

zSeries Operating System (z/OS, z/VM, z/VSE) Configuration Instructions for the IAPS

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Document revision: 3.0
IAPS rel. compliancy: G50-20

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1 Introduction

This document describes how to create a new IPDS printer for printing directly to the Print Server on an IBM zSeries mainframe under z/OS system. In addition, it is described how to add the printer to the PSF start up procedure and how to share the printer.

In the following examples we will use **IAPS** as the device name and **192.168.0.227** as the IP address.

1.1 Software requirements for the z/OS

- PSF/MVS Version 2 Release 2.0 with APAR OW15599, OW15018 and OW16442.
- MVS Scheduler APAR OW12236 to support two new PRINTDEV keywords: IPADDR and PORTNO.
- TCP/IP Version 3 Release 1, or higher installed and configured on MVS.

Please refer to the following IBM publications for installation descriptions:

Publication name	- number
<i>PSF V3R3 for OS/390 & z/OS Introduction</i>	<i>G544-5625-03</i>
<i>PSF V3R3 for OS/390 & z/OS User's Guide</i>	<i>S544-5630-02</i>
<i>PSF V3R3 for OS/390 & z/OS Customization</i>	<i>S544-5622-03</i>
<i>PSF V3R3 for OS/390 & z/OS Messages and Codes</i>	<i>G544-5627-03</i>
<i>z/OS V1R2.0-V1R6.0 Communications Server IP Network Print Facility</i>	<i>SC31-8833-00</i>

The publications can be ordered from your local IBM office or found on the internet. See for example <http://www-1.ibm.com/servers/eserver/zseries/> . Use the Publication number as search object.

<http://www-1.ibm.com/servers/eserver/zseries/>

<http://www-1.ibm.com/servers/eserver/zseries/zos/>

<http://www.vm.ibm.com/>

<http://www-1.ibm.com/servers/eserver/zseries/os/vse/>

2 Creating a new Printer

To create a new printer, do the following two steps:

2.1 Define the IAPS as a Job Entry Subsystem (JES) printer.

JES is a Subsystem under zSeries Operating Systems that is used for managing input and output, spooling- and queuing print jobs.

2.1.1 Example for JES2:

```
FSS(FSS1) PROC=PSFPROC,HASPFSSM=HASPFSSM

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

2.1.2 Example for JES3:

```
FFSDEF,TYPE=WTR,FSSNAME=FSS3,PNAME=SAMPLE01,
      SYSTEM=SYS1,TERM=NO,

DEVICE,DTYPE=PRTAFP1,NAME=PRT7,
      JUNIT=(,SYS1,,OFF),FSSNAME=FSS3, MODE=FSS,
      PM=(LINE,PAGE,SOSI1),CHARS=(YES,GT12),
      CARRIAGE=(YES,A868),CKPNTGP=100,
      HEADER=YES,WC=(C)
```

2.2 Add the printer to the Print Service Facility (PSF) STARTUP PROC.

Each TCP/IP-attached printer (as the IAPS!) must be defined to PSF with a PRINTDEV statement in the PSF start-up procedure:

```
PRT7  CNTL
// PRT7 PRINTDEV FONTDD=*.FONT01,           /* FONT */
// OVLYDD=*.OLAY01,                         /* OVERLAY */
// PSEGDD=*.PSEG02,                         /* SEGMENT */
// PDEFDD=*.PDEF01,                         /* PAGEDEF */
// FDEFDD=*.FDEF01,                         /* FORMDEF */
// JOBHDR=*.JOBHDR,                         /* JOB HEADER */
// JOBTRLR=*.JOBTLR,                        /* JOB TRAILER */
// DSHDR=*.DSHDR,                           /* DATA SET HEADER */
// FORMDEF=A10110,                           /* FORMDEF */
// PIMSG=(YES,16),                           /* MESSAGES */
// DATAACK=BLOCK,                           /* BLOCK DATA CHECKS */
// TRACE=NO,                                 /* INTERNAL TRACE */
// MGMTMODE=OUTAVAIL,                        /* OUTPUT AVAILABLE */
// DISCINTV=15,                               /* TIMEOUT=15 SECONDS */
// TIMEOUT=REDRIVE,
// FAILURE=WCONNECT,                          /* ATTEMPT RECONNECT */
// IPADDR=192.168.0.227,
// PORTNO=5001,
// PRT7  ENDCNTL
```

2.3 Printer Sharing Parameters

To enable the printer to start other print jobs from other protocols, interfaces or servers these parameters under the PRINTDEV statement must be included in the PSF start-up procedure:

```
MGMTMODE=OUTAVAIL
DISCINTV=15
TIMEOUT=REDRIVE
FAILURE=WCONNECT
IPADDR=192.168.0.227
PORTNO=5001
```

The value 15 for DISCINTV specifies the time in seconds after which the PSF ends the printer session when no output is available. The valid range is from 0 to 8160 seconds. The default value is 0. If DISCINTV=0, the PSF does not end the printer session when no output is available. For activation timeout errors, set the connect timer or activation timer in the PSF settings to 30 seconds or greater.

3 Sample PSF start-up procedure using Job Control Language (JCL)

```

//SAMPLE PROC
//*
// STEP01 EXEC PGM=APSPPIEP,REGION=4096K,TIME=1440
// STEPLIB DD DSN=PSF.LINKLIB,DISP=SHR
// JOBHDR OUTPUT PAGEDEF=V06483, /* JOB HEADER */
// FORMDEF=A10110,CHARS=GT12 /* */
// JOBTLR OUTPUT PAGEDEF=V06483, /* JOB TRAILER */
// FORMDEF=A10110,CHARS=GT12 /* FORMDEF */
// MSGDS OUTPUT PAGEDEF=A08682 /* MESSAGE */
// FORMDEF=A10110,CHARS=GT15 /* */
/*
// FONT01 DD DSN=SYS1.FONTLIB,DISP=SHR /* SYSTEM FONTS */
// DD DSN=INST.FONTLIB,DISP=SHR /* USER FONTS */
/*
// PSEG02 DD DSN=INST.PSEGLIB,DISP=SHR /* PAGE SEGMENTS */
// *
// OLAY01 DD DSN=INST.OVERLIB,DISP=SHR /* OVERLAYS */
/*
// PDEF01 DD DSN=SYS1.PDEFLIB,DISP=SHR /* SYSTEM PAGE DEFS */
// DD DSN=INST.PDEFLIB,DISP=SHR /* PAGE DEFS */
/*
// FDEF01 DD DSN=INST.FDEFLIB,DISP=SHR /* SYSTEM FORM DEFS */
// DD DSN=INST.FDEFLIB,DISP=SHR /* FORM DEFS */
/*
// PRT7 CNTL
// PRT7 PRINTDEV
// FONTDD=*.FONT01, /* FONT */
// OVLYDD=*.OLAY01, /* OVERLAY */
// PSEGDD=*.PSEF02, /* SEGMENT */
// PDEFDD=*.PDEF01, /* PAGEDEF */
// FDEFDD=*.FDEF01, /* FORMDEF */
// JOBHDR=*.JOBHDR, /* JOB HEADER */
// JOBTRLR=*.JOBTLR, /* JOB TRAILER */
// DSHDR=*.DSHDR, /* DATA SET HEADER */
// FORMDEF=A10110, /* FORMDEF */
// PMSG=(YES,16), /* MESSAGES */
// DATAK=BLOCK, /* BLOCK DATA CHECKS */
// TRACE=NO, /* INTERNAL TRACE */
// MGMTMODE=OUTAVAIL, /* OUTPUT AVAILABLE */
// DISCINTV=15, /* TIMEOUT = 15 SECONDS */
// TIMEOUT=REDRIVE, /* */
// FAILURE=WCONNECT, /* ATTEMPT RECONNECT */
// IPADDR=192.168.0.227, /* IP ADDRESS */
// PORTNO=5001, /* PORT NUMBER */
// PRT7 ENDCNTL

```

4 Verify the TCP/ I P Connection.

To verify a connection from the zSeries system to the IAPS:

- Issue the following command from a TSO session:

```
TSO PING 192.168.0.227
```

- In JES2, enter the following command from the System Display and Search Facility (SDSF) menu 6:

```
ping 192.168.0.227
```

5 Test Print.

To test print, you operate the IAPS, with JES operator commands, just as if it were a channel-attached or SNA-attached printer.

Please note:

Since Print Services Access Facility and SAA/PrintManager have been withdrawn from marketing, there is no IBM product to offer a front-end system to submit a print job. Many customers have written their own procedures using ISPF and other functions available in the z/OS system to facilitate this task.

Extract from: *AFP Printing in an IBM Cross-System Environment (GG24-3765-00)*

6 Usefull Tables

6.1 Conversion Scheme

	BORDER [INCH]	EXTENT [INCH]	PELS
A4 WIDTH	0,33	8,27	1905/240
LETTER/LEGAL WIDTH	0,33	8,50	1960/240
B5 LENGTH	0,33	10,12	2349/240
LETTER LENGHT	0,33	11,00	2560/240
A4 LENGTH	0,33	11,69	2726/240
LEGAL LENGTH	0,33	14,00	3280/240
LEGAL EDGE TO EDGE	---	14,00	3360/240

One Inch = 240 Pels (One Inch = 2,54 Cm)

6.2 Some often used Form Definitions (FORMDEF):

6.2.1 Standard.

FORMDEF	WIDTH [PELS]	HEIGHT [PELS]	SOURCE	DUPLEX	STAPLE
F1A10110	39	39	TRAY 1	NO	NO
F1A10111	39	39	TRAY 1	YES	NO
F1A10112	39	39	TRAY 1	TUMBLE	NO
F1A10120	39	39	TRAY 2	NO	NO
F1A10121	39	39	TRAY 2	YES	NO
F1A10122	39	39	TRAY 2	TUMBLE	NO
F1A101E0	-	-	ENVELOPE	NO	NO
F1A101M0	-	-	MANUAL	NO	NO

6.2.2 Stapling with optional finisher.

FORMDEF	WIDTH [PELS]	HEIGHT [PELS]	SOURCE	DUPLEX	STAPLE
F1FC0010	39	39	TRAY 1	NO	YES
F1FC0011	39	39	TRAY 1	YES	YES
F1FC0012	39	39	TRAY 1	TUMBLE	YES
F1FC0020	39	39	TRAY 2	NO	YES
F1FC0021	39	39	TRAY 2	YES	YES
F1FC0022	39	39	TRAY 2	TUMBLE	YES

6.3 Some often used Page Definitions (PAGEDEF):

PAGEDEF	DIRECTION	WIDTH [PELS]	HEIGHT [PELS]	LINES	LPI
P1A06462 ¹	ACROSS	1960	2560	64	6,00
P1A08682	ACROSS	1960	2560	86	8,28
P1B04963	DOWN	3280	1960	49	6,00
P1B06683	DOWN	3280	1960	66	8,28
P1B08262	ACROSS	1960	3280	82	6,00
P1B11082	ACROSS	1960	3280	110	8,28
P1C09182	ACROSS	1905	2726	91	8,28
P1D06063	DOWN	3360	2349	60	6,15
P1D08083	DOWN	3360	2349	80	8,28
P1D08462	ACROSS	2349	3360	84	6,00
P1D11382	ACROSS	2349	3360	113	8,28
P1V04863	DOWN	2560	1905	48	6,15
P1V06483 ²	DOWN	2560	1905	64	8,28
P1V06683	DOWN	2560	1905	66	8,57

1: P1A06462: Use this for a Portrait PAGEDEF

2: P1V06483: Use this for a Portrait PAGEDEF