DocOut for Windows
Installation and Operator's Guide

D60363-13

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Table of contents

Introduction to DocOut for Windows

Printing host data on an inexpensive LAN-based printer used to require expensive hardware and complicated programming in order to eliminate the incompatibilities between the two environments. Now, thanks to DocOut, your LAN-based printers can receive host print data using any existing Microsoft SNA server or standard TCP/IP host attachments.

One of the key elements in DocOut for Windows is the ability to support multiple print sessions, or logical host printers simultaneously. Similar to a physical printer, each logical printer can have its own set of attributes (e.g. network connection, print protocol, print transform options and output device).
High speed options, full colour support and generation of PDF require separate license.

Quite simply, DocOut converts host print data to a format that is understood by LAN printers and passes the data along to existing LAN print devices. Moreover, DocOut provides several additional facilities, including viewing, archiving, and reprint. Not only do these facilities extend your ability to manage and control host output, they also provide greatly increased print flexibility.

DocOut provides conversion of IPDS, ICDS, SCS and DCA host data streams into PCL5/5c, PostScript, Epson, ProPrinter or PDF languages.

The DocOut software can be easily installed on any Windows server (Intel) to couple multiple host and mid-range systems for network printing—the ideal solution for companies with mixed print environments.

Input data can be received from all IBM PSF versions, PSS and EPM mainframe software and all LU1/LU6.2/SCS applications. Both TCP/IP and SNA inbound communication is supported.

DocOut offers multiple data stream inputs, multiple network protocol support and output to multiple printer types, lasers as well as inkjet and matrix. DocOut is a cost effective and flexible solution for host output in the network.

This manual describes how to install the *DocOut for Windows* and how to configure the system for the *DocOut TCP/IP and SNA* sessions and associated programs. It also describes the prerequisite hardware and software to run the *DocOut for Windows* and how to operate it.
The system-support personnel must be familiar with these specific installation environments.

The reader must have basic knowledge of operating a Microsoft Windows server.

1.1 Product features

The *DocOut for Windows* features the following:

TCP/IP, LU 6.2 and LU1 sessions

- SCS/DCA with FSL support
- IPDS printer emulation (IP40, 4028, 3812, 3816, 4247(matrix))
- PCL, PostScript, Epson, ProPrinter and PDF, PDF/A output
- supports disk resident resources
- operates in Windows Server environments

TCP/IP session
- operates in conjunction with Windows TCP/IP
- provides bi-directional communication between host and Windows
  workstation/server

LU 6.2 and LU1 sessions
- operates in conjunction with Microsoft SNA server or Microsoft Host Integration
  Server

1.2 Related manuals

- Getting Started with PrintGuide, doc. no. D60364
- DocOut Licensing Server, Installation and Operator's Guide D10564
- Host Print Setup Guide, doc. no. D60425
- FSL Reference, doc. no. D60313
- PSS MVS, Product Installation Guide, doc. no. D13052
- PSS VM, Installation Guide, doc. no D13055
- EPM Product Guide, doc. no. D13070

1.3 Requirements

This section describes the hardware and software requirements needed for operating
DocOut.

For specifications on MPI Tech host-operating system requirements and installation,
please see:
- *PSS MVS* Product Installation Guide, document no. D13052
- *PSS VM* Product Installation Guide, document no. D13055
- *EPM MVS* Product Guide, document no. D13070

1.3.1 PC / Server system requirements

Hardware:
- PC / Server with LAN adapter able to run Windows with the software mentioned
  below.

Software:
- Windows 2000, Windows XP professional, Windows Server 2003, Windows
  Vista, Windows 7 or Windows Server 2008. See the Windows, System
  Guide for details.

- Microsoft SNA server version 3.0 with service pack 2 or higher (LU 6.2 and LU1 support) or Microsoft Host Integration Server (32 bit only). (required for SNA support only)

1.3.2 Host system requirements

Mainframe MVS
- IBM PSF ver 2.1 or higher
- PSS/MVS
    Either PSS ver. 6.01 or higher, or EPM
- ACF/VTAM ver. 3.1 or higher is required
- IBM TCP/IP ver. 2.1 or higher or Interlink TCP/Access ver.3.1 or higher.

Mainframe VM
- IBM PSF ver. 2.1 or higher (only VTAM connection)
- PSS VM ver. 6.01 or higher
- ACF/VTAM ver. 3.1 or higher
- IBM TCP/IP ver. 2.1 or higher

Mainframe VSE
- PSF/VSE
- ACF VTAM

AS/400
- OS/400 V3 R1 (incl. PTFs) or higher
- PSF/400

2 Features of DocOut for Windows

The software PrintServer *DocOut for Windows* is either downloaded from www.mpitech.com or supplied on a CD, which includes all set-up files and instructions for *DocOut* and *PrintGuide*. The Installation and Operator's Guide and a copy of Acrobat Reader are also included on the CD. Please check http://get.adobe.com/reader/ for any updates of Acrobat Reader.

2.1 Overview of DocOut for Windows

The *DocOut for Windows* is a software print server designed to operate on a Windows server.

DocOut for Windows can connect to multiple host and midrange systems and process host print input to address the needs of heterogeneous print environments. It provides a method to receive host print data via SNA (using Microsoft's SNA server) and TCP/IP host attachments, convert host print data to a format that can be printed on LAN printers, and redistribute output to existing LAN print devices. DocOut provides conversion of IPDS, ICDS and SCS/DCA host data streams into PCL5/5c, PostScript, Epson, ProPrinter or PDF languages.

One of the key design elements used in DocOut for Windows is the ability to support multiple print sessions, or logical host printers simultaneously. Similar to a physical printer, each logical printer can have its own set of attributes (e.g. network connection, print protocol, print transform options and output device). High speed options, full colour support and generation of PDF require separate license.

DocOut is licensed to meet the requirements of the actual installation. A License system is monitoring the usage of the installation.
This License System can either reside on the same server as the DocOut installation (Single Server System) as an integrated part of the software. This option does not require installation of a separate License System.

The License System may also reside on a separate server as a central or separate installation (Multiple Server System) serving multiple DocOut servers.
Installing the *DocOut License Server System* will allow multiple DocOut installations to connect to the central server herewith allowing a flexible and dynamic sharing of the total license purchased.

PrintGuide is used to discover, monitor and configure MPI Tech print servers, including the software PrintServer **DocOut**.
Please note that PrintGuide is required for monitoring, configuring and activating DocOut.

2.2 End to end control

Using direct TCP/IP port 9100 connection with the printer will allow enhanced end to end control with DocOut. This means that DocOut receives status feedback from the printer and sends the true page count to the AS/400 or mainframe S/390 host system. Thus, the number of printed pages reported back to the mainframe will always be the number of printed pages in the printer's output bin.

3 How to purchase and register DocOut

3.1 How to purchase DocOut

You can download a trial version of DocOut from MPI Tech's web site at
www.mpitech.com/docout/index.htm.
Please note that the trial version expires 30 days after it has been received.
All options and features are available, but the trial version contains a limited
number of printer sessions of each type and is limited in output speed.
Please contact your MPI Tech office or reseller in case you need additional printer
sessions and/or higher speed.

If you want to purchase DocOut, please contact your MPI Tech reseller, where
you can obtain a copy of the DocOut CD and a licence key.
The downloaded trial version may be converted into a fully licensed version
simply by applying the license key to the installation.

For further information, please refer to our web site.

3.2 Updating DocOut

Updates for DocOut will be available on the MPI Tech support web site. Provided
you are updating to a newer release within the same version of DocOut, you will
not need a new licence key.

Upgrade to a newer version of DocOut (e.g. from version 6 to version 7), increase
of printer sessions, additional options etc. require issue of a new license key
based on the PC/Server parameters.
Upgrades to more printers, PDF capabilities, Full Colour support etc. within the
same version do not require re-installation/update of DocOut.

4 Installation

4.1 Pre-installation requirements

Windows and TCP/IP must be installed on the computer. If SNA service is required, Microsoft SNA server or Microsoft Host Integration Server must also be installed. All LAN adapters must be installed with the relevant protocols.

4.2 Getting started

Upon registration and download of your DocOut software at www.mpitech.com/docout/index.htm, a temporary license is included with the initial installation of the software. Please note that the temporary license expires 30 days after it has been received. To verify the current status, the PrintGuide 'License Manager' indicates the current licence status. An extension of the trial period can be requested at your local dealer or your local MPI Tech office.

4.3 Installation

1. Run 'Setup.exe' from the installation files downloaded from the MPI Tech web site or insert the DocOut CD into your CD drive. The installation program will be launched.

A list of the selectable option is indicated on the install screen

2. Click 'Install DocOut' and follow the instructions on the screen.
3. Click 'Install PrintGuide' and follow the instructions on the screen.
4. Click 'Install Licensing Server' if multiple DocOut installations must share a license.
   See DocOut License Server Installation and Operator's Guide; D10564 for details

4.4 PrintGuide

PrintGuide must be installed prior to activating DocOut.
PrintGuide can be installed on the same PC as DocOut, or on another PC on the same network.
PrintGuide Version S42 065.450 or higher must be used in connection with DocOut version S82 066.xxx

4.5 Getting Started

4.5.1 Create a Windows spool

If DocOut is supposed to print via a local Windows spool, it must first be defined before it can be used. The spool must be created on the same system as where DocOut is installed.
Other options apply for directing the output to the printer. (Se chapter **4.10** and **5.4.5**)

A typical way of defining a Windows spool is the following:
The below procedure is from Windows XP. Other Windows platforms may be slightly different.

- Ensure the target printer is 'ON' – 'Ready', and installed with a network card and defined with an IP address.

- Ensure a successful 'Ping' to the printer from the Windows Server system

- Open 'Start' and locate the 'Printers' folder

- Select 'Add Printer'

- Select: 'Local Printer attached…'

- Select: 'Create a new port' and select 'Standard TCP/IP port' from the dropdown menu

- Type in the IP address of the target printer

- Select the appropriate driver for the actual printer and hit 'Next'

- Rename the created printer to match the naming standard in your network

- Perform a test print to verify successful creation of the spool for the target printer
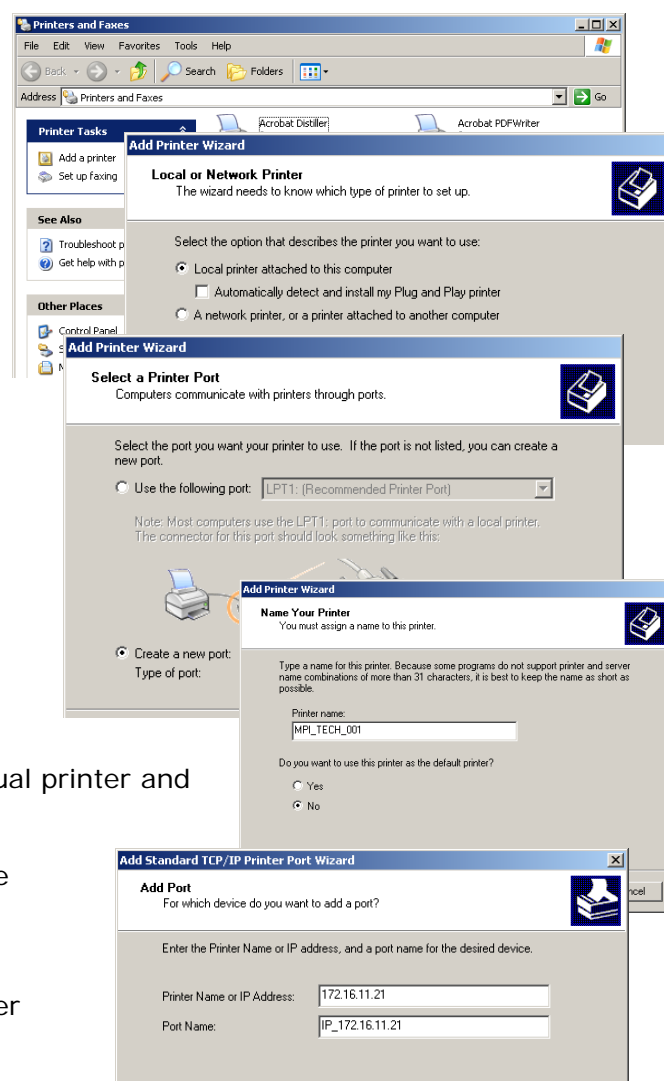
- Modify the driver parameters to match the options installed in the printer (if required)

4.5.2 Install DocOut

A windows spool must be defined prior to installing DocOut.

DocOut is received either as a file or on a CD ROM:

- Select either 'Install DocOut' from the menu (chapter **4.3**) or follow the below procedure:

- Locate the folder of the 'Setup.exe'

- Run 'Setup.exe' and follow the instructions

- Select 'Custom' for selecting the folder for the program files. 'Complete' will select default folder.

- Select 'Start DocOut Service' and select 'Finish'

4.5.3 Install PrintGuide

PrintGuide is required to manage and configure DocOut

PrintGuide is supplied along with DocOut on a CD ROM or can be downloaded from www.mpitech.com

PrintGuide can be installed on any Windows PC in your network and is able to browse and configure various MPI Tech software and hardware products connected to your network.

- Select either 'Install PrintGuide' from the menu (chapter **4.3**) or follow the below procedure:

- Locate the library of the 'Setup.exe'

- Run 'Setup.exe' and follow the instructions

- Select 'Start PrintGuide' and select 'Finish'

- Restart the system

Note:
When installing DocOut or PrintGuide under Windows XP, Server 2003, Windows Vista or Windows Server 2008 please ensure the following:

- Windows Firewall service must be running
  (Required for DocOut)
- If Firewall is enabled you must ensure that DocOut (Pserver.exe) and PrintGuide (printguide.exe) are listed in the list of 'Programs and Services' in the 'Exceptions' list for the Firewall options.

    See chapter **12.2** for further information
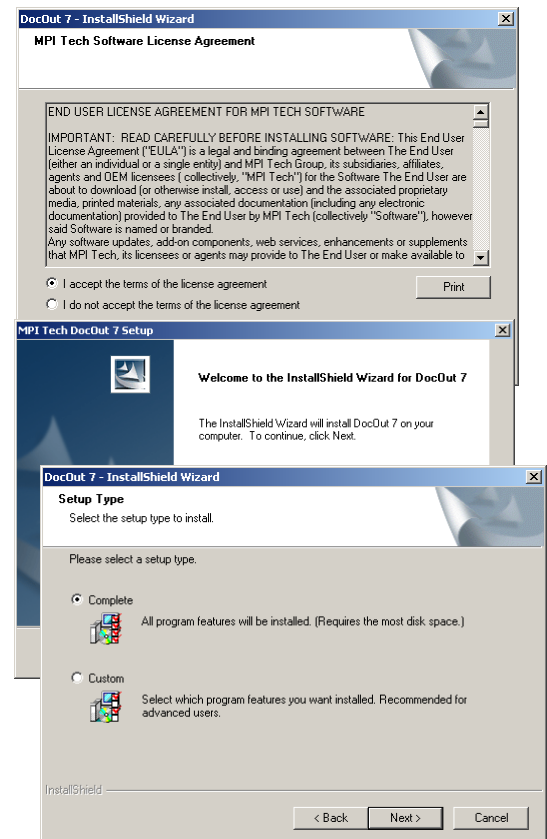
4.5.4 Define logical Printer in DocOut

PrintGuide is required to manage and configure DocOut

When first installed there are no logical printers defined. A Printer Wizard will enable easy definition of the required printer type.

Any number of logical printers may be defined in DocOut. However, please note that the very first installation (initial test version) allow up to 2 (two) logical printer sessions of each type with a performance of up to 55 ppm.

Evaluation and production versions can be licensed to exactly match your requirements

- Start PrintGuide (PrintGuide will browse the network and display all installations of DocOut)

- Locate and select the actual DocOut installation. Double click on the highlighted DocOut to view the logical printer window.

- To add a logical printer click 'Add' in the lower right corner of the window

- IMPORTANT: Select the appropriate type of session from the host system (in this case an IPDS session using TCP/IP from IBM PSF)

- Select the options required

- Select a unique port number. PrintGuide will always suggest a valid and free number

- From the drop-down list select a printer template that matches the actual printer and select the Windows spool for the actual printer as defined previously under *'Create a Windows spool'*.

- Select 'Finish' for ending the definition.

- Save the definition via: 'PrintServer' – 'Save Configuration' – 'OK'

- Changes to the saved definition can be performed by re-entering the logical session.
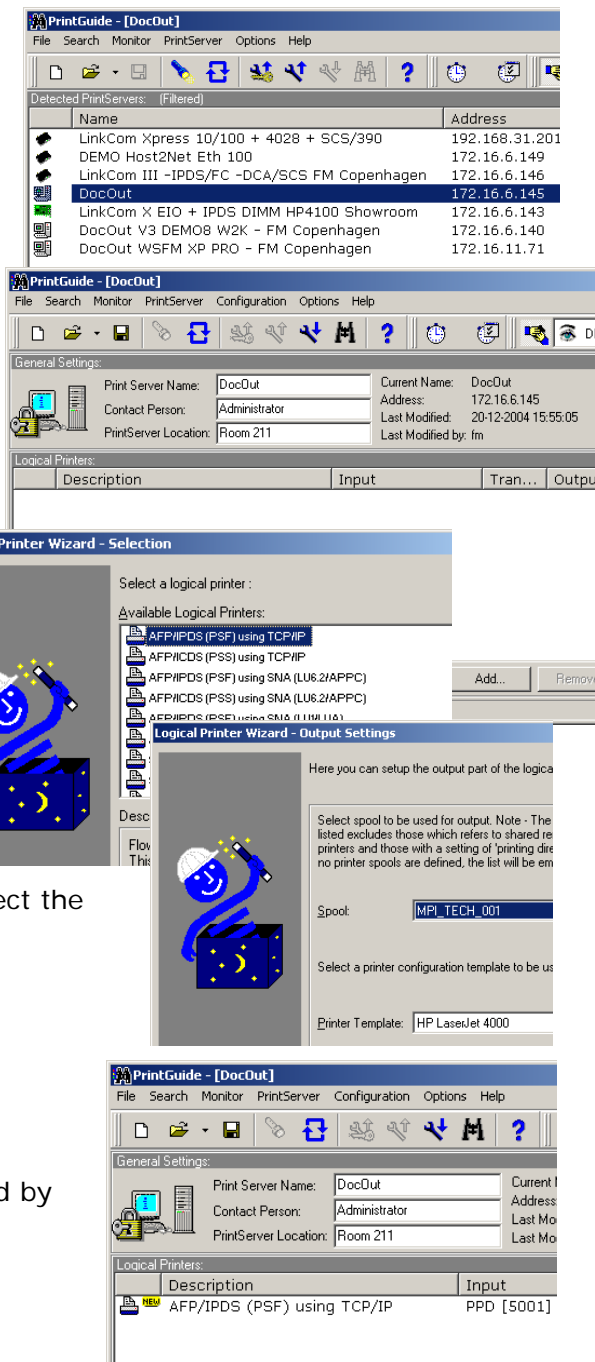
4.6 How to authorize DocOut

This applies to DocOut version S82 064.xxx, S82 065.xxx and S82 066.xxx

Start PrintGuide, if it has not been started. On the monitor view, select the DocOut that has been installed.

Now, you can authorize your evaluation version via PrintGuide. You can verify the current status of your DocOut in the PrintGuide License Manager.
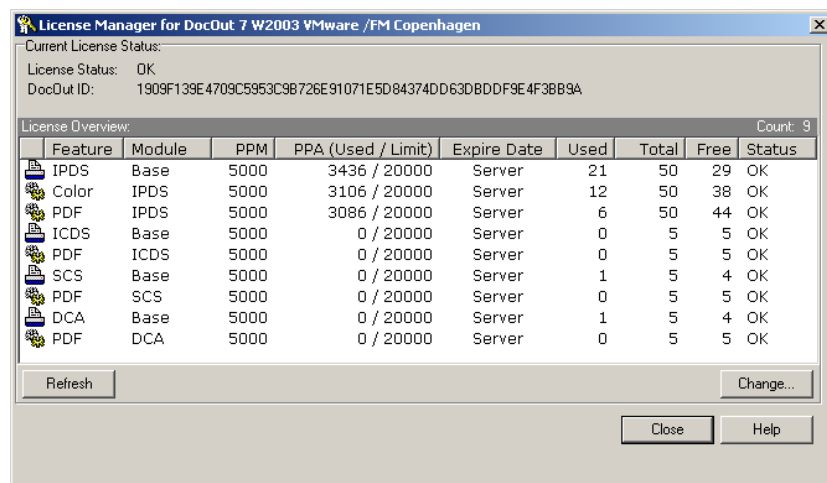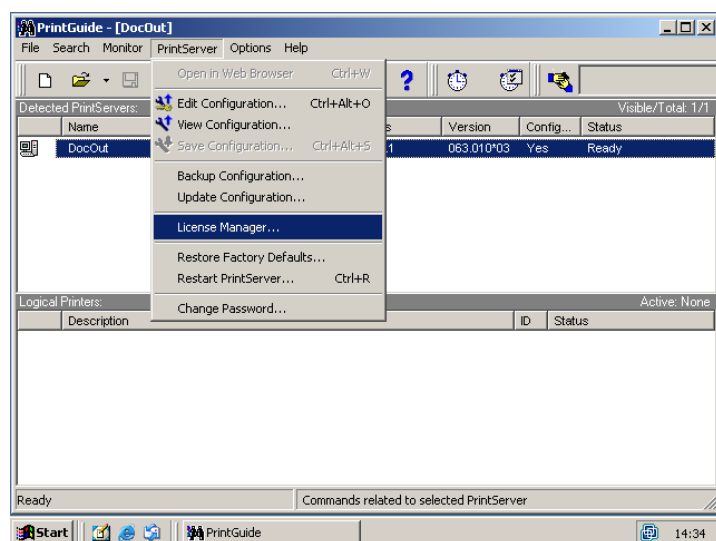
The License Manger. Status view.

After receipt of your license key file in your e-mail please follow the procedure to authorize your DocOut installation.
Note: The above status view is for reference only, and may indicate options and logical printers that are optional.

4.6.1 Request your License key

Open PrintGuide and select the actual DocOut to be authorized
Select 'PrintServer' – 'License Manager' – Change –'OK'
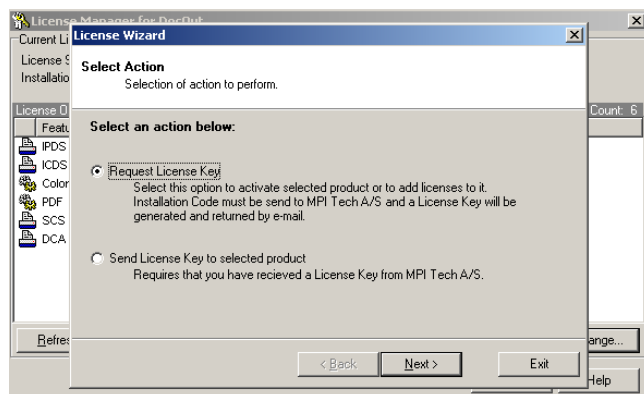
Follow the instructions.

For detailed instructions please read the DocOut Licensing Server Installation and Operator's Guide, Doc No. D10564

Upon completion of the first part of the procedure you will be contacted by an MPI Tech representative and receive a license key file with the DocOut options purchased.

4.6.2 Install obtained License Key

Open PrintGuide and select the actual DocOut to be authorized
Select 'PrintServer' – 'License Manager' – Change –'OK'
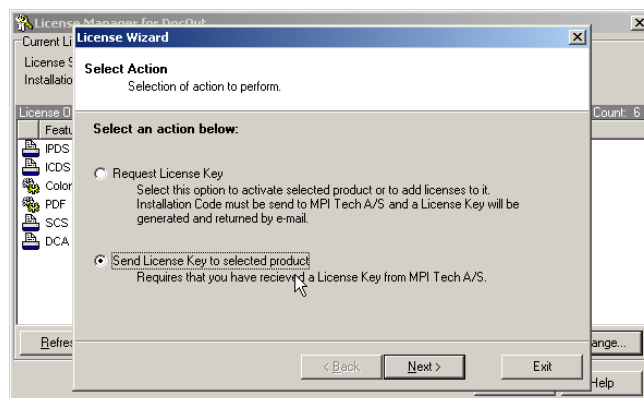
Follow the instructions.

For detailed instructions please read the DocOut License Server Installation and Operator's Guide. Doc No. D10564

Upon successful installation the license can be verified using 'License Manager'

4.7 Configuration

Changes to the initial configuration of DocOut can be made by using PrintGuide, as described in the separate manual, Getting Started with PrintGuide, doc. no. 60364.

Additional information can be found on our web site or on the CD supplied with DocOut.

4.8 Stop and start DocOut

The DocOut service starts automatically after a Windows reboot, but it can also be stopped and started manually.

4.8.1 To stop and start DocOut for Windows XP Pro

Click the **Start** menu, point to **Control Panel** and click the **Administrative Tools**.
Double-click the **Services** icon.
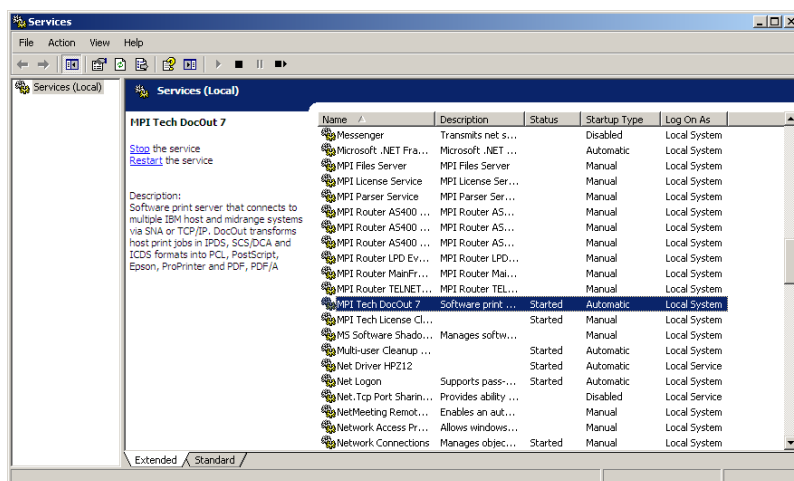
Select the DocOut service and click the Stop symbol.
Select the DocOut service and click the Start symbol. Alternatively press the restart symbol.

4.8.2 To stop and start DocOut for Windows Server 2003

Click the **Start** menu, point to **Settings** and then click **Control Panel** and click the **Administrative Tools**.
Double-click the **Services** icon.
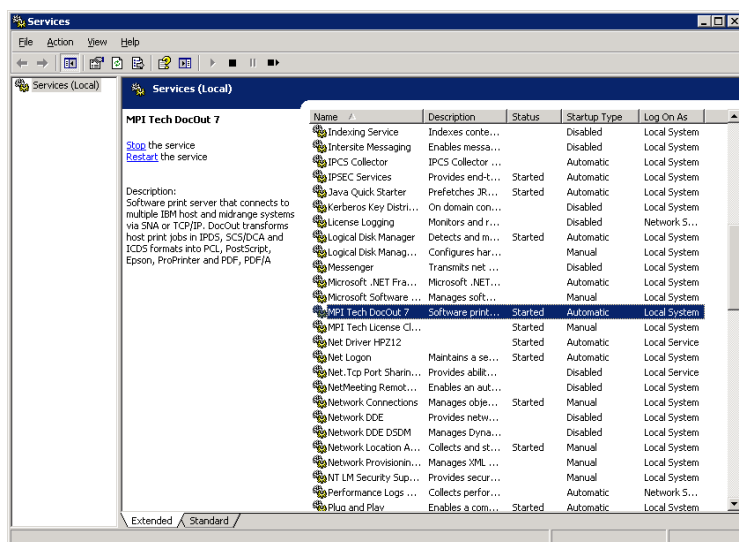
Select the DocOut service and click the Stop symbol.
Select the DocOut service and click the Start symbol. Alternatively press the restart symbol.

4.8.3 To stop and start DocOut for Windows Server 2008

Click the **Start** menu, point to **Settings** and then click **Control Panel** and click the **Administrative Tools**.
Double-click the **Services** icon.
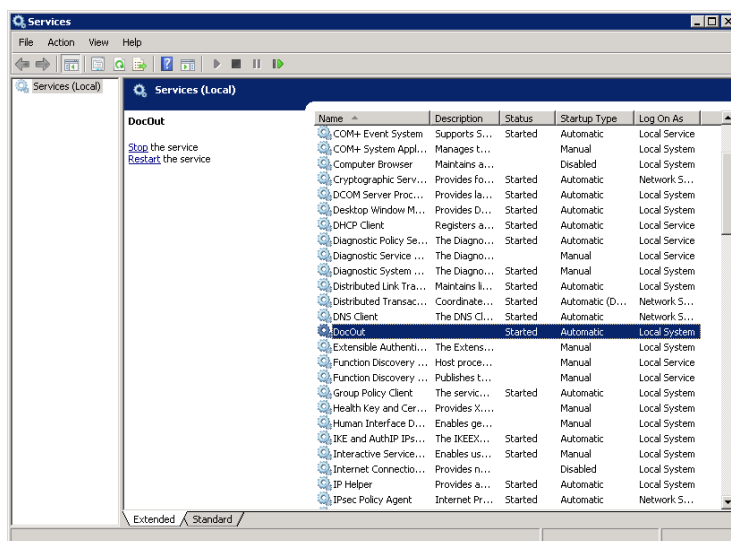
Select the DocOut service and click the Stop symbol.
Select the DocOut service and click the Start symbol. Alternatively press the restart symbol.

4.9 How long time does it take to upload configurations to PrintGuide

The time it takes to upload the configuration from DocOut to PrintGuide is proportional to the number of defined logical printers. The more logical printers the longer it will take to upload a configuration. A large configuration with more than 100 logical printers could take half a minute or more. The time is affected by other factors as well, such as network traffic, etc.

4.10 How to assign a local spool queue

DocOut support printers in three different ways:
- Using a local spool on the same server (Se chapter **5.4.5**)
- Using a direct TCP/IP connection to the target printer (Se chapter **5.4.5**)
- Using a spool on a remote server (se below)

Printers that are configured to direct print or LAN Manager printers are not shown in the selection list for a Logical Printer spool in the PrintGuide configuration tool. DocOut support local spool printers when using the option **Spool Driver** (See *Getting Started with PrintGuide*, doc. no. D60364). The procedure for defining a remote spool is shown below.

1. Click the **Start** menu, Point to **Programs**, and click **Command Prompt**.
2. Type '**net use**' in the **Command Prompt** window to see information about your computer connections. Refer to Microsoft Windows Help for information on the **net use** command. For example to assign the lpt2: port to the LAN Manager printer \\ida00483a\p1_printer_1 you should type:

   net use lpt2: \\ida00483a\p1_printer_1

3. Click the **Start** menu, Point to **Settings**, and click **Printers**.
4. Right-click a printer, and click **Properties**.
5. Click the **Ports** pane, and check the Port (lpt2:).

5 Operating DocOut

5.1.1 Creating PDF Documents

DocOut is capable of creating PDF files that may be stored on the hard disk of the Windows server system and used for archiving, viewing and reprinting purposes. PDF is a format readable by an Adobe Acrobat Reader. This will enable AFP jobs to be printed not only to PCL and PostScript printers but also on other graphics capable printers including matrix and inkjet printers.

Adobe Acrobat Reader can be installed from the Adobe URL:
http://www.adobe.com/prodindex/acrobat/readstep.html

This procedure requires the logical printer to be created and that a valid license for PDF is installed.

- Start PrintGuide.

- Highlight the DocOut in question and double click to view the logical printers.

- Highlight the Logical printer that must be changed to create PDF files.

- Double Click or hit 'Configure…' on the selected printer.

- Enter the 'IPDS' tab

- In 'IPDS Settings' select 'Language': PDF.

- Enter the 'Port Driver' tab and select: 'Print to File'

- In 'File Path' type in the preferred disk and directory for the generated PDF files.
  If the folder does not exist it will be created when DocOut is restarted.
  Check that the 'File Extension' name is 'PDF'

  If this field is left blank, the PDF file will be stored in the same directory as where DocOut is installed.

- Hit 'OK' to return to the logical printer view.
- Hit the radio button for Download Configuration or select 'PrintServer' – 'Save Configuration'.
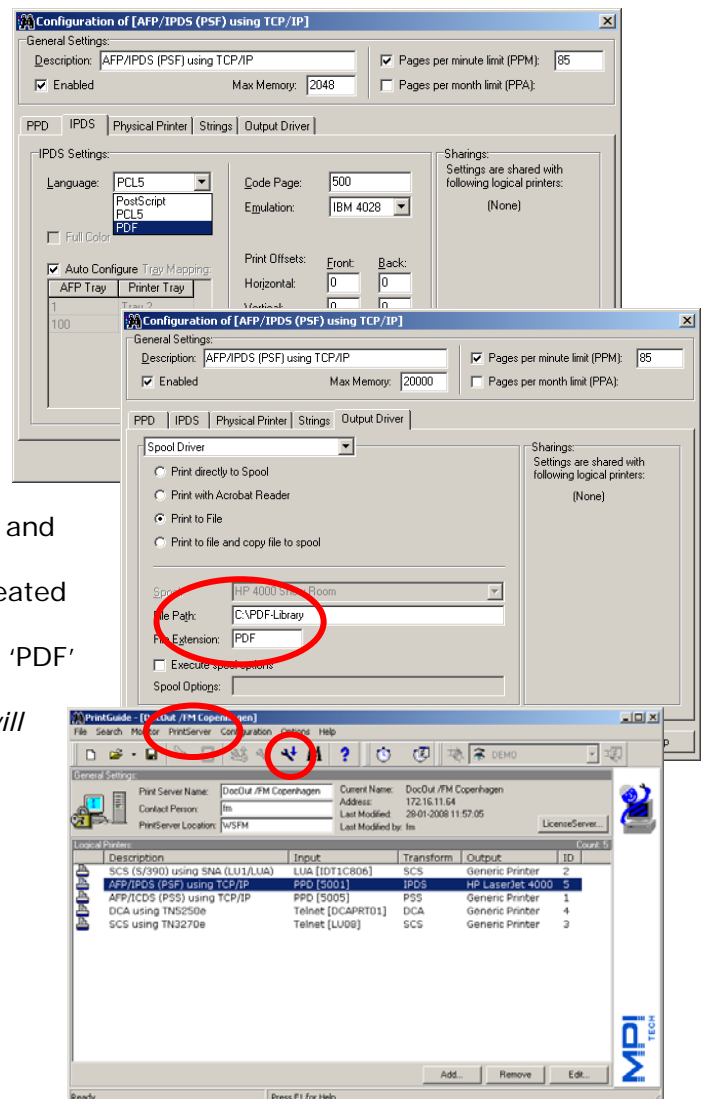
- Select 'Restart PrintServer after
  Download' and hit 'OK'
- Hit 'OK' after successful download to
  confirm the new settings information.
- Monitor the restarting of DocOut.

DocOut is now configured for creating a
PDF file from the IBM host print job. The
PDF file will be stored in the directory as indicated above.
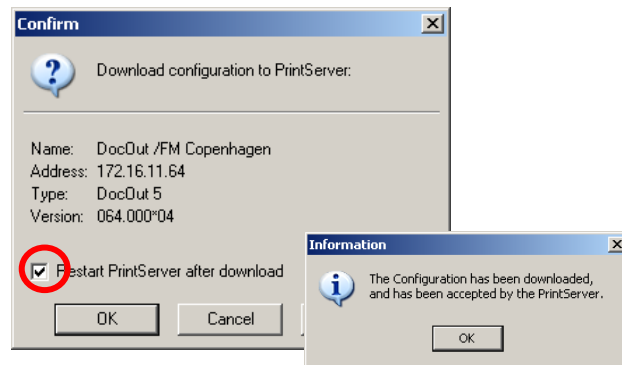
5.1.2 Printing PDF Documents

PDF documents may be generated, stored on Hard Disc in the specified folder and
printed automatically without any intervention.

Follow and complete the procedure in
chapter **5.1.1** and then perform the
below:

- In the *Output Driver* tab select
  Print with Acrobat Reader
- Define the output spool and the
  target folder for the PDF file

The target printer must be defined
with an appropriate printer driver for
this printer. The printer must be able
to receive and print from normal
Windows applications including Adobe
Acrobat Reader.

Define the parameters in the Service
for DocOut as follows:
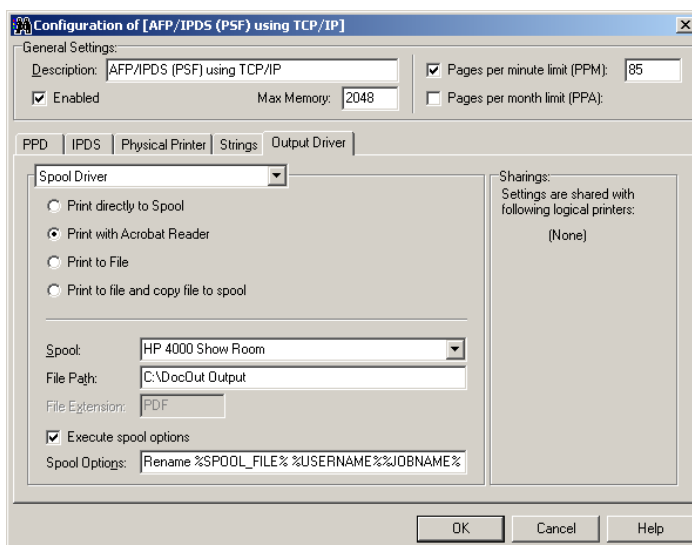
- Open 'Start' - 'Control Panel' - 'Administrative
  Tools' - 'Services'.
  This may change depending on the Windows
  version.
- Locate and stop the service for DocOut
- Wait for the Service to stop.
- Select and enter the Properties for the DocOut
  Service.
  Check "This Account" (see picture) and enter
  user name* and password (twice).
  This user must have Administrator rights.
- Hit 'OK' and start the service for DocOut.
  Observe the service starting.
- Select 'Close'
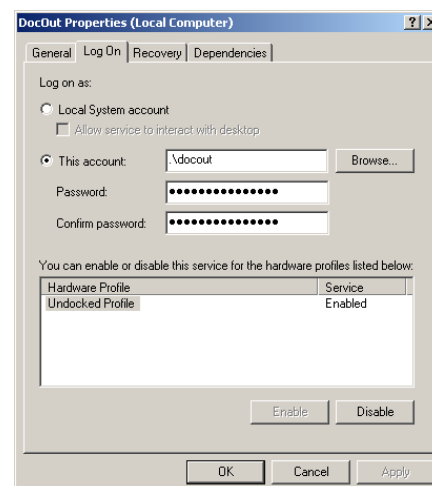
*) It is important that this user has been used (at least one time) to logon to the
Windows system to initialise this user to the running applications.
It is also important that the Adobe Reader have been used for printing at least
one time to pass the 'first time use' screen initialisation.

DocOut is now configured for printing the job at the same time a PDF file is
generated on the disk.

5.2 Backup of Configuration

This describes the procedure of how to upload the configuration file to the disk (*.upd file).
The file may be used as a backup of the configuration of your DocOut installation.

This file may also be requested by MPI Tech to recreate, investigate, customize or solve a specific customer problem.

What to do (Step - by - Step procedure):

- Start PrintGuide
- Highlight the PrintServer in question
- Select "PrintServer" from the menu bar
- Select "Backup Configuration"
- Hit "Save" to accept the file name and location
- Wait for the upload to complete and hit "OK" to finalize the upload
        ----
The uploaded file (*.upd) is named according to the name of the DocOut installation (Default name is: DocOut) and is placed in (default location):
'[Drive]:\Program Files\MPI Tech\PrintGuide*.upd'
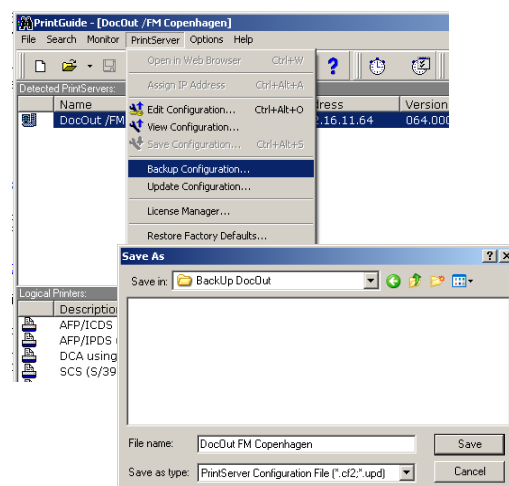
5.3 Restore Backup configuration to DocOut

This describes the procedure of how to restore the Configuration from a back-up file (*.upd file).

What to do (Step - by - Step procedure):

- Start PrintGuide
- Highlight DocOut
- Select "PrintServer" from the menu bar
- Select "Update Configuration"
- Locate the backup file and select 'Open'
- Wait for the download to complete and hit "OK" to finalize

The uploaded file (*.upd) is named according to the name of the DocOut installation (Default name is: DocOut) and is placed in (default location):
'[Drive]:\Program Files\MPI Tech\PrintGuide*.upd'
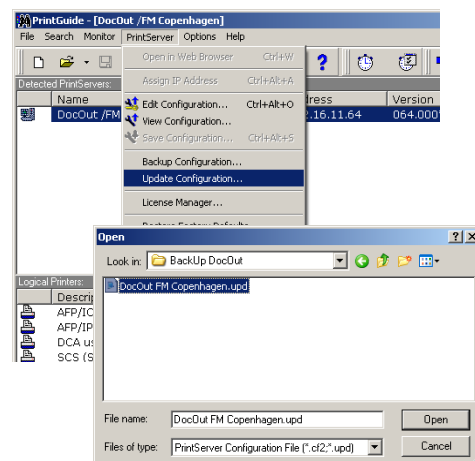
5.4 Configuration Options

This describes the options available in the printer session configuration.

By default, DocOut is ready to use with the default configuration parameters. However, in some cases it may be required to change various parameters to match the system requirements and/or to access options available in the target printer such as duplex printing and using various input trays and output bins.

- Start PrintGuide.
- Highlight the DocOut in question and double click to view the logical printers.
- Highlight the logical printer that must be changed.
- Double Click or hit 'Configure…' on the selected printer.
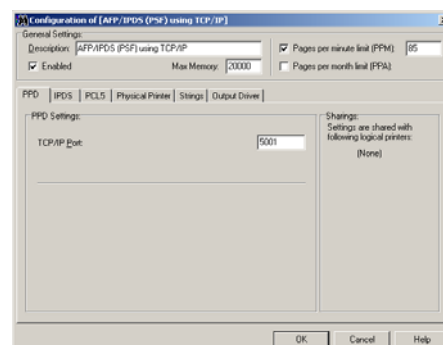
5.4.1 PPD

- The *Port Number* must be unique for this DocOut installation. Valid Range is 100-32000.
  Typical installations start with 5001 …
- When adding new logical printers from the wizard, the TCP/IP port number will automatically be incremented to the next free port number.

5.4.2 IPDS

- *Language* (Output data stream)
    - o Select: PCL, PostScript, Matrix or PDF (separate license required) output as required.

- *Code Page*
    - o Select the value as required: Default is 500 (Multinational)

- *Emulation* define the IBM emulation which is reported to the IBM host System
    - o Select the value as required: IBM 3812, IBM 3816, IBM 4028 (default), IBM IP40 or IBM 4247 (requires Language set to Matrix –> [type]).

- *Full Colour* (separate license required)
    - o Available with PostScript or PDF output and IBM IP40 emulation.
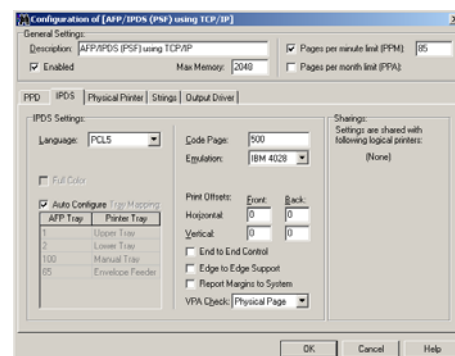
- *Print Offsets* is used to adjust the output on the page. Print Offsets will move the entire printed image on the page. Valid range is -999 to 999 using in units of 1/300 inch. I.e. a value of 300 will create an offset of 1 inch or appx 2.54 cm. Decimals are not allowed.
  Offsets are always calculated using a portrait page, even if the print is landscape.

Examples:	Horizontal	150:	½ inch moving to the right	(➜)
	Horizontal	-100:	1/3 inch to the left	(⬅)
	Vertical	30:	1/10 inch down	(⬇)
	Vertical	-60:	1/5 inch up	(⬆)

- *AFP Tray Mapping* is by default set to 'Auto Configuration'. The available trays are automatically imported from the trays defined in the Physical Printer definitions. Trays may be re-mapped by disabling the 'Automatic Configuration' and click on the tray name and select the required tray from the list. Only the tray type can be remapped.
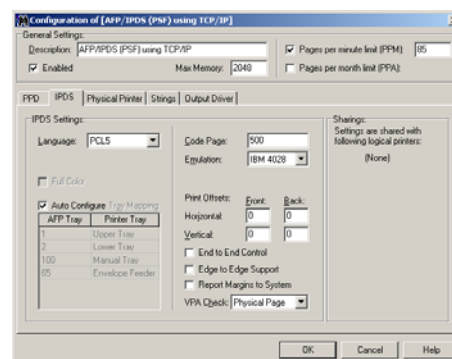
5.4.3 Physical Printer

- These parameters are predefined when selecting the Printer Template (chapter **4.5.4**). The Printer Template defines the target printer in the basic version. Before any additional options installed in the printer can be accessed, these must be enabled or defined via the below panels.

- General Printer parameters describe the basic options of the printer: Description and Printer name and printer memory.
  Colour, Duplex and Offset capabilities may be enabled if supported by the printer.

- Trays/Bins describe and configure the input trays and output bins of the target printer. Please refer to the printers technical manual for configuration of PCL / PostScript ID's.

- Finishing define the stapling option and is configurable if the Printer Template contain a field for Finishing. Enable stapling for the actual option and consult the printer's technical manual for the PJL command to use.
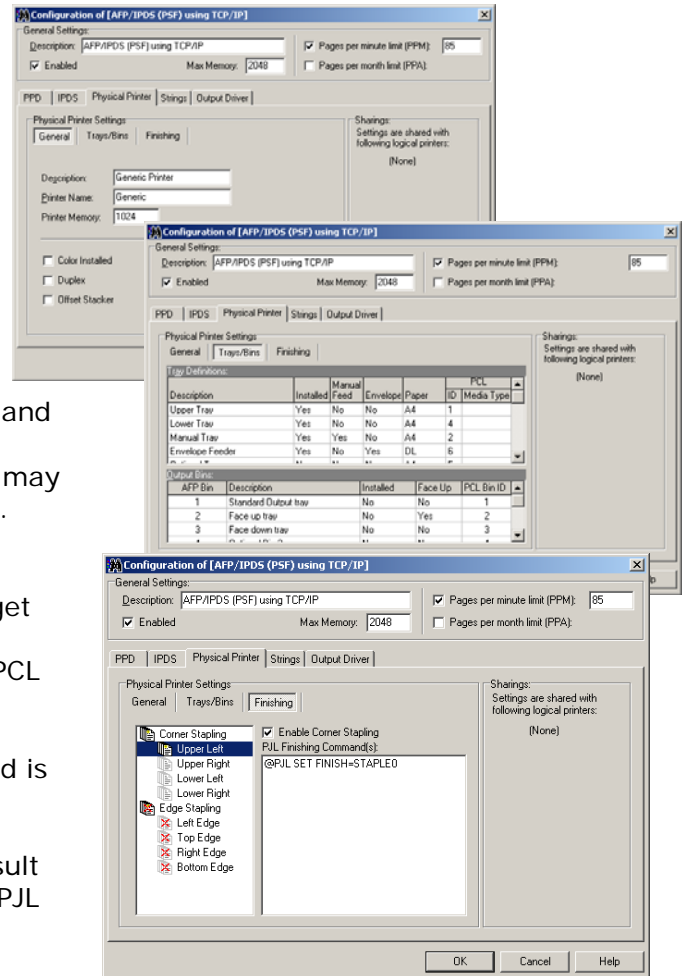
5.4.4 Strings

- Strings may be used to send data to the printer before the job (Pre String Settings), after the job (Post String Settings) or can be used to replace data send to the printer (Replace String Settings).
  Both ACSII data and Hex data can be used.
  Example of Hex data format:

  '0x1B&l1H'
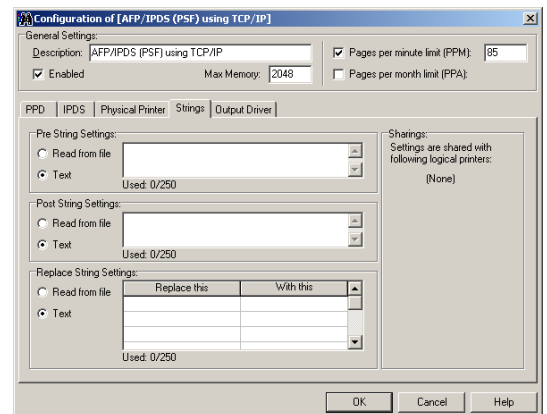
5.4.5 Output Driver

- Output data from DocOut may be handled
  in various ways. Using the default setup,
  the data is send to the output spool
  defined during the initial definition of the
  printer session

  Change of target printer may be performed
  in two ways:

  1) Selecting another printer spool in
  the pull-down menu

  2) Pull down the menu with the Spool
  Driver option, select TCP/IP Network
  Port Driver and type in the IP address
  of the target printer. Only port type
  9100 is supported. Valid Range is 100 - 32000
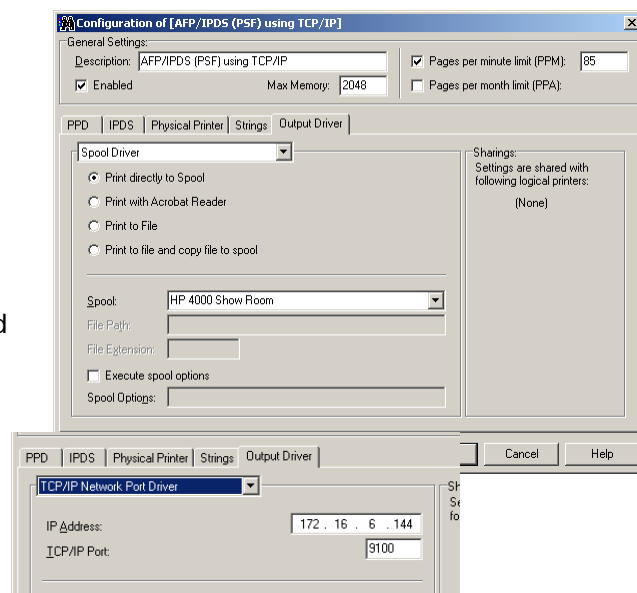
- PDF output may be printed directly without
  manual intervention by enabling *Print with
  Acrobat Reader*. Please refer to chapter **5.1.2**
  for details.

- Output data may be stored directly on the
  hard disc (*Print to File*) and may be stored on
  the hard disc and printed simultaneously (*Print
  to file and copy to spool*). Define the folder in
  the File Path for the stored output data files.

- Output file names will by default be named
  after the host job name + a running number
  starting with 0001. Any subsequent jobs
  containing the same host job name will
  increase the running number by 1 hereby
  adding the new file to the folder.
  Example of default file naming:
  IBERAGEN0001.PDF, IBERAGEN0002.PDF

- By enabling *Execute Spool Options* file names
  may be customized to contain various parameters.
  Example: Rename output file to contain the User Name, Job Name and device name
  of the host:
  '*Rename %SPOOL_FILE% %USERNAME%-%JOBNAME%-%DEVNAME%.PDF*'
  Parameters are typed in or imported into the text field using right click in the
  text field -> Insert Tag -> select appropriate parameter.
  This function will automatically extract the appropriate parameters from the
  IPDS data stream from the IBM host and insert as defined above.
  Example of customized file naming: QSPLJOB-QPJOBLOG-FMIPDS.PDF
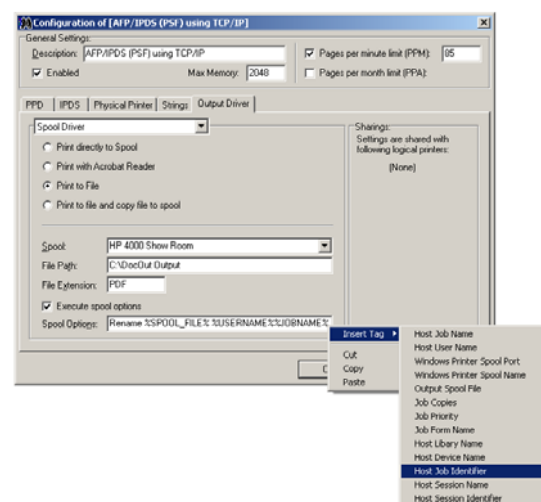
  In case of duplicate file names in the target folder, the later files will get the
  default DocOut naming standard: "Job name/seq number"

6 Set-up in mainframe TCP/IP environment

6.1 PSF/MVS AFP/IPDS printing

This section provides you with the PSF Startup Procedures

Once these parameters have been configured, and the basic TCP/IP installation of the DocOut has been completed, direct AFP / IPDS from PSF / MVS will be possible.

Requirements:

- PSF/MVS version 2.2.0 with PTF level UW21345
- TCP/IP ver. 2, Rel. 1
- Interlink TCP/Access Ver.3.1 or higher

MTU size
- The Maximum Transmission Unit (MTU) of the IP packet for the MVS system is recommended to be set up to 2000.
  NOTE: The MTU size should not exceed the maximum size sent through the control unit. Failure may lead to transmission problems.

6.1.1 PSF/MVS start-up procedure

```
000001 //PSF4    PROC
000002 //STEP01 EXEC PGM=APSPPIEP,REGION=1750K
       .
       .
       .
000034
//****************************************************************
000035 //*            STANDARD                PRINTDEV
*/
000036
//****************************************************************
000037 //PRT420 CNTL
000038 //PRT420 PRINTDEV FONTDD=*.FONT01,   /* FONT     LIBRARY DD
*/
       .
       .
       .
000058 //        IPADDR='192.0.110.21'       /* IP ADDRESS
*/
000059 //        PORTNO=5001                 /* PORT NUMBER
*/
000060 //PRT420 ENDCNTL
```

Using IP address 192.0.110.21 and port number 5001

The IP address of the DocOut server should be programmed in the IP-address (IPADDR='192.0.110.21'). The port number (PORTNO=5001) is the default port number of the first IPDS port in the DocOut.

6.2 PSS/MVS AFP/ICDS printing

This section provides:

> PSS Start-up Procedure
> PSS Printer Profile

Once these parameters have been configured and the basic TCP/IP installation of the DocOut has been completed, direct AFP / ICDS from PSS / MVS will be possible.

Requirements:

- PSS, version 6.01 or higher
- TCP/IP for MVS, version 2, release 1 or higher
- Interlink TCP/Access Ver.3.1 or higher

MTU size

Gateway statement for TCP/IP profile
- The Maximum Transmission Unit (MTU) of the IP packet for the MVS system is recommended to be set up to 2000.
  NOTE: The MTU size should not exceed the maximum size sent through the control unit. Failure may lead to transmission problems.

6.3 PSS printer profile using TCP/IP attachment

```
*TCPIP DEFINITIONS
TCPIP    USER=TCPIP
NAMESRV  IP=192.0.15.0
NAMESRV  IP=192.0.14.1
*----------------------------------------------------------------
* PSS PRINTER DEFINITION FOR USE WITH DIRECT TCP/IP CONNECTION
*----------------------------------------------------------------
PRINTER  PRTID=PRT411,IP=192.0.110.21,
         PORT=5005
*----------------------------------------------------------------
```

Example of PSS printer profile using TCP/IP

The IP address of the DocOut server should be programmed in the IP-address (IPADDR='192.0.110.21'). The port number (PORTNO=5005) is the default port number of the first ICDS port in the DocOut. The PrintGuide dialogue below allows you to enter the TCP/IP Port. See Getting Started with PrintGuide, doc. no. 60364.

6.4 PSS/VM AFP printing using TCP/IP

This section provides:

PSS VM printer profile statements

Once these parameters have been configured, and the basic TCP/IP installation of the DocOut has been completed, direct AFP / ICDS from PSS / VM will be possible.

Requirements:

- PSS, version 6.01 or higher
- TCP/IP for VM, version 2, release 2.1 or higher

6.4.1 Sample PSS VM printer profile definition using TCP/IP

```
KEY          KEY=12345678901234567890
CONSLOG      NO
********************TCP/IP DEFINITIONS********************
*
TCPIP        USER=TCPIP
NAMESERV     IP=192.0.15.0
NAMESERV     IP=192.0.15.1
*
******************TCP/IP ATTACHMENT**********************
*
PRINTER      PRTID=NET022,IP=192.0.110.21,PORT=5005
*
*********************************************************
```

The IP address of the DocOut server should be programmed in the IP-address (IPADDR='192.0.110.21'). The port number (PORTNO=5005) is the default port number of the first ICDS port in the DocOut. The PrintGuide dialogue allows you to enter the TCP/IP Port. See *Getting Started with PrintGuide*, doc. no. 60364.

7 Set-up in mainframe SNA environment

EXAMPLE OF VTAM LOGMODE AND PARAMETERS FOR LU 6.2

```
IBM3820T MODEENT LOGMODE=IBM3820T,FMPROF=X'13',TSPROF=X'07' X
   PRIPROT=X'B0',SECPROT=X'B0',COMPROT=X'D0B1'              X
   RUSIZES=X'8787',                                              X
   SSNDPAC=X'00',SRCVPAC=X'10', PSNDPAC=X'10',              X
   PSERVIC=X'060200000000000000002000'
```

Example of VTAM LOGMODE

MODE TABLE:

	LOCAL 37XX SDLC	REMOTE 37XX SDLC/TR	LOCAL 3174 TR GATEWAY	REMOTE 3174 TR GATEWAY	LOCAL 3172 ETHERNET GATEWAY	LOCAL 37XX TR ATTACHMENT
LOGMODE	IBM3820M	IBM3820R	IBM3820T	IBM3820R	IBM3820T	IBM3820T
FMPROF	X'13'	X'13'	X'13'	X'13'	X'13'	X'13'
TSPROF	X'07'	X'07'	X'07'	X'07'	X'07'	X'07'
PRIPROT	X'B0'	X'B0'	X'B0'	X'B0'	X'B0'	X'B0'
SECPROT	X'B0'	X'B0'	X'B0'	X'B0'	X'B0'	X'B0'
COMPROT	X'D0B1'	X'D0B1'	X'D0B1'	X'D0B1'	X'D0B1'	X'D0B1'
RUSIZES	X'B7B7'	X'8686'	X'8787'	X'8686'	X'8787'	X'8787'
PSNDPAC	X'03'	X'10'	X'10'	X'10'	X'10'	X'10'
SSNDPAC	X'00'	X'00'	X'00'	X'00'	X'00'	X'00'
SRCVPAC	X'03'	X'10'	X'10'	X'10'	X'10'	X'10'
PSERVIC *)						

* The value X'060200000000000000002000' is common to all attachments

7.1 Set-up of mainframe for AFP/IPDS (PSF)

7.1.1 PSF/MVS AFP printing using SNA

EXAMPLE OF PSF STARTUP PROCEDURE

```
         .
         .
         .
//PRT08      CNTL
//PRT08      PRINTDEV FONTDD=*.FONT01,  /* FONTLIBRARY DD          */
         .
         .
         .
//           APPLID=PSFAPP11,         /* VTAM APPL.PGM MODE NAME.    */
//     *)    LOGMODE=IBM3820T,        /* VTAM LOGON MODE TAB. ENT.   */
//           LUNAME=IDSNCEP0          /* VTAM LOGICAL UNIT NAME */
//PRT08      ENDCNTL
```

*) This is the logmode for LU 6.2.

LUNAME is the VTAM LU name.

Now proceed to chapter **10** and set up your SNA server.

7.1.2 PSF/VM AFP printing using SNA

SAMPLE OPTIONS TASKPRTID FILE FOR AN SNA-ATTACHED PRINTER

```
* Initial destination to process:
DEST SNAP21
LUNAME IDSNCEP0
LOGMODE IBM3820T
```

Now proceed to chapter **10** and set up your SNA server.

7.2 Set-up of mainframe for AFP/ICDS (PSS)

7.2.1 PSS/MVS AFP/ICDS printing using SNA

EXAMPLE OF PRINTER PROFILE

```
DEFAULT  LOGMODE=RSCSPRT1
APPLID   APPLID=IDAPSS4
*-----------------------------------------------------------------
* PSS PRINTER DEFINITION FOR USE WITH THE DOCOUT LU 6.2
*-----------------------------------------------------------------
PRINTER  PRTID=PRT410,LUNAME=IDNET023,
 *)      LOGMODE=IBM3820T
*-----------------------------------------------------------------
```

*) This is the logmode for LU 6.2.

See the example of VTAM Logmode in chapter **7**.

Now proceed to chapter **10** and set up your SNA server.

7.2.2 PSS/VM AFP/ICDS printing using SNA

EXAMPLE OF PRINTER PROFILE

```
********************************************************************
* SNA ATTACHED MPI TECH PRINTER
********************************************************************
PRINTER     PRTID=PRTN,
     LOGMODE=IBM3820T,
            LUNAME=IDNET023             VTAM LU NAME
```

Now proceed to chapter **10** and set up your SNA server.

8   PSF/400 AFP Printing Using TCP/IP

This chapter provides configuration guidelines for AS/400 IPDS Printing over TCI/IP. These guidelines are applicable for OS/400 version 3.7, 4.X and 5.X.

The examples of completed screens given are for OS/400 version 4.X and 5.X and may contain some additional parameters not seen in version 3.7, these may be ignored.

Requirements:

Before IPDS printing using TCP/IP can be accomplished, the following points need to be checked:

- TCP/IP is installed and enabled

- IBM Print Services Facility/400 (PSF) is installed.

8.1 AS/400 Settings for Version 3.7, 4.X and 5.X

To configure IPDS printing on OS/400 3.7, V4RX and V5RX, it is necessary to create a Printer Device Description. It is also highly recommended to create a PSF configuration as this includes additional printer settings and e.g. media size information used with matrix printers. These are created using the following commands:
- CRTPSFCFG
- CRTDEVPRT

8.1.1   Creating the PSF configuration

On the AS/400 command line, enter a command in the form:

CRTPSFCFG PSFCFG(*AFP/NETWRKPRT*) IPDSPASTHR(*YES) RLSTMR(*SEC15) TEXT('*<Optional Text description>* ')

Where:

AFP is the name an existing library in which the PSF configuration is to be located and **NETWRKPRT** is the name given to the PSF configuration object. Any existing library and a name of choice for the object can be substituted here but the same values must be used in the creation of the Printer Device Description in the next step.

<Optional Text description> is an optional text description for the PSF configuration object.

A completed PSF Configuration looks like this:

```
PSF Configuration Information          Page 1
PSF configuration:  NETWRKPRT    Library:     AFP
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. . . . . . . . . . . . . . . . . :<Optional Text description>
Device resource library list:        *DFT
```

8.1.2 Creating the Printer Device Description

On the AS/400 command line, enter a command in the form:

CRTDEVPRT DEVD(<*DeviceName*>) DEVCLS(*LAN) TYPE(*IPDS) MODEL(0) LANATTACH(*IP) AFP(*YES) PORT(*5001*) FONT(11) FORMFEED(*AUTOCUT) RMTLOCNAME('192.194.134.90') USRDFNOBJ(*AFP/NETWRKPRT* *PSFCFG) TEXT('<*Option Txt Description*> ')

Where:

<*DeviceName*> is the selected name for the printer Device Description which will also be used as the name for the Output Queue.

AFP is the name of the library in which the PSF configuration was created in the previous step.

NETWRKPRT is the name given to the PSF configuration in the previous step.

5001 is by default the port number for the first printer session. Any subsequent printer sessions will use port no 5002, 5003, 50xx etc.

RMTLOCNAME is the IP address of the server where DocOut is installed. All printer sessions printing via DocOut must point to this IP address.

<*Option Txt description*> is an optional text description for the Printer Device Description object.

A completed Device Description looks like this:

```
Display Device Description                  Page 1
5716SS1 V4R4M0 981108       BLDRB1       09/11/98 12:02:59
Device description . . . . . . . . : DEVD           <DeviceName>
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      NETWRKPRT
Library. . . . . . . . . . . . . . :                AFP
```

```
Object type. . . . . . . . . . . . . :                    *PSFCFG
Data transform program . . . . . . . : USRDTATFM          *NONE
User-defined driver program . . . . .: USRDRVPGM          *NONE
Advanced function printing . . . . . : AFP                *YES
Port number. . . . . . . . . . . . . : PORT               5001
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. . . . . . . . . . . : '192.194.134.90'
Dependent location name. . . . . . . : DEPLOCNAME         *NONE
Text . . . . . . . . . . . . . . . . : TEXT               <Option Txt Description>
User-defined options . . . . . . . . : USRDFNOPT
-----------------User-defined options-----------------
```

Then do the following:

Ping the IP address to verify communication with the printer:
PING '192.194.134.90'

Vary the printer on:
VRYCFG <DeviceName> CFGTYPE(*DEV) STATUS(*ON)

Start the print writer:
STRPRTWTR <DeviceName>

9 Set-up in AS/400 SNA environment

This requires an MS SNA server on Windows.

9.1 Creating APPC device description

Type: CRTDEVAPPC

Prompts:	Parameter and values in parentheses
Device description:	DEVD(DOCOUT)
Remote location name:	RMTLOCNAME(DOCO1)
	This value must match the remote location name (RMTLOCNAME) parameter in the CRTDEVPRT (Create Device Description Printer) command description. This value must be unique within a network.
Remote networkidentifier	RMTNETID (DKIDTN01)Enter the name of the network in which your partner logical unit is located.
Attached controller:	CTL(MPI TECH1)This name matches the local Node name in the local Node characteristics panelof the Communications Manager SNA Network Definitions.
Mode	MODE(QSPWTR)QSPWTR is an IBM supplied mode.
APPN capable	APPN (*YES)
Single session	SNGSNN (*NO)
Text 'description'	TEXT('APPC device for DOCOUT')

9.2 Creating printer device description

Type: CRTDEVPRT

Prompts:	**Parameter and values in parentheses**
Device description	DEVD(DOCOUTPRT)
Device class	DEVCLS(*RMT)
Device model	MODEL(0)
Device type	Type (*IPDS)
Advanced function printing	AFP (*YES) The default for this parameter is NO. However, for AFP printing this parameter must be *YES.
AFP attachment	AFPATTACH(*APPC)
Font identifier	FONT (011)
Form Feed	FORMFEED(*AUTOCUT)
Remote location name:	This name matches the AS/400 RMTLOCNAME parameter value in the CRTDEVAPPC command. In this example, the value is DOCO1.The value must be unique within the network.
Remote networkidentifier	RMTNETID (DKIDTN01)Enter the name of the network in which your partner LU is located.
Mode	MODE(QSPWTR)QSPWTR is an IBM supplied mode
TEXT 'description'	TEXT ('PRT DEVICE FOR DOCO1')

9.3 Updating APPN remote location list

(SNA connections only)

The APPN location lists, which are only used for APPN configurations (i.e. when APPN /*YES) is specified in the controller description, define special characteristics of remote locations.

The CRTFGL (Create Configuration List) command is used to define a list of remote locations for APPN.

1. If you do not have a remote location list, type: **CRTCFGL** or, if you have a remote location list, type: **CHGCFGL** (change configuration list)

2. Press F4 to get prompts.

3. Type **APPNRMT** for the "Configuration list type" field and press the ENTER key twice.

Remote Location Name (DOCO1)

Specifies the name that must match the following:

- RMTLOCNAME in the printer device description

This value must be unique within a network.

Remote Network Identifier (DKIDTN01)

Specifies the name that must match the following:

- RMTNETID in the controller description
- RMTNETID in the printer device description
- PC's network name in Communications Manager SNA Base Profile

Local Location Name (S4450327)

The local location name is the name defined in the network attributes. The value for Local Location Name can be obtained by using the DSPNETA value. This value must match the following:

- LCLLOCNAME in the printer device description
- PC's Partner LU name

Remote Control Point Name

Specifies the name that must match the following:

- CTL in the APPC device controller
- Local Node Name in Communications Manager

Control Point Network Identifier

Specify *NETATR
Specify loc: (*NO)
Single session: (*NO)
Number of conversations: 10
Local Control Point: (*NO)
Pre-established session: (*NO)

NOTE: *Use the WRKCFGL (Work Configuration List) command to view these parameters and their assigned values.*

9.4 Sample controller definition

Controller description..................   * MPI TECH1
Option..   * BASIC
Category of controller.................   * APPC
Link type....................................   * LAN
Online at IPL..............................   * NO
Active switched line....................   TRNLINE
Character code...........................   * EBCDIC
Maximum frame size...................   *LINKTYPE
Remote network identifier...........   DKIDTN01
Remote control point...................   MPI TECH1
Initial connection........................   * DIAL
Dial initiation.............................   * LINKTYPE
Switched disconnect...................   *YES
Data link role.............................   * NEG
LAN remote adapter address......   40005A0000CE
Option..   * BASIC
Category of controllers...............   * APPC
LAN DSAP.................................   * 04
LAN SSAP.................................   * 04
Text...   * AUTOMATICALLY CREATED BY
                                                        QLUS

10 SNA server set-up

10.1 Mainframe SNA LU 6.2

This section is based on the use of Microsoft SNA server version 4.0. You may find the hints useful, even if you have an older version of the SNA server. Refer to the Microsoft SNA server online help for additional information.
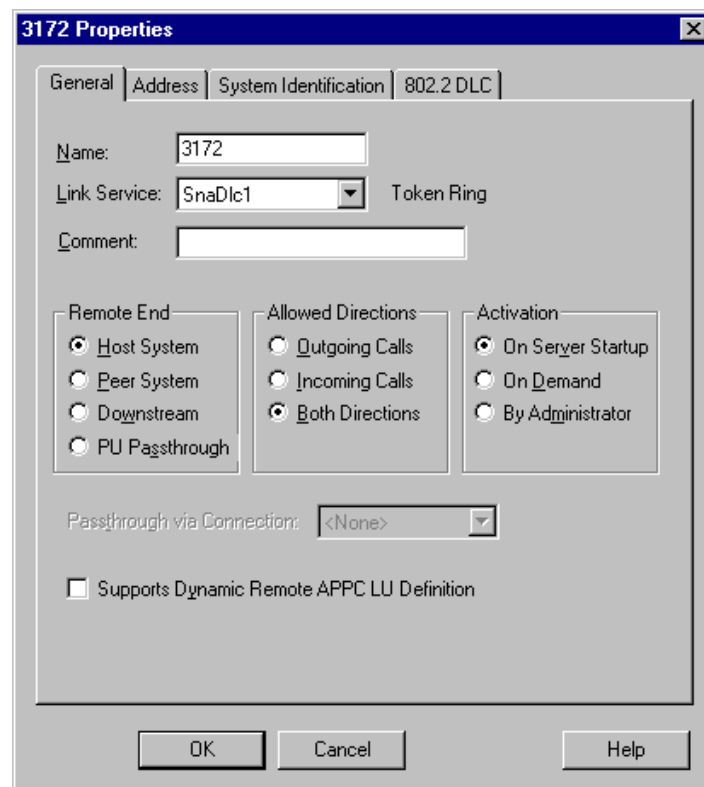
10.1.1 Mainframe APPC/LU6.2 Wizard

The wizard consists of two parts. **In part 1**, the wizard will help you collect preliminary information about your host environment. **In part 2** it will create an Application Program to Program Communication (APPC) mainframe connection if necessary. It will also create a **Remote LU Name**, **Local LU Name**, and **Mode**. A Link Service must be installed on the SNA server Service before you can use the Wizard. Refer to chapter **10.4** Insert Link Service.

Part 1

1. Start the **Microsoft SNA Server Manager**.
2. On the **Tools** menu, click **Mainframe APPC/LU6.2 Wizard**.
3. Click **Next**, and select **Third-party or custom APPC application** as the APPC application. Click **Next**.
4. Select **Other or unknown** as host environment. Click **Next**.
5. Select the SNA Server Service you want to configure. Click **Next**.
6. Enter **new connection name** (or select existing). Click **Next**.
7. Answer **Yes** or **No** to if you are connecting through an IBM 3174/3172 controller. Click **Next**.
8. Select **Independent** LU6.2 Connection. Click **Next**.
9. Click **Work sheets** and print the resulting worksheets in landscape and distribute them to mainframe personnel if necessary. Click **Next** to continue with part 2 if you have the information ready.

Part 2

1. Enter **Network Address**. Click **Next**.
2. Enter **Network Name** and **Local Control Point Name**. If you are not connecting through an IBM 3174/3172 controller, then you must also enter **Local Node ID** (XID or Exchange ID). Click **Next**.
3. Select **Local LU Name** or enter a unique name to create a new one. Click **Next**.
4. Select **Remote LU Name** or enter a unique name to create a new one. Click **Next**.
5. Create a new **MODE62** mode with 128 as **Parallel Session Limit**. Click **Next**.
6. Read the summary and click **Finish** to complete the configuration.

10.1.2 Additional printers

If you wish to add more printers than the one created by the **Mainframe APPC/LU6.2 Wizard**, then you must:

- Insert local LUs for each additional printer.
- The mainframe's **PSF Startup Procedure (IPDS name)** or **PSS Printer Profile (ICDS name)** must contain corresponding printer definitions that include **LUNAME**.
- Add the corresponding Logical Printers in DocOut (using the Logical Printer Wizard).

10.1.3 DocOut settings

- The Mainframe APPC/LU6.2 Wizard takes the value of the **Local LU Name** (Part 2, step 3) and reuses it for the **LU Alias**, thus making them identical. The **LU Alias** must match the **LU 6.2 Alias** used in the **Logical Printer Wizard** and PrintGuide's **LU 6.2 (APPC)** configuration tab.
- Use $DPF (IPDS name) or IDAPSS (ICDS name) as the Transaction Program Name in the Logical Printer Wizard and PrintGuide's LU 6.2 (APPC) configuration tab.

10.2 Mainframe SNA LUA/LU1

This section is based on the use of Microsoft SNA server version 4.0. You may find the hints useful, even if you have an older version of the SNA server. Refer to the Microsoft SNA server online help for additional information.

10.2.1 Setting up a connection

In this example, the set up is a connection to a 3172 Controller via Token Ring.

1. Start the **Microsoft SNA Server Manager**.
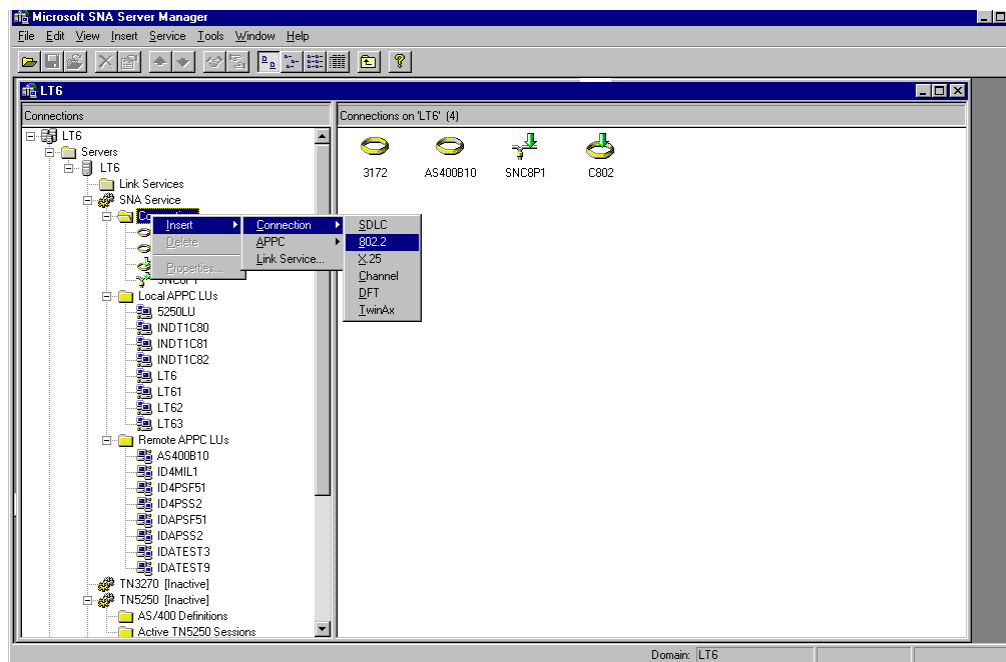
Insert SNA Connection

2. In the left pane, click the connection on which the link service will be installed. On the **Insert** menu, click **Connection**.
3. In this case, the selected value is 802.2, which leads to the dialog boxes in the figures overleaf:

4. Select the settings that match your requirements and continue with the Address tab. If you do not have the required values, contact your Network Administrator.

5. Here, the Remote Network Address is the mac-address of the Controller.

6. Select the settings that match your requirements in Figure 7 and Figure 8. If you do not have these values, contact your Systems/VTAM-administrator.

You have defined the communications channel between the Mainframe and the PC/SNA server. Now go on and define the LUs, based on your VTAM Node Definitions as shown in the example below.

Node definition example

7. In the left pane, click the appropriate connection, **Insert**, **3270** and **Application LU (LUA)**.
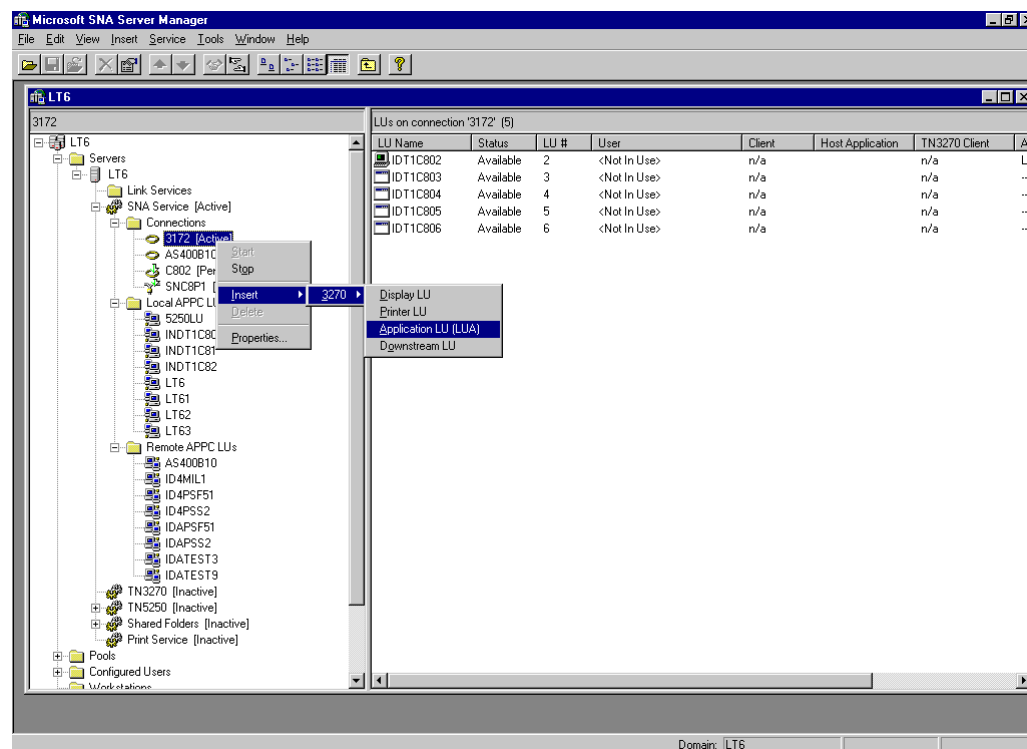
Insert Application LU
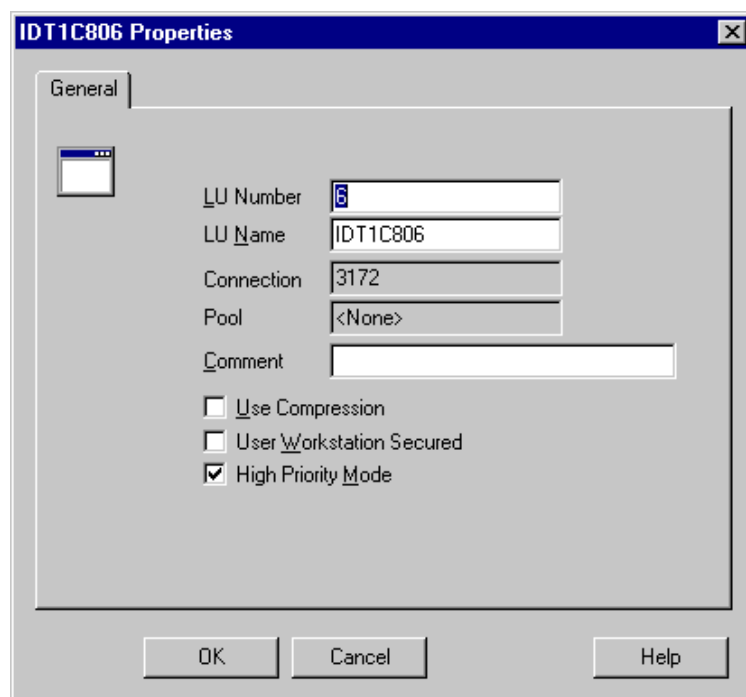
General properties of the application LU

8. The **LU Number** must match the LOCADDR of the VTAM LU (in this case, it is 6) seen in Figure 9, line 19.

9. Now, when you add a logical printer using LU1 via PrintGuide (see *Getting Started with PrintGuide*, doc. no. 60364), the **LUA name** should be the same as the **LU Name** in Figure 11, in this case **IDT1C806**.
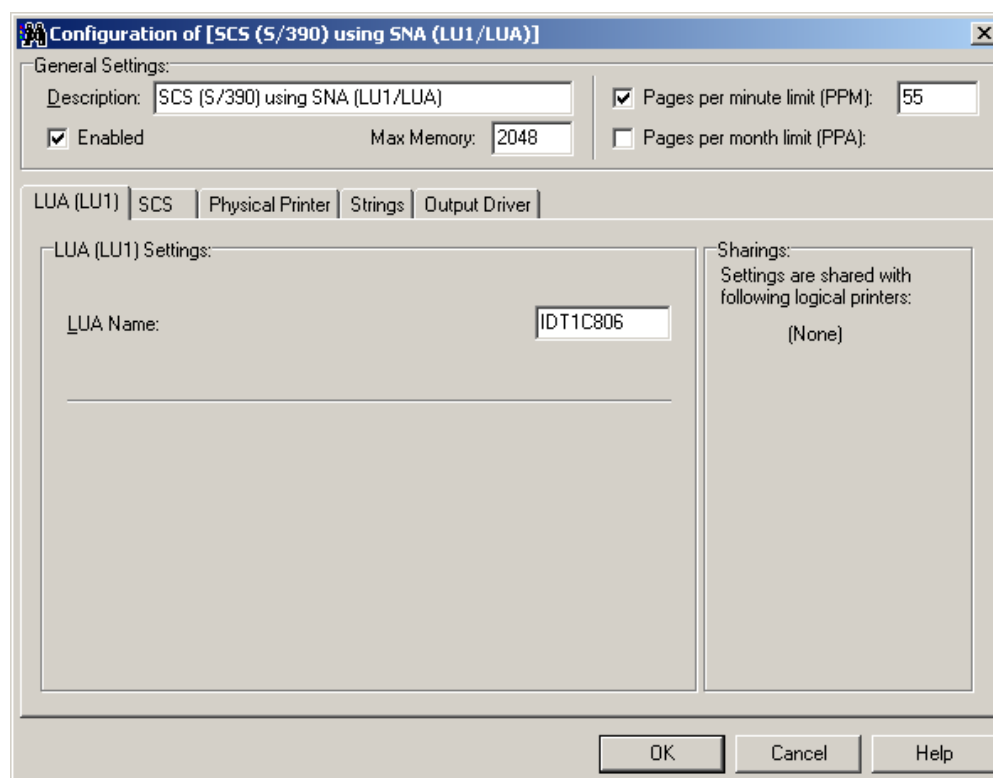
LUA(LU1) Settings in PrintGuide

10.3 AS/400 SNA LU 6.2

This section is based on the use of Microsoft SNA server version 4.0. You may find the hints useful, even if you have an older version of the SNA server. Refer to the Microsoft SNA server online help for additional information.

10.3.1 Important information

The AS/400 parameter names are written in italics and the Microsoft SNA server Manager parameter names are written in bold:

Use the Display Network Attributes (DSPNETA) command on the AS/400 to find the correct values for:
- Local Network ID = Network Name
- Local Control Point = Control Point Name and Remote APPC LU

Use the Display Line Description (DSPLIND) command on the AS/400 to find the correct parameter for:
- Local Adapter Address = Network Address (MAC address, e.g. 020000000000)
- XID or Exchange ID = Remote Node ID (e.g. 056 DD973)

10.3.2 AS/400 Wizard

The wizard will help you create an AS/400 connection, a **Remote APPC LU** for the connection, and a **Local APPC LU** if necessary.
A Link Service must be installed on the SNA Server Service before you can use the Wizard. Refer to chapter **10.4** Insert Link Service.

1. Start the **Microsoft SNA Server Manager**.
2. On the Tools menu, click AS/400 Wizard. Click Next.
3. Select the SNA server machine for which you want to configure the connection to your AS/400. Click Next.
4. Type a Connection Name for your AS/400 connection. The connection is identified by this name in the Connections folder. Click Next.
5. Select an SNA server Link Service on which to configure the connection to your AS/400. Click Next.
6. Enter Network Name (Local Network ID) and Control Point Name (Local Control Point). The Control Point Name is also used as the name for the Remote APPC LU. Click Next.
7. Enter the Network Address (Local Adapter Address on AS/400). Leave Remote SAP Address and Local SAP Address at their default (04). Click Next.
8. Click Finish to complete the configuration.

10.3.3 Adjust connection properties

1. In the **Microsoft SNA Server Manager** right-click the connection and click **Properties**.
2. In the General tab, ensure that Allowed Directions is set to Both Directions.
3. Click **System Identification** tab. In the **Remote Node Name** group you must fill in:

- Network Name (Local Network ID)
- Control Point Name (Local Control Point)
- Remote Node ID (XID or Exchange ID)

4. Click **OK**

10.3.4 Insert APPC mode definition

Since the Microsoft SNA server does not include the QSPWTR mode needed for LU 6.2 - IPDS printing, you must create it. See chapter **10.6** Insert APPC mode definition.

10.3.5 Add printer

Insert local LU for the printer.
Add Printer on AS/400.
Add the corresponding Logical Printer in DocOut (using the Logical Printer Wizard).

10.3.6 DocOut settings

The AS/400 Wizard takes the value of the **Local LU Name** and reuses it for the **LU Alias**, thus making them identical. The **LU Alias** must match the **LU 6.2 Alias** used in the **Logical Printer Wizard** and PrintGuide's **LU 6.2 (APPC)** configuration tab.
Use $DPF as the Transaction Program Name in the Logical Printer Wizard and PrintGuide's LU 6.2 (APPC) configuration tab.

10.4 Insert Link Service

The Link Service allows the SNA server to communicate with host, peer, or downstream computers over Token Ring and Ethernet LANs.

1. Start the Microsoft SNA Server Manager.
2. In the left pane click the server on which the link service will be installed. On the Insert menu, click Link Service.
3. In the Insert Link Service dialog select Link Service i.e. DLC 802.2 Link Service and click Add.
4. In the Title box you can use the default title or type your own.
5. In the Adapter box, select the adapter card you are using.
6. Leave the remaining properties at their defaults or click Help for additional information.
7. Click OK and then click Finish in the Insert Link Service dialog.

10.5 Insert local LU

You need to configure a Local LU for each printer you intend to use with DocOut.

1. In the left pane of the **Microsoft SNA Server** Manager click SNA Service. On the **Insert** menu, point to **APPC**, and click **Local LU**.

2. Enter **LU Alias** (used in DocOut) and **LU Name** (used on host). We recommend that you use identical names. **Network Name** of SNA server machine is filled automatically (default is APPN). **Comment** is optional.
3. Click the Advanced tab. Implicit Incoming Remote LU should be changed from <None> to the Remote APPC LU. Set LU 6.2 Type to Independent.
4. Click **OK**.

10.6 Insert APPC mode definition

Since the Microsoft SNA server does not include the QSPWTR mode needed for LU 6.2 - IPDS printing, we will describe how to create it.

10.6.1 Insert APPC mode definition

1. Start the **Microsoft SNA Server Manager**.
2. On the **Insert** menu, point to **APPC** and click **Mode Definition**.
3. Type **QSPWTR** as **Mode Name**. **Comment** is optional, but we recommend you write Mode for LU 6.2 Printers.
4. Click the **Limits** tab. Enter the values below:
    *   **Parallel Session Limit:** 8
    *   **Minimum Contention Winner Limit:** 0
    *   **Partner Min. Contention Winner Limit:** 0
    *   **Automatic Activation Limit:** 0
5. Click the **Characteristics** tab. Enter the values below:
    *   **Pacing Send Count:** 63
    *   **Pacing Receive Count:** 63
    *   **Max Send RU Size:** 1024
    *   **Max Receive RU Size:** 1024
    *   Check **High Priority Mode**
6. Click **OK** to complete the insertion of the new mode.

10.7 Add printer to AS/400 (LU 6.2/APPC)

How to add a printer to your AS/400: Refer to your AS/400 Documentation for detailed information.

10.7.1 CRTDEVAPPC - create an APPC device description

Keyword / Prompt	Value
DEVDDevice Description	
RMTLOCNAME Remote Location Name	Must match the LU Name used on SNA server
RMTNETID Remote Network Identifier	Must match SNA server Network Name (default is APPN).
CTLControl Unit	Must match Control Point Name (Remote APPC LU).
MODEMode Name	QSPWTR
APPNAPPN Capable	*YES

10.7.2 CRTDEVPRT - create a printer description

Keyword / Prompt	Value
DEVDDevice Description	
DEVCLSDevice Class	*RMT
TYPEDevice Type	*IPDS
MODELDevice Model	0
AFPAdvanced Function Presentation	*YES
AFPATTACHAFP Attachment	*APPC
FONTFont Identifier	11
FORMFEEDForm Feed	*AUTOCUT

10.7.3 CHGCFGL - change configuration list

It is recommended to add an entry for each printer in the APPN Remote Configuration List. Type:

```
CHGCFGL TYPE (*APPNRMT) CFGL(QAPPNRMT)
```

If you do not have a Remote Configuration List, then you can use the CRTCFGL command to create one.

11 SCS/DCA printing using TN3270e/TN5250e

This chapter provides examples of how to set up SCS/DCA printing using TN3270e and TN5250e protocols.

11.1 TN3270e setup using OS/390 communication server

The IBM OS/390 ver. 2.8 is capable of supporting TN3270e sessions communicating directly. The following describes the required mainframe definitions for a LinkCom or DocOut. It is assumed that the TN3270e service is already active on the mainframe.

11.1.1 Mainframe TCPIP profile definitions:

```
PRTGROUP PRTGRP1
        LU08
        TCPPRT01 TCPPRT02 TCPPRT03 TCPPRT04 TCPPRT05
        TCPPRT06 TCPPRT07 TCPPRT08 TCPPRT09 TCPPRT10
        TCPPRT11 TCPPRT12 TCPPRT13 TCPPRT14 TCPPRT15
ENDPRTGROUP

IPGROUP IPGRP1 255.255.0.0:128.0.0.0 ENDIPGROUP
LUMAP LUGRP1 IPGRP1 SPECIFIC PRTGRP1
PRTMAP PRTGRP1 IPGRP1
* * * * * * * * * * * *
```

11.1.2 SNA definitions:

```
TCP         VBUILD TYPE=APPL

LU08        APPL  EAS=1,      ESTIMATED CONCURRENT SESSIONS    *
                  AUTH=ACQ,                                    *
                  VPACING=3,                                   *
                  MODETAB=RSCSTAB,                             *
                  SESSLIM=YES


TCPPRT*     APPL EAS=1,       ESTIMATED CONCURRENT SESSIONS    *
                  AUTH=ACQ,                                    *
                  VPACING=3,                                   *
                  MODETAB=RSCSTAB,                             *
                  SESSLIM=YES
```

11.2 TN3270e set-up using MS SNA server

There are many different programs that can generate TN3270e protocol. For example, the current level of RSCS on VM supports this data stream directly. This section provides an example of how to set up TN3270e printing using the MS SNA server.

1. Open the MS SNA Server Manager, right-click a **Connection** (in this example GATE1C1), and click **Insert**, **3270** and **Application LU (LUA)**.
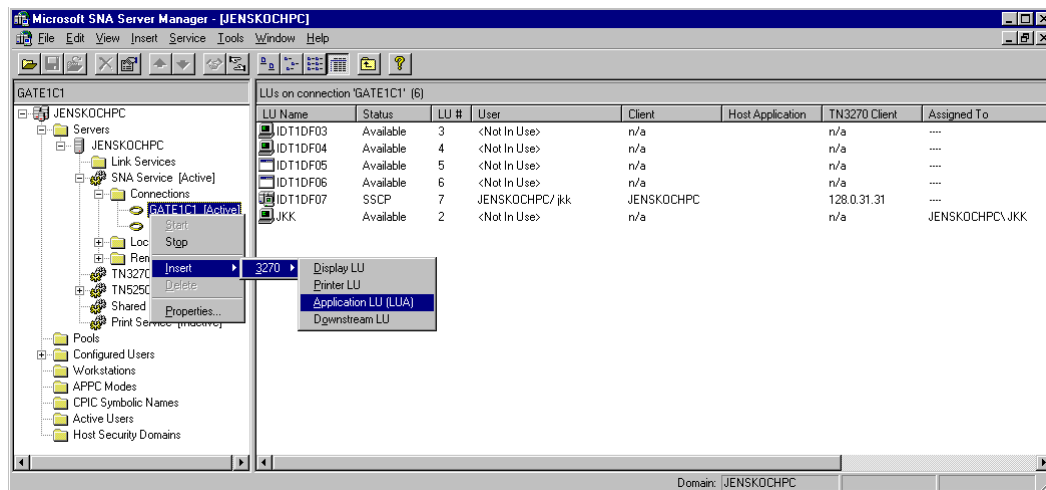

2. The dialogue in Figure 14, 3270 LU Properties will be displayed. Enter the **LU Name** (in this example it is LU08, but you can choose whatever name suits your environment).
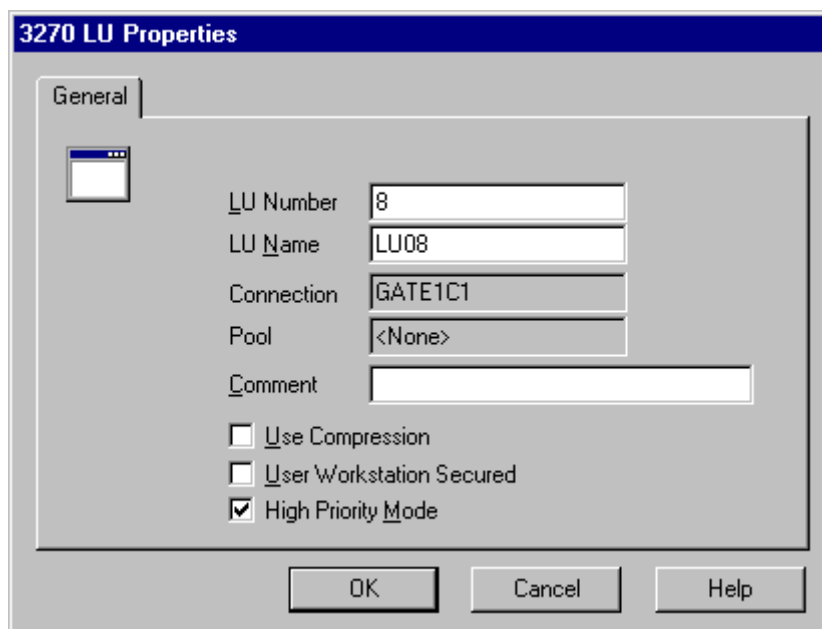
3. Assign the new LU as a TN3270 service by highlighting it and right-clicking the mouse. Select **Assign to**, **TN3270 Service on**, and your chosen workstation. In this case it is JENSKOCHPC.

The TN3270e service is now assigned.
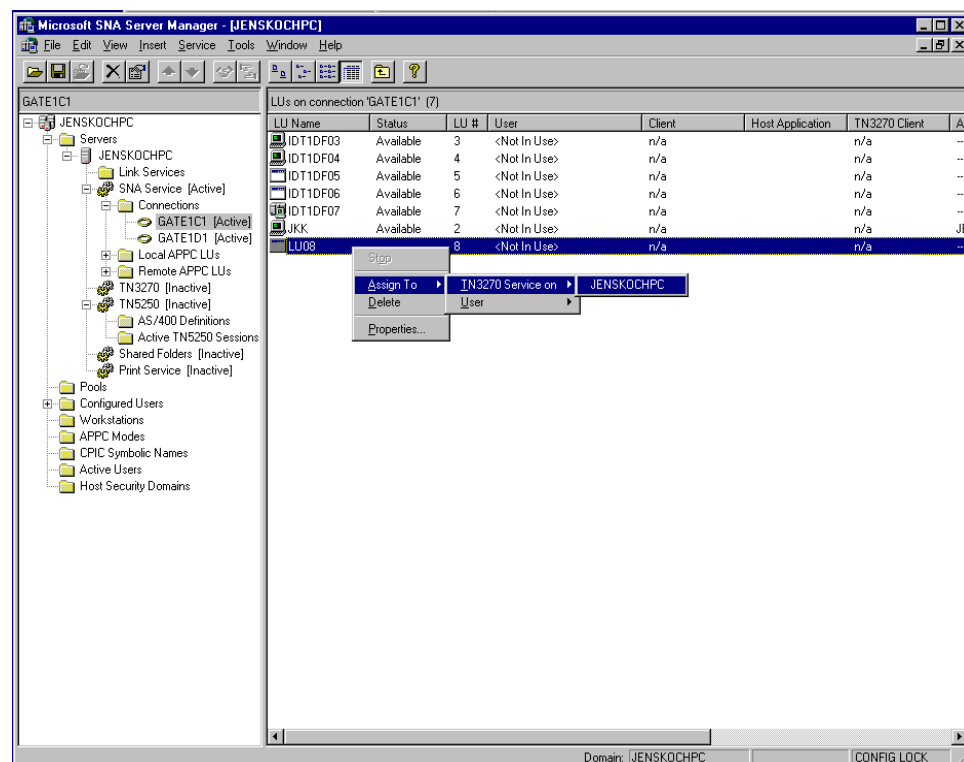
4. Click the **TN3270** service. The new LU should now appear on the list of **LUs assigned to TN3270 server**.
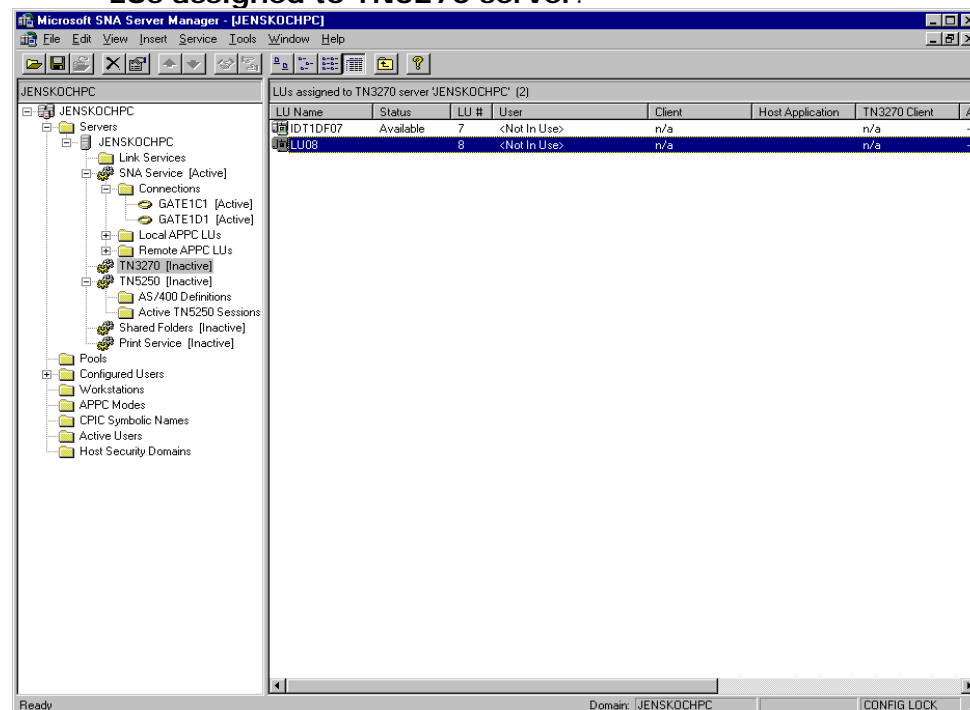
5. In the Properties dialogue, tab **TN3270**, you should click Specific Printer under **Type** and mark IBM-3287-1 under **Terminal Names**.

LU08 Properties
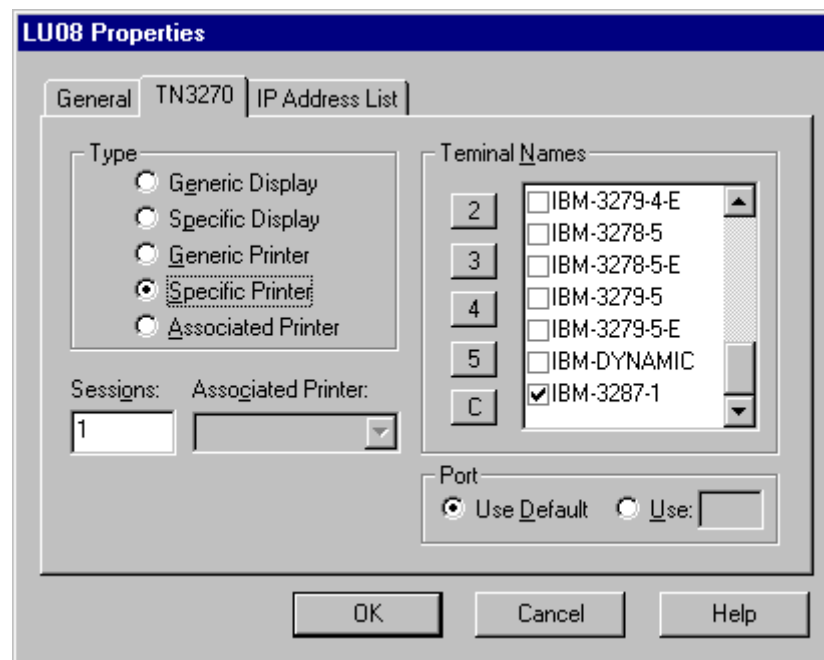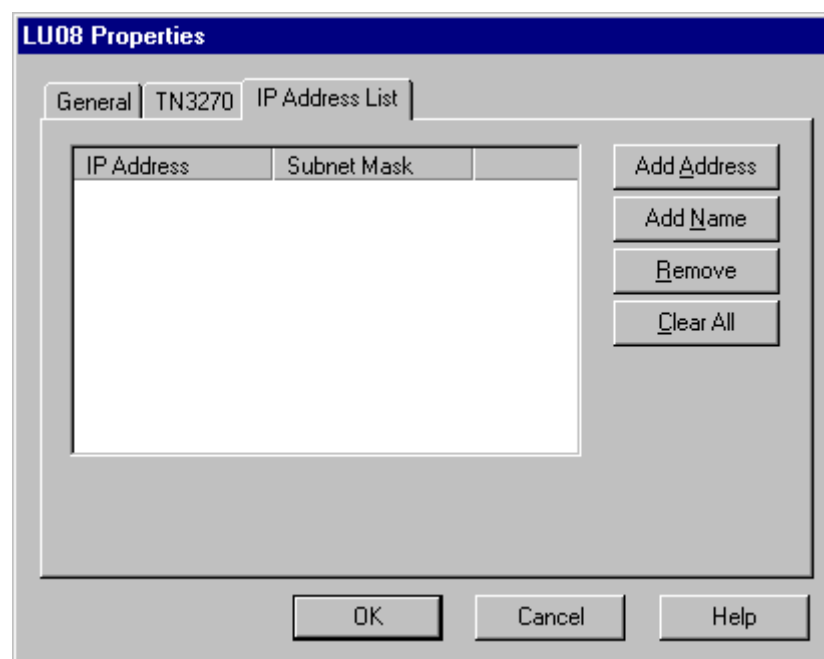
General | TN3270 | IP Address List

Type
- Generic Display
- Specific Display
- Generic Printer
- ⦿ Specific Printer
- Associated Printer

Sessions: | Associated Printer:
1 |

Terminal Names
| 2 | ☐IBM-3279-4-E
| 3 | ☐IBM-3278-5
| | ☐IBM-3278-5-E
| 4 | ☐IBM-3279-5
| | ☐IBM-3279-5-E
| 5 | ☐IBM-DYNAMIC
| C | ☑IBM-3287-1

Port
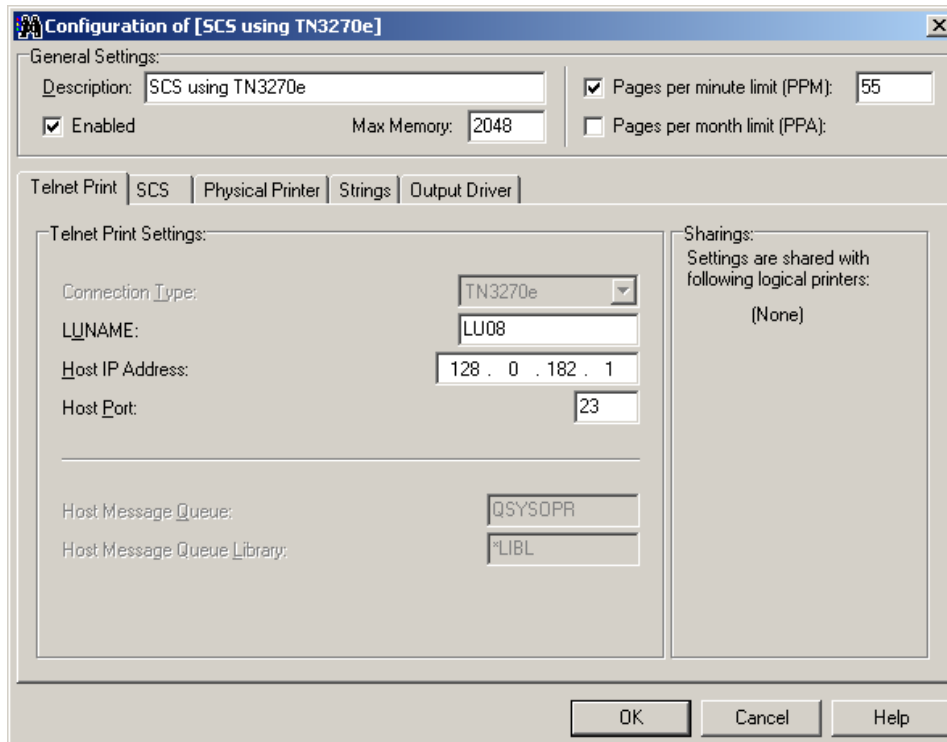⦿ Use Default   ○ Use:

OK   Cancel   Help

6. In the **IP Address List** you can either enter specific IP-addresses, or you can leave the field blank, which will allow you to use all IP addresses .

LU08 Properties

General | TN3270 | IP Address List

IP Address	Subnet Mask	

Add Address
Add Name
Remove
Clear All

OK   Cancel   Help

This completes the set-up of the logical printer on the MS SNA server. Now you must configure your PrintServer with PrintGuide (see the manual **Getting Started with PrintGuide**, doc. no. 60364 on the Utility Pack).

Specific for TN3270e/TN5250e is that you have to enter the **Connection Type** (TN3270e) and the **LUNAME** on the **tab Telnet Print**.
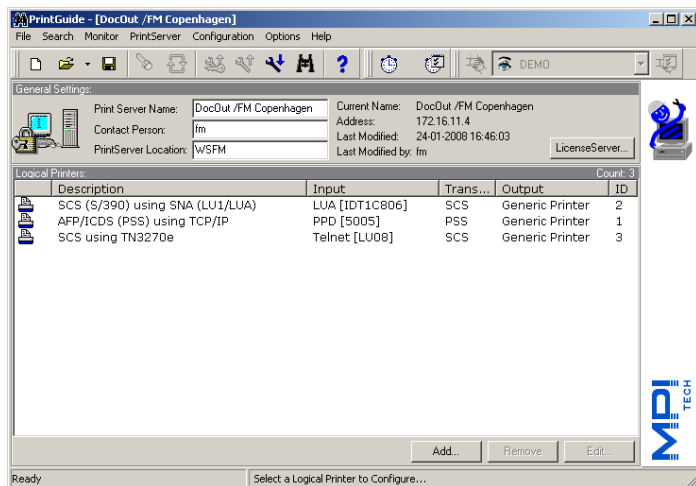

Once this configuration has been done, you should follow the appropriate steps in the chapter on **Mainframe Printing Using SNA** in order to perform direct SCS printing.

11.3 TN5250e set-up

To set up TN5250, configure DocOut using PrintGuide please follow the below procedure

Using PrintGuide's Wizard, add a Telnet session as follows:

1. Click 'Add…' in the lower right corner of the window.
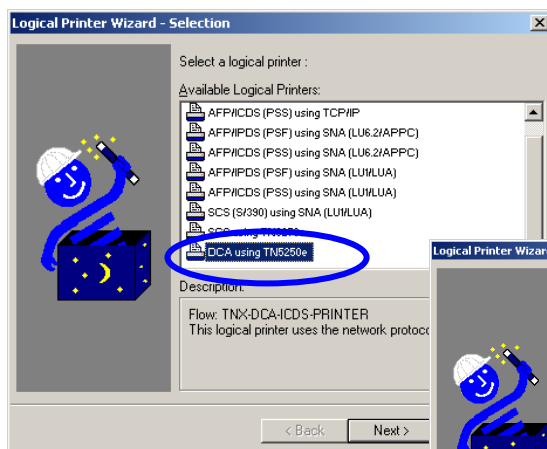
Select 'DCA using TN5250e'

Select the Logical Printer as required (DCA)
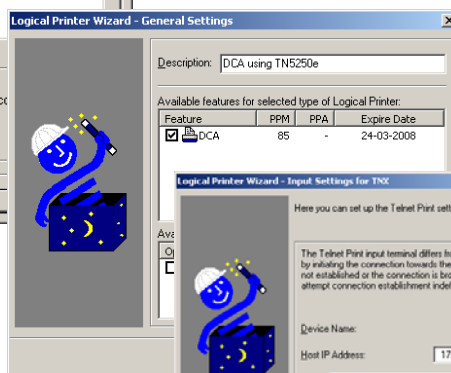
Type in the Device Name and the IP address of the iSeries / AS/400 system

Select printer spool and target printer type
The spool may be changed via PrintGuide if required and the printer selection may be customised to exactly match the target printer.
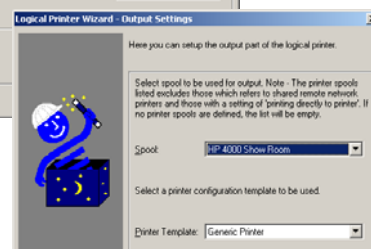
Select 'Next' and Save configuration and restart DocOut
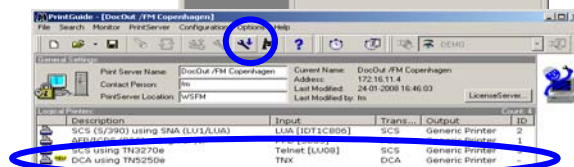
On many AS/400 installations, a device is automatically set up on the AS/400 when DocOut is booted. For this to happen, the following conditions apply:

- Telnet must be started.
- The correct PTFs must be installed. See APAR II10918 on IBM's support page for a list of PTFs to be installed for the different versions of AS/400 for TN5250e printing support. http://www.as400.ibm.com/clientaccess/caiixd1.htm.
- The QUATOVRT SYSVAL parameter must be set to a value that is higher than the number of auto-configured virtual controllers currently running on the system. See section 10.3.1 for this procedure.

On some installations, the QAUTOVRT SYSVAL parameter is set to 0. This prevents any virtual controllers being auto-created. In cases where QAUTOVRT SYSVAL cannot be changed from 0, devices must be configured manually. See section 10.3.2

11.3.1 Auto-configuration of devices

How to set up your AS/400 to auto-configure devices:

Issue the command:

WRKCTLD *VWS

This will determine the number of auto-configured Virtual Controllers on the system.

Issue the command:

DSPSYSVAL QAUTOVRT

If the system value of **QAUTOVRT** is zero, then use the procedure outlined in section 10.3.2

If the system value of **QAUTOVRT** is equal to the number of auto-configured Virtual Controllers, the **QAUTOVRT** value should be increased by the number of devices that will be configured.

11.3.2 Manual Configuration of Devices

This section describes how to create printer definitions on AS/400s that have the QAUTOVRT SYSVAL parameter set to 0.

Prerequisites:

- AS/400 is configured and running TCP/IP
- AS/400 PTF level is at the levels described in **APAR II10918**. Check IBM's support page for a list of PTFs to be installed for the different versions of AS/400 for TN5250e printing support. http://www.as400.ibm.com/clientaccess/caiixd1.htm
- Firmware level* on the interface is at least S80 xxx.360
- Release of PrintGuide* being used is at least S42 065.100

* Latest versions can be obtained from the MPI Tech web page

Check the configuration via PrintGuide:

Device Name. This must be a unique name on the AS/400 that you wish to connect to. It can have up to 10 characters.

Host IP Address This is the IP address of the iSeries / AS/400 you wish to connect to.

Host Port number **23** is the Telnet port used for the **Host Port** and is predefined.

Click **OK** and save the settings to the PrintServer, selecting the option to restart the server.

2. Configure AS/400.

Start TCP/IP if not already started by typing STRTCP on the command line.

Method 1: Using the Command Line
Create the device from the Command Line by typing:

CRTDEVPRT DEVD(DEVXXXX) DEVCLS(*VRT) TYPE(3812) MODEL(1)
CTL(QVIRCD0001) FONT(87) TEXT('MANUAL CREATION OF VIRTUAL
DEVICE DEVXXXX')

The value for DEVD should match the Device Name given in step 2.
The value of CTL should match the virtual controller on the system
(Normally QVIRCD0001)
The value for TEXT is optional.

```
MAIN                     AS/400 Main Menu
                                                    System: S4449156
Select one of the following:

     1. User tasks
     2. Office tasks
     3. General system tasks
     4. Files, libraries, and folders
     5. Programming
     6. Communications
     7. Define or change the system
     8. Problem handling
     9. Display a menu
    10. Information Assistant options
    11. Client Access/400 tasks

    90. Sign off

Selection or command
===> CRTDEVPRT DEVD(DEVXXXX) DEVCLS(*VRT) TYPE(3812)
MODEL(1)CTL(QVIRCD0001) FONT(087) TEXT('MANUAL CREATION OF VIRTUAL
DEVICE DEXXXX')
F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F13=Information Assistant
F23=Set initial menu
```

Check the status of the device is Vary on Pending. The device will remain in this state until the defined PrintServer has established the session. This is done by restarting; either from PrintGuide or by switching power off and then on.

Method 2: Using Device Definition panels
The Device can also be created using the same values from the Work with Device Definition Screens using option F6.

The value for DEVD should match the Device Name given in step 2.
The value of CTL should match the virtual controller on the system (Normally QVIRCD0001)
The value for TEXT is optional.

```
           Create Device Desc (Printer) (CRTDEVPRT)

 Type choices, press Enter.

 Device description . . . . . . DEVD       > DEVXXXX
 Device class . . . . . . . . . DEVCLS     > *VRT
 Device type  . . . . . . . . . TYPE       > 3812
 Device model . . . . . . . . . MODEL      > 1
 Online at IPL  . . . . . . . . ONLINE       *YES
 Attached controller  . . . . . CTL        > QVIRCD0001
 Font:                 FONT
   Identifier . . . . . . . . .            > 087
   Point size . . . . . . . . .              *NONE
 Form feed  . . . . . . . . . . FORMFEED     *TYPE
 Separator drawer . . . . . . . SEPDRAWER    *FILE
 Separator program  . . . . . . SEPPGM       *NONE
   Library  . . . . . . . . . .
 Printer error message  . . . . PRTERRMSG    *INQ
 Message queue  . . . . . . . . MSGQ         QSYSOPR
   Library  . . . . . . . . . .              *LIBL

                                         More...
 F9=All parameters   F11=Choices   F14=Command string   F24=More keys
```

```
           Create Device Desc (Printer) (CRTDEVPRT)

 Type choices, press Enter.

 Host print transform . . . . . TRANSFORM    *NO
 User-defined options . . . . . USRDFNOPT    *NONE
                 + for more values
 User-defined object:      USRDFNOBJ
   Object . . . . . . . . . . .            *NONE
     Library  . . . . . . . . .
   Object type  . . . . . . . .
 Data transform program . . . . USRDTATFM    *NONE
   Library  . . . . . . . . . .
 User-defined driver program  . . USRDRVPGM    *NONE
   Library  . . . . . . . . . .
 Text 'description' . . . . . . TEXT       > 'Manual Def of DEVXXXX'

                                         More...
 F9=All parameters   F11=Choices   F14=Command string   F24=More keys
```

Check the status of the device is Vary on Pending. The device will remain in this state until the defined PrintServer has established the session. This is done by restarting; either from PrintGuide or by switching power off and then on.

12 Troubleshooting

12.1 Using print with Acrobat Reader

Problem:
Print with Acrobat Reader generates no output. (No errors are logged in the Event Log.)

Solution:
The problem is probably caused by wrong Log On Account on the DocOut service. To solve the problem change the Log On Account in the startup parameters for the DocOut service:

1. Click the **Start** menu, point to **Settings** and then click **Control Panel**.
2. Double-click the **Services** icon in the Control Panel.
3. Select the **DocOut service** and click the **Stop** button.
4. Click the **Startup** button.
5. Select **This Account** and select an account and enter the proper password.
6. Click the **OK** button.
7. Click the **Start** button.
8. Restart the computer.

12.2 DocOut Service does not start

This chapter describes how to prevent the built in Firewall in Windows XP SP2 and Windows 2003 Server SP1/SP2 from blocking DocOut and PrintGuide.
By default the Firewall is enabled when installing SP2 to Windows XP and Windows 2003 server. On both Windows XP and 2003 the firewall should be configured no matter if it's enabled or not. This is to ensure that the MPI Tech related software is working correctly.

12.2.1 How to setup the firewall.

1. The Firewall is located in the Control Panel and is named Windows Firewall.
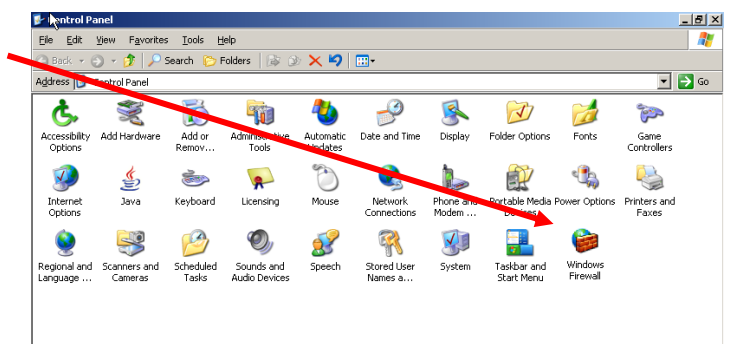
Opening the Firewall displays if the firewall is turned on or not, MPI Tech advices to add the MPI Tech related Software, even if the Firewall is turned OFF.

Open the exceptions menu. In this menu you will probably see several exceptions added.
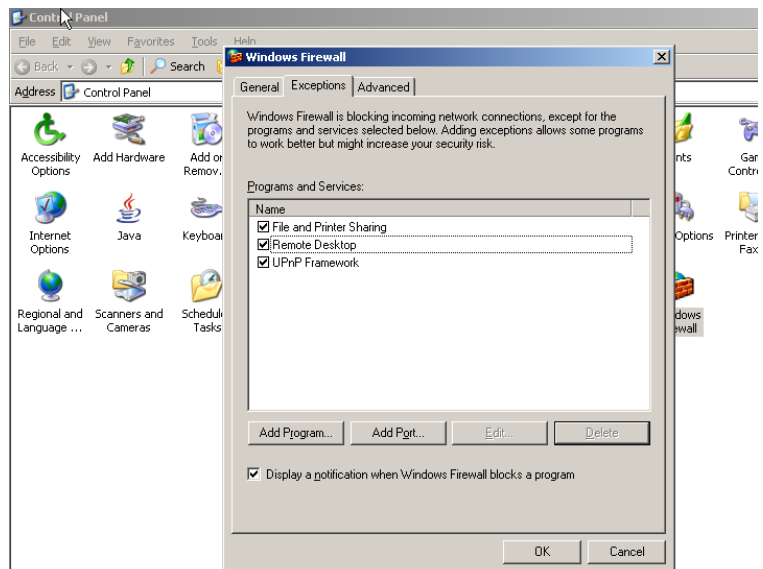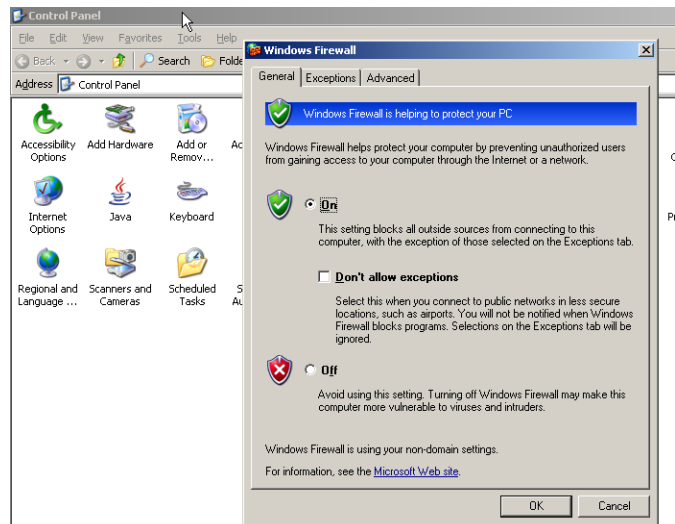
You can add both port numbers and software to the Exceptions, MPI Tech advises to add the *.exe file of the software, then all used ports by the software is added to the exceptions. This is done using the Add Program wizard.
The files to add are:
DocOut = Pserver.exe
PrintGuide = PGuide.exe
The exe files are located in the folder where the application is installed.
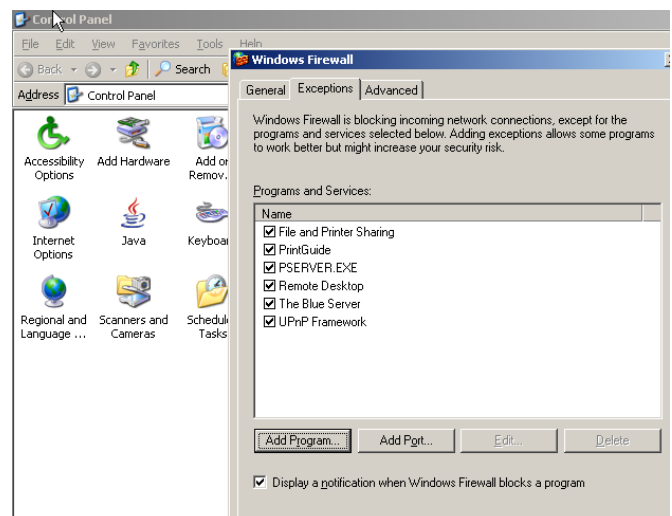
IMPORTANT
Independent of the
Firewall configuration
(Enabled or Disabled), it
is required that the
Windows Firewall/ICS
Service is 'Started'.

For more information on
the Windows Firewall,
MPI Tech refers to Microsoft support on: http://support.microsoft.com website

12.3 Log settings

You can choose between seeing messages in the Event Viewer or logging messages to a file. This is set up in the PrintGuide, and is described in *Getting Started with PrintGuide*, doc no. 60364.

12.4 Event Viewer

If you want to view error messages in the Event Viewer, do the following:

1. From the **Start** menu, point to **Programs**.
2. Click **Administrative Tools** on the **Programs** menu.
3. Double-click **Event Viewer** to display the **Event Log**.
4. Click **Log** and click **Application Log** if not already selected.
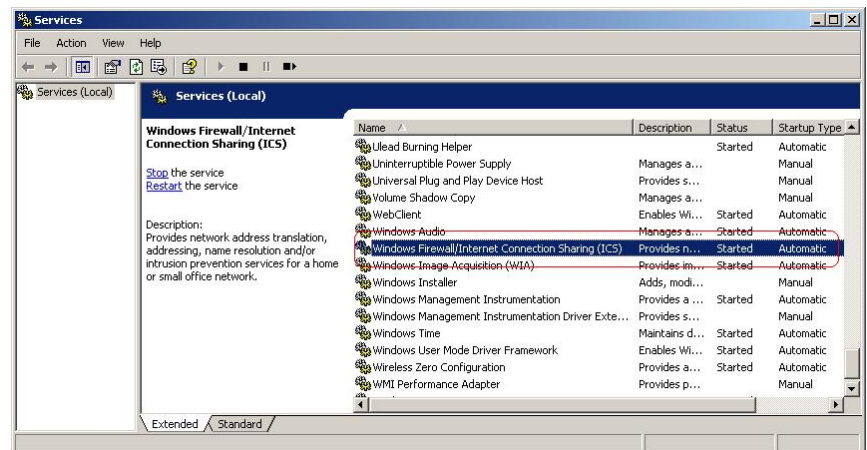
Event categories:
- System(1)
  The System category contains messages that relates to the interfacing between the DocOut and other components
- Setup(3)
  The Setup category contains messages that relate to problems and changes in the configuration of the DocOut.

Event types:
- Error
  The Error type indicates a problem that has to be corrected for the DocOut to work properly.
- Warning
  The Warning type indicates that a minor problem exists that has no influence on the functionality of the DocOut.
- Information
  The Information type indicates that this is a completely normal situation and is used to keep the user informed about what the DocOut is doing.

12.4.1 Examples of event log messages:

Event details		Message text / description
EventID: Type: Category:	1 Error System(1)	**Following system error occurred:** **Error description** *Description:* This error message is caused by an unexpected return code from the Windows System and it should never occur. *Action:* Please report it to MPI Tech.
EventID: Type: Category:	5 Information Setup(3)	**Setup:** **Loading factory default configuration from the file.** **Filename** **No warnings or errors.** *Description:* The factory default configuration is loaded with success.
EventID: Type: Category:	6 Warning Setup(3)	**Setup:** **Loading factory default configuration from the file.** **Filename** **Warning description** *Description:* The factory default configuration is loaded with success.
EventID: Type: Category:	7 Error Setup(3)	**Setup:** **Loading factory default configuration from the file** **Filename** **Error description** *Action:* Make a reinstallation to correct this error and make a new configuration using the session wizard.

Event details		Message text / description
EventID: Type: Category:	8 Error Setup(3)	**Setup:** **The file containing the factory default configuration is missing.** **No factory default configuration is Included !** *Action:* Make a reinstallation to correct this error and make a new configuration using the session wizard.
EventID: Type: Category:	11 Information Setup(3)	**Setup:** **Configuration has been changed.** **Configuration will not be active until the service is restarted.** *Action:* The service named DocOut has to be stopped and started manually in the service manager. See section 4.7, Stop and start DocOut.
EventID: Type: Category:	12 Information Setup(3)	**Setup:** **Configuration has been changed.** **Restart of service has been requested in order to activate the new configuration.** *Description:* "Restart of PrintServer after download" hasbeen selected in PrintGuide when the Configuration was downloaded. The restart is executed with no regards to the State of the Logical Printers. It is recommended that all Logical Printers be in "Ready" state.
EventID: Type: Category:	30 Error System(1)	**Printer Name attached to a LAN Manager Printer Port is not supported.** **Assign a Local Port to the printer to make it available.**
EventID: Type: Category:	31 Error System(1)	**Print directly to the printer Name is not supported.** **Select "Spool print documents.." in the printer properties to make it available.**

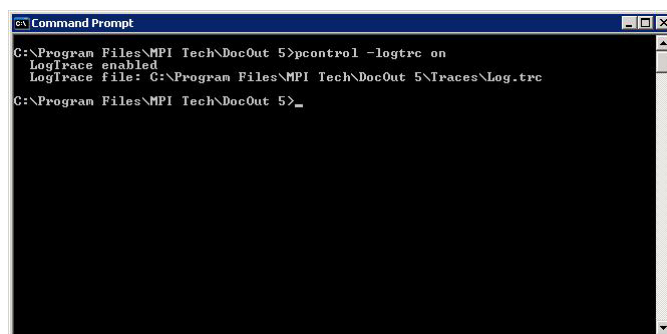| Event details		Message text / description

EventID:
Type:
Category:
	32
	Error
	Setup(3)
		Printer is not available
		Following printers are available:
		  Printer 1
		
		  Printer N
		Description:
		This error messages occurs when a configured printer spool queue name does not exist.
		Action:
		Use one of available printer spool queue names listed.

EventID: Type: Category:	50 Information System(1)	Service started: **Version** *Version (Component number)*
EventID: Type: Category:	80 Information System(1)	**Logical Printer *ID* connected:** *Host description*
EventID: Type: Category:	81 Information System(1)	**Logical Printer *ID* disconnected:** *Host description*
EventID: Type: Category:	82 Error System(1)	**Logical Printer *ID* terminated:** *Host description*
EventID: Type: Category:	83 Error System(1)	**Attempt to connect to a *Type* Logical Printer with an invalid data stream:** *Action:* In the PrintGuide, select another Logical Printer that matches the data stream either on the host or in the configuration of the DocOut.
EventID: Type: Category:	84 Error System(1)	**Attempt to connect to a *Type* Logical Printer with an invalid printer ID:** *Action:* In the PrintGuide, correct the printer ID either on the host or in the configuration of the Logical Printer.

12.4.2 Trace Facility

Should any specific problems arise, a trace of the data sent to DocOut can be generated by following the instructions below:
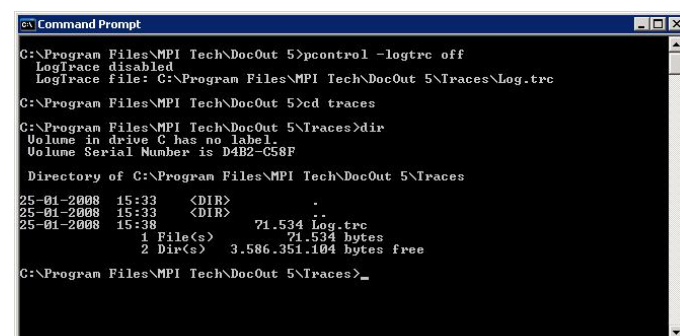
- Stop the service for DocOut

- Stop the Writer/Printer for the actual printer on the AS/400 or S/390

- Start the service for DocOut

- Enable the trace on the Windows Server as follows:
  From a DOS-prompt, go to where DocOut is installed (Default is C:\Program Files\MPI Tech\DocOut)
  Type: '**pcontrol -logtrc on'**
  <ENTER>

  ```
  Command Prompt                                          _ □ ×
  C:\Program Files\MPI Tech\DocOut 5>pcontrol -logtrc on
    LogTrace enabled
    LogTrace file: C:\Program Files\MPI Tech\DocOut 5\Traces\Log.trc

  C:\Program Files\MPI Tech\DocOut 5>_
  ```

- Start the Printer Writer for the specific printer on the system

- Send the job and leave sufficient time for the system to finish the job (The job will be printed during the trace)

- **IMPORTANT**: Stop the trace on the Windows server as follows: (using a DOS Prompt):
- Enter the library: C:\Program Files\MPI Tech\DocOut
  Type: '**Pcontrol -logtrc off**'
  <ENTER>

  ```
  Command Prompt                                          _ □ ×
  C:\Program Files\MPI Tech\DocOut 5>pcontrol -logtrc off
    LogTrace disabled
    LogTrace file: C:\Program Files\MPI Tech\DocOut 5\Traces\Log.trc

  C:\Program Files\MPI Tech\DocOut 5>cd traces

  C:\Program Files\MPI Tech\DocOut 5\Traces>dir
    Volume in drive C has no label.
    Volume Serial Number is D4B2-C58F

    Directory of C:\Program Files\MPI Tech\DocOut 5\Traces

  25-01-2008  15:33    <DIR>          .
  25-01-2008  15:33    <DIR>          ..
  25-01-2008  15:38            71.534 Log.trc
                 1 File(s)         71.534 bytes
                 2 Dir(s)   3.586.351.104 bytes free

  C:\Program Files\MPI Tech\DocOut 5\Traces>_
  ```

The trace is placed in: (default location)
'[Drive]:\Program Files\MPI Tech\DocOut\traces\log.trc'

If more than one trace is performed, please move the file to a different location or rename the trace file in …\traces\log.trc to a different name. The trace will always use the name 'log.trc' hereby overwriting any existing trace file with the same name.

Forward the trace(s) via e-mail, in compressed format, to the person requesting the trace

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About MPI Tech

MPI Tech, formerly i-data Printing Systems is a global vendor of workflow and output management solutions with distribution worldwide. MPI Tech develops and markets a world-leading portfolio of technologies and products for unique Document Managing and Printing solutions.

With offices located in France, Denmark, Germany, UK and USA, MPI Tech operates in most of the world through sales and support offices and partners. Our partners include Hewlett-Packard, IBM, Ricoh, Xerox, Konica Minolta and Dascom.

More information is available at www.mpitech.com

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