

OnePrint™

Operator's Guide *(Administration Level)*



THE NEW DIMENSION IN AFP PRINTING

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Chapter 1 : Overview

Getting Around The OnePrint Manuals

OnePrint provides its users with two reader friendly user guides bound together in a convenient loose leaf binder: Operator's Guide and the Quick Reference Installation Guide. To install the OnePrint refer to Installation Reference Guide. This manual contains the information you need to install OnePrint software. The Operator's Guide is used for the user that requires more detailed information regarding the installation and administration of the OnePrint unit.

OnePrint Functionality

OnePrint provides IPDS printing solution from the host to the enterprise networks with the following network printing services.

- OnePrint fully supports printing via NOS (Network Operating Systems) servers such as: Novell, MS Window NT, Windows for Work groups and IBM LAN Server.
- OnePrint supports printing via **UNIX machines** like Sun, HP, and/or DEC (VAX) running TCP/IP.
- OnePrint supports a range of **print servers** such as **HP JetDirect, Lexmark Netport, AxisNPS** that support LPD/LPR printing protocol over TCP/IP, SMB over TCP/IP and Netware (IPX).
- OnePrint supports **DOS/Windows and OS/2 based PC applications** running TCP/IP.
- OnePrint supports **bi-directional protocol** with printer interfaces that support **PPD/PPR (IPDS encapsulation)**.
- OnePrint also supports bi-directional communication with MIO printer-server interface, (i.e. HP Jet Direct attached to HP 4V or HP 5Si or higher). Jet Direct reports to the OnePrint the exact status, in real time, for each printed page enabling OnePrint to report the status to host. This feature provides a fully secured printing process.

Terminology

Configuration	The complete set of parameters associated with OnePrint. These parameter values are stored in the files *.OPC.
Host or IBM Host	These two terms are used interchangeably to refer to an IBM host running either the VM , VSE, or MVS operating system.
LAN Printer	A printer that is designed to be attached to a LAN PC or directly to a LAN and is supported by OnePrint.
Printer Profile	A set of parameters that controls the printer's features.
System Administrator	The individual in charge of maintaining the OnePrint system.
Virtual Printer	The emulation of an IBM host printer by OnePrint.
 <u>Host Terms</u> 	
AFP	Advanced Function Printing. An IBM concept targeted at large enterprise printer solutions.
Cluster Controller (Control Unit)	A device that can control the I/O operations of more than one device connected to it. A cluster controller may be controlled by a program stored and executed in the unit.
Cluster Controller Node	A peripheral node that can control a variety of devices.
IP Address	Internet Protocol Address. A 4-octet address assigned to a network host on a TCP/IP network. The address is assigned locally by the network administrator.
IPDS	Intelligent Printer Data Stream. An IBM defined printer page description language. Part of the AFP concept.
IP Network	Internet Protocol Network. A network which is based on the USA DoD (Department of Defense) IP protocol suit (also called TCP/IP).

Overview

LU Type 1	LU1 supports printers using an SNA character string (SCS) or IPDS data stream. The following IBM printers support LU Type 1: 4028, 381x, 4230, 4224, and 3287.
LU Type 3	LU3 supports 3270 data stream compatible (DSC) printer without SNA character string (SCS)
PU Type 2.0	A physical unit (PU) represents the device and its resources to the network. It has processing capabilities and can communicate with other PUs. A cluster controller is a PU Type 2.0. OnePrint also responds as a PU Type 2.0.
SNA	Systems Network Architecture. An IBM product. The wide spread computer network architecture in the world.
SCS	An SNA character string (SCS) data stream consists of a string of EBCDIC bytes in which data characters and SNA control characters are intermixed.
VTAM	Virtual Telecommunications Access Method (also called ACF/VTAM, Advanced Communications Function/VTAM): Software that controls communications in an IBM SNA environment. It supports a wide variety of network protocols, including SDLC and Token Ring. VTAM can be thought of as the network operating system of SNA.

LAN Printing Terminology

Daemon Process	A term originated in the UNIX environment. Denotes a process, which is running in the background, that is without any screen session. The process is normally started at system boot time.
DNS	Domain Name System. See entry for Domain Name Server below.
Domain Nameserver	A server which contains a central database, linking host names and IP addresses. All requests for name resolution is resolved by this server.
IP Address	Internet Protocol Address. A 4-octet address assigned to a network host on a TCP/IP network. The address is assigned locally by the network administrator.

IP Network	Internet Protocol Network. A network which is based on the USA DoD (Department of Defense) IP protocol suit (also called TCP/IP).
LPD	Line Printer Daemon. A TCP/IP Printer Server used for printing submission of ASCII print jobs.
LPR	Line Printer Requester. A TCP/IP network print command used for redirecting ASCII print jobs to an LPD Daemon.
LPR/LPD	LPR is a network print command that submits print data from one system via TCP/IP LAN. Once the print data is delivered to the destination node, it is printed via LPD. In this case, LPD is simply a print process
Novell Printing Services	User application requiring printing services is redirected into the File Server's print queue. When all the data for a job has been received and stored, the queue management service adds the filename to the queue associated with the printer. The application and user are now able to resume work while the stored print job waits in the queue for transmission by the print server.
Peer-to-Peer Server	Receives data directly from the LAN and sends to print without spooling.
PPD	Page Printer Daemon. A TCP/IP Printer Server used for printing submission of IPDS print jobs including reply.
PPR	Page Printer Requester. A TCP/IP network print command used for redirecting IPDS print jobs to the PPD Daemon (the AFP MIO LAN).
SMB over TCP/IP	SMB (Session Message Block) is a suite of programs that enables the client(s) to access UNIX files and printers. Printers can be re-directed to UNIX machines using the client program. SMB can run over TCP/IP or over Netbios. OnePrint supports SMB over TCP/IP.
SNMP	SNMP (Simple Network Management Protocol) enables network managers to maintain and control the TCP/IP network. Authorized users running SNMP client S/W on local computers can contact remote SNMP server(s). SNMP servers accept the incoming request, perform the specified operation, and return a response.

Overview

Spool Server	Spools the print job for a specified server.
STP	Shielded Twisted Pair. A cable type for LAN. The original IBM cabling type for TokenRing is based on STP.
UTP	Unshielded Twisted Pair. The newer “telephone cable” type. It is normally available in two qualities, the “voice grade” and the “data grade” (type 5). For use in a LAN the “data grade” quality should always be chosen.

Icon Conventions



Indicates a **Noteworthy** item that may be important but not obvious.



Indicates a **Caution**, i.e. a situation that will cause problems if this message is ignored.



Indicates a **Tip** that explains how a given feature can be applied to real-world situations.



Procedure

Indicates a **Step-by-Step Procedure**.

Chapter 2 : Installation

Scope

This chapter describes four types of OnePrint host connections via selected host gateway. Refer to the appropriate portion of this chapter for the type of host connection selected.

OnePrint (PU and LU's) Configuration in the Host

OnePrint can receive print jobs from a host computer when the following requirements are met:

- IBM Host running VM, MVS, DOS/VSE operating system
- The (IBM) host and the OnePrint communication is established via a host gateway (i.e., IBM mainframe, FEP, 3174, etc.)
- The SNA data stream is transmitted using the Logical Link Control (LLC) protocol

OnePrint appears to the host as a Downstream Physical Unit type 2.0. It accepts print jobs sent to LU Ports type 1 (IPDS, SCS) and type 3 (DSC) assigned to this PU.

OnePrint can connect to an IBM Host directly (Encapsulated IPDS) or via a host gateway transferring SNA to LLC in one of the following configurations:

Direct Token Ring Connection	Integrated Token Ring controller on the host or host connection via Front End Processor
SDLC Remote Connection	3174 Cluster Controller contains Token Ring card connected to 37x5 Front End Processor via remote SDLC. 3174 Cluster Controller with Token Ring card attached to host via ICA (Integrated Channel Adapter).
3174 Channel Attached Connection	3174 Cluster Controller providing a real subchannel connection to the host.
LU Pooling (PC SNA Gateway)	SNA Gateway (i.e. Netware for SAA, MS SNA Server) provides host connection PU for the OnePrint.
Encapsulated IPDS (Direct Host connection)	Up to 128 simultaneous TCP/IP Host connections can be established between Mainframe or AS/400 Hosts with TCP/IP stack and OnePrint already installed.

General Setup Procedure for the Host

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Procedure

Perform the following procedures to set up the host communication parameters for the OnePrint PU:

1. Select the appropriate type of host gateway connection from among those described in the following section.
2. Set up the specified VTAM / NCP parameters describing the OnePrint PU. See the sample listings and descriptions for the host gateway connection that you chose in step 1.
3. Record these VTAM / NCP settings on the OnePrint Installation Worksheets to set up the corresponding OnePrint parameters using the OPC program.
4. Fill in the OnePrint Installation Worksheets with the remaining OnePrint parameters that are related to the host gateway. These parameters appear after each set of VTAM / NCP settings shown below.
5. Set up the VTAM / NCP parameters on the host for the LU printer ports (type 1 or 3) that will be routed to LAN printers. Assign these LU ports to the PU definition for OnePrint. The maximum number of LU ports you can assign to OnePrint depends on the OnePrint model, between 4 -128.
6. Record the VTAM / NCP settings for these LUs on the OnePrint Installation Worksheet. You will use this information to set up the corresponding OnePrint parameters using the OPC program.

**Figure 3
Sample VTAM
Listing for a
Direct Token
Ring
Connection**

```

          VBUILD TYPE=SWNET
OnePrint PU  ADDR=01,
              IDBLK=017,
              IDNUM=E0901,
              ISTATUS=ACTIVE,
              MAXDATA=4105,
              MAXOUT=7,
              PUTYPE=2,
              MODETAB=XXXXXXXX, **
Installation Dependent **
              SSCPFM=USSSCS,
              USSTAB=XXXXXXXX, **
Installation Dependent **
              MAXPATH=1,
              PACING=1,
              VPACING=0,
              LANACK=(0,0),      | **
These params are
              LANCON=(10,4),    |
required for a host
              LANINACT=4.8,     |
direct connection
              LANSDDWDW=(2,1),  |
only (937x, 9221).
              LANSW=YES,        |
Not used with a
              SAPADDR=8,        |
FEP.
              MACADDR=00000000  |
* LU1
LUA1001 LU
LOCADDR=2, ISTATUS=ACTIVE, DLOGMOD=RSCSPRT1,

MODETAB=RSCSTAB1, LOGAPPL=RSESA
LUA1002 LU
LOCADDR=3, ISTATUS=ACTIVE, DLOGMOD=RSCSPRT1,

MODETAB=RSCSTAB1, LOGAPPL=RSESA
* LU3
LUA1033 LU
LOCADDR=4, ISTATUS=ACTIVE, DLOGMOD=RSCSPRT3,

MODETAB=RSCSTAB1, LOGAPPL=RSESA
LUA1034 LU
LOCADDR=5, ISTATUS=ACTIVE, DLOGMOD=RSCSPRT3,

MODETAB=RSCSTAB1, LOGAPPL=RSESA

```

Refer to the relevant worksheet when setting the matching OnePrint parameters using the OPC program.

OnePrint and Host Gateway Parameters	Description
Token Ring Address	<ul style="list-style-type: none">• OnePrint's MAC Address
Gateway to Host Address	<ul style="list-style-type: none">• Host Gateway's MAC Address
Local SAP	<ul style="list-style-type: none">• OnePrint SAP (Service Access Point)
Gateway SAP	<ul style="list-style-type: none">• Host Gateway SAP (Service Access Point)
Transmit Window Size	<ul style="list-style-type: none">• Max. I-frames transmitted from OnePrint before waiting for Acknowledgment

Installation

SDLC Remote Connection

OnePrint can accept print jobs from an IBM Host via an SDLC remote link to the LAN Token Ring.

VTAM Description	Corresponding OnePrint Parameter	Description
PU ADDR	None	3174 SDLC I/O Address of the OnePrint.
MAXDATA	Maximum Frame Size	I-field size in the Token Ring I-frame
MAXOUT* TRANSMIT WINDOW SIZE	Receive Window Size	Window size is the number of I-frames transmitted or received before acknowledgment.

* Never set the MAXOUT value to less than the Receive Window Size value.

Figure 4
**Sample
 VTAM/NCP
 listing for an
 SDLC
 remote link**

```

GRPSD19A GROUP LNCTL=SDLC,
                SPEED=19200,
                MODETAB=XXXXXXXX, **
Installation Dependent **
                USSTAB=XXXXXXXX, **
Installation Dependent **
                DUPLEX=FULL,
                CLOCKNG=EXT,
                DYNLU=YES,
                TYPE=NCP,
                DLOGMOD=S32782C,
                DIAL=NO
L1L0          LINE ADDRESS=(001,FULL),
                ISTATUS=ACTIVE
PU3174       PU  ADDR=01,
                MAXOUT=7,
                PASSLIM=7,
                PUTYPE=2,
                MAXDATA=2042,
                ISTATUS=ACTIVE,
                XID=NO

LU1002      LU
LOCADDR=2,DLOGMOD=RSCSSCS,MODETAB=RSCSTAB,LOG
APPL=RSESA
LU1003      LU
LOCADDR=3,DLOGMOD=RSCSDSC,MODETAB=RSCSTAB,LOG
APPL=RSESA
OnePrint PU   ADDR=02, **
OnePrint's SDLC Addr **
                MAXOUT=7,
                PASSLIM=7,
                PUTYPE=2,
                MAXDATA=2042,
                ISTATUS=ACTIVE,
                XID=NO

LU1102      LU
LOCADDR=2,DLOGMOD=RSCSSCS,MODETAB=RSCSTAB,LOG
APPL=RSESA
LU1103      LU
LOCADDR=3,DLOGMOD=RSCSDSC,MODETAB=RSCSTAB,LOG
APPL=RSESA

```

Installation

Fill in the IBM 3174 Customization Questionnaire with the parameters shown below. Also note these values on the OnePrint Installation Worksheets.

Refer to these worksheets configuring the 3174 host gateway cluster controller and setting the matching OnePrint parameters using the OPC program.

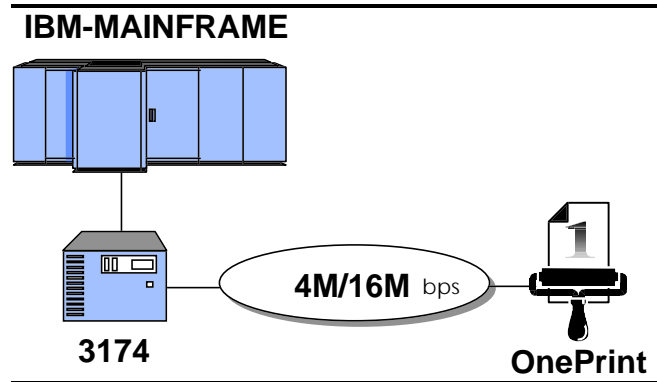
IBM 3174 Customization Questionnaire	Corresponding OnePrint Host Gateway Parameter	Description
940 - Ring Address Assignment	Token Ring Address (TRAddress)	OnePrint's MAC Address
900 - Common Network	Gateway to Host Address (GwAddr)	Host Gateway's MAC Address
940 - Ring Address Assignment	Local SAP (OPSAP)	OnePrint SAP (Service Access Point)
900 - Common Network	Gateway SAP (GwSAP)	Host Gateway SAP (Service Access Point)
*941 - Ring Transmission Definition Maximum-Out	Receive Window Size (RecWinSize)	Window size is the number of I-frames transmitted or received from host before Acknowledgment
941 - Ring Transmission Definition I-frame size	Maximum Frame Size	Specifies the maximum number of bytes the physical unit can receive in a single data transfer

* Never set the MAXOUT value to less than the Receive Window Size value.

Channel Attached Connection

A host computer can be connected to OnePrint via a 3174 channel attached connection. This type of connection is used to link a host computer directly to a 3174 cluster controller that is attached to the LAN (Figure 5).

Figure 5
Connecting
OnePrint via
3174 Channel
Attached
Connection



OnePrint can accept print jobs from a IBM Host via a channel-attached 3174 LAN gateway.

The following VTAM parameters must be set up to establish a 3174 channel-attached connection. An example of how these parameters appear in an actual VTAM listing is shown in Figure 6.

VTAM Description	Corresponding OnePrint Parameter	Description
CU ADDR	None	OnePrint Real Subchannel I/O Address. (This address falls between the 3174 controller's base address and the Upper Limit Address.)
MAXBFRU	None	Number of buffers VTAM uses to retrieve data from the Physical Unit

Figure 6
**Sample VTAM
 Listing for a
 3174 Channel
 Attached
 Connection**

```

          VBUILD TYPE=LOCAL
PU3174  PU    CUADDR=510,          **
PHYSICAL UNIT ADDRESS **
          PUTYPE=2,
          SSCPFM=USSSCS,
          XID=YES,
          DYNLU=YES,
          MAXBFRU=40,
          NETID=NETA,
          DLOGMOD=D4A32782,      **
DEFAULT LOGON MODE ENTRY NAME **
          MODETAB=XXXXXXXX,      **
Installation Dependent **
          USSTAB=XXXXXXXX,      **
Installation Dependent **
ONEPRINT PU    CUADDR=511,          **
PHYSICAL UNIT ADDRESS **
          PUTYPE=2,
          MAXBFRU=40,
          SSCPFM=USSSCS,
          DLOGMOD=D4A32782,      **
DEFAULT LOGON MODE ENTRY NAME **
          MODETAB=XXXXXXXX,      **
Installation Dependent **
          USSTAB=XXXXXXXX,      **
Installation Dependent **
LASI GATESX101 LU
LOCADDR=02,DLOGMOD=RSCSPRT1

MODETAB=RSCSTAB1,LOGAPPL=RSESA
LASI GATESX102 LU
LOCADDR=03,DLOGMOD=RSCSPRT3,

MODETAB=RSCSTAB1,LOGAPPL=RSESA
  
```

Fill in the IBM 3174 Customization Questionnaire with the parameters shown below.

IBM 3174 Customization Questionnaire	Corresponding OnePrint Host Gateway Parameter	Description
940 - Ring Address Assignment	Token Ring Address	OnePrint's MAC Address
900 - Common Network	Gateway to Host Address (GwAddr)	Host Gateway's MAC Address
940 - Ring Address Assignment	Local SAP (OPSAP)	OnePrint SAP (Service Access Point)
900 - Common Network	Gateway SAP (GwSAP)	Host Gateway SAP (Service Access Point)
941 - Ring Transmission Definition Maximum-Out	Receive Window Size (RecWinSize)	The number of I-frames transmitted or received before Acknowledgment
941 - Ring Transmission Definition I-Frame Size	Maximum Frame Size	Maximum number of bytes physical unit can receive in a single data transfer

Installation

Encapsulated IPDS For Mainframe Running MVS With TCP/IP Stack

OnePrint supports direct TCP/IP host connection for Mainframes running PSF/MVS with TCP/IP stack already installed. The following are the host requirements needed to run IPDS over TCP/IP directly from the mainframe:

- PSF/MVS Ver. 2 Rel. 2 with APAR OW15599
- MVS Scheduler - APAR OW12236 to support:
IPADDR
PORTNO
- TCP/IP Ver. 3 Rel. 1 or higher, configured on MVS.

IPDS over TCP/IP host connection is similar to the IPDS over SNA network **MGMTMODE** (except **MGMTMODE** = **DIALIN**), **DISCINTV**, and **TIMEOUT PRINTDEV** parameters are supported. Each TCP/IP host connection is controlled by **PRINTDEV** and is defined to a JES class so that jobs are picked up off the JES spool like any other printer.

The following are the configuration steps to be performed for running PSF/MVS with TCP/IP stack. (For more details refer to Appendix D in the OnePrint Installation Reference Guide)

- Define the MVS communications control unit to MVS.
- Modify the TCP/IP profile on your MVS system, if necessary.
- Ping the printer.
- Define the printer as a writer controlled printer to JES.
- Define the printer to PSF with a **PRINTDEV** statement including the IP-address and **PORT** number (5000+ OnePrint port number).

For detailed installation description please refer to IBM publication: Print Service Facility/MVS, Update Guide Version 2, Release 2, Modification 0, Publication No. G544-3984-01

Encapsulated IPDS For AS/400 With TCP/IP Stack

Direct TCP/IP AS/400 Host connection for AS/400 running PSF/400 with TCP/IP stack already installed. The following are the host requirements needed to run IPDS over TCP/IP directly from AS/400:

- OS400 V3 R1 or higher with PSF/400
- Latest cumulative PTF C5227310 or higher
- PSF/400
- TCP/IP software (stack) must be loaded

Perform configuration as follows:

- Add the WRKAFP2 command according to IBM instruction (call for more detailed).
- Create a new printer.
- Modify the device description, using the command WRKAFP2 (set IP as OnePrint IP and the port as 5000+OnePrint port number example: OnePrint port 128 will be 5128 in the WRKAFP2 port definition).
- Vary ON the printer.
- Start the printer.

For more details regarding AS/400 Host connections over TCP/IP network, refer to Appendix E of the OnePrint Installation Reference Guide.

For more details regarding host connections for IBM AIX (PSF/6000 version 1.2.0 or higher) or IBM OS/2 (running OS/2 Version 3.0 or higher), refer to Appendix D of the OnePrint Installation Reference Guide.

Assigning Host Print Jobs to LAN Printing Services

The following paragraphs describe OnePrint network printing services for: Novell (IPX), LPD, SMB (NetBIOS) over TCP/IP, PPD/PPR (Encapsulated IPDS) over TCP/IP environments. The LU port for each host printer is mapped to a printer or print queue on the LAN. OnePrint functions as a user sending print jobs to the print queue. The LAN operating system is responsible for sending jobs to the LAN attached printer.

Novell Printing Services

- **User Account** - Set up using Novell's SYSCON utility for each designated OnePrint server receiving print jobs. OnePrint account is handled/set identical to any standard user. Single OnePrint account is requested on each server regardless of the number of print queues or print servers.



Note

-
1. It is recommended to disable OnePrint time restriction parameters.
 2. Disable OnePrint "Change Password" parameter.
 3. OnePrint does not require any volume space in the file server's memory allocation.
-

- **Print Queues** - Print queue may be assigned to each host LU port or a single print queue can serve multiple LU ports.

- **Print Servers** - Multiple print servers may be set up to deal with host print jobs being sent to LAN print queues.



Note

Disable the Filter type options when setting print servers.

- **LAN Printers** - Different types of LAN printers can be connected to a single print queue. OnePrint automatically directs print job to designated printer. To use additional LAN printers ensure that printer has been defined to a OnePrint print queue .

LPD/LPR Printing Services over TCP/IP

- **Print Queues** - For **spool servers** a print queue is assigned to each host LU port. A single print queue can serve multiple LU ports. For **peer-to-peer servers** this definition is optional, according to the server model.
- **Print Servers** - Print servers definitions apply to **peer-to-peer servers** only.



Note

Print server should be set without any filters!

SMB over TCP/IP LAN Printing Services

- **User Account** - On each server that is to receive OnePrint print jobs, set up a dedicated existing or new user account for OnePrint. You can set up the same restrictions and access rights to the OnePrint user account as for any other account. Only one OnePrint account is needed on each server regardless of the number of print queues. Enter **User Password** for Server that supports user-level security (i.e. LAN Server, LAN Manager)
- **Print Queues** - Printer name. - In OnePrint's configuration you can assign a print queue to each host LU port or a single print queue can serve multiple LU ports. Enter **Printer Password**, if the Server supports shared-level security (i.e. Windows Servers), or the Server requests password for its printer access.



Note

The OPC enables single **password** parameter. Select **user** (*define user password*) or **shared level** (*define printer password*) security passwords.

Installation

Encapsulated IPDS (PPD/PPR) over TCP/IP

OnePrint establishes bi-directional dialogue with printer or printer interface that supports the PPD/PPR protocol (Encapsulated IPDS) over TCP/IP network. Each LU is treated as a OnePrint client that sends IPDS print jobs Encapsulated over TCP/IP network.

Ensure that the PPD/PPR and IP address have been configured in the OPC. The printers (i.e. IBM 311X or 3130) or printer interface will implement the IPDS.

Local (Parallel) Output To Shared Printer

Local output to printer is performed by sending data directly to OnePrint units with local parallel interface via LPT1 or LPT2.

LU Pooling

OnePrint is connected to the host via PC based SNA Gateway that is PU type 2.1 (i.e. IBM OS/2 Communication Manager, Novell Netware for SAA, or Microsoft SNA Server). A pool of LU's is redirected by the SNA Gateway to the OnePrint which then converts each host print job to the target ASCII printer emulation. Ensure that the following parameters are defined in the OPC:

Gateway LAN Address, SAP, I-Frame=4096 (recommended)

To speed up print jobs, set the RUSIZE value in the host **logmode** to a higher level (such as 4A4A which is 4096 bytes).

OnePrint using CICS

When using CICS host environment ensure that the following definitions have been implemented.

1. Ensure that logmode definitions in VTAM and CICS match.

Mismatched definitions such as LU1 (in VTAM) and LU3 (in CICS) will deactivate the session after first print job is sent.

Sending an IPDS print job to SCS defined port (in CICS) will deactivate the active session.

2. Ensure that Frame Size definitions match. Mismatched definitions deactivate PU (OnePrint) and the LU after the job has been sent.

Chapter 3 The OnePrint Configuration Program

After installing OnePrint, configure its parameters using the OnePrint Configuration (OPC) program. This chapter describes the process of setting parameters related to host communications, LAN, host and PC printers, and OnePrint administration. These parameters are stored in a Configuration File on the OnePrint unit.

OnePrint configuration parameters can be set either from a PC running the OPC program, or from a Host terminal. Use the OPC program when installing OnePrint and configure the parameters in their order of appearance. OnePrint configuration parameters can be changed by a PC running the OPC program, using the Remote Management option.



Note

A newly installed, unconfigured OnePrint can not be managed remotely! The first configuration should always be performed by using manual upload of a configuration file.

Installing OnePrint's Configuration Program (OPC)

This section describes how to install and run the OPC program. The OPC program (disk. 0) can be installed on either a LAN server or a stand-alone PC running DOS. The installation program creates the directory \OPC and copies all related files to this location.



Note

The OPC program must be run on a different PC than the one used for the OnePrint unit.

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③
Procedure

OPC program installation:

1. Check that the PC meets these minimal requirements:
 - 386 processor or higher.
 - 2MB RAM (1MB extended RAM using HIMEM.SYS driver)
 - MS-DOS 3.3 or higher running in Windows or OS/2.
 - Remote management (OPC) runs over IPX or TCP/IP network
 - For remote management (OPC) in OS/2 load Netware requester for OS/2
 - Mouse with a DOS mouse driver
 - 3.5" disk drive, 1.44 MB (1MB free disk space)
 - SVGA color display
 - 500 KB available on disk (at runtime)
2. Make a backup copy of the original OnePrint installation disks using DISKCOPY.
3. From the DOS prompt enter the following command:
> **A:INSTALL <source> <destination
drive\sub-directory>**
(default destination path: C:\OPC)

General Precautions

Backup

You should make a backup of OnePrint configuration file under the following circumstances:

- After initial OnePrint set up.
- After making changes to OnePrint's configuration using the OPC program.
- After making significant changes to OnePrint's configuration using Host Setup Commands.

To copy OnePrint configuration files to diskette for backup purposes, use the option `Copy Configuration File to diskette` option of the OnePrint Menu.

Restore

You may need to restore OnePrint configuration files from diskette under the following circumstances:

- These files become unreadable on the hard disk.
- You wish to cancel changes to OnePrint's configuration and revert to a previous configuration.

To restore OnePrint configuration files from diskette, select the option `Copy Configuration File from Diskette` option of the OnePrint Menu

Installing OnePrint OPC Program

When running the OPC program a Login Name prompt appears, type: SUPERVISOR. The password prompt will appear, type in STORM. This password can be changed by the supervisor at a later stage. To configure OnePrint for the first time perform the following:

①
②
③
Procedure

1. Run the OPC program from DOS. Key in OPC and press Enter.
2. Open the configuration file by doing one of the following:

➤ *Creating a New Configuration* - Select Setup, File, New and choose your OnePrint model from the menu.

➤ *Editing an Existing Configuration* - Select Setup, File, Open and choose the name of the configuration file on the diskette.

3. Make required changes to the parameters. See the last section of this chapter for a description of the parameters on each screen.
4. Save the configuration file to a diskette by selecting: Setup, File, Save (or Save As)
5. Insert diskette into the OnePrint unit. Run "Configuration utility" in OnePrint. Select "Load File From Diskette" and insert the configuration file name.



Note

Restart OnePrint by selecting file name in order for the new configuration to take effect.

1. Ensure that the diskette used for configuration transfer is **not** write-protected. If a write-protected diskette is inserted, the following message will appear: "Failure in input file".
2. If you have just installed a new version of the OPC program, you will see an upgrade message the first time you open the old configuration file. The process of opening an old file automatically converts it to the new format. Any new parameters not supported by the old OPC program will be set to their default values during the conversion. OnePrint is backward compatible with older OPC versions.
3. If port selection exceeds the defined plug quantity of printer ports the system will automatically (no warning message will appear on the screen) set the number of available ports according to the plug restrictions.

Running OPC Over IPX or TCP/IP Network

OPC can work over IPX or as a PD (Packed Driver) over TCP/IP. Packed Driver (PD) is a multi-protocol specification which developed by the FTP Corporation and used in many application :Clarkson Telnet TN3270, TRUMPET WinSock, Sun PC-NFS.

OPC Over IPX

OPC works as an IPX based application that controls the OnePrint remotely using **SNMP over IPX** . Load the following drivers .

- LSL, ODI DRIVER (Ethernet or Token ring), IPXODI, OPC REMOTE IPX Based

OPC Over IP

OPC works as a PD (Packed Driver) based TCP/IP application that controls the OnePrint remotely using **SNMP over UDP/IP**. Load the following drivers.

DOS (PD Driver Based)

Ethernet: Packet Driver (supplied from the NIC manufacture set to software interrupt 0x60) OPC Remote PD Based.

DOS (ODI Driver Based)

Ethernet: LSL, ODI Driver, ODIPKT 0 96, OPC Remote PD based

Token Ring: LSL, ODI Driver, ODITRPKT 1 96, OPC Remote PD based.



Note

For Ethernet set Frame type in the NET.CFG to ETHERNET_II. For TOKEN RING set Frame type to TOKENRING _SNAP. Add LINK support line for Ethernet and Token Ring. ODIPKT and ODITRPKT are shareware and can be downloaded.

DOS (ASI Driver based)

TokenRing: ASI Dixie-mod drivers:

DEVICE=C:\lans_dir\DXMA0MOD.SYS,

DEVICE=C:\lans_dir\DXMC0MOD.SYS,

DEVICE=C:\lans_dir\DXMT0MOD.SYS,

STACKS=9,512

IBMTOKEN 0X60 (shim program that converts the ASI interface to PD interface)

OPC REMOTE PD Based

WINDOWS (NDIS based)

Ethernet or TokenRing:

NDIS version 3

Ndis3pkt.386 (Virtual Device which provides a packet driver interface on the top of NDIS version 3)

OPC REMOTE PD Based

Important Information For The User

- OPC automatically identifies the protocol layer IPX or IP according to the software interrupt - INT 0X60 - IP Packet Driver or INT 0X7A - IPX .
- It is not recommend to work simultaneously with two protocols as this can cause hang.
- When working with PD edit the OPCIP.CFG file as follows:
 - IP ADDRESS
 - GATEWAY'S ADDRESS
 - OnePrint IP address behind the gateway's



Note

Since more than one environment can be used, ensure you select only those parameters that are applicable to your Host and LAN communication requirements.

When setting up OnePrint for the first time, continue through each of the following Main Menu Bar options (as shown below) in the order in which they appear at the top of the screen.

SETUP	SYSTEM	ADAPTERS	INTERFACE	PRINTING	HOST
--------------	---------------	-----------------	------------------	-----------------	-------------

Within each Main Menu option, select each of the submenu options as they appear from top to bottom for your specific environment requirements.

Menu Configuration According To Network Protocol

Main Menu	Setup	System	Adapters	Interface			Printing		Host
				Netware	INET	Service	Server	Printer	
LAN Protocol				Netware	INET	Service	Server	Printer	
Novell	✓	✓	✓	✓	-	-	✓	✓	✓
TCP/IP (LPD/LPR)	✓	✓	✓	-	✓	✓	✓	✓	✓
SMB over TCP/IP	✓	✓	✓	-	✓	✓	✓	✓	✓
PPD/PPR	✓	✓	✓	-	✓	✓	✓	✓	✓

LEGEND:

- ✓ **Menu must be filled in.**
- **Menu does not need to be filled in.**

The table shown above shows all the menus that should be configured under each network protocol that is supported by OnePrint.

ace

use and a keyboard.
ply such as:

(Highlighted letter)

creen. This line gives
med.

en buttons (icons) that

tables.

enus.

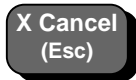
l in current
t (ASCII) file to
riate file name
CONF.PRN).

ut closing the

Configuration Program



Okay (F10). Saves and closes the screen



Cancel (ESC) Cancel requested operation



Change Changes directory



Make Directory This option appears only when user attempts to change a directory to a new directory that does not exist. Make Directory allows the creation of this new directory



Ignore Ignores last error



Ignore all Ignores all previous errors of the same type for the entire defined action



Retry Attempt previously failed active another time

The following are descriptions for the active screen buttons (icons) that appear throughout all OPC **table** procedures:



Delete item



Edit/Update



Copy (F5)













Discovery Sends a query to the network to search for OnePrint Units. OnePrint units reply with their name, location model and version. It takes 15 seconds for the OPC to collect and display OnePrint unit(s) lists.

Maintaining Records in a Table

Select desired activity as listed below using the icons table.

Insert (Edit / Examine)	Copy	Delete	Print	Refresh
-------------------------	------	--------	-------	---------

Initially, all records are empty and are tagged as inactive. As new records are created (using Insert or Copy) they are tagged active as indicated by an * besides the record number in the table. New records created by using Insert, are initialized with default values.

Table Operation	Procedure
Insert (Edit / Examine)	When inserting a new entry select the first available blank slot Press  or  to select the entry and bring up the Parameters screen. Enter the fields shown to set up the record. (A detailed description of each field is presented below in the section entitled "Using the OnePrint Configuration Program".) Press either  to accept the record or  to abort any changes.
Copy	Mark, first, certain record to be copied. Press  to bring up the "Copy From...To" screen, copy records. Specify the range of records that the marked record should copy to.
 Tip	After copying a record, change the fields in the new record that are different from the original. Press  to bring up the Parameters screen to edit the fields. Press  to accept the record or  to abort any changes.
Delete	Press  to delete the record(s) 'From....To'.



Note

OPC can not perform absolute error checking of the parameters entered. Error message will appear if all valid data such as server names, print queues, printer types, etc. is missing or incorrect.

File - This submenu summarizes all operations performed in the configurations files.

New

Use New to create a default Configuration File containing factory default values for your specific OnePrint model.

Open

Enables the user to open/revise an existing Configuration File. Only files ending in the extension .OPC in the currently selected directory are displayed in the displayed files list. Select the desired configuration file from those shown in the list.

Close

Used after editing a configuration file. Save before closing. A warning will appear if changes have not been saved.

Save

Saves the current configuration file to the current working directory. It is recommended to save work at 15 minute intervals throughout an editing session to guard against unexpected power failures.



Caution

Selecting **No** while saving will cause loss of current data!

Save As ...

Save As allows the user to change the name of the currently open configuration when it is saved to disk. Enter a valid DOS file name (up to 8 characters) with no extension. Letters and numbers are acceptable. All other characters are disallowed.

Remote

Select this option for remote management of the OnePrint.

The following sub-menus are available under the 'Remote' option:

Connect

This command creates a session between the remote PC running OPC and the selected OnePrint unit. When selecting 'Connect' a host list table appears on the screen. After selecting the desired OnePrint unit for connection, a password prompt, set by the supervisor, will appear (see 'System - Security' submenu). The Discovery option (icon) allows the user to send a query to the network to search for OnePrint units. Each respective OnePrint unit replies with its name, location, model, and version. Discovery can be run at a later time in the event the OPC cannot locate the OnePrint requested. Reasons for inability to locate may include: unit is down or busy or the network is overloaded

Disconnect

This command terminates the OPC and the OnePrint unit's session (available only if an active session exists).

Option

This command sets the 'Remote Management' options. The following parameters can be set:

Number of Retries

Number of retries performed if the OPC is not answered by the remote OnePrint unit (default = 5).

Timeout

Determines the timeout period between retries (default = 20000ms).

List file name

The file that contains a list of all hosts recognized by the OnePrint on the network. This file is created after activating 'discovery', and can be used to select a host in order to establish a session (default filename = hostlist.hst)

Transfer

Transfer is the implementation of a simple self defined file transfer protocol. This option transfers configurations between a source and a destination for local as well as remote configurations. The destination is always an already open file ('File - Open' or 'File - New'), or a file from a remote OnePrint unit ('Remote - Connect').

From Unit

Allows the user to transfer a configuration from the selected OnePrint unit to the OPC platform or to another OnePrint unit. A host list table appears on the screen. Select a OnePrint unit to transfer a configuration from. After selecting the unit a password prompt will appear on the screen. This password was set by the supervisor for that specific unit (see 'System - Security' menu).



Note

-
1. After 'Transfer' the previous destination configuration data is overwritten!
 2. After 'Transfer' to File, the data just transferred **must be** saved.
-

The source and destination models do not necessarily have to match. In any case, the destination model will remain unchanged. However, if the source model is smaller than the destination model, only the common part will be transferred, (e.g., if the destination model has 16 LUs and the source model has 4 LUs, after transfer of the configuration, only the first 4 are re-defined from the source data, the remaining 12 ports stay unchanged).

Transfer from Unit to File

Used to transfer the OnePrint unit configuration to the OPC platform (and may be saved to a file using the 'Save' option).

Transfer from Unit to Unit

Used to transfer the configuration from one OnePrint unit to another. If identical units reside on the network, identity parameters (e.g., Token Ring address) must be modified before powering on the unit with new parameters to avoid clashes.

From File

Allows the transfer of an existing configuration file. Only files with the extension .OPC in the current directory are displayed in the file list. Select the configuration file requested for transfer from the list presented. Press <F10> or <Enter> to transfer the file.



The destination OnePrint unit and the OPC have to be the same version.

Note

Transfer from File to File

This is used for upgrading configurations in the following cases:

1. Change Model 4/8/16/32/64/96/128.
2. Change between IPDS/ non-IPDS (and vice versa).

Transfer from File to Unit

This option is used to transfer a configuration file to the OnePrint unit. After transferring a file only the immediate parameters will take effect. The other (new) parameters will be effective selectively only after:

- Next Job
- Reset LU's
- Save and Load Configuration
- POR (Power On/Reset)
- Error Recovery

Security

Allows the system supervisor to change the password. This password must be entered at the startup of the OPC program. The password provides security access to the OnePrint parameters.

Utility

The Utilities submenu available on the local PC.

Print

Prints the configuration as a text file to the disk. Enter file name (Default file name is CONF.PRN). to add newly printed information to the end of file mark the "Append" box.

Topology Summary

Displays main information of the summary topology on the screen. In order to print full summary table into a file press F4. Summary. PRN is the default file name.

About

This option displays the following information about the currently running OnePrint:

Version The current configuration version.

User The Login name of the current OPC user.

Exit

The option allows the user to exit the OPC and return to the DOS prompt. A warning message will appear before exit is completed if any changes have not been saved.

System - OnePrint Administrative Settings

Info

Name (OPName)

Logical name of the OnePrint unit assigned by the system administrator. This name is mandatory. It must be a unique name for each OnePrint unit installed on the same network.

Version

This field (read only) will be automatically filled out only when using the Remote Management option. This is the software version of the OPC.

Model

This read only field will be automatically filled out only when using the Remote Management option. This is the model of the identity plug.

Serial Number

This field (read only) will be automatically filled out only when using the Remote Management option. This is the serial number of the identity plug.

Description (Description)

Text string containing additional information about OnePrint (e.g., the company name and department). Assigned by the system administrator.

Location (Location)

The physical location of the OnePrint unit.

Contact (Contact)

The name and phone number of OnePrint technical support personnel.

Security

This feature enables the Supervisor to define users access rights to Remote Management by setting a user password. This password is used for remote access (Host Setup + OPC Remote) to the unit's parameters.

Supervisor (Supervisor)

Defines the Supervisor password.

Configuration Program

User (User)

Defines the User password.

Enable Access By:

OnePrint supports three types of security levels to the user (supervisor), vendor and/or R&D technical Support. as shown below. The supervisor can define (disable or enable) access for various user types.

- **Vendor (AcVendor)** - OnePrint's R&D Group
- **Technical Support (AcSupport)** - Local (country) distributor.
- **User (AcUser)** - Corporate user (Supervisor)

Enable Access Over:

IPX (AcIPX)

If the IPX checkbox is unselected the "Remote Management" is disabled over the IPX transport protocol.

UDP/IP (AcUDPIP)

If the UDP checkbox is unselected the "Remote Management" is disabled over the IP transport protocol.

Tracing

System

Enables system trace of functional faults (i.e. fault, warning, trace, technical support (TS) trace).

Fault:

Enables specific types of fault tracing, (i.e. OnePrint warning, regular trace, and Technical Support (TS) trace).

Detail Trace:

Enables specific types of traces, (emulations, protocol, or transport).

Dump:

Enables specific types of dump parameters, (i.e. emulation, protocol, and transport).

Data Flow

Port:

Select specific port to be traced. Ensure that clean procedure has been performed, by pressing on the Clean Icon that appears on the screen. Perform LU reset immediately after start of trace.

Size:

Data flow trace file size in MB.

Method:

Cyclic: Should be used for random problems. The program will overwrite at the start point when the buffer is full.

Fix: For known and re-created problems.

Clean:

Cleans previous data flow file trace.

Advanced

Enables advanced traces for specific port over Host Connection, SNMP and data flow parameters.

Size:

Trace file size in MB.

Save On Fail:

Trace fault file size in MB.

Utilities

The items described below are used for remote access only. Screen functions appear in icon form (refer to icons table).

Load (UnitConfLoad)

Loads the saved configuration from the hard disk of the OnePrint unit. Parameters will take effect according to their types (selectively).

Save (UnitConfSave)

Saves the current configuration in the memory of the OnePrint unit onto the hard disk. This option can be reused by loading or resetting the unit.

Init All LUs (AllLUExec)

Activates all ports.

Abort All LUs (AllLUKill)

Aborts all active ports.

Reset (UnitReset)

Resets the OnePrint unit. Automatic boot will take effect after 'Shutdown'. The last saved configuration parameters will take effect at this session.

Shutdown (UnitShutdown)

Shuts down the OnePrint unit. This procedure takes several minutes. Only after you receive a message indicating the procedure has finished you may power off the unit.

Clean History File (CleanReset)

Cleans out the History file.

History (Remote Only)

This menu contains fields with display messages and fields with activation buttons. Activation buttons are shown below and can be selected using either the keyboard or mouse. When buttons are pressed a help line appears at the bottom of the screen with a short description of the activity.

Adapters - LAN Communication Parameters

LAN communication parameters are defined enabling the OnePrint to communicate via the Network. OnePrint enables use of single or multiple cards. Proteon does not support single card use. List of single cards supported by OnePrint are found in the Installation Reference Guide, Chapter 7.

Network Card Table

Users can delete and insert cards using the icons located at the bottom of the screen.

Network Card Parameter

Fill in parameters relevant to the network cards to be used. Network card parameters, shown below, should be configured for Host and /or network connection.

Card Type

OnePrint supports up to four network interface cards.

IRQ

Valid IRQ for each network interface card is detailed in Chapter 7 of the Installation Reference Guide.

Address (TRAddress)

This is an optional, administrative MAC address for OnePrint Token Ring Interface card. Setting this address, associates the MAC address with the OnePrint unit. Setting up an administrative address is recommended if OnePrint's LAN interface card is changed. No administrative address changes are necessary for new LAN adapter installation.

To set up an administrative address, enter a 6 byte hexadecimal address (12 hex digits) The first digit must be a 4. All zeros indicate that the MAC address of the LAN interface card will be used.

DMA

Valid DMA address for each network interface card is detailed in Chapter 7 of the Installation Reference Guide.

IO Start

Valid IO Start address for each network interface card is detailed in Chapter 7 of the Installation Reference Guide.

Mem Card Type

Valid Memory address for each network interface card is detailed in Chapter 7 of the Installation Reference Guide.

Configuration Program

Proteon

Use the Proteon card, parameters shown below, for host connection.

Cable Type(TRSTP)

Token Ring cable connections can be Shielded Twisted Pair (DB-9 connector) or Unshielded Twisted Pair (RJ-45 connector).

Rate (TRRate)

OnePrint's Token Ring adapter supports 4 or 16 Mb/sec ring rates.

Early Token Release (TRERelease)

This applies to 4 Mb/sec Token Ring LANs whose network supports Early Release.

Interface

Netware

(For Novell Netware versions 3.11, 3.12, 4.x LAN NOS only)

The following submenus detail OnePrint connection to Novell Netware File Server over IPX protocol. Ensure that Netware Adapter Specific Table and ADAPTER Table match.

Netware Parameters

Internal Network (IPXIntNetwork)

This is a Novell internal network address. Configurations with more than one output adapter (frame type) require setting address to a unique (non-zero) IPX Network. FF FF FF FF is not a valid value.

Autodiscovery (IPXAutoDiscovery)

Autodiscovery searches and finds the active OnePrint units in the network. In the event IPX is not running, (Novell network operating is not running) disable the autodiscovery parameter.

Adapter Specific

If autodiscover parameters are not set, fill in Adapter Specific parameters. Ensure that set parameters match adapter table.

Adapter Specific Table (NicSpectable)

Network

This parameter defines the IPX Network to which the adapter is directly attached.

Frame Type

This parameter defines the frame type used as a low protocol for OnePrint data exchanges over Ethernet or Token Ring adapters.

- **Ethernet Adapter**

ETHERNET II, ETHERNET 802.2, ETHERNET 802.3, ETHERNET SNAP.
Default: ETHERNET 802.2

- **Token Ring Adapters**

TOKEN RING, TOKEN RING SNAP

Inet

The following submenus detail OnePrint using host connection and printing services over TCP/IP network. OnePrint direct TCP/IP Host connection is available with Mainframe and/or AS/400 over TCP/IP network with mainframe running PSF/MVS or AS/400 with installed TCP/IP stack. Multiple TCP/IP host connection can be achieved from every host with TCP/IP stack to OnePrint. Each host serves as a client and establishes TCP/IP connection with the OnePrint as the server.

INET (TCP/IP Table)

This table must be set in correspondence with the Adapter table. Indexing in the INET table and Adapter table must match.

Host Name (INETName)

The Host Name is an internal name for the adapter. The name must be an INET valid name (alphabetic letters and numerals only) and must be unique within this and the server table.

IP Address (INETIPAddr)

The IP Address is an IP address assigned for the adapter. It must be a unique address over the network. The IP Address must correspond to the OnePrint network and subnet mask of the directly attached logical IP Network.

Subnet Mask (INETSubNetMask)

This parameter is set only if subnetting is used within the organization. It must be the value used for all computers directly attached to the OnePrint.

Broadcast Address (INETBroadcastAddr)

This parameter is sent only If a non-standard broadcast address is used in the organization. It must be the value used for all computers attached to the OnePrint.

Service

Service Parameters

Service parameters belong to INET (TCP/IP) networks.

Routing

Dynamic (RouterDynamic)

When set, routing is performed dynamically and automatically according to routers message (RIP...).

Default (RouterDefault)

Valid IP address sent by the OnePrint as a router. Routing table is static.

Router Table

Define the static routing table. Enter up to 10 IP addresses for Net and Gateway tables.

Net (ValidNetIPAddress) (ROUTERNET)

The IP network address whose router is not defined as default router.

Gateway (ValidIPAddressofaRouter) (ROUTERGW)

Router's Network IP address. Only the first network address is relevant.

DNS

Domain Name Service as defined for the IP protocol.

Domain Name (DNSDOMAINNAME)

OnePrint must match DNS Domain Name for DNS services.

DNS Table

Up to 10 server DNS parameters are available

Name Server(s) 1 - 10 (DNSNAMESERVER)

This is the valid IP Address of the DNS Servers in the network.

NIS

Network Information Service as defined for the IP protocol

Domain Name (NISDOMAINNAME)

OnePrint must match NIS Domain Name for NIS services.

NIS service is disabled if not set.

NIS Parameters

Up to 10 NIS parameters are available

NIS Server(s) 1 - 10 (NISNAMESERVER)

NIS server(s) is valid IP address for NIS server(s) in the organization.



Note

OnePrint can handle output to LAN for Novell (IPX), TCP/IP, SMB (NetBIOS) over TCP/IP, PPD/PPR over TCP/IP environments, and local output to printer for up to 128 host printer LUs. Refer to paragraph: Assigning Host Print Jobs to LAN Printing Services.

After the OnePrint unit receives a print job from the host and converts it to the format of an ASCII printer, it sends the converted print job to a designated server. The LAN operating system then reads the job from the print queue and sends it to the appropriate printer.

This section describes how to set up the destination servers and print queues that OnePrint uses when sending print jobs to LAN printers. These definitions are used later in the configuration process when assigning each printer port to the matching host LU port.



Note

Since more than one LAN/Network environment can be used, select only those parameters that are applicable to your LAN requirements.



Note

When using NetWare Ver. 4.x refer to Appendix C for additional information.

Server

Server Table (Server)

The Server Table shows a list of printer servers that can be either peer-to-peer servers or servers that contain print queues to be used by OnePrint. Enter the Name and Location of the servers in the table. It is only necessary to set up those servers that OnePrint will be using.

Server Parameters

Name (ServerName)

This parameter designates the logical name of a server that will be accepting OnePrint print jobs. This name must match the server name an printing system type set up in the server, and must follow printing system conventions.

Location (ServerLoc)

Enter a description of the physical location of this server. The Location field is useful for administration and troubleshooting.

Login

User (NWUsr) (NetWare or SMB only)

This is the account name that OnePrint uses when logging-on to the server. The account name is setup on the server, not through the OnePrint configuration. A user name that clearly identifies the OnePrint unit can make troubleshooting easier. Standard naming conventions are enforced:

No Spaces, Punctuation not allowed except the following:

_ underscore	~	@	\$	^	&	%
- dash	"	'	,	#	!	.

Dot should not be used as the first character of a Filename.



Note

This field applies to Netware and SMB only.
Name must be a valid name in accordance with printing system type.

Configuration Program

Password (NWPwd)

This is the password OnePrint uses when logging onto this server. Standard naming conventions are enforced: NoSpaces, Punctuation not allowed except the following:

- underscore	~	@	\$	^	&	%
- dash	"	'	,	#	!	.

Dot should not be used as the first character of a Password.



Note

This field applies to Netware and SMB only. String must be a valid string in accordance with printing system type.

Type (ServerType)

Used to specify the available options as follows:

- NetWare (Bindery)
- NetWare (NDS)
- LPD
- LPD - (Peer-to-Peer)
- Netbios/IP
- Netbios/Netbuei
- IPDS Encapsulated (Over TCP/IP)

IP Address (SERVERIPADDRESS)

This is the IP address of the Server. If a name service (DNS, NIS) is defined, this field should not be filled in.

Requester

This parameter is used for UNIX machines (i.e. SUN) that function as an LPD server. Consult technical support before using this parameter.



Note

To ensure proper printout from SUN, that functions as an LPD server for the OnePrint, set Printcap file to "Suppress Form Feed". Enabling this function suppresses <FF> . "No Banner" will also be performed. Port number in the OnePrint should be lower than 1,024 for SUN machine. Recommended port number range is 750-878. Set to zero for other UNIX machines. Increase Disconnect Time Out to 30 or 60 seconds on average to prevent undesired disconnection.

Printer - LAN Printer Definitions

OnePrint uses printer definitions set up in this section to specify the type of LAN printer connection and queue that will be attached to each host LU printer port.

Printer Table (Printer)

OnePrint print jobs are shown on the LAN printer table. If similar sets of LAN printers are attached to the same print queue set up single printer definition.

LAN Printer Parameters

Location (PLoc)

Enter the physical location of this printer(s).

Control Language (PType)

Select the printer that supports the type of control language compatible with target LAN printer(s). (See Table below)

<i>Control Language</i>	<i>Printer Type</i>
PCL-4	HP II (Epson Action Laser 1000, QMS 1725, Okidata OL850)
PCL-5	HP III and IV (Epson 1500, Brother HL-10h, Lexmark 4039, Compaq, Genicom 7150, QMS 2025) Brother
PCL Level 3	HP Desk Jet
Epson	Epson FX 100 and all other matrix printers that support Epson emulation.
CAPSL (ISO)	Canon PSL (CAPSL)-ISO page printers.
Postscript	Postscript Level I

PJL Support

Extension to PCL 5. Valid for printers that support PCL5 commands. This flag is enabled only if printer supports PJL commands.

Print Queue Name (PQName)

Enter the logical name of a print queue that will be receiving print jobs from OnePrint. This name must exactly match the print queue name as it appears on the server. Naming conventions depend on the type of printing system in use (refer to table below).

Attachment

Select printer connection options from the following

- LAN: LAN accessed printers
- LPT1 Attached directly to printers
- LPT2 (via the OnePrint's parallel ports)

Server ID (PQFID)

When you select Server ID, you will be presented with a table that lists previously defined servers. Choose the server attached to this printer.

SNA Host Link

SNA Link

When enabled, SNA or TCP/IP host connection is valid. When disabled TCP/IP host connection is valid.

Adapter ID (HostAdaptorID)

The adapter used for host connection.

PU Status(HostState)

PU status specifies the host connection status:

505	Host connection temporarily not available.
510	Host connection active.
517	Host connection permanently unavailable.

Gateway

The Host Gateway logically connects the OnePrint to the SNA Host by running LLC2 or 802.2 format. Enter parameters from the Installation Worksheets.

Description (GwName)

Use this text field to specify the name of the host gateway (optional).

Location (GwLoc)

Use this text field to specify the location of the host gateway (optional).

Address (GwAddr)

This is the 6 byte Token Ring node address of the host gateway.

Window Size

Transmit (TrsWinSize)

This is the maximum number of I-frames that OnePrint transmits before waiting for an acknowledgment. The range is 1 - 7.



Note

The Transmit Window Size of the OnePrint unit corresponds to the Receive Window Size of the Host Gateway.

Receive (RecWinSize)

This is the maximum number of I-frames that OnePrint receives at one time, before sending an acknowledgment. The range is 1 - 7.



Note

The Receive Window Size of the OnePrint unit corresponds to the Transmit Window Size of the Host Gateway.

SAP

Local SAP (OPSAP)

The 802.2 service access point (SAP) for the Token Ring adapter installed in the OnePrint unit used for the link to the host gateway.

Gateway SAP (GwSAP)

The 802.2 service access point (SAP) for the Token Ring adapter installed in the host gateway to link the OnePrint unit to the host.

XID (HostXid)

XID is used with PU Type 4 (i.e. FEP, 3172 or 3182). XID definition eliminates the need to define parameters for PU Type 2 (i.e. 3174). This field identifies the OnePrint unit to VTAM. The XID parameter is 4 bytes long. These 4 bytes must correspond to the last 4 bytes of the VTAM parameters IDBLK | IDNUM.



Note

This parameter is only used when the IBM Host computer or front-end processor is directly connected to the LAN.

MAX Frame Size (MaxFramSize)

This is the size of the I-field in the Token Ring I-frame. This field must correspond to the VTAM parameter MAXDATA. The MAX Frame Size is 265, 521, 1033, 2057 or 4105 bytes. RU size in the VTAM definition should be set to provide these sizes. The default is 4105 bytes.



Note

Set the values of the matching parameters for RU size, Maxdata and Max FramSize to the same size. When using a channel attached controller as a gateway it is recommended to set RU size to 4105 bytes. When using an SDLC connection (remote controller) set size to 2057 bytes.

Port Definition

Port Assignment Table

The Port Assignment Table matches LU printer ports to their associated LAN printers.

The Port Communication Parameters screen appears after selecting Insert. The entry selected from the Port Communication Table is referred to as the Current LU Port.

Port Assignment Parameters

Description (LUCommDescr)

Enter a meaningful description that explains how OnePrint is handling the Current LU Port. For example, a print job for an IBM 4028 printer that is sent to an HP4 plus LAN printer:

```
. IBM 4028 --> HP 4 plus  
(IBM 4028 emulation)
```

This field is optional.

Host Connection

Type

OnePrint supports two types of Host connections, SNA or TCP/IP.

SNA	Is a legacy application using Host Gateway (i.e. 3174).
TCP/IP	Requires TCP/IP stack installed in either Mainframe or AS/400. OnePrint can support simultaneous TCP/IP connections from multiple hosts with TCP/IP stack installed.
Test	Used to send print job, for testing purposes, to the network printing system.

Print to Printer

This option tests active OnePrint host connection or active OnePrint connection to network printing services. Tests are performed separately.

Enabled	Sends test print job to LAN printer. Host connection is disabled.
Disabled	Verifies active OnePrint host connections. LAN is disabled.

Printer ID (LUCommPId)

To view printer table fields, press on the entry field. The following fields will appear on the printer table.

Location	Enter location (text)
Control Language	PCL5, Postscript
Attachment	LAN/Local
PQ Name:	Enter name

Status (LU)

Fill in fields through Remote Management option. Options available are:

OnLine LU (Online) : Sets the port to OnLine

OffLine LU (Offline) : Sets the port to OffLine

Init LU (LUExec): Activates logical port

Abort LU (LUKill): Aborts active port

Reset LU (LUReset): Aborts and Activates port



Note

Any modification of port current profile parameters requires the port to be offline. Remember to set online only after modification.

Load Profile -Defining IBM Host Printer Emulation

OnePrint emulates from 4 to 128 IBM Host printers depending on the OnePrint model purchased. Each emulation is called a virtual printer and is assigned to a host LU port. Printer profile is the set of parameters that describes the virtual printer type and its operating characteristics.

Profile Table (LUProf)

The Profile Table enables maintaining a list of predefined virtual printer profiles.

Current Profile

Enables viewing the present parameter's values. Only immediate changes are included. Refer to those parameters set as a Volatile Set. After reset, only non-volatile (profile) parameters will take effect. Table 1 illustrates the use of the mentioned options. Note the 'Status' column (e.g., the '-'(minus) next to the 2 means that the port is not defined).

Status	Description	Emulation
1		
-2		
3		
4		
+5	Line 005	4600
6		
-7		
8		
-9	Line 009	4024
10		
11		
12		

Table 1



Important! When viewing/changing current LU parameters the port must first be set to OffLine (in Port Definition Menu).

Note

A table displays the LU Status in the far left hand column as follows:

•Number Only	Indicates that the port is on-line.
•‘Minus’ [-] sign	Indicates that port was aborted or not defined.
•‘Asterisk’ [*] sign	Indicates that the port is OffLine. In this case the ‘Description’ and ‘Emulation’ fields will be filled out.

Printer Profile Parameters

Emulation (LUEmul)

Select the type of IBM printer that is to be emulated. IBM models 381x and 4028 are page printers (e.g. laser printers). IBM model 4230 and 4224 (color) is an impact printer. The 4230 is backward compatible with the IBM 4224 and 3287 impact printers.

The Emulation setting tells OnePrint what type of print jobs will be arriving on the Selected LU Port. OnePrint emulates this printer by translating the host data stream into the control language of a LAN printer that you specify.



Note

Some of the parameters in this section apply only to laser printers. Other parameters apply only to impact printers. Parameters for impact printers are ignored when you select a laser printer emulation and vice-versa.

Description (LUDesc)

Enter a brief description that characterizes this printer profile. For example:

Paycheck Printer Invoice Printer Envelope Printer

This field is optional.

Page Format

CPI (CPI)

Defines the number of characters printed per inch. The default is 10.

MPP (MPP)

Maximum Print Position (also known as Characters Per Line).

Designates the maximum number of characters that can be printed on a line.

The MPP value selected is determined by the CPI value that was set. Together, the MPP and CPI values determine the length of a printed line. The formula for calculating MPP is: $MPP = CPI \times \text{Line Length}$. The default is 132 characters. The range is 1 to 255.

LPI (LPI)

Lines per Inch defines the vertical print density in lines per inch. This parameter, in conjunction with Lines per Page (MPL), determines the page length. Consequently, both parameters must correspond with each other. The default is 6.

MPL (MPL)

Maximum Page Length (also called: Lines per Page). The MPL equals the number of lines the printer can print on a page. The Lines Per Inch setting directly influences the MPL setting.

Together they define the page length. The formula for calculating MPL is:

$MPL = LPI \times \text{Page Length (in inches)}$

For example, if $LPI = 6$ lines per inch, and the page length is 11 inches, $MPL = 6 \times 11$, or 66 lines.

The range is 1 to 255 lines. The default is 66.

Configuration Program

Top Margin (TM)

The Top Margin is the vertical position (in lines) at which the first line will be printed on a page. When the top margin is set, the current line becomes the top margin. The range is 1 to 99 lines. The default is 1.

Left Margin (LM)

The Left Margin is the first print position on each line (in characters). The range is 0 to 99 characters. The default is 1.

Code Page (CodePageVer)

Some of the supported code pages are available in two versions
The Default is 1.

Default Font (Font)

Select the default font that is to be used for non-IPDS text:

- Gothic
- Courier
- Essay
- OCR A
- OCR B

The default font is Courier.

Language (Code)

The Language option enables text printing using special characters that are specific to various languages supported, as shown below:

Austrian/German	Austrian/German (alternate)
Belgian	Brazilian
Canadian Bilingual	Canadian French
Danish/Norwegian	Danish/Norwegian (alternate)
Dutch/Portuguese	Portuguese (alternate)
English (U.K.)	English (U.S.)
Finnish/Swedish	Finnish/Swedish (alternate)
French	French (alternate)
Italian	
International 1	International 5
Spanish	Swiss Bilingual
Bulletin Hebrew	Old Hebrew
Japanese English	
Spanish (alternate)	Spanish (speaking)
Download 3174	(Valid only for idata Hex Transparent mode)

The default is US English.

Quality (Qual)

The following table shows the three Print Quality settings available for impact printers only in order of decreasing quality. The default is DP.

<i>Print Quality</i>	<i>Description</i>	<i>Speed</i>
NLQ	Near Letter Quality	Slowest
DPT	Data Processing Text	Medium
DP	Data Processing	Fastest

Line Spacing (LSP)

This option defines single or double spacing between lines. The default is single spacing.

IBM Options

Program Symbol Settings

Programmed Symbols were designed as a method of printing bit-mapped graphics on impact printers.



Note

The parameters in this section (Compensation Setting, Plane, and Full Page) are only active when the Program Symbol field is enabled.

Compensation Setting (ComSet)

Impact Printers Only!

This field enables automatic scaling of Programmed Symbols originally designed for the IBM coax printer to be printed at the same size.

Plane (PSPE)

Impact Printers Only!

This parameter enables definition of the type of Plane support required for Programmed Symbols:

- 3 Single + 1 Triple
- 6 Single

The default is 3 Single +1 Triple.

Full Page (PSFP)

Impact Printers Only!

This parameter controls whether the printer leaves white space at the bottom of a page when printing Program Symbols as follows:

STANDARD

Printer leaves white space at end of page.

ALTERNATE

If there are no skips in data stream, printer prints to end of page as defined by bottom margin (SCS) or MPL (DSC).

The default is STANDARD. **Impact Printers Emulation Only**

Direction (Dir)

This parameter can be used to specify the direction to print text. Default is left to right. (L2R) for Hebrew language only.

Auto Rotation (Rot)

This laser printer feature (also known as Automatic Page Orientation) is designed to avoid truncating lines on a page if possible. The virtual printer determines whether printing in portrait or landscape mode may accommodate the entire page and selects the orientation accordingly. If the page will not fit in either portrait or landscape mode, the default orientation for this print tray is used.

Trays

OnePrint supports up to 4 paper trays on a laser printer. To set the paper size for each tray, select the corresponding button in the left column beside each tray number. If a LAN printer has less than 4 trays, settings for additional trays will be mapped back to the printer's default tray.

Ensure that information in the following fields is filled in:

Support: A tray inventory checklist of the target printers

Paper Type: Enter paper type available from the tray.

Orientation: Enter orientation required.

For laser printers only, select the button to specify the orientation of the paper in each tray. Besides standard portrait and landscape choices, the COR (Computer Output Reduction) option is also supported.

This feature is designed to use a laser printer to accommodate print jobs originally intended for wide carriage impact printers. The CPI, LPI, and Top and Left Binding Margin settings are automatically adjusted to fit 132 columns by 66 lines on a landscape page.



Note

Paper type is specified from optional paper types: A4, Letter, etc.

Orientation is specified as Portrait, Landscape, or COR (non-IPDS, SCS/DSC) printing application.

LU3 Options

The parameters in this section apply only to a virtual printer running in DSC mode.

Case (Cas)

This option determines whether characters will appear in all UPPERCASE (Case = MONO) or in MiXeD CaSe (Case = DUAL). The default is DUAL.

CR at MPP+1 (CRM)

This parameter determines how the printer reacts when a carriage return occurs at the end of a physical line. When a Carriage Return (CR) appears at the End of Line (MPP+1), the printer makes one of the following selections, depending upon how it was configured:

STANDARD

<NL><CR> - An automatic New Line <NL> is executed at MPP+1, followed by a <CR>. The next print position will be the first print position of the next line.

ALTERNATE

<CR> - No automatic <NL> is executed. The <CR> is executed at MPP+1. The next print position will be the first print position of the current line.

The default is STANDARD (<NL><CR>).

NL at MPP+1 (NLM)

This parameter determines how the printer responds when a New Line (NL) appears at the End of Line (MPP+1) as shown below:

STANDARD

<NL><NL> - An automatic New Line <NL> is executed at MPP+1, followed by an <NL>. The next print position will be the first print position of the current line + 2.

ALTERNATE

<NL> - No automatic <NL> is executed. The next print position will be the first print position of the next line.

The default is STANDARD (<NL><NL>).

FF in Buffer (FFB)

This parameter determines how a Form Feed <FF> will be dealt with when it is anywhere in the buffer except at the last position.

STANDARD

<FF><Space> - The form skips to the first line of the next form and the next print position will be the second print position on that line.

ALTERNATE

<FF> - The printer skips to the first line of the next form and the next print position will be the first print position of that line.

The default is STANDARD (<FF><Space>).

FF at EOB (FFE)

This parameter determines how a Form Feed <FF> will be dealt with when it is the last character in the buffer.

STANDARD

<FF><NL> - An automatic New Line <NL> is executed after the Form Feed <FF> is completed. The next print position will be the first print position on the second line on the next form.

ALTERNATE

<FF> - The automatic <NL> is suppressed at the completion of the form feed. The next print position will be the first print position of the first line on the next form.

The default is STANDARD (<FF><NL>).

Configuration Program

Null Suppress (NSp)

Null lines are lines that do not contain any printable characters, such as control characters. (A space [40h] is considered a printable character.)

STANDARD

If there are no printable characters in an entire line, no <NL> is performed. The next print position will be the first print position of the current line.

ALTERNATE

All null lines are printed as a blank line followed by an <NL>. The next print position will be the first print position of the next line.

The default is STANDARD.

FF Command Position (FFCommPos)

This parameter determines how a Form Feed (FF) is handled depending on its position in a line. The two possibilities are:

STANDARD

COLUMN1 - An FF command will be executed only if it occurs at the first print position in a line or at MPP+1. An FF at any other position is treated as a space.

ALTERNATE

ANYWHERE - An FF command is executed wherever it is encountered in the data stream.

DISABLED

Formfeed will be suppressed when MPL = 1 or MPP = 1.

The default is STANDARD.

Automatic Function at End of Print (AutFunEnd)

This parameter determines how the printer reacts at the end of a print job. The two possibilities are:

STANDARD

An automatic <NL> is executed at the end of a print job unless the last character was a <NL>, <CR>, or <FF>. The next print position is the first print position of the next line.

ALTERNATE

An automatic <FF> is executed at the end of a print job unless the last character was a <FF>. The next print position is the first print position of the first line of the next form.

The default is STANDARD.

Target Options

EPCL

Enables high level PCL commands (PCL5 or above). File size is shortened allowing for significantly faster printing performance.

Copies (Cpy)

This parameter controls how many copies of the print job will appear on the LAN printer. The default is one copy.

Banner Parameters

The Banner feature lets you control the printing of a banner page on the LAN printer. A banner page can be printed at the beginning of each print job sent from the Selected LU Port. This banner has no connection with the host printer application's banner (separator).

Banner Enable (BnrE)

Determines whether a banner page will be printed at the beginning of each print job. Banner pages make it easy to separate individual print jobs after several have accumulated in a printer's output bin.

To cause a banner page to be printed, turn this option On. To suppress banner pages, clear this field.



Tip

If the host application sends a separator page between jobs, a banner page is generally not required.

Banner Text1 (Txt1)

This field is the first line of large text to appear on the banner page.

Banner Text2 (Txt2)

This field is the second line of large text to appear on the banner page.

Suppress Form Feed at End of Job (SFF)

This parameter controls whether a form feed is added to the end of print jobs that do not already include a form feed as the last character. Use the space bar to select this field if you do not want to add a form feed. Use the space bar to clear this field if you want to add a form feed.

Suppress Form Feed at End of Page (SFP)

This parameter deactivates automatic form feed at the end of the job.

Remote CTRL

Used for HP LaserJet printers (i.e., HP 4V, 5Si, 5V) with JetDirect MIO printer server. This function ensures that printed pages are printed once (no duplicated, or missing pages). After the page has been successfully ejected from the printer a confirmation reply is sent via the OnePrint to the host application.

1 or 2-Sided Printing)

Laser Printer setting determines single or double sided printing.

Printer Default

Use the LAN printer's default setting to determine whether pages will be printed on both sides or just one side.

Simplex

Prints one side only of each page.

Duplex

Print on front and back of each page.

Paper Feed Edge (PapFeed)

The default is Short Edge, appropriate for most laser printers. If you are uncertain as to the paper feed edge type, check with the printer service manual. If printer is not defined for long edge and default is changed to long edge, printing problem will occur (page will be rotated 90°). If this occurs, set to short edge.

Page Fit

Page Placement

This is used to offset the printout on the printable area. The position of the printable area on the page varies between printers and fine tuning may be needed. Useful when printing on pre-printed forms.

Printer Default	No offset needed.
IBM Printer Default	Offsets automatically to the emulated IBM printer page positioning.
Self Tuning	Self-tunes the horizontal and vertical position of the page (by setting horizontal and vertical offset).

Absolute Coordinate System (Absolute)

Useful for channel printer emulation coordinate system. This feature builds a reference to absolute or relative coordinates without relation to the job's IPDS coordinate system. (Yes = absolute [for channel attached printer only], No = relative) . The Default is No.

Scale to Fit IPDS (ScaleIPDS)



Note

The physical printable area in IBM IPDS printer is larger than the printable area of standard LAN attached printers. The whole page should be rescaled to fit into the printer's printable area.

Scales IPDS output to fit into the printable page area of the specific printer used. When this field is enabled, the job's print area will automatically scale down when it exceeds the physical page's printable area. Default: Yes.

Configuration Program

Scale to Fit SCS/DSC (ScaleSCS)

Scales text to fit into the printable page area of the specific printer used. When this field is enabled, the job's print area will automatically scale down when it exceeds the physical page's printable area. The default is set to Yes (output is scaled).

Left/Right Offset (Horizontal)

Used for fine tuning the horizontal position of the page. Relative in the Page Placement - Self Tuning option. (0 - 255), default 0, (300 dpi).

Up/Down Offset (Vertical)

Used for fine tuning the vertical position of the page. Relative in the Page Placement Self Tuning option. (0 - 255), default 0. (300 dpi).

ASCII Table (AsciiTab)

Enables defining either ECMA (LATIN)94, ROMAN 8 or ASCII 7 bit tables.

Conversion

EBCDIC to ASCII user defined table for users that need custom built conversion table.

Special Languages

The following settings detail support activation for special languages (e.g., Hebrew) built in the LAN print. OnePrint activates this function when you select Bulletin Hebrew as the default language for this virtual printer.

Hebrew (PrHeb)

Enter the ASCII escape sequence to select Hebrew language. Enter each byte as two hexadecimal digits (0-F).

Hebrew Table (HebTab)

There are three different Hebrew ASCII character sets used by different printer manufacturers. They are distinguished by having a different starting point for the Hebrew alphabet. Select one of the following character sets that matches the ASCII code of the first letter of the Hebrew alphabet (aleph) on your LAN printer:

Hebrew 80h, Hebrew 60h, Hebrew E0h.

Lognet Emulation (Lognet Emul)


Lognet emulation support option, used mainly by users in Israel. Default: No.

Font (Gothic, Courier, Essay, OCRA, OCRB)

This set of Font Codes allows you to specify the fonts on the LAN printer that correspond to the following popular host fonts :: Gothic, Courier, Essay, OCR A, OCR B

Supply the code that activates each of the above fonts as listed in the documentation for your printer and font cartridges.

OnePrint inserts these font codes into the appropriate escape sequence for the LAN printer when it needs to select a font. For example, for an HP 4Si printer you would enter the font code 4099 for Courier. When a host print job requests the Courier font, OnePrint sends the following escape sequence to the HP 4Si:

 (\s4099T

Control

Execute Time (Xtim) (Novell Servers Only)

Enter the date and time at which all print jobs on the selected LU Port are to resume printing. The format is YYMMDDHHMMSS (year, month, day, hour (24 hour format), minutes, seconds).

The default is to print jobs immediately if this field is left blank.



Tip

You can define an LU port to be used exclusively for delayed printing. Delayed printing can be useful in the following cases:

- To postpone a set of print jobs that require a different type of form to be loaded into the printer.
 - To delay the printing of an especially long print job until after work hours so as not to interfere with the normal work flow.
-



Note

Delayed print jobs will be spooled on the print queue until time of execution.

Configuration Program

Server Autostart (SrvA)

If the connection between OnePrint and a server is broken, a print queue may only receive a partial print job. The print server can either erase this job or print the part that it received.

To print a partial job, set this option On. To erase a partial print job, set this option Off.

Print Server Name (PSNm)

This parameter designates the LAN print server that will extract print jobs from the server's print queue and send them to the designated printer. The default of ANY allows any print server connected to this server to process a print job originating from the Selected LU Port.



Note

If you specify a Print Server, make sure it is up. If the print server is not up, the LU Port will register an error 'Port x [q] has no Print Server'. The operation will fail without spooling to the print queue.

If the Print Server name is ANY, the LU Port will add jobs to the print queue even when no Print Server is servicing the print queue. Later, when a Print Server is up, the print jobs will be executed.

Job Parameters

Form Number (JobT)

When more than one printer is attached to a print queue, the Form Number can specify which printer (or which type of printer) should receive a print job from the Selected LU Port. The exact meaning of this parameter depends on the how your LAN administrator has assigned printers to print queues. See the Novell NetWare Print Server Manual for details.

The range is 0 - 255. The default Form Number is 0.

Description (JDes)

This field contains the default description that will identify all print jobs sent to a print queue by OnePrint from the Selected LU Port. This description contains part of the name that appears when examining the list of pending jobs in a print queue.

OnePrint automatically appends the LU port number, the OnePrint's name identification, and a unique identification number to the Description to aid in troubleshooting.

Special Options

The parameters in this section relate to enhanced features beyond those found on standard IBM Coax printers. These features include:

- Enabling remote configuration of OnePrint from a host terminal
- Sending literal ASCII strings
- Sending a printer initialization sequence with each print job
- Identifying the end of a print job

Host Setup Parameters

Host Setup Enable(HS)

Mark this field to enable OnePrint to receive configuration commands from the host computer. Otherwise, OnePrint can only be configured by running the OPC program.

Host Setup Header (HSH)

This is a unique, up to 4 byte, string which signals to OnePrint the beginning of a host command sequence.

Make sure you choose a header that will not appear as text in a printer data stream.

Host Setup Trailer (HST)

This is a unique, up to 4 byte, string which signals to OnePrint the end of a host command sequence.

Make sure you choose a trailer that will not appear as text in a printer data stream. This value may be identical to the Host Setup Header.

Sending ASCII Strings (Hex Transparent Feature)

The Hex Transparent feature allows you to send literal ASCII strings in the printer data stream of a IBM Host application. These strings can include ASCII control characters, text, and escape sequences, enabling the unit to pass them through transparently.

The literal ASCII string is encoded into a Hex Transparent Field (HTF). This field is identified by a Hex Transparent Header that precedes it. See Appendix B for more details on using this feature.

Hex Transparent Mode (HxTr)

Select the Hex Transparent Mode best suited to your application from the following choices shown below.

Adamode	The Hex Transparent Field is preceded by a user-defined header and followed by a user-defined trailer.
Mode-1	The Hex Transparent Field is preceded by a user-defined header. The HTF ends with the first non-hexadecimal character (i.e. a character other than 0-9 or A-F).
Mode-2	The Hex Transparent Field is preceded by a user-defined header and a Length Field. The Length Field a single pair of hex digits representing the number of ASCII characters in the Hex Transparent Field (00h-FFh).
Single	The Hex Transparent Field is preceded by a user-defined header. The HTF consists of a single pair of hex digits representing a 1 byte ASCII character.
No Mode	Disables the Hex Transparent feature. OnePrint will not look for any literal ASCII strings in this data stream.
Idata Mode	Supports Hex Transparent mode as supported by idata printer/protocol converter.

Default is No mode.

Hex Transparent Header (HxHd)

A unique string that alerts OnePrint to the beginning of a Hex Transparent string in hex format. The header is up to 4 bytes long. Choose a header that will not appear as text in a printer data stream.

Condensed (CHxT)

If hex transparent characters should be counted when calculating the Maximum Print Position (MPP) and execute NL clear this field. If these characters should not be counted, mark this field. Default: No.

Using idata mode requires condensed = yes.

Hex Transparent Trailer (HxTI)

A unique string that alerts OnePrint to the end of a Hex Transparent string in hex format. The trailer is up to 4 bytes long.

The trailer is only used when Hex Transparent Mode is set to "Adamode" or "idata mode". It is ignored in all other modes.

SCS Transparent Mode (SCSTr)

The SCS transparent feature allows sending data to a printer with no interpretation of EBCDIC control codes. This feature is activated by sending the SCS control code 35h followed by a one byte length field specifying the number of bytes to follow in the transparent data stream.

The SCS Transparent Mode setting allows you to specify if OnePrint should perform an EBCDIC to ASCII translation on the transparent data stream. Select one of the following options:

Text	Text in the transparent data stream is converted to its ASCII equivalent. EBCDIC control characters (00h - 3Fh, FFh) appear as hyphens.
Control	The transparent data stream is passed directly through to the LAN printer with no translation. Selecting the Control option gives you the capability of sending ASCII escape sequences and control codes to a LAN printer.

Advanced Printer Setting

Pre Init String (PreInit)

This option is used to ensure that specific predefined escape sequences are unaffected by the OnePrint initialization process and the following job begin sequence. This string is saved and implemented prior to and separately from the init sequence in order to ensure creation of specific printer setup. This parameter is a string of up to 16 ASCII bytes (entered in hex pairs) in OPC.

Post Init String

This parameter is a string of up to 14 ASCII bytes (entered in hex pairs) in OPC. Sending host setup sequence enables initialization string of up to 40 ASCII bytes. This string will be sent to the printer in the beginning of each non-IPDS job.

1. The string will be sent after all other user's environment restore escape sequences are sent by the OnePrint.
2. If the Job Close method is "Chain", this string will be sent only for the first job after each bind command.

Job Init String

OnePrint default initialization process. This string is saved and implemented prior to and separately from the pre init sequence in order to ensure creation of specific printer setup.

Job End String

OnePrint must receive a complete job from the host before it forwards the job to a LAN printer. Since there is no unique method for the host to signal the end of a print job, OnePrint allows you to choose the method that best suits your environment.

In AFP jobs, the OnePrint detects a job end when a trailer separator appears. The separator must include a Mark Form (which is the separator default).

Method (EJobM)

OnePrint can use any one of the following methods to determine when it has received the end of a print job:

Bracket Protocol

This option requires that the host send a Begin Bracket (BB) signal at the beginning of each print job and an End Bracket (EB) signal at the end of the job. When OnePrint receives BB, it appends all data received on the Selected LU Port to the end of the job until an EB is received. At this point OnePrint forwards the job to a LAN printer.



Note

When using the Bracket Protocol, OnePrint holds a print job indefinitely until an EB is received.

Chain

OnePrint detects the end of a print job when an End of Chain signal appears in the data stream.

Brackets or Timeout

This option also uses the Bracket Protocol described above to signal the end of a print job. However, a Timeout provision prevents waiting indefinitely for an EB. If the last character received on the Selected LU Port was not an EB, OnePrint waits for a user-defined time (defined below) and then automatically closes the job and sends it to a LAN printer.

Brackets and Timeout

This option requires both a Bracket Protocol and a Timeout to occur before OnePrint closes a print job and sends it to the LAN printer. First, an EB must be received to signal the end of a job. Second, OnePrint waits for a user-defined period after the EB before sending the job to a LAN printer. If another job arrives during this Timeout period, it is appended to the first job and the Timeout period begins again. See the Timeout method below for details.



Note

When using the Bracket and Timeout Method, OnePrint holds a print job indefinitely until an EB is received and the Timeout expires.

Timeout

This option causes OnePrint to wait for a user-defined time (defined below) after receiving the last character of a data stream on the Selected LU port. OnePrint then closes the print job and sends it a LAN printer. If another job arrives before this timer expires, OnePrint will group the jobs together when it sends them to the LAN printer. In this case, there would only be one entry in the LAN print queue for these two jobs and only one banner page would be printed (assuming the banner page feature is enabled).

Slice

Slices an IPDS job into several jobs. The user can determine after how many pages to slice the job. Set any value between 0-99, where 0 indicates 'no slicing'. The set value [n] indicates the number of pages after which the job will be sliced. Default = No slicing (Value = 0).

Timeout Period (TOut)

The Timeout period is the number of seconds after the last character in a data stream is received before OnePrint determines that the print job has finished. This feature is associated with some, but not all, job end methods. See the Method parameter above for details. The range is 1 to 255 seconds. The default is 5 seconds.

IPDS Option

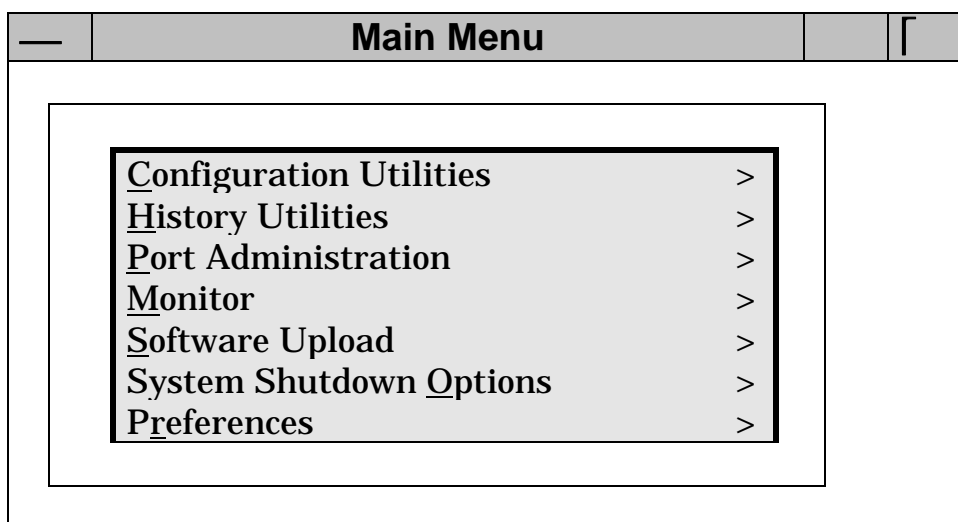
Mark Form (MarkForm) And Discard Buffer (DiscardBuff)

For testing best method to complete IPDS jobs. use Mark Form and Discard Buffer (page). These commands are applicable for IPDS data stream that is received from the IPDS application program (i.e., AFP). The Discard buffer page is the first command for the IPDS job. Using this command will close all previous IPDS jobs. Mark form can be used to receive last IPDS command or to close current IPDS jobs.

Default: Supports job end.

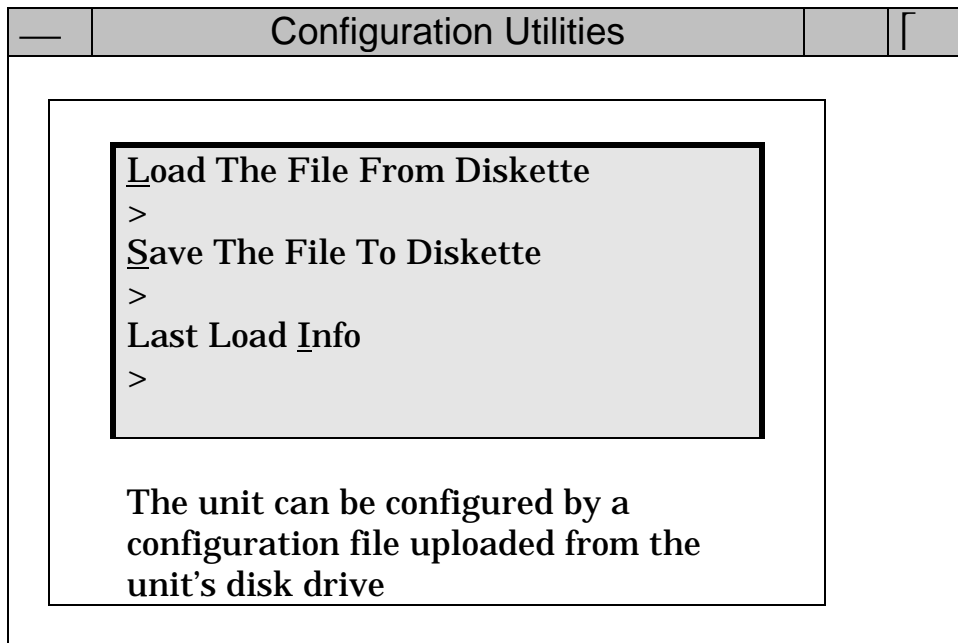
Chapter 4 : OnePrint Console Operation

The OnePrint console is used to maintain, control and monitor daily functionality of the OnePrint system. The console was designed with user-friendly menus to aid the user in configuring and maintaining the OnePrint system as required. In order to access the main menu, enter **Login ID: console** and **Password** using the enter key at the entry menu. Click on the login icon and the main menu will appear. Users can initiate activities by using either the mouse or keyboard hot keys. To select submenu option using the mouse click the icon on the right hand side of the option desired. To select submenu option using the hotkeys, press <Alt> and the desired option underlined character key. When desired option is highlighted press the spacebar. To exit any menu and return to the previous menu, click the exit button located at the upper left-hand portion of the menu bar or press <Alt> F4.



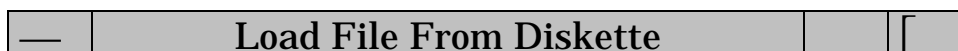
1. Configuration Utility

OnePrint configuration files are created by running an OPC program on an off-line PC. This utility enables upload or download of OnePrint configuration files (*.OPC).



Load The File From Diskette

Use this option to upload a desired configuration back up OPC diskette to the OnePrint system. To perform upload file select <Alt> L - Load The File From Diskette. The following screen will appear :



Save The File To Diskette

Back up diskettes should be maintained in order to store current configuration for use at a later date if necessary. To perform backup select <Alt> S to save the file to diskette.

— Save File To Diskette

Enter the destination file name

a : [] . OPC

OK Cancel

1. Enter drive name. Default drive name is : A
2. Enter file name. Use / instead of \. To delete keystroke use the backspace key. Extension should be: .OPC.

If the operation is unsuccessful, the following message will appear:

Failure in writing output file!

Troubleshooting for unsuccessful operation:

1. Ensure that diskette is DOS formatted..
2. Ensure diskette has enough free space available for configuration file.
3. Re-enter the same name.
4. Attempt operation again using a different diskette.
5. Verify that the diskette is not write-protected.

Last Load Information

Describes last upload information. Select <Alt> I for last load information.

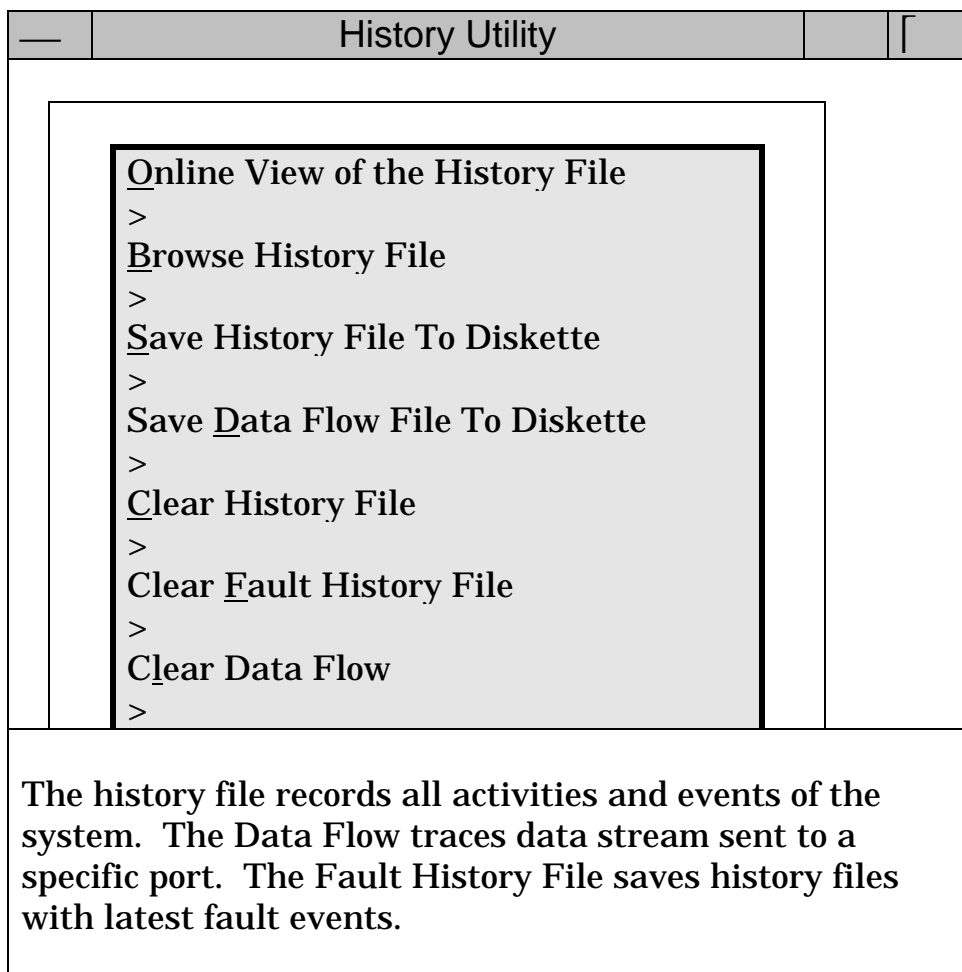
2. History Utility

The history utility is used for collecting information regarding recurrent faults. History Utility provides three types of traces;

- **History** - general events listing
- **Data Flow** - specific port trace listing
- **Faults** - only faults listings

All the above traces may be viewed by authorized users using the History Utility options. The history file stores the latest events that occur between OnePrint and its Host or LAN interaction in a cyclical mode.

When the file is full the new data will override at the beginning of the already existing data . Perform traces as close as possible to the fault event that has occurred to verify that fault will be recorded.



Online View of the History File

User can view in real-time all current events in OnePrint system.

Browse History File

Selecting the browse history file option allows the user to browse through listings of the history file.

Save History File To Diskette

This option is used for saving the history file onto diskette for troubleshooting purposes. Note that the History File is cyclical in nature and only the latest data will be recorded onto the diskette from the file. History file size can require several diskettes. Designate the download portion required in the download part field. This file can be viewed in any PC using any ASCII text editor.

Select <Alt> S to save the history file to diskette and the following menu appears:

The screenshot shows a dialog box titled "Save History". It contains the following elements:

- A "Compress File" checkbox, which is currently unchecked.
- A text field containing "History file requires [number] diskette[s/]", where [number] is a placeholder for a value.
- A "Download part" checkbox, which is currently unchecked.
- A drive letter field containing the letter "a".
- A filename field containing the text "oplog".
- A file extension field, currently empty.
- At the bottom left, an "OK" button.
- At the bottom right, a "Cancel" button.

History Log file is compressed when compress option is enabled.

Troubleshooting for unsuccessful operation:

1. Ensure that diskette is DOS formatted..
2. Ensure that diskette has enough free space available.
3. Re-enter the same name.
4. Attempt operation again using a different diskette.
5. Ensure that diskette is not write-protected.

Save Data Flow File To Diskette

This option copies the most recent portion of the data flow file that is located on the diskette and places it in the specified drive.

The save data flow file operation may require several diskettes. Designate the download portion required in the download part field. This file can be viewed in any PC using any ASCII text editor.

Select <Alt> D to save the data flow file to diskette .

Save Data Flow

Compress File

Data Flow file requires [number]
diskette[s/]

Download part

a : rplog .

OK Cancel

Data flow trace file is compressed when compress option is enabled.

Enter drive name. Default drive is A.

Enter file name. Use / instead of \.

Clear History File

Use this option to clear existing data before beginning standard trace to ensure maximum file space.

Clear Fault History File

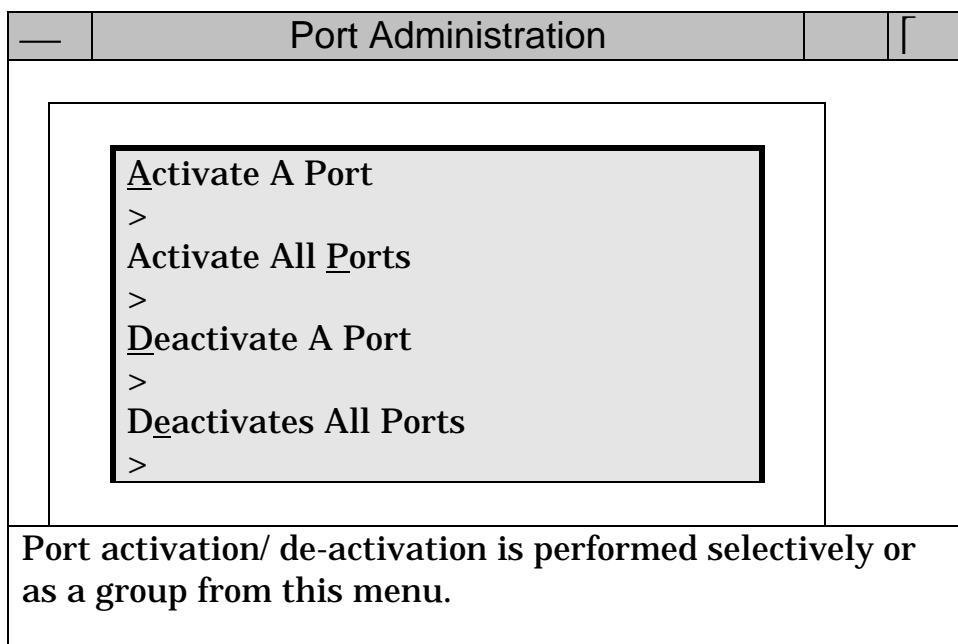
Use this option to clear existing faults before beginning fault trace to ensure maximum file space.

Clear Data Flow File

Use this option to clear existing data flow files before beginning data flow trace to ensure maximum file space.

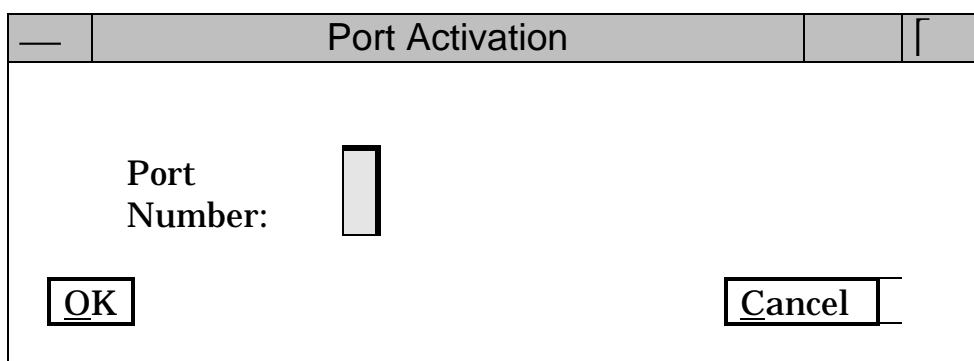
3. Port Administration Menu

This option allows the user to disable/enable LU ports activity.



Activate A Port

Selecting this option enables activation of a specified port (port number field) for host and LAN connection.



Insert port number to activate and press OK.

Troubleshooting for unsuccessful operation:

1. Verify status to determine if LU is already running.
2. Verify that LU is defined and its index is less than the model purchased.
3. Verify that the identity plug is installed in serial port COM1.
4. Verify that OnePrint is still active.
5. Reset OnePrint and recheck status
6. If steps five still fail, contact technical support.

Activates All Ports

Selecting this option initiates activation of all de-activated LU ports.

—	Confirm		⌂
Activate all ports? Are you sure?			
<input type="button" value="Yes"/>		<input type="button" value="No"/>	

Troubleshooting for unsuccessful operation:

1. Wait a few minutes to check if OnePrint is active.
2. Reset OnePrint.
3. If steps one and two fail, contact technical support.

De-activate A Port

Selecting this option enables user to abort a (single) LU process.

Troubleshooting for unsuccessful operation:

1. Wait a few minutes to check if OnePrint is active.
2. Reset OnePrint.
3. If steps one and two fail, contact technical support.

If LU is not defined and message appears, press OK and perform the following:

1. Ensure that LU is defined and that the index is less than the model purchased.
2. Ensure that identity plug is installed in serial port COM1.

De-activates All Ports

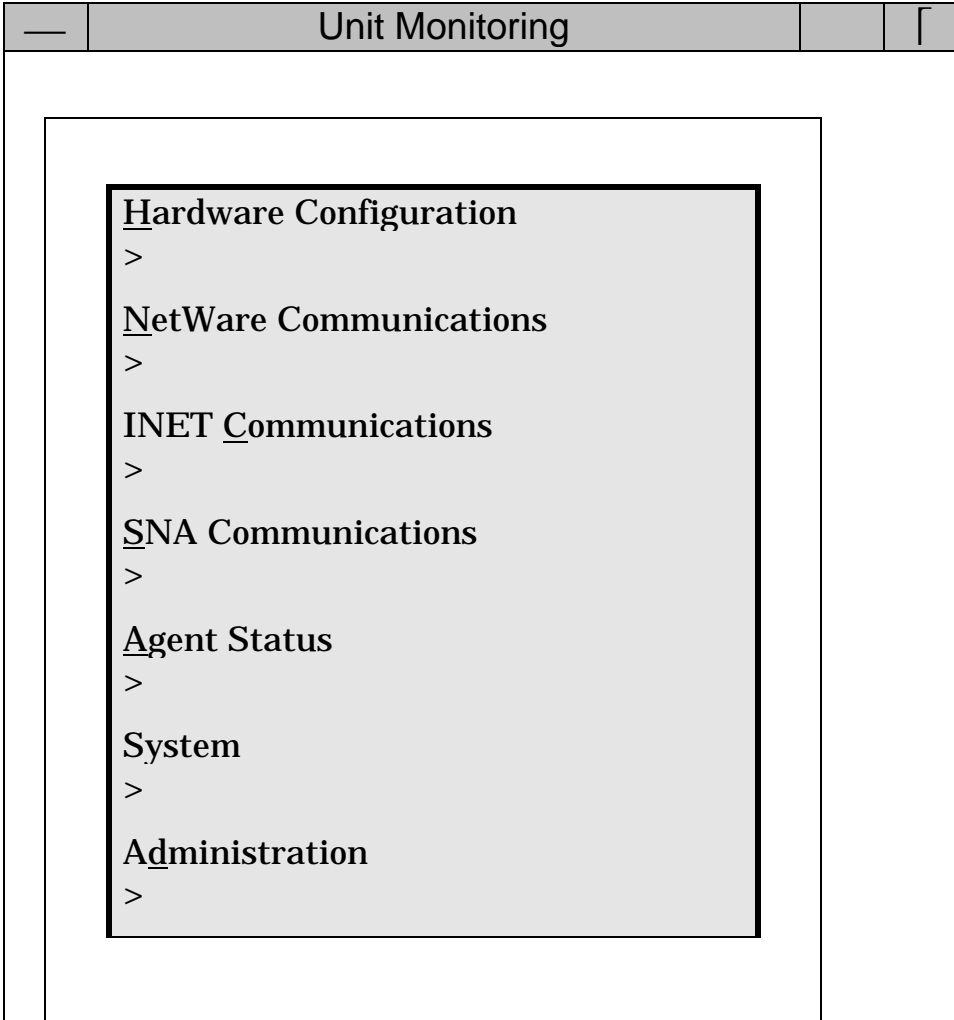
Selecting this option enables user to abort all LU ports.

Troubleshooting for unsuccessful operation:

1. Wait a few minutes to ensure that OnePrint is active.
2. Reset OnePrint.
3. If operation still fails contact technical support.

4. Monitor Menu

This Menu displays general information regarding OnePrint hardware configuration status or Host and LAN connection.



Unit Monitoring

- Hardware Configuration
>
- NetWare Communications
>
- INET Communications
>
- SNA Communications
>
- Agent Status
>
- System
>
- Administration
>

The system and the environment can be monitored. Use the upper items to view the values. A copy is kept in a file, and may be downloaded for off-line use.

Hardware Configuration

The actual Hardware Configuration screen contains more information than the table shown below. Rows 5 - 10 contain information considered most relevant for gaining a better understanding of the OnePrint Hardware Configuration.

Hardware Configuration	
Configuration	Clean

KEY	MODNAME	IRQ	IO START	IO END	MEM START	MEM END	DMA
2	lp	7	3bc	3 bf	-	-	-
3	rtc	8	-	-	-	-	-
4	kd	1	60	62	a0000	bffff	-
5	kd	-	64	64	c0000	c7fff	-
6	fd	6	3f0	3f7	-	-	2
7	dma	-	0	1f	-	-	-
8	dma	-	c0	df	-	-	-
9	dma	-	80	9f	-	-	-
10	cram	-	70	7f	-	-	-
12	atup	-	40	5f	-	-	-
13	atup	-	a0	bf	-	-	-
14	asyc	4	3f8	3ff	-	-	-
15	asyc	3	2f8	2ff	-	-	-
16	adsc	11	330	333	dc000	ddfff	5
17	dcd	14	0	0	10000	10001	-
18	athd	0	1f0	1ff	0	0	-
19	trasi0	12	1a20	1a3f	-	-	6
22	IBM164	9	a20	a23	-	-	-
Row 1	Row 2*	Row 6*	Row 7*	Row 8*	Row 9*	Row 10*	Row 11*

* The above rows reflect actual position on OnePrint Console Hardware Configuration screen.

Screen Legend: The following is a list of descriptions for mode names shown above.

lp	Printer
rtc	Real Time Clock
kd	Keyboard and Display
fd	Floppy Disk Drive
dma	DMA Address for the LAN Interface Card
cram	CMOS RAM
atup	AT Bus Platform
asyc	Serial Port COM 1(identity plug) or COM 2 (mouse)
adsc	SCSI Controller
dcd	Hard Disk Drive
athd	Hard Disk Drive
trasi0	Proteon 139x LAN Card
IBM164	Second LAN Card (IBM LAN Card for this case)
mfpd	
ide	
TCM5x9	
Approved	
Adaptors	

Standard Hardware IRQ Settings

Specific IRQs are typically used for certain hardware devices. Although it is possible to configure hardware using nonstandard values, doing so is not recommended. The following table lists standard hardware configuration data.

IRQ	Description (driver)	Notes
1	Keyboard driver (kd)	Reserved. Available (IRQ2 is internally mapped to IRQ9. When choosing IRQ value you should consider IRQ2 and IRQ9 to be same interrupt.)
3	Serial COM2 Port (asyc)	Reserved (can change after installation)
4	Serial COM1 Port (asyc)	Reserved (can change after installation but doing so is not recommended)
5	Cartridge tape (<i>ictha</i>) or Parallel Port #2 (<i>lp</i>)	Recommended cartridge tape setting if installing from non-SCSI cartridge tape drive and a printer is not assigned to this IRQ
6	Floppy disk (fd)	Reserved
7	Parallel port #1 (<i>lp</i>)	Required (can change after installation but doing so is not recommended)
8	Real-time clock (rtc)	Reserved
9 - 12		Available
13		Reserved
14	Integral hard disk (<i>dcd/athd</i>)	Only required if an IDE, ESDI, or ST506 hard disk is installed
15	Integral second hand disk controller	Only required if a second hard disk controller is installed

Note:
Used if second IDE controller is active.

INET Communications

The INET stack shows the status of interfaces that have been autoconfigured. It displays the information referring to all the network interfaces installed on the system.

Selecting the Routing field will open the window as shown below. Descriptions of field options are as follows:

➤ **Destination** designates the host or network IP addresses which OnePrint can access.

➤ **Gateway (IP) Address** is the address for the router or gateway that OnePrint uses to access the IP Host(s) or Network(s).

➤ **Flags** specifies the status of the route that OnePrint uses.

U stands for “UP”;

G stands for “route is a gateway”;

D stands for “Dynamically created route”, not configured but received by OnePrint via the network.

H for host address accessed by OnePrint instead of network.

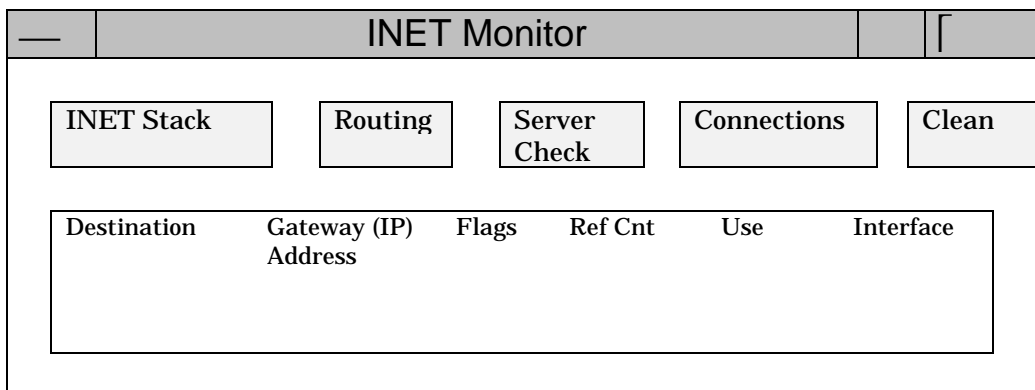
➤ **Ref Cnt** specifies the current number of active uses of this route.

➤ **Use** specifies number of packets sent via a specific route.

➤ **Interface** specifies the OnePrint interface entry for a specific route.

Selecting the Routing field will open the window as shown below. Descriptions of field options are as follows: Server Check is used to check the current communication to the servers. (This is similar to PING Command.)

Connections show the actual application port number assignment. Connections shows information for all TCP/IP connection.



Interfaces that are statically configured in to system, but not located at boot, are not shown.

SNA Communications

SNA communication processes statuses run in the OnePrint program, are displayed (option) by selecting the PU or LU status options. These are internal OnePrint indicators and not real SNA host connections.

SNA Communications		
PU Status	LU Status	Clean
<div style="border: 1px solid black; height: 30px; width: 100%;"></div>		

PU Status- Displays the current status of the internal SNA processes of the OnePrint program. The OnePrint supervisor uses this indicator to obtain information regarding the status of OnePrint SNA communication processes.

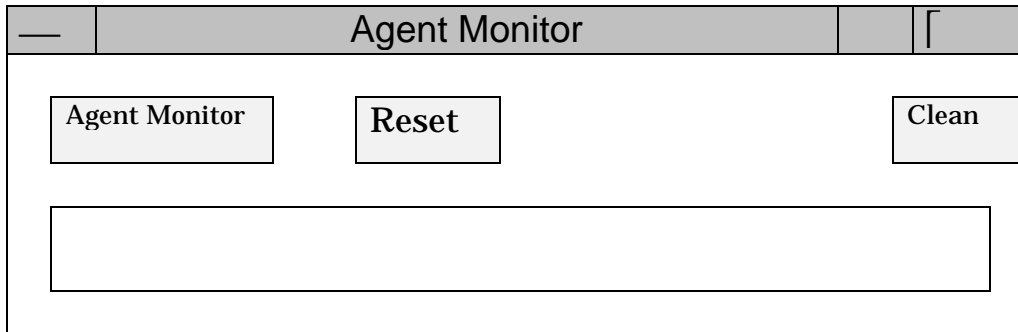
LU Status- Displays the current status of the LU processes run by the program for each host printer port that has been assigned to the OnePrint

Agent Status

Agent monitor displays the status of the SNMP agent process in the OnePrint program. When SNMP process is up, remote network user can access the OnePrint via the network.

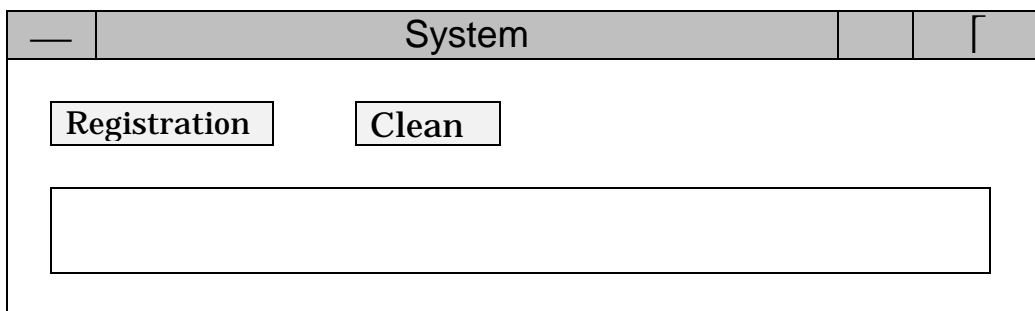
Reset Agent

Perform reset of the SNMP agent process in the OnePrint program.



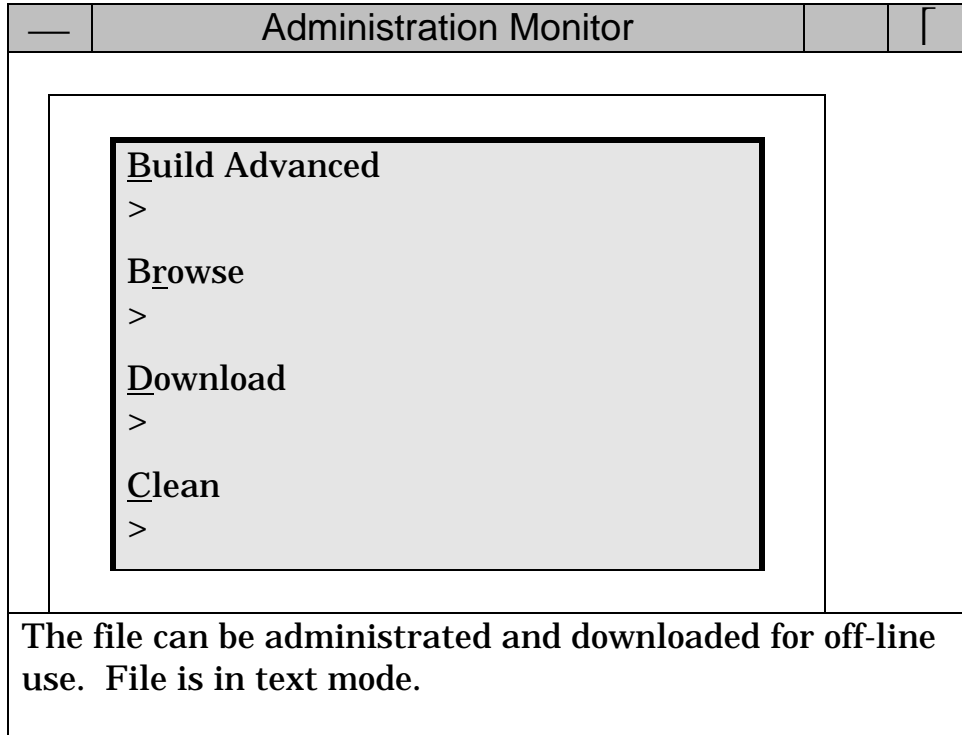
Registration Menu

The Registration Menu (shown below) displays all non-standard values (S/N, Model OS S/N, OS activation key, pages left, and days left (expiration date)).



Administration Menu

This Administration Menu (shown below) enables the user to administrate and download requested traces to diskettes (maintenance).



Build Advanced

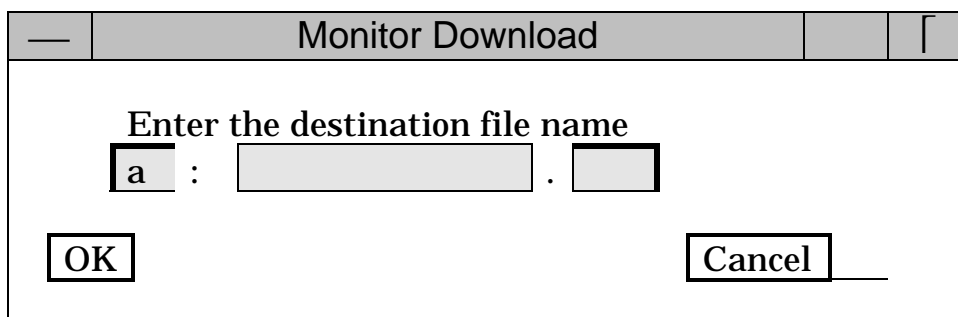
This option is mainly used for maintenance purposes. It provides an overall monitoring file referring the hardware, INET, IPX, SNA and Agent Status of the OnePrint.

Browse

Selecting this option enables the user to browse the monitor file.

Download

Selecting this option copies the monitor file onto a diskette. This diskette can be viewed on PC using any ASCII Text editor.



— Monitor Download

Enter the destination file name

a : .

OK Cancel

Enter the file name and press OK or Cancel.

Troubleshooting for unsuccessful operation:

1. Ensure that diskette is DOS formatted.
2. Ensure that diskette has enough free space available for configuration file.
3. Re-enter the same name.
4. Attempt operation again using a different diskette.
5. Ensure that diskette is not write-protected.

Clean

Selecting this option clears the contents of the monitor file.

5. Software Upload

View List

List file specifies the IMA AFP/LAN list files in the software directory.

Integrity Check

Integrity check ensures that full installation has been successfully performed. A “system was checked without error” message will appear if integrity check is successful.

If check is unsuccessful, the following messages may appear several times to inform user which files are corrupted or diskettes not loaded:

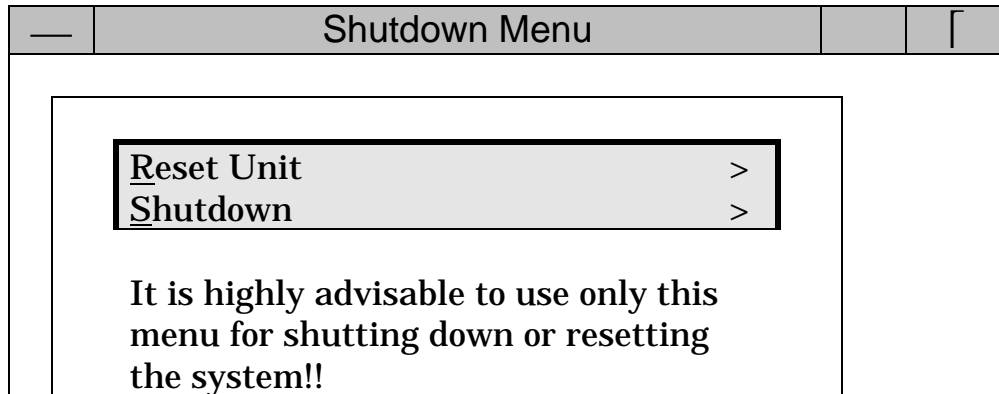
**Distribution diskette labeled [label name]
has corrupted file (s)**

or

**Distribution diskette labeled [label name] not
loaded.**

6. System Shutdown

Always perform proper shutdown procedures to protect the system stability.



Shutdown

This operation ensures that OnePrint properly terminates connections with the host and all printing services. It ensures that all data is saved to disk for smooth restart. Once the operating system prompt appear, the unit may safely be turned off.

Reset Unit

This operation performs all the above mentioned operations except that it immediatly restarts the unit. This operation has the effect of resetting the OnePrint system.



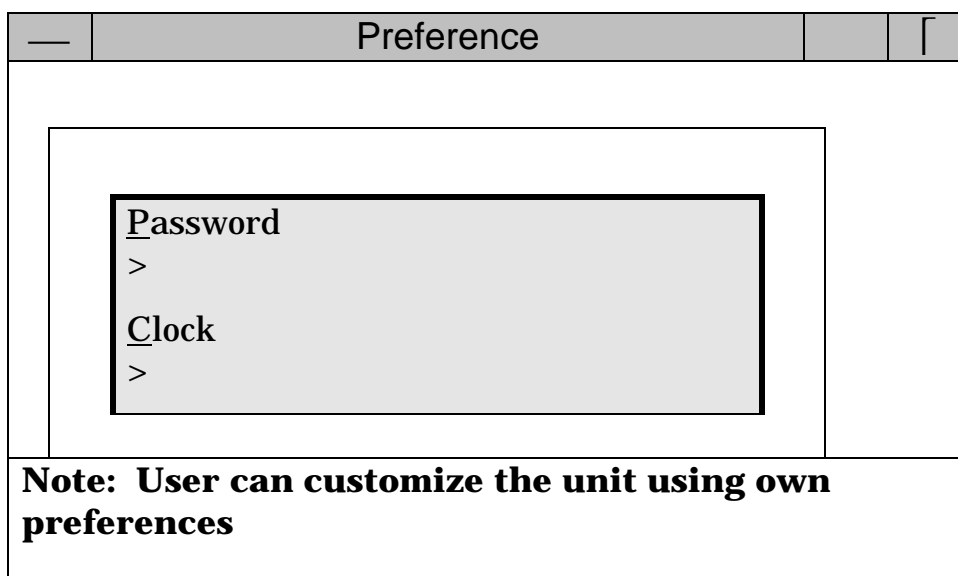
Caution

To avoid file damage, **do not perform** any of the following while unit is running.

1. Do not press the OnePrint unit reset button.
 2. Do not turn off power.
 3. If a power failure occurs ensure that the shutdown option is selected before the UPS expires.
-

7. Preference Menu

OnePrint is equipped with an automatic screen saver which requires a password. This menu is used mainly for assigning the supervisor password to access OnePrint unit. The clock submenu displays the internal date and time of the OnePrint unit.



Password

OnePrint requires no password by default. The default password is used for first access to the OnePrint. If original password is changed ensure that a copy of the password is stored. Loss of the password will require a re-installation of the OnePrint software.

Clock

This option allows the user to view OnePrint unit internal date and time. The clock is used as a tool for comparing actual date and time to trace date and time.

Chapter 5 : OnePrint Overall Performance Tuning

Host Connection Performance Tuning

For optimal performance, set SNA parameters as specified below. In Mainframe, two main parameters affect OnePrint printing performance; VTAM Request Unit (RU) size, and NCP MAXOUT Value.

VTAM Request Unit (RU) Size

A VTAM request unit (RU) contains system data information for a communication-attached printer. An increase in VTAM RU size may increase printing rate because processing larger (and, therefore, fewer) RUs contributes to higher efficiency.

The maximum size of the RU, however, is limited and dependent upon the limitations of hardware and software. For example, the RU size is limited by the communications controller or by the printer maximum buffer size, whichever is smaller. Generally, use the largest RU size suitable for the printer or attachment being used.

NCP MAXOUT Value

MAXOUT (maximum output) is an operand in the physical unit (PU) macro instruction for the Network Control Program (NCP). The value specified for MAXOUT defines the number of units of data that can be sent by the host system to the PU before the PU must respond. A value from 3 to 7 should be specified.

A value less than the maximum supported by the PU can cause delays in the communication line, which will result in performance degradation. Refer to the NCP, SSP, and EP Resource Definition Reference for your system for more information.

To avoid the potential problems (lost LU connections, bad performance downloading high volume data and heavy data transportation via the LAN infrastructure) set the OnePrint environment as recommended in the following paragraphs.

OnePrint identifies itself as a PU type 2.0 in the SNA structure and can be connected in four ways:

1. OnePrint as a DownStream.PU via a 3174 or compatible local controller channel attached connection.

The parameters relevant for the PU communication are:

- Fill in GATEWAY Address & SAP - (**Question 900**).
- Fill in OnePrint Address & SAP in the 3174 (**Question 940:T=1**)
- MaxData size is the maximum frame size that the 3174 will send via the Network. Set MaxData size for 3174 and OnePrint to 4105, the highest size OnePrint can accept, (**Question 941: F = 4**).
- Transmit window size equals the number of transmissions made by 3174 before receiving OnePrint acknowledgment . (**Question 941: W = 7**). OnePrint received window size value is set to 1 and transmit window size is set to 7.
- Set **RUSIZE**, in the application logmode, to **4A4A** ($4 * 2^{10} = 4096$ bytes).

2. OnePrint defined as a DownStream.PU via a 3174 or compatible controller remote connection (**SDLC**).

- In addition to the parameters in the first configuration, VTAM definition should include: **MAXOUT=7 , MAXDATA=2042**

3. OnePrint defined as a DownStream.PU via a FEP or direct connection to the host.

- VTAM, IDBLK and IDNUM definitions should match OnePrint configuration.
- EP LAN address should match OnePrint configuration.
- VTAM definition should include MAXDATA=4096 and MAXOUT=7.
- Set **RUSIZE**, in the application logmode, to **4A4A** ($4 * 2^{10} = 4096$).
- The SNA gateway serves as a concentrator LU (i.e. OS/2 Communication Manager, Microsoft SNA Server, NetWare for SAA or compatible) that sends a pool of LU's to the OnePrint (known as a DownStream PU to this SNA gateway).
- Ensure that the following OnePrint performance parameters are set: gateway LAN address, SAP, and I-Frame = 4096 (recommended).

Potential Printing Bottlenecks In NetWare or 4.x)

Most performance problems encountered in a NetWare 4.x printing environment will result from non-NetWare-related causes.

Bottlenecks Specific To Printing.

Using different drivers can result in dramatic differences in both the speed at which data is generated and the quality of the data generated.

Be sure to match application and driver for best performance.

- Investigate the driver/application options available for a particular task. Be sure to consider drivers produced by third-party manufacturers.

- Test the efficiency of each option with one or two representative tasks.

Printer

Another important printing bottleneck is in the printer itself and the type of data being sent to the printer.

Use a printer that is appropriate for your needs.

- If printing is frequent and time and quality are a priority, a fast laser printer may be necessary.

- If your printing mix contains mostly graphics and bit-mapped images (including bit-mapped text), the speed of the printer's interface should be a prime concern.

Interface

With bit-mapped graphic images, including text output printer speed may be limited solely by how fast the data can pass through the workstation's print port to the printer.

Choose an interface that is fast enough to keep up with the bulk of the print jobs to be run on a particular printer. To do this, you will need to estimate the data transmission rate for that printer.

Parallel port speeds vary greatly. Laser printers may have maximum parallel port speeds approximately 150 KB per second.

NPRINTER.EXE software for NetWare 4.x and RPRINTER for releases after NetWare 3.11 can send data to a printer's parallel port as fast as most laser printers can receive it. The current limit is about 35 KB per second.

Alleviating Interface-Related Bottlenecks

Here are some recommendations for alleviating bottlenecks related to the printer interface:

- Use interrupt mode when possible, as that allows the fastest speeds and produces the least load on the CPU per byte transferred.
- Using external network-direct hardware that still connects to the printer's parallel port will provide little improvement in printing speed over NPRINT on printers that cannot accept data faster than 35 KB per second through the parallel port. This includes most current printers.

Network-direct printer interface cards, generally have two modes: a queue-server mode (also called print-server mode) and a remote-printer mode.

- Queue-server/print-server mode can be up to 20 percent faster than remote printer mode and puts slightly less load on both network and the file server being used. However, in NetWare 4.x versions and releases after NetWare 3.11, remote printer modes are nearly as fast as queue-server/print-server modes, making the trade-offs fairly even between the two modes.
- Remote-printer mode allows additional flexibility in controlling print forms and in monitoring printers via PCONSOLE.

Configuration

- Increase buffer size for busy networks.
- When running NPRINT, throughput is also affected by the buffer size defined for the printer object in PCONSOLE. The buffer size needed for maximum data throughput will range for 6 KB to 20 KB depending on the traffic load on any particular network.
- Auto-load NPRINT.NLM. If you are using NPRINT.NLM for printers connected to a port on a file server, configure it to be auto-loaded by PSERVER.NLM. NPRINT.NLM runs faster when it is auto-loaded than when it is manually loaded.

Chapter 6 : Controlling OnePrint from the Mainframe

Introduction

Host users can send setup commands to OnePrint by using ASI's Command Language. These commands are embedded in a standard IBM data stream when print jobs are sent from the host. This configuration method is an alternative to setting up OnePrint using the OPC program.

Setup commands can originate from one of the following sources:

- A predefined command file sent to the appropriate LU printer port
- A text editor used to create a command file on the spot
- A host application
- A host user sending commands directly from a terminal to the appropriate LU printer port

This chapter describes the Host Setup Feature, i.e. how OnePrint can be configured by sending setup commands from the host. The following topics are covered:

- Creating a Command File
- Command Syntax
- Saving a Configuration
- Programming Examples
- Changing Printer Profiles

Sending OnePrint Commands from the Host

A host setup command sequence is a group of setup commands that can change OnePrint's configuration. The command sequence is sent as a string within a print job.

A host command sequence can be created with any standard text editor. This file can be sent before, during, or after a print job. It can include Push/Pop commands that enable the user to make temporary changes in the current profile of a virtual printer without affecting other users.

Any number of OnePrint parameters may be configured in a command sequence. You can choose the parameters you want to modify from the tables of Setup Commands shown at the end of this chapter.

OnePrint commands can be grouped into the following categories. These categories correspond to the main menu options in the OPC program. For a detailed description of these parameters, see Chapter 4.

Setup	System	Adapters	Interface	Printing	Host
--------------	---------------	-----------------	------------------	-----------------	-------------

Setup	OnePrint Setup
System	Administrative settings
Adapters	LAN communication parameters
Interface	Network Interface card parameters
Printing	LAN printing services and printer definition
Host	M/F communication settings and printer assignment

A command sequence commences with a header field followed by the desired setup commands and can end with a trailer field. The header is analogous to a printer escape string. It is a signal to OnePrint that what follows is a set of setup commands, not printable data.

The trailer identifies the end of a command sequence to OnePrint. OnePrint then resumes processing the data stream as normal printer data until the next header appears.



Note

Access to privileged parameters is denied to regular users. Access is only granted to Supervisors identified by password (via the SUMODE utility).

Mnemonic Commands

Each parameter field title described below includes an entry in parenthesis. This entry is the mnemonic Host Setup Command for the given parameter. For example: **Banner Enable (BnrE)**

In this example, `BnrE` is the host setup mnemonic used to modify this parameter from a host terminal. Mnemonic commands provide an alternative to the OPC program as a way of setting parameter values.

The mnemonic can be used to set the value of a parameter when sent from an on-line host terminal to OnePrint. See Chapter 5 for details on using mnemonic commands. Fields that do not have a mnemonic command in parenthesis can only be accessed via the OPC program.

Construction of Header and Trailer Strings

You may choose any desired EBCDIC text characters to be in the header/trailer fields. The header/trailer should consist of a string that is not likely to appear as text in application print jobs features include:

- Can have a length of 1 - 4 EBCDIC characters
- May be identical or different
- Can consist of EBCDIC characters in the range 40h - FFh
- Are user-definable



Caution

The Setup Header and Trailer strings must not conflict with the Hex Transparent Header and Trailer strings discussed in the Appendix B. To avoid a conflict, make sure each set of header/trailer strings starts with a different character.

Upon installation, OnePrint is ready to receive commands from the host. In the default configuration, the Host Setup feature is Enabled with the header and trailer fields set as follows:

Default Setup Header / Trailer	EBCDIC (hex)
*	5C
=	7E
%	6C
=	7E



Tip

Host Setup Feature is disabled if:

- HS parameter = No
- Mismatched header/trailer lengths.

Use the OPC program to change or check these parameters.

Host Setup Definition

A Command Sequence is a group of setup command statements that is preceded by a Setup Header. A statement can be regarded as a procedure call. This section describes how to construct setup command statements that make up a command sequence.

The format of a host command sequence is as follows:

<SETUP HEADER> <PARAMETER>.....<PARAMETER><SETUP TRAILER>

The **<SETUP HEADER>.....<SETUP TRAILER>** is described in the previous section.

A setup command statement, **<PARAMETER>**, consists of a OnePrint setup command, its associated value, and an optional comment. The format of a setup command statement is:

<ID>[/Base] : <VALUE> ; (* COMMENT *)

The elements of a statement are described as follows:

<ID>	Name of Setup Command
/Base	Number Base of Value Being Assigned (optional)
:	Assignment Operator
<VALUE>	Parameter Value Being Assigned
;	Assignment Statement Terminator
(* COMMENT *)	Remark (optional)

The following sections discuss the elements of a Setup Command Statement in detail.

The **<ID>** is the mnemonic command name that identifies the parameter being configured. The pattern of capitalization in the name indicates the start of new words (e.g. FSLoc = Server Location).

The **<ID>** can be optionally suffixed by an index: e.g., cpi (2), where remote access to port 2 is requested.

/Base

This optional field applies only to both numeric and string parameters. Numeric values can be entered with a base of hexadecimal, decimal, or octal. String values can be entered as text when Base is set to character.

Following the <ID> field, you can specify the number base of <VALUE> by adding one of the following switches:

/h hex, **/d** decimal, **/o** octal, **/c** character

If the Base is omitted, the following defaults are assumed:

Type of Value	Default Base
Sequences	Hexadecimal
Index/Numeric Values	Decimal

For example, to define the Host Setup Header to be \$!, you can write any one of the following:

SHH:1A 19;	default Base is hex for a string sequence
SHH/h:1A 19;	a hexadecimal Base
SHH/d:26 25;	a decimal Base
SHH/c:\$!;	a character Base

<VALUE>

There following types of values can be used as parameters:

- A. Numeric values are used for parameters i.e. CPI, LPI, MPP, etc.
- B. Index values indicate which item from a fixed set of choices is being selected. For example: Portrait, landscape, COR.
- C. Sequences are pairs of hexadecimal digits from 0 - F that forms single hexadecimal numbers or characters. These values can represent a single number (e.g. a memory address) or a string of characters. If this type of value is omitted from an assignment statement, it has the effect of setting the parameter equal to a Null string (i.e. a string of length 0).
- D. String values contain text characters. Any leading and trailing spaces are truncated. Spaces within the string are preserved. The maximum length of a string depends on the parameter.

Controlling OnePrint from the Mainframe

DELIMITERS

The delimiter ";" is a terminator used to delineate the end of a parameter assignment statement.

COMMENT

A comment is any text appearing between (*...*) at the end of an assignment statement. OnePrint ignores comments. Comments can be nested. For example:

```
(* This is an example (* of a nested *) comment *)
```

Using a Command Suffix to Specify a Record

OnePrint parameters related to virtual printer emulations are stored in one of the following tables:

 Server Table

 Print Queue Table

 Physical Printer Table

 Virtual Printer Current Profile Table

 Virtual Printer Profile A Table

 Port Communication Table

To modify one of these table parameters with a host setup command, you must specify the record within the table that contains the parameter. This is done by adding a suffix to a command. The suffix contains the record number enclosed in parentheses. For example, FSName(3) refers to the Server name in record 3 of the Server Table.

Using Virtual Printer Profile Commands


There are two variations of each printer profile command. When a profile command is used with no suffix (e.g. CPI), it applies to the virtual printer's Current Profile associated with the LU port being used

When a command has a suffix of **A** (e.g. CPIA), it applies to that virtual printer's Saved Profile.

The LUProf command must have a suffix of **A**, followed by an index number (e.g. CPIA(10)). This command is used to select a record from Printer Profile Table A. Unlike all other Virtual Printer Profile commands, it is invalid to use LUProf without a suffix since this command cannot be used to refer to a virtual printer's Current Profile.

Saving a OnePrint Configuration

When you change a OnePrint parameter from the host, the change takes effect immediately in the RAM of the OnePrint unit. Most parameters can be stored on the hard disk so they will be available after the OnePrint unit is powered off or reset. Whether parameter changes are saved to disk depends on the following:

 **Save Command** - All OnePrint parameters are saved only when you issue the SaveConf command from the host.

 **Never Saved** - Changes made to a virtual printer's Current Profile parameters are kept only in RAM. The Current Profile is never saved to the OnePrint's hard disk

Host Programming Tips

This section describes special commands related to host setup that are not found in the OPC program. It also presents programming guidelines for how to perform common host setup operations.

SuperUser Mode (SUMode)

This parameter allows the OnePrint system administrator (superuser) to specify a password to be able to change OnePrint system parameters not connected with the current LU port. The password is checked against the value of the Supervisor parameter.

Define Fields Before Activating a Record

When setting up a new record in a table, define all of its fields before activating the record. The following figure shows the definition of each field in a Server record #32. The last line activates record # 32 by assigning a 1 to the Server() parameter.

Figure 1

**Defining All
Server
Fields
Before
Activating
the Record**

```
FSName(32):Sales_PC;  
FSLoc(32):Sales  
Secretary's Desk;  
NWUsr(32):OnePrint;  
NWPwd(32):Password;  
INet(32):FFFFFFFF;  
INode(32):FFFFFFFFFFFFFF;  
FSDT(32):60;  
FSTO(32):4;  
PBuf(32):1024;  
FileServer(32):1      (*  
Activate 32nd Server  
*);
```

Error Handling

When OnePrint encounters a command statement that does not apply to the type of virtual printer being emulated, it will ignore the command.

For example, OnePrint ignores the laser printer command Tray Orientation when it is sent to a virtual impact printer. OnePrint also ignores invalid commands that generate syntax errors.

If OnePrint encounters an invalid or badly constructed command, an error message will be printed on the page. OnePrint will continue to process subsequent commands.

Modifying Printer Profiles

Each virtual printer has two setup profiles associated with it: the Current Profile and Profile A (see Chapter 4 for details). These types of printer profiles are described below.

Current Profile The active set of printer parameters that control the functioning of a virtual printer.

Profile A A printer profile stored on the OnePrint's RAM. It can be copied to the Current Profile by the user. Profile A is automatically copied to the Current Profile each time OnePrint starts up.

Setup commands related to profiles for virtual printers are found in the Profiles section of the Parameter Table at the end of this chapter. Commands that apply to an LU port take a subscript in the range 4 - 128, depending on the OnePrint model. Each profile command has the following variations:

Command Suffix	Record Number	Description
None	(1 - 128)	Specifies a parameter in the Current Profile of one of the 128 virtual printers, for example LM(128).
A	(1 - 128)	Specifies a parameter in the Saved A Profile of one of the 128 virtual printers, for example LMA(128).

The following table illustrates the use of these profile command variations:

Profile Command Suffix	Example
(1 - 32)	CPI(32):12; (* sets Characters Per Inch in a printer's Current Profile *)
A(1 - 32)	CPIA(32):12; (* sets Characters Per Inch in a printer's Profile A *)

Temporarily Changing the Current Printer Profile

OnePrint allows you to make changes to a virtual printer's Current Profile for the duration of a print job without affecting other users. At the end of the job, the original Current Profile can be restored. The following setup commands provide the ability to make temporary profile changes:

- Push** Temporarily save the Current Profile so that any subsequent changes can be easily undone. The Push command would typically be inserted at the beginning of a print job.
- Pop** Restores the last Pushed profile. Changes made after the Push command are overwritten so that they will not affect subsequent jobs or other users. The Pop command normally comes at the end of a print job.



Note

- Only one profile can be Pushed. A second Push without an intervening Pop will overwrite the previously Pushed profile.
 - If the OnePrint unit is powered off or reset, it is not possible to restore a profile with a Pop.
-

Table of Host Setup Commands

The OnePrint Command Table lists all commands that can be sent from the host computer to set OnePrint parameters. Command usage depends on the command type as follows:

Command Types	Command Suffix	Description
Scalar Commands	None	This type of command corresponds to a single OnePrint parameter. This type of command has no suffix, for example TRRate.
Table Based Commands	()	This type of command operates on parameters stored in a table. These commands require a record number enclosed in parentheses. The record number specifies the location within a table of the parameter to be changed. These commands are shown below with (), for example PQName().
Virtual Printer Profile Commands	_()	<p>For each virtual printer there are two parallel sets of Profile Tables (Current, A).</p> <p>The commands associated with printer profiles require that you specify both the Profile Table and the record number within that table. If you omit the record number subscript, the command applies to the virtual printer associated with the current LU port (e.g. LMA)</p> <p>For commands that are followed by the "_" symbol, indicate the Profile Table by replacing this symbol with one of the following:</p> <ul style="list-style-type: none"> • Current Profile: None • "A" Profile: A

Controlling OnePrint from the Mainframe

The following Command Table groups Host Setup commands according to function. This order corresponds to that found in the OPC program and in Chapter 4.

An alphabetical command reference appears in Appendix A.

The following is a list of symbols indicating when parameters changed in the OPC take effect (these symbols appear in the right hand column of each table).

Symbol	Takes Effect:*
✦	Immediate
●	Power-on/Reset
◎	LU Reset / Bind Recovery
□	LU Reset
★	Save Profile + LU Reset

General Information Commands			
Command Name	Description	Range	✦
OPName	Logical name of OnePrint system	8 characters (free text)	✦
Description	Description to uniquely identify this OnePrint system	40 characters (free text)	✦
Contact	Name & phone # of tech support	40 characters (free text)	✦
Location	Location of OnePrint system	40 characters (free text)	✦

Security Commands			
Command Name	Description	Range	✦
Supervisor	Password used by the OnePrint system administrator to enter the Host Setup	10 characters (free text)	✦
User	The user	10 characters (free text)	✦
AcVendor	Vendor access	1. No 2. Yes	✦
AcTech	Technical support access	1. No 2. Yes	✦
AcUser	User access	1. No 2. Yes	✦
AcIPX	Enable access over IPX	1. No 2. Yes	✦
UDP/IP	Enable access over IPX	1. No 2. Yes	✦
AccUDPIP	Enable access over IDP/IP	1. No 2. Yes	✦

Controlling OnePrint from the Mainframe

Remote Connectivity Options			
IpConnect()	Remote connectivity over IP	1. No 2. Yes	✦
IpxConnect()	Remote connectivity over IPX	1. No 2. Yes.	

Unit Utilities			
UnitConfLoad	Loads all configurable parameters from the Configuration File. Some parameters will take effect upon loading the Configuration File	1. Yes	✦
UnitConfSave	Saves all configurable parameters to the disk. This ensures that all modifications will be saved and used at the next power-on/reset of the unit	1. Yes	✦
AllLUExec	Executes LU process, relates to all LUs	1. Yes	✦
AllLUKill	Resets the LU process. This is equal to combining LU Kill and LUExec in a single command. Relates to all LUs	1. Yes	✦
UnitShutdown	Shuts down the OnePrint unit (only software). If the unit is reset before the current file in the Host is purged, the command will shut down the system again	1. Yes	✦
UnitReset	Resets the OnePrint unit. If the unit is reset before the current file in the Host is purged, the command will reset the system again	1. Yes	✦
CleanReset	Cleans out history file	1. Yes	✦

Data Flow			
ClearFile	Clean the tracing in the file	1. No 2. Yes	✦
ReplayPort	Select the port where traffic is to be traced	0..128	✦
ReplayClearFile()	Replay Clear File	1. No 2. Yes	✦
ReplayMethod()	Replay Method	1. Fixed 2. Cyclic	✦
ReplayMaxSize()	Replay Maximum File Size	2 - 25[MB]	✦

Advanced			
EvtMaxSavedFiles()	Max Saved File	2-25 MB	✦
EvtMaxCyclicFiles()	Max Cyclic File Size	2-25 MB	✦

Controlling OnePrint from the Mainframe

Adapter Commands:			
Card ID	Adds/Deletes Card ID	1-4	●
TRERelease	Token Ring Early Release	1. No 2. Yes	●
TRRate	Token Ring TRANSMission Rate	4 (for 4 Mbps) 16 (for 16 Mbps)	●
TRSTP	Token Ring Shielded Twisted Pair	1. UTP (Unshielded Twisted Pair) 2. STP (Shielded Twisted Pair)	●
TRAddress	Token Ring MAC Address	12 hex digits	●
Card IRQ	IRQ	0-255	●
Card I/OStart	I/O Start Address	2 Bytes (4 hex digits)	●
Card MemStart	Memory Start Address	3 Bytes (6 hex digits)	●

Adapter Commands:			
CardDMA	DMA	0-7	●
CardModName	Supported Nic list	1. Proteon 139x 2. Olicom 3117 3. IBM 16/4 4. 3COM ETHERLINK II 5. 3COM ETHERLINK III 6. SMC ETH 8003 Family 7. SMC ETH 8013 Family 8. SMC ETH 8216 Family 9. Novell ETH 2000 Family 10. Novell ETH 2000+ Family 11. Olicom 3118 12. Olicom PCI 13. 3COM Etherlink III PCI 14. SMC EtherPower PCI 15. AMD - PCNET - PCI 255. Reserved	●

Controlling OnePrint from the Mainframe

Interface

NetWare			
Servers:			
IPXIntNetwork	IPX Internal Network	4 bytes (8 hex digits)	⊙
IPXAutodiscovery	IPX Autodiscover	1. No 2. Yes	⊙

Nic Specific			
NicConFrameType()	Nic Frame Type	1. EthernetII 2. Ethernet 802.2 3. Ethernet 802.3 4. Ethernet SNAP 5. Token Ring 6. Token Ring SNAP	⊙
NicLANNetwork	LAN Network	4 bytes (8 hex digits)	⊙

INET			
Inet()	Inet Index Table	0 - 4	⊙
InetName()	Host name	50 characters	⊙
InetIPAddress()	IP Address	IP Address	⊙
InetSubnetMask()	Subnet Mask	IP Address	⊙
InetBroadcastAdd()	Broadcast Address	IP Address	⊙

Service			
RouterDynamic()	Dynamic routing	1. No. 2. Yes	⊙
RouterDefault()	Router default	IP address	⊙
DnsDomainName()	Dns domain name	characters 50	⊙
NISDomainName()	NIS domain name	characters 50	⊙

Controlling OnePrint from the Mainframe

Router:			
RouterNet 1	Net router 1	IP address	⊙
Router GW1	Gateway router 1	IP address	⊙
RouterNet2	Net router 2	IP address	⊙
Router GW2	Gateway router 2	IP address	⊙
RouterNet3	Net router 3	IP address	⊙
Router GW3	Gateway router 3	IP address	⊙
RouterNet4	Net router 4	IP address	⊙
Router GW4	Gateway router 4	IP address	⊙
RouterNet5	Net router 5	IP address	⊙
Router GW5	Gateway router 5	IP address	⊙
RouterNet6	Net router 6	IP address	⊙
Router GW6	Gateway router 6	IP address	⊙
RouterNet7	Net router 7	IP address	⊙
Router GW7	Gateway router 7	IP address	⊙

Router:			
RouterNet8	Net router 8	IP address	⊙
Router GW8	Gateway router 8	IP address	⊙
RouterNet9	Net router 9	IP address	⊙
Router GW9	Gateway router 9	IP address	⊙
RouterNet10	Net router 10	IP address	⊙
Router GW10	Gateway router 10	IP address	⊙

DNS			
DNSNameServe1	DNS Name Server 1	IP Address	⊙
DNSNameServe2	DNS Name Server 2	IP Address	⊙
DNSNameServe3	DNS Name Server 3	IP Address	⊙
DNSNameServe4	DNS Name Server 4	IP Address	⊙
DNSNameServe5	DNS Name Server 5	IP Address	⊙
DNSNameServe6	DNS Name Server 6	IP Address	⊙
DNSNameServe7	DNS Name Server 7	IP Address	⊙
DNSNameServe8	DNS Name Server 8	IP Address	⊙
DNSNameServe9	DNS Name Server 9	IP Address	⊙
DNSNameServe10	DNS Name Server 10	IP Address	⊙

Controlling OnePrint from the Mainframe

Server Commands			
Servers:			
Server()	Adds/Deletes Server records	1. Deactivate the specified record 2. Activate the specified record	⊙
ServerType		1. IPDS Encaps. 2. NetWare (Bindery) 3. LPD 4. Netbios/IP 5. LPD (Peer to Peer) . 6. Netbios/Netbuei 7. NetWare (NDS)	⊙
ServerName()	Server Name	48 characters (Interface name)	⊙
ServerLoc()	LocationFile Server	45 characters (free text)	⊙
NWUsr()	Interface User Account Name (on Server)	47 characters (Interface user)	⊙
NWPwd()	Interface Password (on Server)	47 characters (Interface password)	⊙
ServerIPAddress	Server IP Address	IP Address	⊙

NIS			
NIS Name Serve 1	NIS Name Server 1	IP Address	⊙
NIS Name Serve 2	NIS Name Server 2	IP Address	⊙
NIS Name Serve 3	NIS Name Server 3	IP Address	⊙
NIS Name Serve 4	NIS Name Server 4	IP Address	⊙
NIS Name Serve 5	NIS Name Server 5	IP Address	⊙
NIS Name Serve 6	NIS Name Server 6	IP Address	⊙
NIS Name Serve 7	NIS Name Server 7	IP Address	⊙
NIS Name Serve 8	NIS Name Server 8	IP Address	⊙
NIS Name Serve 9	NIS Name Server 9	IP Address	⊙
NIS Name Serve 10	NIS Name Server 10	IP Address	⊙

Controlling OnePrint from the Mainframe

LAN Printer Description			
Printer()	Adds/Deletes LAN printer records	1. Deactivate the specified record 2. Activate the specified record	<input type="checkbox"/>
PLoc()	LAN Printer Location	20 characters (free text)	★
PType()	LAN Printer Control Language	1. PCL4 2. PCL5 3. PCL5 Level 3 4. EPSON 5. ISO 6. Postscript	<input type="checkbox"/>
PPJLSUPP	Printer PjL Support	1. No 2. Yes	⊙
PQName	Printer Queue name	48 characters (NetWare name)	⊙
PQF/D	A print queue's file server ID	1-128 (depending on OnePrint model)	⊙
PatlockType	Attachment	1. LAN 2. LPT1 3. LPT2	⊙

Host Communication Commands			
GwName	Name of Host Gateway	20 characters (free text)	●
GwLoc	Location of Host Gateway	20 characters (free text)	●
GwAddr	Host Gateway Node Address	6 bytes (12 hex digits)	●
TrsWinSize	Transmit Window Size (max. # outstanding SDLC I-frames)	1 - 7 frames	●
RecWinSize	Receive Window Size (max. # I-frames before response)	1 - 7 frames	●
OPSAP	OnePrint's Service Access Point (SAP of OnePrint's network card used for link to Host Gateway)	00h - FFh (must be divisible by 4)	●
GwSAP	Host Gateway's Service Access Point (SAP of network card in the host gateway that is connected to OnePrint)	00h - FFh	●
HostXId	OnePrint's Host XID	4 bytes (8 hex digits)	●
MaxFramSize	Maximum I-Frame Size (VTAM's MAXDATA)	265 bytes 521 bytes 1033 bytes 2057 bytes 4105 bytes	●
HostAdapterID	Host Communication Adapter ID	1-4	●

Controlling OnePrint from the Mainframe

LU Commands - Host Printer to LAN Printer Assignments			
Port()	LU Communication Port Index (Adds/Deletes LU Comm Port records)	1. Deactivate the specified record 2. Activate the specified record	<input type="checkbox"/>
LUCommDescr() ()	LU Port's Description (which virtual printer is mapped to which LAN printer)	35 characters (free text)	<input type="checkbox"/>
LUCommPIId()	LU Port's LAN Printer ID	1 - 128 (depending on OnePrint model)	<input type="checkbox"/>
LUtesthostprint()	Test - Host Printing	1. No 2. Yes	<input type="checkbox"/>
LUtestSystem()	Test - Printing System	1. No 2. Yes	<input type="checkbox"/>

LU Activation			
OnLine()	Remote only command. For supervisor only. Enables to instantly release an LU from off-line status (before the end of the Host Setup sequence).	No parameters	✦
Offline()	LU is set to off line in order to change current setting for this particular LU.	No parameters	✦
LUExec()	Executes the LU process.	No parameters	✦
LUKill()	Aborts the LU process. This process will not be displayed in the Status Report.	No parameters	✦
LUReset()	Resets the LU process. This is equal to combining LUKill and LUExec in a single command.	No parameters	✦

Virtual Printer Profiles (see note below)			
LUProf(Adds/Deletes printer profile records	1. Deactivate the specified record 2. Activate the specified record	
LUEmul()	Type of virtual printer emulation associated with this LU port or public printer profile	1. IBM 4224 (impact printer) 2. IBM 4230 (impact printer) 3. IBM 381x (page printer) 4. IBM 4028 (page printer)	<input type="checkbox"/>
LUDesc()	Description of the virtual to physical printer assignment attached to this LU port	25 characters (free text)	✦
ProfLoad()	Loads "Profile A" instead of the current profile	A	
ProfSave()	Saves the Current Profile	A	
PushC	Temporarily saves the current profile.	No parameters	
PopC	Restores last pushed profile.	No parameters	

The parameters in this section are used with a 2 part suffix. Part 1 specifies the type of printer profile; A or Current (no suffix). Part 2 is a number in parentheses that specifies the LU port of a virtual printer (1 - 128). (If used without suffix, the command applies to the virtual printer associated with the current LU port).

Note: Changes made in 'Profile A' always take effect after LU Reset.

Page Format			
CPI_()	Characters Per Inch	10 12 15 17 20	✦
MPP_()	Maximum Page Position	1 - 255	✦
LPI_()	Lines Per Inch	6 8	✦
MPL_()	Maximum Page Length (# lines per page)	1 - 127	✦
TM_()	Top Margin	1 - 99	✦
LM_()	Left Margin	0- 99	✦
Font_()	Default Font	1. Gothic 2. Courier 3. Essay 4. OCR-A 5. OCR-B	✦

Page Format (con't)			
Code_()	Code Page (language)	1. Austrian/German 2. Austrian/German (alternate) 3. Belgian 4. Brazilian 5. Canadian Bilingual 6. Canadian French 7. Danish/Norwegian 8. Danish/Norwegian (alternate) 9. English (U.K.) 10. English (U.S.) 11. Finnish/Swedish 12. Finnish/Swedish (alternate) 13. French 14. French (alternate) 15. Italian 16. International 1 17. International 5 18. Dutch/Portuguese 19. Portuguese (alternate) 20. Spanish 21. Swiss Bilingual 22. Bulletin Hebrew 23. Old Hebrew 29. Japanese English 35. Spanish (alternate) 36. Spanish (speaking) 45. Download 3174	✦
Qual_()	Print Quality	1. NLQ (Near Letter Quality) 2. DPT (Data Processing Text) 3. DP (Data Processing)	✦
LSp_()	Line Spacing	1. Single 2. Double	✦
CodePage Ver_()	Some of the Code pages are available in two versions	1 - 0 1 - 1	✦

IBM Options			
Psym_()	Program Symbol	1.No 2. Yes	✱
ComSet_()	Compensation Setting (automatically scale programmed symbols)	1.No compensation 2. Perform compensation	✱
PSPI_()	Programmed Symbols Planes	1.3 single planes + 1 triple plane 2. 6 single planes	✱
PSFP_()	Programmed Symbols Full Page	1.Standard 2. Alternate	✱
Colr_()	Color Support	1. No 2. Yes	✱
Dir_()	Direction of printing	1.Left to right 2. Right to left	✦
PapTrSel_()	Paper Tray Selection	1.Default 2.Inverse 3.Link Trays 4.Envelope 5. Manual	✱
Rot_()	Automatic Rotation (portrait / landscape)	1.No 2. Yes	✦

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Trays			
TryATyp_()	Tray Type of 1st Tray (paper size)	1.Letter 2.Legal 3.B5 JIS 4.A4 5.Executive 6.A5 7.Monarch 3.75 8.Com 9 9.Com 10 10.DIM DL 11.DIM C6 12.DIM C5 13. B5 ISO	*
TryAOri_()	Tray Orientation of 1st Tray	1.Portrait 2.Landscape 3.COR	*
TryBTyp_()	Tray Type of 2nd Tray (paper size)	See TryATyp_()	*
TryBOri_()	Tray Orientation of 2nd Tray	See TryAOri_()	*
TryCTyp_()	Tray Type of 3rd Tray (paper size)	See TryATyp_()	*
TryCOri_()	Tray Orientation of 3rd Tray	See TryAOri_()	*
TryDTyp_()	Tray Type of 4th Tray (paper size)	See TryATyp_()	*

Trays (con't)			
TryDOri_()	Tray Orientation of 4th Tray	See TryAOri_()	*
TrayPrim	Primary support	1. No 2. Yes	*
TrayAlter.	Alternate support	1. No 2. Yes	*
TrayEnvel	Envelope support	1. No 2. Yes	*
TrayManual	Manual support	1. No 2. Yes	*

Controlling OnePrint from the Mainframe

LU3 Options			
Cas_()	Case	1. Dual (mixed case) 2. Mono (all upper case)	★
CRM_()	Carriage Return at MPP + 1	1. Standard 2. Alternate	★
NLM_()	New Line at MPP + 1	1. Standard 2. Alternate	★

Target Options			
Cpy_()	Number of Copies	1 - 255	✦
SFF_()	Suppress Form Feed (whether to skip sending a FF when a print job does not end with a FF)	1.No 2.Yes	✦
SFP_()	Deactivates automatic Form Feed at end of page (Form Feed only after maximum No. of lines)	1.No 2.Yes	✦
SideSel_()	Side Selection (specifies printing on one or both sides of a page)	1.Printer Default 2.Simplex 3.Duplex	*
PapFeed_()	Paper feed edge	1. Short 2. Long	✦
ASCIITab_()	ASCII table	1. ECMA94 2. ROMAN 8 3. ASCII7	✦
PrHighLevel_()	Printer High Level Option	1.No 2.Yes	✦
PrRemoteCtrl_()	Printer Remote Control	1.No 2.Yes	✦

Controlling OnePrint from the Mainframe

Banner Options			
BnrE_()	Banner Enable	1.No 2.Yes	✦
Txt1_()	Banner Text (line 1)	12 characters (free text)	✦
Txt2_()	Banner Text (line 2)	12 characters (free text)	✦

Page Fit			
PagePlace_()	Is used to offset the printout on the printable area. The printable area on the page can vary between printers	1. Printer Default 2. IBM Printer Default 3. Self Tuning	*
ScaleIPDS_()	Scale to fit IPDS.	1. No 2. Yes	*
Scale SCS_()	Scale to fit SCS/DSC	1. No 2. Yes	✦
Horizontal_()	Used for fine tuning of the horizontal offset of the page. Relative in page fit self tuning	0 - 255	*
Vertical_()	Used for fine tuning of the vertical offset of the page. Relative in page fit self tuning	0 - 255	*
Absolute_()	Channel emulation coordinate system	1. No 2. Yes	*
HorizDir_()	Horizontal Direction Movement	1. Left 2. Right	*
VertDir_()	Vertical Direction Movement	1. Up 2. Down	*

Controlling OnePrint from the Mainframe

User Defined EBCDIC To ASCII Conversion			
Conv1	Conversion EBCDI to ASCII	2 Hex pairs	✦
Conv2	Conversion EBCDI to ASCII	2 Hex pairs	✦
Conv3	Conversion EBCDI to ASCII	2 Hex pairs	✦
Conv4	Conversion EBCDI to ASCII	2 Hex pairs	✦
Conv5	Conversion EBCDI to ASCII	2 Hex pairs	✦
Conv6	Conversion EBCDI to ASCII	2 Hex pairs	✦
Conv7	Conversion EBCDI to ASCII	2 Hex pairs	✦
Conv8	Conversion EBCDI to ASCII	2 Hex pairs	✦
Conv9	Conversion EBCDI to ASCII	2 Hex pairs	✦
Conv10	Conversion EBCDI to ASCII	2 Hex pairs	✦

Font Codes			
Gothic_()	Code to activate this font on LAN printer	10 characters	✦
Courier_()	Code to activate this font on LAN printer	10 characters	✦
Essay_()[LS1]	Code to activate this font on LAN printer	10 characters	✦
OCRA_()	Code to activate this font on LAN printer	10 characters	✦
OCRB_()	Code to activate this font on LAN printer	10 characters	✦

Special Languages			
PrHeb()	Print Hebrew Escape sequence to select Hebrew language	6 bytes (12 hex digits)	✦
HebTab()	Selects Hebrew ASCII character set	1. Hebrew 80h 2. Hebrew 60h 3. Hebrew E0h	✦
LognetEmul_()	Lognet emulation support option	1. No 2. Yes	✦

Control Commands			
XTim_()	Execute Time (specifies when to resume printing on this LU port)	YYMMDDH HMMSS	✦
SrvA_()	Server Autostart (specifies whether to print partial print jobs)	1. No 2. Yes	✦
PSNm_()	Print Server Name (the name of the print server designated to handle jobs for the current print queue)	29 characters (Novell naming conventions)	✦
JobT_()	Job Type (specifies printer w/required features, a.k.a. Form Number)	0 - 255	✦
JDes_()	Job Description (identifies a print job in a print queue)	16 characters (free text)	✦

Controlling OnePrint from the Mainframe

Special Options			
HS()	Host Setup (enable OnePrint to receive commands from the host)	1.No 2. Yes	✦
HSH()	Host Setup Header (signals the beginning of a host command sequence)	4 bytes (8 hex digits) (EBCDIC)	✦
HST()	Host Setup Trailer (signals the end of a host command sequence)	4 bytes (8 hex digits) (EBCDIC)	✦*
HxTr()	Hex Transparent Mode (method of sending literal ASCII strings)	1.Adamode 2.Mode 1 3.Mode 2 4.Single 5.No Mode (disabled) 5.IDATA Mode	✦
HxHd()	Hex Transparent Header (signals a literal ASCII string is coming)	4 bytes (8 hex digits) (EBCDIC)	✦
HxTl()	Hex Transparent Trailer (signals the end of a literal ASCII string)	4 bytes (8 hex digits) (EBCDIC)	✦
SCSTr()	SCS Transparent Mode (specifies whether to perform an EBCDIC to ASCII translation)	1.Text characters 2. Control characters	✦

* Effective only after end of the current Host Setup sequence.

Special Options (con't)			
CHxT()	Condensed Hex Transparent (whether to count hex transparent characters when calculating MPP)	1.No 2.Yes	✦
PORS()	Job Initialization Sequence (non-IPDS only)	14 bytes (28 hex digits) (ASCII)	✦
EJobM()	End of Print Job Method	1.Brackets Protocol 2.Chain Protocol 3.Brackets or Time Out 4.Brackets and Time Out 5.Time Out	✦
TOut()	Time Out Duration between print jobs	1 - 255 seconds	✦
Slice()	Enables slicing of IPDS jobs.	0 - 99 pages	✦

IPDS Option			
MarkForm()	IPDS mark form	1.No 2.Yes	✦
Discard Buff()	IPDS discard buffer	1.No 2.Yes	✦

Special Printer Setting			
PreInit	Pre init string initialization sequence (non-IPDS only)	16 bytes (32 hex digits)	✦
Rest Esc	Printer restore setting	1. Before job 2. 2 after job	✦

Pre Init			
PreInit	Pre init string initialization sequence (non-IPDS only)	16 bytes (32 hex digits)	✦

Appendix A: Host Reference Table

A

Absolute_()

Channel emulation coordinate system

Acc UDPIP

Enable access over IDP/IP

AcIPX

Enable access over IPX

AcTech

Technical support access

AcUser

User access

AcVendor

Vendor access

AllLUExec

AllLUExec Executes LU process, relates to all LUs

AllLUKill

Resets the LU process

ASCII Tab_()

ASCII table

AutFunEnd_()

Automatic Function at End of print 1.

B

BnrE_()

Banner Enable

C

Card DMA

Card ID

Adds/Deletes Card ID

Card MemStart

Card Mod Name

Cas_()

Case

CleanReset

Cleans out history file

Clear File

Clean the tracing in the file

Code_()

Code Page (language)

CodePageVer_()

Some of the Code pages are available in two versions

Colr_()

Color Support

ComSet_()

Compensation Setting

Host Reference Table

Contact

Name & phone # of tech support

Courier_()

Code to activate this font on LAN printer

CPI_()

Characters Per Inch

Cpy_()

Number of Copies

CRM_()

Carriage Return at MPP + 1

D

Description

Description to uniquely identify this OnePrint system

Dir_()

Direction of printing

Discard Buff ()

IPDS discard buffer

Dns Domain Name()

Dns Domain Name

DNS Name Server 1

DNS Name Server 1

DNS Name Server 10

DNS Name Server 10

DNS Name Server 2

DNS Name Server 2

DNS Name Server 3

DNS Name Server 3

DNS Name Server 4

DNS Name Server 4

DNS Name Server 5

DNS Name Server 5

DNS Name Server 6

DNS Name Server 6

DNS Name Server 7

DNS Name Server 7

DNS Name Server 8

DNS Name Server 8

DNS Name Server 9

DNS Name Server 9

E

EJobM_()

End of Print Job Method

Essay_()

Code to activate this font on LAN printer

Host Reference Table

F

FFB_()
Form Feed in Buffer
FFCommPos_()
Form Feed Command Position
FFE_()
Form Feed at End of Buffer
FileServer()
Adds/Deletes file server records
Font_()
Default Font
FSLoc()
LocationFile Server Location
FSName()
File Server Name

G

Gothic_()
Code to activate this font on LAN printer
GwAddr
Host Gateway Node Address
GwLoc
Location of Host Gateway
GwName
Name of Host Gateway
GwSAP
Host Gateway's Service Access Point

H

HebTab()
Selects Hebrew ASCII character set
High Level()
Printer High Level Option
Horizontal_()
Fine tuning of the horizontal position of the page
Host Adapter ID
Host Communicaiton Adapter ID
Host conn Notify level
Host connection Notify level
HostXId
OnePrint's Host XID
HS_()
Host Setup
HSH_()
Host Setup Header (
HST_()
Host Setup Trailer

Host Reference Table

HxHd_()
Hex Transparent Header

HxTl_()
Hex Transparent Trailer

HxTr_()
Hex Transparent Mode

I

Inet Broadcast Address ()
Broadcast Address

Inet IP Address()
IP Address

Inet Name ()
Host name

Inet Subnet Mask()
Subnet Mask

INet()
Internal IPX Network Address

INode()
IPX Node Address

IPX Autodiscovery
IPX Autodiscover

IPX IntNetwork
IPX Internal Network

J

JDes_()
Job Description

JobT_()
Job Type

L

LM_()
Left Margin

Location
Location of OnePrint system

LognetEmul_()
Lognet emulation support option

LSp_()
Line Spacing

LU Test host print()
Test - Host Printing

LU Test System ()
Test - Printing System

LUCommDescr()
LU Ports Description

LUCommPIId()
LU Port's LAN Printer ID

Host Reference Table

LUDesc_()

Description of the virtual to physical printer assignment attached to this LU port

LUEmul_()

Type of virtual printer emulation

LUExec()

Executes the LU process.

LUKill()

Aborts the LU process

LUProf()

Adds/Deletes printer profile records

LUReset()

Resets the LU process

M

MarkForm ()

IPDS mark form

Max Saved

Max Saved File

MaxFramSize

Maximum I Frame Size

MPL_()

Maximum Page Length

MPP_()

Maximum Page Position

N

Net router 1

Net router 1

Net router 10

Net router 10

NicCon FrameType()

Nic FrameType

NicLAN Network

LAN Network

NIS Domain Name()

NIS Domain Name

NIS Name Server 1

NIS Name Server 1

NIS Name Server 10

NIS Name Server 10

NIS Name Server 2

NIS Name Server 2

NIS Name Server 3

NIS Name Server 3

NIS Name Server 4

NIS Name Server 4

Host Reference Table

NIS Name Server 5
NIS Name Server 5
NIS Name Server 6
NIS Name Server 6
NIS Name Server 7
NIS Name Server 7
NIS Name Server 8
NIS Name Server 8
NIS Name Server 9
NIS Name Server 9
NLM_()
New Line at MPP + 1
NotifyLevel
Notification Level
NSp_()
Null Suppress
NWPwd()
NetWare Password
NWUsr()
NetWare User Account Name


O

OCRA_()
Code to activate this font on LAN printer
OCRB_()
Code to activate this font on LAN printer
Offline()
OffLine forces the Host Setup to place the LU in off-line status
OnLine()
Remote only command. For supervisor only
OPName
Logical name of OnePrint system
OPSAP
OnePrint's Service Access Point

P

PagePlace_()
Offsets the printout on the printable area
PapFeed_()
Paper feed edge
PapTrSel_()
Paper Tray Selection
Patlock Type
Attachment
PGM Notify Level
PGM Notify Level

Host Reference Table

PLoc()	LAN Printer Location
PopC	Restores last pushed profile
PORS_()	Job Initialization Sequence (non-IPDS only)
Port Notify Advance	Port Notify Advance Index
Port()	LU Communication Port Index
Ports Notify Level	Port Notify Level Fault Types
PPJL SUPP	Printer PJL support
PQ F/D	A print queue's file server I
PQ Name	Printer Queue name
Pr Remote Control()	Printer Remote Control
Pre Init	Pre-init initialization sequence (non-IPDS only)
PrHeb()	Print Hebrew
Printer()	Adds/Deletes LAN printer records
ProfLoad()	Loads Profile A
ProfSave()	Saves the Current Profile
PSFP_()	Programmed Symbols Full Page
PSNm_()	Print Server Name
PSPI_()	Programmed Symbols Planes
Psym_()	Program Symbol
PType()	LAN Printer Control Language
PushC	Temporarily saves the current profile
	
Qual_()	Print Quality

Host Reference Table

R

RecWinSize

Receive Window Size

Replay Port

Select the port where traffic is to be traced

Rot_()

Automatic Rotation

Router Default()

Router default

Router Dynamic()

Dynamic routing

Router GW1

Gateway router 1

Router GW2

Gateway router 2

Router GW3

Gateway router 3

Router GW4

Gateway router 4

Router GW5

Gateway router 5

Router GW6

Gateway router 6

Router GW7

Gateway router 7

Router GW8

Gateway router 8

Router GW9

Gateway router 9

S

Scale SCS_()

Scale to fit SCS/DSC

ScaleIPDS_()

Scale to fit IPDS

SCSTr_()

SCS Transparent Mode

Server IP Addrss

Server IP Addrss

Server Type

SFF_()

Suppress Form Feed

SFP_()

Deactivates automatic Form Feed at end of page.

SideSel_()

Side Selection

Host Reference Table

Slice_()

Enables slicing of IPDS jobs.

SNMP Notify Level

SNMP Notify Level

SrvA_()

Server Autostart

Supervisor

Password used by the OnePrint system administrator

T

TM_()

Top Margin

TOut_()

Time Out Duration between print jobs

TRAddress

Token Ring MAC Address

Tray Alter.

Alternate support

Tray Envel

Envelope support

Tray Manual

Manual support

TrayPrim

Primary support

TRERelease

Token Ring Early Release

TRRate

Token Ring Transmission Rate

TRSTP

Token Ring Shielded Twisted Pair

TrsWinSize

Transmit Window Size

TryAOri_()

Tray Orientation of 1st Tray

TryATyp_()

Tray Type of 1st Tray

TryBOri_()

Tray Orientation of 2nd Tray

TryBTyp_()

Tray Type of 2nd Tray (paper size)

TryCOri_()

Tray Orientation of 3rd Tray

TryCTyp_()

Tray Type of 3rd Tray (paper size)

TryDOri_()

Tray Orientation of 4th Tray

Host Reference Table

TryDTyp_()

Tray Type of 4th Tray (paper size)

Txt1_()

Banner Text (line 1)

Txt2_()

Banner Text (line 2)

U

UDP/IP

Enable access over IPX

UnitConfLoad

Loads all configurable parameters from the Configuration File

UnitConfSave

Saves all configurable parameters to the disk

UnitReset

Resets the OnePrint unit

UnitShutdown

Shuts down the OnePrint unit

User

The user

V

Vertical_()

Fine tuning of the vertical position of the page

X

XTim_()

Execute Time

Appendix B : Sending ASCII Strings - (Hex Transparent Mode)

The Hex Transparent feature allows you to send ASCII printer codes that are not recognized by the virtual Host printer directly to a LAN printer (i.e. these codes pass “transparently” through the virtual printer without being interpreted by OnePrint). This string of ASCII codes is called a Hex Transparent Field.

OnePrint requires that these ASCII codes be sent in a hexadecimal format. For example, in order to transmit the ASCII string <Esc> A 4 to a LAN printer, each character must be translated to its hexadecimal representation as follows:

ASCII Character	Hexadecimal Representation
<Esc>	1B
A	41
4	34

This string is expressed in ASCII hexadecimal format as: 1B 41 34
OnePrint must be able to distinguish between the plain text string “**1B4134**” and the three hexadecimal bytes: **1B 41 34**.

A user-definable Hex Transparent Header is used to signal OnePrint that a Hex Transparent Field follows. Similarly, a Hex Transparent Trailer can optionally be used to signal the end of the Hex Transparent Field.

These 3 fields taken together are called a Hex Transparent Sequence:

<Hex Transparent Header> <Hex Transparent Field> <Hex Transparent Trailer>

Sending ASCII Strings - (Hex Transparent Mode)

OnePrint supports four Hex Transparent modes for sending ASCII strings:

⇒ ADAMODE

⇒ MODE-1

⇒ MODE-2

⇒ SINGLE

You can select a hex transparent mode for an LU 0.83 using the OPCE
) . ThisE

Construction of Hex Transparent Headers & Trailers

You can define a Hex Transparent Header/Trailer to be any desired text string. In order to make these strings unique yet easy to use, it is recommended to use printable characters excluding 0 - 9 and A - F.

The header/trailer strings are composed of EBCDIC characters, even if an LU port is defined as type 3 (DSC).

The default header and trailer appear below:

Default Header & Trailer	EBCDIC (hex)
&	50
*	5C
&	50
=	7E

Construction of the Hex Transparent Field

Each ASCII character in the Hex Transparent Field is sent in Intel Hex format, i.e. the ASCII code for each character is represented by 2 bytes containing a 2 digit hex number (00-FF). For example, to send the ESC character (ESC = 27 decimal = 1B hex), you would insert **1B** in the Hex Transparent Field. Case is not significant for hex digits (A-F and a-f are equivalent).



Caution

The Hex Transparent Header and Trailer strings must not conflict with the Setup Header and Trailer strings discussed earlier in this chapter. To avoid a conflict, make sure each set of header/trailer strings starts with a different character.

ADAMODE

Adamode is a text based method of sending transparent data. Any EBCDIC text editor may be used to build an Adamode Hex Transparent Sequence. In Adamode, the Hex Transparent Field is identified by two strings:

- ⇒ The Header string marks the beginning of a Hex Transparent Field.
- ⇒ The Trailer string denotes the end of a Hex Transparent Field.

These strings may contain from one to four text characters in hexadecimal format. (The + and - characters cannot be used as the first character in the header or trailer.)

The Hex Transparent Field can also include the characters - (minus) and + (plus).

Minus Mode

If you are using a Host text editor to build a hex transparent sequence, the editor may automatically add control characters such as <NL>, <CR>, or <FF> in the middle of the Hex Transparent Field.

These inadvertent control characters could interfere with escape sequences or bit images being sent to the LAN printer. Minus Mode is a feature which instructs OnePrint to ignore any control characters that appear in the Hex Transparent Field.



Tip

It is recommended to use Minus Mode to prevent unintended results from spurious control characters in the Hex Transparent Field. Normally the “-“ is placed at the beginning of the Hex Transparent Field.

A minus sign - in the Adamode Hex Transparent Field instructs OnePrint to ignore all subsequent EBCDIC format control codes (e.g. <NL> <CR> <FF>) within the Hex Transparent Field. Thereafter, when OnePrint is processing characters in the Hex Transparent Field, it will skip over any EBCDIC control characters. Only pairs of text characters in Intel Hex format (0 - 9, A - F, a - f) will be translated into the corresponding ASCII code and forwarded to the LAN printer.

Plus Mode

A plus sign + instructs OnePrint to recognize EBCDIC control codes (e.g. <NL> <CR> <FF>) while in Hex Transparent mode. OnePrint will translate these characters into their ASCII equivalents and send them to the LAN printer. Plus Mode is the factory default.

Adamode Example

Example 1 - The following table shows a stream of print data **AD\$@¢41¢@\$COM** that has a Hex Transparent Sequence embedded in it:

Adamode Header	\$@¢
ASCII for capital A	41h
Adamode Trailer	¢@\$

Example 2 - Ignoring Control Characters by using Minus Mode

You can elect to either ignore or not to ignore control characters such as <NL> at MPP by using Minus Mode. (Minus Mode stays activated until a plus sign is encountered in the Hex Transparent Field.)

To begin **Minus Mode**, write in the application file:

{ Hex Transparent Header } - { Hex Transparent Trailer }

To exit **Minus Mode**, write in the application file:

{ Adamode Header } + { Adamode Trailer }

The following is an example of the Minus Mode feature:

Adamode header = **⌋**

Adamode trailer = **(**

The following data is sent by the Host application to the printer:

Data Stream	OnePrint Interpretation
{)-(Enter Minus Mode
MINUS	<NL><CR> is ignored
_MODE	<NL><CR> is ignored
{)+(Enter Plus Mode.
	<NL><CR> is recognized
NORMAL	<NL><CR> is recognized
MODE	<NL><CR> is recognized

The resulting printout is:

```
MINUS_MODE
NORMAL
MODE
```

MODE-1

Mode-1 is a text based method of sending transparent data. Any EBCDIC text editor may be used to build a Mode-1 Hex Transparent Sequence.

In Mode-1, the Hex Transparent Field is preceded by a header string (e.g. ¢\$). No trailer is used. The end of the Hex Transparent Field is denoted by the first non-hexadecimal character encountered in the print stream (i.e. some character other than 0 - 9, A - F, a - f).

The Hex Transparent Field terminating character may be any printable non-hexadecimal character (including <Space>). This character will be the first printed character after the Hex Transparent Field.

Mode-1 Example

The example below shows how to send an ASCII escape sequence to an Epson impact printer. In order to receive italicized print, the sequence <Esc>[3M is used to start italics, and the sequence <Esc>[23M is used to cancel italics. The Hex Transparent Header is ¢\$.

Data Stream:

```
¢$1B5B336DItalicized ¢$1B5B32336Dnot Italicized
```

The resulting printout is:

```
Italicized not Italicized.
```

MODE-2

Mode-2 is a text based method of sending transparent data. Any EBCDIC text editor may be used to build a Mode-2 Hex Transparent Sequence. This mode uses a length field to specify how many bytes are contained in the Hex Transparent Field.

In Mode-2, the Hex Transparent Sequence begins with a user-defined header string (e.g. ¢). No trailer is used. A two byte length field follows the header. It specifies the number of bytes in the Hex Transparent Field stored as a two digit hex value in the range 00h - FFh. Each byte is an EBCDIC text character representing one hex digit. The Hex Transparent Field follows the length field.

Mode-2 Example

The example below shows how to send an ASCII escape sequence to an Epson impact printer. In order to receive italicized print, the sequence <Esc>[3M is used to start italics, and the sequence <Esc>[23M is used to complete it. The Hex Transparent Header is ¸\$.

Data Stream:

¸\$041B5B336D*Italicized* ¸\$051B5B32336Dnot *Italicized*

The resulting printout is:

Italicized not *Italicized*.

The hex values 04 and 05 immediately following the Hex Transparent Header designate the length of the Hex Transparent Fields shown below:

1B, 5B, 33, 6D

1B, 5b, 32, 33, 6D

SINGLE MODE

Single Mode can be used to send a single ASCII character to the destination printer. In Single Mode, the encapsulation is achieved by use of a header string only (e.g. ¸). No trailer is used. Following the header comes the Hex Transparent Field which contains a single pair of hexadecimal digits.

Single Mode Example

The following data stream shows 2 Hex Transparent Sequences. The Hex Transparent Header is “¸”. Single Mode is active for the OnePrint virtual printer that receives this print job.

O N ¸ 4 5 P R ¸ 4 9 N T

45 is ASCII capital E

49 is ASCII capital I

The printer will print : ONEPRINT

General Notes For All Hex Transparent Modes

- (a) In formatted printouts (including local screen prints), it is recommended to have printable characters (including a <Space>) in the same line as the Hex Transparent Field in order to keep the correct format.
- (b) It is important to select a Header sequence which will not appear as printed text.
- (c) There are two types of headers: a Hex Transparent Header and a Command Setup Header. The first character of each of these headers must be different to avoid a conflict.
- (d) Two Hex Transparent Modes may be utilized in one print session by enabling one mode via the Hex Transparent Feature and another mode via the Setup feature.
- (e) The Condensed Hex Transparent parameter (CHxT) determines whether Hex Transparent characters will be counted when calculating the number of characters per line (MPP). The example below shows how MPP is calculated differently depending on the setting of the Condensed parameter. In this example, MPP = 8 when the following data stream is sent to the printer: **ON{}45(PRINT.**

If Condensed = **Yes**, OnePrint counts 8 characters. No <New Line> is sent to the printer. The printer will print:
ONEPRINT

If Condensed = **No**, OnePrint counts 12 characters, including the characters in the Hex Transparent Sequence. A <New Line> is sent by OnePrint after the 8th character. The printer will print:

ONEP
RINT

Appendix C : Novell NetWare 4.x Notes

When using Novell NetWare Ver. 4.x please note the following:

- ⇒ OnePrint operates only in Bindery Emulation mode
- ⇒ All **OBJECTS** (users, print queues, print servers, file servers) that are accessed by OnePrint should be defined in the same **CONTEXT**
- ⇒ This **CONTEXT** should be defined as **BINDERY** mode
- ⇒ In the **AUTOEXEC.NFC** file (on the server) the following line should be added:

set Bindery Context = <Context name>

OnePrint should be defined in one of the following ways:

- ⇒ As a separate **USER** in the **PRINT QUEUE** users list.
- ⇒ As a member of the “**ANY**” group, that group should be defined in the **PRINT QUEUE** users list.

Appendix D : EBCDIC (WT) Code Page

(Q121 = 25) Code page number = 037/1; Base character set = 101

Hex Digits 1st 2nd	4-	5-	6-	7-	8-	9-	A-	B-	C-	D-	E-	F-
-0	SP	&	-						{	}	\	0
-1			/		a	j	~		A	J		1
-2					b	k	s		B	K	S	2
-3					c	l	t		C	L	T	3
-4					d	m	u		D	M	U	4
-5					e	n	v		E	N	V	5
-6					f	o	w		F	O	W	6
-7					g	p	x		G	P	X	7
-8					h	q	y		H	Q	Y	8
-9				`	i	r	z		I	R	Z	9
-A	¢	!	!	:								
-B	.	\$,	#								
-C	<	*	%	@								
-D	()	_	'								
-E	+	;	>	=								
-F		¬	?	"								

Appendix E : idata Hex Transparent Mode

This chapter is intended as a supplement to the ida 270x Product. Refer To the manufacturer's user manual for more in-depth details.

Implement idata hex transparent mode, use the following format. This format consists of a header, control commands (Esc Sequences String), and a trailer.

idata default header is %% and default trailer is %.

%% 1B 5C 31 32 %

Between the leading and the trailing characters, all spaces, IBM control codes and the character “,” (comma) are ignored.



Note

Only the characters 0-9 and A-F are allowed. Any other character may give unpredictable results.

Another method of sending Escape strings uses the apostrophe as a code to indicate that the following characters are to be regarded as ASCII values in the commands as shown below.

% 1B'\12'

The notation shown above can only be used when sending command codes which can be found in an ASCII character table.

There is, however, one exception. All spaces to be included in the string must be sent as X'20'. If for example the data is “ida 270x Laser Jet III”, the sequence should be as shown below:

%%'ida'20'270x'20'LaserJet'20'III'



Note

These features should be used with care. If they are used to alter vertical format, horizontal format or positioning, the system settings may no longer prove reliable.

Function 61: Setup For User Strings

SYNTAX: %Y61,<n1>,<n2>%

n1 (Data) User string number

n2 (Data) String contents in HEX code

Related: 51, User-Defined String(s) at Printer Power Up
57, User-Defined String(s) before Local Copy
58, User-Defined String(s) after Local Copy



Note

-
1. The apostrophe Escape notation may be used in the programming of this function.
 2. Separators must be comma.
 3. Please note that the length of a user string is limited by the size of the free user area in the non-volatile memory. The actual size of this area will be specified in the test printout.
 4. Sending a user string is done with the so-called Z function. The syntax is: %Z<string number>
 5. Deleting a user string is done in the following way:
%Y61, <string number>%
 6. Changes to this function will have immediate effect.
-

Appendix F : OnePrint Compatible Resident Fonts

The following tables list the fonts supported by OnePrint. Fonts are shown according to their printer emulations.

Printer Emulation 3812 Code Pages

Group A:	37,38,260,273,274, 276,277,278,280,281,284,285, 286, 287,288,297,367,500,821
Group B:	256, 289
Hebrew:	424

FGID	Font Name	Pitch	Code Page
3	OCR-B	10	340K, 893
5	Orator	10	GROUP A
11	Courier/Shalom	10	GROUP A, GROUP B, 1002, 254 (424/803 Hebrew)
18	Courier Italic	10	GROUP A, GROUP B 1002
19	OCR-A	10	340, 892
40	Gothic	10	GROUP A, GROUP B
45	APL	10	APL
66	Gothic	12	GROUP A, GROUP B
68	Gothic Italic	12	GROUP A, GROUP B
84	SCRIPT	12	GROUP A, GROUP B, 1002
85	Courier/Shalom	12	GROUP A, GROUP B, 1002, 259 Hebrew
86	Prestige	12	GROUP A., GROUP B, 1002 259
87	Letter Gothic	12	GROUP A, GROUP B, 1002
112	Prestige Italic	12	GROUP A, GROUP B 1002

OnePrint Compatible Resident Fonts

FGID	Font Name	Pitch	Code Page
156	Bold Face Italic	PS	GROUP A, GROUP B 1002
159	Boldface	PS	GROUP A, GROUP B 1002 Hebrew
160	Essay	PS	GROUP A, GROUP B, 1002
162	Essay Italic	PS	GROUP A, GROUP B 1002
173	Essay Light	PS	GROUP A, GROUP B
175	Document	PS	GROUP A, GROUP B
204	Gothic	13	
230	Gothic	15	
223	Courier	15	
252	Courier	17	
280	APL	20	APL
281	Gothic/Aviv	20	GROUP A, GROUP B
290	Gothic	27	GROUP A, GROUP B
	Sansoran Serif	8	GROUP A, GROUP B
	Sansoran Serif	10	GROUP A, GROUP B
	Sansoran Serif Bold	10	GROUP A, GROUP B
	Sansoran Serif	12	GROUP A, GROUP B
	Sansoran Serif Bold	16	GROUP A, GROUP B
	Sansoran Serif	24	GROUP A, GROUP B

Printer Emulation 4028 Code Pages

Group A:	37,38,260,273,274, 276,277,278,280,281,284,285, 286, 287,288,297,367,500,821
Group B:	256, 289
Hebrew:	424, 803

FGID	Font Name	Pitch	Code Page
3	OCR-B	`10	893
5	Orator	10	GROUP A
11	Courier/Shalom	10	GROUP A, GROUP B, 1002, 259, Hebrew
18	Courier Italic	10	GROUP A, GROUP B, 1002
19	OCR-A	10	892
84	SCRIPT	12	GROUP A, GROUP B, 1002
85	Courier/Shalom	12	GROUP A, GROUP B, 1002, 259
86	Prestige	12	GROUP A. GROUP B, 1002 259
87	Letter Gothic	12	GROUP A, GROUP B, 1002
112	Prestige Italic	12	GROUP A, GROUP B 1002
156	Bold Face Italic	PS	GROUP A, GROUP B 1002
159	Boldface	PS	GROUP A, GROUP B 1002 Hebrew (Proportional Spacing)
160	Essay	PS	GROUP A, GROUP B, 1002
162	Essay Italic	PS	GROUP A. GROUP B 1002

OnePrint Compatible Resident Fonts

FGID	Font Name	Pitch	Code Page
252	Courier	17	GROUP A, GROUP B
281	Gothic/Aviv	20	GROUP A, GROUP B, Hebrew
	Prestige	10	GROUP A, GROUP B, 1002, 259

FGID	Font Name	Pitch	Code Page
	Courier/Shalom Bold	10	GROUP A, GROUP B, 1002, Hebrew
76	APL	12	
	Courier Italics	12	GROUP A, GROUP B
	Prestige Bold	12	GROUP A. GROUP B, 1002, 259
	Prestige	?	GROUP A. GROUP B. 1002, 259
	Courier/Shalom	15	GROUP A. GROUP B. Hebrew
	Prestige	15	GROUP A. GROUP B
	Prestige	17	GROUP A. GROUP B
	Courier/Shalom	15	GROUP A. GROUP B Hebrew
	Prestige	15	GROUP A. GROUP B
	Prestige	17	GROUP A. GROUP B
	Times Roman 6	6	GROUP A
	Time Roman8	8	GROUP A, Hebrew
	Times Roman10	10	GROUP A, Hebrew
	Times Roman 12`	12	GROUP A, Hebrew
	Times Roman Bold	10	GROUP A, Hebrew
	Times Roman Bold	12	GROUP A, Hebrew
	Times Roman	14	GROUP A, Hebrew

OnePrint Compatible Resident Fonts

FGID	Font Name	Pitch	Code Page
	Bold		
	Times Roman	18	GROUP A, Hebrew
	Times Roman	24	GROUP A, Hebrew
	Times Roman Italic	10	GROUP A,

FGID	Font Name	Pitch	Code Page
	Times Roman Italic	12	GROUP A,
	Times Roman Bold Italic	10	GROUP A,
	Times Roman Bold Italic	12	GROUP A,
	Narkissim	8	Hebrew
	Narkissim	10	Hebrew
	Narkissim	12	Hebrew
	Narkissim	16	Hebrew
	Narkissim	24	Hebrew
	Narkissim Bold	8	Hebrew
	Narkissim Bold	10	Hebrew
	Narkissim Bold	12	Hebrew
	Narkissim Bold	16	Hebrew
	Narkissim Bold	24	Hebrew