Defining Physical Printers

A physical printer is a VTAM printer, a system printer or a dataset, when printing to disk, to tape or to Con-nect.

This section covers the following topics:

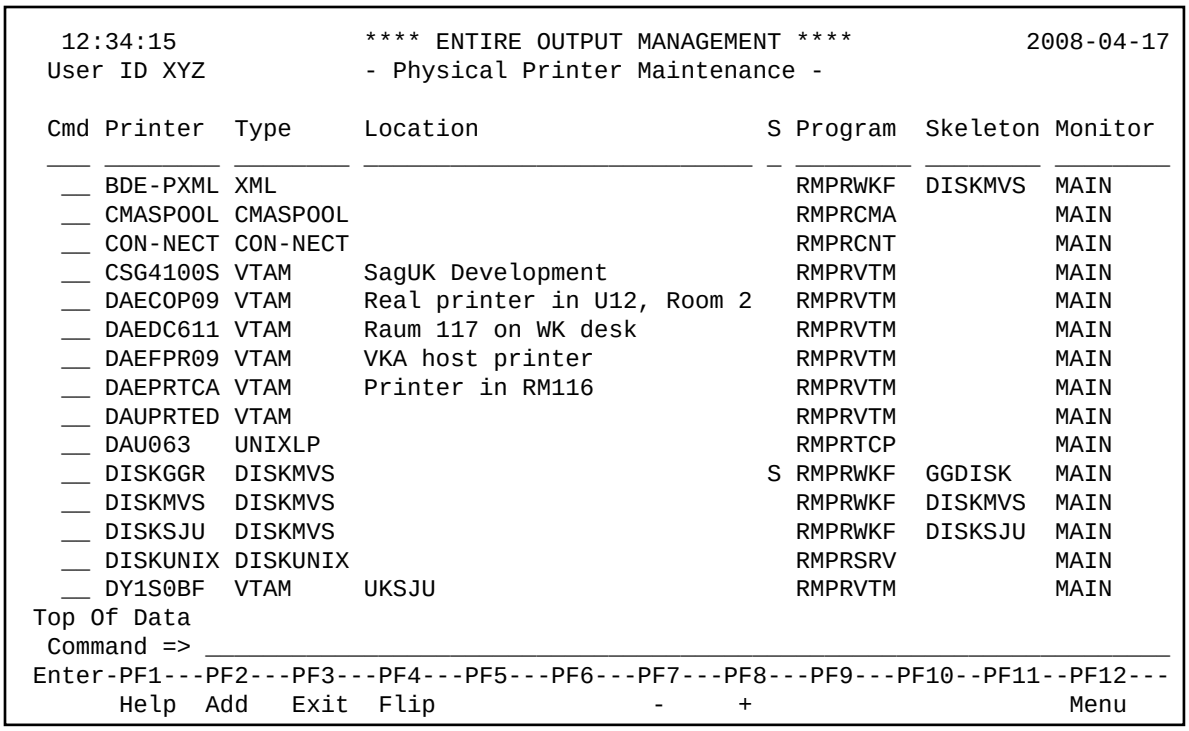
- Listing Physical Printers
- Adding a Physical Printer
- Defining Special Attributes for a Physical Printer
- Defining Substitute Variable Values
- Displaying Special Attributes in Detail
- Printer Attributes
- XML Printers
- UNIXLP – Direct TCP/IP Printing
- NATUNIX
- DISKUNIX
- Deleting a Physical Printer
- Modifying a Physical Printer

Listing Physical Printers

To define a physical printer:

1. Enter `5` in the command line of the System Administration Menu.

   The Physical Printer Maintenance screen is displayed:



This screen lists all defined physical printers which can be used in the system.

Special PF Keys

Key	Name	Function
PF2	Add	Add a physical printer

Line Commands

Command	Function
CO	Copy physical printer definition.
DE	Delete physical printer definition.
DI	Display physical printer definition.
MO	Modify physical printer definition.
ST	Start physical printer.
CL	Close physical printer.

Fields

Field	Explanation
Printer	VTAM ID of physical printer or SYSPRINT for system printer, DISK for printing to disk.
Type	Printer type.
Location	The location of the physical printer.
S	Status of the physical printer: S = printer stopped; blank = printer active (started).
Program	Program which performs the actual printing.
Skeleton	JCL skeleton used when printing in batch mode.
Monitor	The monitor responsible for control of this physical printer.

Adding a Physical Printer

To add a physical printer:

1. Press PF2 (Add) on the Physical Printer Maintenance screen.

   The "Physical Printer > General Attributes" screen is displayed:

   Physical Printer > General Attributes

```
 14:10:27            **** Entire Output Management ****            12/04/2008

User ID XYZ       - Physical Printer >General Attributes

Printer ID ........... ________
Location ............. _____________________________

Monitor ..............
Printer type ......... ________
Print program ........ ________
Job skeleton ......... ________
Escape character ..... _
Maximum lines ........ __________

Time windows
   From ............. _____  _____  _____  _____  _____  _____  _____  _____
   To ............... _____  _____  _____  _____  _____  _____  _____  _____


Command => ____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Add   Exit  Flip  Do    Undo             Attrb Edit        Menu
```

Special PF Keys

Key	Name	Function
PF2	Add	Add a physical printer.
PF9	Attrb	Special Attributes of the printer. This PF key assignment becomes active as soon as general attributes are available for a printer. See the sections Defining Special Attributes for a Physical Printer and Printer Attributes .
PF10	Edit	Edit the skeleton.

Fields

Field	Explanation
Printer ID	Enter the ID of the physical printer.
Location	Enter the location of the physical printer. For example: 2nd floor, room 216.
Monitor	The name of the monitor controlling this physical printer. In a single-mode environment, the name will always be MAIN.

Field	Explanation
Printer type	The following printer types are supported by Entire Output Management: • CMA-SPOOL - Printer CMA-SPOOL. • Con-nect - Print to Con-nect. • DISKMVS - Print data to disk (z/OS). • ECL - Entire Output Management PC Link from Version 2.1.1. • E-MAIL - Physical printer representing one or more email addresses. • NAF - Print on Natural Advanced Facilities logical printer. • SYSPRBS2 - System printer in BS2000/OSD. • SYSPRJES - System printer in JES (z/OS). • SYSPRPWR - System printer in POWER (z/VSE). • TAPEMVS - Print data on tape (z/OS). • TAPEVSE - Print data on tape (z/VSE) . • VTAM - VTAM printer. • XML - XML printer. • UNIXLP - Direct TCP Printing. • NATUNIX - Print on Natural for UNIX. • DISKUNIX - Output to UNIX or Windows file. Enter an asterisk (*) to display a selection list of all printer types.
Print program	Name of the program which does the actual printing.
Job skeleton	Name of the job skeleton in the SYSNOMU library, that is used when printing in batch mode. Press PF10 (Edit) to edit this job skeleton.
Escape character	Special character used to identify substitution variables.
Maximum lines	Enter the maximum number of lines allowed to be printed on this printer.
Time windows from/to	Printing is allowed only during the specified time intervals.

Defining Special Attributes for a Physical Printer

To define special attributes for a physical printer:

1. Press PF9 (Attrb) on the "Physical Printer > General Attributes" screen.

   The "Physical Printer > Special Attributes" screen is displayed:

```
 14:30:48             **** Entire Output Management ****            12/04/2008
User ID XYZ       - Physical Printer >Special Attributes -

Attributes

  Field Prompt     Default Value
  Burst
  Chars
  Class
  Cmpact
  Destination
  Delt
  Disp
  Fcb
  Flash
  Form
  Jsep
  Modify
  Password
  Rbc
Top Of Data
 Command => _____________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Add   Exit  Flip  Do    Undo   -     +    Zoom  Promp Var   Menu
```

Fields

Field	Explanation
Field Prompt	This is used in the logical printer definition as well as in the printout definition screens. The variables listed here depend on the type of printer (see the section *Printer Attributes*).
Default value	The contents of this field will be used if nothing is specified in the logical printer definition.

Special PF Keys

Key	Name	Function
PF9	Zoom	Place cursor on appropriate line and press PF9 to display special attribute in detail. See the Physical Printer>Special Attributes (Detail) screen.
PF10	Prom	Switches display to Field Prompt (as in screen above). These field prompts appear in the logical printer and printout definition screens.
PF11	Var	Switches display to Subst. Variable. These substitution variables can be used if job skeletons are displayed.

Defining Substitute Variable Values

This screen is displayed when you press PF11 on the "Physical Printer > Special Attributes" screen.

Physical Printer > Special Attributes - Subst. Variable Screen

```
 14:51:57             **** Entire Output Management ****            12/04/2008
User ID XYZ       - Physical Printer >Special Attributes -

Attributes
  Subst. Variable Default Value
  BURST___________
  CHARS___________
  CLASS___________
  CMPACT__________
  DEST____________
  DELT____________
  DISP____________
  FCB_____________
  FLASH___________
  FNO_____________
  JSEP____________
  MODIFY__________
  PWD_____________
  RBC_____________

Top Of Data
 Command => ____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Add   Exit  Flip  Do    Undo   -     +    Zoom  Promp Var   Menu
```

Instead of the Field Prompts, the substitution variables that can be used in job skeletons are displayed.

Fields

Field	Explanation
Subst. Variable	This is used if job skeletons are displayed.
Default value	If no substitution variable is specified, this value is taken for function Add Logical Printer.

Special PF Keys

Key	Name	Function
PF9	Zoom	Place cursor on appropriate line and press PF9 to display special attribute in detail.
PF10	Prom	Switches display to Field Prompt. These field prompts appear in the logical printer and printout definition screens.
PF11	Var	Switches display to Subst. Variable. These substitution variables can be used if job skeletons are displayed.

Displaying Special Attributes in Detail

The following window is displayed when you press PF9 on the "Physical Printer > Special Attributes" screen. All parameters of a physical printer's Special Attribute are displayed.

Physical Printer > Special Attributes - Detail Screen

```
 13:37:47            **** Entire Output Management ****            13/04/2008
User ID XYZ       - Physical Printer >Special Attributes -

Attributes

  Field Prompt     Default Value
  Burst
+-------------------------------------------------------------More:       >+
!                                                                          !
!                                                                          !
! Attributes                                                               !
!                                                                          !
!   Subst. Variable .. BURST_____________                                  !
!   No. ............... 5028                                              !
!   Field Prompt ..... Burst                                               !
!   Field Length ..... 1_                                                  !
!   Default Value .... _                                                   !
!                                                                          !
!                                                                          !
+--------------------------------------------------------------------------+

Command => ____________________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit  Flip                                        Menu
```

Fields

Field	Explanation
The following fields *cannot* be modified:	
Subst. Variable	This is used if job skeletons are displayed.
No.	Error number from the SYSERR application used to determine the prompt text.
Field Prompt	This is used in the logical printer definition as well as in the printout definition screens.
Field Length	Length of the input field as used in the logical printer definition.
The following field can be modified:	
Default value	The content of this field is used if nothing is specified in the logical printer definition.

Printer Attributes

Depending on the type of physical printer, there are different sets of physical attributes. The following physical printer types are supported and their attributes explained below:

- CMA-SPOOL
- Con-nect
- DISKMVS
- ECL 2.1.1
- E-MAIL
- NAF
- SYSPRBS2
- SYSPRJES
- SYSPRPWR
- TAPEMVS
- TAPEVSE
- VTAM

CMA-SPOOL

Attribute	Explanation
Account	Enter the account number to be used.
Chars	Enter the character table to be used.
Class	Enter the output class to be used for system printers.
System ID	Enter system affinity.
Fcb	Enter the FCB image that describes the length (and, optionally, width) of a page.
Formdef	Enter the name of the FORMDEF to be used.
Form	Enter the name of the form to be used.
Hold	Should the printout be held by CMA-SPOOL? Enter YES/NO.
Linect	Enter the maximum number of lines to be printed on a page.
Limit	Enter the maximum number of lines allowed.
Filename	Enter the name of the output file.
Pagedef	Enter the name of the PAGEDEF to be used.
Programmer	Enter the programmer’s name.
Prmode	Enter PAGE to use page mode as PRMODE.
Retention	How long should the print file be retained after printing? Enter the retention period (in hours).
Room number	Enter the room number.
Trc	TRC (table reference characters). Enter YES/NO.
Writer	Enter the name of the NJE writer.

Con-nect

Attribute	Explanation
DBID	Database ID of the Con-nect system file.
FNR	File number of the Con-nect system file.
Cabinet	Name of the Con-nect cabinet. You can leave this field blank. In this case, the document is created in the cabinet of the user who issued the printout.
Document name	Name of the Con-nect document. In this case, the document name is constructed from the report/bundle name, the run number of the object to be printed and the run number of the printout.
Document format	Enter the document format to be used: 0 = text document, 1 = Con-form document (default).
Description	Enter up to four lines of document description.
Keywords	Enter up to six keywords for the document.

DISKMVS

Attribute	Explanation
Dataset	Enter the dataset name to be used.
Member	Enter the member name to be used.
Dataclas	Enter the DATACLAS parameter. This corresponds to the DATACLAS JCL parameter.
Dcb	Enter the DCB parameter. This corresponds to the DCB JCL parameter.
Disp	Enter the Disposition parameter.
Expdt	Enter the EXPDT parameter. This corresponds to the EXPDT JCL parameter.
Like	Enter the LIKE parameter. This corresponds to the LIKE JCL parameter.
Lrecl	Enter the record length to be used (for records of variable length, this is the maximum record length + record length field).
Mgmtclas	Enter the MGMTCLAS parameter. This corresponds to the MGMTCLAS JCL parameter.
Msvgp	Enter the MSVGP parameter. This corresponds to the MSVGP JCL parameter.
Recfm	Enter the record format to be used. In addition, this entry determines whether the data are printed with ASA/machine code or without carriage control characters.
Retpd	Enter the RETPD parameter. This corresponds to the RETPD JCL parameter.
Space	Enter the SPACE parameter. This corresponds to the SPACE JCL parameter.
Storclas	Enter the STORCLAS parameter. This corresponds to the STORCLAS JCL parameter.
Unit	Enter the unit type.
Volser	Enter the volser where the dataset is located.
Work file	This entry is made automatically according to the record format (RECFM) used.

ECL 2.1.1

Attribute	Explanation
Service	Enter the name of the label in member SATSRV in library SYSSATU which identifies the set of attributes needed for client/server communication with the print server running under OS/2 or Windows. To use different members specify <member.label>.
Barcode	Enter the name of the BARCODE resource to be used.
Cond. processing	Specifies the maximum nesting level for conditional processing. If it is AFP, this value is always 1. With PFM, the maximum value is 32767.
Destination	Name of a logical destination as defined in ECL.
Disposition	• Hold - Hold before print. • Keep - Keep after print. • Delete - Delete after print.
Formdef	Enter the name of the FORMDEF resource if the output is to be formatted.
Pagedef	Enter the name of the PAGEDEF resource if the output is to be formatted.
Trc	Enter YES if your print file contains font indices.
Trace	Enter YES to activate the trace facility. The trace output will be written to the ESY log.

E-MAIL

Attribute	Explanation
Recipient	Enter up to 10 e-mail addresses to which to send the report. Enter the at sign "@" as "(a)".
Recipient-CC	Enter up to 10 e-mail addresses to which to send the report as "CC" (carbon copy). Enter the at sign "@" as "(a)".
From	This is the name which will appear as the sender of the e-mail.
Node	This Entire System Server node will be used to send the mail. It can be different from the node the Entire Output Manager monitor uses. If this field is left blank, the node number of the monitor will be used. If this is the case, the monitor user ID (usually NOMMON) must be enabled for "UNIX Services" in your security system (like RACF or ACF2). If the node number is different from the monitor’s number, any user ID who sends an e-mail is used for sending and must be enabled accordingly.
Encrypt	In an Entire System Server version above 3.2.1 you will be able to encrypt the e-mail message, if you enter Y here.
Subject	The subject of the e-mail to be sent.

NAF

Attribute	Explanation
Printer Profile	Enter the name of a Natural Advanced Facilities logical printer profile (LPF). The LPF determines which printer is used. For further information, see the *Natural Advanced Facilities* documentation.
CC Table	Enter the PROFILE parameter. For further information, see the *Natural Advanced Facilities* documentation.
Forms	Enter the FORMS parameter. For further information, see the description of the DEFINE PRINTER statement in the *Natural* documentation.
Listname	Enter the NAME parameter. For further information, see the description of the DEFINE PRINTER statement in the *Natural* documentation.
Disposition	Enter the DISP parameter (DEL/HOLD/KEEP). For further information, see the description of the DEFINE PRINTER statement in the *Natural* documentation.

SYSPRBS2

Attribute	Explanation
Orig. attributes	Should original print attributes be used? Enter YES/NO.
Chars-modification	Should all character set characteristics be used or only certain ones? Enter YES/NO.
Chars	Enter one or several character sets to be used for printing.
Class	Enter the job class to be used for the SPOOLOUT job.
Control	Determines whether control characters specific to laser printers should be used.
Destination	Determines logical printer to be used.
Dia	Enter the Formulardia to be used.
Document-format	Specifies the type of the document contents.
Fob	Enter the Forms Overlay Buffer (FOB) for overlaying printed pages with text and pictures.
Form	Enter the type of form to be used.
Header	Determines whether a header line should be printed on each page.
Image	Enter the name of a parameter file containing LOOP-, FOB- and CHARS-POOL sets.
Lines	Enter the number of lines to be printed on a page.
Loop	Enter the name of the LOOP set to be loaded in the carriage information buffer of the printer.
Pagecc	Determines whether control characters should be evaluated.
Pname	Job name for the SPOOLOUT job.
Rotation	Allows page rotation for output on laser printers.
Rotation-loop	Enter the name of loop for output in landscape format.
Shift	Enter the number of columns by which the output text should be indented.
Space	Determines the number of line feeds or the type of carriage control characters contained.
Text	This is stored in the SPOOL Control Block (SCB) for the processing of system exits.
Transl.Table	Enter the code translation table to be activated.
Tray	Enter the number of the tray from which to extract paper for printing.

SYSPRJES

Attribute	Explanation
Burst	Enter the BURST parameter. This corresponds to the BURST JCL parameter.
Chars	Enter one or more 4-byte character set names as in JCL.
Ckptline	Enter the maximum lines in a logical page. This corresponds to the CKPTLINE JCL parameter.
Ckptpage	Enter the number of logical pages to be printed before JES takes a checkpoint. This corresponds to the CKPTPAGE JCL parameter.
Ckptsec	Specify how many seconds of printing are to elapse between each checkpoint for the SYSOUT dataset. This corresponds to the CKPTSEC JCL parameter.
Class	Enter a one-character JES output class for the printout.
Compact	Enter the COMPACT parameter. This corresponds to the COMPACT JCL parameter.
Datack	Enter the DATACK parameter. This corresponds to the DATACK JCL parameter.
Dcb	Enter the DCB parameter. This corresponds to the DCB JCL parameter.
Destination	Enter the JES destination parameter.
Fcb	Enter the Forms Control Buffer. This corresponds to the FCB JCL parameter.
Flash	Enter the FLASH parameter. This corresponds to the FLASH JCL parameter.
Formdef	Enter the name of the library member that PSF uses in printing on a page-mode printer.
Forms	Enter the name of the form. This corresponds to the FORMS JCL parameter.
Index	Enter the INDEX parameter. This corresponds to the INDEX JCL parameter.
Lindex	Enter the LINDEX parameter. This corresponds to the LINDEX JCL parameter.
Lrecl	Enter the LRECL parameter. This corresponds to the LRECL JCL parameter.
Modify	Enter the MODIFY parameter. This corresponds to the MODIFY JCL parameter.
Pagedef	Enter the name of the library member that PSF uses in printing on a page-mode printer.
Prmode	Enter the PRMODE parameter. This corresponds to the PRMODE JCL parameter.
Recfm	Enter the RECFM parameter. This corresponds to the RECFM JCL parameter.
Trc	Enter the TRC parameter. This corresponds to the TRC JCL parameter.
Ucs	Enter the UCS parameter. This corresponds to the UCS JCL parameter.
Work file	This entry is made automatically according to the record format (RECFM) used.

SYSPRPWR

Attribute	Explanation
Burst	Enter the BURST parameter. This corresponds to the BURST JCS parameter.
Chars	Enter one or more 4-byte character set names as in JCS.
Class	Enter a one-character POWER output class for the printout.
Cmpact	Enter the CMPACT parameter. This corresponds to the CMPACT JCS parameter.
Destination	Enter the POWER destination parameter.
Delt	Enter the DELT parameter. This corresponds to the DELT JCS parameter.
Disp	Enter the DISP parameter. This corresponds to the DISP JCS parameter.
Fcb	Enter the Forms Control Buffer. This corresponds to the FCB JCS parameter.
Flash	Enter the FLASH parameter. This corresponds to the FLASH JCS parameter.
Form	Enter the name of the form on which the report or bundle is to be printed. This corresponds to the FORM JCS parameter.
Jsep	Enter the JSEP parameter. This corresponds to the JSEP JCS parameter.
Modify	Enter the MODIFY parameter. This corresponds to the MODIFY JCS parameter.
Password	Enter the PWD parameter. This corresponds to the PWD JCS parameter.
Rbc	Enter the RBC parameter. This corresponds to the RBC JCS parameter.
Rbm	Enter the RBM parameter. This corresponds to the RBM JCS parameter.
Rbs	Enter the RBS parameter. This corresponds to the RBS JCS parameter.
Remote	Enter the REMOTE parameter. This corresponds to the REMOTE JCS parameter.
Sysid	Enter the SYSID parameter. This corresponds to the SYSID JCS parameter.
Ucs	Enter the UCS parameter. This corresponds to the UCS JCS parameter.
User	Enter the USER parameter. This corresponds to the USER JCS parameter.

TAPEMVS

Attribute	Explanation
Dataset	Enter the dataset name to be used.
Disp	Enter the Disposition parameter.
Blksize	Enter the block size to be used.
Recfm	Enter the RECFM parameter. This corresponds to the RECFM JCL parameter.
Lrecl	Enter the record length to be used.
Dcb	Enter the DCB parameter. This corresponds to the DCB JCL parameter.
Label	Enter the LABEL parameter. This corresponds to the LABEL JCL parameter.
Unit	Enter the unit type.
Volser	Enter the volser where the dataset is located.
Work file	This entry is made automatically according to the record format (RECFM) used.
Expiration	Enter the retention period for the dataset.

TAPEVSE

Attribute	Explanation
Dataset	Enter the dataset name to be used.
Volser	Enter the volser where the dataset is located.
Unit	Enter the Unit type.
Disp	Enter the Disposition parameter.
Recfm	Enter the RECFM parameter. This corresponds to the RECFM JCL parameter.
Work file	This entry is made automatically according to the record format (RECFM) used.
Blksize	Enter the block size to be used.
Carriage control	Enter YES, if printing is to be done with carriage control. Enter NO, if not.
Expiration	Enter the retention period for the dataset.

VTAM

Attribute	Explanation
Carriage control	Enter YES, if printing is to be done with carriage control. Enter NO, if not.
Form feed before	Enter the number of form feeds to be performed at the beginning of a printout.
Form feed after	Enter the number of form feeds to be performed at the end of a printout.
Trace	Enter YES, if you want a trace to be written by Entire System Server.
Logmode	Enter a special log mode, if desired.

XML Printers

Physical (and logical) printers of type XML allow XML stylesheets to be merged with XML documents at print time. The output of an XML printer is always a dataset. On z/OS and compatible systems it is a disk file; on z/VSE it is a tape file; on BS2000/OSD it is a print file. An XML printer has the same attributes as its equivalent dataset printer (DISKMVS, TAPEVSE or SYSPRBS2).

Stylesheet in Report Definition

The stylesheet is resolved at print time as follows. If the document contains:

```
<?xml-stylesheet href="[file://EOM/*]">
```

the default stylesheet is taken from the definition of the report being printed. For example, if the report is defined with a stylesheet of

```
HTTP://SERVER1/MYSTYLE.XLS
```

the document is adjusted at print time to contain:

```
<?xml-stylesheet href="[HTTP://SERVER1/MYSTYLE.XLS]">
```

Stylesheet in SYSNOMU

Stylesheets may also be stored as text objects in SYSNOMU. In this case the document (or report definition) may specify something like:

```
<?xml-stylesheet href="[file://EOM/SYSNOMU/MYSTYLE]">
```

This print line is suppressed and the contents of MYSTYLE from library SYSNOMU are inserted in its place. This implies that, for this method of inserting a stylesheet, the `<?xml-stylesheet…>` must be on a line of its own.

Combined Method

The two methods can be combined, so that the document itself refers to `file://EOM/*`, which instructs the print task to take the stylesheet URL from the report definition. The report definition then specifies `FILE://EOM/SYSNOMU/MYSTYLE`, which instructs the print task to suppress the `<?xml-stylesheet…>` and insert the contents of MYSTYLE.

Additionally, a printer exit can specify the stylesheet by inserting a record containing the URL of the stylesheet to be used. The printer exit must not specify `file://EOM/*` but it can specify `FILE://EOM/SYSNOMU/MYSTYLE`. The contents of any inserted stylesheet are not passed to the printer exit. No stylesheet interpretation is performed.

UNIXLP – Direct TCP/IP Printing

- What is Direct Printing?
- Prerequisites

- Installation of Direct Printing
- Usage of Translation Tables

What is Direct Printing?

See*TCP/IP Direct Printing* in the *Concepts and Facilities* documentation.

Prerequisites

The following prerequisite is required for using TCP/IP Direct Printing:

- A print service according to RFC1179 which "speaks" the LPD/LPR protocol. This can be a printer server that processes printer queues (field ’Dest’) or a printer or a conversion box that is directly attached to TCP/IP "speaking" LPR/LPD.

Installation of Direct Printing

Note:
for z/VSE installations: You have to position the TCP/IP library in front of the LE/VSE library in the phase search path. Otherwise, error message EDCV001I will be generated. Sample LIBDEF statement to run TCP/IP programs: `// LIBDEF PHASE,SEARCH=(PRD1.BASE,PRD2.SCEEBASE)`

1. Assemble the Natural batch driver with LE/370 option set to YES. This enables Entire Output Management to access POSIX functions.

   Note:
   Avoid slashes in your Natural parameters. The slash "/" is the escape character which passes the complete parameter block to LE/370 and Natural will not process any of these parameters.

2. Make module ESMLPR available to your ESY server. In z/OS, the dataset in which it is contained (usually NOM.LOAD) must be APF-authorized and a PDSE dataset.

3. Define a DD dataset "SYSOUT" in your ESY startup job. This will be used for tracing and error messages of ESMLPR.

4. Start the monitor and printer tasks with profile parameter RCA=(ESMLPR) (entered in the corresponding SATP*xxx* member in library SYSSATU) to ensure ESMLPR will be loaded dynamically.

5. Define physical printers of type UNIXLP and logical printers pointing to them.

   When you add a physical printer of type UNIXLP, a logical printer with the name DEFAULT*x* (*x* = A to Z) is added automatically. DEFAULT printers contains default values for UNIXLP printer parameters. If the monitor detects an empty parameter value of a logical printer pointing to a physical UNIXLP printer, the corresponding value from the appropriate DEFAULT printer is taken. When you delete a physical UNIXLP printer, the corresponding logical DEFAULT printer is also deleted. DEFAULT printers can be modified like any other logical printer, but they cannot be renamed, deleted or copied.

The following fields are available (besides the field Copies of the general print attributes):

Field	Explanation
Destination	Name of the printer queue of the printer server.
Escape-before-1, -2, -3	Hexadecimal digits, sent as control bytes to printer before printing.
Escape-after-1	Same after printing.
Listname	The name of the listing (passed to the server).
Port	Server port to be talked to; D default: port 515.
Server	IP address or name of the printer server or the printer (if the printer has got an own IP address), IP address in format *nnn.nnn.nnn.nnn* (IPv4). Note that if you enter a name, it has to be fully qualified, i.e. including the DNS name.
User	User ID that can be passed to the destination spooling system. If empty, the Entire Output Management user ID will be used.
Formfeed	• BEFORE - Entire Output Management performs no form feed, and Natural's form feed at the beginning is processed. • AFTER - Natural's form feed at the beginning is suppressed, and Entire Output Management generates a form feed after the document. • NONE - Natural's form feed at the beginning is suppressed, no form feed is generated after the document. • BOTH - Natural's form feed at the beginning is left untouched, and Entire Output Management generates an extra form feed after the document.
Spoolhost	Identifies the Entire Output Management source host.
Spoolnumber	Unique number for "dest.spool". Random if empty.
Table	Name of table in SYSNOMU for conversion.
Trace	0 or *blank* = no, 1 = yes.

6. Print your reports on these logical printers. Entire Output Management will convert ASA or machine-code formatted reports into ASCII (where a skip to the next page is represented by *form feed and carriage return*, a line feed is done using *line feed and carriage return*, regarding the given ASA- or machine code control characters)

7. Send it to the desired printer as usual. The printer task will use low-level TCP communication and create entries such like print time and spool attributes.

Usage of Translation Tables

Entire Output Management itself performs EBCDIC-ASCII conversion using the Natural built-in conversion method, i.e the EBCDIC-ASCII table which can be altered using Natural profile parameter TABA1. This ensures that the conversion can be adapted to the country-specific code page desired.

Additionally the name of a translation table can be entered in the special attributes of a printer of type UNIXLP. This translation table is used subsequently, that is, its translation will be performed after the default translation has taken place.

The lines will be translated using Natural's internal EBCDIC-ASCII table, which can be altered with the Natural TABA1 profile parameter. However, if some more characters are to be altered depending on a printer, you can specify the name of a text object in the TABLE field; this will cause the printer task to read this text object from the library SYSNOMU. The text object has the following format:

```
aaxx
bbyy
...
```

where *aa* and *bb* are the characters that are to be converted (in hexadecimal representation), and *xx* and *yy* are the characters which are to replace them.

These values will be converted after the conversion of the default table has been done. This means, *aa* and *bb* are already ASCII values that are to be altered.

Example of a text object:

```
4145
4246
434A
```

This will translate the whole document into ASCII using the Natural table, then convert the following characters:

```
A to E
B to F
C to J
```

Do not use any comments in such an text object.

NATUNIX

A printer of type NATUNIX works only if Entire Output Management runs under Natural for UNIX.

Natural for UNIX provides a print method which is stored in a NATPARM file. NATUNIX overrides these definitions and gives the opportunity to address files or subsequent UNIX programs that receive the print data.

For example, if NATUNIX calls the print utility LPR, you can reach all destinations LPR can do.

NATUNIX uses the Natural application programming interface (API) USR1069, which changes the printout parameters. For further information, see the API description in the library SYSEXT, if the active report to be printed is a text report.

Binary reports are not printed using the print system of Natural. Instead, a temporary file will be written to directory `$EOM_WORK` and then printed using the command provided in the parameter Printer-Name. If Output-Target "2" is specified, the NATUNIX printer expects a file name according to the rules below. The resulting temporary file is then moved to the target file.

Attributes

Attribute	Explanation
Formfeed	Determines whether and where a form feed is to be inserted: • BEFORE (or *blank*) - form feed before the document; this is the default. • AFTER - form feed after the document. • BOTH - form feed before and after the document. • NONE - no form feed. For binary reports, this parameter is ignored.
Linesize	Number of characters per line. For binary reports, this parameter is ignored.
Max-Pages	Maximum number of pages to be printed. For binary reports, this parameter is ignored.
Output-Target	To define a program to get control after printing enter "1"; to print into a file enter "2".
Pagesize	Number of lines per page.
Printer Name	Name of the program to get control after printing, printer name, or file name which receives the output. **Note:** If this fields contains the character "&" and Output-Target "2" is specifed, the "&" will be replaced by the current timestamp. "&f" will be replaced by the file name and file type of the original file that was loaded to Entire Output Management. Examples: `lpr -P printserver:printer` and Output-Target 1": The printout will be routed to *printer* on *printserver* using the `lpr` command. `$EOM_WORK/&f-&` and Output-Target "2": If you have loaded a file "print.out", a corresponding file will be created in Entire Output Management's work directory beginning with its name and a timestamp after the hyphen.
Print Method	Always " TTY".
Profile	A printer profile; see the description of the API USR1069 in the Natural library SYSEXT.
Trace	Enter "0" (or *blank*) to switch tracing off. Enter "1" to start the tracing of the monitor output (CMPRINT).

DISKUNIX

A printer of type DISKUNIX works if Entire Output Management runs under Natural for UNIX or Natural for mainframes. This printer type is designed to write the print output to a file in a UNIX or Windows file system.

The target system can be local or remote and must run a Entire System Server for UNIX node which is defined in the Entire Output Management UNIX defaults (menu 8.1, menu item 13). If this node is not intended to serve as input node it can be deactivated. DISKUNIX printouts will reach this node regardless of the node status.

After writing the printout file, a command can be executed on the target node that controls further processing. This feature can be used for printing on real printers, routing to other machines, converting the data, etc.

The command line will be concatenated in the format:

```
<Command><Opt1><Opt2><Path>/<Filename>.<Filetype><Parm1><Parm2><Parm3>
```

The resulting output of this command will be written to the file `<Logpath>/<Filename>.log`.

Attributes

Attribute	Explanation
Command	If this field is not empty, a command or a script will be executed on the target system after the printout file has been written. The command will be executed asynchronously; Entire Output Management will not wait for a return code.
Filename	The name of the file to be written to the target system.
Filetype	The file type of the file to be written to the target system. This does not contain the period delimiter (.) between `filename` and `filetype`.
Opt1 and Opt2	Command options before the file ID.
Parm1 to Parm3	Parameters after the command and file ID.
Path	The path of the file to be written to the target system.
Logpath	The path of the output file which is created by `<Command>`. If this field is empty, `<Path>` will be used instead.
Server	The node name of the Entire System Server service that is active on the target system. This has to be defined in the UNIX defaults (menu 8.1, item 13).
Trace	Enter "0" (or blank) to switch tracing off. Enter "1" to start the tracing of the monitor output (CMPRINT).

Deleting a Physical Printer

To delete a physical printer:

1. On the Physical Printer Maintenance screen, enter the line command DE next to the physical printer you want to delete.

   If CONFIRM is set to ON, a window opens asking you to confirm the deletion.

2. To do so, enter the printer name in the input field provided.

   A message confirms the deletion.

Modifying a Physical Printer

To modify a physical printer:

1. On the Physical Printer Maintenance screen, enter the line command MO next to the physical printer you want to modify.

   The Physical Printer Definition screen appears for the physical printer you have selected.

2. You can modify the data displayed by simply entering new data in the input fields.

   When you have finished modifying the physical printer definition, press ENTER to save your modifications.

   A message confirms the modification.