z/OS Environments

This section provides information about installing and running Entire Net-Work in the z/OS operating system environment. It covers the following topics:

- Installation Procedure
- Copying the Tape Contents to Disk
- APF Authorization
- Execution Job Example
- Entering Operator Commands

Installation Procedure

To install Entire Net-Work on a z/OS system, perform the following steps for each machine:

1. Copy the tape contents to disk, as described in *Copying the Tape Contents to Disk*.

   The source library requires one cylinder of 3390 DASD space. The load library requires four cylinders. See the section *Installation Tape Information* and the *Report of Tape Creation* for additional information.

2. In systems where Adabas is not already installed, install the Adabas SVC.

   Refer to the *Adabas Installation Manual* for specific details.

3. Relink ADARUN for APF authorization, if required.

4. Customize the Entire Net-Work startup job.

5. Modify the Entire Net-Work parameters.

   See the section *Entire Net-Work Parameter Statements*.

6. Perform the line driver-dependent installation procedure and prepare the DRIVER and LINK statementsfor the TCPX line driver.

7. Prepare the required access method-specific definitions.

8. Apply corrective maintenance.

   Refer to the Report of Tape Creation to determine whether any files containing corrective maintenance (i.e., data sets named pppvrs.ZAPS) are supplied on the installation tape. If so, restore the data sets using IEBCOPY, and then follow the corrective maintenance instructions in the $READMVS member.

Copying the Tape Contents to Disk

If you use Software AG's System Maintenance Aid (SMA), refer to the System Maintenance Aid documentation for information about the installation process.

If you are not using SMA, follow the instructions in this section.

This section explains how to:

- Copy data set COPY.JOB from tape to disk.
- Modify this data set to conform with your local naming conventions.

The JCL in this data set is then used to copy all data sets from tape to disk. If the data sets for more than one product are delivered on the tape, the data set COPY.JOB contains the JCL to unload the data sets for all delivered products from the tape to your disk. After that, you will have to perform the individual installation procedure for each component.

To copy all data sets from tape to disk:

1. The data set COPY.JOB (label 2) contains the JCL to unload all other existing data sets from tape to disk. To unload COPY.JOB, use the following sample JCL:

   ```
   //SAGTAPE JOB SAG,CLASS=1,MSGCLASS=X
   //* --------------------------------
   //COPY EXEC PGM=IEBGENER
   //SYSUT1 DD DSN=COPY.JOB,
   // DISP=(OLD,PASS),
   // UNIT=(CASS,,DEFER),
   // VOL=(,RETAIN,SER=<Tnnnnn>),
   // LABEL=(2,SL)
   //SYSUT2 DD DSN=<hilev>.COPY.JOB,
   // DISP=(NEW,CATLG,DELETE),
   // UNIT=3390,VOL=SER=<vvvvvv>,
   // SPACE=(TRK,(1,1),RLSE),
   // DCB=*.SYSUT1
   //SYSPRINT DD SYSOUT=*
   //SYSIN DD DUMMY
   //
   ```

   Substitute a valid high-level qualifier for *hilev*, the tape number for *Tnnnnn*, and the volume serial number for *vvvvvv*.

2. Modify COPY.JOB to conform to your local naming conventions and set the following disk space parameters before submitting the job:

   - Set HILEV to a valid high-level qualifier.
   - Set LOCATION to a storage location.
   - Set EXPDT to a valid expiration date.

3. Submit COPY.JOB to unload all other data sets from the tape to your disk.

APF Authorization

Certain line drivers require that Entire Net-Work run in supervisor state with AMODE (31). For other line drivers supervisor state is not required but does provide significant performance advantages. Using AMODE (31) allows buffers to be above the 16 MB line.

To run in supervisor state, the Entire Net-Work load library and all other load libraries in the STEPLIB concatenation must be APF-authorized. Also, ADARUN must be linked into one of these APF-authorized libraries with SETCODE AC(1). ADARUN can be linked as shown in the following example:

```
//LINKRUN EXEC PGM=IEWL
//SYSPRINT   DD    SYSOUT=*
//SYSUT1     DD    UNIT=SYSDA,SPACE=(CYL,(1,1))
//ADALIB     DD    DSN=adabas.loadlib,DISP=SHR
//SYSLMOD    DD    DSN=network.loadlib,DISP=SHR   <=== APF-AUTHORIZED
//SYSLIN     DD    *
 MODE     AMODE(31),RMODE(24)
 INCLUDE  ADALIB(ADARUN)
 SETCODE  AC(1)
 NAME  ADARUN(R)
```

Execution Job Example

The following is an example of an Entire Net-Work z/OS execution job. (See the sample source member JCLNET in the source library for an alternate example.) More JCL may be needed, depending on the node configuration (types of line drivers, number of links, and so on). For more information, refer to the Simple Connection Line Driver documentation.

```
//*-------------------------------------------------------------*
//*                     SAMPLE   JCL                            *
//*-------------------------------------------------------------*
//STEP1 EXEC PGM=ADARUN,REGION=2048K,TIME=1440       <--- see Note 1
//STEPLIB  DD DISP=SHR,DSN=WCAvrs.LOAD,DCB=BLKSIZE=32760
//         DD DSN=WAL.vrs.LOAD,DISP=SHR              <--- see Note 2
//DDPRINT  DD SYSOUT=*                               <--- see Note 3
//NETPRNT  DD DISP=SHR,DSN=WCAvrs.NETPRNT            <--- see Note 4
//MPMDUMP  DD SYSOUT=*                               <--- see Note 5
//SYSUDUMP DD SYSOUT=*
//DDCARD   DD DISP=SHR,DSN=WCAvrs.SRCE(ADARUN)       <--- see Note 6
//         DD DISP=SHR,DSN=WCAvrs.SRCE(FORCEN)
//DDKARTE  DD DISP=SHR,DSN=WCAvrs.SRCE(NWKWCA)      <--- see Note 7
```

Here is a sample of the contents of library member NWKWCA, listing the Entire Net-Work parameter statements for this Entire Net-Work Administration execution:

```
*                    NODE STATEMENT                             *
*---------------------------------------------------------------*
NODE NODENAME CQTIMER=60,                -
              LOG=NO,                    -
              MAXPATH=10,                -
              NTRACE=1000,               -
              REPLYTIM=60,               -
              TIMER=20
*
*-----------------------------------------------------------------
*                                                                *
*     DRIVER TCPX                                                *
```

```
*                                                                     *
*---------------------------------------------------------------------
DRIVER  TCPX     API=OES,                                    -
                 SERVERID=1996,                              -
                 USERID=CCCC
*---------------------------------------------------------------------
*                   E N D   O F   P A R A M E T E R S ..              *
*---------------------------------------------------------------------
```

Notes:

1. The region size required varies with the number and type of links, as well as other operating parameters.
2. The second STEPLIB should always be your most current Adabas load library (Entire Net-Work Administration Version 6.1.2 requires Adabas mainframe Version 8 or above) or the Adabas limited library (WAL), as provided on the Entire Net-Work installation tape, unless you have been specifically instructed otherwise by Software AG.
3. All Entire Net-Work Administration print output is written to DDPRINT.
4. All diagnostic information from tracing, logging, and abends is written to the NETPRNT file if it is open (otherwise it is written to the DDPRINT file). NETPRNT can be allocated to a large data set that can be copied when closed. The data set should be created with the DCB attributes RECFM=FBA and LRECL=121. To do this, allocate the file SHR. This causes the data set to be erased at the time the file is opened. Be aware that the diagnostic information is very large and will fill a data set quickly. When this happens, the file is closed and all additional output is sent to DDPRINT. This diagnostic information is created by Entire Net-Work and does not include the operating system dump information written to SYSUDUMP.
5. If MPMDUMP is defined, a snap dump is produced during any abnormal termination. In some error situations, the MPMDUMP dump may contain more pertinent information than the SYSUDUMP dump.
6. DDCARD contains the ADARUN control statements or it identifes the library member in which the ADARUN control statements are defined. These ADARUN control statements define the interregion communications parameters for Entire Net-Work. See the section *ADARUN Control Statements*.
7. DDKARTE contains Entire Net-Work parameter statements or identifies the library member in which the parameter statements are defined. These parameter statements describe the local environment and the network connections for this node. See the section *Entire Net-Work Parameter Statements*.

Entire Net-Work can also be installed as a started task; no special considerations apply.

Entire Net-Work uses cross-memory services similar to Adabas in z/OS systems. As a result, z/OS removes the address space and initiator when Entire Net-Work terminates operation. This is normal and should not be regarded as an error.

Entering Operator Commands

During execution, a number of operator commands may be issued to Entire Net-Work to display or modify the system status. These commands are essentially identical for all operating environments. See the section *Entire Net-Work Operator Commands*.

The way in which operator commands are presented to Entire Net-Work depends on the operating system and is identical to the way operator commands are presented to Adabas.

In z/OS environments, the following operator commands are used:

```
MODIFY (abbreviation = F)
STOP (abbreviation = P)
```

The STOP command serves as an alternative to the NETEND command and terminates Entire Net-Work. Its synonyms are described as part of the following example.

Example:

Entering the following long form MODIFY command results in the following status displays (assuming that NETWK is the name of the started task running Entire Net-Work):

```
MODIFY NETWK,D STATS
NET0090I: BUFFER USAGE STATISTICS:
NET0091I: ASYNCH. BUFFERS:     000016 (= 24.2 %) OF 000064 K USED
NET0091I: LONG TERM BUFFERS:   000000 (=  0.4 %) OF 000064 K USED
NET0091I: SHORT TERM BUFFERS:  000000 (=  6.1 %) OF 001025 K USED
NET0091I: ATTACHED BUFFERS:    000000 (= 11.9 %) OF 000080 K USED
NET0091I: REQUEST QUEUE:       000000 (=  6.0 %) OF 000050 RQES USED
NET0087I: 0000010847 REQUESTS FROM LOCAL RQ
```

The following two commands are equivalent ways to terminate the Entire Net-Work session:

```
F NETWK,NETEND
P NETWK
```