ExcelliPrint®

IPDS™ to Windows® Printing and Archiving

Affordable IPDS Printing

- Print IBM host IPDS documents to Windows®-based printers
- Save IPDS documents to electronic archives in common formats like PDF, TIFF, and PCL
- Reduce processor demand on the host system
- Lower costs and maintenance in your IPDS print environment
- Consolidate multiple IPDS printers with minimal server-side modifications
- Replace twinax IPDS printers with common printers

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Introduction

ExcelliPrint, running on a Windows®-based PC, replaces any IPDS printer: it receives and processes IPDS print requests generated on iSeries™ and zSeries® computers, which see ExcelliPrint as a high-end IPDS printer. After receiving the data over a TCP/IP network, ExcelliPrint converts and saves the data in a variety of standard formats (Premium only), sends it to an email recipient, or, more commonly, prints the documents to non-IPDS, Windows-based printers.
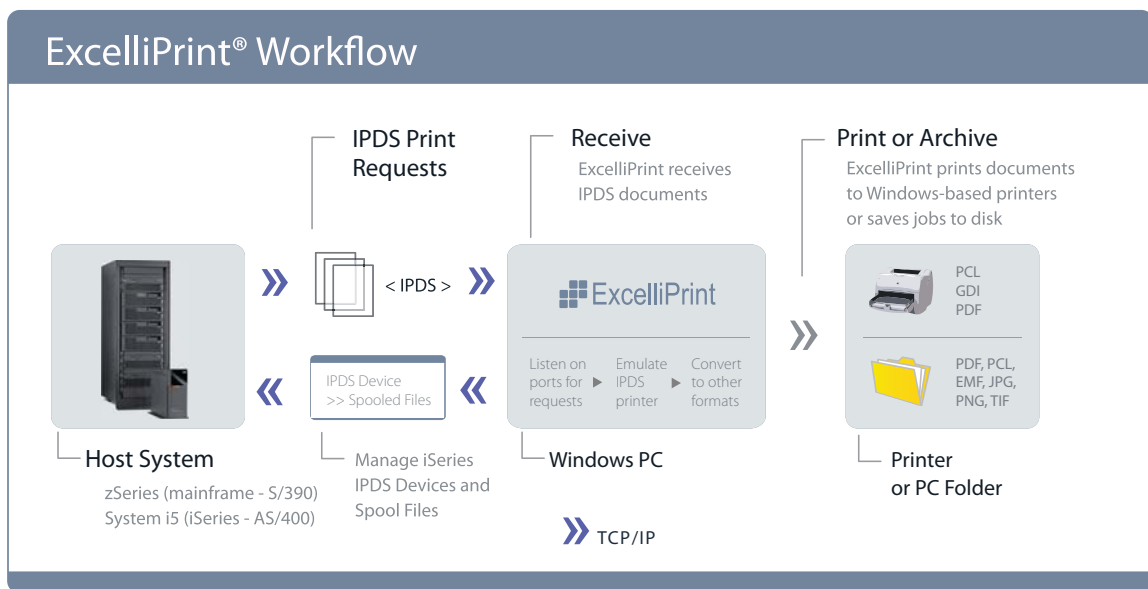
ExcelliPrint Workflow: The host sends print requests to ExcelliPrint, which converts the requests to other formats and sends them either to printers or folders (Premium only).

So whether you want to lower your print center costs by using existing Windows-based printers, or you want to archive or electronically distribute IPDS print jobs, ExcelliPrint helps you do more with your IPDS data.

There are two versions of ExcelliPrint: Premium and Standard. ExcelliPrint Standard allows you to print IPDS documents to PCL-enabled printers. ExcelliPrint Premium adds the ability to convert documents to various formats and archive or distribute them by email and provides built-in iSeries device and spool file management. The latter also provides you access to the Windows print driver (GDI) to format your IPDS print jobs for your printer.

Features

With ExcelliPrint, you can print your AFP documents how and where you want while saving time and money. If your organization prints large business reports, bar code labels, invoices, statements, or other documents (both monochrome and full AFP/IPDS color), you will find ExcelliPrint offers unique options for managing these IPDS print jobs, options that bring your AFP documents to the Windows environment.

Support for all IPDS Towers	Supports the Text, IM Image, IO Image, Graphics, Font, and Bar Code (Barcode) towers of the IPDS architecture. Support of all IPDS towers allows you to harness the power of IBM's Advanced Function Presentation (AFP). ExcelliPrint also supports FS45 for color documents.
Custom File Naming Patterns	ExcelliPrint can name converted documents using information received from the host system. Now, find the file you're looking for without opening the document.
Driver-independent printing (Premium only)	ExcelliPrint prints directly to ANY Windows-based printer. No need to purchase an IPDS printer or additional hardware for your printer; ExcelliPrint spools your mainframe and mid-range AFP data to any Windows printer.
AFP (IPDS & AFPDS) and SCS to PDF (Premium only)	Easily convert AFP documents into PDF for easy viewing, archiving, email distribution, etc. Windows-generated watermarks (BMP, JPG, PNG, etc) can be applied when converting to PDF for easy electronic forms.
Multiple output printers	ExcelliPrint supports multiple output printers. Now replace all of your existing IPDS printers with lower-cost Windows-based printers.
Print-to-file archiving (Premium only)	The ability to save files to selected folders on the user's computer or on the network. You can save the converted IPDS output to a network storage unit, a Windows share, or your own PC.
Multiple formats	Conversion of IPDS, AFPDS, and SCS to widely used formats including PDF, PCL, and plain text, as well as common image formats (TIFF, PNG, JPEG, etc.).

Additional Features

In addition to saving files in other formats and printing to Windows-based printers, ExcelliPrint Premium provides iSeries device and spooled file management functions, unique functionality not found in comparable print servers, and additional security and input features. ExcelliPrint's features are designed to save you time and money, simplify your printing processes, protect your IPDS data, and give you more control of your IPDS print environment.

iSeries device and spooled file management

IBM iSeries device management (Premium only)	Users are able to create iSeries print devices or redirect existing devices using the browser-based interface. Easily configure an iSeries to print to ExcelliPrint.
Spooled file management (Premium only)	Spooled files on the iSeries can be held, released, or moved without the need of an additional emulator. ExcelliPrint provides a convenient and efficient interface to manage spooled files.
Runs as a Windows service	The service receives print jobs without requiring a Windows user to be logged in to the computer where ExcelliPrint is running.

Security and input features

Browser-based interface	Platform-independent browser allows simple, efficient administration from ANY authorized computer. All you need is a browser for easy local and remote administration; quickly and easily view your log, setup, printers, and more. Make changes to your devices and jobs within your existing Web browser.
Secure Web interface	The application uses a secure Web interface that supports Secure Sockets Layer (SSL) and offers role-based administration. The embedded web server supports SSL and does not require Apache or IIS to be installed. With the use of SSL, sensitive information remains protected.
Role-based administration	Role-based administration allows fine control of ExcelliPrint settings and functions. ExcelliPrint provides different levels of administrative privilege to fit your company's security needs.

System tray utility

A system tray utility provides quick access to advanced settings. You can access advanced settings such as stopping, starting, or restarting the ExcelliPrint service, changing the interface's port number, and enabling secure access to the interface through SSL. The tray icon also indicates the status of the ExcelliPrint service.

Installation Guide

Prior to installing ExcelliPrint, log in as the computer Administrator account or another account with administrative privileges. This is required for all applications that install a Windows service.

Minimum Requirements

ExcelliPrint installation computer requirements:

- Windows 2000, XP, Server 2003, or Vista
- Java Runtime Environment 1.5
- 256 MB RAM (more may be required based on usage)

ExcelliPrint client requirements:

- Internet Explorer, Firefox, or compatible
- JavaScript and cookies enabled

iSeries (AS/400) Minimum Requirements

- V3R1 or greater
- PSF/400 required for IPDS printing; any one of the following licensed features is required:
    - 5112, 5113, 5114, or 5115

If you want to administer the iSeries remotely:

- You must enable the QUSER user profile, start the "host servers," and have TCP/IP running. The following software resources must also be installed: 57xxJC1 *Base 5050 IBM Toolbox for Java and 57xxJC1 *Base 2924 IBM Toolbox for Java. Read more in the iSeries (AS/400) Management section.

zSeries (OS/390) Minimum Requirements

- PSF/MVS Version 2 Release 2.0 with APAR OW15599, OW15018 and OW16442.
- PSF/MVS Version 3.1 or later.
- MVS Scheduler APAR OW12236 to support two new PRINTDEV keywords: IPADDR and PORTNO.
- TCP/IP Version 3 Release 1, or higher installed and configured on MVS.
- MVS Maintenance Level Required in TCP/IP Profile
    - IBM PTF UQ03848
    - IBM PTF UQ11550

Install ExcelliPrint

1. Run the setup program downloaded from our website or the single file executable located on the installation CD.
2. At the Welcome screen, click Next.
3. **License Agreement** After reading and agreeing to the terms of the end-user license agreement, choose I accept the agreement and click Next to proceed. If you do not accept the terms, setup will not continue.
4. **ExcelliPrint Startup** Enter a username for the account that will be the administrator of ExcelliPrint. Also, enter a password and confirm the password. Passwords must be at least 8 characters in length. Note that both the username and password are case-sensitive. Click Next to continue.
5. **ExcelliPrint Setup** Select the port that ExcelliPrint will listen on for HTTP requests (for information on changing the port number after installation or configuring SSL security, see Appendix I: Advanced ExcelliPrint Settings). Select the Restrict Access to Local Host Only option to limit access to ExcelliPrint to the computer on which ExcelliPrint is installed. Click Next to continue.
6. **Select Destination Location** Click Browse if you want to change the destination folder for ExcelliPrint. We recommend that you accept the default, `C:\Program Files\Brooks Internet Software\ExcelliPrint`. Click Next.
7. **Ready to Install** Review the installation information and click Install. The application files will now be installed to the destination folder. A Windows Firewall exception is created for ExcelliPrint during installation to enable printing, the ExcelliPrint service is registered and started, and your administrator account and port number are configured. After installation is complete, click Finish. Typically, setup does not require your computer to be restarted, but will prompt you to do so in certain circumstances. If so, choose Yes.

The ExcelliPrint service is configured to start automatically. To begin configuring the software, select *ExcelliPrint Administration* from the program group in the Start menu or right-click the ExcelliPrint system tray icon and select Open (or simply double-click the icon).

If, during setup, you turned off *Restrict Access to Local Host*, substitute the computer name or IP address of the computer on which ExcelliPrint is installed to connect from any computer on your network. If you changed the port number during setup, you must add `:[port]` to the address, for example, `http://localhost:8080`.

Quick Start

You can quickly start printing with ExcelliPrint by following the steps in this Quick Start section.

1   **ExcelliPrint Printer** By default, an ExcelliPrint printer named Default is created and listens on port 5001 for host print requests. In Premium, incoming requests are archived as PDF files in the Archive folder, a subfolder of the ExcelliPrint installation folder. With ExcelliPrint Standard, documents are printed to the system's default printer. You can use ExcelliPrint's Default printer to quickly archive or print host print requests: simply point a host IPDS device to this ExcelliPrint printer using port 5001 (see the Host IPDS Device section below).

2   **Firewall Exception** For ExcelliPrint to receive host print requests, your firewall must be configured properly. If you are using the Windows Firewall, the ExcelliPrint installation adds an exception automatically to allow host print requests. If you are using another firewall, you will need to configure it to allow ExcelliPrint to receive requests via TCP/IP; the application requiring this exception is eprintsrv.exe, or add an exception for each port ExcelliPrint listens on.
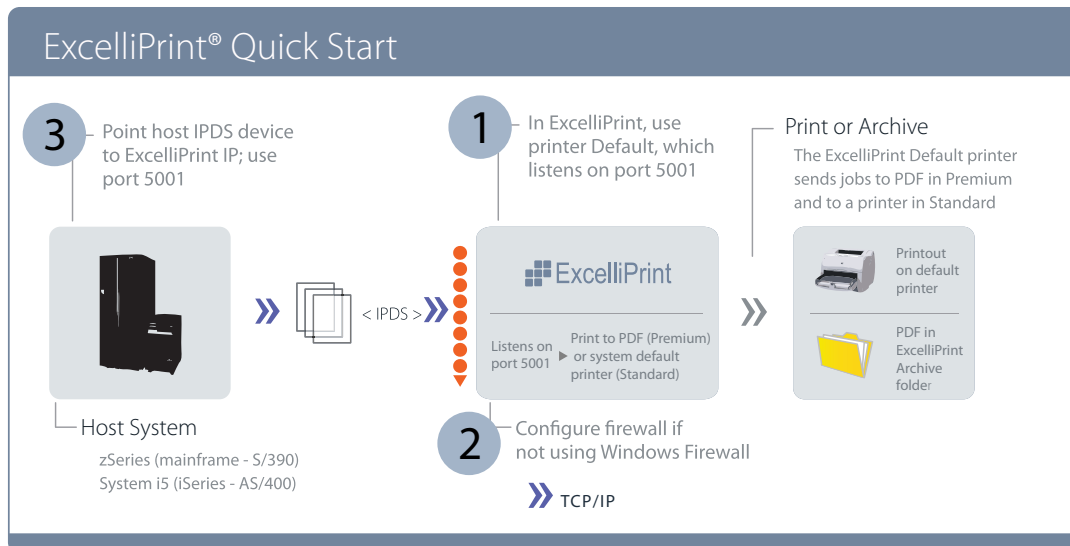
Host IPDS Device

3   **Point host IPDS device to ExcelliPrint** If you are using the ExcelliPrint printer named Default, all you need to do to start printing is point a host IPDS device to ExcelliPrint using port 5001. To point an iSeries IPDS device to ExcelliPrint Premium, click iSeries in the menu, log in to the iSeries, select an IPDS device, click Point to ExcelliPrint, select port 5001, and click Update. The IPDS device will now send print requests to port 5001 and Default will archive the requests as PDF files (Premium) or print them (Standard) to the system's default printer.

Setup

When setting up and managing ExcelliPrint, there are four general areas to configure:

- **ExcelliPrint Printers** Configure ExcelliPrint printers, including ports to listen on, IPDS emulation, and output format and destination.
- **iSeries Devices** Manage iSeries IPDS devices and related spooled files (Premium only).
- **Accounts** You can set up login accounts and assign a role to each account.
- **Status** You can view detailed log messages.

ExcelliPrint Printers

ExcelliPrint Printers An ExcelliPrint printer describes the destination (i.e. printer, folder, or email address) and format (e.g. PDF, PCL, TXT, TIF, and so on) for converted IPDS documents.

You create one or more printers in ExcelliPrint, each mapped to a printer, archive folder (Premium only), or email address (Premium only). If the destination is a shared printer or folder, you must enter a Windows account (username, password, and domain) with permission sufficient to create files in the folder or print to the printer. To use multiple ExcelliPrint printers, each needs a unique port number on which to listen for incoming IPDS requests.

Host Printers Devices (or printers) on the host system send IPDS to ExcelliPrint. Before ExcelliPrint can receive IPDS communication from a host system, the host device (or devices) must be pointed to an ExcelliPrint printer using the computer's IP address or hostname on which ExcelliPrint is installed. Read more about iSeries devices and management.

Firewall Exception For ExcelliPrint to receive host print requests, your firewall must be configured properly. If you are using the Windows Firewall, the ExcelliPrint installation adds an exception automatically to allow host print requests. If you are using another firewall, you will need to configure it to allow ExcelliPrint to receive requests via TCP/IP; the application requiring this exception is `eprintsrv.exe`, or add an exception for each port on which ExcelliPrint listens.
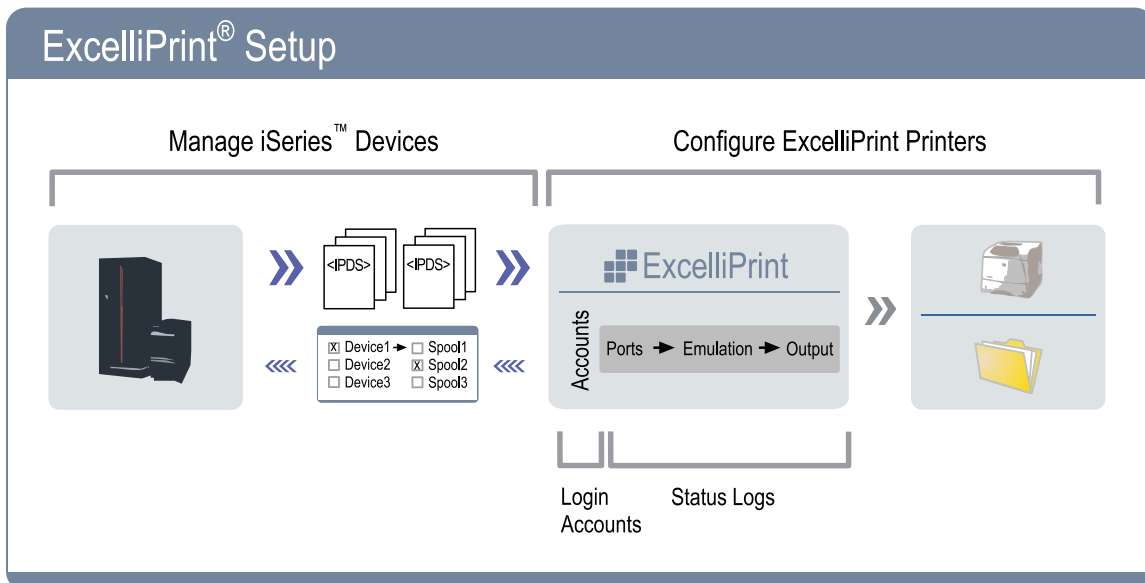
Working with ExcelliPrint Printers

Adding or Modifying ExcelliPrint Printers

Complete the following steps to add a new printer.

1. Log in to ExcelliPrint at the admin level. Click Printers.
2. Enter a name for the new ExcelliPrint printer in the Add Printer field. Click Add. Select the settings you want for the ExcelliPrint printer:
   a. Printer Name and Type The printer's name is displayed next to a graphic representing whether the destination is a printer, folder, or email address. The tabs contain more detailed information about the printer's input, emulation, and output settings.
   b. Input Tab The Input tab is used to configure the ports on which the ExcelliPrint printer will listen for IPDS host print requests.
      i. Port Number Displays the numbers of the ports on which the printer is listening. Valid values are 1 through 65,535. To display a list of ports currently in use by your computer, use the Windows `netstat.exe` command at the Windows command prompt. A port cannot be used by ExcelliPrint and another application simultaneously or by two different ExcelliPrint printers.
      ii. Sessions Displays the number of current connections that are open with the host on each port.

      iii.   **Status** Displays the current status (enabled/disabled) of the port. If the port is Disabled, it is not listening for print requests. To enable or disable a port, click Turn On or Turn Off depending on the current state of the port.

      iv.   **Capture** Displays if data is being captured on this port. Data capture is used for troubleshooting purposes and is turned off by default. To turn capture on or off, click Turn On or Turn Off depending on the current capture state.

      v.   **Delete** To delete an existing port from the printer, click Delete under the Action column in the port's row. This will remove the port from the Listening on Ports list and the current printer will no longer receive print requests. You must be logged in at the admin level to delete ports.

      vi.   **Add Port** Enter a port number in the Add Port field and click Add to add it to the Listening on Ports list. By default the port will be enabled and will begin listening for print requests.

c.   **Emulation Tab** The Emulation tab is used to configure how the printer will process documents received from the host system.

      i.   **Update** Click Update to save any changes to the printer's emulation configuration.

      ii.   **IPDS Printer Emulation** Displays the IBM printer ExcelliPrint is emulating. Read more about [IBM printer limitations](). Choose a printer from the list.

      iii.   **Letter Gothic Support** Deselect this option if you do not want the Brooks Letter Gothic fonts to be used, in which case, a Courier font will be used.

      iv.   **Ignore Font Attributes** When ExcelliPrint receives a print job, a Load Font Equivalent (LFE) command is sent with font attributes. Some IPDS printers ignore these attributes. When Ignore Font Attributes is not selected and printed output appears italic or bold when previously it did not, select this option to see if the issue is resolved.

      v.   **Codepage** Displays the default codepage ExcelliPrint uses when not instructed otherwise. This should match the default codepage used on the host system. Choose a codepage from the list.

      vi.   **Paper Sizes** Displays the paper size selected for each bin. Choose the appropriate size for each bin. When the Crop Output option is not selected, paper sizes are only used by ExcelliPrint during IPDS emulation when the host requests bin and paper size information.

      vii.   **Crop Output** Select whether you want to crop output to the bin paper size. Selecting the Crop Output to Bin Paper Size option will crop the printed output to the paper size in the corresponding bin. For example, if the host wants to print an 8.5"x14" page to ExcelliPrint to a bin with an 8.5"x11" page size selected, the bottom 3" will not be displayed on the resulting printout; they will have been cropped. If the host wants to print a page smaller than 8.5"x11" to a bin with 8.5"x11" page size selected, the job will print as expected except with extra white space to fill the entire page. If the Crop option is not selected, pages will continue to be sized based on the page size requested by the host.

d.   **Output Tab** The Output tab is used to configure the printer's output, including where and in what format the printer will send converted documents.

      i.   **Update** Click Update to save any changes to the printer's output configuration.

ii. **Type** Displays the physical destination for output documents. Select Printer, Folder, or Email from the list depending on your desired destination.

iii. **Description** Enter a description for the printer.

iv. **Output Destination** Select the actual printer or folder, or desired email options to which documents will be sent.

> **Note** If the printer type is selected, the list displays only the printers that are accessible to the current Run As user, which is ExcelliPrint User [SYSTEM] by default. To access printers not on the list, you will need to add the appropriate Run As user. Printers shared from another computer are user specific.

If Folder is selected, enter the directory in which you want the files to be saved. The default directory is Archive, a subfolder of the ExcelliPrint installation folder. To archive jobs to another folder on your computer, enter a directory using a format similar to the following: `C:\[Folder]\[Folder]\[Folder]\`. Jobs can be stored in network locations using the standard Universal Naming Convention (UNC); for example, enter `\\[Computer Name]\[Share Name]\[Folder]`.

If Email is selected, the following options are configurable.

1. **From** Enter a valid email address from which the email will be sent.
2. **To** Enter a valid email address to which the email will be sent.
3. **Subject** The subject of the email message. You can enter any subject you want. Click the Pattern Options link to access a list of variable data which can be used as part of the email subject.
4. **Message** The body of the email message. The converted print document will be attached.
5. **Max Attachment Size (MB)** The maximum size of a message which will be sent to the recipient. If the resulting email message with the included attachment exceeds this limit, it will not be sent. Note that it is common for messages to be rejected if they exceed a certain size limit (10MB is common).
6. **SMTP Server** An optional field which contains the name of an SMTP server through which the software will relay messages.
7. **Login** If you configure an SMTP relay server which requires authentication, enter the username here.
8. **Password** If you configure an SMTP relay server which requires authentication, enter the password here.
9. **Port** If your email server listens for email requests on a non-standard port, enter it here. The default is 25.
10. **Test Connection** Press this button to test the configured values. Don't forget to click the Update button if the connection succeeds.

v. **File name pattern** Configure the pattern for the filenames or name of the print job passed to the Windows print manager. Click Pattern Options to show a list of variable data that can be used as part of the file name. The device, sequence number, port and various date and time options are always available where the

others may not depending upon whether they are received from the IBM host system.

vi. **Overwrite existing file** When selected, if a file already exists with the name ExcelliPrint generates, the existing file will be overwritten. Use this option to create new files daily or monthly. For instance, if your file name pattern is {weekday} and a file is printed daily, ExcelliPrint will create a file called Monday, Tuesday, and so on. On the following Monday, the first file will be overwritten.

vii. **Destination Permissions** From the Run As list, select the user account with permissions to access the printer or folder. If the desired account is not in the list, it must be added.

> **Note** To access printers (or folders) shared from another Windows computer, the Run As user you add will need permission to Logon As a Batch Job, which is granted through the Local Security Policy in Windows. Follow these steps to add these rights to a user: 1) In the Control Panel, open Administrative Tools and then Local Security Policy. 2) Beneath Security Settings, open Local Policies and highlight User Rights Assignment. 3) On the right side of the window, locate Log on as a Batch Job. Open the properties and add any users that need this right. 4) When finished, save your changes and close the Local Security Settings window.

viii. **Output Format** Displays the format to which documents will be converted prior to output. Select a format and the options available for the format will be displayed. If applicable, choose the options to be applied to the converted documents.

1. **Margins** Select Use Margins to set specific values for each margin. The original document that is received from the host will be offset by the amounts indicated for each margin.
   a. **Top** Enter the top margin's height.
   b. **Bottom** Enter the bottom margin's height.
   c. **Left** Enter the left margin's width.
   d. **Right** Enter the right margin's width.
   e. **Unit** Select the unit of measurement used for the margins.
   f. **Fit Printed Pages Within Margins** Select this option to fit the original host document within the specified margins.

2. **Watermarks** Select Use Watermarks if you want to apply watermarks to the current printer's pages.
   a. **Options** If you are using watermarks, select an option for their use.
   b. **Watermark 1** Enter the file path of the graphic you want to use as the first watermark. The path can be relative or absolute. You can use JPEG, PNG, TIFF, GIF, or BMP graphics as watermarks.
   c. **2** Enter the file path of the second watermark, if necessary. The path can be relative or absolute. You can use JPEG, PNG, TIFF, GIF, or BMP graphics as watermarks.

3. **PDF Encryption**
   a. **Encryption** Select Use Encryption if you want to add PDF encryption to the converted document.
   b. **Encryption Options** Choose Standard or AES encryption.
   c. **Owner Password** Enter the owner password for the PDF document.

    d. **User Password** Enter the user password if desired. User passwords usually require you to enter a password prior to viewing the document in a PDF viewer.

    e. **Allowed Options** Select which functions users are allowed or prohibited from performing on the PDF file.

4. **JPEG Options**

    a. **Modify Quality** Select Modify Quality if you want a smaller, but lower-quality JPEG image.

    b. **Quality slider** Select from 1 to 100 percent of quality. This lets you choose the best balance between small file sizes and higher quality.

5. **PCL Options**

    a. **Tray Mapping** Map an IPDS tray to a particular source tray on your PCL printer. To do so, select the IPDS tray number, then enter the PCL number for the tray you desire to use. You can add a tray mapping to each of the trays supported by ExcelliPrint.

6. **TIFF Options**

    a. **Color Depth** Choose from 24 or 32 bits per pixel (bpp). Selecting 24 should result in a smaller file size but also reduced quality.

ix. **Update** Click Update to save any changes to the printer's output configuration.

Viewing Printers

To view the current printers in ExcelliPrint, complete the following steps:

1. In the ExcelliPrint menu, click Printers. A list of current ExcelliPrint printers is displayed in the table.

2. The table contains the following information about each printer:

    a. **Printers Available** The number of printers being used and the number available are displayed above the table.

    b. **Type** Displays either a folder or printer depending on the output destination of the printer.

    c. **Name** Displays the name of the printer.

    d. **Description** Displays a description of the printer.

    e. **Ports** Displays the ports on which the printer is listening for host print requests.

    f. **Action** If you are logged in at the Admin level, the Action column allows you delete a printer.

3. To view more detail about a printer, click the printer's name. If you are logged in to ExcelliPrint, you will be able to modify the printer's settings. If you are not logged in to ExcelliPrint, you will be able to view the printer's settings. See the [Adding ExcelliPrint Printers](#) section for more detail on each setting.

Modifying Printers

To modify printers, you must be logged in at the Operator or Admin level. Complete the following steps to modify a printer:

1. Log in to ExcelliPrint. Click Printers.
2. In the printers table, select the ExcelliPrint printer to modify by clicking its name.
3. In the Input, Emulation, and Output tabs, select the new settings you want for the ExcelliPrint printer. See the Adding ExcelliPrint Printers section for more detail on each setting.

Deleting Printers

To delete printers, you must be logged in at the Admin level. Complete the following steps to delete a printer:

1. Log in to ExcelliPrint at the Admin level. Click Printers.
2. Click Delete in the row of the printer you want to delete. To receive host print requests, there must be at least one printer in the printers table.

iSeries (AS/400) Management (Premium only)

ExcelliPrint allows you to access an iSeries remotely without an emulator. You can create, view, and modify iSeries IPDS devices and view, hold, release, and move related spool files.

To use remote host administration, there are a number of required OS/400 options. You must enable the QUSER user profile, start the host servers, and have TCP/IP running.

- QUSER user profile is needed to start the host servers
- ExcelliPrint connects as a client to "host servers"
- OS/400 Host Servers option (licensed product 5722SS1) is included with the base option of OS/400

From an iSeries command line, start the host servers by doing the following:

1. Make sure the QUSER profile is enabled.
2. To start the host servers, type `STRHOSTSVR *ALL` and press Enter.
3. To start the TCP/IP distributed data management (DDM) server, type `STRTCPSVR SERVER(*DDM)` and press Enter.

Working with iSeries Devices (Premium only)

To work with iSeries devices, you must log in to the iSeries host. Complete the following steps to work with iSeries devices:

1. In the ExcelliPrint menu, click iSeries.
2. Enter your iSeries IP address, username, and password and click Login.
3. A list of IPDS-supported devices is displayed. The device table columns are as follows:

a. **Refresh** Click the refresh icon just above the IPDS printers table to refresh the table.

b. **Printer** Displays the name of each IPDS device. Clicking a device's name opens the iSeries Device Spool Files page, which lists detailed information about the device's current print jobs. To the left of each printer, a radio button allows you to select a specific printer and vary it on or off, start or stop its writer, view its jobs, or point it to ExcelliPrint, depending on which button you press at the bottom of the table.

c. **Description** Displays a description of each IPDS device.

d. **Status** Displays the current status of each device (for example, active, varied on, and so on).

e. **State** Displays the current state of each device's writer (for example, waiting for queue, stopped, and so on).

f. **Vary On/Off, Start/Stop Writer** To vary a device on/off or to start/stop a writer, select the device's radio button and click the button corresponding to the action you want to take. In order to change the settings on an IPDS print device, such as to point it to ExcelliPrint, the writer must be stopped and the device varied off.

g. **View, Hold, Release, and Move Spool Files** To view a device's spool files, click the device's name. The corresponding spool files are displayed. To hold or release a spool file or files, select the appropriate file or files and click Hold or Release depending on the action you want to take. To move a spool file or files to another IPDS device, select the file or files, select the IPDS device to which you want to move the file or files, and click Move.

h. **Point Device to ExcelliPrint** Selecting an IPDS device and clicking Point to ExcelliPrint allows you to modify the selected device's settings on the iSeries, such as its Text 'description' (TEXT), Remote location: Name or address (RMTLOCNAME), and Port Number (PORT). ExcelliPrint automatically populates the Remote location field with your computer's name, effectively pointing the IPDS device to ExcelliPrint. If the iSeries is not in your DNS scope, enter the IP address manually. Next, select the ExcelliPrint port on which this device will send print requests and click Update.

i. **Create Printer** To create a new device on the iSeries, enter a name and click Create Printer. You will then be able to enter a Text 'description' (TEXT) , Remote Location: Name or address (RMTLOCNAME), and Port Number (PORT). ExcelliPrint automatically populates the Remote location field with your computer's name, effectively pointing the IPDS device to ExcelliPrint. If the iSeries is not in your DNS scope, enter the IP address manually. Next, select the ExcelliPrint port on which this device will send print requests and click Update.

> **Note** When creating a new IPDS device or pointing an existing device to ExcelliPrint, make sure the device has an associated PSF Configuration object (PSFCFG). If there is not an associated PSFCFG, see Appendix II: AS/400 Version-Specific Setup for further information.

4 When you are finished working with the iSeries, click Log Off iSeries to log off the host. After a period of inactivity, you will be logged off automatically.

iSeries (AS/400) General Setup

This section describes general steps for setting up IPDS printing on an iSeries (AS/400). More detailed and version-specific instructions are found in Appendix II: iSeries (AS/400) Version-Specific Setup. Complete the following general steps to set up IPDS printing:

1   Obtain the IP address of the computer and port number of the ExcelliPrint printer.
2   From the AS/400, verify that the AS/400 can communicate with ExcelliPrint by entering the following command:

```
PING RMTSYS(*INTNETADR) INTNETADR('[ADDRESS]')
```

3   To verify the ping command was successful, move the cursor to the white message line ("Verifying connection to host system [IP]") at the bottom of the screen, press F1 (Help) then F10 (Display messages in job log).
4   Create a device that points to the IP address and port described in Step 1.
5   Vary the device on (for [DEVICE], substitute the name of the device):

```
VRYCFG [DEVICE] CFGTYPE(*DEV) STATUS(*ON)
```

6   Start the writer (for [DEVICE], substitute the name of the device):

```
STRPRTWTR [DEVICE]
```

Accounts

Role-based administration ExcelliPrint uses role-based administration to prevent unauthorized users from modifying key ExcelliPrint settings. Depending on the role assigned to a login account, certain actions can be performed. The three basic roles are Anonymous Users, Operators, and Administrators. Anyone who has not logged in is considered an Anonymous User.

- **Administrator** Administrators can add, modify, and delete ExcelliPrint printers and user login accounts. When ExcelliPrint is installed, an administrator name and password are created. This administrator is able to create other user accounts and set permissions for each account.
- **Operator** Operators can modify existing ExcelliPrint printers and view the log.
- **Anonymous User** An Anonymous User can view existing printers and view the log.

Login Accounts

There are three distinct sets of login information used within ExcelliPrint:

- **ExcelliPrint Login (discussed above)** This is the username and password you use to log in to ExcelliPrint and which gives you Admin or Operator privileges. New login accounts can be added by ExcelliPrint Admins.
- **iSeries Login (Premium only)** This is the username, password, and hostname used to log in to the IBM iSeries host. You log in to the host after clicking the iSeries tab in ExcelliPrint. After logging in to the host, you can manage and create host IPDS devices, as well as manage the print jobs for each device.
- **Printer or Network Device Login** This is the Windows credentials (username, password, and domain) required for ExcelliPrint to access network printers or folders. These credentials or permissions can be added when setting up an ExcelliPrint printer.

Account Security

ExcelliPrint works with current network permissions so there is no need to change to existing devices and folders. Within the application, all the printers available to the current login ID are shown. These login IDs and passwords are stored in encrypted form.

ExcelliPrint usernames and passwords are different than Windows usernames and passwords. You will need to make sure that the same safeguards used to protect your Windows usernames from compromise are used with ExcelliPrint usernames. If ExcelliPrint will be located on a computer accessible from the public Internet, SSL should be used to view and modify ExcelliPrint settings. Learn more about [SSL](#).

Working with Accounts

Logging in to ExcelliPrint

To log in to ExcelliPrint, complete the following steps:

1. In the ExcelliPrint menu, click Login
2. Enter your login information in the Username and Password fields and click Login. You will be able to perform the operations available for your permission level.
3. After you have logged in to ExcelliPrint, click Logout when you are finished to log off.

Adding a Login Account

To add new login accounts, you must be logged in at the Admin level. Complete the following steps to add new login accounts:

1. Log in to ExcelliPrint at the Admin level. Click Home.
2. Under More Options, click Manage Users.
3. In the Add New Account field, enter a username for the new account and click Add.
4. Select the role for the new account. Enter and confirm the password for the account.
5. Click Add. The account is displayed in the Current Accounts list.

You can also add or delete user accounts in the command prompt (cmd.exe). If you want to add additional login accounts, you must be on the computer where the software is installed and be logged in as the local or domain administrator.

1. Choose Run from the Start menu. Type `cmd` and press OK.
2. Change to the directory where the software has been installed. For example, type the following command and press Enter: `cd "\Program Files\Brooks Internet Software\ExcelliPrint"`
3. Type `EPrintSrv.exe -u username -p password -r role`. Substitute your new username, password, and role. Roles can be `admin` or `operator`.
4. To remove a user, type `EPrintSrv.exe -u username -del`. Substitute the username where appropriate.

Modifying/Deleting a Login Account

To modify the permissions or passwords of existing login accounts or to delete accounts, you must be logged in at the Admin level.

1. Log in to ExcelliPrint at the Admin level. Click Home.
2. Under More Options, click Manage Users.
3. Select the login account you want to modify or delete.
4. Modify the role and password and click update, or click Delete to delete the account.
5. The login account is updated or deleted.

Changing Your Login Password

You can change your ExcelliPrint account login password after you have logged in to the application. Complete the following steps to change your login password:

1 Log in to ExcelliPrint. Click Home.
2 Under More Options, click Change Password.
3 Enter your old password, new password, and password confirmation.
4 Click Update. You will be logged out of ExcelliPrint and will need to use your new password to log in again.

Status Logs

The Status tab displays the history of what has taken place in ExcelliPrint. You can select the type of messages you want to see, the amount of detail you want displayed, and the number of records you want to see per page. The information shown can be highlighted, copied, and pasted into a different application.

Working with Status Logs

To work with status logs, complete the following steps:

1   Click the Status tab. The Detailed Log Information table is displayed, along with the Log View Options table.
2   Select the type of records you want to view by selecting Info, Warning, and Error, or any combination of message types.
3   Select the level of detail to view by selecting None, Low, or High from the lists next to Network Detail, Device Detail, and Application Detail.
4   Select the number of records to view per page by choosing a number from the list next to Records per Page.
5   Click Update View to update the records table based on the settings selected. To sort a column, click the column heading.

Changing Logging Options

To change the status logging options, you must be logged in to ExcelliPrint. Complete the following steps to change the log options:

1   Log in to ExcelliPrint. Click the Status tab.
2   Click the Change Log Options link.
3   In the Remove Items Older Than field enter the amount of time before log items are removed.
4   In the Log Directory field enter the file directory where you want the log file to be stored. If the field is left blank, the log file will be stored in the ExcelliPrint installation directory.
5   Click Update to save your changes.

Appendix I: Advanced ExcelliPrint Settings

There are a number of advanced ExcelliPrint settings and options that can be accessed from the ExcelliPrint system tray icon and the command line. Use the sections below to learn how to access these settings.

To access the ExcelliPrint command line help and view current settings, complete the following steps:

1   Choose Run from the Start menu. Type `cmd` and press OK.
2   Change to the directory where the software has been installed. For example, type the following command and press Enter: `cd "\Program Files\Brooks Internet Software\ExcelliPrint"`
3   Type `EPrintSrv.exe -h`. Alternatively, you can substitute `-help` or `-?`.
4   Type `EPrintSrv.exe -info` to view the current port and SSL settings.

Changing the Port Number for the User Interface

During installation, you are prompted to enter a port number on which the user interface will listen. The service includes a customized web server to process those requests. Later, if you need to change the port number, you can do so by completing the following steps:

1   Right-click the ExcelliPrint system tray icon and select Settings.
2   In the HTTP Settings section, enter the new port on which ExcelliPrint will listen for HTTP requests from your web browser.
3   The Restrict to Localhost option restricts users from other computers from accessing ExcelliPrint.

You can also change the port number setting from the command line by completing the following steps:

1   Choose Run from the Start menu. Type `cmd` and press OK.
2   Change to the directory where the software has been installed. For example, type the following command and press Enter: `cd "\Program Files\Brooks Internet Software\ExcelliPrint"`
3   Type `EPrintSrv.exe -http local -port portnumber`. Substitute a valid port number in place of `portnumber`. Valid port numbers are 1 through 65535 although we recommend port numbers greater than 1024. Remember that ports may already be in use by another program; choose a port that is not in use (for example, if you use port 5001 for IPDS requests, do not use it as your HTTP port). Substitute `remote` for `local` if you do not want to restrict remote access to ExcelliPrint.
4   Restart the ExcelliPrint service for the changes to take effect.

Stopping, Starting, and Restarting the ExcelliPrint Service

If at any time you need to stop, start, or restart the ExcelliPrint service, complete one of the following steps:

- Right-click the ExcelliPrint system tray icon and select Settings. In the Server Status section of the General tab, click the Start, Stop, or Restart button depending on the action you want to take.
- Open the Administrative Tools folder and select Services. Locate and highlight the ExcelliPrint IPDS Solution service. From the Action menu, select Start, Stop, or Restart depending on the action you want to take. You can also use the corresponding toolbar buttons or the menu that appears when you right-click the service.

You can also stop and start the service from the command line by completing the following steps:

1   Choose Run from the Start menu. Type `cmd` and press OK.
2   Change to the directory where the software has been installed. For example, type the following command and press Enter: `cd "\Program Files\Brooks Internet Software\ExcelliPrint"`
3   Type `EPrintSrv.exe -stop` to stop the service, or `EPrintSrv.exe -start` to start the service.

Secure Sockets Layer (SSL) Settings

Secure Sockets Layer, or SSL, is a protocol that provides secure communications on the Internet through cryptography. Privacy and authentication are ensured through SSL.

In order for ExcelliPrint to receive SSL connections, it needs to have a private key and a signed public key (called a certificate). When a connection is received from a client, ExcelliPrint sends the certificate to the client. The client then decides whether to trust the ExcelliPrint computer or not.

If the client continues, the public key found in the certificate is used to encrypt a session key. This session key can only be decrypted by ExcelliPrint using its private key. ExcelliPrint then uses the session key to encrypt the data that is sent to the client. In this way, third parties cannot view or understand the data sent back and forth.

Caution: If the public key is not signed by a third party, man-in-the-middle attacks are possible because the man in the middle can send a certificate to the client pretending to be ExcelliPrint. Without trusted third-party verification, the client cannot know if the application providing the certificate actually is ExcelliPrint.

If you want to use SSL, you will need to create a certificate. The certificate will be "self signed," meaning it is susceptible to a man-in-the-middle attack.

A certificate request is also generated and found in the installation directory. This can be sent to trusted third parties, such as Verisign, Thawte, GeoTrust, etc., to sign the public key and to get a certificate.

The certificate, or "signed public key," from the trusted third party can then be imported into ExcelliPrint so that it will be sent to client browsers attempting to view ExcelliPrint using SSL. The following command line options are for importing a signed certificate from a trusted third party:

```
eprintsrv.exe -keytool -import "filename" -password password


eprintsrv.exe -keytool -sign days -password password
```

Certificates expire and need to be renewed. The following command line options will generate a new certificate signing request:

```
eprintsrv.exe -keytool -csr "filename" -password password
```

A self-signed certificate is not recommended because it makes you susceptible to man-in-middle-attacks; however, self signing may be useful to some organizations for use during product testing or those that do not wish to purchase a certificate.

Caution: Always take warning messages and certificate messages seriously.

The following steps allow you to create a public/private key used by ExcelliPrint:

1   Right-click the ExcelliPrint system tray icon and select Settings.
2   Click the Security icon.
3   In the SSL Settings section, select SSL Enabled to enable SSL. Also select a port for SSL use. Click Apply. You will now need to create an SSL certificate for SSL to work properly.
4   In the SSL Certificate section, enter an appropriate value in each field: Domain Name (the domain address without http:// or https://), Company Name, Organizational Unit, City, State (or Province), and Country Code.
5   Enter and confirm a password and click Create. This will create a self-signed SSL certificate and allow SSL to work properly.

Note Commas are not allowed within each item (for example, Company, Inc should be Company Inc). Any items you do not want to fill in can be set to unknown.

Appendix II: AS/400 Version-Specific Setup

The following sections describe the IPDS printing setup process for the different versions of AS/400. General setup instructions are found above under iSeries (AS/400) General Setup. The following versions are covered:

- AS/400 Setup for V3R1 (Version 3.1)
- AS/400 Setup for V3R2 (Version 3.2)
- AS/400 Setup for V3R6 (Version 3.6)
- AS/400 Setup for V3R7 (Version 3.7)
- AS/400 Setup for V4R1 (Version 4.1)
- AS/400 Setup for V4R2 (Version 4.2)
- AS/400 Setup for V4R3 (Version 4.3)
- AS/400 Setup for V4R4 (Version 4.4) and later

For the following instructions, you will need to know the `[DEVICE]`, `[ADDRESS]`, and `[PORT]`.

- `[DEVICE]`   The name of a device you create on the AS/400 system
- `[OBJECT]`   The name of an object you create on the AS/400 system
- `[ADDRESS]`   IP address of the computer on which ExcelliPrint is installed
- `[PORT]`   The TCP/IP port number on which ExcelliPrint listens for IPDS print requests

Note: ExcelliPrint requires that each of these steps is followed. PSF/400 is required for proper ExcelliPrint operation. You must create either a `WRKAFP2` or `PSFCFG` object depending on your AS/400 version and release.

AS/400 Setup for V3R1 (Version 3.1)

The following commands are used to set up IPDS printing in V3R1: CRTDEVPRT and WRKAFP2.

1   CRTDEVPRT in V3R1 Enter the following command, all in one line, in the AS/400 command line and then press Enter (for [DEVICE], enter the name you want assigned to the device):

```
CRTDEVPRT
    DEVD([DEVICE])
    DEVCLS(*RMT)
    TYPE(*IPDS)
    MODEL(0)
    AFP(*YES)
    AFPATTACH(*APPC)
    FONT(11)
    RMTLOCNAME(TCPIP)
    FORMFEED(*AUTOCUT)
    TEXT('EXCELLIPRINT [ADDRESS]:[PORT]')
```

Note: Once the previous CRTDEVPRT command is complete, the information on the screen should be similar to the following example:

```
Device description . . . . . . . : DEVD       [DEVICE]
Option . . . . . . . . . . . . . : OPTION     *ALL
Category of device . . . . . . . :            *PRT
Automatically created  . . . . . :            NO
Device class . . . . . . . . . . : DEVCLS     *RMT
Device type  . . . . . . . . . . : TYPE       *IPDS
Device model . . . . . . . . . . : MODEL      0
Advanced function printing . . . : AFP        *YES
AFP attachment . . . . . . . . . : AFPATTACH  *APPC
Online at IPL  . . . . . . . . . : ONLINE     *YES
Font . . . . . . . . . . . . . . : FONT
Identifier . . . . . . . . . . . :            011
Point size . . . . . . . . . . . :            *NONE
Form feed  . . . . . . . . . . . : FORMFEED   *AUTOCUT
Separator drawer . . . . . . . . : SEPDRAWER  *FILE
Separator program  . . . . . . . : SEPPGM     *NONE
Library. . . . . . . . . . . . . :
Printer error message  . . . . . : PRTERRMSG  *INQ
Message queue (V3R1) . . . . . . : MSGQ       QSYSOPR
Shadowing message queue (V3R6) . : MSGQ       QSYSOPR
Library. . . . . . . . . . . . . :            *LIBL
Maximum pending requests . . . . : MAXPNDRQS  6
Print while converting . . . . . : PRTCVT     *YES
Print request timer  . . . . . . : PRTRQSTMR  *NOMAX
Form definition  . . . . . . . . : FORMDF     F1C10110
Library. . . . . . . . . . . . . :            *LIBL
Character identifier . . . . . . : CHRID      *SYSVAL
Remote location  . . . . . . . . : RMTLOCNAME TCPIP
Local location . . . . . . . . . : LCLLOCNAME *NETATR
Remote network identifier  . . . : RMTNETID   *NETATR
Mode . . . . . . . . . . . . . . : MODE       QSPWTR
Text . . . . . . . . . . . . . . : TEXT       EXCELLIPRINT [ADDRESS]:[PORT]
```

2 **WRKAFP2 in V3R1** Enter the following command, all in one line, in the AS/400 command line and then press Enter (for `[OBJECT]`, enter the name assigned to the device):

```
WRKAFP2
    DEVD([OBJECT])
    IPDSPASTHR(*YES)
    TCPIP(*YES)
    RMTSYS('[ADDRESS]')
    PORT([PORT])
    INACTTMR(*SEC15)
```

Note: Once the previous `WRKAFP2` command is complete, the information should be similar to the following example:

```
DEVD            [DEVICE]
IPDSPASTHR      *YES
TCPIP           *YES
RMTSYS          [ADDRESS]
PORT            [PORT]
ACTTMR          *NOMAX
INACTTMR        *SEC15
SBP             *NO
PSC             *YES
DRF             *NO
DRR             *NO
EDGSNSTV        *NO
```

3 From the AS/400, verify that the AS/400 can communicate with ExcelliPrint by entering the following command (for `[ADDRESS]`, enter the IP address of the ExcelliPrint host computer):

```
PING RMTSYS(*INTNETADR) INTNETADR('[ADDRESS]')
```

4 Vary the device on by entering the following command, all in one line, and then press Enter (for `[DEVICE]`, enter the name assigned to the device):

```
VRYCFG [DEVICE] CFGTYPE(*DEV) STATUS(*ON)
```

5 Start the writer:

```
STRPRTWTR [DEVICE]
```

AS/400 Setup for V3R2 (Version 3.2)

The following commands are used to set up IPDS printing in V3R2: CRTDEVPRT and
CRTPSFCFG.

1   **CRTDEVPRT in V3R2** Enter the following command, all in one line, in the AS/400 command
      line and then press Enter (for [DEVICE], enter the name you want assigned to the device):

```
CRTDEVPRT
    DEVD([DEVICE])
    DEVCLS(*RMT)
    TYPE(*IPDS)
    MODEL(0)
    AFP(*YES)
    AFPATTACH(*APPC)
    FONT(11)
    RMTLOCNAME(TCPIP)
    FORMFEED(*AUTOCUT)
    TEXT('EXCELLIPRINT [ADDRESS]:[PORT]')
```

Note: Once the previous CRTDEVPRT command is complete, the information on the screen should
be similar to the following example:

```
Device description . . . . . . . . . : DEVD          [DEVICE]
Option . . . . . . . . . . . . . . . : OPTION        *ALL
Category of device . . . . . . . . . :               *PRT
Automatically created. . . . . . . . : NO
Device class . . . . . . . . . . . . : DEVCLS        *RMT
Device type. . . . . . . . . . . . . : TYPE          *IPDS
Device model . . . . . . . . . . . . : MODEL         0
Advanced function printing . . . . . : AFP           *YES
AFP attachment . . . . . . . . . . . : AFPATTACH     *APPC
Online at IPL. . . . . . . . . . . . : ONLINE        *YES
Font . . . . . . . . . . . . . . . . : FONT
Identifier . . . . . . . . . . . . . :               011
Point size . . . . . . . . . . . . . :               *NONE
Form feed  . . . . . . . . . . . . . : FORMFEED      *AUTOCUT
Separator drawer . . . . . . . . . . : SEPDRAWER     *FILE
Separator program  . . . . . . . . . : SEPPGM        *NONE
Library  . . . . . . . . . . . . . . :
Printer error message  . . . . . . . : PRTERRMSG     *INQ
Message queue  . . . . . . . . . . . : MSGQ          QSYSOPR
Library. . . . . . . . . . . . . . . :               *LIBL
Maximum pending requests . . . . . . : MAXPNDRQS     6
Print while converting . . . . . . . : PRTCVT        *YES
Print request timer. . . . . . . . . : PRTRQSTMR     *NOMAX
Form definition. . . . . . . . . . . : FORMDF        F1C10110
Library. . . . . . . . . . . . . . . :               *LIBL
Character identifier . . . . . . . . : CHRID         *SYSVAL
Remote location. . . . . . . . . . . : RMTLOCNAME    TCPIP
Local location . . . . . . . . . . . : LCLLOCNAME    *NETATR
Remote network identifier. . . . . . : RMTNETID      *NETATR
Mode . . . . . . . . . . . . . . . . : MODE          QSPWTR
Dependent location name  . . . . . . : DEPLOCNAME    *NONE
Text . . . . . . . . . . . . . . . . : TEXT          EXCELLIPRINT [ADDRESS]:[PORT]
```

2   **CRTPSFCFG in V3R2** Enter the following command, all in one line, in the AS/400 command
     line and then press Enter (for `[OBJECT]`, enter the name assigned to the device):

```
CRTPSFCFG
    PSFCFG([OBJECT])
    IPDSPASTHR(*YES)
    RLSTMR(*SEC15)
    TEXT(EXCELLIPRINT [ADDRESS]:[PORT])
    RMTLOCNAME('[ADDRESS]')
    PORT([PORT)
```

Note: Once the previous `CRTPSFCFG` command is complete, the information should be similar to
the following example:

```
PSF configuration . . . . . . . . . . . : [OBJECT]
Library . . . . . . . . . . . . . . . . : QGPL
User resource library . . . . . . . . . : *JOBLIBL
IPDS pass through . . . . . . . . . . . : *YES
Activate release timer  . . . . . . . . : *NORDYF
Release timer . . . . . . . . . . . . . : *SEC15
Restart timer . . . . . . . . . . . . . : *IMMED
SNA retry count . . . . . . . . . . . . : 2
Delay time between retries. . . . . . . : 0
Blank page. . . . . . . . . . . . . . . : *YES
Page size control . . . . . . . . . . . : *YES
Resident fonts. . . . . . . . . . . . . : *YES
Resource retention. . . . . . . . . . . : *YES
Edge orient . . . . . . . . . . . . . . : *NO
Remote location . . . . . . . . . . . . :
Name or address . . . . . . . . . . . . : [ADDRESS]
TCP/IP port . . . . . . . . . . . . . . : [PORT]
TCP/IP activation timer . . . . . . . . : 170
PSF defined options . . . . . . . . . . : *NONE
Text description. . . . . . . . . . . . : EXCELLIPRINT [ADDRESS]:[PORT]
Device resource library list. . . . . . : *DFT
```

3   From the AS/400, verify that the AS/400 can communicate with ExcelliPrint by entering the
     following command:

```
PING RMTSYS(*INTNETADR) INTNETADR('[ADDRESS]')
```

4   Vary the device on by entering the following command and then pressing Enter (for
     `[DEVICE]`, enter the name assigned to the device):

```
VRYCFG [DEVICE] CFGTYPE(*DEV) STATUS(*ON)
```

5   Start the writer:

```
STRPRTWTR [DEVICE]
```

AS/400 Setup for V3R6 (Version 3.6)

The following commands are used to set up IPDS printing in V3R6: CRTDEVPRT and WRKAFP2.

1   **CRTDEVPRT in V3R6** Enter the following command, all in one line, in the AS/400 command line and then press Enter (for [DEVICE], enter the name you want assigned to the device):

```
CRTDEVPRT
    DEVD([DEVICE])
    DEVCLS(*RMT)
    TYPE(*IPDS)
    MODEL(0)
    AFP(*YES)
    AFPATTACH(*APPC)
    FONT(11)
    RMTLOCNAME(TCPIP)
    FORMFEED(*AUTOCUT)
    TEXT('EXCELLIPRINT [ADDRESS]:[PORT]')
```

Note: Once the previous CRTDEVPRT command is complete, the information on the screen should be similar to the following example:

```
Device description . . . . . . . : DEVD        [DEVICE]
Option . . . . . . . . . . . . . : OPTION      *ALL
Category of device . . . . . . . :             *PRT
Automatically created  . . . . . : NO
Device class . . . . . . . . . . : DEVCLS      *RMT
Device type  . . . . . . . . . . : TYPE        *IPDS
Device model . . . . . . . . . . : MODEL       0
Advanced function printing . . . : AFP         *YES
AFP attachment . . . . . . . . . : AFPATTACH   *APPC
Online at IPL  . . . . . . . . . : ONLINE      *YES
Font . . . . . . . . . . . . . . : FONT
Identifier . . . . . . . . . . . :             011
Point size . . . . . . . . . . . :             *NONE
Form feed  . . . . . . . . . . . : FORMFEED    *AUTOCUT
Separator drawer . . . . . . . . : SEPDRAWER   *FILE
Separator program  . . . . . . . : SEPPGM      *NONE
Library. . . . . . . . . . . . . :
Printer error message. . . . . . : PRTERRMSG   *INQ
Message queue (V3R1) . . . . . . : MSGQ        QSYSOPR
Shadowing message queue (V3R6) . : MSGQ        QSYSOPR
Library. . . . . . . . . . . . . :             *LIBL
Maximum pending requests . . . . : MAXPNDRQS   6
Print while converting . . . . . : PRTCVT      *YES
Print request timer  . . . . . . : PRTRQSTMR   *NOMAX
Form definition  . . . . . . . . : FORMDF      F1C10110
Library. . . . . . . . . . . . . :             *LIBL
Character identifier . . . . . . : CHRID       *SYSVAL
Remote location  . . . . . . . . : RMTLOCNAME  TCPIP
Local location . . . . . . . . . : LCLLOCNAME  *NETATR
Remote network identifier  . . . : RMTNETID    *NETATR
Mode . . . . . . . . . . . . . . : MODE        QSPWTR
Text . . . . . . . . . . . . . . : TEXT        EXCELLIPRINT [ADDRESS]:[PORT]
```

2   **WRKAFP2 in V3R6** Enter the following command, all in one line, in the AS/400 command line and then press Enter (for [OBJECT], enter the name assigned to the device):

```
WRKAFP2
   DEVD([OBJECT])
   IPDSPASTHR(*YES)
   TCPIP(*YES)
   RMTSYS('[ADDRESS]')
   PORT([PORT])
   INACTTMR(*SEC15)
```

Note: Once the previous `WRKAFP2` command is complete, the information should be similar to the following example:

```
DEVD           [OBJECT]
IPDSPASTHR     *YES
TCPIP          *YES
RMTSYS         [ADDRESS]
PORT           [PORT]
ACTTMR         *NOMAX
INACTTMR       *SEC15
SBP            *NO
PSC            *YES
DRF            *NO
DRR            *NO
EDGSNSTV       *NO
```

3   From the AS/400, verify that the AS/400 can communicate with ExcelliPrint by entering the following command:

```
PING RMTSYS(*INTNETADR)  INTNETADR('[ADDRESS]')
```

4   Vary the device on by entering the following command, all in one line, and then pressing Enter (for `[DEVICE]`, enter the name assigned to the device):

```
VRYCFG [DEVICE] CFGTYPE(*DEV) STATUS(*ON)
```

5   Start the writer:

```
STRPRTWTR [DEVICE]
```

AS/400 Setup for V3R7 (Version 3.7)

The following commands are used to set up IPDS printing in V3R7: CRTDEVPRT and CRTPSFCFG.

1   **CRTPSFCFG in V3R7** Enter the following command, all in one line, in the AS/400 command line and then press Enter (for [OBJECT], enter the name assigned to the device):

```
CRTPSFCFG
   PSFCFG(QUSRSYS/[OBJECT])
   IPDSPASTHR(*YES)
   RLSTMR(*SEC15)
   TEXT('EXCELLIPRINT [ADDRESS]:[PORT]')
```

Note: Once the previous CRTPSFCFG command is complete, the information should be similar to the following example:

```
PSF configuration  . . . . . . . . . . . : [OBJECT]
Library  . . . . . . . . . . . . . . . . : QUSRSYS
User resource library. . . . . . . . . . : *JOBLIBL
IPDS pass through. . . . . . . . . . . . : *YES
Activate release timer . . . . . . . . . : *NORDYF
Release timer  . . . . . . . . . . . . . : *SEC15
Restart timer  . . . . . . . . . . . . . : *IMMED
SNA retry count  . . . . . . . . . . . . : 2
Delay time between retries . . . . . . . : 0
Blank page . . . . . . . . . . . . . . . : *YES
Page size control  . . . . . . . . . . . : *YES
Resident fonts . . . . . . . . . . . . . : *YES
Resource retention . . . . . . . . . . . : *YES
Edge orient  . . . . . . . . . . . . . . : *NO
Remote location. . . . . . . . . . . . . :
Name or address. . . . . . . . . . . . . : *NONE
TCP/IP port. . . . . . . . . . . . . . . : *NONE
TCP/IP activation timer. . . . . . . . . : 170
PSF defined options. . . . . . . . . . . : *NONE
Text description . . . . . . . . . . . . : EXCELLIPRINT [ADDRESS]:[PORT]
Device resource library list . . . . . . : *DFT
```

2   **CRTDEVPRT in V3R7** Enter the following command, all in one line, in the AS/400 command line and then press Enter (for [DEVICE], enter the name you want assigned to the device):

```
CRTDEVPRT
   DEVD([DEVICE])
   DEVCLS(*LAN)
   TYPE(*IPDS)
   MODEL(0)
   LANATTACH(*IP)
   AFP(*YES)
   PORT([PORT])
   FONT(11)
   FORMFEED(*AUTOCUT)
   RMTLOCNAME('[ADDRESS]')
   USRDFNOBJ(QUSRSYS/[OBJECT]*PSFCFG)
   TEXT('EXCELLIPRINT [ADDRESS]:[PORT]')
```

Note: Once the previous CRTDEVPRT command is complete, the information on the screen should be similar to the following example:

```
Device description . . . . . . . . . : DEVD            [DEVICE]
Option . . . . . . . . . . . . . . . : OPTION          *ALL
Category of device . . . . . . . . . :                 *PRT
Device class . . . . . . . . . . . . : DEVCLS          *LAN
Device type. . . . . . . . . . . . . : TYPE            *IPDS
Device model . . . . . . . . . . . . : MODEL           0
LAN attachment . . . . . . . . . . . : LANATTACH       *IP
User-defined object. . . . . . . . . : USRDFNOBJ       [OBJECT]
Library. . . . . . . . . . . . . . . : QUSRSYS
Object type. . . . . . . . . . . . . :                 *PSFCFG
Data transform program . . . . . . . : USRDTATFM       *NONE
User-defined driver program . . . . .: USRDRVPGM       *NONE
Advanced function printing . . . . . : AFP             *YES
Port number. . . . . . . . . . . . . : PORT            [PORT]
Online at IPL. . . . . . . . . . . . : ONLINE          *YES
Font . . . . . . . . . . . . . . . . : FONT
Identifier . . . . . . . . . . . . . :                 011
Point size . . . . . . . . . . . . . :                 *NONE
Form feed. . . . . . . . . . . . . . : FORMFEED        *AUTOCUT
Separator drawer . . . . . . . . . . : SEPDRAWER       *FILE
Separator program. . . . . . . . . . : SEPPGM          *NONE
Library. . . . . . . . . . . . . . . :
Printer error message. . . . . . . . : PRTERRMSG       *INQ
Message queue. . . . . . . . . . . . : MSGQ            QSYSOPR
Library. . . . . . . . . . . . . . . :                 *LIBL
Activation timer . . . . . . . . . . : ACTTMR          170
Maximum pending requests . . . . . . : MAXPNDRQS       6
Print while converting . . . . . . . : PRTCVT          *YES
Print request timer. . . . . . . . . : PRTRQSTMR       *NOMAX
Form definition. . . . . . . . . . . : FORMDF          F1C10110
Library. . . . . . . . . . . . . . . :                 *LIBL
Remote location. . . . . . . . . . . : RMTLOCNAME
Name or address. . . . . . . . . . . :                 '[ADDRESS]'
Dependent location name. . . . . . . : DEPLOCNAME      *NONE
Text . . . . . . . . . . . . . . . . : TEXT            EXCELLIPRINT [ADDRESS]:[PORT]
User-defined options . . . . . . . . : USRDFNOPT
```

3   From the AS/400, verify that the AS/400 can communicate with ExcelliPrint by entering the following command:

```
PING RMTSYS(*INTNETADR) INTNETADR('[ADDRESS]')
```

4   Vary the device on by entering the following command, all in one line, and then pressing Enter (for [DEVICE], enter the name assigned to the device):

```
VRYCFG [DEVICE] CFGTYPE(*DEV) STATUS(*ON)
```

5   Start the writer:

```
STRPRTWTR [DEVICE]
```

AS/400 Setup for V4R1 (Version 4.1)

The following commands are used to set up IPDS printing in V4R1: CRTDEVPRT and CRTPSFCFG.

1 **CRTPSFCFG in V4R1** Enter a command in the following format in the AS/400 command line (for [OBJECT], enter the name you want assigned to the device):

```
CRTPSFCFG PSFCFG(QUSRSYS/[OBJECT]) IPDSPASTHR(*YES) RLSTMR(*SEC15)
TEXT('EXCELLIPRINT [ADDRESS]:[PORT]')
```

Note: Once the previous CRTPSFCFG command is complete, the information should be similar to the following example:

```
PSF configuration . . . . . . . . . . . : [OBJECT]
Library . . . . . . . . . . . . . . . . : QUSRSYS
User resource library . . . . . . . . . : *JOBLIBL
IPDS pass through . . . . . . . . . . . : *YES
Activate release timer. . . . . . . . . : *NORDYF
Release timer . . . . . . . . . . . . . : *SEC15
Restart timer . . . . . . . . . . . . . : *IMMED
SNA retry count . . . . . . . . . . . . : 2
Delay time between retries  . . . . . . : 0
Blank page. . . . . . . . . . . . . . . : *YES
Page size control . . . . . . . . . . . : *YES
Resident fonts. . . . . . . . . . . . . : *YES
Resource retention. . . . . . . . . . . : *YES
Edge orient . . . . . . . . . . . . . . : *NO
Remote location . . . . . . . . . . . . :
Name or address . . . . . . . . . . . . : *NONE
TCP/IP port . . . . . . . . . . . . . . : *NONE
TCP/IP activation timer . . . . . . . . : 170
PSF defined options . . . . . . . . . . : *NONE
Text description  . . . . . . . . . . . : EXCELLIPRINT [ADDRESS]:[PORT]
Device resource library list. . . . . . : *DFT
```

2 **CRTDEVPRT in V4R1** Enter a command in the following format in the AS/400 command line (for [DEVICE], enter the name you want assigned to the device):

```
CRTDEVPRT DEVD([DEVICE]) DEVCLS(*LAN) TYPE(*IPDS) MODEL(0) LANATTACH(*IP)
AFP(*YES) PORT([PORT]) FONT(11) FORMFEED(*AUTOCUT) RMTLOCNAME('[ADDRESS]')
USRDFNOBJ(QUSRSYS/[OBJECT]*PSFCFG) TEXT('EXCELLIPRINT [ADDRESS]:[PORT]')
```

Note: Once the previous CRTDEVPRT command is complete, the information on the screen should be similar to the following example:

```
Device description . . . . . . . . : DEVD            [DEVICE]
Option . . . . . . . . . . . . . . : OPTION          *ALL
Category of device . . . . . . . . :                 *PRT
Device class . . . . . . . . . . . : DEVCLS          *LAN
Device type  . . . . . . . . . . . : TYPE            *IPDS
Device model . . . . . . . . . . . : MODEL           0
LAN attachment . . . . . . . . . . : LANATTACH       *IP
User-defined object. . . . . . . . : USRDFNOBJ       [OBJECT]
```

```
Library  . . . . . . . . . . . . . : QUSRSYS
Object type. . . . . . . . . . . :               *PSFCFG
Data transform program . . . . . . : USRDTATFM    *NONE
User-defined driver program . . . .: USRDRVPGM    *NONE
Advanced function printing . . . . : AFP          *YES
Port number. . . . . . . . . . . : PORT          [PORT]
Online at IPL. . . . . . . . . . . : ONLINE       *YES
Font . . . . . . . . . . . . . . :
FONT Identifier . . . . . . . . . :               011
Point size . . . . . . . . . . . :               *NONE
Form feed. . . . . . . . . . . . : FORMFEED      *AUTOCUT
Separator drawer . . . . . . . . . : SEPDRAWER    *FILE
Separator program. . . . . . . . . : SEPPGM       *NONE
Library. . . . . . . . . . . . . :
Printer error message. . . . . . . : PRTERRMSG    *INQ
Message queue. . . . . . . . . . . : MSGQ         QSYSOPR
Library. . . . . . . . . . . . . :               *LIBL
Activation timer . . . . . . . . . : ACTTMR       170
Maximum pending requests . . . . . : MAXPNDRQS    6
Print while converting . . . . . . : PRTCVT       *YES
Print request timer. . . . . . . . : PRTRQSTMR    *NOMAX
Form definition. . . . . . . . . . : FORMDF       F1C10110
Library. . . . . . . . . . . . . :               *LIBL
Remote location. . . . . . . . . . : RMTLOCNAME
Name or address. . . . . . . . . . :               '[ADDRESS]'
Dependent location name. . . . . . : DEPLOCNAME   *NONE
Text . . . . . . . . . . . . . . : TEXT         EXCELLIPRINT [ADDRESS]:[PORT]
User-defined options . . . . . . . : USRDFNOPT
```

3   From the AS/400, verify that the AS/400 can communicate with ExcelliPrint by entering the following command:

```
PING RMTSYS(*INTNETADR)  INTNETADR('[ADDRESS]')
```

4   Vary the device on (for [DEVICE], enter the name assigned to the device):

```
VRYCFG [DEVICE] CFGTYPE(*DEV) STATUS(*ON)
```

5   Start the writer:

```
STRPRTWTR [DEVICE]
```

AS/400 Setup for V4R2 (Version 4.2)

The following commands are used to set up IPDS printing in V4R2: CRTDEVPRT and CRTPSFCFG.

1   **CRTPSFCFG in V4R2** Enter a command in the following format in the AS/400 command line (for [DEVICE], enter the name you want assigned to the device):

```
CRTPSFCFG PSFCFG(QUSRSYS/EXCELLPSF) IPDSPASTHR(*YES) RLSTMR(*SEC15)
TEXT('EXCELLIPRINT [ADDRESS]:[PORT]')
```

Note: Once the previous CRTPSFCFG command is complete, the information should be similar to the following example:

```
PSF configuration . . . . . . . . . . . : EXCELLPSF
Library . . . . . . . . . . . . . . . . : QUSRSYS
User resource library . . . . . . . . . : *JOBLIBL
IPDS pass through . . . . . . . . . . . : *YES
Activate release timer. . . . . . . . . : *NORDYF
Release timer . . . . . . . . . . . . . : *SEC15
Restart timer . . . . . . . . . . . . . : *IMMED
SNA retry count . . . . . . . . . . . . : 2
Delay time between retries. . . . . . . : 0
Blank page. . . . . . . . . . . . . . . : *YES
Page size control . . . . . . . . . . . : *YES
Resident fonts. . . . . . . . . . . . . : *YES
Resource retention. . . . . . . . . . . : *YES
Edge orient . . . . . . . . . . . . . . : *NO
Remote location . . . . . . . . . . . . :
Name or address . . . . . . . . . . . . : *NONE
TCP/IP port . . . . . . . . . . . . . . : *NONE
TCP/IP activation timer . . . . . . . . : 170
PSF defined options . . . . . . . . . . : *NONE
Text description. . . . . . . . . . . . : EXCELLIPRINT [ADDRESS]:[PORT]
Device resource library list. . . . . . : *DFT
```

2   **CRTDEVPRT in V4R2** Enter a command in the following format in the AS/400 command line (for [DEVICE], enter the name you want assigned to the device):

```
CRTDEVPRT DEVD([DEVICE]) DEVCLS(*LAN) TYPE(*IPDS) MODEL(0) LANATTACH(*IP)
AFP(*YES) PORT([PORT]) FONT(11) FORMFEED(*AUTOCUT) RMTLOCNAME('192.168.1.23)
USRDFNOBJ(QUSRSYS/EXCELLPSF *PSFCFG) TEXT('EXCELLIPRINT [ADDRESS]:[PORT]')
```

Note: Once the previous CRTDEVPRT command is complete, the information on the screen should be similar to the following example:

```
Device description . . . . . . . . . : DEVD              [DEVICE]
Option . . . . . . . . . . . . . . . : OPTION            *ALL
Category of device . . . . . . . . . :                   *PRT
Device class . . . . . . . . . . . . : DEVCLS            *LAN
Device type. . . . . . . . . . . . . : TYPE              *IPDS
Device model . . . . . . . . . . . . : MODEL             0
LAN attachment . . . . . . . . . . . : LANATTACH         *IP
```

```
User-defined object. . . . . . . . . : USRDFNOBJ     EXCELLPSF
Library. . . . . . . . . . . . . . . : QUSRSYS
Object type. . . . . . . . . . . . :                 *PSFCFG
Data transform program . . . . . . : USRDTATFM       *NONE
User-defined driver program . . . .: USRDRVPGM       *NONE
Advanced function printing . . . . : AFP             *YES
Port number. . . . . . . . . . . . : PORT            [PORT]
Online at IPL. . . . . . . . . . . : ONLINE          *YES
Font . . . . . . . . . . . . . . . : FONT
Identifier . . . . . . . . . . . . :                 011
Point size . . . . . . . . . . . . :                 *NONE
Form feed. . . . . . . . . . . . . : FORMFEED        *AUTOCUT
Separator drawer . . . . . . . . . : SEPDRAWER       *FILE
Separator program. . . . . . . . . : SEPPGM          *NONE
Library. . . . . . . . . . . . . . :
Printer error message. . . . . . . : PRTERRMSG       *INQ
Message queue. . . . . . . . . . . : MSGQ            QSYSOPR
Library. . . . . . . . . . . . . . :                 *LIBL
Activation timer . . . . . . . . . : ACTTMR          170
Maximum pending requests . . . . . : MAXPNDRQS       6
Print while converting . . . . . . : PRTCVT          *YES
Print request timer. . . . . . . . : PRTRQSTMR       *NOMAX
Form definition. . . . . . . . . . : FORMDF          F1C10110
Library. . . . . . . . . . . . . . :                 *LIBL
Remote location. . . . . . . . . . : RMTLOCNAME
Name or address. . . . . . . . . . :                 '[ADDRESS]'
Dependent location name. . . . . . : DEPLOCNAME      *NONE
Text . . . . . . . . . . . . . . . : TEXT            EXCELLIPRINT [ADDRESS]:[PORT]
User-defined options . . . . . . . : USRDFNOPT
```

3 From the AS/400, verify that the AS/400 can communicate with ExcelliPrint by entering the following command:

```
PING RMTSYS(*INTNETADR) INTNETADR('[ADDRESS]')
```

4 Vary the device on (for [DEVICE], enter the name assigned to the device):

```
VRYCFG [DEVICE] CFGTYPE(*DEV) STATUS(*ON)
```

5 Start the writer:

```
STRPRTWTR [DEVICE]
```

AS/400 Setup for V4R3 (Version 4.3)

The following commands are used to set up IPDS printing in V4R3: CRTDEVPRT and CRTPSFCFG.

1   **CRTPSFCFG in V4R3** Enter a command in the following format in the AS/400 command line (for [OBJECT], enter the name you want assigned to the PSF Configuration Object (PSFCFG)):

```
CRTPSFCFG PSFCFG(QUSRSYS/[OBJECT]) IPDSPASTHR(*YES) RLSTMR(*SEC15)
TEXT('EXCELLIPRINT [ADDRESS]:[PORT]')
```

Note: Once the previous CRTPSFCFG command is complete, the information should be similar to the following example:

```
PSF configuration . . . . . . . . . . . : [OBJECT]
Library . . . . . . . . . . . . . . . . : QUSRSYS
User resource library . . . . . . . . . : *JOBLIBL
IPDS pass through . . . . . . . . . . . : *YES
Activate release timer. . . . . . . . . : *NORDYF
Release timer . . . . . . . . . . . . . : *SEC15
Restart timer . . . . . . . . . . . . . : *IMMED
SNA retry count . . . . . . . . . . . . : 2
Delay time between retries. . . . . . . : 0
Blank page. . . . . . . . . . . . . . . : *YES
Page size control . . . . . . . . . . . : *YES
Resident fonts. . . . . . . . . . . . . : *YES
Resource retention. . . . . . . . . . . : *YES
Edge orient . . . . . . . . . . . . . . : *NO
Remote location . . . . . . . . . . . . :
Name or address . . . . . . . . . . . . : *NONE
TCP/IP port . . . . . . . . . . . . . . : *NONE
TCP/IP activation timer . . . . . . . . : 170
PSF defined options . . . . . . . . . . : *NONE
Text description. . . . . . . . . . . . : EXCELLIPRINT [ADDRESS]:[PORT]
Device resource library list. . . . . . : *DFT
```

2   **CRTDEVPRT in V4R3** Enter a command in the following format in the AS/400 command line (for [DEVICE], enter the name you want assigned to the device):

```
CRTDEVPRT DEVD([DEVICE]) DEVCLS(*LAN) TYPE(*IPDS) MODEL(0) LANATTACH(*IP)
AFP(*YES) PORT([PORT]) FONT(11) FORMFEED(*AUTOCUT) RMTLOCNAME('[ADDRESS]')
USRDFNOBJ(QUSRSYS/EXCELLPSF *PSFCFG) TEXT('EXCELLIPRINT [ADDRESS]:[PORT]')
```

Note: Once the previous CRTDEVPRT command is complete, the information on the screen should be similar to the following example:

```
Device description . . . . . . . . . : DEVD            [DEVICE]
Option . . . . . . . . . . . . . . . : OPTION          *ALL
Category of device . . . . . . . . . :                 *PRT
Device class . . . . . . . . . . . . : DEVCLS          *LAN
Device type. . . . . . . . . . . . . : TYPE            *IPDS
Device model . . . . . . . . . . . . : MODEL           0
LAN attachment . . . . . . . . . . . : LANATTACH       *IP
```

```
User-defined object. . . . . . . . : USRDFNOBJ        [OBJECT]
Library. . . . . . . . . . . . . : QUSRSYS
Object type. . . . . . . . . . . :                   *PSFCFG
Data transform program . . . . . . : USRDTATFM        *NONE
User-defined driver program . . . .: USRDRVPGM        *NONE
Advanced function printing . . . . : AFP              *YES
Port number. . . . . . . . . . . : PORT             [PORT]
Online at IPL. . . . . . . . . . : ONLINE           *YES
Font . . . . . . . . . . . . . . : FONT
Identifier . . . . . . . . . . . :                  011
Point size . . . . . . . . . . . :                  *NONE
Form feed. . . . . . . . . . . . : FORMFEED         *AUTOCUT
Separator drawer . . . . . . . . : SEPDRAWER        *FILE
Separator program. . . . . . . . : SEPPGM           *NONE
Library. . . . . . . . . . . . . :
Printer error message. . . . . . . : PRTERRMSG        *INQ
Message queue. . . . . . . . . . : MSGQ             QSYSOPR
Library. . . . . . . . . . . . . :                  *LIBL
Activation timer . . . . . . . . : ACTTMR           170
Maximum pending requests . . . . . : MAXPNDRQS        6
Print while converting . . . . . . : PRTCVT           *YES
Print request timer. . . . . . . : PRTRQSTMR        *NOMAX
Form definition. . . . . . . . . : FORMDF           F1C10110
Library. . . . . . . . . . . . . :                  *LIBL
Remote location. . . . . . . . . : RMTLOCNAME
Name or address. . . . . . . . . :                  '[ADDRESS]'
Dependent location name. . . . . . : DEPLOCNAME       *NONE
Text . . . . . . . . . . . . . . : TEXT             EXCELLIPRINT [ADDRESS]:[PORT]
User-defined options . . . . . . . : USRDFNOPT
```

3   From the AS/400, verify that the AS/400 can communicate with ExcelliPrint by entering the following command:

```
PING RMTSYS(*INTNETADR) INTNETADR('[ADDRESS]')
```

4   Vary the device on (for [DEVICE], enter the name assigned to the device):

```
VRYCFG [DEVICE] CFGTYPE(*DEV) STATUS(*ON)
```

5   Start the writer:

```
STRPRTWTR [DEVICE]
```

AS/400 Setup for V4R4 (Version 4.4) and Later

The following commands are used to set up IPDS printing in V4R4, and later: `CRTDEVPRT` and `CRTPSFCFG`.

1   CRTPSFCFG Enter a command in the following format in the AS/400 command line (for [OBJECT], enter the name you want assigned to the device):

```
CRTPSFCFG PSFCFG(QUSRSYS/[OBJECT]) IPDSPASTHR(*YES) RLSTMR(*SEC15)
TEXT('EXCELLIPRINT [ADDRESS]:[PORT]')
```

Note: Once the previous `CRTPSFCFG` command is complete, the information should be similar to the following example:

```
PSF configuration  . . . . . . . . . . . . :     [OBJECT]
Library  . . . . . . . . . . . . . . . . . :     QUSRSYS
User resource library  . . . . . . . . . . :     *JOBLIBL
IPDS pass through  . . . . . . . . . . . . :     *YES
Activate release timer . . . . . . . . . . :     *NORDYF
Release timer  . . . . . . . . . . . . . . :     *SEC15
Restart timer  . . . . . . . . . . . . . . :     *IMMED
APPC and TCP/IP retry count  . . . . . . . :     15
Delay time between retries . . . . . . . . :     0
Auto Session Recovery:
  Enabled  . . . . . . . . . . . . . . . . :     *NO
Acknowledgment frequency . . . . . . . . . :     100
Printer response timer . . . . . . . . . . :     *NOMAX
Blank page . . . . . . . . . . . . . . . . :     *YES
Page size control  . . . . . . . . . . . . :     *YES
Resident fonts . . . . . . . . . . . . . . :     *YES
Resource retention . . . . . . . . . . . . :     *YES
Edge orient  . . . . . . . . . . . . . . . :     *NO
Use outline fonts  . . . . . . . . . . . . :     *NO
PSF defined options  . . . . . . . . . . . :     *NONE
Font substitution messages . . . . . . . . :     *YES
Capture host fonts at printer  . . . . . . :     *NO
Cut sheet emulation mode . . . . . . . . . :     *NONE
Font resolution for formatting . . . . . . :     *SEARCH
Font mapping table . . . . . . . . . . . . :     *NONE
Use DBCS simulation font . . . . . . . . . :     *NO
Generate PDF output  . . . . . . . . . . . :     *NONE
Save AFP data  . . . . . . . . . . . . . . :     *NO
Device resource library list . . . . . . . :     *DFT
```

2   CRTDEVPRT in V4R4, and later Enter a command in the following format in the AS/400 command line (for [DEVICE], enter the name you want assigned to the device):

```
CRTDEVPRT DEVD([DEVICE]) DEVCLS(*LAN) TYPE(*IPDS) MODEL(0) LANATTACH(*IP)
AFP(*YES) PORT([PORT]) FONT(11) FORMFEED(*AUTOCUT) RMTLOCNAME('[ADDRESS]')
USRDFNOBJ(QUSRSYS/[OBJECT] *PSFCFG) TEXT('EXCELLIPRINT [ADDRESS]:[PORT]')
```

Note: Once the previous `CRTDEVPRT` command is complete, the information on the screen should be similar to the following example:

```
Device description . . . . . . . . . :     DEVD          [DEVICE]
Option . . . . . . . . . . . . . . . :     OPTION        *ALL
```

```
Category of device . . . . . . . . . :                    *PRT
Device class . . . . . . . . . . . . :    DEVCLS          *LAN
Device type  . . . . . . . . . . . . :    TYPE            *IPDS
Device model . . . . . . . . . . . . :    MODEL           0
LAN attachment . . . . . . . . . . . :    LANATTACH       *IP
Advanced function printing . . . . . :    AFP             *YES
Port number  . . . . . . . . . . . . :    PORT            [PORT]
Online at IPL  . . . . . . . . . . . :    ONLINE          *YES
Font . . . . . . . . . . . . . . . . :    FONT
   Identifier . . . . . . . . . . . . :                    011
   Point size . . . . . . . . . . . . :                    *NONE
Form feed  . . . . . . . . . . . . . :    FORMFEED        *AUTOCUT
Separator drawer . . . . . . . . . . :    SEPDRAWER       *FILE
Separator program  . . . . . . . . . :    SEPPGM          *NONE
Printer error message  . . . . . . . :    PRTERRMSG       *INQ
Message queue  . . . . . . . . . . . :    MSGQ            *CTLD
Current message queue  . . . . . . . :                    QSYSOPR
   Library  . . . . . . . . . . . . . :                      QSYS
Activation timer . . . . . . . . . . :    ACTTMR          170
Image configuration  . . . . . . . . :    IMGCFG          *NONE
Maximum pending requests . . . . . . :    MAXPNDRQS       6
Print while converting . . . . . . . :    PRTCVT          *YES
Form definition  . . . . . . . . . . :    FORMDF          F1C10110
   Library  . . . . . . . . . . . . . :                      *LIBL
Character identifier . . . . . . . . :    CHRID           *SYSVAL
Remote location  . . . . . . . . . . :    RMTLOCNAME
   Name or address  . . . . . . . . . :                    [ADDRESS]
User-defined object  . . . . . . . . :    USRDFNOBJ       [OBJECT]
   Library  . . . . . . . . . . . . . :                      QUSRSYS
   Object type  . . . . . . . . . . . :                      *PSFCFG
Data transform program . . . . . . . :    USRDTATFM       *NONE
User-defined driver program  . . . . :    USRDRVPGM       *NONE
Dependent location name  . . . . . . :    DEPLOCNAME      *NONE
Text . . . . . . . . . . . . . . . . :    TEXT            *BLANK
User-defined options . . . . . . . . :    USRDFNOPT
```

3   From the AS/400, verify that the AS/400 can communicate with ExcelliPrint by entering the following command:

```
PING RMTSYS(*INTNETADR) INTNETADR('[ADDRESS]')
```

4   Vary the device on (for [DEVICE], enter the name assigned to the device):

```
VRYCFG [DEVICE] CFGTYPE(*DEV) STATUS(*ON)
```

5   Start the writer:

```
STRPRTWTR [DEVICE]
```

Appendix III: zSeries (OS/390) Setup

This section describes general steps for setting up IPDS printing on a mainframe (OS/390). Some of the following information is cited from IBM publication S510-2679-01.

Prerequisites

- PSF/MVS Version 2 Release 2.0 with APAR OW15599, OW15018 and OW16442. OW08340 for font capture.
- PSF/MVS Version 3.1 or later.
- MVS Scheduler APAR OW12236 to support two new PRINTDEV keywords: IPADDR and PORTNO.
- TCP/IP Version 3 Release 1, or higher installed and configured on MVS.
- MVS Maintenance Level Required in TCP/IP Profile
  - o IBM PTF UQ03848
  - o IBM PTF UQ11550

Summary of Steps

1 Choose a TCP/IP port on which to receive IPDS data.
2 Configure JES.
3 Add a printer to the PSF STARTUP PROC.

For the following steps, you will need to know the `[DEVICE]`, `[ADDRESS]`, and `[PORT]`.

- `[DEVICE]`   The name of the device as known on the mainframe system
- `[ADDRESS]` IP address of the computer on which ExcelliPrint is installed
- `[PORT]`   The TCP/IP port number on which ExcelliPrint listens for IPDS print requests

Steps

1 By default ExcelliPrint is ready to receive print jobs on Port 5001; other valid port numbers may be used instead. Add the desired port to ExcelliPrint, and remember the port number for setting up JES.
2 Set up JES.
      a. JES2 example:

```
FSS(FSS1)      PROC=PSFPROC,HASPFSSM=HASPFSSM
PRT7           FSS=FSS1,MODE=FSS,
               PRMODE=(LINE,PAGE,SOSI1),
               CLASS=C,UCS=0,SEP,NOSEPDS,CKPTPAGE=100,
               DRAIN,MARK,TRKCELL=YES
```

b. JES3 example:

```
FFSDEF,TYPE=WTR,FSSNAME=FSS3,PNAME=SAMPLE01,

SYSTEM=SYS1,TERM=NO,
DEVICE,DTYPE=PRTAFP1,NAME=PRT7,
JUNIT=(,SYS1,,OFF),FSSNAME=FSS3,
MODE=FSS,PM=(LINE,PAGE,SOSI1),CHARS=(YES,GT12),
CARRIAGE=(YES,A868),CKPNTGP=100,HEADER=YES,
WC=(C)
```

3   Add printer to PSF STARTUP PROC. The following is an example PSF STARTUP PROC. Explanations of the parameters in bold follow this example.

```
//****************************************************
//*                                                  *
//*    PSF START-UP FOR GRP5E -  TEST EXCELLIPRINT    *
//*                                                  *
//*                 TEST PRINTER                      *
//*                                                  *
//****************************************************
//PSFGRP5  EXEC PGM=APSPPIEP,REGION=6144K
//STEPLIB  DD DSN=SYS1.CAI.TCP60.LINK,DISP=SHR
//         DD DSN=TCP.CAI.V60.LOAD,DISP=SHR
//         DD DSN=TCP.CAI.V60.SASLINK,DISP=SHR
//KEEPLIST DD DSN=SYS2.AFP.KEEPLIST,DISP=SHR
//JOBHDR OUTPUT PAGEDEF=V06483,  /*JOB HEADER SEPARATOR*/
//       FORMDEF=C10110,CHARS=GT12
//JOBTLR OUTPUT PAGEDEF=V06483,  /*JOB TRAILER SEPARATOR*/
//       FORMDEF=C10110,CHARS=GT12
//DSHDR  OUTPUT PAGEDEF=V06483,  /*DATA SET HEADER*/
//       FORMDEF=C10110,CHARS=GT12
//MSGDS  OUTPUT PAGEDEF=A06462,  /*MESSAGES*/
//       FORMDEF=C10110,CHARS=GT12
//[DEVICE]  DD DSN=SYS2.PRT5.TRACE,DISP=SHR
//FONT01 DD DSN=SYS1.FONT300.CUSTOM,DISP=SHR
//       DD DSN=SYS1.FONT300,DISP=SHR
//PSEG01 DD DSN=SYS1.PSEGLIB.XEROX,DISP=SHR
//        DD DSN=SYS1.PSEGLIB,DISP=SHR
//OLAY01 DD DSN=SYS1.OVERLIB.XEROX,DISP=SHR
//PDEF01 DD DSN=SYS1.PDEFLIB.XEROX,DISP=SHR
//FDEF01 DD DSN=SYS1.FDEFLIB.XEROX,DISP=SHR
//PRT5   CNTL
//PRT5   PRINTDEV TRACE=NO,        /*PSF TRACING         */
//       DUMP=(,APS797I,3),        /*CONDITIONAL DUMP    */
//       FONTDD=*.FONT01,          /*FONT LIBRARY DD     */
//       OVLYDD=*.OLAY01,          /*OVERLAY LIBRARY DD  */
//       PSEGDD=*.PSEG01,          /*PAGE SEGMENT LIB. DD */
//       PDEFDD=*.PDEF01,          /*PAGEDEF LIBRARY DD  */
//       FDEFDD=*.FDEF01,          /*FORMDEF LIBRARY DD  */
//       JOBHDR=*.JOBHDR,          /*JOB HEADER OUTPUT   */
//       JOBTRLR=*.JOBTLR,         /*JOB TRAILER OUTPUT  */
//       DSHDR=*.DSHDR,            /*DATA SET HDR OUTPUT */
//       MESSAGE=*.MSGDS,          /*MESSAGE OUTPUT      */
//       PAGEDEF=1PRT,             /*DEFAULT             */
//       FORMDEF=1PRT,             /*DEFAULT             */
//       PIMSG=YES,                /*DATA SET RELATED MSG */
//       FAILURE=WCONNECT,         /*ATTEMPT RECONNECT   */
//       TIMEOUT=REDRIVE,          /*PSF ACTION ON TIMEOUT*/
//       CONNINTV=0,               /*NO TIMEOUT          */
//       DISCINTV=15,              /*TIMEOUT=15 SECONDS   */
//       MGMTMODE=OUTAVAIL,        /*PRINTER MANAGEMENT MODE */
```

```
//       IPADDR='[ADDRESS]',        /*IP ADDRESS OF EXCELLIPRINT PRINTER*/
//       PORTNO='[PORT]',           /*PORT NUMBER FROM STEP 2 */
//       DATACK=UNBLOCK             /*DATA CHECK ERRORS     */
//       TRACE=NO,                  /*INTERNAL TRACE        */
//[DEVICE]   ENDCNTL
```

Note Explanations of some of the key parameters follow:

- **CONNINTV** Specifies the connect interval, in seconds. This is the limit on the time during which PSF is to attempt to start a session or a dialog with a printer. If the connect interval expires before connection is complete, PSF issues a message and ends the FSA. If CONNINTV is not specified, or CONNINTV=0, PSF continues attempting to connect for an unlimited time.

- **DISCINTV** Specifies the disconnect interval in seconds. The value can range from zero to 86400. IBM suggests you set the value to 15. When no output is available from JES for this time period, PSF ends the session with the network printer. If the value is set to zero, PSF does not end the session because of lack of output, and other IPDS hosts will not be able to share the printer.

- **FAILURE** Specifies the action PSF is to take after a printer failure or a TCP/IP network failure. If FAILURE=WCONNECT and the printer is connected to another host when PSF attempts to establish a connection on TCP/IP, PSF continuously retries (up to the limit specified by CONNINTV) until the printer becomes available. If FAILURE=STOP, PSF must be restarted by an operator command.

- **TIMEOUT** Specifies the action that PSF is to take after a timeout when no output is available on JES. The DISCINTV parameter specifies the timeout interval. TIMEOUT=REDRIVE requests that PSF redrive the printer FSA using the value of the MGMTMODE parameter. TIMEOUT=STOP requests that PSF stop the printer FSA, which can then be restarted only by an operator command.

- **MGMTMODE** Set this parameter to OUTAVAIL. OUTAVAIL requests that PSF start a communications session with the printer only when output is available on the JES spool.

Appendix IV: VSE/ESA Setup

PSF/VSE is the print "driver" that sends IPDS data to ExcelliPrint. PSF interfaces with the POWER VSE Print Spool. For each printer that PSF supports, a 'PRINTDEV' macro needs to be defined in the PSF Startup Job (it is the same definition for ExcelliPrint as for other printers). PSF figures out what kind of printer it is talking to at the defined IP Address and Port when communication is started.

For the following steps, you will need to know the `[DEVICE]`, `[ADDRESS]`, and `[PORT]`.

- `[DEVICE]`   The name of the device as known on the mainframe system
- `[ADDRESS]` IP address of the computer on which ExcelliPrint is installed
- `[PORT]`   The TCP/IP port number on which ExcelliPrint listens for IPDS print requests

A sample PRINTDEV is shown below.

```
[DEVICE] PRINTDEV IPADDR=[ADDRESS], (EXCELLIPRINT)
PORTNO=[PORT],
CHARS=GT12,
DATACK=BLOCK,
DISCINTV=30,
CONNINTV=0,
FAILURE=WCONNECT,
FORMDEF=010110,
MESSAGE=(V06481,010110),
MGMTMODE=OUTAVAIL,
PAGEDEF=V06481,
PIMSG=YES,
SEPPAGE=(V06481,010110),
SPBUFFER=2
```

Appendix V: IBM Printer Limitations

The following information (cited from IBM manual S544-5349-01) outlines the limitations of specific types of IBM printers. The information is related to the IPDS Emulation field displayed on the Device Properties page and the IPDS Emulation list available on the Modify Device Properties page. The following printers are available for selection in ExcelliPrint:

- IBM 3812
- IBM 3816
- IBM 4028

IBM 3812

The IBM 3812 has the following limitations:

- Double Byte Character Sets are not supported.
- Enlarged or reduced characters are not printed if its font is font type 2 (specified with a coded font) or font type 3 (specified with a code page and a font character set).
- Vertical format is not supported if the font is type 1 (specified with a font and a character identifier).
- Only *DEFAULT and 8=Black are allowed for the *Color* prompt.
- Bar code types Code 128 and POSTNET are not supported.
- You can print graphic elements only with *CONTENT print fidelity, because graphics (GDF) have color orders that are not supported.

IBM 3816

The IBM 3816 has the following limitations:

- Double Byte Character Sets are not supported.
- Enlarged or reduced characters are not printed if its font is font type 2 (specified with a coded font) or font type 3 (specified with a code page and a font character set).
- Vertical format is not supported if the font is type 1 (specified with a font and a character identifier).
- Only *DEFAULT and 8=Black are allowed for the *Color* prompt.
- You can print graphic elements only with *CONTENT print fidelity, because graphics (GDF) have color orders that are not supported.

IBM 4028

The IBM 4028 has the following limitations:

- Double Byte Character Sets are not supported.
- Enlarged or reduced characters are not printed if its font is font type 2 (specified with a coded font) or font type 3 (specified with a code page and a font character set).
- Vertical format is not supported if the font is type 1 (specified with a font and a character identifier).
- Only *DEFAULT and 8=Black are allowed for the *Color* prompt.
- You can print graphic elements only with *CONTENT print fidelity, because graphics (GDF) have color orders that are not supported.

Appendix VI: IPDS Background

Background In 1984 IBM created a primary set of standards and rules known as Systems Application Architecture (SAA). SAA was created to give programmers and system designers an easier way to link data applications with any IBM platform. Intelligent Printer Data Stream (IPDS) is the host-to-printer data stream used by SAA for Advanced Function Printing (AFP).

IPDS provides the interface for identifying, monitoring, and controlling all-points-addressable (APA) printers, an interface that enables the presentation of pages with combinations of various data types including text, vector graphics, images, and bar codes. IPDS allows these different data types, often produced by independent applications, to be merged at print time.

IPDS also offers two-way printer communication. This collaborative interaction provides detailed exception reporting and allows IPDS to adapt to specific printer resources and to deal with errors in real time.

ExcelliPrint preserves the advantages of IPDS, including two-way communication and complex printing abilities, but frees the user from purchasing and maintaining costly IPDS printing environments. With print-to-file and Windows printer capabilities, ExcelliPrint bridges the gap between advanced printing and output device choice.

Advanced Function Printing (AFP) Also developed by IBM, AFP is a print management architecture that uses IPDS to interact with printers. Unlike IPDS, which is device-dependent, AFP is device-independent and object-oriented. AFP uses the Mixed Object Document Content Architecture (MO:DCA) to define a document's presentation. MO:DCA allows various data types, including text, images, graphics, and bar codes, to be incorporated into the final print job. When a job is ready for printing, AFP incorporates the MO:DCA elements and then the AFP data stream is converted into an IPDS data stream by the Print Service Facility (PSF)—the IBM software product that drives IPDS printers. Even though the AFP data stream is device-independent, it becomes device-dependent when converted to IPDS.

Glossary

AFP Advanced Function Printing (or Presentation); IBM's object-oriented architecture that covers a wide range of text, graphics, and color and black-and-white printing.

IPDS Printer A printer that supports the common IPDS printer interface.

IPDS Intelligent Printer Data Stream; IBM's host-to-printer data stream that contains both data and controls for data presentation.

MO:DCA Mixed Object Document Content Architecture. A device-independent data stream for interchanging documents.

Port In TCP/IP, a 16-bit number used to communicate between TCP and a higher-level protocol or application. Some protocols, such as the File Transfer Protocol (FTP) and the Simple Mail Transfer Protocol (SMTP), use the same port number in all TCP/IP implementations.

SAA Systems Application Architecture; a set of rules and guidelines developed by IBM in 1984.

TCP/IP Transmission Control Protocol/Internet Protocol.