job.

Stopping a Print Job

A print job will be spooled to the printer at the rate set by the printer's page per minute. While the print job is being spooled its S*tatus* will be displayed as *Printing*. When a print job is stopped, the printer on which it is printing is locked (thus will not be available for subsequent print jobs) until the job restarts and finishes printing or until the job it is placed on *Hold.*

jUniQue

1) The print job will turn green while in *Printing* status. The print job entry in position 3 shown in Figure 1 is *Printing*.
2) Click or scroll to the desired entry in the list of print jobs.
3) Click the *Start/Stop* command button, *Start/Stop* from right-click menu, or *Start/Stop* from *Commands* menu.
4) The print job should display *Stopped* status and its color should be orange. The printer on which the print job was printing will display *Stop-p#* in the status field.

ClusterQue/rUniQue:

1) Scroll to the desired entry in the list of print jobs.
2) F5 (s) Stops the print job (this key is only active when the job is either printing or stopped).
3) The print job should display *Stopped* status. The printer on which the print job was printing will also display *Stopped* status.

Moving a Print Job to another Printer

A print job may be moved to another printer only when its status is *Hold* or *Printed*. If a print job displays a different status, then the user must *Hold* the print job. To hold a print job, run the *Hold/Release* command from the manager program while the job is selected or highlighted.

jUniQue

1) Click or scroll to the desired entry in the list of print jobs.
2) Run the *Modify* command available from the command buttons, Commands menu and print job right-click menu.
3) Select the desired printer from the *Printer* drop down list on the *Modify item #* window and hit *Ok* to accept changes.
4) Run the *Hold/Release* command.

ClusterQue/rUniQue:

1) Scroll to the desired entry in the list of print jobs.
2) Press *F6*, *[Ctrl-F]06*, or *M* to *Modify* the print request.
3) The modifiable fields of a print job will appear underlined. The TAB key will toggle between the modifiable fields of the print job. The P*rinter* field displays pull-down box containing the list of available printers.
4) Scroll through the list of printers using the arrow keys and press *Enter* to select the new printer. If there are printers than will fit in the menu, use the "Previous..." or "Next..." selection to scroll through the list.
5) Press enter to save changes.
6) Press *F3*, *[Ctrl-F]03*, or *H* to *Release* the job.

Restarting a Job at a Different Page

To restart or reprint a job on a different page, the print job's *Status* must be *Hold* or *Printed*. If a print job displays a different status, then the user must *Hold* the print job. To hold a print job, run the *Hold/Release* command from the manager program while the job is selected or highlighted.

jUniQue

1) Click or scroll to the desired entry in the list of print jobs.
2) Run the *Modify* command available from the command buttons, Commands menu and print job right-click menu.
3) Enter the range of pages in the *StPage* and *EndPage* edit boxes on the *Modify item #* window and hit *Ok* to accept changes.
4) Run the *Hold/Release* command.

ClusterQue/rUniQue:

1) Scroll to the desired entry in the list of print jobs.
2) Press *F9, [Ctrl-F]09,* or *O* to show additional print job information.
3) Press *F6*, *[Ctrl-F]06*, or *M* to *Modify* the print request.
4) The modifiable fields of a print job will appear underlined. The *TAB* key will toggle between the modifiable fields of the print job.
5) Type the starting page in the *StPg* field and the ending pages in the *End* field.
6) Press enter to save changes.
7) Press *F3*, *[Ctrl-F]03*, or *H* to *Release* the job.

Changing the Banner Page Options

To modify a print job its *Status* must be *Hold* or *Printed*.

jUniQue

1) Click or scroll to the desired entry in the list of print jobs.
2) Run the *Modify* command available from the command buttons, Commands menu and print job right-click menu.
3) Select Yes or No from the Banner? drop down list on the *Modify item #* window.

ClusterQue/rUniQue:

1) Scroll to the desired entry in the list of print jobs.
2) Press *F9, [Ctrl-F]09,* or *O* to show additional print job information.
3) Press *F6*, *[Ctrl-F]06*, or *M* to *Modify* the print request.
4) The modifiable fields of a print job will appear underlined. The *TAB* key will toggle between the modifiable fields of the print job.
5) Type Y or N to change the value of the *Banner?* field.
6) Press *Enter* to save changes.

Changing the Form

To modify a print job its *Status* must be *Hold* or *Printed*. If a print job displays a different status, then the user must *Hold* the print job. To hold a print job, run the *Hold/Release* command from the manager program while the job is selected or highlighted.

jUniQue

1) Click or scroll to the desired entry in the list of print jobs.
2) Run the *Modify* command available from the command buttons, Commands menu and print job right-click menu.
3) Select the desired form from the *Form* drop down list on the *Modify item #* window and hit *Ok* to accept changes.

ClusterQue/rUniQue:

1) Scroll to the desired entry in the list of print jobs.
2) Press *F6*, *[Ctrl-F]06*, or *M* to *Modify* the print request.
3) The modifiable fields of a print job will appear underlined. The TAB key will toggle between the modifiable fields of the print job. The *Form* field displays pull-down box containing the list of available forms.
4) Scroll through the list of forms using the arrow keys. If there are more forms than will fit in the menu, use the "Previous..." or "Next..." selection to scroll through the list. Press *Enter* to select the new form.
5) Press *Enter* to save changes.

Displaying a Print Job

A print job is a file whose content is "printable" data. This means that the file could contain text, PCL, PostScript or any other format as understood by a printer. The manager programs are able to launch a new screen to display the content of a print job.

jUniQue

jUniQue may be configured so that it launches a program specific to a print job's file type (text, PCL, PDF, PostScript) so that print job is displayed in WYSIWYG (What-You-See-Is-What-You-Get) mode. If a program for a file type is not defined or not available, then the print job will be displayed with a built in text viewer, and content will be displayed in text mode.

1) Click or scroll to the desired entry in the list of print jobs.
2) Run the *Display File* command available from the command buttons, Commands menu and print job right-click menu. The corresponding program to the print job's file type content (PCL, Text, PostScript, PDF, etc.) will be launched to display the file.

If Acrobat Reader® is set as a default program viewer for PDF type files, then PCL type files will be converted on-the-fly and displayed as PDF documents when the *Display* command is executed PROVIDED that the printer has a model containing *PCL* or *HP*. Please refer to the jUniQue helps files to learn about file viewers.

ClusterQue/rUniQue:

1) Scroll to the desired entry in the list of print jobs.
2) Press *F2*, *[Ctrl-F]02*, or *V* to *Display* the queued print job on the screen, content will be displayed in text mode.

Changing the Order of Printing

To modify a print job its *Status* must be *Hold*, *Printed or Blank*. If a print job is moved up in the list, the jobs below that position will shift one down; the opposite happens if it is moved down the list.

jUniQue

1) Click or scroll to the desired entry in the list of print jobs.
2) Run the *Modify* command available from the command buttons, Commands menu and print job right-click menu.
3) Type in the desired position in the Pos edit box on the *Modify item #* window and hit *Ok* to accept changes.

ClusterQue/rUniQue:

1) Scroll to the desired entry in the list of print jobs.
2) Press *F6*, *[Ctrl-F]06*, or *M* to *Modify* the print request.
3) The modifiable fields of a print job will appear underlined. The TAB key will toggle between the modifiable fields of the print job.
4) Type in the desired position in the *Pos* field.
5) Press enter to save changes.

Acknowledging a Form Change Message

When a print job released for printing is assigned a form that uses a special kind of paper stock, ClusterQue notifies the user with an *Acknowledge Form Change* message. The purpose of this message is to give the user a chance to change (or verify) the stock on the printer tray before the job is spooled. The print job is stopped and its *Status* changed to *ChgForm*. The printer's status will also change, it will display *WrongForm*.

You must be a ClusterQue operator to be able to acknowledge a forms change.

jUniQue

The print job will turn orange while in *ChgForm* status. See print job entry in position 2 shown in Figure 1. The called printer called *PDF* shown in *Figure 3* displays this status as well.

1) Use the display buttons to show *Printers*.
2) Click or scroll to the desired printer (status should be *WrongForm)*.
3) Run the *Acknowledge Forms Change* command, available from the command buttons, *Commands* menu, and printer right-click menu.

ClusterQue/rUniQue:

The bottom of the screen should display: *Form change required on printer [PrinterName]*

1) Press *F10*, *[Crtl-F10]* or *P* to show printers
2) Scroll to the desired entry in the list of printers (status should be WrongForm).
3) *F7*, *[Ctrl-F]07*, or *F* confirms a form change.

Dealing with an Assistance Required Message

When a printer runs out of paper, has a paper jam, or other similar conditions, ClusterQue will stop the print job and will display an *Assistance Required* message on the print job and the printer.

If the printer is not "assisted" so that the *Assistance Required* condition remains and ClusterQue is setup to automatically re-spool print jobs then, the print job will be automatically moved to the next available printer in a group.

This message will persist on the printer until *Assistance Required* condition ceases to exist. However, the print job may be *held*, *moved* and *released* to another printer.

jUniQue

The print job will turn orange, the print job status will be *Asst Req*, and the printer status will be *Asst Reqd*. The printer job number one shown in Figure 1 is displaying an *Assistance Required* status.

1) Use the display buttons to show printers.
2) Click or scroll to the desired printer (status should be *Asst Reqd)*.
3) Run the *Show Status* command, available from the command buttons, *Commands* menu, and printer right-click menu, to display the nature of the error condition. A list of common errors is shown ahead. This command will run a pre-defined program that will display the condition of the printer.
4) If possible, fix the condition on the printer. The job will automatically re-spool as soon as the printer is available and its status will change accordingly.

ClusterQue/rUniQue:

The bottom of the screen should display: *Assistance required for printer [PrinterName]*

1) Press *F10*, *[Crtl-F10]* or *P* to show printers
2) Scroll to the desired entry in the list of printers (status should be *Asst Reqd*).
3) *F8, [Ctrl-F]08, or R p*erforms a *diagnostic test* of a remote *ipsock* printer or display the remote queue (*lpd* and *ulpd* printers). The test results will show on the status line of the screen, followed by a display of the status log or queue.
4) If possible, fix the condition on the printer. The job will automatically re-spool as soon as the printer is available and its status will change accordingly.

Dealing with a Printer Error

When an error condition occurs while printing, the printer status will display *Error*. Error conditions are usually network related. Print requests for the printer will NOT be processed until the error condition is cleared.

jUniQue

The print job will turn red while the printer is in *Error* status as shown in the print job at position 5 in Figure 1. The printer job shown is attempting to print on a printer called *HP900,* shown in *Figure 3*.

1) Use the display buttons to show printers.
2) Click or scroll to the desired printer (status should be *Error)*.
3) Run the *Show Error* command, available from the command buttons, *Commands* menu, and printer right-click menu, to display the nature of the error condition. A list of common errors is shown ahead.
4) If possible, fix the error condition on the printer.
5) Run the *Clear Error* command to clear the error condition on the printer.

ClusterQue/rUniQue:

The bottom of the screen should display: *Error condition on printer [PrinterName]*

1) Press *F10*, *[Crtl-F10]* or *P* to show printers
2) Scroll to the desired entry in the list of printers (status should be Error).
3) *F3, [Ctrl-F]03, or S shows the error log for a printer (available only for printers with an error).* A list of common errors is shown ahead.
4) If possible, fix the error condition on the printer.
5) *F4, [Ctrl-F]04 or C clears the error status of a printer.*

Common Error Messages

Error messages are displayed in the following format:

[PrinterName]: Error message description: Error return code

[PrinterName]: sh:[path]:Not found

This error applies to program type printers. ClusterQue cannot find the program as defined in the printer definitions file. Check the path to the program.

[PrinterName]: path[Line#]:Error Message...

This error applies to program type printers. This error message indicates there is an error condition at a statement found in a line of a shell script.

[PrinterName]: sh:[path]:Cannot execute – Permission denied

This error applies to program type printers. The program to execute was found, but the system account does not have execute permissions.
Use the chmod UNIX command to change permissions accordingly.

[PrinterName]: Error opening printer [PrinterName]:Interrupted function call (errno=4)

This error applies to ipsock type printers (network printers). The printers IP address was not found. Check that the IP address assigned to the printer is correct.

[PrinterName]: Error opening printer [PrinterName]:Connection refused (errno=61)

This error applies to ipsock type printers (network printers). The IP address assigned was found but the connection was refused. Check that the port assigned to the printer is correct.

Disabling a Printer

A ClusterQue printer may be disabled from the manager programs. Its status will change to *Disabled*. Files sent to that printer will remain queued (blank status) until the printer is reinitialized.

jUniQue

1) Use the display buttons to show printers.
2) Click or scroll to the desired printer.
3) Run the *Enable/Disable* command, available from the command buttons, *Commands* menu, and printer right-click menu. The printer entry should turn gray as shown in Figure 3.

ClusterQue/rUniQue:

1) Press *F10*, *[Crtl-F10]* or *P* to show printers
2) Scroll to the desired entry in the list of printers.
3) *F2, [Ctrl-F]02, or E* Toggle the *enable/disable* status of a printer

Reinitializing a Printer

A ClusterQue printer may be reinitialized if its status is *Disabled*. Print jobs waiting to be serviced by that printer will automatically be spooled.

jUniQue

1) Use the display buttons to show printers.
2) Click or scroll to the desired printer (entry should be gray, status should display *Disabled*).
3) Run the *Enable/Disable* command, available from the command buttons, *Commands* menu, and printer right-click menu. The printer entry should turn gray as shown in Figure 3 (printer called HP6MP is disabled).

ClusterQue/rUniQue:

1) Press *F10*, *[Crtl-F10]* or *P* to show printers
2) Scroll to the desired entry in the list of printers (status should display *Disabled*).
3) *F2, [Ctrl-F]02, or E* Toggle the *enable/disable* status of a printer

Appendix A - *ulp* / *ulpr* Command-Line Syntax

ulp Command Line Syntax

ulp [destination] [options] [filenames]	
destination (default is *default printer in* `ulpdef`) The destination of a `ulp` print request is ultimately a **ClusterQue** printer. Class and group *scheduling* functions allow print jobs to be sent to a *class* or a *group*, **ClusterQue** will re-route the print job to the *first available*, *least-used* printer in the requested *class* or *group*. If *no* destination is specified, the default printer, as defined in the `ulpdef` configuration file, will be used. Valid characters for printer names are letters and numbers (the first character cannot be a number), as well as hyphens and underscores.	
-C<class>	(default is *to utilize the default or assigned printer, or group attribute*) Request a specific class (A-Z) as a print destination attribute. The job will be printed on the *first available* printer having a *matching class* unless a *specific printer name or number* has been specified. If class *and* group (and optionally printer) are specified, these attributes must *not* conflict with each other. If they do, the job will remain on the queue awaiting disposition.
-G<group>	(default is *default or assigned printer, or specified class*) Request a specific group be used as a destination. The print job will be printed on the *first available* printer having a matching group *unless* a specific printer has been specified. Valid group names include alphanumeric characters, hyphens and underscores.
-d<printer>	(default is *default system printer*) Use this printer name as destination. This printer name must be already defined in the destination server's `prtdef`.
-P<Number>	(default is use default system printer) Same as printer name, except use this printer number (alternate printer identification).
Options	
-f<form>	(default is *use the default form of the destination printer*) Assign a specific form (as assigned in the **ClusterQue** server's `formdef` configuration file) to the print job.
-M<mode>	(default is *del*) Set the print job's mode. The *mode* parameter is one *or more* of the following comma separated values: *hold* Queue the file in hold mode. *del* Delete the file after it is successfully printed. *re* Re-queue and hold after successfully printed. *leave* *Timed re-queue* mode. *mail* Request email notification (see options below). *banner* Force a banner page. *nb* Force *no* banner page.

-M<mode>	example: -Mleave,nb If a file was printed in *leave* mode, the job will remain on the queue for five minutes and then removed once successfully printed. During the five minute period, the job is listed as "*Printed*", and the user has the opportunity to reprint the job or perform other actions such as view the queued file with "Display File", or redirect the job. Note: Email notifications can be sent more than one way, and each depends on how a valid user was established through security policies: ▪ Specified by the user on the print job. ▪ Specified by a valid system logon on the server where the user's email address is known (UNIX/Linux). Specified via the *ClusterQue Configuration utility*, whereby valid users may not even be users with accounts on any servers.
-R<mode>	(default is *del*) The print job's remote queue mode. This option is only used for *printer type ulpd* printers (**ClusterQue** printers). Since a print request to this type of printer first uses the print queue on the *local* machine (the mode of this queue is set with the -M option), the mode on the remote machine can be set with the -R option. The parameters are the same as for the -M option

-m	Request that the server send local mail (mail recipient on the same machine as the server) to the user that submits a print request. If the user has an account on the (UNIX/Linux) host, then they will receive a mail message confirming the *submission* of the print request. This feature is enabled using one of two methods:
	
	1. By specifying the *-m* flag to *ulp*:
	
	`ulp -m my.file`
	
	2. By specifying the *mail* keyword after the `-M` flag:
	
	`ulp -Mmail my.file`
	
	Windows users must supply additional information using the -A argument in order to receive email or Windows messages.

-A<e-mail address>	Specify an *alternate* email address notification destination. By default, a *local* mail message will be sent to the *user* who ran the `ulp` (or `ulpr`) program. To override the default, the `-A` flag, in addition to the `-m` or `-Mmail`, allows the specification of an *alternate* email address:
	
	`ulp -m -Asteveb@lbmsys.com my.file`
	
	This is the method used to send e-mail confirmation to a specific Windows user, regardless of any existing configurations.
	
	`-m -Amessage`
	or
	`-Mmail -Amessage`
	
	If the above is used AND **ClusterQue** is running on a Windows platform, then Windows users will receive a Windows pop-up `message` confirming the submission of a print request.
	
	If Windows messaging functionally is desired from **ClusterQue** installed on a UNIX/Linux host, then a Windows relay server should be used. Any windows user submitting print request through the windows relay server will receive a Windows pop up message confirming the submission of a print request.

-n<copies>	(default is *1*) Requested number (positive integer) of copies.
-c	Copy the print job completely to the queue before printing. Used to move the file to the ClusterQue spool directory before printing. This option is useful if the file being printed is on removable media or is to be concurrently updated.
-q	Operate in *quite* mode. In quiet mode, no log or error messages *whatsoever* will be displayed.
-r<start[:end]>	(default is *all pages*) Defines the print range. Used to specify the range of pages to print. *start* starting page number *end* ending page number
-z	allows queuing of zero length files.
-t <title> or -T<title>	(default is *the first 24 characters of the name of the print file*). The title for a print job. *title* An up to *24-character* string used to identify the print job entry in the manager screen. Use *double quotes* (“”) if the string contains spaces. When viewed, any spaces will be replaced by underscores.
-o<options>	(default is *an empty string*) Arguments passed to a filter in the $options macro. *options* An up to *16-character* string indicating the value assigned to the options variable/macro. This value is used when the `$options` macro is used as an argument to a filter or program.
-L	(default is *NOT to log a print job*) This switch directs **ClusterQue** to record the print job in the *job log*.

<table>
<tr><td>-k<date></td><td>Schedule a job to print at a future date. Past dates are not valid and will be rejected.

date yy/mm/dd@hh:mm
where:
yy year
mm month
dd day
hh hour (0 – 23)
mm minute

Although it is recommended to specify the exact date and time, not all of the options are required. ClusterQue can fill in certain fields with the current date and 0 minutes past the current hour. For example:

-k20 Today, 20 minutes past the current hour.
-k5@17:00 Day 5 of the current month at 5 PM.
-k5@45 Day 5 of the current month, 45 minutes past the current hour.
-k10@ Day 10 of the current month, 0 minutes past the current hour.

Note: If a scheduled print job is released manually, then it will no longer remain scheduled.</td></tr>
<tr><td colspan="2">filenames

(default is STDIN) A list of one or more space separated filenames to print.</td></tr>
<tr><td colspan="2">ulp [-c<class>] [-g<group>] [-d<printer>] [-P<PrinterNumber>] [-f<FormName>] [-M<mode>] [-R<mode>] [-m] [-A<emailAddress>] [-n<copies>] [-o<options>] [-c] [-q] [-r<start:end>] [-z] [-t<title>] [-L] [-k<date>] [filename1 Filename2 … FilenameN]</td></tr>
</table>

ulpr Command line syntax

<table>
<tr><td colspan="2">ulpr [-H<host>] [–p<Port>] [destination] [options] [filenames]</td></tr>
<tr><td colspan="2">destination, options, and filenames are the same as those described for the ulp command.</td></tr>
<tr><td>H<host></td><td>The destination ClusterQue server.

host IP address or host name, indicates the machine where the ulpd daemon is running.

To submit a print request to ClusterQue running on a machine called ServerA:

ulpr -HServerA [arguments]</td></tr>
<tr><td>P<Port></td><td>ClusterQue Port Number – port on which the ulpd process is listening.

Port The default port number for ClusterQue on Windows platforms is 515 and, for ClusterQue on UNIX/Linux platforms it is 31269.

For example, to submit a print request to ClusterQue running on a machine called HostA, listening on port 515, a client could run:

ulpr -HHostA -p515 <other arguments></td></tr>
<tr><td colspan="2">ulpr [-H<HostName>] [-p<PortNumber>] [-c<class>] [-g<group>] [-d<printer>] [-P<PrinterNumber>] [-f<FormName>] [-M<mode>] [-R<mode>] [-m] [-A<emailAddress>] [-n<copies>] [-oOptions] [-c] [-q] [-r<start:end>] [-z] [-t<title>] [-L] [-k] [filename1 filename2 … filenameN]</td></tr>
</table>

The *ClusterQue Installation and Configuration Guide* provides instructions of how to automate the location of the ClusterQue print server on a client machines using environment variables or system configuration files.

Appendix B - ClusterQue Manager Programs

The following are four tables that describe the information displayed on each view of the printing system. This information is the same for both versions of the manager programs.

Main Print Job Information View

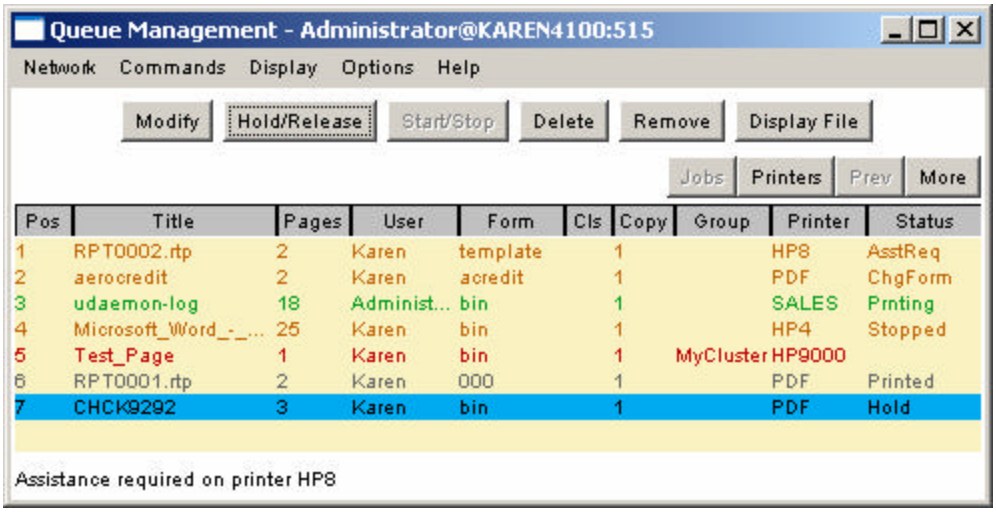


Figure 5: jUniQue Main Print Job Information View

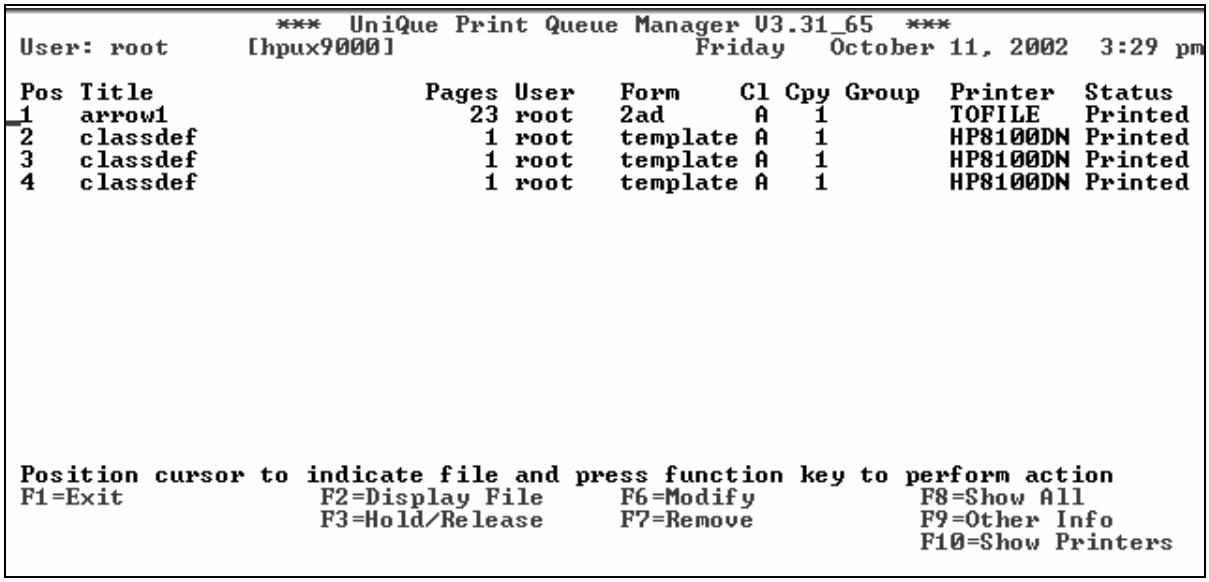


Figure 6: ClusterQue/ rUnique Main Print Job Information View

Heading	Description
Pos	The position of a print job in the list.
Title	The title of the print job if assigned, or the filename of the print file.
Pages	The number of pages in the print file.
User	The user id of the user requesting the print job.
Form	The form requested for printing.

Cls	The class assigned to the print job. The job will be printed on the first available printer having a matching class unless a specific printer has been specified - in which case the printer and class must match.
Copy	The number of copies to be printed.
Group	The destination group (if specified in the print request).
Printer	The destination printer.
Status	The status of the print job: *Blank* Queued for printing. *Hold* Held on the queue until manually released or removed. *Removed* Removed from queue. *Stopped* Stopped by user request. *Deleted* Deleted from queue and being removed from disk. *Chgform* Incorrect stock is mounted on the printer. Change the paper in the printer or use the Printer Management Screen to change the form. Acknowledgement released job to destination printer. *PrtErr* An error at the printer occurred. Check the Printer Management Screen to display the error. *CommErr* A network communications error has occurred. ClusterQue cannot communicate with the destination printer. *Waiting* Waiting for a printer busy condition to clear. The job will continue to try printing, unless it is stopped. Can indicate a non-ClusterQue print in progress. The printer is not technically "off line". *Printng* Print activity at the printer. ClusterQue is tracking the print job's progress. *AsstReq* The printer has stopped accepting data (it is off-line, out of paper, or has experienced a communications problem). The print job will continue trying to print unless it is stopped by an operator.

Additional Print Job Information View

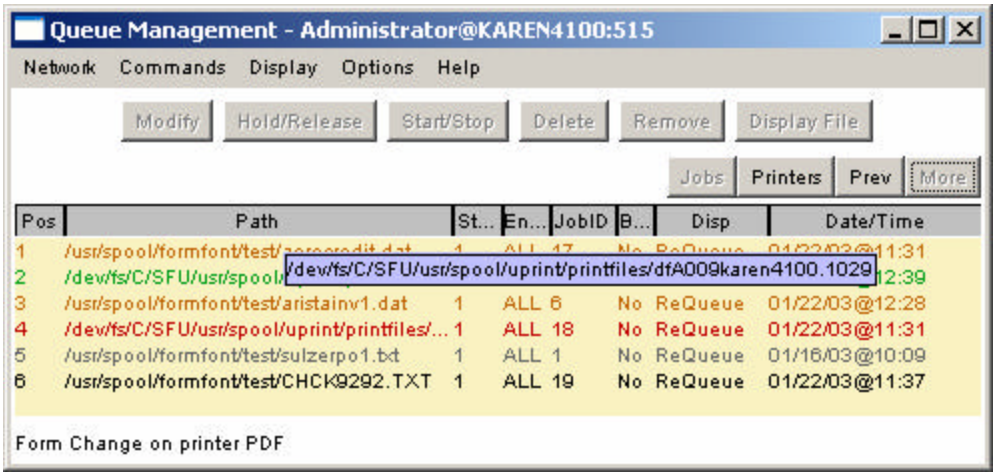


Figure 7: Additional Print Job Information View

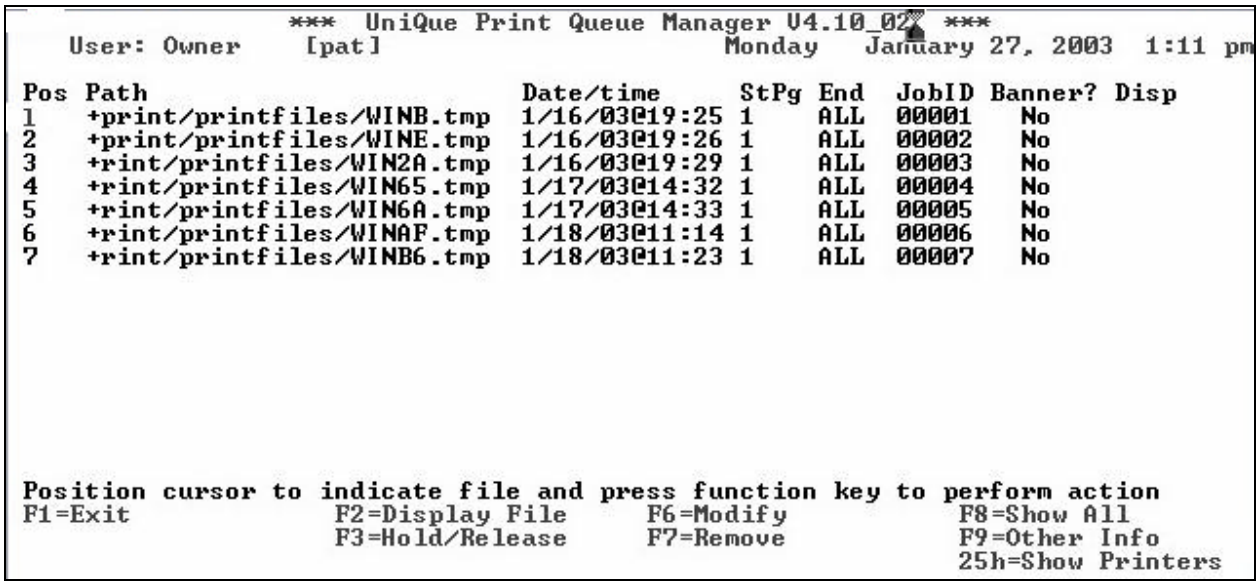


Figure 8: ClusterQue/rUniQue Additional Print Job Information view

Heading	Description
Pos	The position of a print job in the list.
Path	Displays the UNIX/Linux path of the print file.
StPage	The starting page to be printed.
EndPage	The last page to be printed.
JobID	The sequence number of the job.
Banner	Shows if a banner page was requested.
Disp	The disposition of the job: blank De-queue after printing, do not scratch. Requeue Leave on queue after printing. Delete Delete print job after printing.
Date/Time	(jUniQue only) Date and time the print job was submitted.

Main Printer Information View

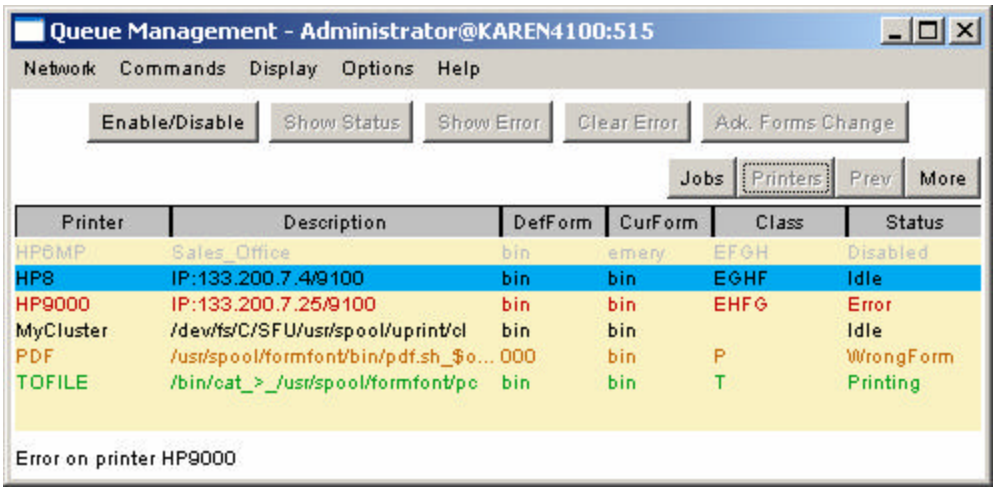


Figure 9: Main Printer Information View

```
                    ***  UniQue Printer Manager   ***
User: root      [hpux9000]                  Friday   October 11, 2002  4:02 pm

Printer  Description                    DefForm  CurForm  Class      Status
p6       LPD:0.0.0.0/HPLJ6                                           Idle
split    +ivide2.sh $pages $fullpath                                 Idle
HP8100DN HP8100DN                               template A            Idle
HP8100D+ HP8100DN                                        A            Idle
TOFILE   +spool/formfont/pclfile.prt            2ad                  Idle
TOPDF    +mfont/bin/updf.sh $endpage                                 Idle
printer1 HP5MS                                           A            Idle
printer2 HP5MS                                           A            Idle
printer3 HP5MS                                           A            Idle
HP6      +xe //Sandyr/HPLJ6 '$title'   200       200     A            Idle
Batch    +00 -s -u$username -I$title   page      page     A            Idle




Position cursor to indicate printer and press function key to perform action
F1=Exit              F2=Enable/Disable   F6=Modify
                                                        F9=Other Info
                                         F8=Remote Queue F10=Show Queue
```

Figure 10: Main Printer Information View

Heading	Description
Printer	The name of the printer in the printer definition file prtdef.
Description	The device for physical printers, or the command string if the printer is of type program.
DefForm	The default form is the form to use if none is specified.
CurForm	The form currently mounted (in use) on the printer.
Class	Class is used to specify which printer class to use. The job will be printed on the first available printer having a matching class unless a specific printer has been specified (in which case the printer and class must match).
Status	The status of the printer can be one of the following: Idle — Printer has no active jobs. Printing — Printer active with a print job. Error — An error condition has occurred while printing. Print job row info in red color. WrongForm — A form change acknowledgment is required. Print job row info in red color.

	Busy	The printer is busy with another process.
	Disabled	The printer has been disabled. Print job row info in grey color.
	AsstReq	The printer has stopped accepting data. Operator intervention is required. Print job row info in red color.
	Stopped	The current job has been (administratively) stopped from the Queue Management Screen

Additional Printer Information View

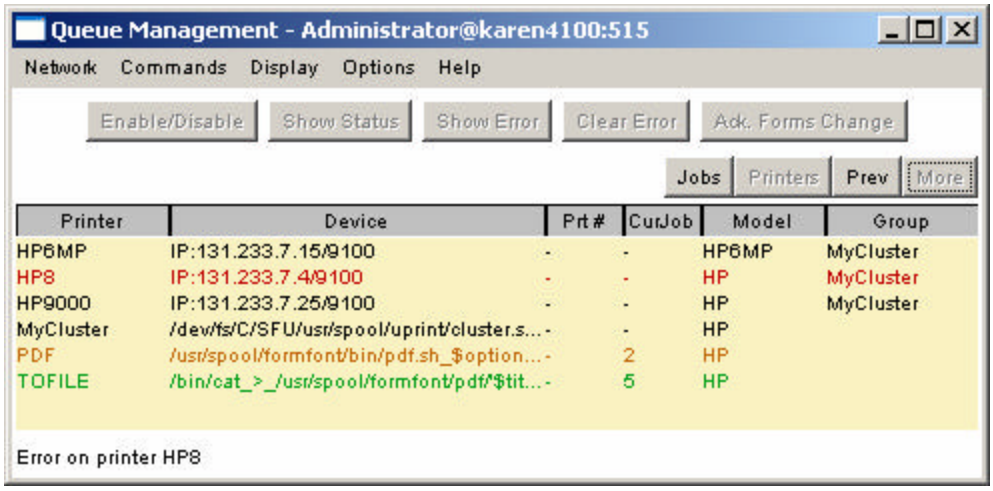


Figure 11: jUniQue Additional Printer Information View

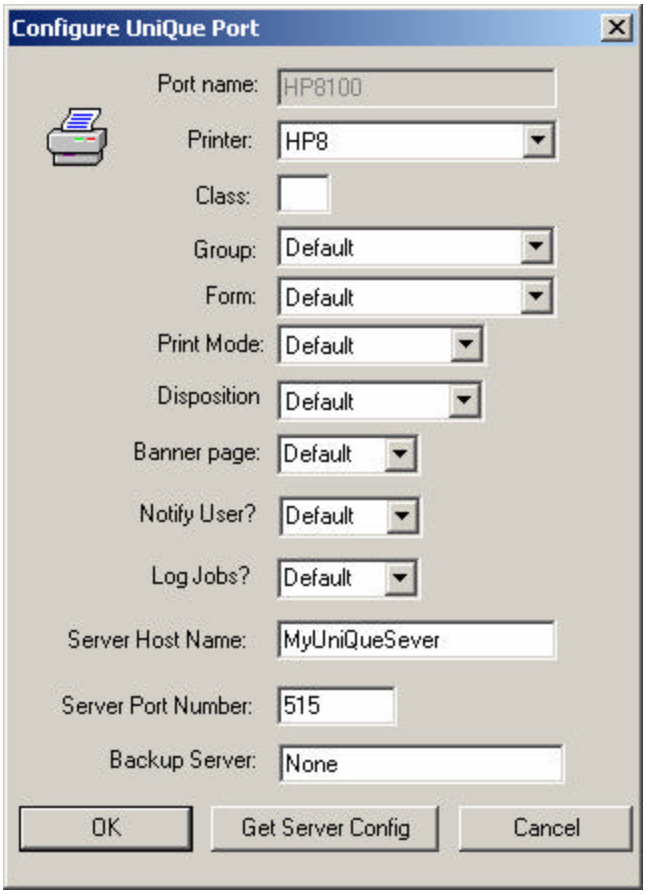
```
                    ***  UniQue Printer Manager   ***
User: root      [hpux9000]                    Friday   October 11, 2002  4:02 pm

Printer  Device                    Prt #  CurJob Model     Group
_p6       LPD:0.0.0.0/HPLJ6
split    |+2.sh $pages $fullpath                 DIVPRT
HP8100DN  IP:131.233.7.4/9100                   PJLHP5    real
HP8100D+  IP:131.233.7.4/9100                   PJLHP5PS  real
TOFILE   |+/formfont/pclfile.prt                PCLPRT    real
TOPDF    |+/bin/updf.sh $endpage                PDFPRT    real
printer1  IP:131.233.7.4/9100                   PJLHP5    real
printer2  IP:131.233.7.4/9100                   PJLHP5    real
printer3  IP:131.233.7.4/9100                   PJLHP5    real
HP6      |+Sandyr/HPLJ6 '$title'                HPLJ6     real
Batch    |+ -u$username -T$title                           virtual



Position cursor to indicate printer and press function key to perform action
F1=Exit            F2=Enable/Disable   F6=Modify
                                                    F9=Other Info
                                       F8=Remote Queue  F10=Show Queue
```

Figure 12:ClusterQue / rUniQue Additional Printer Information View

Heading	Description
Device	The device type is one of the four types of printers supported by ClusterQue: LPD For remote printers (or hosts) which support the lpd/lpr protocol. This type of printer can be used to send print requests to networked clients

	running a TCP/IP suite. ULPD For printers defined on a remote UNIX/Linux ClusterQue server. IP For remote printers which receive data thru a TCP port (port 515, for example). Command Line For virtual printers which consist of a command pipeline. ClusterQue will provide input to this pipeline as if the process were a physical printer.
Prt#	The print number is used to specify the printer number to use. This is an alternate form to the: option, which allows a printer to be specified by number.
CurJob	The current job is the sequence number of the current job.
Model	The model shows the printer model as configured.
Group	The group is used to specify the printer group. The print job will print on the first available printer having a matching group unless a specific printer had been specified (in which case the printer will override the group).

Appendix C – UniQueNT Port Dialog



Configure ClusterQue Port

Option	Purpose
Port name	The name used by Windows applications to identify the port. It is recommended to match this value to the **ClusterQue** destination. This field is set the first time the dialog runs; afterwards, it is a read-only field and will be grayed out.
Printer	(default is *unassigned*) To use a printer as the destination of a print request, select the desired **ClusterQue** printer from this pull-down list.
Class	(default is *unassigned*) The printer class (A-Z) as defined in the class definition file, `classdef`, on the destination **ClusterQue** server. ▪ When used as a *destination* (use *default* class), the *group* and *printer* fields *must* be left unassigned. The print request will be sent to the first available, least used printer assigned to the class indicated. ▪ When used to indicate *priority*, a printer *must be set as well*. ▪ If a **ClusterQue** printer is assigned class *ABC*, print request attributes that specify *class A* will have the *highest* priority, and will be serviced before print request with classes *B* or *C*.

	▪ When connecting to a *cluster*, this option should be left unassigned, as the cluster will split and prioritize the print job destination internally as a result of the clustering algorithm configured.
Group	(default is *unassigned*) A *pull-down* list containing the groups of printers as defined in **ClusterQue**. Select the group *to* which Windows applications will print. The print requests will be sent to the first available, least used printer *assigned to this group*. When connecting to a *cluster*, this option should match the value assigned to the printer field.
Form	(default is *unassigned*) The *form* name as defined in the forms configuration file, `formdef`, on the **ClusterQue** server. Select the form to use from the pull-down list of available, installed forms.
Print Mode	(default is *Spool*) A pull-down list with two print mode options: *Spool* Print jobs go directly to the destination. *Hold* Print jobs to go to **ClusterQue** and are placed on hold. Jobs on hold can be released from the *manager program screen*.
Disposition	(default is *Delete*) A pull-down list that permits three disposition options: *Delete* Delete the temporary spool file after the print job has successfully printed. *Requeue* The print job appears in the *manager program screen*, on hold status, even after successfully printing. *Requeue (5 minutes)* The print job appears in the *manager program screen*, on hold status, but only for *5 minutes* after successfully printing.
Banner Page	(default is *never*) The banner page printing options: *Never* does not print a banner page. *Always* forces printing of a banner page.
Notify User	(default is *message*) The desired print request arrival notification method: *message* A Windows *pop-up message* will inform the job owner that their print request has been successfully sent to **ClusterQue**. *email* An email message informs the job owner that their print request has been successfully sent to **ClusterQue**.
Log Jobs	(default is Summary) A pull-down list with two options for log verbosity 9detail): *Summary* If a file called `chkend` exists in the `/usr/spool/uprint` directory, then print job information (*user name*, *printer name*, *print file path*, ***ClusterQue*** *host name*, *date*, *print file title*,

	etc..) is logged in a file called `checkend.log`. *Detail* This option is reserved for *future* implementation.
Server Host Name	If the **ClusterQue** Print Queue is running on a separate machine, then this field must contain the **ClusterQue** host's name.
Server Port Number	(default is 515) If the **ClusterQue** Print Queue is installed on a separate machine, then this field must specify the *port number* on which `ulpd` is listening. The default port number for **ClusterQue** on Windows platforms is *515* and, for **ClusterQue** on UNIX/Linux platforms it is *31269*.
Back Up Server	(default is None) This option is used when a *Windows relay server* receives and routes print jobs to **ClusterQue** (on a separate machine). The value of this option is the *name* or the *IP address* of the **ClusterQue** "Backup Server". If not using this option, then this field should remain as *None*.