



## AS400 Host Print Transform for ES/TCP

In order to make a physical connection to an AS400 you have to tell the host that the printer is one of the many AS400 printer models. This defines the connectivity method, speed, and type of printer for the host. The AS400's Host Print Transform feature allows you to tell the AS400 what kind of printer is actually attached. Once the AS400 knows this, it can speak to the printer in its native language, or the language that the printer is emulating.

You will select the formatting attributes for the job at the AS400. The AS400 will format the data for the specific printer. It will send the data to the printer using ASCII Transparency.

You must know what emulation your printer is set to. Nearly all printers can be configured to emulation at a few other printers. The printer must be configured to match the 'manufacturer type and model' that you select at the AS400. A common printer emulation is the IBM Pro Printer (which is \*IBM42011 for the IBM 4201-1 Proprinter.

This is the process for enabling Host Print Transform for the ES/TCP.

- 1) Open your ES32 **Display Emulator**.
- 2) Select the **File** menu, then **Configure**, and it will bring up the **Configure Connection Methods and Devices** window.
- 3) Select **TCP/IP:TCP/IP**, by clicking on the +, then double-click on the printer. It will bring up the **Configuration Properties** window.
- 4) The check should be in **TN5250E** and **Enhanced Telnet Printer** should be selected. Click on the **Setup...** button.
- 5) Under the Host Print Transform section, if you know exactly what emulation your printer is set to, select **Transform Print Data to ASCII on AS/400**.
- 6) Enter the **Printer Model** that the printer is set to.

### **If you are remote and connecting through an InterLynx/S Secure session:**

If you are remote and connecting through an InterLynx/S secure session, then you must put a check in the **Secure Connection** box and enter the name and location of your \*.vis file. It should be in C:\Program Files\es32\Visa.vis. You can use the **Browse...** button to make certain.

## If you use Host Print Transform:

If you use Host Print Transform, you should go to the Windows printer setting and change the **Spool Settings** to **Print directly to printer**. This is done a bit different in different OS and different printers.

To change the spool settings in Win98, follow these steps:

- 1) Click the **Start** button, point to **Settings**, and click **Control Panel**.
- 2) Double-click the **Printers** icon.
- 3) Use the **right** mouse button to click the printer icon, and then click **Properties** on the menu that appears.
- 4) For Win95, Win98, or WinME, click the **Details** tab and click the **Spool Settings** button.
- 5) For Windows XP or Windows 2000, click the **Advanced** tab.
- 6) Select **Print directly to printer**.

## How to verify that you have Host Print Transform on the AS400:

With TN5250E, Host Print Transform is configured in the emulation software. You can check it at the AS/400. This is the procedure for that.

- 1) On your AS400, Using the **CHGDEVPR** command, the printer settings should be:

```
Host print transform . . . . . *YES
Manufacturer type and model. . *SAME
```

- 2) Place the cursor on the **Manufacturer type and model. . \*SAME** line.
- 3) Press **F4**, which will bring up the **Specify Value for Parameter MFRTYPMDL**. This is where you can see your choices for Manufacturer type and model. For example: \*IBM2380, \*HP11, \*HP5SI, \*EPDFX5000, \*LEXOPTRA, \*EPLQ860, \*CANLIPS3, \*OKI320IBM, \*NECP2200, \*PAN2624EP, \*XRX4235, or \*WSCSTLETTER.
- 4) If you want more information on what one of these choices support, you can use **F1** on this screen. You do not have to find your exact model. For instance, if you have an HP printer it is likely that any of the lower level HP selections will work, like HP11 or HP111, because all HP printers support PCL, and the difference between them is in the options that are supported.
- 5) Once you have chosen a printer to try, you must type that in on the **Manufacturer type and model** field.

## What does the AS400 do when Host Print Transform is select?

The AS400 Operating System inserts a code to tell the peripheral that the data is ASCII instead of EBCDIC, and it will send the data as ASCII, which the printer control codes that are native to the printer that was selected. In the **5250 to S/36, S/38, & AS/400 Product Attachment Information**, IBM refers to the command as **ASCII Transparent (ATRN)**, format = x'03nnxx'. nn is the number of characters (in hex) to be transferred.

## What does it look like in a Translate (into English) hex dump?

Starting sequence:

[ASCII Transparent] **03 E2** (E2 is the hex for 226 characters in ASCII Transparent mode.  
[\*Null] 1B  
..... the ASCII transparent data follows.

Ending Sequence:

[Forms Feed] 0C  
[ASCII Transparent] **03 02**  
[\*Null] 1B  
[EBCDIC Text]  
a  
[\*Null] 00

## Is there anything that I have to do in the PC printer setup to enable Host Print Transform?

Yes, if you use Host Print Transform, you should go to the Windows **printer settings** and change the Spool Settings to **PRINT DIRECTLY TO PRINTER**.

To change the spool settings, follow these steps:

- 7) Click the **Start** button, point to **Settings**, and click **Control Panel**.
- 8) Double-click the **Printers** icon.
- 9) Use the **right** mouse button to click the printer icon, and then click **Properties** on the menu that appears.
- 10) Click the **Details** tab.

Click the **Spool Settings** button.

## Is there anything that I have to do in the ES32 setup to enable Host Print Transform?

On older versions, no, but in the latest version (5.0.1.3) you can configure all of the parameters for Host Print Transform in the printer setup. This information will be transmitted to the host for the protocols that support it.

## Does ES32 support the Host Print Transform \*WSCST?

Yes, the later versions of ES/TCP support this if you select an **Enhanced Telnet Printer**. To do this, follow these steps:

1. Bring up the ES32 Display Emulator. Click the **Start** button then select **Program Files, ES32, and Display Emulator**.
2. If a Session is active (you will have a black screen), you must end it. End the session by selecting **Session** menu at the top, then **Disconnect**. You will now have a white screen.
3. Get into configuration. Select the **File** menu, then select **Configure**. This will take you to the '**Configure Connection Methods and Devices**' window.
4. Click on the **+** to the left of your connection method, to see your devices.
5. Double-click on the printer device that you wish to modify. This should take you to the **Configuration Properties** window.
6. Make certain that the **Model** selection is set to **Enhanced Telnet Printer**.
7. Right next to the **Model** selection, click the **Setup** button.
8. In the **Host Print Transform** window, you will put a check in the **Transform Print Data to ASCII on AS/400**.
9. The **Printer Model** will be **\*WSCST**. You must also fill in the **Customizing Object** and **Library**.

## What printers does IBM's Host Print Transform support?

This would be dependent on the AS400 OS version. V4R4 has the following list:  
Manufacturer type and model (MFRTYPMDL) - Help

Specifies the manufacturer, type, and model for a printer using the host print transform function.

The possible values are:

\*SAME

This value does not change.

manufacturer-type-model

Specify the corresponding manufacturer, type, and model for a printer.

The following list shows the values to be specified for the device you are using:

Note: If \*WSCSTxxx is specified for MFRTYPMDL, a workstation customizing object must be specified.

- \***IBM2380** IBM 2380 Personal Printer Series II, IBM 2380 Plus Printer
- \***IBM2381** IBM 2381 Personal Printer Series II, IBM 2381 Plus Printer
- \***IBM2390** IBM 2390 Personal Printer Series II, IBM 2390 Plus Printer
- \***IBM2391** IBM 2391 Personal Printer Series II, IBM 2391 Plus Printer
- \***IBM3112** IBM 3112 Page Printer
- \***IBM3116** IBM 3116 Page Printer
- \***IBM3130** IBM 3130 Advanced Function Printer
- \***IBM3812** IBM 3812 Pageprinter
- \***IBM3816** IBM 3816 Pageprinter
- \***IBM3912HP** IBM 3912 Page Printer (HP Mode)
- \***IBM3916HP** IBM 3916 Page Printer (HP Mode)
- \***IBM39302** IBM39302 IBM 3930-02S Page Printer, IBM39302 IBM 3930-02D Page Printer
- \***IBM39303** IBM39303 IBM 3930-03S Page Printer, IBM39303 IBM 3930-03D Page Printer
- \***IBM4019** IBM 4019 LaserPrinter, IBM 4019E LaserPrinter E
- \***IBM4019HP** IBM 4019 LaserPrinter (HP Mode), IBM 4019E LaserPrinter E (HP Mode)
- \***IBM4029** IBM 4029-010 LaserPrinter 5E, IBM 4029-020 LaserPrinter 6, IBM 4029-030 LaserPrinter 10, IBM 4029-040 LaserPrinter 10L
- \***IBM4029HP** IBM 4029-010 LaserPrinter 5E (HP Mode), IBM 4029-020 LaserPrinter 6 (HP Mode), IBM 4029-030 LaserPrinter 10 (HP Mode), IBM 4029-040 LaserPrinter 10L (HP Mode)
- \***IBM4037** IBM 4037 5E Printer
- \***IBM4039HP** IBM 4039 LaserPrinter 10D (HP Mode), IBM 4039 LaserPrinter 10D Plus (HP Mode), IBM 4039 LaserPrinter 10R (HP Mode), IBM 4039 LaserPrinter 10R Plus (HP Mode), IBM 4039 LaserPrinter 12R (HP Mode), IBM 4039 LaserPrinter 12R Plus (HP Mode), IBM 4039 LaserPrinter 12L (HP Mode), IBM 4039 LaserPrinter 12L Plus (HP Mode), IBM 4039 LaserPrinter 16L (HP Mode), and IBM 4039 LaserPrinter 16L Plus (HP Mode)
- \***IBM4070** IBM 4070 IJ
- \***IBM4070EP** IBM 4070 IJ (Epson Mode)
- \***IBM4072** IBM 4072 ExecJet

\***IBM4076** IBM 4076 ExecJet

\***IBM42011** IBM 4201-1 Proprinter

\***IBM42012** IBM 4201-2 Proprinter II

\***IBM42013** IBM 4201-3 Proprinter III

\***IBM42021** IBM 4202-1 Proprinter XL

\***IBM42022** IBM 4202-2 Proprinter II XL

\***IBM42023** IBM 4202-3 Proprinter III XL

\***IBM42071** IBM 4207-1 Proprinter X24

\***IBM42072** IBM 4207-2 Proprinter X24E

\***IBM42081** IBM 4208-1 Proprinter XL24

\***IBM42082** IBM 4208-2 Proprinter XL24E

\***IBM4212** IBM 4212 Proprinter 24P

\***IBM4216** IBM 4216-10 Personal Pageprinter

\***IBM4226** IBM 4226-302 Printer

\***IBM4230** IBM 4230-4S3 Printer (IBM Mode) or IBM 4230-4I3 Printer (IBM Mode)

\***IBM4232** IBM 4232-302 Printer (IBM Mode)

\***IBM4244MAN** IBM 4244 Printer (single tractor or manual feed selection)

\***IBM4244ASF** IBM 4244 Printer (single tractor feed and ASF)

\***IBM4244DUAL** IBM 4244 Printer (dual tractor feeds)

\***IBM4247MAN** IBM 4247 Printer (single formfeed or manual selection)

\***IBM4247DUAL** IBM 4247 Printer (dual tractor feeds)

\***IBM4247ASF** IBM 4247 Printer (single tractor feed and ASF)

**IBM4312** IBM 4312 Network Printer

\***IBM4317** IBM 4317 Network Printer

\***IBM4320** IBM InfoPrint 20

\***IBM4324** IBM Network Printer 24

\***IBM4332** IBM InfoPrint 32

**\*IBM47121** IBM 4712-1 Transaction Printer

**\*IBM47122** IBM 4712-2 Transaction Printer

**\*IBM47221** IBM 4722-1 Document Printer

**\*IBM47222** IBM 4722-2 Document Printer

**\*IBM4770** IBM 4770 InkJet Transaction Printer

**\*IBM5152** IBM 5152 Graphics printer

**\*IBM5201** IBM 5201-2 Quietwriter

**\*IBM5202** IBM 5202-1 Quietwriter III

**\*IBM5204** IBM 5204-1 Quickwriter

**\*IBM5216** IBM 5216 Wheelprinter

**\*IBM5575** IBM 5579-H02 Printer, IBM 5579-K02 Printer, IBM 5577-T02 Printer, IBM 5579-S02 Printer, IBM 5577-K02 Printer, IBM 5577-J02 Printer, IBM 5577-G02 Printer, IBM 5577-H02 Printer, IBM 5577-F02 Printer, IBM 5577-B02 Printer, IBM 5575-H02 Printer, IBM 5575-F02 Printer (with SBCS Cartridge), IBM 5575-B02 Printer (with SBCS Cartridge), IBM 5573-K02 Printer, IBM 5573-J02 Printer, IBM 5573-H02 Printer, IBM 5573-G02 Printer, IBM 5572-B02 Printer, IBM 5417-011 Printer, IBM 5407-011 Printer, IBM 5327-011 Printer, or IBM 4208-502 Printer,

**\*IBMPAGES** IBM 5589-H01 Printer, IBM 5588-H02 Printer, IBM 5587-H01 Printer, IBM 5586-H02 Printer, IBM 5585-H01 Printer, IBM 5584-K02 Printer, IBM 5584-H02 Printer, and IBM 5584-G02 Printer

**\*IBMPAGES300** IBM Network Printer 12 (with PAGES feature), IBM Network Printer 17 (with PAGES feature), IBM Network Printer 24 (with PAGES feature)

**\*IBM6400** IBM 6400 Printers (IBM Mode)

**\*IBM6400EP** IBM 6400 Printers (Epson Mode)

**\*IBM6408** IBM 6408-A00 Printer (IBM Mode), IBM 6408-CTA Printer (IBM Mode)

**\*IBM6412** IBM 6412-A00 Printer (IBM Mode), IBM 6412-CTA Printer (IBM Mode)

**\*CANLIPS3** Canon LIPS3 DBCS Printers

**\*CPQPM15** Compaq PageMark 15 (HP Mode)

**\*CPQPM20** Compaq PageMark 20 (HP Mode)

**\*HPDBCS** HP LaserJet-compatible printers for Double Byte Character Set input

**\*HP11** HP LaserJet Series II

**\*HP11D** HP LaserJet IID

\***HP IIP** HP LaserJet IIP

\***HP III** HP LaserJet III

\***HP IIID** HP LaserJet IIID

\***HP IIIP** HP LaserJet IIIP

\***HP IIISI** HP LaserJet IIISi

\***HP1200C** HP DeskJet 1200C

\***HP1600C** HP DeskJet 1600C

\***HP310** HP DeskJet 310

\***HP320** HP DeskJet 320

\***HP4** HP LaserJet 4

\***HP4000** HP LaserJet 4000 series

\***HP5** HP LaserJet 5 series

\***HP5000** HP LaserJet 5000 series

\***HP5SI** HP LaserJet 5Si

\***HP500** HP DeskJet 500

\***HP520** HP DeskJet 520

\***HP540** HP DeskJet 540

\***HP550C** HP DeskJet 550C

\***HP560C** HP DeskJet 560C

\***HP6** HP LaserJet 6 series

\***HP8000** HP LaserJet 8000 series

\***HP COLOR LJ** HP Color LaserJet family

\***HP PAINT** HP PaintJet, HP PaintJet XL, HP PaintJet XL300

\***LEXOPTRA** Lexmark Optra Family (HP Mode)

\***LEXOPTRAC** Lexmark Optra C Color Printer

\***LEXOPTRA-N** Lexmark Optra N Printer

\***LEXOPTRAS** Lexmark Optra S Printer family

\***LEXOPTRASC** Lexmark Optra SC Color Printer Lexmark Optra Color 1200 Printer,

\***LEX2380** Lexmark Forms Printer 2380 Plus

\***LEX2381** Lexmark Forms Printer 2381 Plus

\***LEX2390** Lexmark Forms Printer 2390 Plus

\***LEX2391** Lexmark Forms Printer 2391 Plus

\***LEX4227** Lexmark 4227 Forms Printer,

\***EPSON-DBCS** Epson ESC/P DBCS Printers

\***EPAP2250** Epson ActionPrinter 2250

\***EPAP3250** Epson ActionPrinter 3250

\***EPAP5000** Epson ActionPrinter 5000

\***EPAP5500** Epson ActionPrinter 5500

\***EPDFX5000** Epson DFX-5000

\***EPDFX8000** Epson DFX-8000

\***EPFX850** Epson FX-850

\***EPFX870** Epson FX-870

\***EPFX1170** Epson FX-1170

\***EPLQ570** Epson LQ-570

\***EPLQ860** Epson LQ-860

\***EPLQ870** Epson LQ-870

\***EPLQ1070** Epson LQ-1070

\***EPLQ1170** Epson LQ-1170

\***EPLQ510** Epson LQ-510

\***EPLQ2550** Epson LQ-2550

\***EPLX810** Epson LX-810

\***EPSQ870** Epson SQ-870

\***EPSQ1170** Epson SQ-1170

\***EPEPL7000** Epson EPL-7000

\***EPEPL8000** Epson EPL-8000

\***NECPR201** NEC PC-PR101 or NEC PC-PR201

\***NECP2** NEC P2 Pinwriter

\***NECP2200** NEC P2200 Pinwriter

\***NECP2200XE** NEC P2200 XE Pinwriter

\***NECP5200** NEC P5200 Pinwriter

\***NECP5300** NEC P5300 Pinwriter

\***NECP6200** NEC P6200 Pinwriter

\***NECP6300** NEC P6300 Pinwriter

\***NONE** Printer supports page-descriptor language generated by the CVTIMG API.

**NOTE:** Spoolfiles with device type of \*SCS or \*AFPDS cannot be processed by the Host Print Transform function for these printers.

\***OKI184IBM** Okidata Microline 184 Turbo (IBM Mode)

\***OKI320IBM** Okidata Microline 320 (IBM Mode)

\***OKI321IBM** Okidata Microline 321 (IBM Mode)

\***OKI390IBM** Okidata Microline 390 Plus (IBM Mode)

\***OKI391IBM** Okidata Microline 391 Plus (IBM Mode)

\***OKI393IBM** Okidata Microline 393 Plus (IBM Mode)

\***OKI590IBM** Okidata Microline 590 (IBM Mode)

\***OKI591IBM** Okidata Microline 591 (IBM Mode)

\***OKI400** Okidata OL400 LED Page Printer

\***OKI800** Okidata OL800 LED Page Printer

\***OKI810** Okidata OL810 LED Page Printer,

\***OKI820** Okidata OL820 LED Page Printer

\***OKI3410** Okidata Pacemark 3410

\***PAN1123EP** Panasonic KX-P1123 (Epson Mode)

\***PAN1124EP** Panasonic KX-P1124 (Epson Mode)

\***PAN1124IEP** Panasonic KX-P1124i (Epson Mode)

\***PAN1180EP** Panasonic KX-P1180 (Epson Mode)  
\***PAN1180IEP** Panasonic KX-P1180i (Epson Mode)  
\***PAN1191EP** Panasonic KX-P1191 (Epson Mode)  
\***PAN1624EP** Panasonic KX-P1624 (Epson Mode)  
\***PAN1654EP** Panasonic KX-P1654 (Epson Mode)  
\***PAN1695EP** Panasonic KX-P1695 (Epson Mode)  
\***PAN2123EP** Panasonic KX-P2123 (Epson Mode)  
\***PAN2124EP** Panasonic KX-P2124 (Epson Mode)  
\***PAN2180EP** Panasonic KX-P2180 (Epson Mode)  
\***PAN2624EP** Panasonic KX-P2624 (Epson Mode)  
\***PAN4410HP** Panasonic KX-P4410 (HP Mode)  
\***PAN4420HP** Panasonic KX-P4420 (HP Mode)  
\***PAN4430HP** Panasonic KX-P4430 (HP Mode)  
\***PAN4450IHP** Panasonic KX-P4450i (HP Mode)  
\***PAN4451HP** Panasonic KX-P4451 (HP Mode)  
\***XRX4215MRP** Xerox 4215/MRP (HP Mode)  
\***XRX4219MRP** Xerox 4219/MRP (HP Mode)  
\***XRX4220MRP** Xerox 4220/MRP (HP Mode)  
\***XRX4230MRP** Xerox 4230/MRP (HP Mode)  
\***XRX4235** Xerox 4235 Laser Printing (HP Mode)  
\***XRX4700II** Xerox 4700 II Color Document Printer (HP Mode)  
\***WSCST** Printer is not listed  
\***WSCSTLETTER** Printer is not listed (letter-sized paper)  
\***WSCSTLEGAL** Printer is not listed (legal-sized paper)  
\***WSCSTLEDGER** Printer is not listed (ledger-sized paper)  
\***WSCSTEXECUTIVE** Printer is not listed (executive-sized paper)  
\***WSCSTA3** Printer is not listed (A3-sized paper)

- \***WSCSTA4** Printer is not listed (A4-sized paper)
- \***WSCSTA5** Printer is not listed (A5-sized paper)
- \***WSCSTB4** Printer is not listed (B4-sized paper)
- \***WSCSTB5** Printer is not listed (B5-sized paper)
- \***WSCSTCONT80** Printer is not listed (8-inch continuous forms)
- \***WSCSTCONT132** Printer is not listed (13.2-inch continuous forms)
- \***WSCSTNONE** Printer is not listed (paper size not specified)