AS/400 VM/MVS Bridge Configuration and Operations

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First Edition (November 1994)

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Abstract

This document describes the implementation of the AS/400 VM/MVS Bridge, including examples of configuration and operations. It provides a number of scenarios which show its distribution services and the sending or receiving of files, messages, input streams, and spooled files in the following NJE networks:

- AS/400 and MVS/JES2
- AS/400 and VM/RSCS

This document is intended for use by IBM customers, IBM systems engineers, system planners, and network administrators who are involved in designing and installing the AS/400 VM/MVS Bridge.

The reader is assumed to have a basic knowledge of AS/400, NJE concepts, and SNA VTAM/NCP communications.

(168 pages)

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Special Notices

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Preface

This document is intended to help customers and IBM personnel to implement an NJE connection between AS/400 and MVS/JES2 or VM/RSCS, running AS/400 Object Distribution Facility and VM/RSCS Bridge. It contains examples of configuration and operations based on the actual installation performed at IBM Japan Systems Engineering Co., Ltd. within the specific operating environment described in 2.1, “Test Environment” on page 3 and 3.1, “Test Environment” on page 95 of this document.

This document does not describe the AS/400 VM/MVS Bridge in an office environment. Only the possibilities in conjunction with Object Distribution Facility are tested.

How This Document Is Organized

The document is organized as follows:

- Chapter 1, “Introduction”

  This chapter introduces some basic NJE concepts and AS/400 VM/MVS Bridge functions.

- Chapter 2, “AS/400-MVS/JES2 Communication”

  This chapter describes the NJE connection between AS/400 and the host MVS/JES2. It provides a sample configuration and operation scenarios of sending/receiving files, messages, input streams, and spool files between the two systems.

- Chapter 3, “AS/400-VM/RSCS Communication”

  This chapter describes the NJE connection between AS/400 and the host VM/RSCS. This provides a sample configuration and operation scenarios of sending/receiving files, messages, and spool files between the two systems.

Three appendixes provide sample data traces and other examples:

- Appendix A, “Sample Trace Data Between AS/400 VM/MVS Bridge and MVS/JES2 NJE”
- Appendix B, “Sample Trace Data Between AS/400 and VM/RSCS”
- Appendix C, “Retrieving Files Between AS/400 VM/MVS Bridge and MVS/JES2 NJE”

Related Publications

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this document.

- *NJE Formats and Protocols*, SC23-0070
- *NJE with JES2 and Other Systems*, GG22-9339
- *Network Job Entry Concepts and Protocols Overview*, GG66-0224
- *MVS/External Architecture Data Administration Utilities*, GC26-4150
- *VTAM Network Implementation Guide*, SC31-6434

- *VTAM Resource Definition Reference*, SC31-6438
- *ACF/NCP/SSP V3 Resource Definition Reference*, SC30-3254
- *IBM 3172 Interconnect Controller Program User's Guide*, SC30-3572
- *AS/400 Communications Configuration Reference*, SC41-0001
- *AS/400 Control Language Programmer's Guide*, SC41-8077
- *AS/400 Control Language Reference*, SC41-0030
- *AS/400 Distribution Services Network Guide*, SC41-9588
- *AS/400 Remote Job Entry (RJE) Guide*, SC09-1373
- *Operation and Use V3R1 VM Remote Spooling Communications Subsystem Networking*, SH24-5220

International Technical Support Organization Publications

Below is a list of International Technical Support Organization Publications (known as redbooks) that relate to the topics covered in this document.

- *VSE/POWER and OS/400 NJE Configuration Examples*, GG24-4259
- *VSE/ESA 1.2.0 VSE/POWER 5.1 Networking Functions*, GG24-3751
- *IBM 3174 Establishment Controller Installation Guide*, GG24-3061
- *AS/400 Object Distribution Facility and SNA RSCS/PROFS Bridge*, GG24-3479

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Acknowledgments

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Chapter 1. Introduction

This chapter describes some basic NJE concepts and AS/400 VM/MVS Bridge functions.

The IBM AS/400 VM/MVS Bridge is a part of the AS/400 Communication Utility (Program Number 5738-CM1). The AS/400 VM/MVS Bridge was previously named RSCS/PROFS Bridge and only provided for RSCS. As the product was expanded for MVS/JES, the name was changed to VM/MVS Bridge. The VM/MVS Bridge is a member of the NJE family and can participate in an NJE network as a node which can send or receive a unit of work to or from all the other nodes using the NJE protocol.

The information contained in this document is the result of tests conducted in the lab environment described in 2.1, “Test Environment” on page 3 and in 3.1, “Test Environment” on page 95.

1.1 Network Job Entry (NJE)

An *NJE network* is a group of two or more systems or *nodes*. The nodes use *NJE protocols* to send/receive *units of work* which include files, messages, input streams (or SYSIN) and spooled files (or SYSOUT).

The following facilities can participate in an NJE network as a node:

- MVS/JES2
- MVS/JES3
- VM/RSCS
- VSE/POWER

Note: AS/400 does not support VSE/POWER communications in an NJE network.

Figure 1 shows an NJE network.

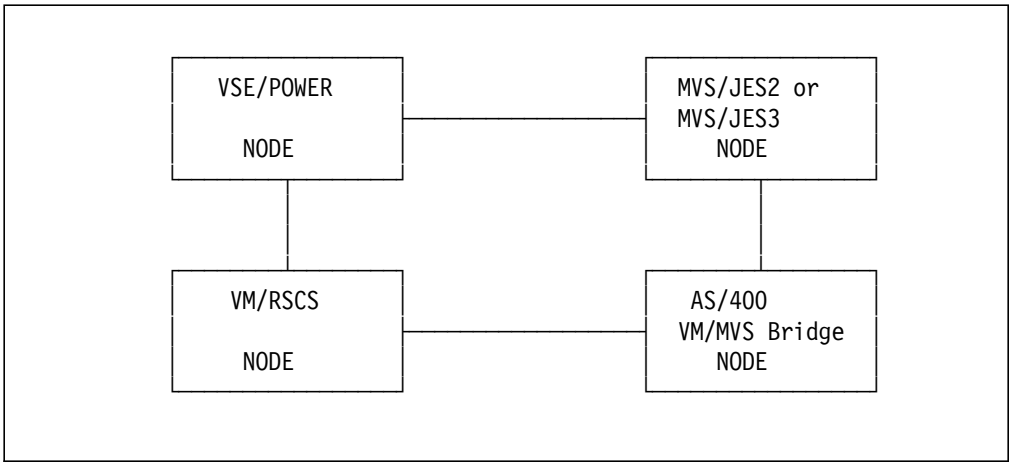

Figure 1. An NJE Network

NJE nodes can support one or more of the three functions: *transmit*, *receive* and *store-and-forward*.

For further information on NJE, please refer to the following publications:

- *NJE Formats and Protocols*
- *NJE with JES2 and Other Systems*
- *Network Job Entry Concepts and Protocols Overview*

1.2 AS/400 VM/MVS Bridge

The AS/400 VM/MVS Bridge is a part of the AS/400 Communication Utility (Program Number 5738-CM1) and is an application providing the following:

- Distribution services between an AS/400 SNADS network and a VM/RSCS network.
- Distribution services between an AS/400 system and a MVS/JES (either JES2 or JES3) network.
- Distribution of documents created by a document interchange session.
- Sending or receiving of files, messages, input streams, and spooled files between S/370 users and object distribution users.
- Distribution of the following between users on OfficeVision/400, DISOSS, or any DIA/SNADS node connected to the bridge and VM/RSCS:
  - Personal computer files
  - Final-form and revisable-form documents
  - Notes
  - Messages

Among these functions, this document provides samples of sending and receiving of files, messages, input streams and spooled files between an AS/400 and MVS/JES2 or VM/RSCS. The rest functions such as OfficeVision/400 are not discussed in this document.

For further information on AS/400 VM/MVS Bridge, please refer to the *AS/400 Distribution Services Network Guide.*

Chapter 2. AS/400-MVS/JES2 Communication

This chapter describes the NJE connection between the AS/400 and the host MVS/JES2.

2.1 Test Environment

This section describes the hardware and software that are used.

2.1.1 Hardware

The test environment consists of an SDLC nonswitched line, and the components that we added to allow the MVS/JES2 and the AS/400 to communicate. The resulting network configuration is illustrated in Figure 2 on page 4.

- An IBM 9021 Model 720 as the host
- An IBM 3725 Model S004
- An IBM AS/400 Model F25 with 6 Lines Communication Controller
- 9.6 Kbps SDLC line

2.1.2 Software

- VM/ESA V2.1
- MVS/ESA V4.2.2 with ACF/VTAM V3.4.1 in the IBM 9021-720
- TSO/SPF V2.3.1
- ACF/NCP V4.3.1 in the IBM3725
- OS/400 V2R3 with the AS/400 Communication Utilities in the IBM AS/400

2.1.3 Network Configuration

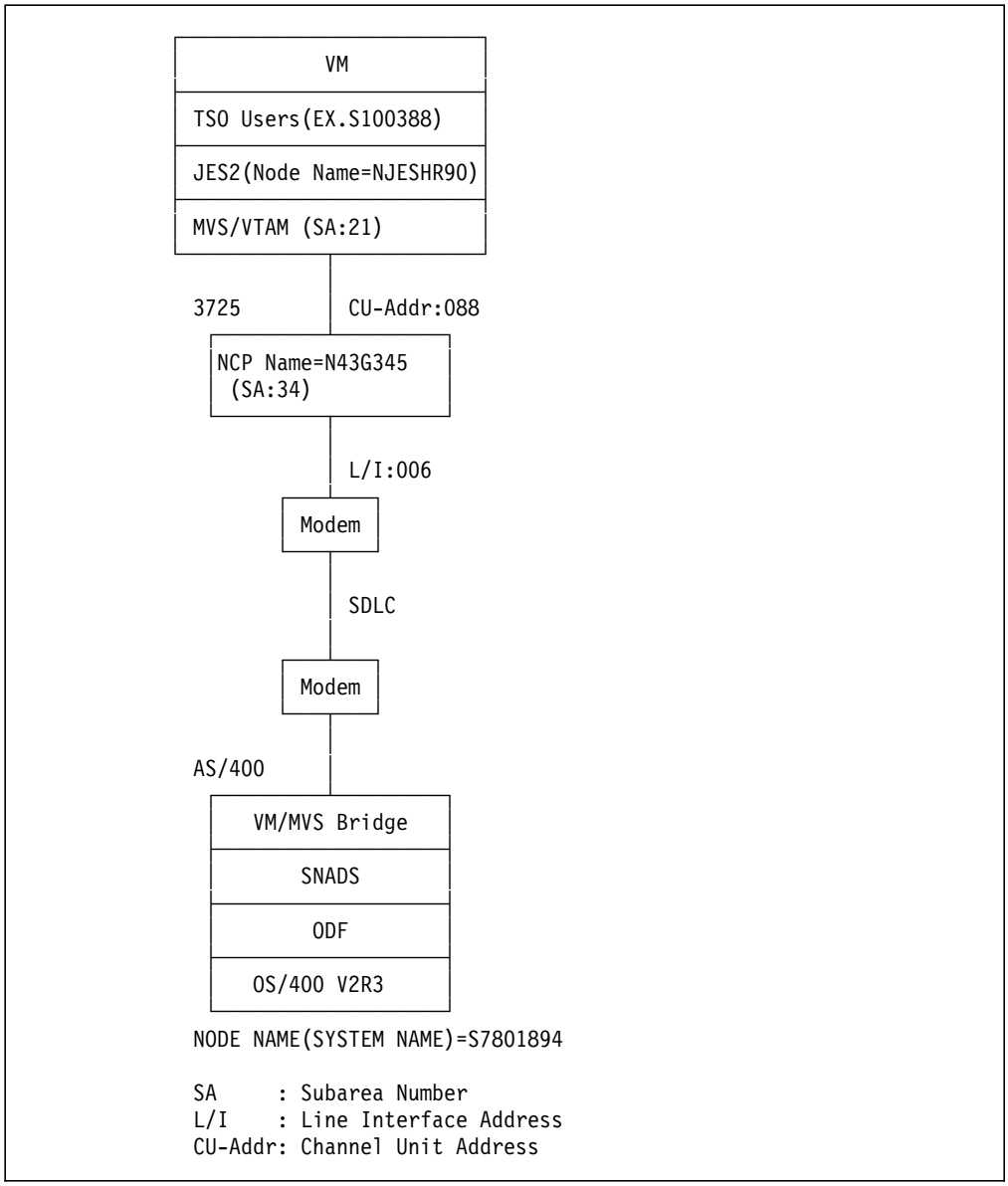

Figure 2. Network Configuration (AS/400-MVS/JES2)

2.2 MVS/ESA Host Definitions for the AS/400 VM/MVS Bridge

This section describes mandatory definitions for the MVS/JES2 host for the implementation of NJE connecting between MVS/JES2 and AS/400 via an SDLC line.

Please read this topic because it contains required MVS/JES2 and ACF/VTAM host definitions for VM/MVS Bridge.

2.2.1 VTAM Startup Option List

You must specify some necessary options for VTAM startup in this list.

```
SSCPID=9493,                                  1          X
NOPROMPT,                                                X
HOSTSA=21,                                    2          X
CONFIG=21,MAXSUBA=63,SUPP=NOSUP,                         X
NETID=JPIBMQHE,SSCPNAME=QHCDRMSG,                        X
FFDC=YES,                                                X
CRPLBUF=(208,,15,,1,16),                                 X
IOBUF=(100,384,19,,1,20),                                X
LFBUF=(104,,0,,1,1),                                     X
LPBUF=(64,,0,,1,1),                                      X
SFBUF=(163,,0,,1,1),                                     X
WPBUF=(78,,0,,1,1)
```

Figure 3. VTAM Startup Option List

1 SSCPID: Specify the system services control point identifier. The decimal value specified must match the SSCP identified in hexadecimal notation on the AS/400 host controller description. See 2.3.1.2, “Configuring the Host Controller Description” on page 15.

2 HOSTSA: Specify a decimal integer value that is used to identify VTAM’s subarea, which must be a unique address in the network.

2.2.2 VTAM PATH Table

You must define the paths from/to the host subarea and NCP subarea.

```
P2101    PATH  DESTSA=01,                                  X
               ER0=(1,1),ER1=(34,1),                       X
               VR0=0,VR1=1,VR6=1,VR7=0
P2103    PATH  DESTSA=03,                                  X
               ER0=(1,1),ER1=(34,1),                       X
               VR0=0,VR1=1,VR6=1,VR7=0
P2105    PATH  DESTSA=05,                                  X
               ER0=(1,1),ER1=(34,1),                       X
               VR0=0,VR1=1,VR6=1,VR7=0
P2134    PATH  DESTSA=34,                                  X
               ER0=(34,1),ER1=(34,1),                      X
               VR0=0,VR7=0,VR6=1
```

Figure 4. VTAM PATH Table List

2.2.3 VTAM/NCP Definitions for the AS/400

Figure 5 shows the definitions related to VTAM/NCP major node and NCP generation. For more information on each parameter, see the *VTAM Resource Definition Reference*.

```
*************************************************************************
*   NEWNAME = N43G345                       *  MAXSUBA  = 63          *
*                                           *  SUBAREA  = 34          *
*******************************************  UNITSZ   = 384         *
*   ACF/NCP V4.3.1 FOR 3725 #7              *  MAXBFRU  = 30          *
*   SSP V3.2.0 NON SNI VIRSION              *  HOSTSA   = 05          *
*   PEP FOR JCDN AND CONNECT TO SSO BUILDG. *                         *
*************************************************************************
************************************************************
*          PCCU MACRO  FOR SHRMVS                          *
************************************************************
        PCCU   SUBAREA=21,                                          X
               AUTODMP=YES,                                         X
               AUTOIPL=YES,                                         X
               CUADDR=088,               3725-QC2 ADDR              X
               MAXDATA=3600,                                        X
               DUMPDS=NCPDUMP,                                      X
               BACKUP=YES,                                          X
               NEWPATH=DPU3401,                                     X
               OWNER=QHCDRMSG
************************************************************
*          PCCU MACRO  FOR SHRVM                           *
************************************************************
        PCCU   SUBAREA=1,                                           X
               AUTODMP=YES,                                         X
               AUTOIPL=YES,                                         X
               CUADDR=08A,               3725-QC2 ADDR              X
               MAXDATA=3600,                                        X
               DUMPDS=NCPDUMP,                                      X
               BACKUP=YES,                                          X
               OWNER=QHCDRMSF
```

Figure 5 (Part 1 of 4). VTAM/NCP Definitions for the AS/400

```
************************************************************
*          BUILD MACRO                                     *
************************************************************
        BUILD  NEWNAME=N43G345,                                        X
               LOADLIB=NCPLOAD,                                        X
               NETID=JPIBMQHE,                                         X
               BFRS=240,                                               X
               DELAY=(0,0),                                            X
               TYPGEN=NCP,                                             X
               MAXSUBA=63,                                             X
               SUBAREA=34,                                             X
               MEMSIZE=1024,                                           X
               BRANCH=200,                                             X
               LTRACE=8,                                               X
               DIALTO=60,                                              X
               DSABLTO=3.0,                                            X
               ENABLTO=2.2,                                            X
               ERASE=NO,                                               X
               ITEXTTO=NONE,                                           X
               OLT=YES,                                                X
               PRTGEN=NOGEN,                                           X
               SLODOWN=12,                                             X
               TRACE=(YES,100),                                        X
               CATRACE=(YES,100),                                      X
               TYPSYS=OS,                                              X
               TRANSFR=50,                                             X
               MAXSSCP=8,                                              X
               MODEL=3725,                                             X
               PWROFF=YES,                                             X
               CA=(TYPE5-TPS,TYPE5),                                   X
               NCPCA=(ACTIVE,ACTIVE),       (028,628)                  X
               TIMEOUT=(180),                                          X
               NPA=YES,                                                X
               VERSION=V4R3.1               NCP V4 R3
************************************************************
*          SYSCNTRL MACRO                                  *
************************************************************
      SYSCNTRL OPTIONS=(SESSION,ENDCALL,MODE,RCNTRL,RCOND,RECMD,       X
               RIMM,XMTLMT,SSPAUSE,NAKLIM,BHSASSC,STORDSP)
```

Figure 5 (Part 2 of 4). VTAM/NCP Definitions for the AS/400

```
************************************************************
*         HOST  MACRO FOR SHRMVS  SA=21                    *
************************************************************
        HOST   INBFRS=20,                                    X
               MAXBFRU=30,                                   X
               UNITSZ=128,                                   X
               BFRPAD=0,                                     X
               SUBAREA=21
************************************************************
*         HOST  MACRO FOR NON-GATEWAY HOST SA=01           *
************************************************************
        HOST   INBFRS=20,                                    X
               MAXBFRU=30,                                   X
               UNITSZ=128,                                   X
               BFRPAD=0,                                     X
               SUBAREA=1
************************************************************
*         MATH  MACRO  FOR NCP SA=34  HOSTSA=21            *
************************************************************
P3401   PATH   DESTSA=01,                                    X
               ERO=(01,1),ER1=(01,1)
P3421   PATH   DESTSA=21,                                    X
               ERO=(21,1),ER1=(21,1)
************************************************************
*          POOL  MACRO                                     *
************************************************************
        LUDRPOOL NUMTYP1=10,NUMTYP2=50
        PUDRPOOL NUMBER=2
************************************************************
*
```

Figure 5 (Part 3 of 4). VTAM/NCP Definitions for the AS/400

```
*************************************************************
*        GROUP MACRO FOR AS/400                             *
*************************************************************
G34006   GROUP CLOCKNG=EXT,                                    X
               DIAL=NO,                                       X
               DUPLEX=FULL,                                   X
               LNCTL=SDLC,                                    X
               MAXDATA=521,                                   X
               MAXOUT=7,                                      X
               TRANSFR=29,                                    X
               NEWSYNC=NO,                                    X
               NRZI=YES,                                      X
               PACING=7,                                      X
               PASSLIM=7,                                     X
               PUTYPE=2,                                      X
               REPLYTO=5.0,                                   X
               TYPE=NCP,                                      X
               VPACING=3
*************************************************************
*        LINE MACRO FOR AS/400   LINE ADDR=006              *
*************************************************************
L3406    LINE  ADDRESS=(006),                                 X
               SPEED=9600,                                    X
               RETRIES=(7,4,5),                               X
               ISTATUS=ACTIVE
*************************************************************
*        SERVICE MACRO FOR AS/400                           *
*************************************************************
         SERVICE ORDER=(PU006)
*************************************************************
*        PU MACRO FOR AS/400                                *
*************************************************************
PU006    PU    ADDR=C1,                                       X
               PACING=(7),                                    X
               SSCPFM=FSS,                                    X
               USSTAB=USS400,                                 X
               MODETAB=MODTB400,                              X
               ISTATUS=ACTIVE
*************************************************************
*        LU MACRO FOR AS/400                                *
*************************************************************
LU0601   LU    LOCADDR=1,                                     X
               LOGAPPL=QHSFRSC1,                              X
               SSCPFM=USSSCS,                                 X
               DLOGMOD=AS4000DF       ** RSCS/PROFS BRIDGE **
LU0602   LU    LOCADDR=2,                                     X
               SSCPFM=USSSCS,                                 X
               USSTAB=USS401,                                 X
               LOGAPPL=JES2SHR,                               X
               DLOGMOD=AS400NJE       ** VM/MVS   BRIDGE   **
*
*************************************************************
*         GENEND MACRO                                      *
*************************************************************
        GENEND
        END
*************************************************************
```

Figure 5 (Part 4 of 4). VTAM/NCP Definitions for the AS/400

2.2.4 VTAM Application Major Node Definitions for JES2

JES2, in this case JES2SHR, must be specified as an application minor node in the application major node.

```
*********************************************************************
* APPLICATION MAJNODES                                              *
*      FOR NJE JES2SHR                                              *
*********************************************************************
A21BASE VBUILD TYPE=APPL              APPLICATION MAJOR NODE
*
JES2SHR  APPL  EAS=1,                 ESTIMATED CONCURRENT SESSIONS   *
               ACBNAME=JES2SHR,       APPLID FOR ACB                  *
               VPACING=4,             VPACING DR FROM SHRMVS          *
               AUTH=(ACQ,PASS)        JES2 CAN ACQUIRE TERMINALS
*
```

Figure 6. VTAM Application Major Node Definitions for JES2

2.2.5 VTAM Logmode Table

The Logon Mode table is used by VTAM to interpret logon requests and to set proper session parameters when primary LU (PLU) and secondary LU (SLU) go into session. In this environment, the AS/400 (SLU) is a dependent LU within the attached MVS's (PLU) domain and subarea. The AS/400 is defined as PU Type 2, so the VTAM definitions are not similar to the other NJE APPL-to-APPL sessions.

```
*********************************************************************
* MODETAB FOR AS/400 VM/RSCS(AS4000DF) AND NJE(AS400NJE)            *
*********************************************************************
         EJECT
MODTB400 MODETAB
****************
* VM/RSCS      *
****************
AS4000DF MODEENT LOGMODE=AS4000DF,                                    *
               FMPROF=X'02',                                          *
               TSPROF=X'02',                                          *
               PRIPROT=X'60',                                         *
               SECPROT=X'40',                                         *
               COMPROT=X'0000',                                       *
               RUSIZES=X'C7C7',                                       *
               SSNDPAC=X'00',                                         *
               SRCVPAC=X'00',                                         *
               PSNDPAC=X'80',                                         *
               PSERVIC=X'000000000000185018507F0000'
****************
* MVS/NJE      *
****************
AS400NJE MODEENT LOGMODE=AS400NJE,                                    *
               FMPROF=X'03',                                          *
               TSPROF=X'03',                                          *
               PRIPROT=X'72',                                         *
               SECPROT=X'72',                                         *
               COMPROT=X'4020',                                       *
               RUSIZES=X'0000',                    1                  *
               SSNDPAC=X'00',                                         *
               SRCVPAC=X'00',                                         *
               PSNDPAC=X'00',                                         *
               PSERVIC=X'00',ENCR=0,TYPE=1
*
         MODEEND
         END
```

Figure 7. VTAM Logmode Table for NJE and RSCS

1 RUSIZE: Maximum RU size. You must specify X'0000' for this variable.

Note: Figure 7 includes the definitions (upper part of the figure) for VM/RSCS communication which are not required for MVS/NJE communication.

2.2.6 JES2 Definitions

Figure 8 shows sample JES2 definitions for NJE.

```
/* JES2 Definitions
/*********************************************************************/
/* DATASET NAME : SYS1.PARMLIB(JES2PARM)                             */
/*********************************************************************/
/** 1.NJEDEF                                                        **/
/*********************************************************************/
NJEDEF   NODENUM=15,OWNNODE=1,     /*                                */
         LINENUM=14,               /* NATNUM=15                      */
         RESTNODE=100,JTNUM=1,     /*                                */
         JRNUM=1,STNUM=1,          /*                                */
         SRNUM=1,PATH=4            /* RESTTOL=1000                   */
/*********************************************************************/
/** 2.NODE                                                          **/
/*********************************************************************/
NODE(0001)  NAME=NJESHR90          /* SHRMVS                         */
NODE(0002)  NAME=TOKVMSE1,         /* RSCS                           */
            REST=100,PATHMGR=NO    /*                                */
NODE(0014)  NAME=S7801894,LINE=19,PATHMGR=NO   /* AS/400-F25 4F M/R */
/*********************************************************************/
/** 3.DESTID                                                        **/
/*********************************************************************/
DESTID(NJESHR90) DEST=N1           /* SHRMVS                         */
DESTID(TOKVMSE1) DEST=N2           /* RSCS                           */
DESTID(S7801894) DEST=N14          /* AS/400 -F25 4F M/R             */
DESTID(HSTPRT1)  DEST=U1           /* AS/400 HOST PRT1               */
/*********************************************************************/
/** 4.LINE                                                          **/
/*********************************************************************/
LINE(1)  UNIT=SNA                  /* NUMBER OF INTERNAL READERS     */
LINE(2)  UNIT=390,REST=100,        /* NJE WITH RSCS                  */
         TRANSPAR=YES              /*                                */
LINE(19) UNIT=SNA                  /* AS/400-F25 VM/MVS BRIDGE       */
/*********************************************************************/
/** 5.APPL                                                          **/
/*********************************************************************/
APPL(JES2SHR)  NODE=1              /* SHRMVS                         */
APPL(LU0602)  NODE=14,LINE=19      /* AS/400-F25  VM/MVS BRIDGE      */
/*********************************************************************/
/** 6.LOGON                                                         **/
/*********************************************************************/
LOGON(1) APPLID=JES2SHR            /* IDENTIFY JES2 AS APPL TO VTAM */
/*********************************************************************/
/** 7.TPDEF                                                         **/
/*********************************************************************/
TPDEF    BELOWBUF=(LIMIT=10,       /* NUMBER OF TP BUFFERS           */
         SIZE=512,                 /* SIZE OF BSC  BUFFERS           */
         WARN=80),                 /* THRESHOLD PERCENTAGE           */
         MBUFSIZE=400,             /* SIZE IN BYTES OF MULTILEVELING*/
         RMTMSG=255,               /* MAX NO. OF MSG'S QUEUED        */
         SESSION=999,              /* VTAM SESSION                   */
         EXTBUF=(LIMIT=46,         /* SNA TELEPROCESSING             */
         SIZE=2048,                /*                                */
         WARN=80)                  /*                                */
```

Figure 8. JES2 Definitions for NJE

2.3 Definition on AS/400 for MVS/JES2

To customize the AS/400 VM/MVS Bridge to communicate with MVS/JES2, you must create the necessary communications configuration objects, configure SNADS (SNA Distribution Services) and add the SNADS users to the system directory.

This section provides the setup procedure for communications between the AS/400 and MVS/JES2. The following steps are required:

1. Configure the AS/400 communications objects
   - Configure the Line Description
   - Configure the Host Controller Description
   - Configure the SNUF Device Description
2. Set up system node names
   - Display Network Attribute
   - Set up Job Action
3. Configure Distribution Services
   - Set up Distribution Queue
   - Set up Routing Table Entry
   - Add directory entries for new users

2.3.1 Configuring the AS/400 Communications Objects

2.3.1.1 Configuring Line Description

Enter the CRTLINSDLC command as shown in Figure 9, then press F4 to configure the SDLC line description.

```
 MAIN                            AS/400 MAIN MENU
                                                          SYSTEM:   S7801894
SELECT ONE OF THE FOLLOWING:

     1. USER TASKS
     2. OFFICE TASKS
     3. GENERAL SYSTEM TASKS
     4. FILES, LIBRARIES, AND FOLDERS
     5. PROGRAMMING
     6. COMMUNICATIONS
     7. DEFINE OR CHANGE THE SYSTEM
     8. PROBLEM HANDLING
     9. DISPLAY A MENU
    10. INFORMATION ASSISTANT OPTIONS
    11. PC SUPPORT TASKS

    90. SIGN OFF

SELECTION OR COMMAND
===> CRTLINSDLC

F3=EXIT   F4=PROMPT   F9=RETRIEVE   F12=CANCEL   F13=INFORMATION ASSISTANT
F23=SET INITIAL MENU
```

Figure 9. CRTLINSDLC Command

Enter the required parameters to create the line and the screen reappears with an additional mark '>' on the entered parameters. Other parameters shown are the default values, which can be changed based on the installation.

Press F10 and the screen reappears with additional parameters. If you press F11, the screen appears with keywords for each parameter, instead of descriptions.

```
                    CREATE LINE DESC (SDLC) (CRTLINSDLC)

TYPE CHOICES, PRESS ENTER.

LINE DESCRIPTION . . . . . > SHRMVS     1  NAME
RESOURCE NAMES . . . . . . > LIN151     2  NAME
             + FOR MORE VALUES
ONLINE AT IPL  . . . . . .   *YES          *YES, *NO
DATA LINK ROLE . . . . . .   *NEG          *NEG, *PRI, *SEC
PHYSICAL INTERFACE . . . .   *RS232V24     *RS232V24, *V35, *X21, ...
CONNECTION TYPE  . . . . .   *NONSWTPP     *NONSWTPP, *SWTPP, *MP, *SHM
SWITCHED NETWORK BACKUP  .   *NO           *NO, *YES
EXCHANGE IDENTIFIER  . . .   *SYSGEN       05600000-056FFFFF, *SYSGEN
NRZI DATA ENCODING . . . .   *YES          *YES, *NO
LINE SPEED . . . . . . . .   9600         600, 1200, 2400, 4800...
MODEM TYPE SUPPORTED . . .   *NORMAL       *NORMAL, *V54, *IBMWRAP...
MAXIMUM FRAME SIZE . . . .   521        3  265, 521, 1033, 2057
DUPLEX . . . . . . . . . .   *HALF         *HALF, *FULL
INACTIVITY TIMER . . . . .   300          *NOMAX, 150-4200 (0.1 SEC)
POLL RESPONSE DELAY  . . .   0            0-2048 (0.0001 SECONDS)
                                                                  MORE...
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 10 (Part 1 of 2). Create Line Description (SDLC) Panel

```
                    CREATE LINE DESC (SDLC) (CRTLINSDLC)

TYPE CHOICES, PRESS ENTER.

NONPRODUCTIVE RECEIVE TIMER  . .   320          160-4200 (0.1 SECONDS)
IDLE TIMER . . . . . . . . . .   30           5-300 (0.1 SECONDS)
CONNECT POLL TIMER . . . . . .   30           2-300 (0.1 SECONDS)
POLL CYCLE PAUSE . . . . . . .   0            0-2048 (0.0001 SECONDS)
FRAME RETRY  . . . . . . . . .   7            0-64
TEXT 'DESCRIPTION' . . . . . .   *BLANK









                                                                  BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 10 (Part 2 of 2). Create Line Description (SDLC) Panel

1 Line description name: This is the name that you will use when you want to vary on or vary off (activate or deactivate) the line (vary configuration (VARYCFG) command) or to check the status of the status of the line (work with configuration status (WRKCFGSTS) command). The naming of the line must follow AS/400 naming conventions.

2 Resource name: The unique name that is assigned by the system to the physical EIA 232/V.24 communication adapter. You can check the unique name by using the WRKHDWPRD (work hardware products) command.

3 Maximum frame size: For an SDLC line, the maximum frame size must be 2057 or less. This value must match the value of the MAXDATA parameter of the PU macro on VTAM/NCP for AS/400.

2.3.1.2 Configuring the Host Controller Description

Enter the CRTCTLHOST command as shown in Figure 11, then press F4 to configure the communication host controller description.

```
MAIN                              AS/400 MAIN MENU
                                                          SYSTEM:   S7801894
SELECT ONE OF THE FOLLOWING:

     1. USER TASKS
     2. OFFICE TASKS
     3. GENERAL SYSTEM TASKS
     4. FILES, LIBRARIES, AND FOLDERS
     5. PROGRAMMING
     6. COMMUNICATIONS
     7. DEFINE OR CHANGE THE SYSTEM
     8. PROBLEM HANDLING
     9. DISPLAY A MENU
    10. INFORMATION ASSISTANT OPTIONS
    11. PC SUPPORT TASKS

    90. SIGN OFF

SELECTION OR COMMAND
===> CRTCTLHOST

F3=EXIT   F4=PROMPT   F9=RETRIEVE   F12=CANCEL   F13=INFORMATION ASSISTANT
F23=SET INITIAL MENU
```

Figure 11. CRTCTLHOST Command

```
                    CREATE CTL DESC (SNA HOST) (CRTCTLHOST)

TYPE CHOICES, PRESS ENTER.

CONTROLLER DESCRIPTION . . . . . > SHRMVS     1  NAME
LINK TYPE  . . . . . . . . . . . > *SDLC      2  *IDLC, *FR, *LAN, *SDLC, *X25
ONLINE AT IPL  . . . . . . . . .   *YES          *YES, *NO
SWITCHED CONNECTION  . . . . . .   *NO           *NO, *YES
SWITCHED NETWORK BACKUP  . . . .   *NO           *NO, *YES
APPN-CAPABLE . . . . . . . . . . > *YES          *YES, *NO
ATTACHED NONSWITCHED LINE  . . . > SHRMVS        NAME
MAXIMUM FRAME SIZE . . . . . . .   *LINKTYPE  3  265-16393, 256, 265, 512...
REMOTE NETWORK IDENTIFIER  . . . > JPIBMQHE      NAME, *NETATR, *NONE, *ANY
REMOTE CONTROL POINT . . . . . . > QHCDRMSG      NAME, *ANY
SSCP IDENTIFIER  . . . . . . . .                 050000000000-05FFFFFFFFF
LOCAL EXCHANGE IDENTIFIER  . . .   *LIND         05600000-056FFFFF, *LIND
STATION ADDRESS  . . . . . . . . > C1         5  01-FE
APPN CP SESSION SUPPORT  . . . . > *NO           *YES, *NO
APPN NODE TYPE . . . . . . . . . > *LENNODE      *ENDNODE, *LENNODE...
APPN TRANSMISSION GROUP NUMBER     1             1-20, *CALC
                                                                    MORE...
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 12 (Part 1 of 2). Create Controller Description (SNA Host) Panel

```
                    CREATE CTL DESC (SNA HOST) (CRTCTLHOST)

TYPE CHOICES, PRESS ENTER.

APPN MINIMUM SWITCHED STATUS . .   *VRYONPND     *VRYONPND, *VRYON
AUTOCREATE DEVICE  . . . . . . .   *ALL          *ALL, *DEVINIT, *NONE
AUTODELETE DEVICE  . . . . . . .   1440         1-10000, 1440, *NO
USER-DEFINED 1 . . . . . . . . .   *LIND         0-255, *LIND
USER-DEFINED 2 . . . . . . . . .   *LIND         0-255, *LIND
USER-DEFINED 3 . . . . . . . . .   *LIND         0-255, *LIND
RECONTACT ON VARY OFF  . . . . .   *YES          *YES, *NO
TEXT 'DESCRIPTION' . . . . . . .   *BLANK









                                                                    BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 12 (Part 2 of 2). Create Controller Description (SNA Host) Panel

1 Controller description name: This is the name that you will use when you want to vary on or vary off the controller (vary configuration (VRYCFG) command) or to check the status of the controller (work with the configuration status (WRKCFGSTS) command). The naming of the controller must follow AS/400 naming conventions.

2 Link type: The type of line this controller will be attached to.

3 Maximum frame size: The maximum path information unit (PIU) size that the controller can send or receive. This value is used to calculate request unit (RU) size for devices attached to SNA host controllers. Specify the same MAXFRAME value that you specified for the line description, *LINKTYPE use the value that you specified for the description.

4 SSCP identifier: The value used to identify the host controller when a connection is established and the host system sends a physical unit request (ACTPU) to the AS/400 system. The system service control point identifier is a 12-character hexadecimal value; the first two characters must be 05. If you do not specify this value, AS/400 does not check the value that the host system sends an active physical unit request (ACTPU).

5 Station address: This value must match the value of the ADDR parameter of the PU macro in VTAM/NCP for AS/400.

2.3.1.3 Configuring the SNUF Device Description

Enter the CRTDEVSNUF command as shown in Figure 13, then press F4 to configure the SNUF device description.

```
MAIN                              AS/400 MAIN MENU
                                                          SYSTEM:   S7801894
SELECT ONE OF THE FOLLOWING:

     1. USER TASKS
     2. OFFICE TASKS
     3. GENERAL SYSTEM TASKS
     4. FILES, LIBRARIES, AND FOLDERS
     5. PROGRAMMING
     6. COMMUNICATIONS
     7. DEFINE OR CHANGE THE SYSTEM
     8. PROBLEM HANDLING
     9. DISPLAY A MENU
    10. INFORMATION ASSISTANT OPTIONS
    11. PC SUPPORT TASKS

    90. SIGN OFF

SELECTION OR COMMAND
===> CRTDEVSNUF

F3=EXIT   F4=PROMPT   F9=RETRIEVE   F12=CANCEL   F13=INFORMATION ASSISTANT
F23=SET INITIAL MENU
```

Figure 13. CRTDEVSNUF Command

```
                    CREATE DEVICE DESC (SNUF) (CRTDEVSNUF)

TYPE CHOICES, PRESS ENTER.

DEVICE DESCRIPTION . . . . . > NJESHR90   1  NAME
LOCAL LOCATION ADDRESS . . . . > 02         2  01-FF
REMOTE LOCATION  . . . . . > NJESHR90   3  NAME
ONLINE AT IPL  . . . . . .   *YES          *YES, *NO
ATTACHED CONTROLLER  . . . . . > SHRMVS     4  NAME
PROGRAM START REQUEST CAPABLE  .   *NO          *NO, *YES
APPLICATION IDENTIFIER . . . . . > JES2SHR    5  NAME
HOST TYPE  . . . . . .   *CICS          *CICS, *IMS, *IMSRTR, *ADCS
RECORD LENGTH  . . . . . .   512           1-32767
BLOCK LENGTH . . . . . .   512           1-32767
DEFAULT PROGRAM  . . . . . .                 NAME
  LIBRARY  . . . . . .     *LIBL        NAME, *LIBL, *CURLIB
TEXT 'DESCRIPTION' . . . . . .   AS/400(VM/MVS BRIDGE)<-->MVS(NJE)



                                                                      BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 14. Create Device Description (SNUF) Panel

1 Device description name: This is the name that will be used when you want to activate or deactivate the device (vary configuration (VRYCFG) command) or to check the status of the device. The naming of the device description must follow AS/400 naming conventions.

2 Local location address: The local location address must be unique for each device that is to be attached to the same controller. For SNUF devices this address must be a hexadecimal value in the range 01 to FF and must match the decimal local location address (LOCADDR) specified on the LU macroinstruction in the host system's Network Control Program (NCP) generation.

3 Remote location name: The remote location name with which your system will be communicating. For the VM/MVS Bridge, the remote location name must be the remote system's node name.

4 Attached controller: The name of the controller to which this device is attached.

5 Application identifier: The VTAM application identifier of the host subsystem (JES2/NJE) with which the AS/400 system communicates.

2.3.2 Setting Up System Node Names

System names are identifiers for the systems in a network. System names are normally set up as part of the system configuration. Because names must be unique in a SNADS network, identical system names must be changed when SNADS is configured.

Limit the characters used in the system name on your SNADS network to those characters that can be entered on the keyboard by all systems in your network. If you use the VM/MVS bridge, your host system name must be a valid host node name.

AS/400 SNADS has the following restrictions for system namings:

- Leading blanks are not permitted in a system name.
- Embedded blanks are considered part of the system name.
- Trailing blanks are not considered part of the system name.

The name in the host node definition is RMTLOCNAME in the AS/400 SNUF device and the ADDRESS and SYSTEM in the AS/400 system directory. There is also a node definition for the AS/400. The name on that node definition must be the AS/400 system name in the network attributes. The APPL statement that goes with the AS/400 node definition must have the VTAM LU name of your SNUF device as the APPL name. Your SNUF device must match the VTAM LU that is defined to MVS/JES2 for this (the AS/400) NJE Node.

2.3.2.1 Displaying Network Attributes

The AS/400 system name is the one shown as the current system name when you display the network attributes (DSPNETA), see Figure 15.

```
                          DISPLAY NETWORK ATTRIBUTES
                                                                SYSTEM:   S7801894
CURRENT SYSTEM NAME  . . . . . . . . . . . . . . . :   S7801894  1
  PENDING SYSTEM NAME  . . . . . . . . . . . . . . :
LOCAL NETWORK ID . . . . . . . . . . . . . . . . . :   JPIBMQHE
LOCAL CONTROL POINT NAME . . . . . . . . . . . . . :   S7801894
DEFAULT LOCAL LOCATION . . . . . . . . . . . . . . :   S7801894
DEFAULT MODE . . . . . . . . . . . . . . . . . . . :   BLANK
APPN NODE TYPE . . . . . . . . . . . . . . . . . . :   *NETNODE
DATA COMPRESSION . . . . . . . . . . . . . . . . . :   *NONE
INTERMEDIATE DATA COMPRESSION  . . . . . . . . . . :   *NONE
MAXIMUM NUMBER OF INTERMEDIATE SESSIONS  . . . . . :   2000
ROUTE ADDITION RESISTANCE  . . . . . . . . . . . . :   128
SERVER NETWORK ID/CONTROL POINT NAME . . . . . . . :   *LCLNETID   *ANY




                                                                          MORE...
PRESS ENTER TO CONTINUE.

F3=EXIT   F12=CANCEL
```

Figure 15. Display Network Attributes Panel - CURRENT SYSTEM NAME

1 System name: If you change the system name by using the change network attributes (CHGNETA) command, you must perform an IPL to ensure that the new system name is in effect.

2.3.2.2 Setting Up JOB Actions

```
                        DISPLAY NETWORK ATTRIBUTES
                                                          SYSTEM:   S7801894
ALERT STATUS . . . . . . . . . . . . . . . . . . . :   *ON
ALERT LOGGING STATUS . . . . . . . . . . . . . . . :   *ALL
ALERT PRIMARY FOCAL POINT  . . . . . . . . . . . . :   *NO
ALERT DEFAULT FOCAL POINT  . . . . . . . . . . . . :   *NO
ALERT BACKUP FOCAL POINT . . . . . . . . . . . . . :
  NETWORK ID . . . . . . . . . . . . . . . . . . . :     *NONE
ALERT FOCAL POINT TO REQUEST . . . . . . . . . . . :   OSP00002
  NETWORK ID . . . . . . . . . . . . . . . . . . . :     JPIBMHQE
ALERT CONTROLLER DESCRIPTION . . . . . . . . . . . :   *NONE
ALERT HOLD COUNT . . . . . . . . . . . . . . . . . :   0
ALERT FILTER . . . . . . . . . . . . . . . . . . . :   FLT1
  LIBRARY  . . . . . . . . . . . . . . . . . . . . :     KANEKO
MESSAGE QUEUE  . . . . . . . . . . . . . . . . . . :   QSYSOPR
  LIBRARY  . . . . . . . . . . . . . . . . . . . . :     QSYS
OUTPUT QUEUE . . . . . . . . . . . . . . . . . . . :   QPRINT
  LIBRARY  . . . . . . . . . . . . . . . . . . . . :     QGPL
JOB ACTION . . . . . . . . . . . . . . . . . . . . :   *SEARCH  1
                                                                      MORE...
PRESS ENTER TO CONTINUE.

F3=EXIT   F12=CANCEL
```

Figure 16. Display Network Attributes Panel - JOB ACTION

1 JOBACTION: The receipt of the input stream on the AS/400 is controlled by the change network attributes (CHGNETA) command and by the job table through the add network job entry (ADDNETJOBE) command. If a job stream is sent from the MVS host to the AS/400 system, it can be handled in several ways depending on the option specified for the network job action (JOBACN) parameter on the network job attributes (CHGNETA) and the network job entries defined using the ADDNETJOBE command. You have to specify *SEARCH for the JOBACN parameter in the network attributes (CHGNETA) to execute the job that is sent from the host system.

2.3.3 Configuring Distribution Services

You must set up SNADS on the AS/400 to be able to exchange information between the AS/400 and the MVS host. You need to add a distribution queue (see Figure 20 on page 22) and a routing table entry (see Figure 24 on page 25).

2.3.3.1 Setting Up Distribution Queues

You can use either the Configure Distribution Services (CFGDSTSRV) command or the Add Distribution Queue (ADDDSTQ) command to add an entry to the distribution services queue table.

The *AS/400 Control Language Reference* contains the syntax diagram and the command description for the ADDDSTQ command. In this example, the CFGDSTSRV command is used. Type CFGDSTSRV on the command line. You will see the panel shown on Figure 17 on page 21.

```
MAIN                              AS/400 MAIN MENU
                                                          SYSTEM:   S7801894
SELECT ONE OF THE FOLLOWING:

     1. USER TASKS
     2. OFFICE TASKS
     3. GENERAL SYSTEM TASKS
     4. FILES, LIBRARIES, AND FOLDERS
     5. PROGRAMMING
     6. COMMUNICATIONS
     7. DEFINE OR CHANGE THE SYSTEM
     8. PROBLEM HANDLING
     9. DISPLAY A MENU
    10. INFORMATION ASSISTANT OPTIONS
    11. PC SUPPORT TASKS

    90. SIGN OFF

SELECTION OR COMMAND
===> CFGDSTSRV

F3=EXIT   F4=PROMPT   F9=RETRIEVE   F12=CANCEL   F13=INFORMATION ASSISTANT
F23=SET INITIAL MENU
```

Figure 17. CFGDSTSRV Command

```
                        CONFIGURE DISTRIBUTION SERVICES

TYPE CHOICE, PRESS ENTER.

  TYPE OF DISTRIBUTION SERVICES
    INFORMATION TO CONFIGURE  . . .    1        1=DISTRIBUTION QUEUE
                                                2=ROUTING TABLE
                                                3=SECONDARY SYSTEM NAME TABLE









F3=EXIT      F12=CANCEL
```

Figure 18. Configure Distribution Services Panel

Select option **1 (Distribution Queue)** and you will see the panel shown on Figure 19 on page 22. Please note that the first time you select option 1, the message No distribution queue appears. After you make any entries, they appear on the panel.

```
                        CONFIGURE DISTRIBUTION QUEUES

TYPE OPTIONS, PRESS ENTER.
  2=CHANGE  4=REMOVE  5=DISPLAY DETAILS

                                        REMOTE                  REMOTE
OPT  QUEUE NAME        QUEUE TYPE    LOCATION NAME  MODE NAME  NET ID
     S1024203           *SNADS         S1024203     *NETATR    *LOC
     S1030367           *SNADS         F04A         *NETATR    *LOC
     S7827595           *SNADS         S7827595     *NETATR    *LOC









F3=EXIT      F5=REFRESH         F6=ADD DISTRIBUTION QUEUE
F10=WORK WITH DISTRIBUTION QUEUES                          F12=CANCEL
```

Figure 19. Configure Distribution Queues Panel

To add a distribution queue, press F6 from the Configure Distribution Queues panel, (see Figure 19). The panel shown on Figure 20 will appear. The important parameters are discussed with the following panel:

```
                            ADD DISTRIBUTION QUEUE                 PAGE 1 OF 2

TYPE CHOICES, PRESS ENTER.

  QUEUE  . . . . . . . . . . .   NJESHR90     1   NAME
  QUEUE TYPE . . . . . . . . .   *RPDS        2   *SNADS, *RPDS, *SVDS, *DLS
  REMOTE LOCATION NAME . . . .   NJESHR90     3   NAME
  MODE . . . . . . . . . . . .   *NETATR          NAME, *NETATR
  REMOTE NET ID  . . . . . . .   JPIBMQHE         NAME, *LOC, *NONE
  LOCAL LOCATION NAME  . . . .   *LOC             NAME, *LOC
  NORMAL PRIORITY:
    SEND TIME:
      FROM/TO  . . . . . . . .      :        :     00:00-23:59
      FORCE  . . . . . . . . .      :             00:00-23:59
    SEND DEPTH . . . . . . . .     1             1-999, BLANK
  HIGH PRIORITY:
    SEND TIME:
      FROM/TO  . . . . . . . .      :        :     00:00-23:59
      FORCE  . . . . . . . . .      :             00:00-23:59
    SEND DEPTH . . . . . . . .     1             1-999, BLANK

                                                                        MORE...
 F3=EXIT      F12=CANCEL
```

Figure 20. Add Distribution Queue Panel

1 Queue name: The name of the queue in which distributions are stored before they are sent.

2 Queue type: VM/MVS (*RPDS) queues are used to communicate between the AS/400 VM/MVS Bridge and the host MVS/JES2 node name for this environment.

3 Remote location name: The remote location name must be the host's MVS/JES2 node name for *RPDS queues.

After you press the Enter key you can see the queue name on the screen that you created.

```
                        CONFIGURE DISTRIBUTION QUEUES

TYPE OPTIONS, PRESS ENTER.
  2=CHANGE  4=REMOVE  5=DISPLAY DETAILS

                                      REMOTE                  REMOTE
OPT  QUEUE NAME        QUEUE TYPE    LOCATION NAME  MODE NAME  NET ID
     NJESHR90           *RPDS          NJESHR90     *NETATR    *LOC
     S1024203           *SNADS         S1024203     *NETATR    *LOC
     S1030367           *SNADS         F04A         *NETATR    *LOC
     S7827595           *SNADS         S7827595     *NETATR    *LOC









F3=EXIT      F5=REFRESH         F6=ADD DISTRIBUTION QUEUE
F10=WORK WITH DISTRIBUTION QUEUES                       F12=CANCEL
```

Figure 21. Configure Distribution Queues Panel

Press F12 to return to the Configure Distribution Queues panel.

2.3.3.2 Setting Up Routing Table Entries

Routing table entries can be added using the CFGDSTSRV command or the ADDDSTRE command.

The *AS/400 Control Language Reference* contains the syntax and description of the ADDDSTRTE command. In this example, the CFGDSTSRV command is used. Type CFGDSTSRV on the command line or return to the Configure Distribution Queue panel by pressing F12.

You will see the panel shown on Figure 22 on page 24. Select option 2 (Routing table) and you will see the panel shown on Figure 23 on page 24. Please note that the first time you select option 2, the message No routing table entries appears. After you make any entries, they appear on the panel.

```
                    CONFIGURE DISTRIBUTION SERVICES

TYPE CHOICE, PRESS ENTER.

  TYPE OF DISTRIBUTION SERVICES
    INFORMATION TO CONFIGURE  . . .    2        1=DISTRIBUTION QUEUE
                                                2=ROUTING TABLE
                                                3=SECONDARY SYSTEM NAME TABLE









F3=EXIT      F12=CANCEL
```

Figure 22. Configure Distribution Services Panel

```
                           CONFIGURE ROUTING TABLE

TYPE OPTIONS, PRESS ENTER.
  2=CHANGE  4=REMOVE  5=DISPLAY DETAILS

      ------SYSTEM------
OPT   NAME      GROUP     DESCRIPTION
      S1024203            AS/400-F60 4F Machine Room
      S1030367            AS/400 F04 4F Machine Room
      S7827595            AS/400-E25 9F Office









F3=EXIT      F5=REFRESH         F6=ADD ROUTING TABLE ENTRY
F12=CANCEL
```

Figure 23. Configure Routing Table Entry Panel

To add a routing entry, press F6 from the Configure Routing Table Entry panel. The panel shown in Figure 24 on page 25 will appear.

```
                          ADD ROUTING TABLE ENTRY

TYPE CHOICES, PRESS ENTER. (AT LEAST ONE QUEUE NAME IS REQUIRED.)

  SYSTEM NAME/GROUP  . .   NJESHR90                                    1
  DESCRIPTION  . . . . .   ENTRY FOR MVS(NJE) USER                     2
  SERVICE LEVEL:                                                       3
    FAST:
      QUEUE NAME . . . .   NJESHR90          DISTRIBUTION QUEUE NAME   4
      MAXIMUM HOPS . . .   *DFT              NUMBER OF HOPS, *DFT
    STATUS:
      QUEUE NAME . . . .   NJESHR90
      MAXIMUM HOPS . . .   *DFT
    DATA HIGH:
      QUEUE NAME . . . .   NJESHR90
      MAXIMUM HOPS . . .   *DFT
    DATA LOW:
      QUEUE NAME . . . .   NJESHR90
      MAXIMUM HOPS . . .   *DFT



F3=EXIT      F12=CANCEL
```

Figure 24. Add Routing Table Entry Panel

Some of the important parameters are discussed as follows:

1 Destination system name/group: The system or destination to which you are sending or forwarding distribution. This will be the NJE node name defined for MVS/JES2.

2 Destination: The description of the destination system name. This is for your own information.

3 Service level: One or more service levels must be specified for each routing table entry. Your system will not route distributions for a service level you have not configured.

4 Queue name: You must specify a queue name for each service level required in the configuration. Distribution queues must be configured before they are referred to.

Our example uses the same queue for all service levels.

For more information about configuring distribution services, see the *AS/400 Distribution Services Network Guide*.

Press Enter to add the routing entry, and you will see the new routing entry name, NJESHR90. Please refer to Figure 25 on page 26.

```
                          CONFIGURE ROUTING TABLE

TYPE OPTIONS, PRESS ENTER.
  2=CHANGE  4=REMOVE  5=DISPLAY DETAILS

      ------SYSTEM------
OPT   NAME      GROUP     DESCRIPTION
      NJESHR90            ENTRY FOR MVS(NJE) USER
      S1024203            AS/400-F60 4F Machine Room
      S1030367            AS/400 F04 4F Machine Room
      S7827595            AS/400-E25 9F Office









F3=EXIT      F5=REFRESH         F6=ADD ROUTING TABLE ENTRY
F12=CANCEL
```

Figure 25. Configure Routing Table Panel

2.3.3.3 Directory Entries for New Users

The system distribution directory contains the user ID, address, and description for users authorized to send and receive distributions in the network.

See the *AS/400 Distribution Services Network Guide* for a full discussion of the system distribution directory.

In this example, the following two types of users are discussed:

1. A local user is a user who has a profile on the AS/400 system and whose system has the same name as the system name of the AS/400. If enrolled in the system directory, a local user can send and receive distributions from remote users.
2. A remote user is a user who receives distribution on a remote system. The system name specified in the system directory entry for A remote user cannot be specified in the directory entry.

You can use the add directory (ADDDIRE) command or the work with directory (WRKDIR) command to enroll a user in the system directory.

In this example, the WRKDIR command is used.

Adding a Local User: Type WRKDIR on the command line and press Enter and you will see a panel similar to the one shown in Figure 26 on page 27.

```
                              WORK WITH DIRECTORY

TYPE OPTIONS, PRESS ENTER.
  1=ADD      2=CHANGE   4=REMOVE   5=DISPLAY DETAILS   6=PRINT DETAILS
  7=RENAME   8=ASSIGN DIFFERENT ID TO DESCRIPTION   9=ADD ANOTHER DESCRIPTION

OPT  USER ID   ADDRESS   DESCRIPTION
 1
     *ANY      NJESHR90  ALL USERS FOR NJESHR90(MVS/NJE)
     E10038    S1024203  AS/400-F60 4F Machine Room
     E10038    S1030367  AS/400-F04 4F Machine Room
     E10038    S7827595  AS/400-E25 9F Office
     MIKAMI    S1024203  MIKAMI S1024203
     MIKAMI    S7801894  MIKAMI S7801894
     MIKAMI    S7827595  MIKAMI S7827595
     QDFTOWN   QDFTOWN   DEFAULT OWNER
     QDOC      QDOC      INTERNAL DOCUMENT OWNER
                                                                      MORE...
F3=EXIT      F5=REFRESH   F9=WORK WITH NICKNAMES   F10=SEARCH DIRECTORY
F12=CANCEL   F13=WORK WITH DEPARTMENTS   F17=POSITION TO   F24=MORE KEYS
```

Figure 26. Work with Directory Panel

Type 1 on the first option line and press the Enter key to enroll new users in the system distribution directory. The Add Directory Entry panel will appear.

Type the information in all the required fields and any optional field you want to fill in and press the Enter key.

Figure 27 shows a panel that has already been filled in with information for the local user being added.

```
                              ADD DIRECTORY ENTRY

TYPE CHOICES, PRESS ENTER.

  USER ID/ADDRESS . . . .   E10038    S7801894                  1
  DESCRIPTION . . . . . .   AS/400-F25 4F Machine Room          2
  SYSTEM NAME/GROUP . . .   S7801894              F4 FOR LIST   3
  USER PROFILE  . . . . .                         F4 FOR LIST   4
  NETWORK USER ID . . . .

  NAME:
    LAST  . . . . . .
    FIRST . . . . . .
    MIDDLE  . . . . .
    PREFERRED . . . . .
    FULL  . . . . . .

  DEPARTMENT  . . . . .                           F4 FOR LIST
  JOB TITLE . . . . . .
  COMPANY . . . . . .
                                                                      MORE...
F3=EXIT   F4=PROMPT   F5=REFRESH   F12=CANCEL   F14=ADD X.400 O/R NAME
F18=DISPLAY LOCATION DETAILS
```

Figure 27. Add Directory Entry Panel for a Local User on the AS/400 System

Some of the important parameters are discussed as follows:

1 User ID/address: The unique user ID and address you choose. The user profile is convenient choice for the user ID. For the NJE environment, the address must be same name as the AS/400 system name for the AS/400 local user.

2 Description: Any description you want to describe in this entry.

3 System Name/Group: The panel automatically contains the system name for your local system. The system name is a required entry for a local user. Do not use the system group for a local user.

4 User profile: The user profile is required for a local user and must be a valid user profile on the local AS/400 system.

After you press the Enter key, you will see the new directory entry name for the local user which you added.

```
                              WORK WITH DIRECTORY

TYPE OPTIONS, PRESS ENTER.
  1=ADD      2=CHANGE   4=REMOVE   5=DISPLAY DETAILS   6=PRINT DETAILS
  7=RENAME   8=ASSIGN DIFFERENT ID TO DESCRIPTION   9=ADD ANOTHER DESCRIPTION

OPT  USER ID   ADDRESS   DESCRIPTION

     E10038    S1024203  AS/400-F60 4F Machine Room
     E10038    S1030367  AS/400-F04 4F Machine Room
     E10038    S7801894  AS/400-F25 4F Machine Room
     E10038    S7827595  AS/400-E25 9F Office
     MIKAMI    S1024203  MIKAMI S1024203
     MIKAMI    S7801894  MIKAMI S7801894
     MIKAMI    S7827595  MIKAMI S7827595
     QDFTOWN   QDFTOWN   DEFAULT OWNER
     QDOC      QDOC      INTERNAL DOCUMENT OWNER
                                                                      MORE...
F3=EXIT      F5=REFRESH   F9=WORK WITH NICKNAMES   F10=SEARCH DIRECTORY
F12=CANCEL   F13=WORK WITH DEPARTMENTS   F17=POSITION TO   F24=MORE KEYS
```

Figure 28. Work with Directory Panel - Add Remote Users

Adding a Remote User: Type WRKDIR on the command line and press Enter and you will see a panel similar to the one shown in Figure 29.

```
                              WORK WITH DIRECTORY

TYPE OPTIONS, PRESS ENTER.
  1=ADD      2=CHANGE   4=REMOVE   5=DISPLAY DETAILS   6=PRINT DETAILS
  7=RENAME   8=ASSIGN DIFFERENT ID TO DESCRIPTION   9=ADD ANOTHER DESCRIPTION

OPT  USER ID   ADDRESS   DESCRIPTION
 1
     E10038    S1024203  AS/400-F60 4F Machine Room
     E10038    S1030367  AS/400-F04 4F Machine Room
     E10038    S7801894  AS/400-E25 4F Machine Room
     E10038    S7827595  AS/400-E25 9F Office
     MIKAMI    S1024203  MIKAMI S1024203
     MIKAMI    S7801894  MIKAMI S7801894
     MIKAMI    S7827595  MIKAMI S7827595
     QDFTOWN   QDFTOWN   DEFAULT OWNER
     QDOC      QDOC      INTERNAL DOCUMENT OWNER
     QLPAUTO   QLPAUTO   LICENSED PROGRAM AUTOMATIC USER
                                                                      MORE...
F3=EXIT      F5=REFRESH   F9=WORK WITH NICKNAMES   F10=SEARCH DIRECTORY
F12=CANCEL   F13=WORK WITH DEPARTMENTS   F17=POSITION TO   F24=MORE KEYS
```

Figure 29. Work with Directory Entry

Type option 1 on the first option line and press the Enter key to enroll new remote users in the system distribution directory. The Add Directory Entry panel will appear.

```
                              ADD DIRECTORY ENTRY

TYPE CHOICES, PRESS ENTER.

  USER ID/ADDRESS . . . .   *ANY      NJESHR90                  1
  DESCRIPTION . . . . . .   ALL USERS FOR NJESHR90(MVS/NJE)      2
  SYSTEM NAME/GROUP . . .   NJESHR90              F4 FOR LIST   3
  USER PROFILE  . . . . .                        F4 FOR LIST   4
  NETWORK USER ID . . . .

  NAME:
    LAST  . . . . . .
    FIRST . . . . . .
    MIDDLE  . . . . .
    PREFERRED . . . . .
    FULL  . . . . . .

  DEPARTMENT  . . . . .                          F4 FOR LIST
  JOB TITLE . . . . . .
  COMPANY . . . . . .
                                                                  MORE...
F3=EXIT   F4=PROMPT   F5=REFRESH   F12=CANCEL   F14=ADD X.400 O/R NAME
F18=DISPLAY LOCATION DETAILS
```

Figure 30. Directory Entry for Remote Users on the MVS System

1 User ID/Address: For remote users, you can use unique user IDs or you can use the *ANY entry. For more information regarding the *ANY entries, please see the *AS/400 Distribution Services Network Guide*.

In this example, the *ANY user ID and a specific system name are used for the address to indicate that distributions can be sent or received from any user on that system. For the NJE environment, the address must have the same name as the MVS/JES2 NJE node name.

2 Description: Any description you want to describe in this entry.

3 System Name/Group: The system name for a remote user cannot be the system name for the local AS/400 system. The system name must be the same name as specified by MVS/JES2 NJE node name.

4 User profile: The user profile must be left blank for remote users.

After you press the Enter key, the remote user will be added.

2.4 Relationship Between the AS/400 and MVS/JES2

When you define each configuration on the AS/400 and the host, you must match the values of the specific parameters. In Figure 31 parameters with the same number on black background have the same value.

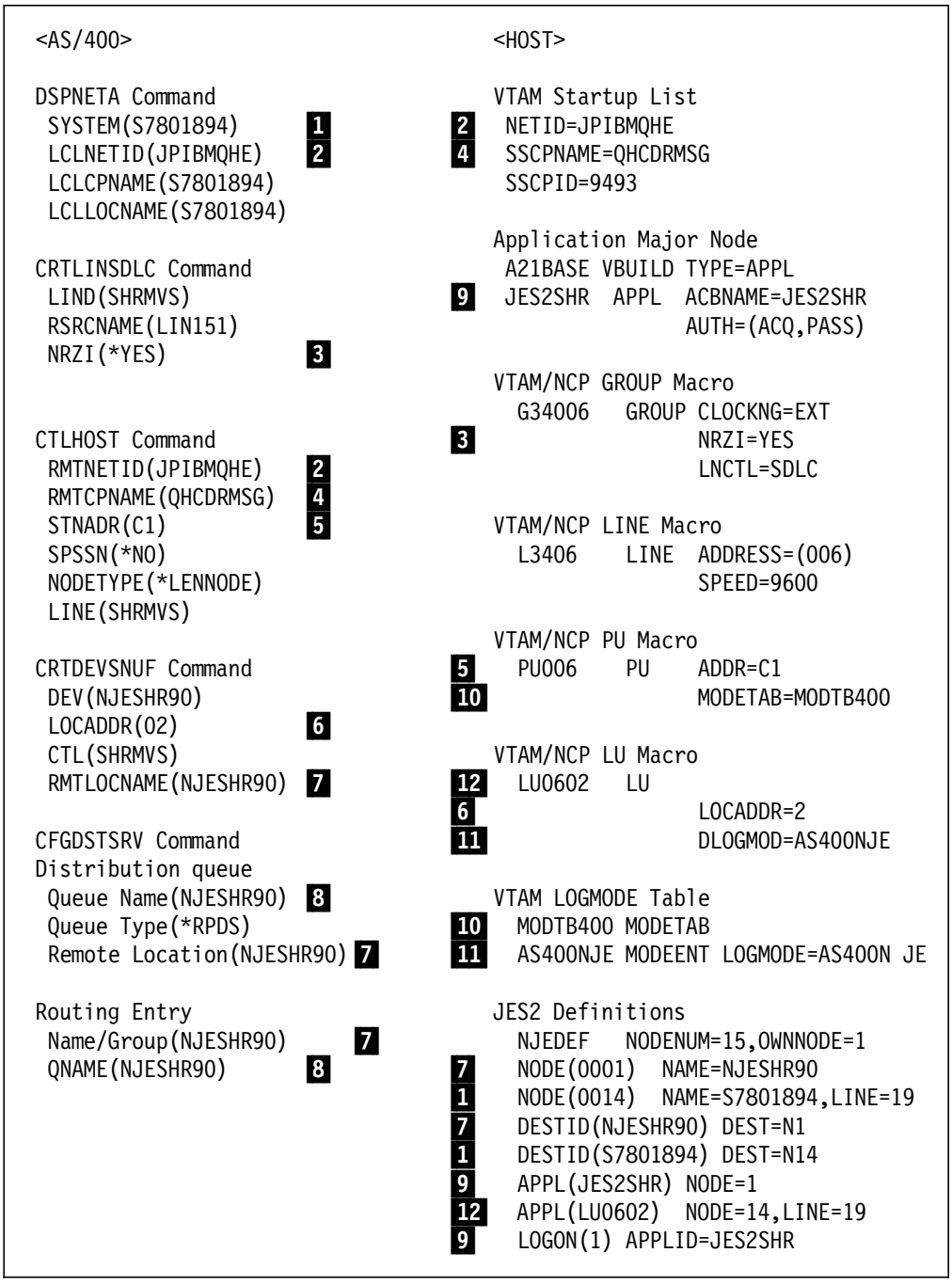

Figure 31. Relationship Between the AS/400 and MVS/JES2

2.5 Operations on the AS/400 and the MVS/JES2 Host

The following topics describe operations on the AS/400 and the host to start/terminate a session and to send or receive files, network jobs, spooled files, and messages.

2.5.1 Initiation and Termination

The following paragraphs describe the actions required to start communications between the AS/400 and the MVS host and some conditions necessary to establish the session between the two systems.

2.5.1.1 Initiating the VM/MVS Bridge and the MVS/JES2 (NJE)

To establish the session between the AS/400 VM/MVS bridge and the MVS/JES2 (NJE), the following scenario on Figure 32 on page 33 was used.

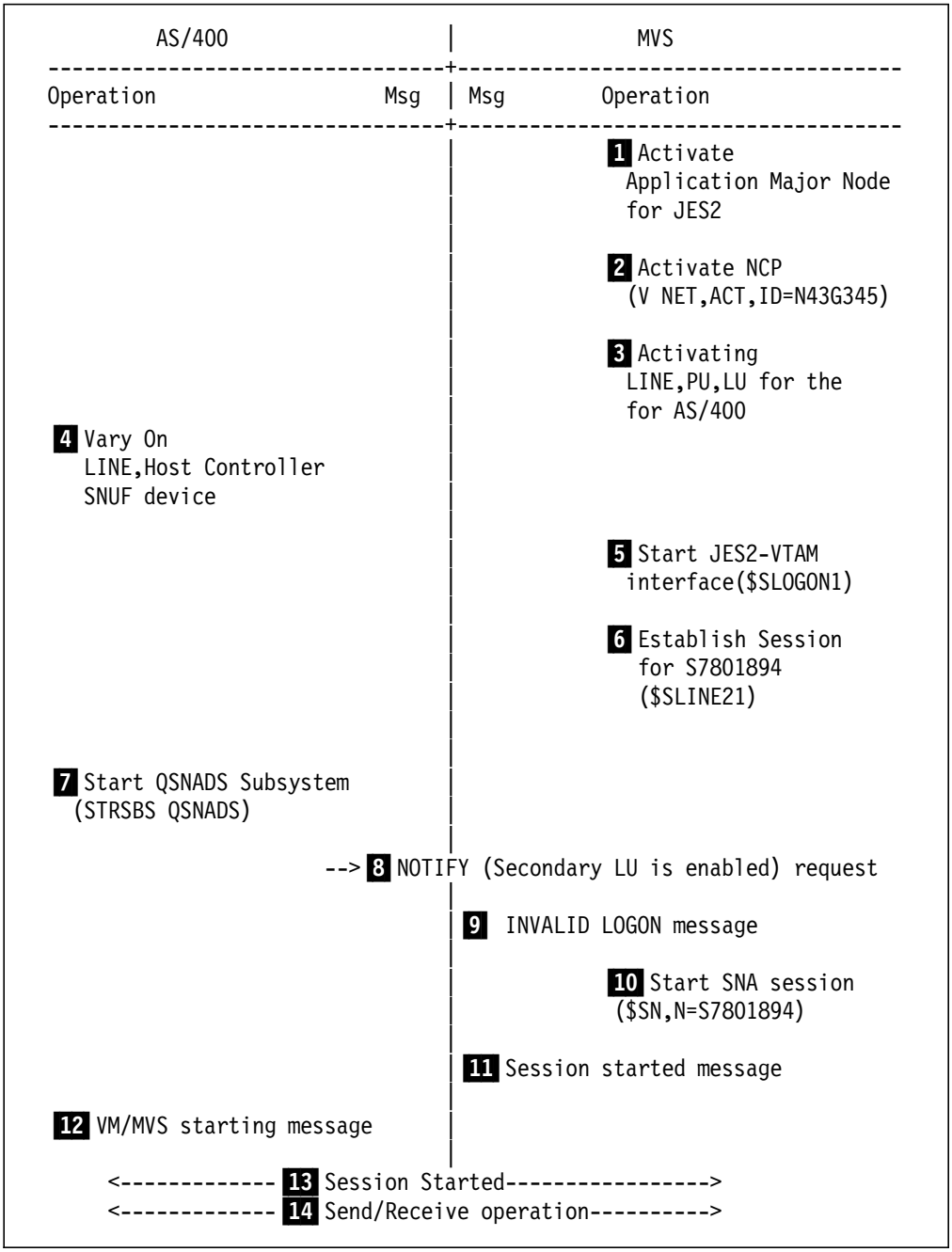

Figure 32. Initiating the VM/MVS Bridge and MVS/JES (NJE) Session

1 Activate Application Major Node for JES2 (Host Operation): You have to activate Application major node for JES2, if it's not yet activated.

```
V NET,ACT,ID=A21BASE
IST097I VARY ACCEPTED
IST093I A21BASE ACTIVE
```

Figure 33. Activate Application Major Node (Host)

2 Activate VTAM/NCP, if it's inactive (host operation).

```
V NET,ACT,ID=N43G345
IST097I VARY ACCEPTED
IST093I N43G345 ACTIVE
```

Figure 34. Activating VTAM/NCP (Host)

3 Activate LINE, PU, LU for the AS/400 (host operation).

Line Activation:

```
V NET,ACT,ID=L3406
IST097I VARY ACCEPTED
IST093I L3406 ACTIVE
```

Figure 35. Activating LINE for AS/400 (Host)

PU Activation:

```
V NET,ACT,ID=PU006
IST097I VARY ACCEPTED
IST093I PU006 ACTIVE
```

Figure 36. Activating PU for AS/400 (Host)

LU Activation:

```
V NET,ACT,ID=LU0602
IST097I VARY ACCEPTED
IST093I LU0602 ACTIVE
```

Figure 37. Activating LU for VM/MVS Bridge (Host)

4 Activate AS/400 Line, Host Controller, SNUF device for VM/MVS Bridge (AS/400 Operation): To start communications between the host and the AS/400, use the vary configuration (VRYCFG) command or the work with configuration status (WRKCFGSTS) command. For more information on these commands, please use the Help key on the AS/400 display or see the *AS/400 Control Language Reference*.

In this example, the WRKCFGSTS command was used to vary on the line, host controller, and SNUF device.

Please enter the following command to display the line status:

```
WRKCFGSTS *LIN SHRMVS
```

```
                      WORK WITH CONFIGURATION STATUS             S7801894
                                                          94/06/01  16:43:05
POSITION TO  . . . . .               STARTING CHARACTERS

TYPE OPTIONS, PRESS ENTER.
 1=VARY ON   2=VARY OFF   5=WORK WITH JOB   8=WORK WITH DESCRIPTION
 9=DISPLAY MODE STATUS ...

OPT  DESCRIPTION       STATUS              -------------JOB--------------
  1  SHRMVS            ACTIVE
       SHRMVS          ACTIVE
         NJESHR90      VARIED ON









                                                                    BOTTOM
PARAMETERS OR COMMAND
===>
F3=EXIT   F4=PROMPT   F12=CANCEL   F23=MORE OPTIONS   F24=MORE KEYS
```

Figure 38. Work with Configuration Status (WRKCFGSTS) Command Panel (AS/400)

5 Start JES2 to VTAM interface (host operation).

```
     $SLGN1
     $HASP881 LOGON1    APPLID=JES2SHR,STATUS=ACTIVE
```

Figure 39. Starting JES2 to VTAM Interface (Host)

6 Establish a session for the AS/400 node S7801894 (host operation).

```
     $SLINE21
     $HASP880 LINE21    UNIT=SNA,STATUS=INACTIVE
```

Figure 40. Establishing the AS/400 Node S7801894 (Host)

7 Start QSNADS subsystem.

```
                      WORK WITH CONFIGURATION STATUS             S7801894
                                                              94/06/01  16:52:03
POSITION TO  . . . . .              STARTING CHARACTERS

TYPE OPTIONS, PRESS ENTER.
 1=VARY ON   2=VARY OFF   5=WORK WITH JOB   8=WORK WITH DESCRIPTION
 9=DISPLAY MODE STATUS ...

OPT  DESCRIPTION       STATUS              -------------JOB--------------
     SHRMVS            ACTIVE
       SHRMVS          ACTIVE
         NJESHR90      VARIED ON









                                                                      BOTTOM
PARAMETERS OR COMMAND
===> STRSBS QSNADS
F3=EXIT   F4=PROMPT   F12=CANCEL   F23=MORE OPTIONS   F24=MORE KEYS
```

Figure 41. Starting QSNADS Subsystem (AS/400)

8 NOTIFY (Secondary LU enabled) request (SNA): When a SNADS subsystem is started, AS/400 sends a NOTIFY (SLU enabled) request to VTAM.

9 INVALID LOGON message (host console message): VTAM requests to the MVS/JES2 to establish the session between AS/400 and MVS/JES2 if the secondary LU macro that has LOGAPPL parameter send a NOTIFY (SLU enabled) request.

To establish a session between the VM/MVS Bridge and the MVS/JES2 node, the VM/MVS Bridge must send a NOTIFY (SLU enabled) request. Before it sends a NOTIFY (SLU disabled) request, a request to start the session must be sent, by entering $SN,N=S7801894, for example If the session does not start, the VM/MVS Bridge sends a NOTIFY (SLU disabled) request, then an error will occur even when the MVS/JES2 requests to start the session. Figure 42 shows the MVS console messages in this situation.

```
$HASP309    INIT  2 INACTIVE ******** C=BA
$HASP205 LOGON1   -- INVALID LOGON -- SESSION LU0602
IST663I  CINIT      REQUEST               FAILED  , SENSE=08010000
IST664I  REAL  OLU=JPIBMQHE.LU0602     REAL  DLU=JPIBMQHE.JES2SHR
IST889I  SID = DF7BCE8989D80B99
IST890I  AUTOLOGON SESSION SETUP FAILED
```

Figure 42. INVALID LOGON Message

In this case, executing the following operation will force the VM/MVS Bridge to send the message.

Enter SNDNETMSG, then enter the message, user ID, and node ID on the display. You have to specify the node ID that you want to start the session.

```
                    SEND NETWORK MESSAGE (SNDNETMSG)

TYPE CHOICES, PRESS ENTER.

MESSAGE TEXT . . . . . .   ***** AS/400 IS READY *********



USER ID:
  USER ID  . . . . . .  .   S100388       CHARACTER VALUE
  ADDRESS  . . . . . .  .   NJESHR90      CHARACTER VALUE
             + FOR MORE VALUES

                                                                  BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F12=CANCEL   F13=HOW TO USE THIS DISPLAY
F24=MORE KEYS
MESSAGE SENT TO 1 USERS. NOT SENT TO 0 USERS.
```

Figure 43. Send Network Message (SNDNETMSG) Panel (AS/400)

When the message MESSAGE SENT TO 1 USERS. NOT SENT TO 0 USERS. appears, it means that the request to send is properly accepted by the SNADS. Next, use the WRKSDTQ command to force the request to be sent.

```
     WRKDSTQ
```

Figure 44. WRKDSTQ Command (AS/400)

```
                        WORK WITH DISTRIBUTION QUEUES

TYPE OPTIONS, PRESS ENTER.
  2=SEND QUEUE  3=HOLD QUEUE  5=WORK WITH QUEUE ENTRIES
  6=RELEASE QUEUE  7=REROUTE QUEUE


                      QUEUE      -----SEND TIME------  -QUEUE DEPTH-
OPT QUEUE NAME      PRIORITY   FROM     TO    FORCE  SEND  CURRENT  STATUS
    NJESHR90        NORMAL       :   -   :      :       1      0    RTY-WAIT
    NJESHR90        HIGH         :   -   :      :       1      1    RTY-WAIT
    S1024203        NORMAL       :   -   :      :       1      0    WAITING
    S1024203        HIGH         :   -   :      :       1      0    WAITING
    S1030367        NORMAL       :   -   :      :       1      0    WAITING
    S1030367        HIGH         :   -   :      :       1      0    WAITING
    S7827595        NORMAL       :   -   :      :       1      0    WAITING
    S7827595        HIGH         :   -   :      :       1      0    WAITING
    TOKVMSE1        NORMAL       :   -   :      :       1      0    WAITING
    TOKVMSE1        HIGH         :   -   :      :       1      0    WAITING


                                                                     BOTTOM
F3=EXIT      F5=REFRESH         F10=CONFIGURE DISTRIBUTION QUEUES
F12=CANCEL
```

Figure 45. Work with Distribution Queues Panel (AS/400)

In Figure 45, the Current Queue Depth field of the node NJESHR90 was changed to 1 by the request to send the message. When the Status field is RTY-WAIT (Retry Waiting), enter 2 (Send Queue) in the Opt field to force the request to be sent. When the VM/MVS bridge sends a NOTIFY (SLU enabled) request and the MVS/JES2 starts the session by a command such as $SN,N=S7801894, a BIND Request is sent to the AS/400 to establish the session between the MVS/JES2 and the AS/400. While establishing the session, the Status field changes as follows until completing the send operation:

```
RTY-WAIT -> INIT -> CONNECT -> SENDING -> WAITING
```

10 Start SNA session (host operation).

Figure 46 shows a sample display of establishing the session by requesting to start and the message sent from AS/400.

```
$SN,N=S7801894
$HASP000 OK
$HASP200 S7801894 STARTED ON LINE19   SESSION LU0602   BFSZ=2048
$HASP520 S100388A ON L19.JT1
$HASP534 L19.ST1  INACTIVE
SE ′                  E10038  ***** AS/400 IS READY *********′,LOGON,
USER=(S100388)
$HASP524 L19.JT1  INACTIVE
$HASP250 S100388A IS PURGED
SE ′                  E10038  INPUT STREAM FILE S100388A MEMBER S100388
RECEIVED FOR USER E10038 S78018′,LOGON,USER=(S100388)
SE ′                  E10038  4.  1 JOBS SUBMITTED.  0 JOBS NOT
SUBMITTED.′,LOGON,USER=(S100388)
```

Figure 46. Starting SNA Session (Host)

```
E10038  ***** AS/400 IS READY ********* CN(INTERNAL)
E10038  INPUT STREAM FILE S100388A MEMBER S100388 RECEIVED FOR USER
E10038 S78018 CN(INTERNAL)
E10038  4.  1 JOBS SUBMITTED.  0 JOBS NOT SUBMITTED. CN(INTERNAL) ***
```

Figure 47. MVS/JES2 NJE User Receives the Message (Host)

When the session is established, the message from AS/400 is sent to the TSO user.

11 Session started message.

When the session starts properly, you can check the activation at the QGATE JOB in Figure 48.

```
                     WORK WITH CONFIGURATION STATUS               S7801894
                                                        94/06/01  17:09:51
POSITION TO  . . . . .               STARTING CHARACTERS

TYPE OPTIONS, PRESS ENTER.
  1=VARY ON   2=VARY OFF   5=WORK WITH JOB   8=WORK WITH DESCRIPTION
  9=DISPLAY MODE STATUS ...

OPT  DESCRIPTION       STATUS               -------------JOB--------------
     SHRMVS            ACTIVE
       SHRMVS          ACTIVE
         NJESHR90      ACTIVE               LDNJESHR90  QGATE       013728









                                                                      BOTTOM
PARAMETERS OR COMMAND
===>
F3=EXIT   F4=PROMPT   F12=CANCEL   F23=MORE OPTIONS   F24=MORE KEYS
```

Figure 48. VM/MVS Bridge Session Started (AS/400)

Starting messages are logged in the QSYSOPR.

```
                              DISPLAY MESSAGES
                                                        SYSTEM:   S7801894
QUEUE . . . . . :   QSYSOPR               PROGRAM . . . . :   *DSPMSG
  LIBRARY . . . :     QSYS                   LIBRARY . . . :
SEVERITY  . . . :   40                     DELIVERY  . . . :   *HOLD

 SUBSYSTEM QSNADS STARTED.
 SNADS ROUTER 015768/QSNADS/QROUTER STARTED.
 VM/MVS BRIDGE PROCESSES STARTED FOR *RPDS GATEWAY SENDER SERVING THE
   NJESHR90 DISTRIBUTION QUEUE.
 VM/MVS BRIDGE PROCESSES STARTED FOR *RPDS GATEWAY SENDER SERVING THE
   TOKVMSE1 DISTRIBUTION QUEUE.
 STARTING RECOVERY FOR SNADS GATEWAY SENDER 015769/QGATE/NJESHR90,  SERVING
   *RPDS DISTRIBUTION QUEUE NJESHR90
 VM/MVS BRIDGE PROCESSES STARTED FOR *RPDS GATEWAY SENDER SERVING THE
   NJESHR90 DISTRIBUTION QUEUE.
 SIGN-ON COMPLETE ON VM/MVS BRIDGE TO REMOTE LOCATION NJESHR90.
                                                                   BOTTOM
F3=EXIT             F11=REMOVE A MESSAGE                 F12=CANCEL
F13=REMOVE ALL      F16=REMOVE ALL EXCEPT UNANSWERED     F24=MORE KEYS
```

Figure 49. QSYSOPR Message (AS/400)

Entering the WRKACTJOB (work with active jobs) command, you can see the jobs running in the QSNADS subsystem.

```
                          WORK WITH ACTIVE JOBS                   S7801894
                                                        94/06/23  18:09:30
CPU %:   13.7     ELAPSED TIME:   00:03:03     ACTIVE JOBS:   43

TYPE OPTIONS, PRESS ENTER.
  2=CHANGE   3=HOLD   4=END   5=WORK WITH   6=RELEASE   7=DISPLAY MESSAGE
  8=WORK WITH SPOOLED FILES   13=DISCONNECT ...

OPT  SUBSYSTEM/JOB  USER        TYPE  CPU %  FUNCTION        STATUS
    QSNADS         QSYS        SBS      .6                  DEQW
       LDNJESHR90   QGATE       BCH      .2                   EVTW
       NJESHR90     QGATE       BCH      .3                   EVTW
       QDIA         QSNADS      BCH      .1                   EVTW
       QDIAHSTPRT   QSNADS      BCH      .1                   DEQW
       QDIAINDUSR   QSNADS      BCH      .1                   EVTW
       QDIALOCAL    QSNADS      BCH      .1                   EVTW
       QNFTP        QSNADS      BCH      .0                   EVTW
       QROUTER      QSNADS      BCH      .0                   EVTW
       QZDSTART     QSNADS      ASJ      .5                   EVTW
       RCNJESHR90   QGATE       BCH      .0                   DEQW
       S1024203     QSNADS      BCH      .0                   EVTW
       S1030367     QSNADS      BCH      .0                   EVTW
       S7827595     QSNADS      BCH      .0                   EVTW
                                                                MORE...
 PARAMETERS OR COMMAND
 ===>
 F3=EXIT      F5=REFRESH   F10=RESTART STATISTICS   F11=DISPLAY ELAPSED DATA
 F12=CANCEL   F23=MORE OPTIONS   F24=MORE KEYS
```

Figure 50. Work with Active Jobs (AS/400)

```
                          DISPLAY HISTORY LOG CONTENTS

STARTING RECOVERY FOR SNADS GATEWAY SENDER 015769/QGATE/NJESHR90, SERVING *R
JOB 015783/QGATE/NJESHR90 STARTED ON 94/06/23 AT 18:22:32 IN SUBSYSTEM QSNAD
JOB 015784/QGATE/LDNJESHR90 STARTED ON 94/06/23 AT 18:22:34 IN SUBSYSTEM QSN
VM/MVS BRIDGE PROCESSES STARTED FOR *RPDS GATEWAY SENDER SERVING THE NJESHR9
JOB 015785/QGATE/RCNJESHR90 STARTED ON 94/06/23 AT 18:22:35 IN SUBSYSTEM QSN
SIGN-ON COMPLETE ON VM/MVS BRIDGE TO REMOTE LOCATION NJESHR90.
INPUT STREAM FILE S100388A MEMBER S100388 RECEIVED FROM USER S100388 NJESHR9
JOB 015786/QPGMR/SAMPLE STARTED ON 94/06/23 AT 18:23:32 IN SUBSYSTEM QBATCH
JOB 015786/QPGMR/SAMPLE ENDED ON 94/06/23 AT 18:23:43; 3 SECONDS USED; END C
JOB 015769/QGATE/NJESHR90 ENDED ON 94/06/23 AT 18:25:39; 1 SECONDS USED; END
```

Figure 51. History Log (AS/400)

If VM/MVS goes into retry mode, the message CPI8825 will appear. See Figure 52 and Figure 53 on page 42.

```
                        ADDITIONAL MESSAGE INFORMATION

MESSAGE ID . . . . . :   CPI8825       SEVERITY . . . . . :   00
MESSAGE TYPE . . . . . :   INFORMATION
DATE SENT  . . . . . :   94/06/23      TIME SENT  . . . . . :   18:20:38

MESSAGE . . . . :   STARTING RECOVERY FOR SNADS GATEWAY SENDER
  015769/QGATE/NJESHR90,  SERVING *RPDS DISTRIBUTION QUEUE NJESHR90
CAUSE . . . . . :   THE SNADS GATEWAY SENDER WAS UNABLE TO SEND DISTRIBUTION
  QUEUE ENTRIES DUE TO REASON CODE 12. THE REASON CODES AND THEIR MEANINGS
  FOLLOW:
   11 -- AN ERROR WAS REPORTED BY THE GATEWAY FUNCTION DURING INITIALIZATION
   12 -- AN ERROR WAS REPORTED BY THE GATEWAY FUNCTION WHILE PREPARING TO
  SEND
   13 -- AN ERROR WAS REPORTED BY THE GATEWAY FUNCTION WHILE SENDING A
  DISTRIBUTION
   27 -- DAMAGE WAS ENCOUNTERED WHILE PROCESSING A DISTRIBUTION. THE
  DISTRIBUTION WAS LOST

RECOVERY  . . . :   THE GATEWAY SENDER WILL WAIT 5 MINUTES (THE RETRY WAIT
  INTERVAL THAT WAS CONFIGURED FOR THIS QUEUE) BEFORE ATTEMPTING TO RESTART
  NORMAL PROCESSING. THIS IS FAILURE NUMBER 1. THE MAXIMUM NUMBER OF RETRIES
  CONFIGURED FOR THIS QUEUE IS 3.
   IF YOU WANT TO TAKE IMMEDIATE ACTION, THE REASON CODES AND THEIR RECOVERY
  ACTIONS FOLLOW:
   11, 12, AND 13 -- CHECK FOR PREVIOUSLY LISTED MESSAGES IN THE JOB LOG AND
  ANY OTHER ERROR MESSAGES THAT MIGHT BE SENT BY OTHER JOBS ASSOCIATED WITH
  THE GATEWAY FUNCTION. CORRECT THE ERRORS.
   27 -- NO RECOVERY ACTION IS POSSIBLE.
   FOR EACH RECOVERY ACTION, START THE GATEWAY SENDER AGAIN (SEND THE QUEUE
  (SNDDSTQ COMMAND OR OPTION 2 FROM THE WRKDSTQ DISPLAY)).

                                                                      BOTTOM
 PRESS ENTER TO CONTINUE.

 F3=EXIT   F6=PRINT   F11=DISPLAY MESSAGE DETAILS   F12=CANCEL
 F21=SELECT ASSISTANCE LEVEL
```

Figure 52. History Log (AS/400)

2.5.1.2 Terminating the VM/MVS Session

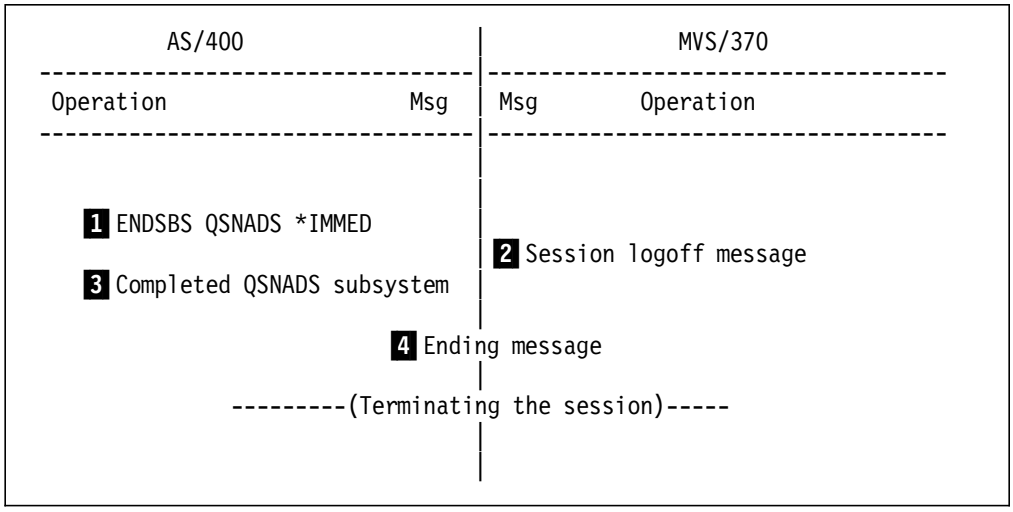

Figure 53. Terminating the Session

To terminate the session between the VM/MVS Bridge and the MVS/JES2, stop the QSNADS subsystem.

1 To stop the QSNADS subsystem, enter the ENDSBS command.

```
MAIN                              AS/400 MAIN MENU
                                                          SYSTEM:   S7801894
SELECT ONE OF THE FOLLOWING:


    1. USER TASKS
    2. OFFICE TASKS
    3. GENERAL SYSTEM TASKS
    4. FILES, LIBRARIES, AND FOLDERS
    5. PROGRAMMING
    6. COMMUNICATIONS
    7. DEFINE OR CHANGE THE SYSTEM
    8. PROBLEM HANDLING
    9. DISPLAY A MENU
   10. INFORMATION ASSISTANT OPTIONS
   11. PC SUPPORT TASKS

   90. SIGN OFF

 SELECTION OR COMMAND
 ===> ENDSBS QSNADS *IMMED

 F3=EXIT   F4=PROMPT   F9=RETRIEVE   F12=CANCEL   F13=INFORMATION ASSISTANT
 F23=SET INITIAL MENU
```

Figure 54. Stopping QSNADS Subsystem (AS/400)

2 The following messages appear on the MVS console:

```
   $HASP208 NSXIT SCHEDULED FOR LU0602   CLEANUP,00
   $HASP210 SESSION LU0602   LOGGED OFF LINE19
```

Figure 55. Stopping the Session Between VM/MVS Bridge and MVS/JES2 (Host)

3 Completed QSNADS subsystem.

The QSNADS subsystem ends and messages appear.

4 Ending message.

Entering the DSPLOG command, you can check the completion of the QSNADS subsystem.

```
                          DISPLAY HISTORY LOG CONTENTS


SUBSYSTEM QSNADS ENDING IN PROGRESS.
JOB 015840/QSNADS/QROUTER ENDED ON 94/06/24 AT 13:39:27; 1 SECONDS USED; END
JOB 015839/QSNADS/QZDSTART ENDED ON 94/06/24 AT 13:39:27; 1 SECONDS USED; EN
JOB 015843/QSNADS/S1030367 ENDED ON 94/06/24 AT 13:39:29; 1 SECONDS USED; EN
JOB 015842/QSNADS/S1024203 ENDED ON 94/06/24 AT 13:39:29; 1 SECONDS USED; EN
JOB 015844/QSNADS/S7827595 ENDED ON 94/06/24 AT 13:39:30; 1 SECONDS USED; EN
JOB 015847/QSNADS/QDIALOCAL ENDED ON 94/06/24 AT 13:39:31; 1 SECONDS USED; E
JOB 015846/QSNADS/QDIA ENDED ON 94/06/24 AT 13:39:31; 1 SECONDS USED; END CO
JOB 015845/QGATE/TOKVMSE1 ENDED ON 94/06/24 AT 13:39:31; 1 SECONDS USED; END
JOB 015850/QSNADS/QNFTP ENDED ON 94/06/24 AT 13:39:31; 1 SECONDS USED; END C
JOB 015841/QGATE/NJESHR90 ENDED ON 94/06/24 AT 13:39:32; 1 SECONDS USED; END
JOB 015853/QGATE/RCTOKVMSE1 ENDED ON 94/06/24 AT 13:39:33; 1 SECONDS USED; E
JOB 015854/QGATE/RCNJESHR90 ENDED ON 94/06/24 AT 13:39:33; 1 SECONDS USED; E
DEVICE SHRVM SESSION ENDED.
DEVICE NJESHR90 SESSION ENDED.
JOB 015848/QSNADS/QDIAINDUSR ENDED ON 94/06/24 AT 13:39:34; 1 SECONDS USED;
JOB 015849/QSNADS/QDIAHSTPRT ENDED ON 94/06/24 AT 13:39:35; 1 SECONDS USED;
JOB 015851/QGATE/LDTOKVMSE1 ENDED ON 94/06/24 AT 13:39:35; 1 SECONDS USED; E
JOB 015852/QGATE/LDNJESHR90 ENDED ON 94/06/24 AT 13:39:35; 1 SECONDS USED; E
JOB 015838/QSYS/QSNADS ENDED ON 94/06/24 AT 13:39:41; 2 SECONDS USED; END CO
SUBSYSTEM QSNADS ENDED.
```

Figure 56. History Log Contents (DSPLOG) Panel (AS/400)

2.5.2 Transmission Between AS/400 VM/MVS Bridge and the MVS/JES2

The following paragraphs provide actual operation samples of sending and receiving files, jobs, spooled files, and messages.

The following communication functions exist between the AS/400 VM/MVS Bridge and the MVS/JES2.

1. File Transfer Function
   - From AS/400 to MVS/JES2
   - From MVS/JES2 to AS/400
2. Job Transfer Function
   - From AS/400 to MVS/JES2
   - From MVS/JES2 to AS/400
3. Spooled File Transfer Function
   - From AS/400 to MVS/JES2
   - From MVS/JES2 to AS/400
4. Message Transfer Function
   - From AS/400 to MVS/JES2

2.5.3 Sending a File from the AS/400 to the MVS/JES2

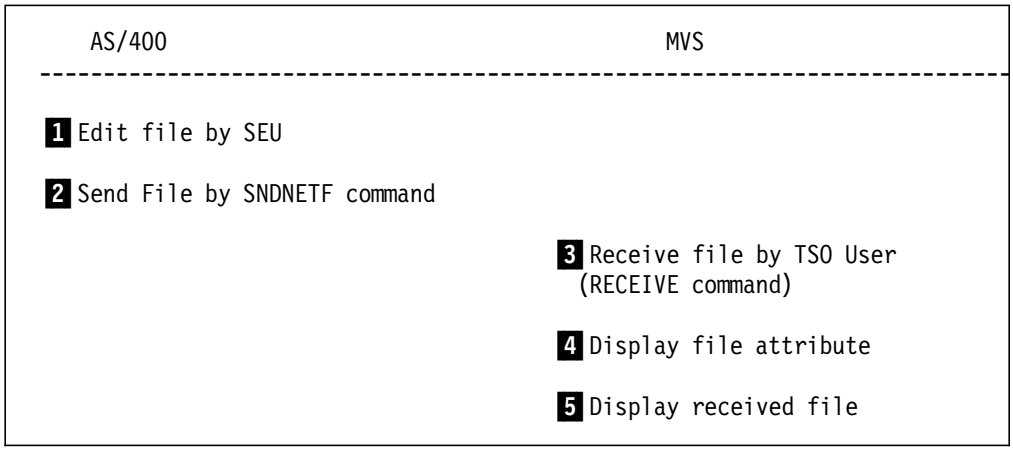

Figure 57. Sample Operation Sequence (File from AS/400 to MVS)

1 Edit file by SEU

In this example, a file to be sent is created by using SEU.

To start the SEU, type STRSEU QGPL/QCLSRC NJEBATCH and press Enter.

```
COLUMNS . . . :    1  71           EDIT                       QGPL/QCLSRC
SEU==>                                                          NJEBATCH
FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+..
       ********** BEGINNING OF DATA **********************************
0001.00 *** TEST DATA FROM AS/400 TO MVS/JES2 NJE #1 ***
0002.00 *** TEST DATA FROM AS/400 TO MVS/JES2 NJE #2 ***
0003.00 *** TEST DATA FROM AS/400 TO MVS/JES2 NJE #3 ***
       ********** END OF DATA ************************************
```

Figure 58. Editing the Source File Member to be Sent (AS/400)

A source member named NJEBATCH is created in the file QCLSRC in the library QGPL.

2 Send file by using SNDNETF command

To send the file, enter the SNDNETF (send network file) command.

```
MAIN                          AS/400 MAIN MENU
                                                        SYSTEM:   S7801894
SELECT ONE OF THE FOLLOWING:

    1. USER TASKS
    2. OFFICE TASKS
    3. GENERAL SYSTEM TASKS
    4. FILES, LIBRARIES, AND FOLDERS
    5. PROGRAMMING
    6. COMMUNICATIONS
    7. DEFINE OR CHANGE THE SYSTEM
    8. PROBLEM HANDLING
    9. DISPLAY A MENU
   10. INFORMATION ASSISTANT OPTIONS
   11. PC SUPPORT TASKS

   90. SIGN OFF

SELECTION OR COMMAND
===> SNDNETF

F3=EXIT   F4=PROMPT   F9=RETRIEVE   F12=CANCEL   F13=INFORMATION ASSISTANT
F23=SET INITIAL MENU
```

Figure 59. SNDNETF (Send Network File) Command (AS/400)

Enter the required information as shown in the following sample.

For example: send to user ID=S100388, send to node=NJESHR90, sending object (library name=QGPL, file name=QCLSRC, member name=NJEBATCH).

```
                        SEND NETWORK FILE (SNDNETF)

TYPE CHOICES, PRESS ENTER.

FILE . . . . . > QCLSRC        NAME
  LIBRARY  . . . . . >   QGPL        NAME, *LIBL, *CURLIB
USER ID:
  USER ID  . . . . . > S100388       CHARACTER VALUE
  ADDRESS  . . . . . > NJESHR90      CHARACTER VALUE
             + FOR MORE VALUES
MEMBER . . . . . > NJEBATCH      NAME, *FIRST

                          ADDITIONAL PARAMETERS

TO FILE TYPE . . . . . > *DATA         *FROMFILE, *DATA
SEND FORMAT  . . . . . > *F            *V, *F




                                                                      BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 60. Send Network File (SNDNETF) Panel (AS/400)

When sending file is successful, a message such as FILE QCLSRC IN QGPL MEMBER NJEBATCH SENT TO 1 USERS NOT SENT TO 0 USERS. appears in the bottom line of the screen.

3 Receive file by TSO user (RECEIVE command)

To receive the file sent from the AS/400 on the host, use the RECEIVE command of TSO. Please refer to Figure 61 You can see that the NJEBATCH.QCLSRC file is received.

By entering the other name, you can change the receiving file name. Figure 61 shows that the data set name is changed from NJEBATCH.QCLSRC to S10038.QCLSRC.NJEBATCH.

```
----------------------  TSO COMMAND PROCESSOR  -------------------------
ENTER TSO COMMAND, CLIST, OR REXX EXEC BELOW:

===> RECEIVE


Dataset NJEBATCH.QCLSRC from E10038 on S7801894
Enter restore parameters or 'DELETE' or 'END' +
DATASET(S100388.QCLSRC.NJEBATCH)

Restore successful to dataset 'S100388.QCLSRC.NJEBATCH'

No more files remain for the receive command to process.
***
```

Figure 61. Receiving the File Transferred from the AS/400 (MVS)

4 Display file attribute

To ensure you received the file, you can check the file attribute, for example, by entering 3.4 on the TSO menu.

```
---------------------- DATA SET INFORMATION --------------------------
COMMAND ===>


DATA SET NAME: S100388.QCLSRC.NJEBATCH

GENERAL DATA:                              CURRENT ALLOCATION:
 MANEGEMENT CLASS:           STANDARD       ALLOCATED BLOCKS:         1
 STORAGE CLASS:              USER           ALLOCATED EXTENTS:        1
    VOLUME:                  SHRUV4
    DEVICE TYPE:             3390
 DATA CLASSS:                             CURRENT UTILIZATION:
    ORGANIZATION:            PS             USED BLOCKS:              1
    RECORD FORMAT:           FB             USED EXTENTS:             1
    RECORD LENGTH:           80
    BLOCK SIZE:              32720
    1ST EXTENT BLOCKS:       1
    SECONDARY BLOCKS:        1
    DATA SET NAME TYPE:

    CREATION DATE:           1994/06/01
    EXPIRATION DATE:         ***NONE***
```

Figure 62. Displaying the File Attributes (MVS)

5 Display received file

To confirm the received file, you can display the contents of the file.

```
EDIT--- S100388.QCLSRC.NJEBATCH------------------------- COLUMNS 001 072
COMMAND===>                                              SCROLL ===> CSR
****** ***************************** TOP OF DATA ************************
000001 *** TEST DATA FROM AS/400 TO MVS/JES2 NJE #1 ***
000002 *** TEST DATA FROM AS/400 TO MVS/JES2 NJE #2 ***
000003 *** TEST DATA FROM AS/400 TO MVS/JES2 NJE #3 ***
****** **************************** BOTTOM OF DATA ***********************
```

Figure 63. Displaying the Received File (MVS)

2.5.4 Considerations on Sending Files from AS/400 to MVS/JES2

Following are several considerations on sending files from AS/400 to MVS/JES2.

- Types of files which can be sent from AS/400 are source files, physical files, and saved files.
- By specifying *F or *V in the FORMAT option of the SNDNETF command, and by specifying *DATA or *FROMFILE in the TOTYPE option in the command, the DCB (Data Control Block) record length and format will change unexpectedly when the file is received on S/370. Please refer to Figure 64 on page 48 which shows parameter combinations and results. We recommend combinations of parameters in the rows with “R” in the Remarks column in order to avoid unexpected results.

- A saved file which is received by the host system can be held for backup and can be sent to another AS/400.

	From AS/400			To S/370		
File Type	SNDNETF FORMAT	Options TOTYPE	Record Length (*1)	DCB LRECL	DCB RECFM	Remarks (*2)
Source File	(*F)	(*DATA)	92	80	FB	R
		(*FROMFILE)	92	92	FB	N
	(*V)	(*DATA)	92	84	VB	N
		(*FROMFILE)	92	96	VB	N
Physical File	(*F)	-	80	80	FB	R
	(*V)	-	80	84	VB	N
Save File	(*F)	-	528	528	FB	R
	(*V)	-	528	532	VB	N

Figure 64. Combinations of Parameters and the Results

Note:

(*1) The lengths used in our actual tests.
(*2) R=Recommended. N=Not recommended.

2.5.5 Sending a File from the MVS/JES2 to the AS/400

```
    AS/400                                          MVS
-------------------------------------------------------------------------

                                        1 Display attribute of sending
                                          file

                                        2 Display file contents

                                        3 Send file

 4 Create file to save received file

 5 Display network file by WRKNETF
   command

 6 Receive network file

 7 Display received file

 8 Copy to source file by CPYF
   command

 9 Display source file

 10 Receive to source file directly
```

Figure 65. Sample Operation Sequence (File from MVS to AS/400)

1 Display attribute of sending file

To ensure that the file was sent, you can display its attribute.

```
------------------------ DATASET INFORMATION -----------------------------
COMMAND   ===>

DATA SET NAME:       S100388.AS400.NJE

GENERAL DATA:                              CURRENT ALLOCATION
 MANEGEMENT CLASS:            STANDARD      ALLOCATED TRACKS:      18
 STORAGE CLASS:               USER          ALLOCATED EXTENTS:      2
    VOLUME:                   SHRUV4
    DEVICE TYPE:              3390
 DATA CLASS:
     ORGANIZATION             PO             CURRENT UTILIZATION
     RECORD FORMAT:           FB             USED TRACKS:           18
     RECORD LENGTH:           80             USED EXTENTS:           2
     BLOCK SIZE               8000           USED DIR. BLOCKS        5
     1ST EXTENT  TRACKS:      10             NUNMER OF MEMBERS      25
     SECONDARY   TRACKS:      86
     DATA SET NAME TYPE:      PDS

     CREATION DATE:           1994/05/12
     EXPIRATION DATAE         ***NONE***
```

Figure 66. Display Attribute of Sending File (MVS)

2 Display file contents

To ensure that the file was sent, you can display its contents.

```
EDIT--- S100388.AS400.NJE(DSPLIBX) - 01.00 --------------- COLUMNS 001 072
COMMAND===>                                                 SCROLL ===> CSR
****** ***************************** TOP OF DATA ************************
000001 *** TEST DATA FROM MVS/JES2 NJE TO AS/400 #1 ***
000002 *** TEST DATA FROM MVS/JES2 NJE TO AS/400 #2 ***
000003 *** TEST DATA FROM MVS/JES2 NJE TO AS/400 #3 ***
****** **************************** BOTTOM OF DATA ***********************
```

Figure 67. Displaying Sending File (MVS)

3 Send file

To transmit the member in the PDS file, use the TRANSMIT (XMIT) command.

```
-----------------  TSO COMMAND PROCESSOR  ----------------------------
ENTER TSO COMMAND,CLIST,OR REXX EXEC BELOW:

===> XMIT S7801894.E10038 DATASET(S100388.AS400.NJE) MEMBERS(DSPLIBX)
          SEQUENTIAL

0 message and 3 data records sent as 7 records to S7801894.E10038
Transmission occurred on 06/02/1994 at 15:10:54.
***


   E10038  FILE NJE MEMBER DSPLIBX NUMBER 26 RECEIVED FOR USER
   E10038 S7801894. CN(INTERNAL)
***
```

Figure 68. Transmitting the File from the Host to AS/400 (MVS)

4 Create file to save received file

Create a physical file on the AS/400 to save the received file, as shown in Figure 68.

```
      CRTPF FILE(KANEKO/NJE) RCDLEN(80) MAXMBRS(*NOMAX)
```

Figure 69. Creating the Physical File (AS/400)

5 Display network file by the WRKNETF command

To receive the file sent from the host system, enter the WRKNETF command on the AS/400.

```
      WRKNETF
```

Figure 70. WRKNETF (Work with Network File) Command (AS/400)

6 Receive network file

To receive the file that was transferred from the MVS, enter 1 at the leftmost column on the work with network files display.

```
                        WORK WITH NETWORK FILES                    S7801894
                                                                94/06/02  15:15:08
USER . . . . . . . . . . . . :   E10038
USER ID/ADDRESS  . . . . . . :   E10038    S7801894

TYPE OPTIONS, PRESS ENTER.
  1=RECEIVE NETWORK FILE   3=SUBMIT JOB   4=DELETE NETWORK FILE
  5=DISPLAY PHYSICAL FILE MEMBER

                              FILE   -------FROM-------  ----ARRIVAL----
OPT  FILE        MEMBER       NUMBER  USER ID   ADDRESS   DATE      TIME
 1   NJE         DSPLIBX          26  S100388   NJESHR90  94/06/02  15:11



                                                                      BOTTOM
PARAMETERS OR COMMAND
===>
F3=EXIT   F4=PROMPT   F5=REFRESH   F9=RETRIEVE   F11=DISPLAY TYPE/RECORDS
F12=CANCEL
```

Figure 71. Receiving the Network File (AS/400)

Specify the information of the file that was created at **4**, in order to include the file from the host system.

```
                        RECEIVE NETWORK FILE (RCVNETF)

TYPE CHOICES, PRESS ENTER.

FROM FILE  . . . . . . . . . . . > 'NJE'          CHARACTER VALUE
TO DATA BASE FILE  . . . . . . .   *FROMFILE     NAME, *FROMFILE
  LIBRARY  . . . . . . . . . . .     KANEKO      NAME, *LIBL, *CURLIB
MEMBER TO BE RECEIVED  . . . . . > 'DSPLIBX'     CHARACTER VALUE, *ONLY
TO MEMBER  . . . . . . . . . . .   *FROMMBR      NAME, *FROMMBR, *FIRST



                                                                    BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 72. Receiving the Network File (AS/400)

7 Display received file

You can check the received file by using the WRKOBJPDM command.

```
      WRKOBJPDM LIB(KANEKO) OBJ(NJE)
```

Figure 73. WRKOBJPDM Command (AS/400)

Enter 12 at the leftmost column of the line of the object.

```
                        WORK WITH OBJECTS USING PDM

LIBRARY . . . . .   KANEKO           POSITION TO . . . . . .
                                     POSITION TO TYPE  . . . . .

TYPE OPTIONS, PRESS ENTER.
  2=CHANGE       3=COPY        4=DELETE      5=DISPLAY      7=RENAME
  8=DISPLAY DESCRIPTION        9=SAVE        10=RESTORE     11=MOVE ...

OPT  OBJECT      TYPE        ATTRIBUTE   TEXT
     NJE         *OUTQ
12   NJE         *FILE       PF-DTA



                                                                  BOTTOM
PARAMETERS OR COMMAND
===>
F3=EXIT          F4=PROMPT            F5=REFRESH           F6=CREATE
F9=RETRIEVE      F10=COMMAND ENTRY    F23=MORE OPTIONS     F24=MORE KEYS
```

Figure 74. WRKOBJPDM Command Panel (AS/400)

Enter 5 at the leftmost column of the line of the member.

```
                        WORK WITH MEMBERS USING PDM

FILE  . . . . . .   NJE
  LIBRARY . . . .     KANEKO              POSITION TO  . . . . .

TYPE OPTIONS, PRESS ENTER.
  3=COPY    4=DELETE         5=DISPLAY   7=RENAME    8=DISPLAY DESCRIPTION
  9=SAVE    13=CHANGE TEXT   18=CHANGE USING DFU     25=FIND STRING

OPT  MEMBER      DATE        TEXT
5    DSPLIBX     94/06/02
     NJE         94/06/02



                                                                  BOTTOM
PARAMETERS OR COMMAND
===>
F3=EXIT          F4=PROMPT            F5=REFRESH           F6=CREATE
F9=RETRIEVE      F10=COMMAND ENTRY                         F24=MORE KEYS
```

Figure 75. Work with Members Using PDM Panel (AS/400)

Now you can see the contents of the file.

```
                        DISPLAY PHYSICAL FILE MEMBER
FILE . . . . . :   NJE                 LIBRARY  . . . . :   KANEKO
MEMBER . . . . . :   DSPLIBX           RECORD . . . . . :   1
CONTROL  . . . . .                     COLUMN . . . . . :   1
FIND . . . . . .
...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+..
*** TEST DATA FROM MVS/JES2 NJE TO AS/400 #1 ***
*** TEST DATA FROM MVS/JES2 NJE TO AS/400 #2 ***
*** TEST DATA FROM MVS/JES2 NJE TO AS/400 #3 ***
                          ****** END OF DATA ******



                                                                    BOTTOM
F3=EXIT   F12=CANCEL   F19=LEFT   F2O=RIGHT   F24=MORE KEYS
```

Figure 76. Display Physical File Member Panel (AS/400)

8 Copy to source file by CPYF command

If you want to use the file member as a source program, you must copy it to a source file by using the CPYF command, specifying *CVTSRC in the record format field mapping field to add 12 bytes to each record for control.

```
                              COPY FILE (CPYF)

TYPE CHOICES, PRESS ENTER.

FROM FILE  . . . . . . . . . . . > NJE         NAME
  LIBRARY  . . . . . . . . . . . >   KANEKO    NAME, *LIBL, *CURLIB
TO FILE  . . . . . . . . . . . . > QCLSRC      NAME, *PRINT
  LIBRARY  . . . . . . . . . . . >   KANEKO    NAME, *LIBL, *CURLIB
FROM MEMBER  . . . . . . . . . . > DSPLIBX     NAME, GENERIC*, *FIRST, *ALL
TO MEMBER OR LABEL . . . . . . . > DSPLIBX     NAME, *FIRST, *FROMMBR
REPLACE OR ADD RECORDS . . . . . > *ADD        *NONE, *ADD, *REPLACE
CREATE FILE  . . . . . . . . . .   *NO         *NO, *YES
PRINT FORMAT . . . . . . . . . .   *CHAR       *CHAR, *HEX

                            ADDITIONAL PARAMETERS

RECORD FORMAT FIELD MAPPING  . . > *CVTSRC     *NONE, *NOCHK, *CVTSRC...



                                                                    BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 77. Copy File Command Panel (AS/400)

9 Display source file

To check this member in the source file, use the STRSEU command.

```
      STRSEU KANEKO/QCLSRC DSPLIBX
```

Figure 78. STRSEU Command (AS/400)

```
COLUMNS . . . :    1  71          BROWSE                    KANEKO/QCLSRC
SEU==>                                                          DSPLIBX
FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+...
        ********** BEGINNING OF DATA ***********************************
0001.00 *** TEST DATA FROM MVS/JES2 NJE TO AS/400 #1 ***
0002.00 *** TEST DATA FROM MVS/JES2 NJE TO AS/400 #2 ***
0003.00 *** TEST DATA FROM MVS/JES2 NJE TO AS/400 #3 ***
        ****************** END OF DATA ************************************
```

Figure 79. Displaying the Source Member (AS/400)

10 Receive the source file directly

If you want to receive the network file into the source file directly instead of using the CPYF command **8**, you can enter the information of the source file as shown in Figure 80. The Receive Network File display will appear by selecting 1 on the WRKNETF display (see Figure 71 on page 51) or by entering the RCVNETF command on any command line.

```
                        RECEIVE NETWORK FILE (RCVNETF)

TYPE CHOICES, PRESS ENTER.

FROM FILE  . . . . . . . . . . . FROMFILE     > 'DSPLIBX'
TO DATA BASE FILE  . . . . . . . TOFILE       > QCLSRC
  LIBRARY  . . . . . . . . . . .              >   KANEKO
MEMBER TO BE RECEIVED  . . . . . FROMMBR      > 'QCLSRC'
TO MEMBER  . . . . . . . . . . . TOMBR        > DSPLIBX
```

Figure 80. Receive Network File Panel (AS/400)

2.5.5.1 Considerations on Sending Files from MVS/JES2 to AS/400

Following are several considerations on sending files from MVS/JES2 to AS/400.

1. PDS (Partitioned Dataset) file
   - You must specify SEQUENTIAL in the TRANSMIT (XMIT) command. Otherwise, you cannot use the files when they are received on the AS/400.
   - On the AS/400, you must create a file with the record length which is equal to or longer than the one of the host file, before it is received by the AS/400.
   - On the AS/400, you must have a file whose name equals the last name of the host file and has the same member name. For instance, if you send a file from the host to the AS/400 as follows:

     ```
     XMIT S7801894.E10038 DATASET(S100388.AS40.NJE)
          MEMBERS(DSPLIBX) SEQUENTAIL
     ```

     the file name on the AS/400 is NJE and the member DSPLIBX. Prior to this, you must create a file named NJE.
2. PS (Physical Sequential) file

- File names change as in the following example. If you transmit a file by entering:

  ```
  XMIT S7801894.E10038 DATASET(S100388.QCLSRC.DSPLIBX)
  ```

  then the file name and the member name will be DSPLIBX and QCLSRC on the AS/400. Prior to this, you must create the file DSPLIBX on the AS/400.

3. AS/400 source file
   - If you send a file to be included in a source file on the AS/400, the record length of the sending file must be 12 bytes shorter than the record length of the receiving file on the AS/400, because each record of AS/400 source file has 12 bytes for control.
   - To include the file in a source file on the AS/400, use the WRKNETF command specifying the library name, the source file name, and the member name.

2.5.6 Sending and Receiving a Saved File

This section explains a sample operation in which a saved file on the AS/400 is sent to the host system as its backup, then the file is returned to the AS/400. This operation can also be used to send a file from an AS/400 to another AS/400 via the host system.

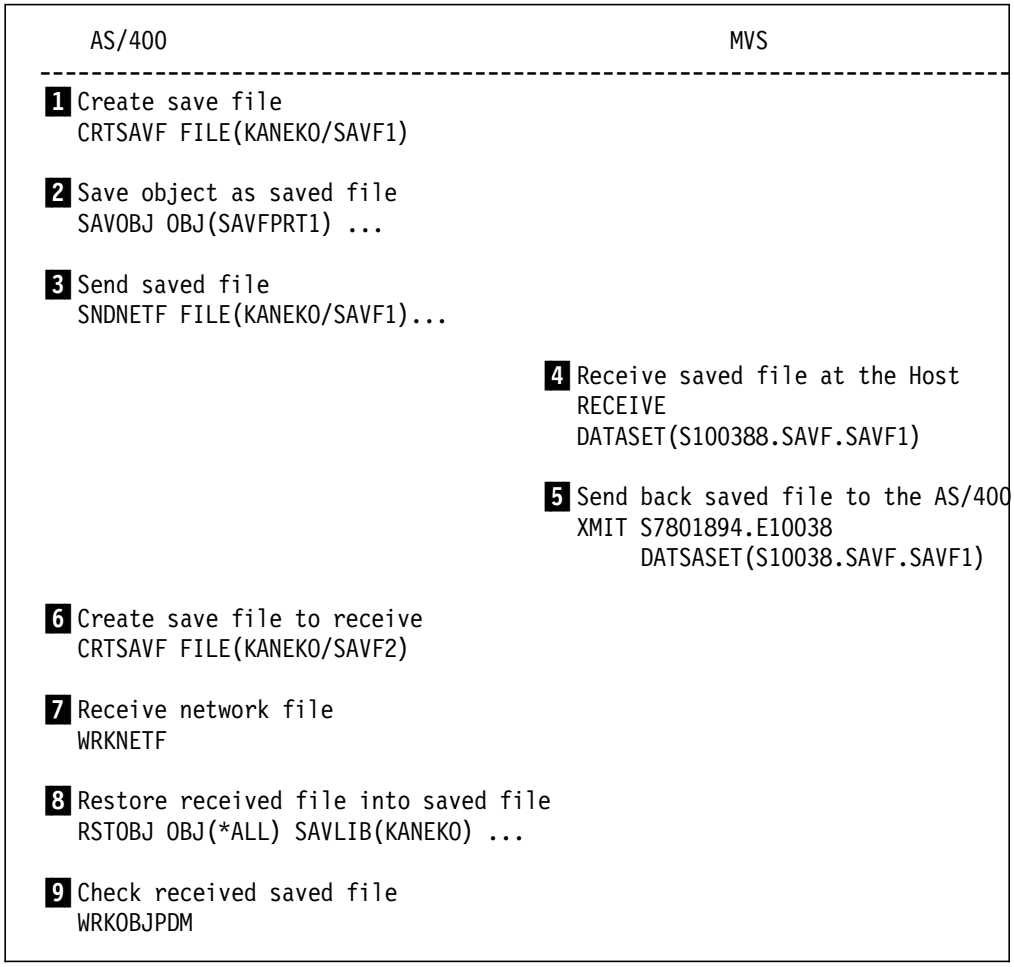

Figure 81. Sample Operation Sequence (Saved File from AS/400 via MVS/JES2 to AS/400)

1 Create saved file (AS/400)

Create a saved file to save object by using the CRTSAVF command.

```
CRTSAVF FILE(KANEKO/SAVF1) TEXT('SAVE FILE FOR VM/MVS BRIDGE TEST')
```

Figure 82. Sample CRTSAVF Command (AS/400)

2 Save object as saved file (AS/400)

Save object(s) that you intend to send.

```
SAVOBJ OBJ(SAVFPRT1) LIB(KANEKO) DEV(*SAVF) SAVF(KANEKO/SAVF1)
```

Figure 83. Sample SAVOBJ Command (AS/400)

```
                          SAVE OBJECT (SAVOBJ)

TYPE CHOICES, PRESS ENTER.

OBJECTS  . . . . . > SAVFPRT1      NAME, GENERIC*, *ALL
             + FOR MORE VALUES
LIBRARY  . . . . . > KANEKO        NAME
             + FOR MORE VALUES
DEVICE . . . . . > *SAVF         NAME, *SAVF
             + FOR MORE VALUES
OBJECT TYPES . . . . . *ALL          *ALL, *ALRTBL, *BNDDIR...
           + FOR MORE VALUES
SAVE FILE  . . . . . > SAVF1          NAME
  LIBRARY  . . . . . >   KANEKO      NAME, *LIBL, *CURLIB
UPDATE HISTORY . . . . . *YES          *YES, *NO


                                                                  BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 84. Save Object Panel (AS/400)

3 Send saved file

Enter the SNDNETF command then specify the saved file name and the user ID and node name that you want to send to. For example, Figure 85 shows that the saved file name is SAVF1, user ID S100388, and the node name is NJESHR90.

```
                      SEND NETWORK FILE (SNDNETF)

TYPE CHOICES, PRESS ENTER.

FILE . . . . . > SAVF1          NAME
  LIBRARY  . . . . . >   KANEKO      NAME, *LIBL, *CURLIB
USER ID:
  USER ID  . . . . . > S100388       CHARACTER VALUE
  ADDRESS  . . . . . > NJESHR90      CHARACTER VALUE
             + FOR MORE VALUES
MEMBER . . . . . *FIRST        NAME, *FIRST
```

Figure 85. Send Network File Panel (AS/400)

You can also type this command directly in any command line as follows:

```
SNDNETF FILE(KANEKO/SAVF1) TOUSRID((S100388 NJESHR90))
```

Figure 86. Sample SENDNTF Command (AS/400)

4 Receive saved file at the host system

On the host system, use the RECEIVE command of TSO to receive the file sent from the AS/400. Enter RECEIVE on the TSO screen specifying the data set name to be received.

```
------------------  TSO COMMAND PROCESSOR -----------------------
 ENTER TSO COMMAND, CLIST, OR REXX EXEC BELOW:

===> RECEIVE

Dataset SAVF.SAVF1 from E10038 on S7801894
Enter restore parameters or 'DELETE' or 'END' +


DATASET(S100388.SAVF.SAVF1)


Restore successful to dataset 'S100388.SAVF.SAVF1'

No more files remain for the receive command to process.
***
```

Figure 87. Receiving the Network File (Host)

Figure 88 shows the information of the received data set.

```
----------------------- DATA SET INFORMATION --------------------------
 COMMAND ===>

 DATA SET NAME: S100388.SAVF.SAVF1

 GENERAL DATA:                              CURRENT ALLOCATION
   MANAGEMENT CLASS           STANDARD      ALLOCATED BLOCKS:       1
   STORAGE CLASS:             USER          ALLOCATED EXTENTS:      1
      VOLUME:                 SHRUV1
      DEVICE TYPE             3390
   DATA CLASS:                          CURRENT UTILIZATION:
      ORGANIZATION            PS            USED BLOCKS:            1
      RECORD FORMAT:          VB            USED EXTENTS:           1
      RECORD LENGTH:          532
      BLOCK SIZE:             32760
      1ST EXTENT BLOCKS:      1
      SECONDARY BLOCLS:       3
      DATA SET NAME TYPE:

      CREATION DATE:          1994/06/02
      EXPIRATION DATA:        ***NONE***
```

Figure 88. Displaying the Data Set Information (MVS)

5 Send back saved file to the AS/400

You can send the saved file back to the AS/400 by using the TRANSMIT (XMIT) command of TSO. To do this, you must specify the data set name and the node name and user ID where you are going to send to.

When the file is transferred, a message appears on the display.

```
------------------  TSO COMMAND PROCESSOR -----------------------
ENTER TSO COMMAND, CLIST, OR REXX EXEC BELOW:


===> XMIT S7801894.E10038 DATASET(S100388.SAVF.SAVF1)


0 message and 62 data records sent as 417 records to S7801894.E10038
Transmission occurred on 06/02/1994 at 17:01:21.
***


               E10038  FILE SAVF1 MEMBER SAVF NUMBER 34 RECEIVED FOR USER
 E10038 S7801894. CN(INTERNAL)
 ***
```

Figure 89. Transmitting the Data Set (MVS)

6 Create a save file to include the sent file(s), by using the CRTSAVF command.

```
                          CREATE SAVE FILE (CRTSAVF)

TYPE CHOICES, PRESS ENTER.

SAVE FILE  . . . . . . . . . . . > SAVF2         NAME
  LIBRARY  . . . . . . . . . . . >   KANEKO      NAME, *CURLIB
TEXT 'DESCRIPTION' . . . . . . . > 'NJE TEST FOR RECEIVING SAVED FILE
```

Figure 90. Create Save File Panel (AS/400)

You can also type this command directly in any command line as follows:

```
CRTSAVF FILE(KANEKO/SAVF2) TEXT('NJE TEST FOR RECEIVING SAVED FILE')
```

Before receiving the file sent from the host system, display the network file by using the WRKNETF command. To receive the file, enter 1 in the leftmost field of the receiving file.

```
                        WORK WITH NETWORK FILES                    S7801894
                                                                94/06/02  17:03:13
USER . . . . . . . . . . . . :   E10038
USER ID/ADDRESS  . . . . . . :   E10038    S7801894

TYPE OPTIONS, PRESS ENTER.
  1=RECEIVE NETWORK FILE   3=SUBMIT JOB   4=DELETE NETWORK FILE
  5=DISPLAY PHYSICAL FILE MEMBER

                               FILE   -------FROM-------  ----ARRIVAL----
OPT  FILE        MEMBER       NUMBER  USER ID   ADDRESS   DATE      TIME
 1   SAVF1       SAVF             34  S100388   NJESHR90  94/06/02  17:02



                                                                      BOTTOM
PARAMETERS OR COMMAND
===>
F3=EXIT   F4=PROMPT   F5=REFRESH   F9=RETRIEVE   F11=DISPLAY TYPE/RECORDS
F12=CANCEL
```

Figure 91. Work with Network Files Panel (AS/400)

7 Receiving network file

Receive the network file into the save file created in the previous operation **6**. Specify the save file name, for example, SAVF2.

```
                        RECEIVE NETWORK FILE (RCVNETF)

TYPE CHOICES, PRESS ENTER.

FROM FILE  . . . . . . . . . . . > 'SAVF1'       CHARACTER VALUE
TO DATA BASE FILE  . . . . . .   SAVF2          NAME, *FROMFILE
  LIBRARY  . . . . . . . . . .     KANEKO       NAME, *LIBL, *CURLIB
MEMBER TO BE RECEIVED  . . . . > 'SAVF'          CHARACTER VALUE, *ONLY
TO MEMBER  . . . . . . . . . .   *FROMMBR       NAME, *FROMMBR, *FIRST




                                                                      BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 92. Receive Network File Panel (AS/400)

To restore the objects from the save file, use the RSTOBJ command as follows:

```
RSTOBJ OBJ(*ALL) SAVLIB(KANEKO) DEV(*SAVF) SAVF(KANEKO/SAVF2)
```

```
                          RESTORE OBJECT (RSTOBJ)

TYPE CHOICES, PRESS ENTER.

OBJECTS  . . . . . . . . . . . . > *ALL          NAME, GENERIC*, *ALL
             + FOR MORE VALUES
SAVED LIBRARY  . . . . . . . . . > KANEKO        NAME
DEVICE . . . . . . . . . . . . . > *SAVF         NAME, *SAVF
             + FOR MORE VALUES
OBJECT TYPES . . . . . . . . . .   *ALL          *ALL, *ALRTBL, *BNDDIR...
             + FOR MORE VALUES
SAVE FILE  . . . . . . . . . . . > SAVF2         NAME
  LIBRARY  . . . . . . . . . . . >   KANEKO     NAME, *LIBL, *CURLIB



                                                                      BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 93. Restore Object Panel (AS/400)

To ensure that the object is restored, use the WRKOBJPDM command.

```
WRKOBJPDM LIB(KANEKO) OBJ(SAVFPRT1) OBJTYPE(*PGM)
```

Then enter 12 in the leftmost field of the object to display the member.

```
                        WORK WITH OBJECTS USING PDM

LIBRARY . . . . .   KANEKO           POSITION TO . . . . . . . .
                                     POSITION TO TYPE  . . . . .

TYPE OPTIONS, PRESS ENTER.
  2=CHANGE       3=COPY        4=DELETE      5=DISPLAY      7=RENAME
  8=DISPLAY DESCRIPTION        9=SAVE        10=RESTORE     11=MOVE ...

OPT  OBJECT      TYPE        ATTRIBUTE   TEXT
12   SAVFPRT1    *PGM        RPG         SAVE FILE PRINT PROGRAM




                                                                    BOTTOM
PARAMETERS OR COMMAND
===>
F3=EXIT          F4=PROMPT            F5=REFRESH           F6=CREATE
F9=RETRIEVE      F10=COMMAND ENTRY    F23=MORE OPTIONS     F24=MORE KEYS
```

Figure 94. Work with Objects Using PDM Panel (AS/400)

To display the object, enter 5 in the leftmost column of the line of the object.

```
                              WORK WITH PROGRAMS

TYPE OPTIONS, PRESS ENTER.
  1=CREATE   2=CHANGE   4=DELETE   5=DISPLAY   8=DISPLAY PROGRAM REFERENCES
  9=CALL

OPT  PROGRAM     LIBRARY     ATTRIBUTE   TEXT

 5   SAVFPRT1    KANEKO      RPG         SAVE FILE PRINT PROGRAM
```

Figure 95. Work with Programs Panel (AS/400)

Now, you can check that the saved file from the host system has been restored.

```
                          DISPLAY PROGRAM INFORMATION

PROGRAM  . . . . . :   SAVFPRT1      LIBRARY  . . . . . :   KANEKO
OWNER  . . . . . . :   E10038
PROGRAM ATTRIBUTE  . . :   RPG

PROGRAM CREATION INFORMATION:
  PROGRAM CREATION DATE/TIME . . . . . : 94/06/02  11:14:34
  TYPE OF PROGRAM  . . . . . . . . . . . . . . . . . : OPM
  SOURCE FILE  . . . . . . . . . . . . . . . . . . . : QRPGSRC
    LIBRARY  . . . . . . . . . . . . . . . . . . . . :   KANEKO
  SOURCE MEMBER  . . . . . . . . . . . . . . . . . . : SAVFPRT1
  SOURCE FILE CHANGE DATE/TIME . . . . . . . . . . . : 94/04/21  17:05:34
  OBSERVABLE INFORMATION . . . . . . . . . . . . . . : *ALL
  USER PROFILE . . . . . . . . . . . . . . . . . . . : *USER
  USE ADOPTED AUTHORITY  . . . . . . . . . . . . . . : *YES
  FIX DECIMAL DATA . . . . . . . . . . . . . . . . . : *NO
  TEXT DESCRIPTION . . . . . . . . . . . . . . . . . : SAVE FILE PRINT PROGRAM

                                                                      MORE...
PRESS ENTER TO CONTINUE.

F3=EXIT   F12=CANCEL
```

Figure 96. Display Program Information Panel (AS/400)

2.5.7 Sending a Network Job from the AS/400 to the MVS/JES2

Jobs can be transmitted between the AS/400 VM/MVS Bridge and the MVS/JES2 NJE. This subsection describes a sample operation of the job transmission between the systems.

The submit network job (SBMNETJOB) command is used to send a physical file member as an input stream to the remote MVS host. The host system restricts JCL (Job Control Language) to the record length of 80 bytes. When you send an input stream to the remote host, the host will control how the input stream is processed.

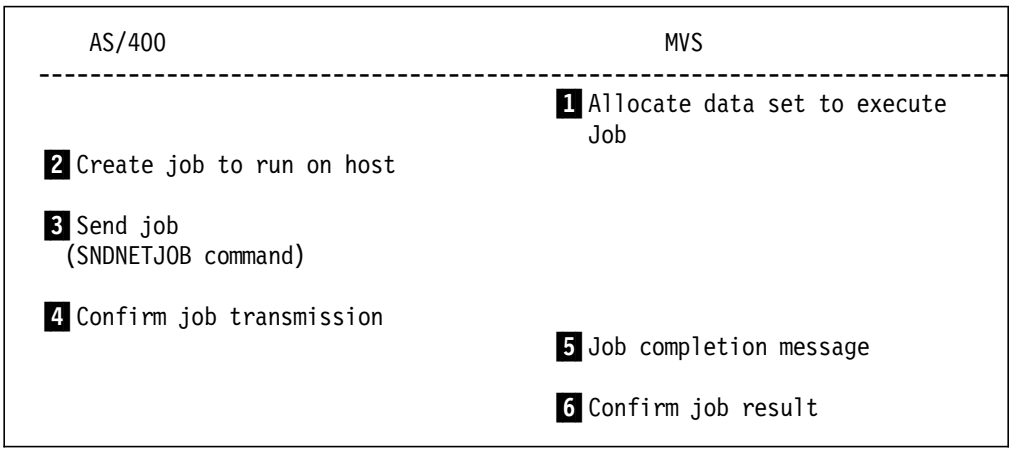

Figure 97. Sample Operation Sequence (Network Job from AS/400 to MVS)

1 Allocate data set to execute job

Before the job execution, a data set is allocated on the host system as the specification of this sample job.

```
----------------------- ALLOCATE NEW DATA SET -----------------------
COMMAND ===> A

DATA SET NAME: S100388.AS400.OUT

  VOLUME SERIAL        ===> SHRUV4   (BLOCK FOR AUTORIZED DEFALULT VOLUME*
  GENERIC UNIT         ===>          (GENERIC GROUP NAME OR UNIT ADDRESS)*
  SPACE UNIT           ===> TRACK    (BLKS,TRKS, OR CYLS)
  PRIMARY QUANTITY     ===> 10       (IN ABOVE UNITS)
  SECONDARY QUANTITY   ===> 86       (IN ABOVE UNITS)
  DIRECTORY BLOCKS     ===> 0        (ZERO FOR SEQUENTIAL DATA SET)   ”
  RECORD FORMAT        ===> FB
  RECORD LENGTH        ===> 80
  BLOCK SIZE           ===> 8000
  EXPIRATION DATE      ===>          (YY/MM/DD, YYYY/MM/DD
                                      YY.DDD, YYYY.DDD IN JULIAN FORM
                                      DDDD FOR RETENTION PERIOD IN DAYS
                                      OR BLANK)

  ( * ONLY ONE OF THESE FIELDS MAY BE SPECIFIED)
```

Figure 98. Allocating the New Data Set (MVS)

2 Create job runs on host

To create a JCL stream to execute on the MVS/ESA system, you can use the STRSEU command as follows:

```
     STRSEU SRCFILE(KANEKO/QCLSRC) SRCMBR(NJEBATCH1)
```

Figure 99. Sample STRSEU Command (AS/400)

Figure 100 on page 64 shows a sample JCL (Job Control Language) stream, which will execute the IEBGENER utility on the host system and will copy the records in the stream to the data set.

```
COLUMNS . . . :    1  71           EDIT                      KANEKO/QCLSRC
SEU==>                                                          NJEBATCH1
FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+...
      ********** BEGINNING OF DATA ***********************************
001.00 //S100388 JOB MSGLEVEL=1,CLASS=A,MSGCLASS=H
002.00 //STEP1   EXEC PGM=IEBGENER
003.00 //SYSUT1    DD *
004.00   TEST  DATA1 FROM AS/400 TO MVS/NJE
005.00   TEST  DATA2 FROM AS/400 TO MVS/NJE
006.00   TEST  DATA3 FROM AS/400 TO MVS/NJE
007.00   TEST  DATA4 FROM AS/400 TO MVS/NJE
008.00   TEST  DATA5 FROM AS/400 TO MVS/NJE
009.00   TEST  DATA6 FROM AS/400 TO MVS/NJE
010.00   TEST  DATA7 FROM AS/400 TO MVS/NJE
011.00 /*
012.00 //SYSUT2  DD DSN=S100388.AS400.OUT,DISP=OLD  /* IF ADD DISP=MOD
013.00 //OUTPRT  OUTPUT DEST=NJESHR90,FORMS=STANDATD,CLASS=U
014.00 //SYSPRINT  DD SYSOUT=(,),OUTPUT=*.OUTPRT
015.00 //SYSIN     DD DUMMY
016.00 /*

F3=EXIT   F4=PROMPT   F5=REFRESH   F9=RETRIEVE   F10=CURSOR
F16=REPEAT FIND       F17=REPEAT CHANGE          F24=MORE KEYS
```

Figure 100. Creating Job Stream (AS/400)

3 Send job

To send this JCL stream to the host system, use the SBMNETJOB (submit network job) command. Enter SBMNETJOB and specify the required parameters. In this example, the user ID (S100388), the node name (NJESHR90), and the JCL stream (member=NJEBATCH1, file name=QCLSRC) are specified.

```
                      SUBMIT NETWORK JOB (SBMNETJOB)

TYPE CHOICES, PRESS ENTER.

FILE . . . . . . . . . . . . . . > QCLSRC        NAME
  LIBRARY  . . . . . . . . . . . >   KANEKO      NAME, *LIBL, *CURLIB
USER ID:
  USER ID  . . . . . . . . . . . > S100388       CHARACTER VALUE
  ADDRESS  . . . . . . . . . . . > NJESHR90      CHARACTER VALUE
             + FOR MORE VALUES
MEMBER . . . . . . . . . . . . . > NJEBATCH1     NAME, *FIRST


                                                                    BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 101. Submitting Network Job (AS/400)

You can also enter the SBMNETJOB command directly in any command line as shown in Figure 102 on page 65.

```
SBMNETJOB FILE(KANEKO/QCLSRC) TOUSRID((S100388 NJESHR90)) MBR(NJEBATCH1)
```

Figure 102. Sample SBMNETJOB Command (AS/400)

4 Confirm job transmission

If the job is received and is executed successfully by the host, the AS/400 user receives a job completion message as shown in Figure 104. To display the message, use the DSPMSG (display message) command as follows:

```
DSPMSG  E10038
```

Figure 103. Sample DSPMSG Command (AS/400)

```
                              DISPLAY MESSAGES
                                                    SYSTEM:   S7801894
QUEUE . . . . . :   E10038                 PROGRAM . . . . :   *DSPMSG
LIBRARY . . . :     QUSRSYS                LIBRARY . . . :
SEVERITY  . . . :   00                     DELIVERY  . . . :   *NOTIFY

FROM  . . . :   SYSTEM   NJESHR90     94/06/02   18:35:49
  JOB00452 ¥HASP122 S100388  (JOB00001 FROM S7801894) RECEIVED AT NJESHR90
FROM  . . . :   SYSTEM   NJESHR90     94/06/02   18:35:51
JOB00452 ¥HASP165 S100388  (JOB00001 FROM S7801894) ENDED AT NJESHR90
SPOOLED FILE JES2 RECEIVED AND PLACED ON OUTPUT QUEUE VMMVS IN LIBRARY
  E10038.
SPOOLED FILE JES2 RECEIVED FOR USER E10038 S7801894.
SPOOLED FILE JES2 RECEIVED AND PLACED ON OUTPUT QUEUE VMMVS IN LIBRARY
  E10038.
SPOOLED FILE JES2 RECEIVED FOR USER E10038 S7801894.
SPOOLED FILE JES2 RECEIVED AND PLACED ON OUTPUT QUEUE VMMVS IN LIBRARY
  E10038.


                                                                  BOTTOM
F3=EXIT             F11=REMOVE A MESSAGE                 F12=CANCEL
F13=REMOVE ALL      F16=REMOVE ALL EXCEPT UNANSWERED     F24=MORE KEYS
```

Figure 104. Job Completion Message (AS/400)

If the job submission or execution is unsuccessful, the user will receive a message to that effect.

5 Job completion message

When the job starts and ends, the messages appear on the MVS console. Figure 105 on page 66 shows that job S100388 started and ended.

```
¥HASP100 S100388  ON L19.JR1             FROM E10038   AT S7801894
¥HASP373 S100388  STARTED - INIT  1 - CLASS A - SYS IPO1
IEF403I S100388 - STARTED - TIME=18.36.06
-                                              --TIMINGS (MINS.)--
        ----PAGING COUNTS---
-JOBNAME  STEPNAME PROCSTEP    RC   EXCP   CONN    TCB    SRB  CLOCK
SERV  PG  PAGE  SWAP   VIO SWAPS
-S100388  STEP1                00     17     45    .00    .00     .0
873   1     0     0     0     0
IEF404I S100388 - ENDED - TIME=18.36.07
-S100388  ENDED.  NAME-                     TOTAL TCB CPU TIME=   .00
TOTAL ELAPSED TIME=    .0
¥HASP395 S100388  ENDED
¥HASP309    INIT  1 INACTIVE ******** C=A
¥HASP530 S100388  ON L19.ST1           38 RECORDS
¥HASP534 L19.ST1  INACTIVE
```

Figure 105. MVS Console Panel (MVS)

6 Confirm job result

Figure 106 is the TSO display which shows the data set copied as the result of the job execution.

```
BROWSE -- S100388.AS400.OUT ---------------------- LINE 00000000 COL 001 080
COMMAND===>                                          SCROLL===> PAGE
****************************** TOP OF DATA  ******************************
 TEST  DATA1 FROM AS/400 TO MVS/NJE
 TEST  DATA2 FROM AS/400 TO MVS/NJE
 TEST  DATA3 FROM AS/400 TO MVS/NJE
 TEST  DATA4 FROM AS/400 TO MVS/NJE
 TEST  DATA5 FROM AS/400 TO MVS/NJE
 TEST  DATA6 FROM AS/400 TO MVS/NJE
 TEST  DATA7 FROM AS/400 TO MVS/NJE
****************************** BOTTOM OF DATA ****************************
```

Figure 106. Browsing the Data Set (MVS)

2.5.8 Preparing to Send a Network Job from MVS/JES2 to the AS/400

The receipt of the input stream on the AS/400 is controlled by the change network attribute (CHGNETA) command and by the job table through the add network job entry (ADDNETJOBE) command. If a job stream is sent from the MVS host to the AS/400 system, it can be handled in several ways depending on the option specified for the network job action (JOBACN) parameter on the network attributes (DSPNETA) command and the network job entries defined using the ADDNETJOBE command.

Network Attribute

You have to specify *SEARCH for the JOBACN parameter in the network attributes (CHGNETA) command to execute the job that is sent from the host system. In our case, *SEARCH was specified for the JOBACN parameter of the network attribute (CHGNETA) command. You can specify the action taken for input streams received through the SNADS network by the system. Please refer to 2.3.2.2, “Setting Up JOB Actions” on page 20. *SEARCH was specified when our system was set up. This value was set by using following command:

```
CHGNETA JOBACN(*SEARCH)
```

Figure 107. Sample CHGNETA Command (AS/400)

Network Job Action To specify a network job action use the ADDNETJOBE command. You can specify the following type of action for the ACTION parameter. Specify *SUBMIT for the ACTION parameter of the ADDNETJOBE command to submit the received job.

***REJECT** The INPUT STREAM is rejected by the system. This action allows you to secure your system from any job stream received through the network.

***FILE** The INPUT STREAM is filed in the queue of network files received by the user to whom it was sent. That user can then VIEW, END, RECEIVE, or SUBMIT the input stream to a job queue.

***SEARCH** The table of network job entries is searched to determine the action taken for the input stream.

***SUBMIT** The input stream is submitted to a batch job queue. The user profile specified in the network job entry is used to check for the required authority to the job queue.

Please use the ADDNETJOBE command to add job action. Then enter the required values. In this case, user ID (S100388), node name (NJESHR90), user profile (E10038) and action (*SUBMIT) were specified.

```
                      ADD NETWORK JOB ENTRY (ADDNETJOBE)

TYPE CHOICES, PRESS ENTER.

USER ID:
  USER ID  . . . . . . . . . . . > 'S100388'     CHARACTER VALUE
  USER ID QUALIFIER  . . . . . . > 'NJESHR90'    CHARACTER VALUE
NETWORK JOB ACTION . . . . . . .   *SUBMIT       *FILE, *REJECT, *SUBMIT
USER PROFILE . . . . . . . . . .   E10038        NAME
MESSAGE QUEUE  . . . . . . . . .   *USRPRF       NAME, *USRPRF, *NONE
  LIBRARY  . . . . . . . . . . .                 NAME, *LIBL, *CURLIB
JOB QUEUE  . . . . . . . . . . .   QBATCH        NAME
  LIBRARY  . . . . . . . . . . .     *LIBL       NAME, *LIBL, *CURLIB



                                                                    BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F12=CANCEL   F13=HOW TO USE THIS DISPLAY
F24=MORE KEYS
```

Figure 108. Add Network Job Entry Panel (AS/400)

You can also use the ADDNETJOBE command directly in any command line as follows:

```
ADDNETJOBE FROMUSRID(S100388 NJESHR90) ACTION(*SUBMIT) SBMUSER(E10038)
```

Figure 109. Sample ADDNETJOBA Command (AS/400)

You can check the specified value by using the WRKNETJOBE command. You can see the job action is specified as *SUBMIT.

```
                      WORK WITH NETWORK JOB ENTRIES
                                                    SYSTEM:   S7801894
NETWORK JOB ACTION . . . . . . . :   *SEARCH
POSITION TO  . . . . . . . . . . .                  USER ID/ADDRESS
TYPE OPTIONS, PRESS ENTER.
  1=ADD NETWORK JOB ENTRY   2=CHANGE NETWORK JOB ENTRY
  4=REMOVE NETWORK JOB ENTRY
OPT  USER ID   ADDRESS   ACTION   USER        ----MESSAGE QUEUE-----
     S100388   NJESHR90
     S100388   NJESHR90  *SUBMIT  E10038      *USRPRF




                                                                BOTTOM
PARAMETERS OR COMMAND
===>
F3=EXIT   F4=PROMPT   F5=REFRESH   F9=RETRIEVE   F11=DISPLAY JOB QUEUE
F12=CANCEL
```

Figure 110. Work with Network Job Entries Panel (AS/400)

2.5.9 Sending a Network Job from the MVS/JES2 to the AS/400

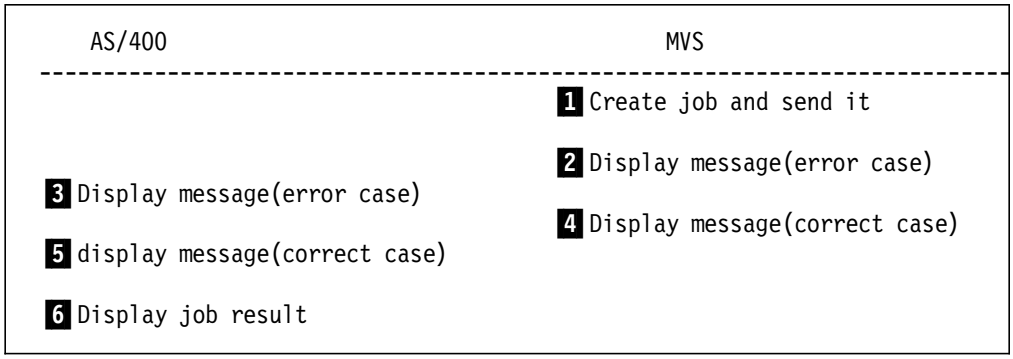

Figure 111. Sample Operation Sequence (Network Job from MVS to AS/400)

1 Create job and send it

Figure 112 on page 69 shows the example of an input stream consisting of CL (Control Language) statements which can be sent to the AS/400. The function of this input stream is to print out the contents of the library KANEKO. Using /*XMIT statement in a JCL stream, you can send a job to the AS/400. Specify the node ID and user ID that you want to send to. In this case, the node ID is S7801894 and the user ID is E10038. DLM= is used to delimit the input stream.

After you create the job stream, you can submit it to the MVS/ESA. Enter SUB at the command line of the EDIT screen of TSO.

```
EDIT ---- S100388.AS400.JCL(NJEAS400) - 01.02 -------------- COLUMNS 001 072
COMMAND===> SUB                                          SCROLL ===> CSR
****** **************************** TOP OF DATA ************************
==MSG> -CAUTION- PROFILE CHANGED TO "NUMBER OFF" (FROM "NUMBER ON STD").
==MSG>        DATA DOES NOT HAVE VALID STANDARD NUMBERS.
000001 //S100388 JOB MSGLEVEL=1,CLASS=A,MSGCLASS=A
000002 /*XMIT S7801894.E10038  DLM=AA
000003 //BCHJOB JOB(SAMPLE) JOBD(*LIBL/QBATCH)
000004  DSPLIB LIB(KANEKO) OUTPUT(*PRINT)
000005 //ENDBCHJOB
000006 AA
****** **************************** BOTTOM OF DATA ************************


 ENTER JOBNAME CHARACTER(S) -
A

 JOB S100388A(JOB02703) SUBMITTED
 ***
```

Figure 112. Submit the Network Job (MVS)

2 Display message (error case)

If required information is not registered by the ADDNETJOBE command as described in 2.5.8, “Preparing to Send a Network Job from MVS/JES2 to the AS/400” on page 66, the following error message will appear on the TSO screen:

```
E10038  INPUT STREAM FILE S100388A MEMBER S100388 FOR USER
E10038 S7801894 REJECT CN(INTERNAL)
                E10038  D. CN(INTERNAL) ***
```

Figure 113. Error Message on the TSO Panel (MVS)

3 Display message (error case)

Also on the AS/400, the following error message will be sent to the QSYSOPR message queue:

```
INPUT STREAM FILE S100388A MEMBER S100388 FROM USER S100388 NJESHR90 REJECT
                        ADDITIONAL MESSAGE INFORMATION

MESSAGE ID . . . . . :   CPI8055       SEVERITY . . . . . :  00
MESSAGE TYPE . . . . . :   INFORMATION
DATE SENT  . . . . . :   94/06/02      TIME SENT  . . . . . :  19:18:44

MESSAGE . . . . : INPUT STREAM FILE S100388A MEMBER S100388 FROM USER
  S100388 NJESHR90 REJECTED.
CAUSE . . . . . : THE INPUT STREAM THAT WAS SENT BY USER S100388 NJESHR90 TO
 USER E10038 S7801894 AT 94/06/02 19:18:42 WAS RECEIVED AT 94/06/02 19:18:43.
  THE INPUT STREAM WAS REJECTED BECAUSE EITHER THE NETWORK CHARACTERISTIC FOR
  JOBACN IS *REJECT OR THE NETWORK JOB ENTRY FOR S100388 NJESHR90 SPECIFIES
  *REJECT OR NO NETWORK JOB ENTRY WAS FOUND FOR S100388 NJESHR90.
RECOVERY  . . . : CORRECT THE CONDITION THAT CAUSED THE INPUT STREAM TO BE
  REJECTED.  THEN ASK USER S100388 NJESHR90 TO SEND THE INPUT STREAM AGAIN.
```

Figure 114. Error Message in the QSYSOPR (AS/400)

4 Display message (correct case)

If the required information such as ACTION(*SUBMIT) was registered by the ADDNETJOBE command, the following message will appear on the TSO screen.

```
 ENTER JOBNAME CHARACTER(S) -
A
 JOB S100388A(JOB02704) SUBMITTED
 ***

           E10038  INPUT STREAM FILE S100388A MEMBER S100388 RECEIVED
           FOR USER E10038 S78018 CN(INTERNAL)
           E10038  4.  1 JOBS SUBMITTED.  0 JOBS NOT SUBMITTED.
          CN(INTERNAL) ***
```

Figure 115. Message on the TSO Panel (MVS)

5 Display message (correct case)

You can use the DSPLOG command to confirm the job execution.

```
                              DISPLAY LOG (DSPLOG)

 TYPE CHOICES, PRESS ENTER.

 LOG  . . . . . .   QHST          QHST
 TIME PERIOD FOR LOG OUTPUT:
   START TIME AND DATE:
   BEGINNING TIME . . . . . > 192000        TIME, *AVAIL
   BEGINNING DATE . . . . . .   *CURRENT     DATE, *CURRENT, *BEGIN
   END TIME AND DATE:
   ENDING TIME  . . . . . .   *AVAIL        TIME, *AVAIL
   ENDING DATE  . . . . . .   *CURRENT      DATE, *CURRENT, *END
 OUTPUT . . . . . .   *            *, *PRINT

                                                                    BOTTOM
 F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
 F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 116. Display Log Command Panel (AS/400)

The following message shows that the job stream was received and executed.

```
                          DISPLAY HISTORY LOG CONTENTS

INPUT STREAM FILE S100388A MEMBER S100388 RECEIVED FROM USER S100388 NJESHR90
JOB 013925/QPGMR/SAMPLE STARTED ON 94/06/02 AT 19:24:12 IN SUBSYSTEM QBATCH I
JOB 013925/QPGMR/SAMPLE ENDED ON 94/06/02 AT 19:24:20; 3 SECONDS USED; END CO
```

Figure 117. Display History Log Contents Panel (AS/400)

6 Display job result

In this example, the job result is checked by displaying the spool file.

```
                              DISPLAY SPOOLED FILE
 FILE  . . . . . :   QPDSPLIB                        PAGE/LINE   1/1
 CONTROL . . . . .                                   COLUMNS     1 - 78
 FIND  . . . . . .
 *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+...
  5738SS1 V2R3M0  931217                DISPLAY LIBRARY
  LIBRARY . . . . . . . . . . . . . :   KANEKO
  TYPE  . . . . . . . . . . . . . . :   PROD
  NUMBER OF OBJECTS . . . . . . . . :         104
  ASP . . . . . . . . . . . . . . . :    1
  CREATE AUTHORITY  . . . . . . . . :   *SYSVAL
  TEXT DESCRIPTION  . . . . . . . . :
   OBJECT      TYPE      ATTR              SIZE  DESCRIPTION
   APPCPGM1    *PGM      RPG              41984  APPC  APPCPGM1<->APPCPGM2
   APPPGM1SET  *PGM      CLP               8704  APPCPGM1(SOURCE) ENVIRONM
   ASYNPGM2    *PGM      RPG              40448  ASYNC TEST PROGRAM ('TARG
   ASYN2C      *PGM      CLP               7168  PGM FOR ASYNPGM2 (BE CALL
   ASYN2CL     *PGM      CLP               7680  PGM FOR ASYNPGM2 (BE CALL
   AUTOCALL    *PGM      RPG              45568  APPC  AUTOCALL REDIAL TES
   BSCPGM1     *PGM      RPG              41984  BSC   BSCPGM1 <->BSCPGM2:
   BSCPGM1SET  *PGM      CLP               8192  BSCPGM1(SOURCE) ENVIRONME
                                                                    MORE...
 F3=EXIT   F12=CANCEL   F19=LEFT   F20=RIGHT   F24=MORE KEYS
```

Figure 118. Display Spooled File Panel (AS/400)

2.5.10 Sending a Spooled File from the AS/400 to the MVS/JES2

An AS/400 can send and receive spooled files between the MVS host. In the AS/400 environment, a spooled file refers to the object in an output queue that is destined for printing. The record length of the spooled file can be as long as 378 characters.

You can use the send network spooled file (SNDNETSPLF) command or select option 1 from the work with the output queue (WORKOUTQ) command display to send a spooled file to a MVS/ESA TSO user. The following scenario was used for this operation.

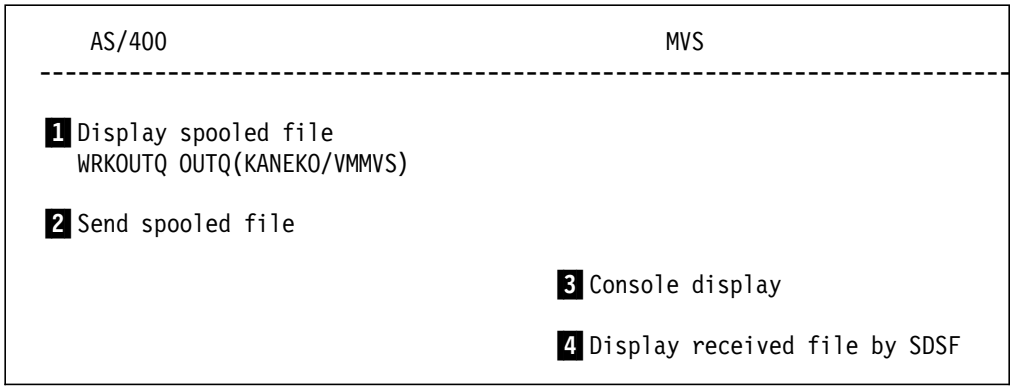

Figure 119. Sample Operation Sequence (Spooled File from AS/400 to MVS)

1 Display spooled file

To check the contents of the spooled file to be sent, use the WRKOUTQ command. Then enter 5 in the leftmost field of the spooled file.

```
                          WORK WITH OUTPUT QUEUE

QUEUE:   VMMVS          LIBRARY:   E10038        STATUS:   RLS

TYPE OPTIONS, PRESS ENTER.
  1=SEND   2=CHANGE   3=HOLD   4=DELETE   5=DISPLAY   6=RELEASE   7=MESSAGES
  8=ATTRIBUTES        9=WORK WITH PRINTING STATUS

OPT  FILE       USER        USER DATA   STS   PAGES   COPIES  FORM TYPE  PTY
     JES2       E10038                  RDY       1       1               5
     JES2       E10038                  RDY       1       1               5
     JES2       E10038                  RDY       1       1               5
     JES2       E10038                  RDY       1       1               5
     JES2       E10038                  RDY       1       1               5
 5   QSYSPRT    E10038                  RDY       1       1   *STD        5
     STEP1      E10038                  HLD       1       1               5



                                                                      BOTTOM
PARAMETERS FOR OPTIONS 1, 2, 3 OR COMMAND
===>
F3=EXIT   F11=VIEW 2   F12=CANCEL   F22=PRINTERS   F24=MORE KEYS
```

Figure 120. Work with Output Queue Panel (AS/400)

The following display shows the contents of the spooled file.

```
                              DISPLAY SPOOLED FILE
FILE  . . . . . :   QSYSPRT                          PAGE/LINE   1/1
CONTROL . . . . .                                    COLUMNS     1 - 75
FIND  . . . . . .
 *...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+
  5738SS1 V2R3M0  931217         COPY FILE                   KANEKO/NJE  DS
  FROM FILE . . . . . :  KANEKO/NJE              MEMBER  . . :  DSPLIBX
  RECORD LENGTH . . . :  80
  TO FILE . . . . . :  *PRINT
           RCDNBR  *...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+.
                1              PGM
                2              DSPLIB     LIB(KANEKO) OUTPUT(*PRINT)
                3              ENDPGM
  3 RECORDS COPIED TO MEMBER OR LABEL *N IN FILE QSYSPRT IN LIBRARY QSYS. O
                             * * * * *   E N D   O F   C O M P U T E R   P


                                                                      BOTTOM
F3=EXIT   F12=CANCEL   F19=LEFT   F20=RIGHT   F24=MORE KEYS
```

Figure 121. Display Spooled File Display (AS/400)

2 Send spooled file

To send the spooled file to the MVS/JES2 user, enter 1 in the option column on the line of the spooled file which you want to send.

```
                            WORK WITH OUTPUT QUEUE

QUEUE:   VMMVS          LIBRARY:   E10038         STATUS:   RLS

TYPE OPTIONS, PRESS ENTER.
  1=SEND   2=CHANGE   3=HOLD   4=DELETE   5=DISPLAY   6=RELEASE   7=MESSAGES
  8=ATTRIBUTES        9=WORK WITH PRINTING STATUS
OPT  FILE       USER       USER DATA   STS   PAGES   COPIES  FORM TYPE PTY
     JES2       E10038                 RDY       1       1               5
     JES2       E10038                 RDY       1       1               5
     JES2       E10038                 RDY       1       1               5
     JES2       E10038                 RDY       1       1               5
     JES2       E10038                 RDY       1       1               5
1    QSYSPRT    E10038                 RDY       1       1   *STD        5
     STEP1      E10038                 HLD       1       1               5


                                                                      BOTTOM
PARAMETERS FOR OPTIONS 1, 2, 3 OR COMMAND
===>
F3=EXIT   F11=VIEW 2   F12=CANCEL   F22=PRINTERS   F24=MORE KEYS
```

Figure 122. Sending the Spooled File (AS/400)

In the following display, specify the host user; for example, user ID (S100388) and node name (NJESHR90).

```
                    SEND NETWORK SPOOLED FILE (SNDNETSPLF)

TYPE CHOICES, PRESS ENTER.


SPOOLED FILE . . . . . > QSYSPRT       NAME
USER ID:
  USER ID  . . . . . .   S100388       CHARACTER VALUE
  ADDRESS  . . . . . .   NJESHR90      CHARACTER VALUE
            + FOR MORE VALUES
JOB NAME . . . . . > QPADEV0003    NAME, *
  USER . . . . . >   E10038      NAME
  NUMBER . . . . . >   016323      000000-999999
SPOOLED FILE NUMBER  . . . . . > 1             1-9999, *ONLY, *LAST
DATA FORMAT  . . . . . .   *RCDDATA      *RCDDATA, *ALLDATA

                                                                    BOTTOM
 F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
 F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 123. Sending the Spooled File to the MVS/JES2 NJE (AS/400)

3 Console display

The following message will appear on the MVS console:

```
$HASP540 AS400001 ON L19.SR1   FROM E10038   AT S7801894          10
RECORDS
```

Figure 124. Sample Message on the MVS Console (MVS)

4 Display received file by SDSF

To display the received spooled file on the MVS/JES2, you can use the SDSF (System Display and Search Facility).

```
V1R3M2 ------------------  SDSF PRIMARY OPTION MENU  --------------------------
COMMAND INPUT ===> 0                                          SCROLL ===> CSR

 Type an option or command and press Enter.

    LOG       - Display the system log
    DA        - Display active users of the system
    I         - Display jobs in the JES2 input queue
    0         - Display jobs in the JES2 output queue
    H         - Display jobs in the JES2 held output queue
    ST        - Display status of jobs in the JES2 queues
    PR        - Display JES2 printers on this system
    INIT      - Display JES2 initiators on this system

    TUTOR     - Short course on SDSF (ISPF only)
    END       - Exit SDSF

    Use Help key for more information.

    5665-488 (C) COPYRIGHT IBM CORP. 1981, 1991. ALL RIGHTS RESERVED
```

Figure 125. SDSF Primary Option Panel (MVS)

On the host system, the spooled file sent from the AS/400 is treated as follows:

- JOBNMAE is AS400001.
- JOBID is assigned by the JES2.
- C(Class) is set by the CLASS parameter of the SNDNETSPLF command.
- DESTID is set by the TOUSRID parameter of the SNDNETSPLF command.

To display the spooled file, enter S in the leftmost column of the line of the file.

```
 SDSF OUTPUT ALL CLASSES   ALL FORMS    LINES 27,025     DATA SET DISPLAYED
 COMMAND INPUT ===>                                       SCROLL ===> CSRNP
    JOBNAME  JOBID    OWNER    PRTY C FORMS    FCB  DEST           TOT-REC
    RSCS3552 JOB03552 ????????    9 A STANDARD **** S090738             3
    RSCS3554 JOB03554 ????????    9 A STANDARD **** S090738             3
 S  AS400001 JOB03391 ????????    9 A *STD     **** S100388            10
    RSCS3650 JOB03650 ????????    9 A IBMDISKS **** S211748             3
    RSCS6593 JOB06593 ????????    9 B STANDARD **** S221473           129
```

Figure 126. Spooled File on JES2 (MVS)

You can confirm the contents of the spooled file.

```
SDSF OUTPUT DISPLAY AS400001 JOB03391  DSID     1 LINE 0     COLUMNS 02- 81
COMMAND INPUT ===>                                          SCROLL ===> CSR
******************************** TOP OF DATA ****************************
5738SS1 V2R3M0  931217         COPY FILE                KANEKO/NJE  DSPLIBX
FROM FILE . . . . . :  KANEKO/NJE               MEMBER  . . :  DSPLIBX
RECORD LENGTH . . . :  80
TO FILE . . . . . :  *PRINT
           RCDNBR  *...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+..
                1              PGM
                2              DSPLIB     LIB(KANEKO) OUTPUT(*PRINT)
                3              ENDPGM
3 RECORDS COPIED TO MEMBER OR LABEL *N IN FILE QSYSPRT IN LIBRARY QSYS. O R
                      * * * * *  E N D  O F  C O M P U T E R  P R I N
****************************** BOTTOM OF DATA ****************************
```

Figure 127. Spooled File on JES2 (MVS)

2.5.11 Sending a SYSOUT from the MVS/JES2 to the AS/400

There are two ways to send a SYSOUT:

1. Rerouting the SYSOUT to the AS/400 node by using a JES2 command: you can change the address of the SYSOUT by using a JES2 command.
2. Specifying the destination node in MVS/JCL command: you can specify the address by using the /*ROUTE JCL statement or the OUTPUT JCL statement. The following are sample operations.

2.5.11.1 Rerouting the SYSOUT to the AS/400 Node by Using JES2 Command

Figure 128 shows the sample operation sequence.

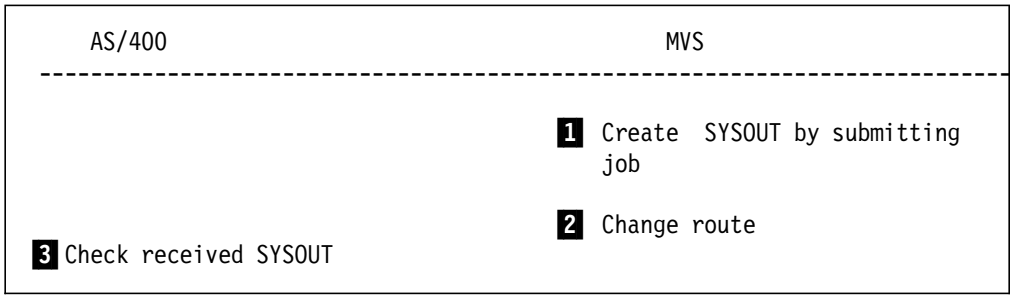

Figure 128. Sample Operation Sequence (SYSOUT from MVS to AS/400)

1 Create SYSOUT by submitting a job.

Specify H for the MSGCLASS parameter of the JCL statement to put the SYSOUT in the hold queue.

```
EDIT--- S100388.AS400.NJE(IBEGENER) - 01.13 --------- MEMBER GENERX CREATED
COMMAND===> SUB                                      SCROLL ===> CSR
****** **************************** TOP OF DATA ************************
==MSG> -WARNING- THE UNDO COMMAND IS NOT AVAILABLE UNTIL YOU CHANGE
==MSG>           YOUR EDIT PROFILE USING THE COMMAND "RECOVERY ON".
000100 //S100388 JOB MSGLEVEL=1,CLASS=A,MSGCLASS=H                x
000200 //STEP1    EXEC PGM=IEBGENER
000300 //SYSUT1   DD   *
000310  ** NJE TEST DATA,SPOOL FILE RECORD#1 **
000311  ** NJE TEST DATA,SPOOL FILE RECORD#2 **
000312  ** NJE TEST DATA,SPOOL FILE RECORD#3 **
000313  ** NJE TEST DATA,SPOOL FILE RECORD#4 **
000314  ** NJE TEST DATA,SPOOL FILE RECORD#5 **
000315 //SYSUT2   DD   SYSOUT=*
000316 //SYSPRINT DD   SYSOUT=*
000317 //SYSIN    DD   DUMMY
000320 //
****** **************************** BOTTOM OF DATA ************************

ENTER JOBNAME CHARACTER(S) -
A
JOB S100388A(JOB03449) SUBMITTED
***
```

Figure 129. Submitting the Job (MVS)

2 Change route

After confirming the completion of the submitted job by the MVS console log or by the SDSF function, you can change the address of the SYSOUT. In this example, the address is changed by the SDSF function to node name (S780189) and user ID (E10038).

```
SDSF SYSLOG      2.101 IPO1 DATE  6/06/94 LINE 287,265  COLUMNS  51 130
COMMAND INPUT ===> /$TOJ3449,OUTGRP=1.1.1,NDISP=WRITE       SCROLL ===> HALF

0290  $TOJ3449,OUTGRP=1.1.1,NDISP=WRITE
0090  $HASP688 S100388A 698
0090  $HASP688 S100388A OUTGRP=1.1.1             P=  9 Q=H HOLD=NONE
0090  $HASP688 D=LOCAL             45 OF 45 RECORDS
0090  $HASP688 B=N F=STD      O=**** T=**** C=**** W=(NONE)   PRMODE=LINE
0090  $HASP688 SECLABEL=         USERID=S100388  OUTDISP=WRITE
****************************** BOTTOM OF DATA ******************************
```

Figure 130. SDSF Panel (MVS)

```
SDSF SYSLOG      2.101 IPO1 DATE  6/06/94 LINE 287,491  COLUMNS  51 130
COMMAND INPUT ===> /$TOJ3449,OUTGRP=1.1.1,D=S7801894.E10038 SCROLL ===> HALF
0290  $TOJ3449,OUTGRP=1.1.1,D=S7801894.E10038
0090  $HASP688 S100388A 800
0090  $HASP688 S100388A OUTGRP=1.1.1             P=  9 Q=H HOLD=NONE
0090  $HASP688 D=S7801894.E10038   45 OF 45 RECORDS
0090  $HASP688 B=N F=STD      O=**** T=**** C=**** W=(NONE)   PRMODE=LINE
0090  $HASP688 SECLABEL=         USERID=S100388  OUTDISP=WRITE
0090  $HASP534 L19.ST1  INACTIVE
0090  $HASP250 S100388A IS PURGED
0290  SE ' E10038  SPOOLED FILE JES2 RECEIVED FOR USER E10038
      S7801894.',LOGON,USER=(S100388)
0290  SE ' E10038  SPOOLED FILE JES2 RECEIVED FOR USER E10038
      S7801894.',LOGON,USER=(S100388)
0290  SE ' E10038  SPOOLED FILE JES2 RECEIVED FOR USER E10038
      S7801894.',LOGON,USER=(S100388)
0290  SE ' E10038  SPOOLED FILE STEP1 RECEIVED FOR USER E10038
      S7801894.',LOGON,USER=(S100388)
0290  SE ' E10038  SPOOLED FILE STEP1 RECEIVED FOR USER E10038
      S7801894.',LOGON,USER=(S100388)

*************** BOTTOM OF DATA ********************************
```

Figure 131. SDSF Panel (MVS)

3 Check received SYSOUT

To confirm the contents of the received SYSOUT on the AS/400, you can use the WRKSPLF command.

The SYSOUT goes into the output queue which is specified in the user profile (see Figure 132). In this example, the output queue name is VMMVS in the E10038 library.

```
                        DISPLAY USER PROFILE - BASIC

USER PROFILE . . . . . . . . . . . . . . . :   E10038

MAXIMUM STORAGE ALLOWED  . . . . . . . . . :   *NOMAX
  STORAGE USED . . . . . . . . . . . . . . :     111478
HIGHEST SCHEDULING PRIORITY  . . . . . . . :   3
JOB DESCRIPTION  . . . . . . . . . . . . . :   QDFTJOBD
  LIBRARY  . . . . . . . . . . . . . . . . :     QGPL
ACCOUNTING CODE  . . . . . . . . . . . . . :
MESSAGE QUEUE  . . . . . . . . . . . . . . :   E10038
  LIBRARY  . . . . . . . . . . . . . . . . :     QUSRSYS
MESSAGE QUEUE DELIVERY . . . . . . . . . . :   *NOTIFY
MESSAGE QUEUE SEVERITY . . . . . . . . . . :   00
OUTPUT QUEUE . . . . . . . . . . . . . . . :   VMMVS
  LIBRARY  . . . . . . . . . . . . . . . . :     E10038
PRINTER DEVICE . . . . . . . . . . . . . . :   VMMVSPRT
SPECIAL ENVIRONMENT  . . . . . . . . . . . :   *SYSVAL
                                                                  MORE..
PRESS ENTER TO CONTINUE.
F3=EXIT   F12=CANCEL
```

Figure 132. Display User Profile Panel (AS/400)

In Figure 133 on page 79, there are three JES2 files and two STEP1 file sent from the MVS. To display the contents of the file, enter 5 in the OPT field of the file. See Figure 133 on page 79 through Figure 136 on page 80.

```
                        WORK WITH ALL SPOOLED FILES

TYPE OPTIONS, PRESS ENTER.
 1=SEND   2=CHANGE   3=HOLD   4=DELETE   5=DISPLAY   6=RELEASE   7=MESSAGES
 8=ATTRIBUTES        9=WORK WITH PRINTING STATUS

                FILE
OPT  FILE        NBR   JOB         USER        NUMBER  QUEUE       LIBRARY
     QPCSMPRT      1  QPADEV0004  E10038      013846  VMMVS       E10038
     QPSUPRTF      1  QPADEV0003  E10038      014186  VMMVS       E10038
     QPSUPRTF      3  QPADEV0003  E10038      014186  VMMVS       E10038
     QSYSPRT       6  QPADEV0003  E10038      014186  VMMVS       E10038
     JES2        183  QPRTJOB     E10038      010088  VMMVS       E10038
 5   JES2        184  QPRTJOB     E10038      010088  VMMVS       E10038
     JES2        185  QPRTJOB     E10038      010088  VMMVS       E10038
     STEP1       186  QPRTJOB     E10038      010088  VMMVS       E10038
     STEP1       187  QPRTJOB     E10038      010088  VMMVS       E10038

                                                                  BOTTOM
PARAMETERS FOR OPTIONS 1, 2, 3 OR COMMAND
===>
F3=EXIT   F10=VIEW 2   F11=VIEW 1   F12=CANCEL   F22=PRINTERS  F24=MORE KEYS
```

Figure 133. Spool File Panel (AS/400)

```
                            DISPLAY SPOOLED FILE
FILE  . . . . . :   JES2                          PAGE/LINE   1/1
CONTROL . . . . .                                 COLUMNS     1 - 78
FIND  . . . . . .
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+.
        1 //S100388A JOB MSGLEVEL=1,CLASS=A,MSGCLASS=H
        2 //STEP1    EXEC PGM=IEBGENER
        3 //SYSUT1   DD   *
        4 //SYSUT2   DD   SYSOUT=*
        5 //SYSPRINT DD   SYSOUT=*
        6 //SYSIN    DD   DUMMY



                                                                  BOTTOM
F3=EXIT   F12=CANCEL   F19=LEFT   F20=RIGHT   F24=MORE KEYS
```

Figure 134. Contents of the SYSOUT Sent from JES2 (AS/400)

```
                        WORK WITH ALL SPOOLED FILES

TYPE OPTIONS, PRESS ENTER.
  1=SEND   2=CHANGE   3=HOLD   4=DELETE   5=DISPLAY   6=RELEASE   7=MESSAGES
  8=ATTRIBUTES        9=WORK WITH PRINTING STATUS

                FILE
OPT  FILE       NBR   JOB        USER       NUMBER  QUEUE      LIBRARY
     QPCSMPRT     1   QPADEV0004 E10038     013846  VMMVS      E10038
     QPSUPRTF     1   QPADEV0003 E10038     014186  VMMVS      E10038
     QPSUPRTF     3   QPADEV0003 E10038     014186  VMMVS      E10038
     QSYSPRT      6   QPADEV0003 E10038     014186  VMMVS      E10038
     JES2       183   QPRTJOB    E10038     010088  VMMVS      E10038
     JES2       184   QPRTJOB    E10038     010088  VMMVS      E10038
     JES2       185   QPRTJOB    E10038     010088  VMMVS      E10038
 5   STEP1      186   QPRTJOB    E10038     010088  VMMVS      E10038
     STEP1      187   QPRTJOB    E10038     010088  VMMVS      E10038

                                                                BOTTOM
PARAMETERS FOR OPTIONS 1, 2, 3 OR COMMAND
===>
F3=EXIT   F10=VIEW 2   F11=VIEW 1   F12=CANCEL   F22=PRINTERS  F24=MORE KEYS
```

Figure 135. Spool File Panel (AS/400)

```
                           DISPLAY SPOOLED FILE
FILE  . . . . . :   STEP1                          PAGE/LINE   1/1
CONTROL . . . . .                                  COLUMNS     1 - 78
FIND  . . . . . .
*...+....1....+....2....+....3....+....4....+....5....+....6....+...........
 ** NJE TEST DATA,SPOOL FILE RECORD#1 **                          000310
 ** NJE TEST DATA,SPOOL FILE RECORD#2 **                          000311
 ** NJE TEST DATA,SPOOL FILE RECORD#3 **                          000312
 ** NJE TEST DATA,SPOOL FILE RECORD#4 **                          000313
 ** NJE TEST DATA,SPOOL FILE RECORD#5 **                          000314




                                                                  BOTTOM
 F3=EXIT   F12=CANCEL   F19=LEFT   F20=RIGHT   F24=MORE KEYS
```

Figure 136. Contents of the SYSOUT Sent from JES2 (AS/400)

2.5.11.2 Rerouting the SYSOUT by Using /*ROUTE JCL

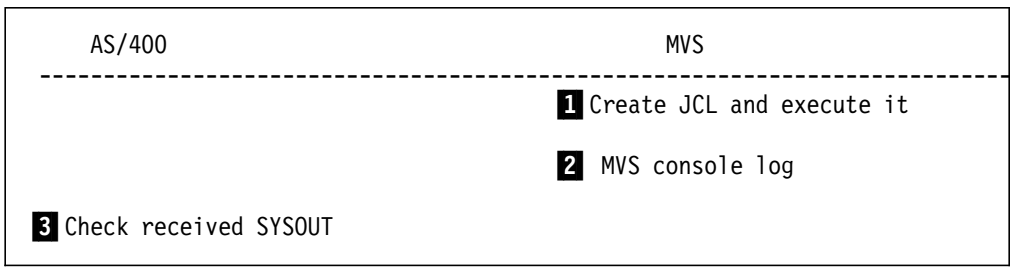

Figure 137. Sample Operation Sequence (SYSOUT from MVS to AS/400)

1 Create JCL and execute it

To reroute the SYSOUT to the AS/400, create JCL and execute it by the SUBMIT (SUB) command. In the /*ROUTE JCL statement, the address is specified as node name (S7801894) and user ID (E10038). When the SYSOUT is sent to the AS/400, messages will appear on the same screen.

```
 EDIT--- S100388.AS400.NJE(NJESPL1) - 01.00 ----------------- COLUMNS 001 072
 COMMAND===> SUB                                             SCROLL ===> CSR
 ****** **************************** TOP OF DATA ***************************
 000001 //S100388 JOB MSGLEVEL=1,CLASS=A,MSGCLASS=A
 000002 /*ROUTE PRINT S7801894.E10038
 000003 //STEP1   EXEC PGM=IEBGENER
 000004 //SYSUT1   DD *
 000005   *** NJE TEST DATA ,RECORD #1 ***
 000006   *** NJE TEST DATA ,RECORD #2 ***
 000007   *** NJE TEST DATA ,RECORD #3 ***
 000008   *** NJE TEST DATA ,RECORD #4 ***
 000009   *** NJE TEST DATA ,RECORD #5 ***
 000010 /*
 000011 //SYSUT2   DD SYSOUT=*
 000012 //SYSPRINT DD SYSOUT=*
 000013 //SYSIN    DD  DUMMY
 000014 /*
 ****** **************************** BOTTOM OF DATA ************************

 ENTER JOBNAME CHARACTER(S) -
A
 JOB S100388A(JOB03513) SUBMITTED
 ***

 E10038  SPOOLED FILE JES2 RECEIVED FOR USER E10038 S7801894.CN(INTERNAL)
 E10038  SPOOLED FILE JES2 RECEIVED FOR USER E10038 S7801894.CN(INTERNAL)
 E10038  SPOOLED FILE JES2 RECEIVED FOR USER E10038 S7801894.CN(INTERNAL)
 E10038  SPOOLED FILE STEP1 RECEIVED FOR USER E10038 S7801894.CN(INTERNAL)
 E10038  SPOOLED FILE STEP1 RECEIVED FOR USER E10038 S7801894.CN(INTERNAL)
 ***
```

Figure 138. Submitting the Job (MVS)

2 MVS console log

On the MVS console, messages will appear when the job starts and ends, and when the spooled files are received by the AS/400.

```
$HASP100 S100388A ON INTRDR                          FROM TSU03238
S100388
IRR010I  USERID S100388  IS ASSIGNED TO THIS JOB.
ICH70001I S100388  LAST ACCESS AT 20:43:49 ON MONDAY, JUNE 6, 1994
$HASP373 S100388A STARTED - INIT  1 - CLASS A - SYS IPO1
IEF403I S100388A - STARTED - TIME=20.50.24
-                                            --TIMINGS (MINS.)--
        ----PAGING COUNTS---
-JOBNAME  STEPNAME PROCSTEP    RC   EXCP   CONN    TCB    SRB  CLOCK
SERV  PG  PAGE  SWAP   VIO SWAPS
-S100388A STEP1                00     15     47    .00    .00     .0
514   1     0     0     0     0
IEF404I S100388A - ENDED - TIME=20.50.24
-S100388A ENDED.  NAME-                     TOTAL TCB CPU TIME=   .00
TOTAL ELAPSED TIME=    .0
$HASP395 S100388A ENDED
$HASP309    INIT  1 INACTIVE ******** C=A
$HASP530 S100388A ON L19.ST1           47 RECORDS
$HASP534 L19.ST1  INACTIVE
$HASP250 S100388A IS PURGED
SE ′          E10038  SPOOLED FILE JES2 RECEIVED FOR USER E10038
 S7801894.′,LOGON,USER=(S100388)
SE ′          E10038  SPOOLED FILE JES2 RECEIVED FOR USER E10038
 S7801894.′,LOGON,USER=(S100388)
SE ′          E10038  SPOOLED FILE JES2 RECEIVED FOR USER E10038
S7801894.′,LOGON,USER=(S100388)
SE ′          E10038  SPOOLED FILE STEP1 RECEIVED FOR USER
E10038 S7801894.′,LOGON,USER=(S100388)
SE ′          E10038  SPOOLED FILE STEP1 RECEIVED FOR USER
E10038 S7801894.′,LOGON,USER=(S100388)
```

Figure 139. MVS Console Log (MVS)

3 Check received SYSOUT

To confirm the contents of the received SYSOUT on the AS/400, you can can use the WRKSPLF command. For further information, refer to 2.5.11.1, “Rerouting the SYSOUT to the AS/400 Node by Using JES2 Command” on page 76.

2.5.11.3 Rerouting the SYSOUT by Using the OUTPUT JCL Statement

By using the OUTPUT JCL statement, you can specify the address of each SYSOUT. In this example, the SYSOUTs are sent to two user IDs (E10038 and TOYODA) and go into the separate output queues. The user ID E10038 has the output queue E10038/VMMVS and the user ID TOYODA has QGPL/QPRINT. Each user profile is shown as follows:

```
                        DISPLAY USER PROFILE - BASIC

USER PROFILE . . . . . . . . . . . . . . . :   E10038
MAXIMUM STORAGE ALLOWED  . . . . . . . . . :   *NOMAX
  STORAGE USED . . . . . . . . . . . . . . :     111410
HIGHEST SCHEDULING PRIORITY  . . . . . . . :   3
JOB DESCRIPTION  . . . . . . . . . . . . . :   QDFTJOBD
  LIBRARY  . . . . . . . . . . . . . . . . :     QGPL
ACCOUNTING CODE  . . . . . . . . . . . . . :
MESSAGE QUEUE  . . . . . . . . . . . . . . :   E10038
  LIBRARY  . . . . . . . . . . . . . . . . :     QUSRSYS
MESSAGE QUEUE DELIVERY . . . . . . . . . . :   *NOTIFY
MESSAGE QUEUE SEVERITY . . . . . . . . . . :   00
OUTPUT QUEUE . . . . . . . . . . . . . . . :   VMMVS
  LIBRARY  . . . . . . . . . . . . . . . . :     E10038
PRINTER DEVICE . . . . . . . . . . . . . . :   VMMVSPRT
SPECIAL ENVIRONMENT  . . . . . . . . . . . :   *SYSVAL
                                                                  MORE...
PRESS ENTER TO CONTINUE.
F3=EXIT   F12=CANCEL
```

Figure 140. Displaying User Profile for E10038 (AS/400)

```
                        DISPLAY USER PROFILE - BASIC

USER PROFILE . . . . . . . . . . . . . . . :   TOYODA
MAXIMUM STORAGE ALLOWED  . . . . . . . . . :   *NOMAX
  STORAGE USED . . . . . . . . . . . . . . :     0
HIGHEST SCHEDULING PRIORITY  . . . . . . . :   3
JOB DESCRIPTION  . . . . . . . . . . . . . :   QDFTJOBD
  LIBRARY  . . . . . . . . . . . . . . . . :     QGPL
ACCOUNTING CODE  . . . . . . . . . . . . . :
MESSAGE QUEUE  . . . . . . . . . . . . . . :   TOYODA
  LIBRARY  . . . . . . . . . . . . . . . . :     QUSRSYS
MESSAGE QUEUE DELIVERY . . . . . . . . . . :   *HOLD
MESSAGE QUEUE SEVERITY . . . . . . . . . . :   00
OUTPUT QUEUE . . . . . . . . . . . . . . . :   QPRINT
  LIBRARY  . . . . . . . . . . . . . . . . :     QGPL
PRINTER DEVICE . . . . . . . . . . . . . . :   *WRKSTN
SPECIAL ENVIRONMENT  . . . . . . . . . . . :   *SYSVAL
                                                                  MORE...
PRESS ENTER TO CONTINUE.
F3=EXIT   F12=CANCEL
```

Figure 141. Displaying User Profile for TOYODA (AS/400)

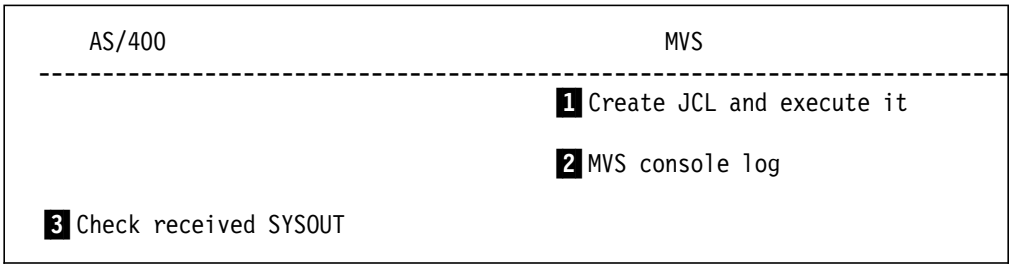

Figure 142. Sample Operation Sequence (SYSOUT from MVS to AS/400)

1 Create JCL and execute it

To reroute the SYSOUTs to the AS/400, create JCL and execute it by the SUBMIT (SUB) command. In the OUTPUT JCL statements, the addresses are specified as the node ID and the user ID, such as S7801894.E10038 or S7801894.TOYODA. When the SYSOUTs are sent to the AS/400, messages will appear on the same screen.

```
EDIT--- S100388.AS400.NJE(NJESPL2) - 01.01 ----------------- COLUMNS 001 072
COMMAND===> SUB                                             SCROLL ===> CSR
****** **************************** TOP OF DATA ***************************
==MSG> -WARNING- THE UNDO COMMAND IS NOT AVAILABLE UNTIL YOU CHANGE
==MSG>           YOUR EDIT PROFILE USING THE COMMAND "RECOVERY ON".
000001 //S100388 JOB MSGLEVEL=1,CLASS=A,MSGCLASS=A
000002 //ASPRT1  OUTPUT DEST=S7801894.E10038
000003 //ASPRT2  OUTPUT DEST=S7801894.TOYODA
000004 //STEP1   EXEC PGM=IEBGENER
000005 //SYSUT1   DD DSN=S100388.AS400.OUT,DISP=SHR
000006 //SYSUT2   DD SYSOUT=*,OUTPUT=*.ASPRT1
000007 //SYSPRINT DD SYSOUT=*,OUTPUT=*.ASPRT2
000008 //SYSIN    DD  DUMMY
000009 /*
****** **************************** BOTTOM OF DATA ************************

 ENTER JOBNAME CHARACTER(S) -
A
 JOB S100388A(JOB03765) SUBMITTED
 ***

 E10038 SPOOLED FILE STEP1 RECEIVED FOR USER E10038 S7801894.CN(INTERNAL)
 TOYODA SPOOLED FILE STEP1 RECEIVED FOR USER TOYODA S7801894.CN(INTERNAL)
***
```

Figure 143. Submitting the Job (MVS)

2 MVS console log

```
$HASP530 S100388A ON L19.ST1           11 RECORDS
$HASP534 L19.ST1  INACTIVE
SE '                  E10038  SPOOLED FILE STEP1 RECEIVED FOR USER
E10038 S7801894.',LOGON,USER=(S100388)
SE '                  TOYODA  SPOOLED FILE STEP1 RECEIVED FOR USER
TOYODA S7801894.',LOGON,USER=(S100388)
```

Figure 144. MVS Console Log (MVS)

3 Check received SYSOUT

To check the received SYSOUTs, you can use the WRKOUTQ command and select the output queue, for example E10038/VMMVS.

```
                        WORK WITH ALL OUTPUT QUEUES

TYPE OPTIONS, PRESS ENTER.
  2=CHANGE   3=HOLD   4=DELETE   5=WORK WITH   6=RELEASE   8=DESCRIPTION
  14=CLEAR
OPT     QUEUE          LIBRARY        FILES     WRITER         STATUS
        AMOUTQ         AMLIB             12                     RLS
        CICSDBCS       CICSDBCS           0                     RLS
5       VMMVS          E10038             2                     RLS
        FROUTQ         FRBLIB             3                     RLS
        QDKT           QGPL               0                     RLS
        QPFROUTQ       QGPL               0                     RLS
        QPRINT         QGPL               1                     RLS
        QPRINTS        QGPL               0                     RLS
        QPRINT2        QGPL               0                     RLS
        QTY            QTY                0                     RLS
        AS40B16        QUSRSYS            0                     RLS
        AS40B20        QUSRSYS            0                     RLS
                                                                    MORE..
COMMAND
===>
F3=EXIT   F4=PROMPT   F5=REFRESH   F12=CANCEL   F24=MORE KEYS
```

Figure 145. Displaying All Output Queues (AS/400)

To display the contents of the file sent from the host, enter 5 in the OPT field of the line of the file STEP1.

```
                            WORK WITH OUTPUT QUEUE

QUEUE:   VMMVS          LIBRARY:   E10038        STATUS:   RLS

TYPE OPTIONS, PRESS ENTER.
  1=SEND   2=CHANGE   3=HOLD   4=DELETE   5=DISPLAY   6=RELEASE   7=MESSAGES
  8=ATTRIBUTES        9=WORK WITH PRINTING STATUS

OPT  FILE       USER       USER DATA   STS   PAGES   COPIES  FORM TYPE PTY
 5   STEP1      E10038                 HLD       1       1              5


                                                                      BOTTOM
PARAMETERS FOR OPTIONS 1, 2, 3 OR COMMAND
===>
F3=EXIT   F11=VIEW 2   F12=CANCEL   F22=PRINTERS   F24=MORE KEYS
```

Figure 146. Displaying the Output Queue (AS/400)

```
                              DISPLAY SPOOLED FILE
FILE  . . . . . :   STEP1                            PAGE/LINE   1/1
CONTROL . . . . .                                    COLUMNS     1 - 78
FIND  . . . . . .
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+.
  TEST  DATA1 FROM AS/400 TO MVS/NJE
  TEST  DATA2 FROM AS/400 TO MVS/NJE
  TEST  DATA3 FROM AS/400 TO MVS/NJE
  TEST  DATA4 FROM AS/400 TO MVS/NJE
  TEST  DATA5 FROM AS/400 TO MVS/NJE
  TEST  DATA6 FROM AS/400 TO MVS/NJE
  TEST  DATA7 FROM AS/400 TO MVS/NJE


                                                                      BOTTOM
F3=EXIT   F12=CANCEL   F19=LEFT   F20=RIGHT   F24=MORE KEYS
```

Figure 147. Displaying the Spooled File (AS/400)

You can also check the SYSOUT sent to the user ID TOYODA (see Figure 148 through Figure 150 on page 87).

```
                          WORK WITH ALL OUTPUT QUEUES

TYPE OPTIONS, PRESS ENTER.
  2=CHANGE   3=HOLD   4=DELETE   5=WORK WITH   6=RELEASE   8=DESCRIPTION
  14=CLEAR

OPT     QUEUE          LIBRARY        FILES     WRITER         STATUS
        AMOUTQ         AMLIB             12                     RLS
        CICSDBCS       CICSDBCS           0                     RLS
        VMMVS          E10038             2                     RLS
        FROUTQ         FRBLIB             3                     RLS
        QDKT           QGPL               0                     RLS
        QPFROUTQ       QGPL               0                     RLS
5       QPRINT         QGPL               1                     RLS
        QPRINTS        QGPL               0                     RLS
        QPRINT2        QGPL               0                     RLS
        QTY            QTY                0                     RLS
        AS40B16        QUSRSYS            0                     RLS
        AS40B20        QUSRSYS            0                     RLS
                                                                    MORE...
COMMAND
===>
F3=EXIT   F4=PROMPT   F5=REFRESH   F12=CANCEL   F24=MORE KEYS
```

Figure 148. Displaying Output Queues (AS/400)

```
                          WORK WITH OUTPUT QUEUE

QUEUE:   QPRINT         LIBRARY:   QGPL           STATUS:   RLS
TYPE OPTIONS, PRESS ENTER.
  1=SEND   2=CHANGE   3=HOLD   4=DELETE   5=DISPLAY   6=RELEASE   7=MESSAGES
  8=ATTRIBUTES        9=WORK WITH PRINTING STATUS

OPT  FILE        USER        USER DATA   STS   PAGES   COPIES  FORM TYPE PTY
 5   STEP1       TOYODA                  HLD       1       1              5



                                                                       BOTTOM
PARAMETERS FOR OPTIONS 1, 2, 3 OR COMMAND
===>
F3=EXIT   F11=VIEW 2   F12=CANCEL   F22=PRINTERS   F24=MORE KEYS
```

Figure 149. Displaying the Output Queue (AS/400)

You can see that the contents specified in the OUTPUT JCL statement on the host are received successfully by the AS/400.

```
                           DISPLAY SPOOLED FILE
FILE  . . . . . :   STEP1                          PAGE/LINE   1/1
CONTROL . . . . .                                  COLUMNS     1 - 78
FIND  . . . . . .
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+.
DATA SET UTILITY - GENERATE
IEB352I WARNING : OUTPUT RECFM/LRECL COPIED FROM INPUT
PROCESSING ENDED AT EOD



                                                                     BOTTOM
F3=EXIT   F12=CANCEL   F19=LEFT   F20=RIGHT   F24=MORE KEYS
```

Figure 150. Displaying the Spooled File (AS/400)

2.5.12 Sending a Message from the AS/400 to MVS/JES2

Messages can be exchanged between AS/400 and MVS/ESA via NJE. The AS/400 user can receive the message file that was created on the host system. The AS/400 user can send messages to a TSO user by using the VM/MVS bridge function. The AS/400 user is allowed to send a message up to 256 characters in length.

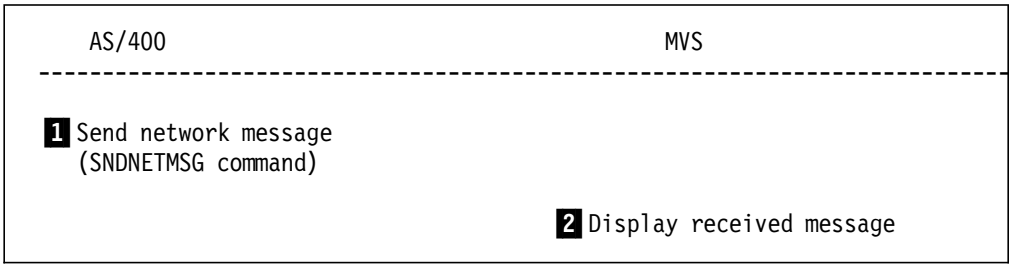

Figure 151. Sample Operation Sequence (Message from AS/400 to MVS)

1 Send network message

To send a message from AS/400 to the MVS host, use the SNDNETMSG command specifying the message and the TSO user address, for example, user ID (S100388) and node ID (NJESHR90). When the transmission is accepted, a message will appear in the bottom line on the display.

```
                      SEND NETWORK MESSAGE (SNDNETMSG)

TYPE CHOICES, PRESS ENTER.

MESSAGE TEXT . . . . . .   **THIS MESSAGE IS FROM AS/400 TO MVS/JES2
**

USER ID:
  USER ID  . . . . . .     S100388       CHARACTER VALUE
  ADDRESS  . . . . . .     NJESHR90      CHARACTER VALUE
             + FOR MORE VALUES

                                                                BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F12=CANCEL   F13=HOW TO USE THIS DISPLAY
F24=MORE KEYS
MESSAGE SENT TO 1 USERS. NOT SENT TO 0 USERS.
```

Figure 152. Send Network Message Panel (AS/400)

2 Display received message

The following message appears on the TSO display when the message is received on the host system:

```
 E10038  **THIS MESSAGE IS FROM AS/400 TO MVS/JES2** CN(INTERNAL) ***
```

Figure 153. Received Message (MVS)

2.5.13 Sending a Message from the MVS/JES2 to the AS/400

There is no function on the MVS/JES2 to send a note or information message to the AS/400. However, if you want to send any information from the host to the AS/400 user, you can send a file to the user.

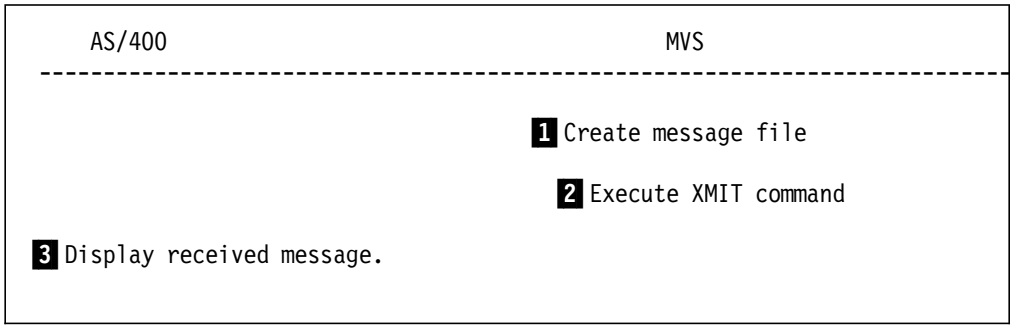

Figure 154. Sample Operation Sequence (Message from MVS to AS/400)

1 Create message file

You must prepare a message before sending it.

```
EDIT--- S100388.MSG1 ------------------------------------- COLUMNS 001 072
COMMAND===>                                               SCROLL ===> CSR
****** **************************** TOP OF DATA ***************************
==MSG> -WARNING- THE UNDO COMMAND IS NOT AVAILABLE UNTIL YOU CHANGE
==MSG>           YOUR EDIT PROFILE USING THE COMMAND "RECOVERY ON".
000100 *** Message test from MVS/JES2 NJE TO AS/400 ***
000200 *** message from host system. ***
000300 *** A B C D 1 2 3 4 5 6 7 8 9 ***
****** **************************** BOTTOM OF DATA ************************
```

Figure 155. Creating the File with Message (MVS)

2 Execute XMIT command

To send the message file, use the XMIT command specifying the address (node ID and user ID) and the message file name, for example, S7801894.E10038 and S100388.MSG1.

```
-----------------------  TSO COMMAND PROCESSOR ---------------- DATA SET SAVED
ENTER TSO COMMAND, CLIST, OR REXX EXEC BELOW:

===> XMIT S7801894.E10038 MSGDATASET(S100388.MSG1)




0 message and 3 data records sent as 6 records to S7801894.E10038
Transmission occurred on 07/01/1994 at 17:47:54.
***
```

Figure 156. Sending the File (MVS)

3 Display received message

To see the contents of the received file, use the WRKNETF command. See Figure 157 on page 90 and Figure 158 on page 90.

```
                        WORK WITH NETWORK FILES                    S7801894
                                                                94/07/01  17:47:50
USER . . . . . . . . . . . . :   E10038
USER ID/ADDRESS  . . . . . . :   E10038    S7801894

TYPE OPTIONS, PRESS ENTER.
  1=RECEIVE NETWORK FILE   3=SUBMIT JOB   4=DELETE NETWORK FILE
  5=DISPLAY PHYSICAL FILE MEMBER

                             FILE   -------FROM-------  ----ARRIVAL----
OPT  FILE        MEMBER      NUMBER  USER ID   ADDRESS   DATE      TIME
 5   MAKLGON     MAKLGON         44  S100388   NJESHR90  94/07/01  17:47




                                                                      BOTTOM
PARAMETERS OR COMMAND
===>
F3=EXIT   F4=PROMPT   F5=REFRESH   F9=RETRIEVE   F11=DISPLAY TYPE/RECORDS
F12=CANCEL
```

Figure 157. Work with Network File Panel (AS/400)

```
                        DISPLAY PHYSICAL FILE MEMBER

FILE . . . . . :   MAKLGON            LIBRARY  . . . . :   *N
MEMBER . . . . :   MAKLGON            RECORD . . . . . :   1
CONTROL  . . . . .                    COLUMN . . . . . :   1
FIND . . . . . .
*...+....1....+....2....+....3....+....4....+....5....+....6....+...........
*** Message test from MVS/JES2 NJE TO AS/400 ***                      000001
*** message from host system. ***                                     000002
*** A B C D 1 2 3 4 5 6 7 8 9 ***                                     000003
                         ****** END OF DATA ******









                                                                      BOTTOM
F3=EXIT   F12=CANCEL   F19=LEFT   F20=RIGHT   F24=MORE KEYS
```

Figure 158. Displaying the File (AS/400)

2.6 Considerations on Establishing the Session Between AS/400 VM/MVS and NVS/JES2

The following are some issues to consider when establishing a session between an AS/400 VM/MVS Bridge and MVS/JES2 NJE.

1. AS/400 must be activated as a secondary LU; therefore a bind request must be issued from the MVS/JES2 NJE node. The session establishment request is initiated by entering the $SN command ($SN,N=S7801894) from the MVS console.
2. A BIND request can only be accepted by the AS/400 after a NOTIFY (SLU enabled) request is sent and until a NOTIFY (SLU disabled) request is sent.
3. The CHGDSTQ (change distribution queue) command can be used to define the number of retries (RTYNBR parameter) and the retry interval (RTYINTV parameter). To learn more about the relationship of these parameters, please refer to Figure 159.

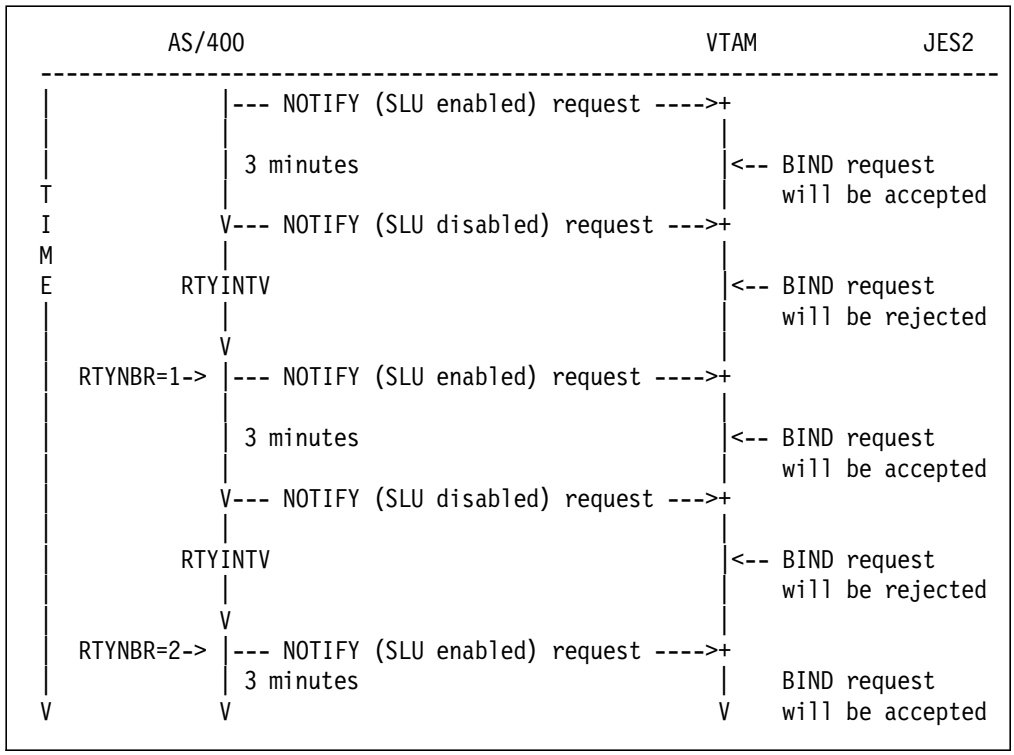

Figure 159. AS/400 VM/MVS Bridge - Retry Process

2.6.1 Automatic Session Initiation Between the VM/MVS Bridge and the MVS/JES2

By using the LOGAPPL operand on the definition statement for on LU, the LU can automatically initiate a session with a specific application program whenever the LU is activated. In this case, we specified LOGAPPL=JES2SHR for the LU of VM/MVS Bridge (Figure 161 on page 92). The VM/MVS Bridge tries automatic initiation whenever the VM/MVS Bridge is activated. The AS/400 issues a NOTIFY (SLU enabled) request based on the activation request of the VM/MVS Bridge. But the MVS/JES2 NJE node rejects this request from the VM/MVS Bridge and displays an error message such as $HASP205 LOGON1 -- INVALID

LOGON -- SESSION LU0602, on the MVS console. As a result this automatic session initiation is failed.

In order to start the session between the VM/MVS and the MVS/JES2 Node automatically, you can use the NetView function. You can monitor the error message $HASP205 and specify the execution condition of CLIST in the NetView message table (DSITBL01) (shown in Figure 164 on page 93). If the condition meets one that you specified in the NetView message table, the $SN command ($SN,N=S7801894) in the CLIST (STARAS400) (Figure 165 on page 93), the CLIST name is specified in the NetView message table, is executed. This command is executed by using the NetView user identification AUTO1 (Figure 166 on page 93). As a result, the session between the MVS/JES2 NJE node and the VM/MVS Bridge will be established automatically.

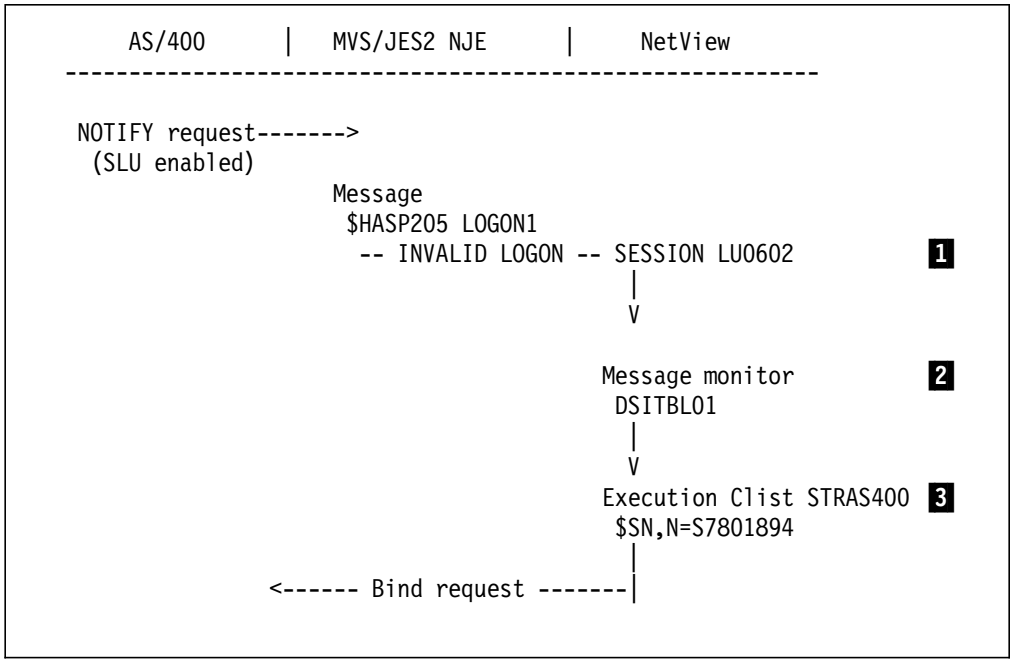

Figure 160. Automatic Session Initiation Between the VM/MVS Bridge and the MVS/JE2

```
LU0602 LU LOCADDR=2,
          SSCPFM=USSSCS,
          USSTAB=USS401,
          LOGAPPL=JES2SHR,
          DLOGMODE=AS400NJE
```

Figure 161. LU Macro for VM/MVS Bridge and LOGAPPL Parameter

```
X'8106200C06030001000000'
  ======      |
    |         |
    |         +--Enabled bit on
    +--Notify command
```

Figure 162. NOTIFY (SLU Enabled) Request from Communication Trace

```
$HASP205 LOGON1   -- INVALID LOGON -- SESSION LU0602 1
     IST663I  CINIT      REQUEST              FAILED  , SENSE=08010000
     IST664I  REAL  OLU=JPIBMQHE.LU0602     REAL  DLU=JPIBMQHE.JES2SHR
     IST889I  SID = DF7BCE8989D80B99
     IST890I  AUTOLOGON SESSION SETUP FAILED
```

Figure 163. Invalid Logon Message

```
IF MSGID='$HASP205' & (TOKEN(2) ='LOGON1')   2
   THEN EXEC(CMD('STRAS400') ROUTE(ONE AUTO1));
```

Figure 164. Added Records into Data Set CNM.CNM01.DSIPARM(DSITBL01)

```
'MVS $SN,N=S7801894'                                              3
```

Figure 165. Contents of Data Set CNM.CNM01.CNMSAMP(STRAS400)

```
OPER1        OPERATOR    PASSWORD=OPER1
             PROFILEN    DSIPROFA
OPER2        OPERATOR    PASSWORD=OPER2
             PROFILEN    DSIPROFA
NETOP1       OPERATOR    PASSWORD=NETOP1
             PROFILEN    DSIPROFB
NETOP2       OPERATOR    PASSWORD=NETOP2
             PROFILEN    DSIPROFB
AUTO1        OPERATOR    PASSWORD=AUTO1
             PROFILEN    DSIPROFC
AUTO2        OPERATOR    PASSWORD=AUTO2
             PROFILEN    DSIPROFD
```

Figure 166. Contents of Data Set CNM.CNM01.DSIPARM(DSIOPF)

```
//DSICLD   DD   DSN=CNM.CNM01.CNMSAMP,DISP=SHR
//         DD   DSN=SYS1.CNMCLST,DISP=SHR
//         DD   DSN=SYS1.CNMSAMP,DISP=SHR
//*        DD   DSN=SYS1.PROCLIB,DISP=SHR
//DSIPARM  DD   DSN=CNM.CNM01.DSIPARM,DISP=SHR
```

Figure 167. DSICLD and DSIAPRM DD Statements for the NetView Starting JCL

Chapter 3. AS/400-VM/RSCS Communication

This chapter describes the NJE connection between the AS/400 and the host VM/RSCS.

3.1 Test Environment

The following paragraphs describe the hardware and software that were used in this test.

3.1.1 Hardware

The test environment consisted of an SDLC nonswitched line and the components that we added to allow the VM/RSCS and the AS/400 to communicate. The resulting network configuration is illustrated in Figure 168 on page 96.

- An IBM 9021 Model 720 as the host
- An IBM 3725 Model 001
- An IBM AS/400 Model F25 with 6 Lines Communication Controller
- 9.6 Kbps SDLC line

3.1.2 Software

- VM/ESA V2.1
- VM/VTAM V3.2.0
- VM/RSCS V3.1.1
- MVS/ESA V4.2.2 with ACF/VTAM V3.4.1 in the IBM 9021-720
- ACF/NCP V4.3.1 in the IBM3725
- OS/400 V2R3 with AS/400 Communication Utilities in the IBM AS/400

3.1.3 Network Configuration

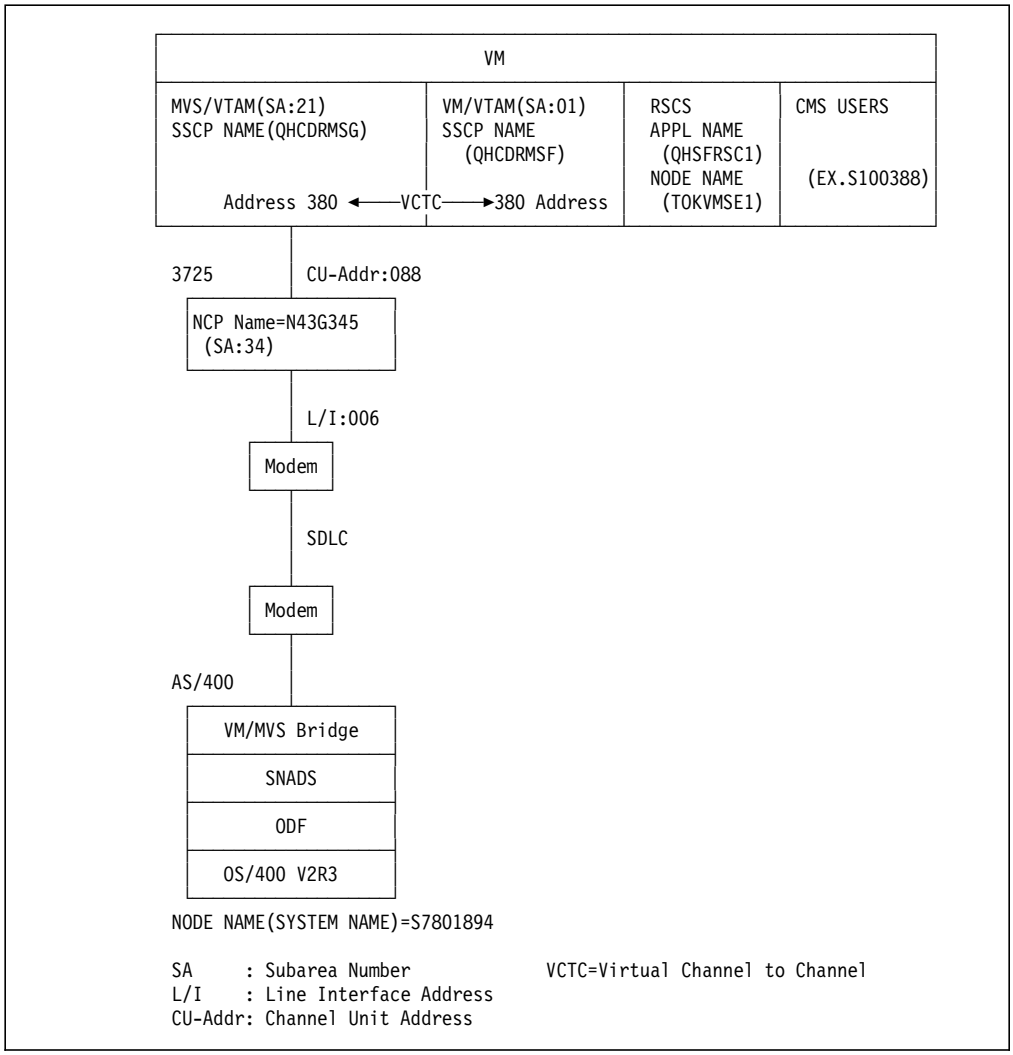

Figure 168. Network Configuration (AS/400-VM/RSCS)

3.2 VM/ESA Host Definitions for the AS/400 VM/MVS Bridge

The following paragraphs describe how to define a VM/MVS host for the implementation of an NJE connection between VM/RSCS and AS/400 via an SDLC line by showing actual sample definitions.

In this example, since there is a cross-domain network via a Virtual CTC (channel to channel) connection in the host system, definitions for MVS/VTAM are also discussed. Figure 169 shows the communication path between the AS/400 and the VM/RSCS. If you have a single-domain connection rather than the cross-domain network, definitions for the host system will be simpler because you can eliminate the MVS/VTAM definitions.

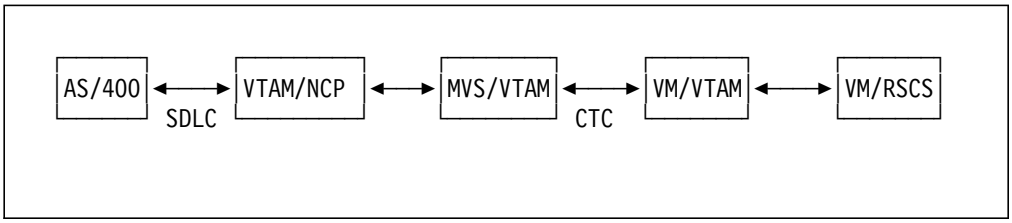

Figure 169. Communication Path Between the AS/400 and the VM/RSCS

Please read this section carefully because it contains MVS/VTAM, VM/VTAM, and VM/RSCS host definitions for the VM/MVS Bridge.

Note: The communication between two CDRMs is called an SSCP-SSCP session. In a multiple-domain network, VTAM requires information about other VTAMs that control resources, including information about the cross-domain resource managers (CDRMs) in the network. A CDRM is the part of the system services control point (SSCP) that control cross-domain sessions. When a domain is defined, the domain's CDRM and each CDRM with which the CDRM will communicate must be defined.

3.2.1 MVS/VTAM Definitions

3.2.1.1 VTAM Startup Option List (MVS/VTAM)

You must specify some necessary options for VTAM startup list. Since the list is the same as discussed in 2.2.1, "VTAM Startup Option List" on page 5, please refer to Figure 3 on page 5.

3.2.1.2 Cross-Domain Definition (CDRM) (MVS/VTAM)

To enable the VTAM-to-VTAM communication, cross-domain resource managers are defined as follows:

```
         VBUILD  TYPE=CDRM
QHCDRMSG CDRM  SUBAREA=21,                 1          X
               ISTATUS=ACTIVE,                        X
               CDRSC=OPT,                             X
               CDRDYN=YES
QHCDRMSF CDRM  SUBAREA=01,                 2          X
               ISTATUS=ACTIVE,                        X
               CDRSC=OPT,                             X
               CDRDYN=YES
```

Figure 170. CDRM Definition (MVS/VTAM)

1 For the MVS/VTAM, SSCP name (QHCDRMSG) and SUBAREA number (21) are specified.

2 For the VM/VTAM, SSCP name (QHCDRMSF) and SUBAREA number (01) are specified.

3.2.1.3 Cross-Domain Resources (CDRSC) (MVS/VTAM)

As a cross-domain resource, an LU name for the VM/RSCS is defined.

```
************************************************
* CDRSCS FOR SHR/VM                            *
************************************************

         VBUILD  TYPE=CDRSC
QHSFRSC1 CDRSC CDRM=QHCDRMSF,                  1              X
               ISTATUS=ACTIVE
```

Figure 171. Definition for Cross-Domain Resources (CDRSC) (MVS/VTAM)

1 Cross-domain resources (CDRSCs): the application name (QHSFRSC1) exists in the CRDM (QHCDRMSF).

3.2.1.4 Channel-to-Channel (CTC) Connection (MVS/VTAM)

To enable a channel-to-channel (CTC) connection between the MVS/VTAM and the VM/VTAM, the CTC is defined as follows:

```
CTC380   VBUILD  TYPE=CA
CTCGR01  GROUP  LNCTL=CTCA,                                    X
                DELAY=0.1,                                     X
                MAXBFRU=(10,30),                               X
                ISTATUS=ACTIVE,                                X
                REPLYTO=10.0,                                  X
                MIH=YES
CTCLN01  LINE   ADDRESS=380                    1
CTCPU01  PU     PUTYPE=4
```

Figure 172. Definition for Channel-to-Channel Connection (MVS/VTAM)

1 The channel address (380) that is used for the channel-to-channel connection.

3.2.1.5 VTAM/NCP Definitions for the AS/400 (MVS/VTAM)

Figure 173 on page 99 is the LU macro part of the definitions related to the VTAM/NCP major node and NCP generation. For the other parts of the definition, please refer to 2.2.3, “VTAM/NCP Definitions for the AS/400” on page 6. For more information on each parameter, see the *VTAM Resource Definition Reference*.

```
*************************************************************
*        LU MACRO FOR AS/400                                *
*************************************************************
LU0601   LU    LOCADDR=1,                                  1   X
               LOGAPPL=QHSFRSC1,                           2   X
               SSCPFM=USSSCS,                                  X
               DLOGMOD=AS400ODF       ** RSCS/PROFS BRIDGE **  3
```

Figure 173. VTAM/NCP Definitions for the AS/400 (MVS/VTAM)

1 LU name (LU0601) for the VM/MVS Bridge which communicates with the VM/RSCS. This name relates to the SNUF device in the AS/400.

2 LOGAPPL=QHSFRSC1: specifies the LU name of the VM/RSCS to establish a session using the automatic LOGON function. By using the LOGAPPL operand on the definition statement on LU, the LU can automatically initiate a session with a specific application program whenever the LU is activated. This function must be used since the VM/MVS Bridge cannot send a logon request.

3 Log mode entry name: specifies the logmode table entry name which is used.

3.2.2 VM/VTAM Definitions

3.2.2.1 VTAM Startup List (VM/VTAM)

You must specify some necessary options for VTAM Startup.

```
*****************************************************************
*  VTAM V3.2.0:                                                 *
*    MAXAPPL AND VTAMEAS PARAMETERS ARE NOT NEEDED ANY MORE.    *
*    THEY ARE DELETED IN THIS MEMBER.                           *
*****************************************************************
NETID=JPIBMQHE,                      1                          X
SSCPNAME=QHCDRMSF,                   2                          X
HOSTPU=PCDRMSF,                                                 X
SSCPID=9492,                                                    X
GWSSCP=YES,                                                     X
SSCPDYN=NO,                                                     X
SSCPORD=DEFINED,                                                X
CDRSCTI=60,                                                     X
HOSTSA=01,MAXSUBA=63,                3                          X
CONFIG=02,NOPROMPT,                                             X
CSALIMIT=0,IOINT=60,MSGMOD=YES,                                 X
SONLIM=(60,30),TNSTAT,CNSL,TIME=60,                             X
DLRTCB=32,                                                      X
CRPLBUF=(150,,12,,30,15),                                       X
IOBUF=(400,128,18,,40,20),                                      X
LFBUF=(60,,00,,10,5),                                           X
LPBUF=(60,,00,,10,5),                                           X
SFBUF=(60,,00,,10,5),                                           X
SPBUF=(10,,00,,5,5)
```

Figure 174. Startup List (VM/VTAM)

1 Network ID: The network ID must be unique in the network.

2 SSCP Name: specifies the SSCP name for the VTAM. This must be unique in the network.

3 HOSTA=01: specifies the subarea number for the VTAM.

3.2.2.2 Cross-Domain Definition (CDRM) (VM/VTAM)

To enable a VTAM-to-VTAM communication, the cross-domain resource manager is defined.

```
************************************************************************
**       CDRM MAJOR NODE FOR VM/VTAM,SHRMVS                           **
************************************************************************
         VBUILD TYPE=CDRM
JPIBMQHE NETWORK NETID=JPIBMQHE
QHCDRMSF CDRM  SUBAREA=1,          1                                  X
               ISTATUS=ACTIVE,                                       X
               CDRSC=OPT,                                            X
               ELEMENT=1,                                            X
               CDRDYN=YES
*              STATOPT=('G/W SSCP OF VM/VTAM')
QHCDRMSG CDRM  SUBAREA=21,         2                                  X
               ISTATUS=ACTIVE,                                       X
               CDRSC=OPT,                                            X
               ELEMENT=1,                                            X
               CDRDYN=YES
```

Figure 175. Cross-Domain Definition (CDRM) (VM/VTAM)

Before an LU-LU session is established, the SSCP-SSCP session where the LUs exist must be established among the domains. On each host system, its own SSCP (host CDRM) and the opponent SSCP (external CDRM) must be defined.

1 Subarea number for the VM/VTAM.

2 Subarea number for the MVS/VTAM.

3.2.2.3 Cross-Domain Resources (CDRSC) (VM/VTAM)

The LU names for the VM/RSCS are specified as cross-domain resources.

```
************************************************************************
*** CDRSC FOR VM/VTAM                                                ***
************************************************************************
         VBUILD TYPE=CDRSC
JPIBMQHE NETWORK NETID=JPIBMQHE
QHSFRSC1 CDRSC CDRM=QHCDRMSF,ISTATUS=ACTIVE      1

************************************************************************
*** CDRSC FOR SHRMVS                                                 ***
************************************************************************
         VBUILD TYPE=CDRSC
JPIBMQHE NETWORK NETID=JPIBMQHE
** LU0601  AS/400 **
LU0601   CDRSC CDRM=QHCDRMSG,ISTATUS=ACTIVE      2
```

Figure 176. Cross-Domain Resources (CDRSC) (VM/VTAM)

On the CDRSC major node, cross-domain resources (LUs in the opponent domain) are specified.

1 QHSFRSC1 LU name of the VM/RSCS on the HCDRMSF(VM/VTAM).

QHCDRMSF VTAM name where the QHSFRSC1(VM/RSCS) exists.

2 LU0601 LU name for the VM/MVS Bridge.

QHCDRMSF VTAM name where the LU LU0601 exists.

3.2.2.4 Application Major Node (VM/VTAM)

The LU name of the VM/RSCS application is defined in the application major node.

```
*********************************************************************
*****   'APPLICATION MAJOR  NODE ON VM(CDRM:QHCDRMSF).          ****
*********************************************************************
         VBUILD TYPE=APPL
QHSFRSC1 APPL  ACBNAME=RSCS,         1                            X
               MODETAB=RSCSTAB,                                   X
               DLOGMOD=DTNNJEO,                                   X
               AUTHEXIT=YES,                                      X
               VPACING=60,                                        X
               SONSCIP=YES,                                       X
               AUTH=(ACQ)
*
ALIAS    APPL  AUTH=(CNM),ACBNAME=CCDALIAS
```

Figure 177. Application Major Node (VM/VTAM)

1 LU name of the VM/RSCS.

3.2.2.5 Channel-to-Channel (CTC) Connection (VM/VTAM)

To enable a channel-to-channel (CTC) connection between the MVS/VTAM and the VM/VTAM, the CTC is defined as follows:

```
***********************
* VM/VTAM - SHRMVS    *
***********************
CTC380   VBUILD  TYPE=CA
CTCGR21  GROUP  LNCTL=CTCA,                                       X
                DELAY=0.1,                                        X
                MAXBFRU=(10,30),                                  X
                ISTATUS=ACTIVE,                                   X
                REPLYTO=10.0,                                     X
                MIH=YES
CTCLN21  LINE   ADDRESS=380          1
CTCPU21  PU     PUTYPE=4
```

Figure 178. Channel-to-Channel (CTC) Connection (VM/VTAM)

1 CTC address for the channel-to-channel connection.

3.2.2.6 VTAM Logmode Table

Since the same VTAM Logon Mode Table is used as in the MVS/JES2, please see the upper part of Figure 7 on page 11 in 2.2.5, “VTAM Logmode Table” on page 11.

3.2.3 RSCS Configuration (VM/RSCS)

Figure 179 on page 103 shows definitions for the network and RSCS functions.

```
*********************************************************************
*     RSCS Local Nodeid Specification   (Optional)                  *
*********************************************************************
*          Local Nodeid     Application ID
*          ------------     --------------
 LOCAL     TOKVMSE1      *  QHSFRSC1                  1
*********************************************************************
*     RSCS Language Module Specifications                           *
*********************************************************************
*          Local Load   Remote Load
*          Module Name  Module Name
*          -----------  -----------
 LANGUAGE  DMTUCENG     =
*********************************************************************
*     RSCS Operator Form Name Specification                         *
*********************************************************************
*          Operator Form Name
*          ------------------
 OPFORM    STANDARD
*********************************************************************
*     RSCS Channel Reservation Specification                        *
*********************************************************************
*          Reserve These Channels
*          ----------------------
 CHANNELS  F
*********************************************************************
*  RSCS Store-and-Forward Class Specification for Receiving Files  *
*********************************************************************
*          Class Comments
*          ----- -------------------------------------------
 SAFCLASS  *     '*' means use the class of the received file
*********************************************************************
*     RSCS System- and Link-Oriented Default Specifications         *
*********************************************************************
*       Enqueued    Confirmation  Arrival       Unlimited Data  Maximum Data
*       Message     Message       Message       Set Headers?    Set Headers
*       ----------  ------------  ------------  --------------  ------------
OPTION  ENQMSG=NO   SENTMSG=NO    FINALMSG=YES  LISTPROC=NO     MAXDSH=10
*
*       Initial     Route Loop    Maximum       File Buffers    Job Name
*       Message     Checking      Route Length  Between Msgs    Generation
*       ----------  ------------  ------------  --------------  ------------
OPTION  ACCMSG=NO   LOOPING=ALL   MAXHOPS=64    MSGSKIP=2       JOBNAME=RSCS
*       Secure
*       Origin ID
*       ------------
 OPTION SECORGID=NO
*********************************************************************
*     Loadable Link Types                                           *
*********************************************************************
*
*LINKTYPE    MESSAGER   SMSDRVEP   NOLINE
*********************************************************************
*     RSCS LINK, PARM, and ROUTE Specifications                     *
*********************************************************************
******** FOR AS/400 ****
 LINKDEFINE S7801894 TYPE SNANJE LUNAME LU0601   LOGMODE AS400ODF AST RET Q SIZE 2
```

Figure 179. RSCS Configuration (VM/RSCS)

1 Node name (TOKVMSE1) and LU name (QHSFRSC1) for the VM/RSCS.

2 Node name (S7801894), LU name (LU601), SNA connection (SNANJE), and default logmode name (AS400ODF) for the AS/400.

3.3 Definition on AS/400 for VM/RSCS

3.3.1 Configuring the AS/400 Communication Objects

On the AS/400, you must create the line description, the control unit description, and the device description. In this example, since the line description and the control unit description are shared for the MVS/JES2 NJE communication and the RSCS, please refer to 2.3.1, “Configuring the AS/400 Communications Objects” on page 13 for the definition of these descriptions. Therefore, this section discusses the device description to communicate with the VM/RSCS.

3.3.2 Configuring the SNUF Device Description

To create the device description, use the CRTDEVSNUF command.

```
                    CREATE DEVICE DESC (SNUF) (CRTDEVSNUF)

TYPE CHOICES, PRESS ENTER.

DEVICE DESCRIPTION . . . . . > RSCSSHR   1   NAME
LOCAL LOCATION ADDRESS . . . . > 01        2   01-FF
REMOTE LOCATION  . . . . . . . > TOKVMSE1  3   NAME
ONLINE AT IPL  . . . . . . . .   *YES          *YES, *NO
ATTACHED CONTROLLER  . . . . . > SHRMVS    4   NAME
PROGRAM START REQUEST CAPABLE  .   *NO          *NO, *YES
APPLICATION IDENTIFIER . . . . > QHSFCMS1  5   NAME
HOST TYPE  . . . . . . . . . .   *CICS          *CICS, *IMS, *IMSRTR, *ADCS
RECORD LENGTH  . . . . . . . .   512           1-32767
BLOCK LENGTH . . . . . . . . .   512           1-32767
DEFAULT PROGRAM  . . . . . . .                 NAME
  LIBRARY  . . . . . . . . . .     *LIBL       NAME, *LIBL, *CURLIB
TEXT 'DESCRIPTION' . . . . . .   VM/MVS <--> RSCS

                                                                    MORE...
F3=EXIT   F4=PROMPT   F5=REFRESH   F12=CANCEL   F13=HOW TO USE THIS DISPLAY
F24=MORE KEYS
```

Figure 180. Create SNUF Device Description Panel (AS/400)

Enter the required parameters:

1 Device description name: The name that will be used when you want to activate or deactivate the device (vary configuration (VRYCFG) command) or to check the status of the device (work with configuration status (WRKCFGSTS) command). The name of the device must follow AS/400 naming conventions.

2 Local location address: The location address must be unique for each device that is to be attached to the same controller. For the SNUF device, the address must be a hexadecimal value in the range 01 to FF and must match the decimal local location address (LOCADDR) specified on the LU macro in the host system's Network Control Program (NCP) generation.

3 Remote Location: The remote location name with which your system will be communicating. For the VM/MVS Bridge, the remote location name must be the remote system's node name.

4 Attached controller: The name of the controller to which this device is attached.

5 Application identifier: The VTAM application identifier of the host VM/RSCS system with which the AS/400 system communicates.

Figure 181 shows that the device description is added successfully.

```
                      WORK WITH CONFIGURATION STATUS                S7801894
                                                          94/07/05  14:57:42
POSITION TO  . . . . .               STARTING CHARACTERS

TYPE OPTIONS, PRESS ENTER.
  1=VARY ON   2=VARY OFF   5=WORK WITH JOB   8=WORK WITH DESCRIPTION
  9=DISPLAY MODE STATUS ...

OPT  DESCRIPTION       STATUS               -------------JOB--------------
     SHRMVS            VARIED OFF
       SHRMVS          VARIED OFF
         NJESHR90      VARIED OFF
         RSCSSHR       VARIED OFF









                                                                      BOTTOM
PARAMETERS OR COMMAND
===>
F3=EXIT   F4=PROMPT   F12=CANCEL   F23=MORE OPTIONS   F24=MORE KEYS
```

Figure 181. Displaying Created SNUF Device

3.3.3 Setting Up System Node Names

System names are identifiers for the systems in a network. System names are normally set up as part of the system configuration. Because names must be unique in a SNADS network, identical system names must be changed when SNADS is configured. Limit the characters used in the system name on your SNADS network to those characters that can be entered on the keyboard by all systems in your network. If you use the VM/MVS Bridge, your host system name must be a valid host node name.

AS/400 SNADS has the following restrictions for system naming:

- Leading blanks are not permitted in a system name
- Embedded blanks are considered as part of the system name
- Trailing blanks are not considered as part of the system name

The name on the host node definition is RMTLOCNAME in the AS/400 SNUF device and the ADDRESS and SYSTEM in the AS/400 system directory. There is also a node definition for the AS/400. The name on that node definition must be the AS/400 system name in the network attributes. The APPL statement that goes with the AS/400 node definition must have the VTAM LU name of your SNUF device as the APPL name. Your SNUF device must match the VM/VTAM for this (the AS/400) VM/RSCS node.

The AS/400 system name is the one shown as the current system name when you display the network attributes (DSPNETA). See Figure 182 on page 107.

If you change the system name, by using the change network attributes (CHGNETA) command, you must perform an IPL to ensure that the new system name. We already changed the system name in 2.3.2.1, “Displaying Network Attributes” on page 19, so we just check the system name by using the DSPNETA command here.

```
                        DISPLAY NETWORK ATTRIBUTES
                                                              SYSTEM:   S7801894

 CURRENT SYSTEM NAME  . . . . . . . . . . . . . . . :   S7801894     1
   PENDING SYSTEM NAME  . . . . . . . . . . . . . . :
 LOCAL NETWORK ID . . . . . . . . . . . . . . . . . :   JPIBMQHE
 LOCAL CONTROL POINT NAME . . . . . . . . . . . . . :   S7801894
 DEFAULT LOCAL LOCATION . . . . . . . . . . . . . . :   S7801894
```

Figure 182. Displaying Network Attributes

1 AS/400 system name: This is the name referred to by VM/RSCS as the AS/400 node name. In this example, S7801894 is specified.

3.3.4 Configuring Distribution Services

You must set up SNADS on the AS/400 to be able to exchange information between the AS/400 and the VM/RSCS host. You need to add a distribution queue (see 3.3.4.1, “Distribution Queue”) and a routing table entry (see 3.3.4.2, “Routing Table Entry” on page 109).

3.3.4.1 Distribution Queue

You can use either the configure distribution services (CFGDSTSRV) command or the add distribution queue (ADDDSTQ) command to add an entry to the distribution services queue table. The *AS/400 Control Language Reference* manual contains the syntax diagram and the command description for the ADDDSTQ command.

In this example we will use the CFGDSTSRV command. Type the CFGDSTSRV command on the command line then press the Enter key. You will see the panel shown on Figure 183.

```
                        CONFIGURE DISTRIBUTION SERVICES

TYPE CHOICE, PRESS ENTER.

  TYPE OF DISTRIBUTION SERVICES
    INFORMATION TO CONFIGURE  . . .    1        1=DISTRIBUTION QUEUES
                                                2=ROUTING TABLE
                                                3=SECONDARY SYSTEM NAME TABLE




F3=EXIT      F12=CANCEL
```

Figure 183. Configure Distribution Services Panel

Seclect option **1 (Distribution Queue)** and you will see the panel shown in Figure 184 on page 108. Please note that the first time you select option 1, the message No distribution queues appears. After you make any entries, they appear on the panel.

```
                        CONFIGURE DISTRIBUTION QUEUES

TYPE OPTIONS, PRESS ENTER.
  2=CHANGE  4=REMOVE  5=DISPLAY DETAILS

                                        REMOTE                  REMOTE
OPT  QUEUE NAME        QUEUE TYPE    LOCATION NAME  MODE NAME  NET ID
     NJESHR90           *RPDS          NJESHR90     *NETATR    *LOC
     S1024203           *SNADS         S1024203     *NETATR    *LOC
     S1030367           *SNADS         S1030367     *NETATR    *LOC
     S7827595           *SNADS         S7827595     *NETATR    *LOC









F3=EXIT      F5=REFRESH         F6=ADD DISTRIBUTION QUEUE
F10=WORK WITH DISTRIBUTION QUEUES                          F12=CANCEL
```

Figure 184. Configure Distribution Queues Panel

To add a distribution queue, press F6 from the Configure Distribution Queues panel (see Figure 184). The panel shown in Figure 185 appears.

```
                           ADD DISTRIBUTION QUEUE                 PAGE 1 OF   2

TYPE CHOICES, PRESS ENTER.

  QUEUE  . . . . . .  .   TOKVMSE1     1    NAME
  QUEUE TYPE . . . . . .  *RPDS        2    *SNADS, *RPDS, *SVDS, *DLS
  REMOTE LOCATION NAME . . . .  TOKVMSE1    3    NAME
  MODE . . . . . .  .  .  *NETATR           NAME, *NETATR
  REMOTE NET ID  . . . . . .  *LOC          NAME, *LOC, *NONE
  LOCAL LOCATION NAME  . . . .  QHSFCMS1    NAME, *LOC
  NORMAL PRIORITY:
    SEND TIME:
      FROM/TO  . . . . . .  .     :       :    00:00-23:59
      FORCE  . . . . . .  .  .    :            00:00-23:59
    SEND DEPTH . . . . . .  .   1            1-999, BLANK
  HIGH PRIORITY:
    SEND TIME:
      FROM/TO  . . . . . .  .     :       :    00:00-23:59
      FORCE  . . . . . .  .  .    :            00:00-23:59
    SEND DEPTH . . . . . .  .   1            1-999, BLANK

                                                                    MORE...
F3=EXIT      F12=CANCEL
```

Figure 185. Adding a Distribution Queue Panel

Some of the important parameters are discussed as follows:

1 Queue name: The name of the queue in which distributions are stored before they are sent.

2 Queue type: VM/MVS (*RPDS) queues are used to communicate between the AS/400 VM/MVS bridge and the host VM/RSCS. The queue type is always specified as *RPDS for this environment.

3 Remote location name: The remote location name must be the host's VM/RSCS node name for *RPDS queues.

Except for the priority, send and retry information, the rest of the parameters are ignored for *RPDS queues.

After you press Enter, you can see a message, such as QUEUE TOKVMSE1 ADDED, at the bottom of the panel.

3.3.4.2 Routing Table Entry

Routing table entries can be added using CFGDSTSRV or the add distribution routing table entry (ADDDSTRTE) command. The *AS/400 Control Language Reference* contains the syntax diagram and the command description for the ADDDSTRTE command. In this example we will use the CFGDSTSRV command. Type CFGDSTSRV on the command line. You will see the panel shown on Figure 186. Select option **2 (Routing Table)** and you will see the panel shown on Figure 187 on page 110.

```
                        CONFIGURE DISTRIBUTION SERVICES
TYPE CHOICE, PRESS ENTER.

  TYPE OF DISTRIBUTION SERVICES
    INFORMATION TO CONFIGURE  . . .    2        1=DISTRIBUTION QUEUES
                                                2=ROUTING TABLE
                                                3=SECONDARY SYSTEM NAME TABLE




F3=EXIT      F12=CANCEL
```

Figure 186. Configure Distribution Services Panel

To add a routing table entry, press F6 from the Configure Routing Table panel. The panel on Figure 188 on page 110 will appear.

```
                          CONFIGURE ROUTING TABLE

TYPE OPTIONS, PRESS ENTER.

  2=CHANGE  4=REMOVE  5=DISPLAY DETAILS

      ------SYSTEM------
OPT   NAME      GROUP     DESCRIPTION
      NJESHR90            ENTRY FOR MVS(NJE) USER
      S1024203            AS/400-D60 6F MACHINE ROOM
      S1030367            AS/400 F04
      S7827595            AS/400-E25 9F OFFICE



F3=EXIT      F5=REFRESH         F6=ADD ROUTING TABLE ENTRY
F12=CANCEL
```

Figure 187. Configure Routing Table Panel - Add Routing Table Entry

```
                          ADD ROUTING TABLE ENTRY

TYPE CHOICES, PRESS ENTER. (AT LEAST ONE QUEUE NAME IS REQUIRED.)

  SYSTEM NAME/GROUP  . .   TOKVMSE1                                  1
  DESCRIPTION  . . . . .   VM/MVS BRIDGE TO/FROM VM/RSCS             2
  SERVICE LEVEL:                                                    3
    FAST:
      QUEUE NAME . . . .   TOKVMSE1          DISTRIBUTION QUEUE NAME 4
      MAXIMUM HOPS . . .   *DFT              NUMBER OF HOPS, *DFT
    STATUS:
      QUEUE NAME . . . .   TOKVMSE1                                  4
      MAXIMUM HOPS . . .   *DFT
    DATA HIGH:
      QUEUE NAME . . . .   TOKVMSE1                                  4
      MAXIMUM HOPS . . .   *DFT
    DATA LOW:
      QUEUE NAME . . . .   TOKVMSE1                                  4
      MAXIMUM HOPS . . .   *DFT



F3=EXIT      F12=CANCEL
```

Figure 188. Adding Routing Table Entry

Some of the important parameters are discussed as follows (refer to Figure 188):

1 Destination system name/group: The system or destination to which you are sending or forwarding distribution. This will be the local node ID defined for VM/RSCS.

2 Description: The description of the destination system name. This is for your own information.

3 Service level: One or more service levels must be specified for each routing table entry. Your system will not reroute distributions for a service level you have not required.

4 Queue name: You must specify a queue name for each service level required in the configuration, and distribution queues must be configured before they are referred to. Our example uses the same queue for all service levels.

For more information about configuring distribution services, see the *AS/400 Distribution Services Network Guide*.

A message, such as SYSTEM NAME/GROUP TOKVMSE1 ADDED TO ROUTING TABLE, appears at the bottom of the panel.

3.3.5 Directory Entries for New Users

The system distribution directory contains the user ID, address, and description for users authorized to send and receive distributions in the network.

See the *AS/400 Distribution Services Network Guide* for a full discussion of the system distribution directory.

In our example we will discuss two types of users:

1. A local user is a user who has a profile on the AS/400 system and whose system has the same name as the system name of the AS/400. If enrolled in the system directory, a local user can send and receive distributions from remote users.
2. A remote user is a user who receives distribution on a remote system. The system name specified in the system directory entry for a remote user cannot be the system name of the local AS/400. The user profile of a remote user must not be specified in the directory entry.

You can use the add directory entry (ADDDIRE) command or the work with directory (WRKDIR) command to add a user to the system directory. In our example, the WRKDIR command is used.

Adding a Remote User: Type WRKDIR on any command line and press Enter and you will see panel similar to the one shown on Figure 189 on page 112. Now you can add a new directory for the network user.

Enter 1 in the OPT column, *ANY for USERID and TOKVMSE1 for ADDRESS. Then press the Enter key.

```
                              WORK WITH DIRECTORY

TYPE OPTIONS, PRESS ENTER.
  1=ADD      2=CHANGE   4=REMOVE   5=DISPLAY DETAILS   6=PRINT DETAILS
  7=RENAME   8=ASSIGN DIFFERENT ID TO DESCRIPTION   9=ADD ANOTHER DESCRIPTION

OPT  USER ID   ADDRESS   DESCRIPTION
 1   *ANY      TOKVMSE1
     *ANY      NJESHR90  ALL USERS FOR NJESHR90(MVS/NJE)
     *ANY      TOKVMIC1  ANY USERS AT TOKVMIC1
     E10038    S1024203  AS/400-D60 6F machine room
     E10038    S1030367  AS/400-F04
     E10038    S7801894  AS/400-F25 4F MACHINE ROOM
     E10038    S7827595  AS/400-E25 9F OFFICE
     HIROMO    S7801894  H.YAMAMOTO (5955)
     MIKAMI    S1024203  MIKAMI S1024203
     MIKAMI    S7801894  MIKAMI S7801894
     MIKAMI    S7827595  MIKAMI S7827595
     QDFTOWN   QDFTOWN   DEFAULT OWNER
     QDOC      QDOC      INTERNAL DOCUMENT OWNER
                                                                      MORE...
F3=EXIT      F5=REFRESH   F9=WORK WITH NICKNAMES   F10=SEARCH DIRECTORY
F12=CANCEL   F13=WORK WITH DEPARTMENTS   F17=POSITION TO   F24=MORE KEYS
```

Figure 189. Work with Directory Panel

```
                              ADD DIRECTORY ENTRY

TYPE CHOICES, PRESS ENTER.

  USER ID/ADDRESS . . . .   *ANY      TOKVMSE1                    1
  DESCRIPTION . . . . . .   VM/MVS BRIDGE TO/FROM VM/RSCS         2
  SYSTEM NAME/GROUP . . .   TOKVMSE1              F4 FOR LIST     3
  USER PROFILE  . . . . .                         F4 FOR LIST     4
  NETWORK USER ID . . . .
  NAME:
    LAST  . . . . . .
    FIRST . . . . . .
    MIDDLE  . . . . .
    PREFERRED . . . . .
    FULL  . . . . . .
  DEPARTMENT  . . . . .                           F4 FOR LIST
  JOB TITLE . . . . . .
  COMPANY . . . . . .
                                                                  MORE...
F3=EXIT   F4=PROMPT   F5=REFRESH   F12=CANCEL   F14=ADD X.400 O/R NAME
F18=DISPLAY LOCATION DETAILS
```

Figure 190. Adding Directory Entry Panel

Some of the important parameters are discussed as follows (refer to Figure 190):

1 User ID/address: For remote users you can use a unique user ID or you can use the *ANY entry. For more information regarding the *ANY entries please see the *AS/400 Distribution Services Network Guide*. For our lab tests we used the *ANY user ID and a special system name for the address to indicate that distributions can be sent or received from any user on that system. For the VM/RSCS environment the address must be same as the VM/RSCS node name.

2 Description: Any description you want to describe this entry.

3 System Name/Group: The system name for a remote user cannot be the system name for the local AS/400 system. The system name must be the same name as specified by the VM/RSCS local name which is defined in the RSCS configuration.

4 User profile: The user profile must be left blank for remote users.

When the entry was added successfully you can see a message such as ENTRY *ANY TOKVMSE1 ADDED TO THE DIRECTORY at the bottom of the panel.

Directory Entry for a Local User: We have already added a local USER ID during the configuration of VM/MVS bridge and MVS/JES2 NJE communication. This time we only check the local user ID, in this case user ID E10038.

Type WRKDIR (work directory entry) and select the user ID.

```
                              WORK WITH DIRECTORY

TYPE OPTIONS, PRESS ENTER.
  1=ADD      2=CHANGE   4=REMOVE   5=DISPLAY DETAILS   6=PRINT DETAILS
  7=RENAME   8=ASSIGN DIFFERENT ID TO DESCRIPTION   9=ADD ANOTHER DESCRIPTION

OPT  USER ID   ADDRESS   DESCRIPTION

     *ANY      NJESHR90  ALL USERS FOR NJESHR90(MVS/NJE)
     *ANY      TOKVMIC1  ANY USERS AT TOKVMIC1
     *ANY      TOKVMSE1  VM/MVS BRIDGE TO/FROM VM/RSCS
     E10038    S1024203  AS/400-D60 6F machine room
     E10038    S1030367  AS/400-F04
 5   E10038    S7801894  AS/400-F25 4F MACHINE ROOM
     E10038    S7827595  AS/400-E25 9F OFFICE
     HIROMO    S7801894  H.YAMAMOTO (5955)
     MIKAMI    S1024203  MIKAMI S1024203
     MIKAMI    S7801894  MIKAMI S7801894
     MIKAMI    S7827595  MIKAMI S7827595
     QDFTOWN   QDFTOWN   DEFAULT OWNER
                                                                      MORE...
F3=EXIT      F5=REFRESH   F9=WORK WITH NICKNAMES   F10=SEARCH DIRECTORY
F12=CANCEL   F13=WORK WITH DEPARTMENTS   F17=POSITION TO   F24=MORE KEYS
```

Figure 191. Work with Directory Panel

```
                      DISPLAY DIRECTORY ENTRY DETAILS

USER ID/ADDRESS . . . . :   E10038    S7801894                        1
DESCRIPTION . . . . . . :   AS/400-F25 4F MACHINE ROOM                2
SYSTEM NAME/GROUP . . . :   S7801894                                  3
USER PROFILE  . . . . . :   E10038                                    4
NETWORK USER ID . . . . :   E10038   S7801894

NAME:
  LAST  . . . . . . . . :
  FIRST . . . . . . . . :
  MIDDLE  . . . . . . . :
  PREFERRED . . . . . . :
  FULL  . . . . . . . . :

DEPARTMENT  . . . . . . :
JOB TITLE . . . . . . . :
COMPANY . . . . . . . . :
                                                                  MORE...
PRESS ENTER TO CONTINUE.

F3=EXIT   F12=CANCEL   F14=DISPLAY X.400 O/R NAME
F18=DISPLAY LOCATION DETAILS
```

Figure 192. Displaying Directory Entry Details

Please check the following values:

1 User ID/address: The unique user ID and address you choose. The user profile is a convenient choice for the user ID. For the VM/RSCS environment the address must be same name as the AS/400 system name for the AS/400 local user.

2 Description: Any description you want to describe this entry.

3 System Name/Group: The panel automatically contains the system name for your local system. The system name is a required entry for a local user. Do not use the system group for a local user.

4 User profile: The user profile is required for a local user and must be a valid user profile on the local AS/400 system.

Now you can use the VM/MVS Bridge function between VM/RSCS.

3.4 Relationship Between the AS/400 and the VM/RSCS

When you define each configuration on the AS/400 and the host, you must match the values of the specific parameters on the both sides. In Figure 193 on page 116 the parameters with the same number on a black background have the same value.

In this example, there is a cross-domain connection between the VM/VTAM and the MVS/VTAM on the host side. If your host system does not have the cross-domain connection, the definition on the host side will be simpler.

```
<AS/400>

DSPNETA Command
 SYSTEM(S7801894)        1
 LCLNETID(JPIBMQHE)      2

CRTLINSDLC Command
 LIND(SHRMVS)
 RSRCNAME(LIN151)
 NRZI(*YES)              3

CRTCTLHOST Command
 RMTNETID(JPIBMQHE)      2
 RMTCPNAME(QHCDRMSG)     4
 STNADR(C1)              5
 LINE(SHRMVS)

CRTDEVSNUF Command
 DEV(RSCSSHR)
 LOCADDR(01)             6
 CTL(SHRMVS)
 RMTLOCNAME(TOKVMSE1)    7

CFGDSTSRV Command
Distribution queue
 Queue Name      (TOKVMSE1) 8
 Queue Type      (*RPDS)
 Remote Location(TOKVMSE1) 7

Routing Entry
 Name/Group      (TOKVMSE1) 7
 QNAME           (TOKVMSE1) 8
```

```
<HOST>
  * MVS/VTAM *
  VTAM Startup List(MVS)
2  NETID=JPIBMQHE
4  SSCPNAME=QHCDRMSG
   SSCPID=9493
9  HOSTSA=21

  VTAM/NCP GROUP Macro(MVS)
   G34006   GROUP LNCTL=SDLC
3                  NRZI=YES

  VTAM/NCP LINE Macro(MVS)
   L3406    LINE  ADDRESS=(006)
                  SPEED=9600

  VTAM/NCP PU Macro(MVS)
5  PU006    PU    ADDR=C1
10                MODETAB=MODTB400

  VTAM/NCP  LU Macro(MVS)
11 LU0601   LU    LOGAPPL=QHSFRSC1 12
6                 LOCADDR=1
13                DLOGMOD=AS4000DF

  VTAM LOGMODE Table(MVS)
10 MODTB400 MODETAB
13 AS4000DF MODEENT LOGMODE=AS4000DF

  CDRM(MVS)
           VBUILD TYPE=CDRM
4  QHCDRMSG CDRM   SUBAREA=21   9
                   ISTATUS=ACTIVE
                   CDRSC=OPT
                   CDRDYN=YES
14 QHCDRMSF CDRM   SUBAREA=01   15
                   ISTATUS=ACTIVE
                   CDRSC=OPT
                   CDRDYN=YES

  CDRSC(MVS)
           VBUILD TYPE=CDRSC
12 QHSFRSC1 CDRSC CDRM=QHCDRMSF 14
                   ISTATUS=ACTIVE

  CTC(MVS)
   CTC380  VBUILD TYPE=CA
   CTCGR01 GROUP  LNCTL=CTCA
16 CTCLN01 LINE   ADDRESS=380
   CTCPU01 PU     PUTYPE=4
```

Figure 193 (Part 1 of 2). Relationship Between AS/400 and VM/RSCS Parameter Values

```
                                  <HOST>
                                    * VM/VTAM *
                                    VTAM start up list(VM)
                                  2  NETID=JPIBMQHE
                                  14 SSCPNAME=QHCDRMSF
                                     HOSTPU=PCDRMSF
                                     SSCPID=9492
                                  15 HOSTSA=01
                                     CONFIG=02

                                    CDRM(VM)
                                               VBUILD TYPE=CDRM
                                  2  JPIBMQHE NETWORK NETID=JPIBMQHE
                                  14 QHCDRMSF CDRM  SUBAREA=1     15
                                                    CDRSC=OPT
                                                    CDRDYN=YES
                                  4  QHCDRMSG CDRM  SUBAREA=21    9
                                                    CDRSC=OPT
                                                    CDRDYN=YES

                                    CD Reource(VM)
                                               VBUILD TYPE=CDRSC
                                  2  JPIBMQHE NETWORK NETID=JPIBMQHE
                                  12 QHSFRSC1 CDRSC  CDRM=QHCDRMSF  14
                                               VBUILD TYPE=CDRSC
                                  2  JPIBMQHE NETWORK NETID=JPIBMQHE
                                  11 LU0601   CDRSC CDRM=QHCDRMSG  4

                                   Application Major Node(VM)
                                               VBUILD TYPE=APPL
                                  12 QHSFRSC1 APPL  ACBNAME=RSCS

                                    Virtual CTC(VM)
                                     CTC380   VBUILD  TYPE=CA
                                     CTCGR21  GROUP   LNCTL=CTCA
                                  16 CTCLN21  LINE    ADDRESS=380
                                     CTCPU21  PU      PUTYPE=4

<HOST>  * VM/RSCS *
         RSCS Definition(VM)
LOCAL      TOKVMSE1  7   *  QHSFRSC1  12
LINKDEFINE S7801894  1   TYPE SNANJE LUNAME LU0601  11   LOGMODE
           AS400ODF  13  AST RET Q SIZE
```

Figure 193 (Part 2 of 2). Relationship Between AS/400 and VM/RSCS Parameter Values

3.5 Operations on the AS/400 and the VM/RSCS Host

The following topics describe the operations on the AS/400 and the host to start/terminate the session and to send/receive files, spooled files, and messages.

3.5.1 Initiation and Termination

The following paragraphs describe the action required to start communications between the AS/400 and the VM/RSCS. Since this example has a cross-domain network, the action for the MVS/370 is also described.

3.5.1.1 Initiating the VM/MVS Bridge and the VM/RSCS

To establish the session between the AS/400 VM/MVS bridge and the VM/RSCS, the following scenario in Figure 194 is used.

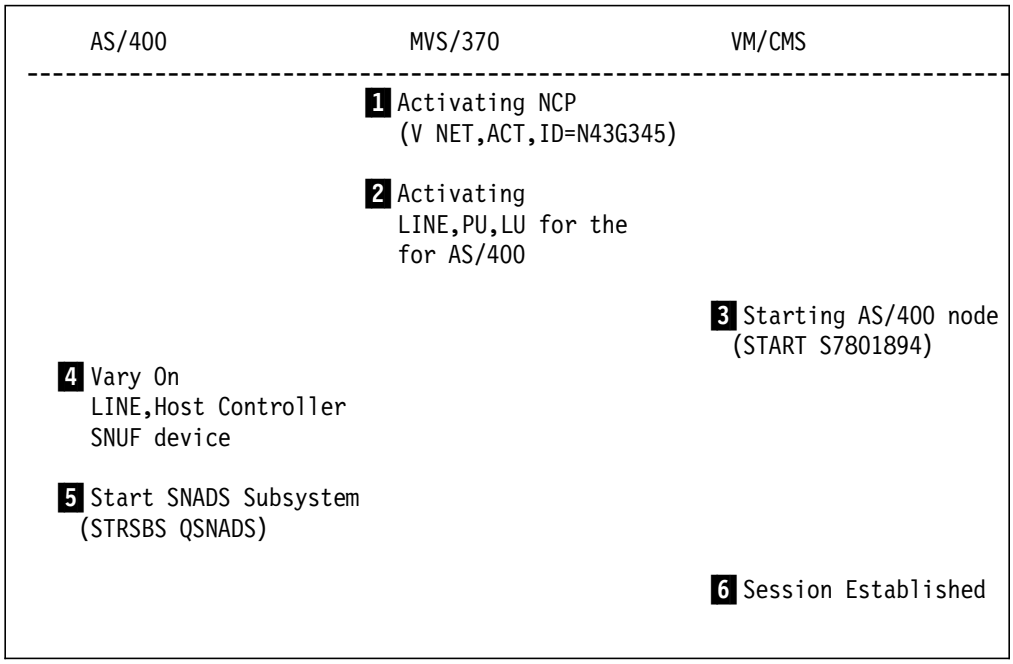

Figure 194. Initiating the VM/MVS Bridge and VM/RSCS

1 Activating the VTAM/NCP if it's inactive (MVS/370)

This operation is not required if the VTAM/NCP is active.

```
V NET,ACT,ID=N43G345
IST097I VARY ACCEPTED
IST093I N43G345 ACTIVE
```

Figure 195. Activating VTAM/NCP (MVS/370)

2 Activating LINE, PU, LU for the AS/400 (host operation)

The following operations are required if the line, PU, and LU are inactive.

Line Activation:

```
V NET,ACT,ID=L3406
IST097I VARY ACCEPTED
IST093I L3406 ACTIVE
```

Figure 196. Activating LINE for AS/400 (MVS/370)

PU Activation:

```
V NET,ACT,ID=PU006
IST097I VARY ACCEPTED
IST093I PU006 ACTIVE
```

Figure 197. Activating PU for AS/400 (MVS/370)

LU Activation:

```
V NET,ACT,ID=LU0602
IST097I VARY ACCEPTED
IST093I LU0602 ACTIVE
```

Figure 198. Activating LU for VM/MVS Bridge (MVS/370)

3 Starting AS/400 node (VM/RSCS)

To start the AS/400 node, you must perform the operations shown in Figure 199.

```
start s7801894                                          a
Ready; T=0.01/0.01 16:45:12
q sys                                                   b
Ready; T=0.01/0.01 16:45:17
LINK                          LINE
NAME     STATUS     TYPE      ADDR LU NAME  LOGMODE  QUEUEING
S7801894 LOGON-WAIT SNANJE    0000 LU0601   AS4000DF SIZE    c
*NOTHERE CONNECT    NOTIFY    0000 ...      ...      FIFO
2 LINKS FOUND
```

Figure 199. Starting AS/400 Node (VM/RSCS)

a Use the START command to start the node s7801894.

b Requests information about the RSCS system.

c Node (s7801894) is in LOGON-WAIT status. The RSCS is awaiting the logon request.

4 Vary On (LINE, Host Controller, SNUF device)

Enter the WRKCFGSTS command as follows to check the communication line, controller and device status. You can also select option **6 (Communications)** on

the AS/400 MAIN MENU Display to execute the same function. In this case, the WRKCFGSTS command was used.

```
MAIN                              AS/400 MAIN MENU
                                                              SYSTEM:   S7801894
SELECT ONE OF THE FOLLOWING:
     1. USER TASKS
     2. OFFICE TASKS
     3. GENERAL SYSTEM TASKS
     4. FILES, LIBRARIES, AND FOLDERS
     5. PROGRAMMING
     6. COMMUNICATIONS
     7. DEFINE OR CHANGE THE SYSTEM
     8. PROBLEM HANDLING
     9. DISPLAY A MENU
    10. INFORMATION ASSISTANT OPTIONS
    11. PC SUPPORT TASKS
    90. SIGN OFF
SELECTION OR COMMAND
===> WRKCFGSTS *LIN SHRMVS
F3=EXIT   F4=PROMPT   F9=RETRIEVE   F12=CANCEL   F13=INFORMATION ASSISTANT
F23=SET INITIAL MENU
```

Figure 200. Work with Configuration Status (WRKCFGSTS) Command (AS/400)

If the communication objects are offline, enter 1 in the OPT column and press the Enter key to vary the configuration online.

```
                        WORK WITH CONFIGURATION STATUS               S7801894
                                                          94/07/05  16:51:42
POSITION TO  . . . . .                STARTING CHARACTERS
TYPE OPTIONS, PRESS ENTER.
  1=VARY ON   2=VARY OFF   5=WORK WITH JOB   8=WORK WITH DESCRIPTION
  9=DISPLAY MODE STATUS ...

OPT  DESCRIPTION       STATUS               -------------JOB--------------
1    SHRMVS            VARIED OFF
       SHRMVS          VARIED OFF
         NJESHR90      VARIED OFF
         RSCSSHR       VARIED OFF









                                                                      BOTTOM
PARAMETERS OR COMMAND
===>
F3=EXIT   F4=PROMPT   F12=CANCEL   F23=MORE OPTIONS   F24=MORE KEYS
```

Figure 201. Vary Configuration (VRYCFG) Online (AS/400)

The configuration status will change as shown in Figure 202 on page 121, if the configuration descriptions were successfully varied on and if PU and LU on the host were successfully activated.

```
                        WORK WITH CONFIGURATION STATUS               S7801894

                                                                94/07/05  19:19:57
POSITION TO  . . . . .               STARTING CHARACTERS
TYPE OPTIONS, PRESS ENTER.
  1=VARY ON   2=VARY OFF   5=WORK WITH JOB   8=WORK WITH DESCRIPTION
  9=DISPLAY MODE STATUS ...

OPT  DESCRIPTION       STATUS               -------------JOB--------------
     SHRMVS            ACTIVE
       SHRMVS          ACTIVE
         NJESHR90      VARIED ON
         RSCSSHR       VARIED ON









                                                                       BOTTOM
PARAMETERS OR COMMAND
===> STRSBS QSNADS
F3=EXIT   F4=PROMPT   F12=CANCEL   F23=MORE OPTIONS   F24=MORE KEYS
```

Figure 202. Device Status Before Subsystem QSNADS is Started (AS/400)

5 Start SNADS Subsystem

Enter the STRSBS command as follows to start the QSNADS subsystem.

```
STRSBS QSNADS
```

When the subsystem starts, the message SUBSYSTEM QSNADS IN LIBRARY QSYS BEING STARTED appears at the foot of the display. Press PF5 to refresh the display. Refer to Figure 203 on page 122. On the display, you will see that the job named LDTOKVMSE1 with the user named QGATE for the VM/RSCS has started. Please ignore the job named LDNJESHR90 with the user named QGATE, because it was used for the MVS/JES2 NJE in the previous chapter but not for the VM/RSCS.

```
                      WORK WITH CONFIGURATION STATUS               S7801894
                                                                94/07/05  19:24:05
POSITION TO  . . . . .               STARTING CHARACTERS

TYPE OPTIONS, PRESS ENTER.
  1=VARY ON   2=VARY OFF   5=WORK WITH JOB   8=WORK WITH DESCRIPTION
  9=DISPLAY MODE STATUS ...

OPT  DESCRIPTION       STATUS               -------------JOB--------------
     SHRMVS            ACTIVE
       SHRMVS          ACTIVE
         NJESHR90      ACTIVE               LDNJESHR90  QGATE       016764
         RSCSSHR       ACTIVE               LDTOKVMSE1  QGATE       016766
                                                                      BOTTOM
PARAMETERS OR COMMAND
===>
F3=EXIT   F4=PROMPT   F12=CANCEL   F23=MORE OPTIONS   F24=MORE KEYS
```

Figure 203. Device Status After Subsystem QSNADS is Started (AS/400)

You can also check the QSNADS subsystem status by using the WRKACTJOB command. Please refer to Figure 204.

```
                           WORK WITH ACTIVE JOBS                    S7801894
                                                                94/07/05  19:26:21
CPU %:     .0     ELAPSED TIME:   00:00:00     ACTIVE JOBS:   44

TYPE OPTIONS, PRESS ENTER.
  2=CHANGE   3=HOLD   4=END   5=WORK WITH   6=RELEASE   7=DISPLAY MESSAGE
  8=WORK WITH SPOOLED FILES   13=DISCONNECT ...

OPT  SUBSYSTEM/JOB  USER        TYPE  CPU %  FUNCTION        STATUS
     QBATCH         QSYS        SBS      .0                  DEQW
     QCMN           QSYS        SBS      .0                  DEQW
       S7827595     QUSER       EVK      .0  *  -PASSTHRU    EVTW
     QCTL           QSYS        SBS      .0                  DEQW
       QSYSSCD      QPGMR       BCH      .0  PGM-QEZSCNEP    EVTW
     QINTER         QSYS        SBS      .0                  DEQW
      +QPADEV0003   E10038      INT      .0  CMD-WRKACTJOB   RUN
     QSNADS         QSYS        SBS      .0                  DEQW
       LDTOKVMSE1   QGATE       BCH      .0                  DEQW
                                                                      MORE...
PARAMETERS OR COMMAND
===>
F3=EXIT      F5=REFRESH   F10=RESTART STATISTICS   F11=DISPLAY ELAPSED DATA
F12=CANCEL   F23=MORE OPTIONS   F24=MORE KEYS
```

Figure 204. Work with Active Job Panel (AS/400)

6 Session Established

When you start the QSNADS subsystem, the AS/400 sends a NOTIFY (SLU enabled) request to the host. After that, the VM/RSCS will send back the bind request to the AS/400 to establish the session, because the automatic logon

function was specified in 3.2.1.5, “VTAM/NCP Definitions for the AS/400 (MVS/VTAM)” on page 98.

The following messages will appear on the VM/RSCS display. Figure 205 shows the messages and operation on the VM/RSCS.

```
DMTVXT707I ACTIVATING LINK S7801894 SNANJE LUNAME=LU0601 CLASS=* QUEUEING=SIZE
 LOGMODE=AS4000DF
DMTSNE151I LINK S7801894 LUNAME LU0601 READY FOR SESSION INITIATION
DMTSNE152I LINK S7801894 LUNAME LU0601 SESSION ESTABLISHED
DMTNCR905I SIGNON OF LINK S7801894 COMPLETE, BUFFER SIZE=1024     a
q sys                                                             b
Ready; T=0.01/0.01 19:24:59
LINK                        LINE
NAME     STATUS     TYPE     ADDR LU NAME  LOGMODE  QUEUEING
S7801894 CONNECT    SNANJE   0000 LU0601   AS4000DF SIZE          c
*UNKNOWN CONNECT    NOTIFY   0000 ...      ...      FIFO
2 LINKS FOUND
```

Figure 205. Session Establishment (VM/RSCS)

a This message indicates that the session was established between the AS/400 and the VM/RSCS.

b Requests information about the RSCS system.

c Indicates that the AS/400 node is in the CONNECT status. Now you can use send/receive function between the VM/MVS Bridge and VM/CMS users via the VM/RSCS.

3.5.1.2 Terminating the VM/MVS Bridge and VM/RSCS

You can terminate the session by the AS/400 or by the VM/RSCS.

1. To terminate the session from AS/400:

   Enter the ENDSBS command on the command line as follows:

   ```
   ENDSBS QSNADS *IMMED
   ```

   The QSNADS subsystem will stop and the session between the VM/MVS Bridge and the VM/RSCS will end. If you want to restart the session, you can start the QSNADS subsystem again.

2. To terminate the session from VM/RSCS, enter the stop command on the VM/RSCS console as follows:

   ```
   STOP S7801894
   ```

   The Stop command will stop the session between the AS/400 and the VM/RSCS, then the following message will appear:

   ```
   DMTCMZ154I LINK S7801894 AUTOSTART DISABLED
   ```

   If you want to restart the session, you must enter the Start command again.

3.5.2 Transmission Between AS/400 VM/MVS Bridge and VM/RSCS

The following paragraphs provide actual operation samples of sending and receiving files, spooled files, and messages.

There are four communication functions between the AS/400 VM/MVS Bridge and the VM/RSCS.

1. File transfer function:
   - From AS/400 to VM/RSCS
   - From VM/RSCS to AS/400
2. Spooled file transfer function:
   - From AS/400 to VM/RSCS
   - From VM/RSCS (printer or punch) to AS/400
3. Message transfer function:
   - From AS/400 to VM/RSCS
   - From VM/RSCS to AS/400

3.5.3 Sending a File from the AS/400 to the VM/RSCS

In this example, a source file (member) is created by SEU on the AS/400, then the file is sent to a VM/CMS user as a CMS file via the VM/RSCS.

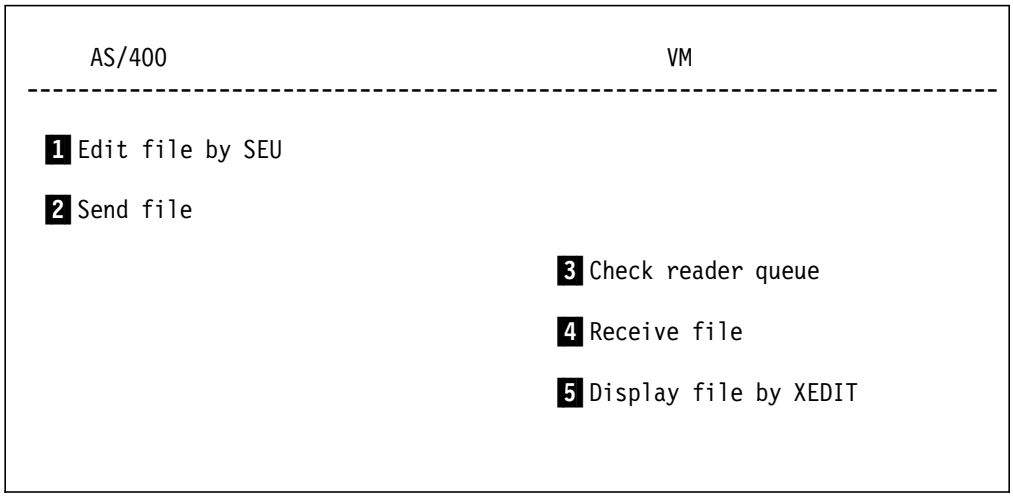

Figure 206. Sample Operation Sequence (File from AS/400 to VM)

1 Edit file by SEU

A file (member) to be sent to the host is created by SEU.

```
 COLUMNS . . . :    1  71           EDIT                        KANEKO/QCLSRC
 SEU==>                                                            TESTFILE
 FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
       ********** BEGINNING OF DATA ***************************************
0001.00 *** TEST DATA FROM AS/400 TO VM/CMS USER #1 ***
0002.00 *** TEST DATA FROM AS/400 TO VM/CMS USER #2 ***
0003.00 *** TEST DATA FROM AS/400 TO VM/CMS USER #3 ***
       ****************** END OF DATA ***************************************
 F3=EXIT   F4=PROMPT   F5=REFRESH   F9=RETRIEVE   F10=CURSOR
 F16=REPEAT FIND       F17=REPEAT CHANGE          F24=MORE KEYS
```

Figure 207. Editing the Source File Member to be Sent (AS/400)

2 Send file

To send the file (member) to the host, use the SNDNETF command.

```
                          SEND NETWORK FILE (SNDNETF)



TYPE CHOICES, PRESS ENTER.
FILE . . . . . .   QCLSRC        NAME
  LIBRARY  . . . .   KANEKO      NAME, *LIBL, *CURLIB
USER ID:
  USER ID  . . . .   S100388      CHARACTER VALUE
  ADDRESS  . . . .   TOKVMSE1     CHARACTER VALUE
             + FOR MORE VALUES
MEMBER . . . . . .   TESTFILE     NAME, *FIRST




                                                                      BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL

F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 208. Send Network File (SNDNETF) Panel (AS/400)

When the file transmission is accepted by the QSNADS subsystem, a message appears on the bottom of the display, for example, FILE QCLSRC IN KANEKO MEMBER TESTFILE SENT TO 1 USERS. NOT SENT TO 0 USERS.

3 Check reader queue

On the display of the VM/CMS user, a message appears as shown in Figure 209 on page 126.

```
Ready; T=0.07/0.11 18:13:31
RDR FILE 0514 SENT FROM RSCS     PUN WAS 9270 RECS 0012 CPY
  001 A NOHOLD NOKEEP
 DMTAXM104I FILE (0001) SPOOLED TO S100388 -- ORIGIN S7801894(E10038)
 07/09/94 09:22:56 JST


                                                        RUNNING   TOKVMSE1
```

Figure 209. Message on the VM/CMS User Panel (VM/CMS)

To check the file sent into the reader queue, use the RDRLIST command.

```
  S100388  RDRLIST  A0  V 164  Trunc=164 Size=1 Line=1 Col=1 Alt=0
Cmd   Filename Filetype Class User  at Node     Hold  Records  Date      Time
      TESTFILE QCLSRC   PUN A E10038   S7801894 NONE       12 07/08    18:20:40









1= Help      2= Refresh  3= Quit      4= Sort(type) 5= Sort(date) 6= Sort(user)
7= Backward  8= Forward  9= Receive  10=           11= Peek      12= Cursor


====>
                                                      X E D I T  1 File
```

Figure 210. Reader List Panel (VM/CMS)

You can see the file sent from the AS/400, with file name TESTFILE and file type QCLSRC.

To check the contents of the file, put the cursor on the line of the file, then press F11 (Peek).

If you want to eliminate the 12-byte field (sequence number and date field) of each record, specify *DATA for the TOTYPE option of the SNDNETF command.

```
 0514     PEEK     A0  V 92  Trunc=92 Size=3 Line=0 Col=1 Alt=0
File TESTFILE.QCLSRC from E10038 at S7801894 Format is NETDATA
* * * Top of File * * *
000100940708*** TEST DATA FROM AS/400 TO VM/CMS USER #1 ***
000200940708*** TEST DATA FROM AS/400 TO VM/CMS USER #2 ***
000300940708*** TEST DATA FROM AS/400 TO VM/CMS USER #3 ***
* * * End of File * * *




1= Help      2= Add line  3= Quit      4= Tab      5= Clocate     6= ?/Change
7= Backward  8= Forward   9= Receive  10= Rgtleft 11= Spltjoin   12= Cursor
====>
                                                          X E D I T  1 File
```

Figure 211. Reader Queue Peek Panel (VM/CMS)

4 Receive file

To receive the file as a CMS file, press F9 (Receive).

```
 S100388  RDRLIST  A0  V 164  Trunc=164 Size=1 Line=1 Col=1 Alt=3

Cmd   Filename Filetype Class User  at Node     Hold  Records  Date      Time

*     TESTFILE QCLSRC   received from E10038 at S7801894









1= Help      2= Refresh  3= Quit      4= Sort(type) 5= Sort(date) 6= Sort(user)
7= Backward  8= Forward  9= Receive  10=           11= Peek      12= Cursor
====>
                                                          X E D I T  1 File
```

Figure 212. Receiving Reader File as CMS File (VM/CMS)

5 Display file by XEDIT

To see the contents of the received file, use the FLIST command.

```
Ready; T=0.01/0.01 18:35:24



flist testfile
                                                          RUNNING   TOKVMSE1
```

Figure 213. Flist Command (VM/CMS)

```
 LVL 0 - A 191     1395 BLKS 3380 R/W    107 FILES 86%  FILE      1 OF 1
TESTFILE QCLSRC   A1                      V    59      3      1  7/08/94 18:34









PF: 1 HLP 2 BRW 3 END 4 XED 5 SPL 6 /SB 7 SCB 8 SCF 9 /SD 10 /ST 11 >I  12 CAN
```

Figure 214. Flist Panel (VM/CMS)

By pressing F4 (XEDIT), you can see the contents of the received file.

```
 TESTFILE QCLSRC   A1  V 80  Trunc=80 Size=3 Line=0 Col=1 Alt=0
===== * * * Top of File * * *
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7..
===== 000100940708*** TEST DATA FROM AS/400 TO VM/CMS USER #1 ***
===== 000200940708*** TEST DATA FROM AS/400 TO VM/CMS USER #2 ***
===== 000300940708*** TEST DATA FROM AS/400 TO VM/CMS USER #3 ***
===== * * * End of File * * *




====>
                                                        X E D I T  1 File
```

Figure 215. XEDIT Panel (VM/CMS)

3.5.4 Sending a File from the VM/RSCS to the AS/400

In this example, a file which is created by the VM/CMS user on the host system is sent to the AS/400. Then the file is included into a source file.

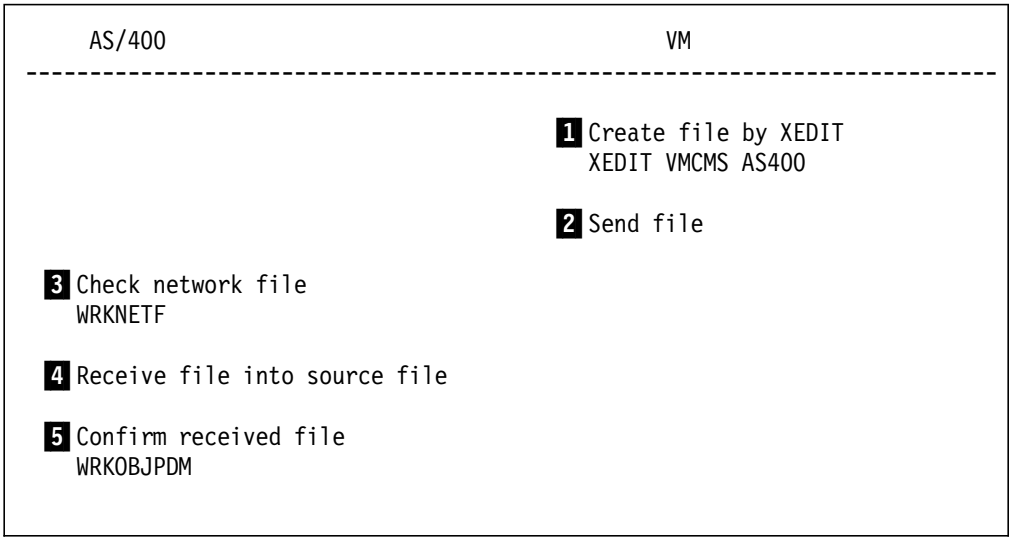

Figure 216. Sample Operation Sequence (File from VM to AS/400)

1 Create file by XEDIT

Figure 217 shows the file created using the XEDIT on the host (the file name is VMCMSTO and the file type AS/400).

```
VMCMSTO  AS400    A1  F 80  Trunc=80 Size=5 Line=0 Col=1 Alt=4




===== * * * Top of File * * *
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7..
===== *** TEST FILE FROM VM/CMS USER TO AS/400 USER #1 ***
===== *** TEST FILE FROM VM/CMS USER TO AS/400 USER #2 ***
===== *** TEST FILE FROM VM/CMS USER TO AS/400 USER #3 ***
=====
=====
===== * * * End of File * * *



====>

                                                      X E D I T  1 File
```

Figure 217. Editing the CMS File (VM/CMS)

2 Send file

To send the file to the AS/400, use the SENDFILE command or enter SF (send file) on the line of the file on the flist display. Figure 218 on page 130 indicates the flist display.

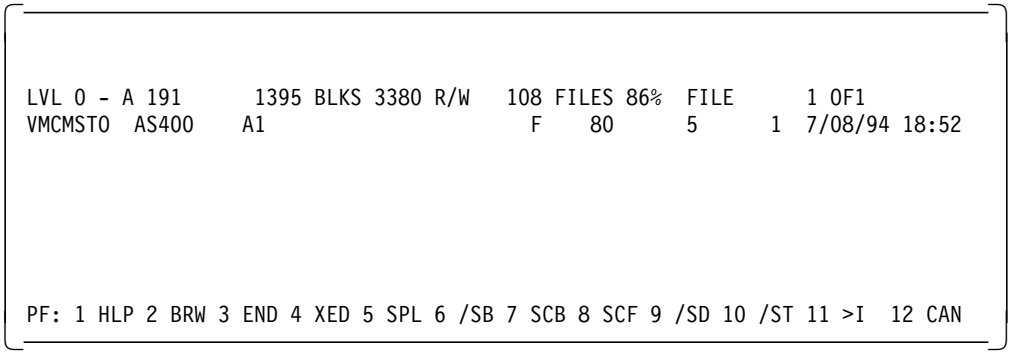

Figure 218. Listing the Files (VM/CMS)

Figure 219 indicates the SF (send file) command which sends the file to the user E10038 at the node S7801894.

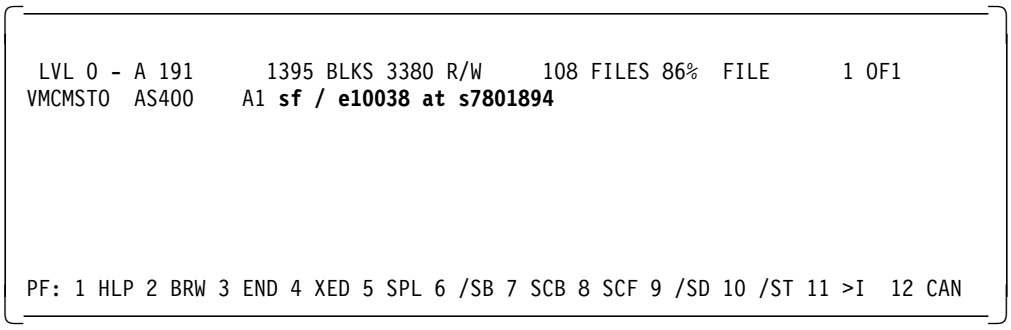

Figure 219. Sending the CMS File (VM/CMS)

When the file is sent to the AS/400, a message appears as shown in Figure 220.

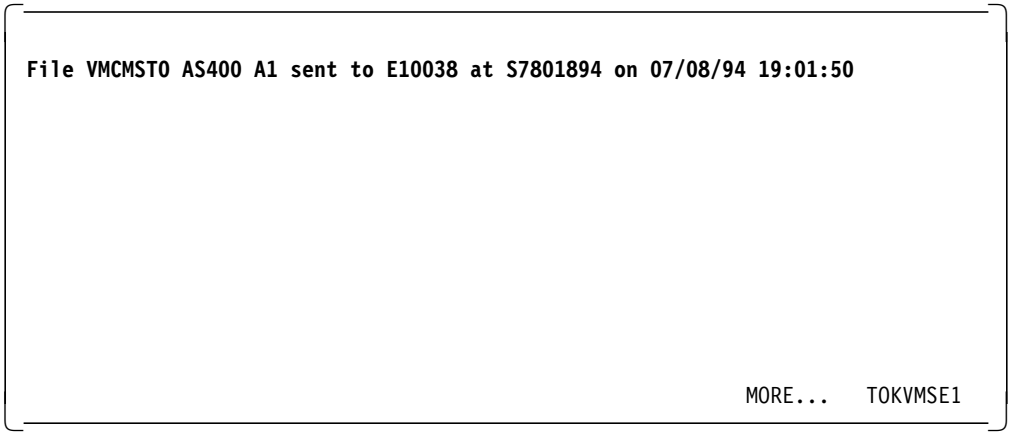

Figure 220. Message on the CMS Panel (VM/CMS)

When the file is received by the AS/400, a message appears as shown in Figure 221 on page 131.

```
FROM S7801894(E10038): FILE AS400 MEMBER VMCMSTO NUMBER 68 RECEIVED
FOR USER E10038 S7801894.




                                                        HOLDING   TOKVMSE1
```

Figure 221. Message on the CMS Panel (VM/CMS)

3 Check network file

To check the network file(s) on the AS/400, use the WRKNETF command.

```
                          WORK WITH NETWORK FILES                    S7801894

                                                                94/07/08  19:09:23
USER . . . . . . . . . . . . :   E10038
USER ID/ADDRESS  . . . . . . :   E10038    S7801894
TYPE OPTIONS, PRESS ENTER.
  1=RECEIVE NETWORK FILE   3=SUBMIT JOB   4=DELETE NETWORK FILE
  5=DISPLAY PHYSICAL FILE MEMBER
                               FILE   -------FROM-------  ----ARRIVAL----
OPT  FILE        MEMBER       NUMBER  USER ID   ADDRESS   DATE      TIME
 1   AS400       VMCMSTO          68  S100388   TOKVMSE1  94/07/08  19:04




                                                                       BOTTOM
PARAMETERS OR COMMAND
===>
F3=EXIT   F4=PROMPT   F5=REFRESH   F9=RETRIEVE   F11=DISPLAY TYPE/RECORDS
F12=CANCEL
```

Figure 222. Displaying the Network Files (AS/400)

4 Receive file into the source file

To receive the file, enter 1 in the OPT field of the line of the file.

```
                        RECEIVE NETWORK FILE (RCVNETF)

TYPE CHOICES, PRESS ENTER.
FROM FILE  . . . . . . . . . . . > 'AS400'       CHARACTER VALUE
TO DATA BASE FILE  . . . . . . .   QCLSRC       NAME, *FROMFILE
  LIBRARY  . . . . . . . . . . .     KANEKO     NAME, *LIBL, *CURLIB
MEMBER TO BE RECEIVED  . . . . . > 'VMCMSTO'    CHARACTER VALUE, *ONLY
TO MEMBER  . . . . . . . . . . .   *FROMMBR     NAME, *FROMMBR, *FIRST









                                                                    BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 223. Receive Network File Panel (AS/400)

Figure 223 shows that the file will be included to a source file named QCLSRC in the library KANEKO as a member named AS400.

When the file is received, a message such as the following appears.

```
FILE AS400 MEMBER VMCMSTO NUMBER 68 RECEIVED.
```

5 Confirm received file

To check the contents of the file, you can use the WRKOBJPDM command.

```
COLUMNS . . . :    1  71           BROWSE                        KANEKO/QCLSRC
 SEU==>                                                             VMCMSTO
 FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
        ********** BEGINNING OF DATA **************************************
0000.10 *** TEST FILE FROM VM/CMS USER TO AS/400 USER #1 ***
0000.20 *** TEST FILE FROM VM/CMS USER TO AS/400 USER #2 ***
0000.30 *** TEST FILE FROM VM/CMS USER TO AS/400 USER #3 ***
0000.40
0000.50
        ****************** END OF DATA ***************************************

 F3=EXIT   F5=REFRESH   F9=RETRIEVE   F10=CURSOR   F12=CANCEL
 F16=REPEAT FIND        F24=MORE KEYS
                                      (C) COPYRIGHT IBM CORP. 1981, 1993.
```

Figure 224. Displaying the Received File Member (AS/400)

3.5.5 Sending a Spooled File from the AS/400 to the VM/CMS

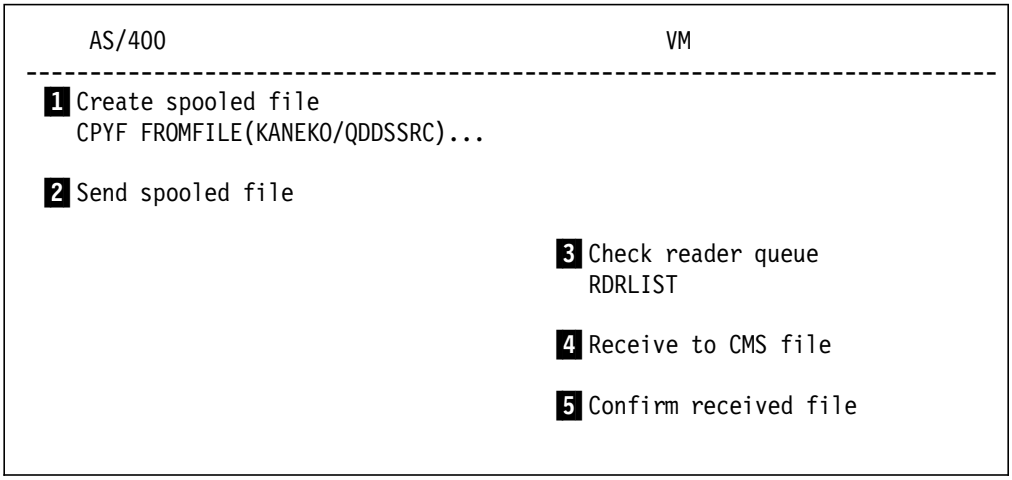

Figure 225. Sample Operation Sequence (Spooled File from AS/400 to VM)

1 Create spooled file

As a sample spooled file, the CPYF (Copy file) command is used to create a spooled file from a source file member.

```
                              COPY FILE (CPYF)
TYPE CHOICES, PRESS ENTER.

FROM FILE  . . . . . . . . . . . > QDDSSRC       NAME
  LIBRARY  . . . . . . . . . . . >   KANEKO      NAME, *LIBL, *CURLIB
TO FILE  . . . . . . . . . . . . > *PRINT        NAME, *PRINT
  LIBRARY  . . . . . . . . . . .                 NAME, *LIBL, *CURLIB
FROM MEMBER  . . . . . . . . . . > VFILE         NAME, GENERIC*, *FIRST, *ALL
TO MEMBER OR LABEL . . . . . . .   *FIRST        NAME, *FIRST, *FROMMBR
REPLACE OR ADD RECORDS . . . . .   *NONE         *NONE, *ADD, *REPLACE
CREATE FILE  . . . . . . . . . .   *NO           *NO, *YES
PRINT FORMAT . . . . . . . . . .   *CHAR         *CHAR, *HEX



                                                                      BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 226. Creating a Spooled File by Using CPYF Command (AS/400)

After the execution of the CPYF command, use the WRKJOB command and select option **4** to display the spooled file.

```
                                WORK WITH JOB
                                                              SYSTEM:   S7801894
JOB:   QPADEV0003     USER:   E10038         NUMBER:   017337

SELECT ONE OF THE FOLLOWING:
     1. DISPLAY JOB STATUS ATTRIBUTES
     2. DISPLAY JOB DEFINITION ATTRIBUTES
     3. DISPLAY JOB RUN ATTRIBUTES, IF ACTIVE
     4. WORK WITH SPOOLED FILES
    10. DISPLAY JOB LOG, IF ACTIVE OR ON JOB QUEUE
    11. DISPLAY CALL STACK, IF ACTIVE
    12. WORK WITH LOCKS, IF ACTIVE
    13. DISPLAY LIBRARY LIST, IF ACTIVE
    14. DISPLAY OPEN FILES, IF ACTIVE
    15. DISPLAY FILE OVERRIDES, IF ACTIVE
    16. DISPLAY COMMITMENT CONTROL STATUS, IF ACTIVE
                                                                        MORE...
SELECTION OR COMMAND
===> 4
F3=EXIT   F4=PROMPT   F9=RETRIEVE   F12=CANCEL
```

Figure 227. Work with Job Panel (AS/400)

2 Send spooled file

When the list of spooled files is displayed, enter 1 in the OPT field of the line of the file to be sent.

```
                          WORK WITH JOB SPOOLED FILES

JOB:   QPADEV0003     USER:   E10038         NUMBER:   017337
TYPE OPTIONS, PRESS ENTER.
  1=SEND   2=CHANGE   3=HOLD   4=DELETE   5=DISPLAY   6=RELEASE   7=MESSAGES
  8=ATTRIBUTES        9=WORK WITH PRINTING STATUS
                DEVICE OR                          TOTAL   CURRENT
OPT  FILE       QUEUE       USER DATA   STATUS  PAGES     PAGE   COPIES
     QPDSPFD                              FIN
 1   QSYSPRT    VMMVS                    RDY        1                1



                                                                      BOTTOM

PARAMETERS FOR OPTIONS 1, 2, 3 OR COMMAND
===>
F3=EXIT   F10=VIEW 3   F11=VIEW 2   F12=CANCEL   F22=PRINTERS   F24=MORE KEYS
```

Figure 228. Work with Job Spooled Files Panel (AS/400)

Enter the user ID and the node ID where the file is sent to.

```
                    SEND NETWORK SPOOLED FILE (SNDNETSPLF)

TYPE CHOICES, PRESS ENTER.
SPOOLED FILE . . . . . > QSYSPRT       NAME
USER ID:
  USER ID  . . . . . .   S100388       CHARACTER VALUE
  ADDRESS  . . . . . .   TOKVMSE1      CHARACTER VALUE
            + FOR MORE VALUES
JOB NAME . . . . . > QPADEV0003    NAME, *
  USER . . . . . >   E10038      NAME
  NUMBER . . . . . >   017337      000000-999999
SPOOLED FILE NUMBER  . . . . . > 2             1-9999, *ONLY, *LAST
DATA FORMAT  . . . . . .   *RCDDATA      *RCDDATA, *ALLDATA



                                                                    BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 229. Send Network Spooled File Panel (AS/400)

When the transmission request is accepted by the QSNADS subsystem, a message appears on the bottom line on the display, as follows:

FILE QSYSPRT SENT TO 1 USERS. NOT SENT TO 0 USERS.

3 Check reader queue

When the spooled file reaches the VM/RSCS, a message appears on the VM/CMS user display as shown in Figure 230.

```
RDR FILE 0531 SENT FROM RSCS     PRT WAS 5837 RECS 0013 CPY  001 A NOHOLD NOKE
EP
 DMTAXM104I FILE (0001) SPOOLED TO S100388 -- ORIGIN S7801894(E10038) 07/13/94

 10:23:34 JST




                                                          RUNNING   TOKVMSE1
```

Figure 230. Message from RSCS (VM/CMS)

To check the reader queue, use the RDRLIST command. The following display will appear:

```
 S100388  RDRLIST  AO  V 164  Trunc=164 Size=1 Line=1 Col=1 Alt=0
Cmd   Filename Filetype Class User  at Node     Hold  Records  Date      Time
      E10038   QSYSPRT  PRT A E10038   S7801894 NONE       13 07/12    19:21:18




1= Help      2= Refresh  3= Quit      4= Sort(type) 5= Sort(date) 6= Sort(user)
7= Backward  8= Forward  9= Receive  10=           11= Peek      12= Cursor
====>
                                                          X E D I T  1 File
```

Figure 231. Displaying Reader List (VM/CMS)

To see the contents of the file, place the cursor on the line of the file and press F11 (Peek).

```
 0531     PEEK     AO  V 132  Trunc=132 Size=13 Line=0 Col=1 Alt=0
File E10038 QSYSPRT from E10038 at S7801894 Format is PRINT.
* * * Top of File * * *
 5738SS1 V2R3M0  931217         COPY FILE                    KANEKO/QDDSSRC  VF
ILE                 94/07/12 19:11:14  PAGE         1
 FROM FILE . . . . . :  KANEKO/QDDSSRC            MEMBER  . . :  VFILE
     RECORD FORMAT . . . . . :  QDDSSRC
 RECORD LENGTH . . . :  92
 TO FILE . . . . . :  *PRINT
          RCDNBR  *...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+...
6 ...+... 7 ...+... 8 ...+... 9 ...+... 0

               1  000100910419     A          R RECORD1
               2  000200910419     A            FIELD1      100OA         VAR
LEN(100)
               3  000300910419     A            FIELD2        10
               4  000400910419     A            FIELD3        10          VAL
UES('**TEST FLD2')
               5  000500910419     A            FIELD4        10          VAL
UES('**TEST FLD3')
1= Help      2= Add line  3= Quit      4= Tab      5= Clocate     6= ?/Change
7= Backward  8= Forward   9= Receive  10= Rgtleft 11= Spltjoin   12= Cursor
====>
                                                          X E D I T  1 File
```

Figure 232. Displaying the Reader File (VM/CMS)

4 Receive to CMS file

To receive the file as a CMS file from the reader queue, press F9 (Receive).

5 Display received file by XEDIT

To confirm the received file, use the FLIST command. Then, place the cursor on the file and press F4 (XEDit). See Figure 233 on page 137 and Figure 234 on page 137.

```
 LVL 0 - A 192      2250 BLKS 3380 R/W     244 FILES 70%  FILE      1 OF   7
E10038   AX       A1                       F    72     41      1  2/28/94 19:46
E10038   AY       A1                       F    80     41      1  2/28/94 19:46
E10038   A2       A1                       F   132     25      1  2/28/94 19:34
E10038   NN3174   A1                       F  1024      4      1  3/08/94 21:18
E10038   NN3174X  A1                       F  1024      4      1  3/08/94 20:08
E10038   QPCSMPRT A1                       F  1024      4      1  3/16/94  9:21
E10038   QSYSPRT  A1                       F   132     13      1  7/12/94 19:26




 PF: 1 HLP 2 BRW 3 END 4 XED 5 SPL 6 /SB 7 SCB 8 SCF 9 /SD 10 /ST 11 >I  12 CAN
```

Figure 233. Checking the Received File (VM/CMS)

```
 E10038   QSYSPRT  A1  F 132  Trunc=132 Size=13 Line=0 Col=1 Alt=0



===== * * * Top of File * * *

      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
=====  5738SS1 V2R3M0  931217         COPY FILE                   KANEKO/QDDSS
RCVFIL
=====  FROM FILE . . . . . :  KANEKO/QDDSSRC            MEMBER  . . :  VFILE
=====  RECORD LENGTH . . . :  92
=====  TO FILE . . . . . :  *PRINT
=====            RCDNBR  *...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...
+ ... 6
=====                 1  000100910419     A          R RECORD1
=====                 2  000200910419     A            FIELD1      1000A
====>
                                                          X E D I T  1 File
```

Figure 234. Displaying the Received File (VM/CMS)

3.5.6 Sending a Spool Printer File from the VM/CMS to the AS/400

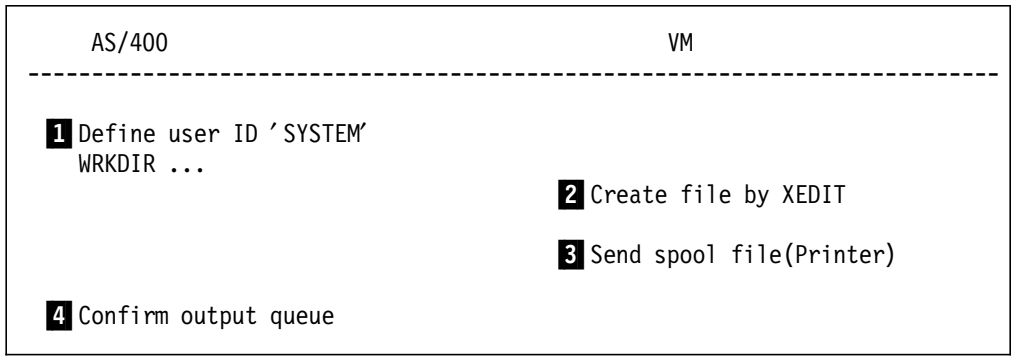

Figure 235. Sample Operation Sequence (Spool File from VM to AS/400)

1 Define user ID SYSTEM

If a VM/RSCS system sends distributions with a user ID value that is not valid for a SNADS network (for example, BLANK), the VM/MVS bridge uses a default user ID value of SYSTEM. If a spool printer file from the VM/RSCS does not have a user ID of the destination, you have to define the user ID SYSTEM prior to receiving the files. For more information about this value, see *AS/400 Distribution Services Network Guide*. To register the user ID SYSTEM, use the WRKDIR command specifying the user ID and the address (for example, S7801894).

```
                          WORK WITH DIRECTORY

TYPE OPTIONS, PRESS ENTER.
  1=ADD      2=CHANGE   4=REMOVE   5=DISPLAY DETAILS   6=PRINT DETAILS
  7=RENAME   8=ASSIGN DIFFERENT ID TO DESCRIPTION   9=ADD ANOTHER DESCRIPTION

OPT  USER ID   ADDRESS   DESCRIPTION

 1   SYSTEM    S7801894
     QDFTOWN   QDFTOWN   DEFAULT OWNER
     QDOC      QDOC      INTERNAL DOCUMENT OWNER
     QLPAUTO   QLPAUTO   LICENSED PROGRAM AUTOMATIC USER
     QLPINSTL  QLPINSTL  LICENSED PROGRAM INSTALL
     QPGMR     S7801894  QPGMR DIRECTORY FOR NETWORK  JOB
     QSECOFR   QSECOFR   SECURITY OFFICER
     QSYS      QSYS      INTERNAL SYSTEM USER PROFILE
     QTCP      QTCP      IBM USER CREATED TO SUPPORT SMTP RESTART
     QUSER     QUSER     DEFAULT USER FOR PC SUPPORT
     RYU       S7801894  RYUJI OHTAKE AT S7801894
     TOYODA    S1024203  TOYODA S1024203
     TOYODA    S7801894  TOYODA S7801894
F3=EXIT      F5=REFRESH   F9=WORK WITH NICKNAMES   F10=SEARCH DIRECTORY
F12=CANCEL   F13=WORK WITH DEPARTMENTS   F17=POSITION TO   F24=MORE KEYS
```

Figure 236 (Part 1 of 2). Defining the User ID of SYSTEM (AS/400)

```
                           ADD DIRECTORY ENTRY
TYPE CHOICES, PRESS ENTER.
  USER ID/ADDRESS . . . .   SYSTEM    S7801894                    a
  DESCRIPTION . . . . . .   SYSTEM DIRECTORY FOR S7801894         b
  SYSTEM NAME/GROUP . . .   S7801894              F4 FOR LIST     c
  USER PROFILE  . . . . .   S100388               F4 FOR LIST     d
  NETWORK USER ID . . . .
  NAME:
    LAST  . . . . . . . .
    FIRST . . . . . . . .
    MIDDLE  . . . . . . .
    PREFERRED . . . . . .
    FULL  . . . . . . . .
  DEPARTMENT  . . . . . .                          F4 FOR LIST
  JOB TITLE . . . . . . .
  COMPANY . . . . . . . .

F3=EXIT   F4=PROMPT   F5=REFRESH   F12=CANCEL   F14=ADD X.400 O/R NAME
F18=DISPLAY LOCATION DETAILS
```

Figure 236 (Part 2 of 2). Defining the User ID of SYSTEM (AS/400)

The important parameters are discussed as follows:

a Destination system name/group: The system or destination to which you are sending or forwarding distribution. This will be the local node ID defined for VM/RSCS. You have to specify SYSTEM for user ID to use this value as a default value.

b Description: The description of the destination system name. This is for your own information.

c Service level: One or more service levels must be specified for each routing table entry. Your system will not reroute distributions for a service level you have not required.

d Queue name: You must specify a queue name for each service level required in the configuration,and distribution queues must be configured before they are referred to. Our example uses the same queue for all service levels.

For more information about configuring distribution services, see the *AS/400 Distribution Services Network Guide*.

2 Create file by XEDIT

A file to be printed is created using XEDIT.

```
 CMSTO    AS400    A1  F 80  Trunc=80 Size=3 Line=3 Col=1 Alt=5

DMSXMD587I XEDIT:

===== * * * Top of File * * *
===== *** PRINT TEST CMS TO AS/400 RECORD #1 ***
===== *** PRINT TEST CMS TO AS/400 RECORD #2 ***
===== *** PRINT TEST CMS TO AS/400 RECORD #3 ***
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== * * * End of File * * *









====>
                                                        X E D I T  1 File
```

Figure 237. Editing the CMS File (VM/CMS)

3 Send spool file (printer)

```
Ready; T=0.02/0.04 19:43:19
sp prt to rscs                                    a
Ready; T=0.01/0.01 19:43:40
tag dev prt s7801894                              b
Ready; T=0.01/0.01 19:43:53
print cmsto as400                                 c
PRT FILE 0532 SENT TO   RSCS     RDR AS  5863 RECS 0004 CPY  001 A NOHOLD NOKE
EP
Ready; T=0.01/0.01 19:44:04
 FROM S7801894(SYSTEM): SPOOLED FILE AS400 RECEIVED FOR USER SYSTEM S7801894.


                                                                RUNNING   TOKVMSE1
```

Figure 238. Sending the Spool Printer to the AS/400 (VM/CMS)

a The destination of the spool printer is changed to RSCS.

b Using the TAG command, the destination node of the printer is changed. Here, it is changed to the AS/400 node (S7801894).

c The CMS file (CMSTO AS400) is printed and then is sent to the AS/400.

In this case the spool file (printer) is sent to the default user (SYSTEM). If you want to send to a specific user, for example, user ID E10038, use the TAG command as follows:

```
tag dev prt s7801894 e10038
```

4 Confirm spool file

To confirm the spool file sent from the host system, you can use the work with all output queues (WRKOUTQ) command. The spool file goes into the output queue which is specified in the user profile. In this example, the user ID SYSTEM uses the user profile of S100388, in which PRT01 is specified as the output queue. The following screens show a sample operation to look at the contents of the spool file.

```
                          WORK WITH ALL OUTPUT QUEUES
TYPE OPTIONS, PRESS ENTER.
  2=CHANGE   3=HOLD   4=DELETE   5=WORK WITH   6=RELEASE   8=DESCRIPTION
  14=CLEAR
OPT     QUEUE          LIBRARY        FILES     WRITER         STATUS
        AS40B16        QUSRSYS            0                    RLS
        AS40B20        QUSRSYS            0                    RLS
        L5494PCSS3     QUSRSYS            0                    RLS
5       PRT01          QUSRSYS          198                    RLS
        PRT040301      QUSRSYS            5                    RLS
        QEZDEBUG       QUSRSYS            0                    RLS
        QEZJOBLOG      QUSRSYS          170                    RLS
        Q4D22CWI       QUSRSYS            0                    RLS
        RSS3287P3      QUSRSYS            0                    RLS
        R3287P03       QUSRSYS            0                    RLS
        R3287P032      QUSRSYS            0                    RLS
        SNPTRSSPRT     QUSRSYS            0     SNPTRSSPRT     RLS
COMMAND
===>
F3=EXIT   F4=PROMPT   F5=REFRESH   F12=CANCEL   F24=MORE KEYS
```

Figure 239 (Part 1 of 3). Displaying the Received Spooled File (AS/400)

```
                             WORK WITH OUTPUT QUEUE
QUEUE:   PRT01          LIBRARY:   QUSRSYS        STATUS:   RLS
TYPE OPTIONS, PRESS ENTER.
  1=SEND   2=CHANGE   3=HOLD   4=DELETE   5=DISPLAY   6=RELEASE   7=MESSAGES
  8=ATTRIBUTES        9=WORK WITH PRINTING STATUS

OPT  FILE        USER        USER DATA   STS   PAGES   COPIES  FORM TYPE   PTY
     QPDSPLIB    QPGMR                   RDY       3        1  *STD         5
     QPDSPLIB    QPGMR                   RDY       3        1  *STD         5
     QPDSPLIB    QPGMR                   RDY       3        1  *STD         5
     A           S100388     A           RDY       1*       1  STANDARD     5
 5   AS400       S100388     CMSTO       RDY       1*       1  STANDARD     5
     AMQRSYNA    QSECOFR                 HLD       4        1  *STD         5
     AMQRFCD4    QSECOFR                 HLD       5        1  *STD         5
     AMQRSYNA    HIROMO                  HLD       4        1  *STD         5
     AMQRFCD4    HIROMO                  HLD       5        1  *STD         5
     QPDSPJOB    QSYS                    HLD       5        1  *STD         5
PARAMETERS FOR OPTIONS 1, 2, 3 OR COMMAND
===>
F3=EXIT   F11=VIEW 2   F12=CANCEL   F22=PRINTERS   F24=MORE KEYS
```

Figure 239 (Part 2 of 3). Displaying the Received Spooled File (AS/400)

```
                          DISPLAY SPOOLED FILE
FILE  . . . . . :   AS400                          PAGE/LINE   1/1
CONTROL . . . . .                                  COLUMNS     1 - 78
FIND  . . . . . .
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+...
FILE: CMSTO    AS400    A1  *** VM/ESA REL 2.1 CMS ***
*** PRINT TEST CMS TO AS/400 RECORD #1 ***
*** PRINT TEST CMS TO AS/400 RECORD #2 ***
*** PRINT TEST CMS TO AS/400 RECORD #3 ***

                                                                        BOTTOM

F3=EXIT   F12=CANCEL   F19=LEFT   F20=RIGHT   F24=MORE KEYS
```

Figure 239 (Part 3 of 3). Displaying the Received Spooled File (AS/400)

3.5.7 Sending a Spool Punch File from the VM/RSCS to the AS/400

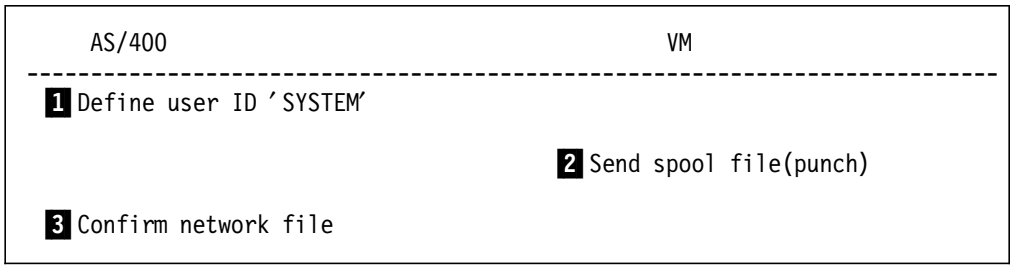

Figure 240. Sample Operation Sequence (Spool Punch File from VM to AS/400)

1 Define user ID SYSTEM

If a VM/RSCS system sends distributions with a user ID value that is not valid for a SNADS network (for example, BLANK), the VM/MVS bridge uses a default user ID value of SYSTEM. If a spool printer file from the VM/RSCS does not have a user ID of the destination, you have to define the user ID SYSTEM prior to receiving the files. For more information about this value, see *AS/400 Distribution Services Network Guide*. To register the user ID SYSTEM, use the WRKDIR command specifying the user ID and the address (for example, S7801894). For this operation, refer to 3.5.6, "Sending a Spool Printer File from the VM/CMS to the AS/400" on page 137.

2 Send spool file (punch)

```
Ready; T=0.01/0.02 12:54:29

sp pun to rscs                                    a

Ready; T=0.01/0.01 12:54:43

tag dev pun s7801894                              b

Ready; T=0.01/0.01 12:54:59

pun cmsto as400                                   c

PUN FILE 0535 SENT TO   RSCS     RDR AS  7674 RECS 0004 CPY  001 A NOHOLD NOKE
EP
Ready; T=0.01/0.01 12:55:11

 FROM S7801894(SYSTEM): FILE AS400 MEMBER CMSTO NUMBER 3 RECEIVED FOR USER SYS
T
 EM S7801894.
```

Figure 241. Sending the Spool Punch to the AS/400 (VM/CMS)

a The destination address is changed to RSCS.

b Using the TAG command, the punch address is changed to the AS/400 node (for example, S7801894).

In this case the spool file (punch) is sent to the default user (SYSTEM). If you want to send to a specific user, for example user id E10038, use the TAG command as follows:

```
tag dev pun s7801894 e10038
```

c You can send the CMS file by the PUNCH (PUN) command.

3 Confirm network file

A spool punch file from the VM/RSCS is treated as a network file. To handle the spool punch file, use the WRKNETF command with USER parameter *ALL.

```
                    WORK WITH NETWORK FILES FOR ALL USERS

                                                        SYSTEM:   S7801894

 TYPE OPTIONS, PRESS ENTER.
   5=WORK WITH NETWORK FILES
                        ---------TO----------
 OPT     USER           USER ID      ADDRESS          FILES
  5      S100388        SYSTEM       S7801894             1




                                                                      BOTTOM
 F3=EXIT   F5=REFRESH   F12=CANCEL
```

Figure 242. Work with Network Files Panel (AS/400)

Enter 5 in the OPT field of the file you want to handle.

```
                          WORK WITH NETWORK FILES                    S7801894

                                                                 94/07/13  13:05:02
USER . . . . . . . . . . . . :   S100388
USER ID/ADDRESS  . . . . . . :   SYSTEM    S7801894
TYPE OPTIONS, PRESS ENTER.
  1=RECEIVE NETWORK FILE   3=SUBMIT JOB   4=DELETE NETWORK FILE
  5=DISPLAY PHYSICAL FILE MEMBER
                               FILE   -------FROM-------  ----ARRIVAL----
OPT  FILE        MEMBER       NUMBER  USER ID   ADDRESS   DATE      TIME
 1   AS400       CMSTO             3  S100388   TOKVMSE1  94/07/13  12:57









                                                                      BOTTOM

PARAMETERS OR COMMAND
===>
F3=EXIT   F4=PROMPT   F5=REFRESH   F9=RETRIEVE   F11=DISPLAY TYPE/RECORDS
F12=CANCEL
```

Figure 243. Work with Network Files Panel (AS/400)

Enter 1 in the OPT field of the file which you want to receive and press F4.

```
                       RECEIVE NETWORK FILE (RCVNETF)
TYPE CHOICES, PRESS ENTER.
FROM FILE  . . . . . . . . . . > 'AS400'       CHARACTER VALUE
TO DATA BASE FILE  . . . . . .   QCLSRC     a    NAME, *FROMFILE
  LIBRARY  . . . . . . . . . .     KANEKO   b    NAME, *LIBL, *CURLIB
MEMBER TO BE RECEIVED  . . . . > 'CMSTO'       CHARACTER VALUE, *ONLY
TO MEMBER  . . . . . . . . . .   *FROMMBR      NAME, *FROMMBR, *FIRST




                                                                      BOTTOM
F3=EXIT   F4=PROMPT   F5=REFRESH   F10=ADDITIONAL PARAMETERS   F12=CANCEL
F13=HOW TO USE THIS DISPLAY        F24=MORE KEYS
```

Figure 244. Receive the Network File (RCVNETF) Panel (AS/400)

Specify the file name **a** and library name **b** which the network file is received to. When the network file is received successfully, a message appears on the bottom line of the display as follows:

```
MEMBER CMSTO ADDED TO FILE QCLSRC IN KANEKO
```

You can see the contents of the file by using SEU.

```
 COLUMNS . . . :    1  71           EDIT                          KANEKO/QCLSRC

 SEU==>                                                                CMSTO
 FMT **  ...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7
        *************** BEGINNING OF DATA ************************************
0000.10 *** PRINT TEST CMS TO AS/400 RECORD #1 ***
0000.20 *** PRINT TEST CMS TO AS/400 RECORD #2 ***
0000.30 *** PRINT TEST CMS TO AS/400 RECORD #3 ***
        ****************** END OF DATA ***************************************

 F3=EXIT   F4=PROMPT   F5=REFRESH   F9=RETRIEVE   F10=CURSOR
 F16=REPEAT FIND       F17=REPEAT CHANGE          F24=MORE KEYS
                                        (C) COPYRIGHT IBM CORP. 1981, 1993.
```

Figure 245. Displaying the Received File Member (AS/400)

3.5.8 Sending a Message from the AS/400 to the VM/RSCS

Messages can be sent from the AS400 to the VM/CMS user via the VM/RSCS.

```
     AS/400                                          VM
-------------------------------------------------------------------------------

  1 Send network message
    SNDNETMSG ...

                                                2 Display message
```

Figure 246. Sample Operation Sequence (Message from AS/400 to VM)

1 Send network message

To send a message from the AS/400 to the VM/RSCS, use the SNDNETMSG command.

```
                      SEND NETWORK MESSAGE (SNDNETMSG)

TYPE CHOICES, PRESS ENTER.

MESSAGE TEXT . . . . . . . . . . > '*** MESSAGE FROM AS/400 TO VM/CMS USER ***'
                                    a

USER ID:
  USER ID  . . . . . . . . . . . > S100388  b      CHARACTER VALUE
  ADDRESS  . . . . . . . . . . . > TOKVMSE1 c      CHARACTER VALUE
             + FOR MORE VALUES
                                                                      BOTTOM

F3=EXIT   F4=PROMPT   F5=REFRESH   F12=CANCEL   F13=HOW TO USE THIS DISPLAY

F24=MORE KEYS
```

Figure 247. Sending the Network Message (AS/400)

Specify the message and the address to be sent.

a Message to be sent

b VM/CMS user ID

c VM/RSCS node ID

2 Display message

When the message is sent from the AS/400 to the VM/CMS user, a message appears as shown in Figure 248.

```
FROM S7801894(E10038): *** MESSAGE FROM AS/400 TO VM/CMS USER ***




                                                        RUNNING   TOKVMSE1
```

Figure 248. Message from the AS/400 (VM/CMS)

3.5.9 Sending a Message from the VM/RSCS to the AS/400

Messages can be sent from the VM/CMS user to the AS/400 via the VM/RSCS.

```
     AS/400                                        VM
-------------------------------------------------------------------------

                                        1 Send network message
                                          TELL ...
                                          SMSG ...

  2 Display message
    DSPMSG E10038
```

Figure 249. Sample Operation Sequence (Message from VM to AS/400)

1 Send network message

Before sending a message, you have to confirm that the status of the VM/CMS user is MSG ON, by using the QUERY SET command (for example, `q set`) on the VM/CMS screen. If the status is `MSG OFF`, change it to `MSG ON` by entering the SET command (for example, `set msg on`) on the same screen.

To send a message, you can use the TELL command or the SMSG command.

```
tell e10038 at s7801894 *** MSG from VM/CMS to AS/400. tell command ***
 a    b       c       d

Ready; T=0.01/0.01 11:39:06

smsg rscs msg s7801894 e10038 *** Msg from VM/CMS to AS/400. SMSG command ***
 e   f   g   h       i     j

Ready; T=0.01/0.01 11:41:02




                                                          RUNNING   TOKVMSE1
```

Figure 250. Sending Message to the AS/400 (VM/CMS)

Figure 250 shows an example of the TELL command and the SMSG command.

- The TELL command
  - **a** tell command
  - **b** Destination user ID
  - **c** Destination node name
  - **d** Message to be sent
- The SMSG command
  - **e** smsg command
  - **f** rscs (VM/RSCS virtual machine)
  - **g** msg (MSG command of RSCS)
  - **h** Destination node name
  - **i** Destination user ID
  - **j** Message to be sent

2 Display message

The message sent from the VM/RSCS is received by the AS/400 and is stored in the message queue which is specified at creating the user profile. To display the message in the queue, you can use the DSPMSG command. In this example, since the message goes into the queue named E10038, you must enter DSPMSG E10038. The following is the result of the execution of the command:

```
                                DISPLAY MESSAGES

                                                          SYSTEM:   S7801894
QUEUE . . . . . :   E10038                 PROGRAM . . . . :   *DSPMSG
  LIBRARY . . . :     QUSRSYS                 LIBRARY . . . :
SEVERITY  . . . :   00                     DELIVERY  . . . :   *NOTIFY
TYPE REPLY (IF REQUIRED), PRESS ENTER.
  FROM  . . . :   S100388  TOKVMSE1     94/07/14   11:41:24

    *** MSG from VM/CMS to AS/400. tell command ***

  FROM  . . . :   S100388  TOKVMSE1     94/07/14   11:43:20

    *** MSG FROM VM/CMS TO AS/400. SMSG COMMAND ***




                                                                      BOTTOM
F3=EXIT             F11=REMOVE A MESSAGE                 F12=CANCEL
F13=REMOVE ALL      F16=REMOVE ALL EXCEPT UNANSWERED     F24=MORE KEYS
```

Figure 251. Displaying the Received Messages (AS/400)

Appendix A. Sample Trace Data Between AS/400 VM/MVS Bridge and MVS/JES2 NJE

This appendix provides examples of trace data at the session establishment, the file transfer, and the session termination between the AS400 VM/MVS bridge and the MVS/JES2 NJE. For the format of the initial signon and response signon records, see the *NJE Formats and Protocols*.

Figure 252 shows the sample operation and data flow.

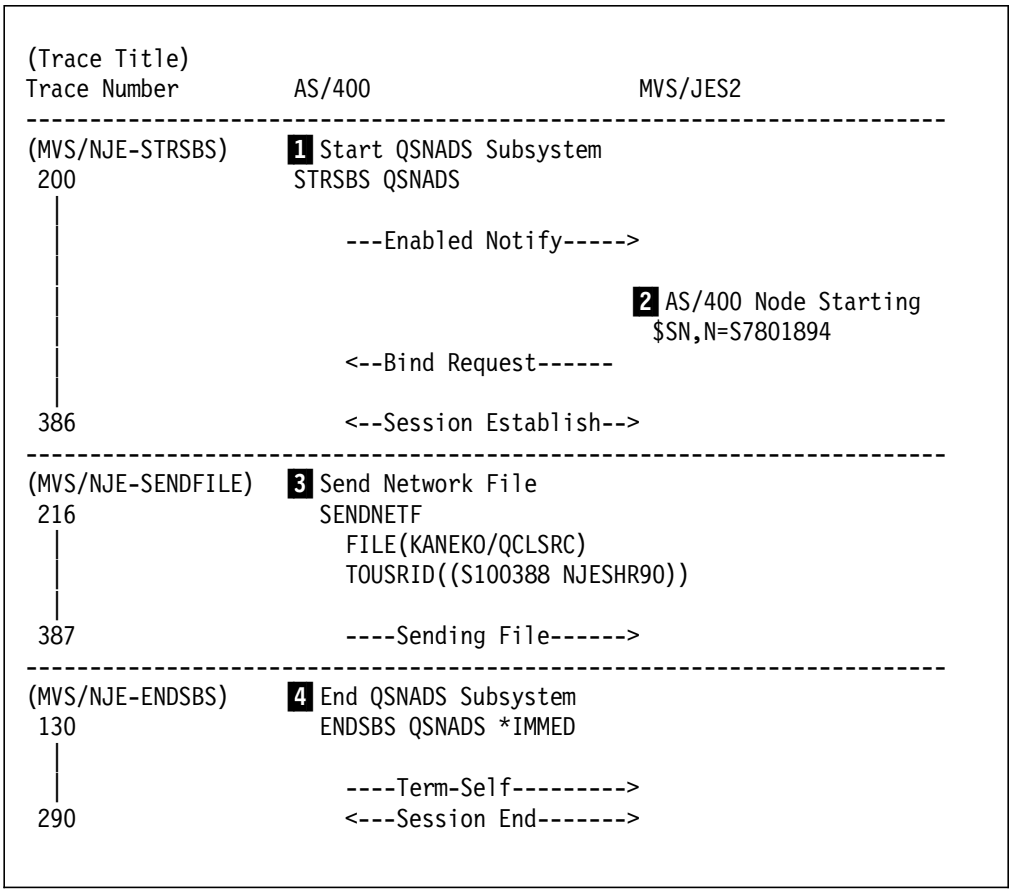

Figure 252. Sample Operation and Data Flow

The following is the trace data:

```
COMMUNICATIONS TRACE       TITLE: MVS/NJE-STRSBS                    94/07/20  11:20:12                          PAGE:       1
  TRACE DESCRIPTION  . . . . . :   MVS/NJE-STRSBS
  CONFIGURATION OBJECT . . . . :   SHRMVS
  TYPE . . . . . . . . . . . . :   1            1=LINE, 2=NETWORK INTERFACE
  OBJECT PROTOCOL  . . . . . . :   SDLC
  START DATE/TIME  . . . . . . :   94/07/20  11:18:55
  END DATE/TIME  . . . . . . . :   94/07/20  11:19:54
  BYTES COLLECTED  . . . . . . :   10521
  BUFFER SIZE  . . . . . . . . :   1            1=128K, 2=256K, 3=2048K
                                                4=4096K, 5=6144K, 6=8192K
  DATA DIRECTION . . . . . . . :   3            1=SENT, 2=RECEIVED, 3=BOTH
  STOP ON BUFFER FULL  . . . . :   N            Y=YES, N=NO

  NUMBER OF BYTES TO TRACE
    BEGINNING BYTES  . . . . . :   *CALC        VALUE, *CALC
    ENDING BYTES   . . . . . . :   *CALC        VALUE, *CALC
  CONTROLLER NAME  . . . . . . :   *ALL         *ALL, NAME
  DATA REPRESENTATION  . . . . :   2            1=ASCII, 2=EBCDIC
  FORMAT SNA DATA ONLY . . . . :   Y            Y=YES, N=NO
  FORMAT RR, RNR COMMANDS  . . :   N            Y=YES, N=NO
COMMUNICATIONS TRACE       TITLE: MVS/NJE-STRSBS                    94/07/20  11:20:12                          PAGE:       2
RECORD NUMBER . . . .  NUMBER OF RECORD IN TRACE BUFFER (DECIMAL)
S/R . . . . . . . . .  S=SENT   R=RECEIVED    M=MODEM CHANGE
CONTROLLER NAME . . .  NAME OF CONTROLLER ASSOCIATED WITH RECORD
DATA TYPE . . . . . .  EBCDIC DATA, ASCII DATA OR BLANK=UNKNOWN
SNA DATA  . . . . . .  TH, RH AND RU FOR RECORD
TH  . . . . . . . . .  TRANSMISSION HEADER
RH  . . . . . . . . .  REQUEST/RESPONSE HEADER
RU  . . . . . . . . .  REQUEST/RESPONSE UNIT
TH PARAMETER DESCRIPTIONS:
  FID . . . . . . . . .  FORMAT IDENTIFICATION
  MPF . . . . . . . . .  MAPPING FIELD (SEGMENT OF BASIC INFORMATION
                          UNIT (BIU) - ONLY, FIRST, MIDDLE, LAST)
  OAF . . . . . . . . .  ORIGINATION ADDRESS FIELD
  DAF . . . . . . . . .  DESTINATION ADDRESS FIELD
  SNF . . . . . . . . .  SEQUENCE NUMBER FIELD
  DCF . . . . . . . . .  DATA COUNT FIELD
  LA  . . . . . . . . .  LOCAL ADDRESS
  ODAI  . . . . . . . .  OAF-DAF ASSIGNOR INDICATOR
  EFI . . . . . . . . .  EXPEDITED FLOW INDICATOR
  LU  . . . . . . . . .  LOGICAL UNIT
  SSCP  . . . . . . . .  SYSTEM SERVICES CONTROL POINT
  PU  . . . . . . . . .  PHYSICAL UNIT
RH PARAMETER DESCRIPTIONS:
  REQ . . . . . . . . .  REQUEST
  RSP . . . . . . . . .  RESPONSE
  RH CATEGORY DESCRIPTIONS:
    NC . . . . . . . .  NETWORK CONTROL
    SC . . . . . . . .  SESSION CONTROL
    DFC  . . . . . . .  DATA FLOW CONTROL
    NC . . . . . . . .  NETWORK CONTROL
    FMD  . . . . . . .  FUNCTION MANAGEMENT DATA
    FMH  . . . . . . .  FUNCTION MANAGEMENT HEADER
  RH INDICATORS:
    FI   . . . . . . .  FORMAT INDICATOR
    SDI  . . . . . . .  SENSE DATA INCLUDED INDICATOR
    BCI  . . . . . . .  BEGIN CHAIN INDICATOR
    ECI  . . . . . . .  END CHAIN INDICATOR
    DR1  . . . . . . .  DEFINITE RESPONSE 1 INDICATOR
    LCCI . . . . . . .  LENGTH-CHECKED COMPRESSION INDICATOR
    DR2  . . . . . . .  DEFINITE RESPONSE 2 INDICATOR
    ERI  . . . . . . .  EXCEPTION RESPONSE INDICATOR
    RTI  . . . . . . .  RESPONSE TYPE INDICATOR
    QRI  . . . . . . .  QUEUED RESPONSE INDICATOR
    EBI  . . . . . . .  END BRACKET INDICATOR
    CDI  . . . . . . .  CHANGE DIRECTION INDICATOR
    PI   . . . . . . .  PACING INDICATOR
    BBI  . . . . . . .  BEGIN  BRACKET INDICATOR
    CSI  . . . . . . .  CODE SELECTION INDICATOR
    EDI  . . . . . . .  ENCIPHERED DATA INDICATOR
    PDI  . . . . . . .  PADDED DATA INDICATOR
    CEBI . . . . . . .  CONDITIONAL END BRACKET INDICATOR
    RLWI . . . . . . .  REQUEST LARGER WINDOW INDICATOR
```

Figure 253 (Part 1 of 4). Trace Data Between the AS/400 and the MVS/JES2

```
1 Start QSNADS Subsystem
COMMUNICATIONS TRACE       TITLE: MVS/NJE-STRSBS                    94/07/20  11:20:12                          PAGE:       3
RECORD       CONTROLLER  DATA
NUMBER  S/R  NAME        TYPE      SNA DATA: TH, RH, RU
------  ---  ----------  ------   ------------------------------------------------------------------------------------------
   200   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=00, OAF'=02, SNF'=2222
                                    RH :  ('0B8000'X)  REQ FMD, FI, BCI, ECI, DR1
             RU COMMAND . . . . :  NOTIFY
             RU DATA . . . . . :  8106200C06030001000000                                  *A.........                  *
   201   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=02, OAF'=00, SNF'=2222
                                    RH :  ('8B8000'X)  RSP  FMD, FI, DR1
             RU COMMAND . . . . :  NOTIFY
             RU DATA . . . . . :  810620                                                  *A..                         *
   358   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=02, OAF'=01, SNF'=0520, EFI
                                    RH :  ('6B8000'X)  REQ  SC, FI, BCI, ECI, DR1
             RU COMMAND . . . . :  BIND
             RU DATA . . . . . :  3101030372724020000788888300000000000000000000000000007D1C5   *...... ...HHC.............JE*
                                    E2F2E2C8D900                                          *S2SHR.                      *
   362   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=02, SNF'=0520, EFI
                                    RH :  ('EB8000'X)  RSP  SC,  FI, DR1
             RU COMMAND . . . . :  BIND
             RU DATA . . . . . :  31                                                      *.                           *
   363   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=02, OAF'=01, SNF'=0521, EFI
                                    RH :  ('6B8000'X)  REQ  SC, FI, BCI, ECI, DR1
             RU COMMAND . . . . :  SDT
             RU DATA . . . . . :  A0                                                      *.                           *
   365   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=02, SNF'=0521, EFI
                                    RH :  ('EB8000'X)  RSP  SC,  FI, DR1
             RU COMMAND . . . . :  SDT
             RU DATA . . . . . :  A0                                                      *.                           *
   372   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=02, OAF'=01, SNF'=0001
                                    RH :  ('0B8100'X)  REQ FMD, FI, BCI, ECI, DR1, PI
             RU COMMAND . . . . :
             RU DATA . . . . . :  0804080000000E080                                       *........                    *
   376   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=02, SNF'=0000
                                    RH :  ('830100'X)  RSP  FMD, PI
                                    NO RU DATA
   377   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=02, SNF'=0001
                                    RH :  ('0B8000'X)  REQ FMD, FI, BCI, ECI, DR1
             RU COMMAND . . . . :
             RU DATA . . . . . :  0804080000000C080                                       *......{.                    *
   378   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=02, OAF'=01, SNF'=0001
                                    RH :  ('838000'X)  RSP  FMD, DR1
                                    NO RU DATA
   382   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=02, SNF'=0001
                                    RH :  ('838000'X)  RSP  FMD, DR1
                                    NO RU DATA
   386   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=02, SNF'=0002
                                    RH :  ('038000'X)  REQ FMD, BCI, ECI, DR1
             RU DATA . . . . . :  29F0C929E2F7F8F0F1F8F9F401000000000000080040404040404040404040   *.0I.S7801894.........       *
                                    4040404040404000000000                                *       .....                *
COMMUNICATIONS TRACE       TITLE: MVS/NJE-STRSBS                    94/07/20  11:20:12                          PAGE:       4
RECORD       CONTROLLER  DATA
NUMBER  S/R  NAME        TYPE      SNA DATA: TH, RH, RU
------  ---  ----------  ------   ------------------------------------------------------------------------------------------
   387   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=02, OAF'=01, SNF'=0002
                                    RH :  ('039000'X)  REQ FMD, BCI, ECI, DR1, ERI
             RU DATA . . . . . :  29F0D129D5D1C5E2C8D9F9F001FFFFFFFF00640800404040404040404040   *.0J.NJESHR90.........       *
                                    4040404040404000000000                                *       .....                *
```

Figure 253 (Part 2 of 4). Trace Data Between the AS/400 and the MVS/JES2

```
3 Send Network File
COMMUNICATIONS TRACE       TITLE: MVS/NJE-SNDFILE                  94/07/20  11:22:02                          PAGE:       3
RECORD       CONTROLLER  DATA
NUMBER  S/R  NAME        TYPE      SNA DATA: TH, RH, RU
------  ---  ----------  ------   ------------------------------------------------------------------------------------------
   216   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=02, SNF'=0003
                                    RH :  ('038000'X)  REQ FMD, BCI, ECI, DR1
             RU DATA . . . . . :  03909900                                          *..R.                          *
   217   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=02, OAF'=01, SNF'=0003
                                    RH :  ('039000'X)  REQ FMD, BCI, ECI, DR1, ERI
             RU DATA . . . . . :  03A09900                                          *..R.                          *
   221   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=02, SNF'=0004
                                    RH :  ('038000'X)  REQ FMD, BCI, ECI, DR1
             RU DATA . . . . . :  0399C0CB02000CCC30001C8C3000701C1C100070001C4008803C1E2F4C4F0   *.R{....C..HC...AA....D.H.AS4D0*
                                  07F1C5F1F0F0F3F882D00016A99ABFA67480008FE2F7F8F0F1F8F9F4C5F1   *.1E10038B}..Z..W....S7801894E1*
                                  F0F0F3F8820EE2F7F8F0F1F8F9F4C5F1F0F0F3F8821FD5D1C5E2C8D9F9F0   *0038B.S7801894E10038B.NJESHR90*
                                  E2F1F0F0F3F8F840D5D1C5E2C8D9F9F0E2F1F0F0F3F8F889D00006C5F1F0   *S100388 NJESHR90S100388I}..E10*
                                  F0F3F8A6C300010B                                      *038WC...                      *
   225   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=02, SNF'=0005
                                    RH :  ('038000'X)  REQ FMD, BCI, ECI, DR1
             RU DATA . . . . . :  0399E073020074C300177000000D5D1C5E2C8D9F9F0E2F1F0F0F3F8F840E3   *.R.....C.....NJESHR90S100388 T*
                                  C5E2E38406D8C3D3E2D9C38A04000100C1C300050B10800050C4009808E2   *ESTD.QCLSRC.....AC......&D.Q.S*
                                  F1F0F0F3F8F840C8000160C30088                          *100388 H..-C.H                *
   229   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=FIRST        ODAI=0, DAF'=01, OAF'=02, SNF'=0006
                                    RH :  ('038000'X)  REQ FMD, BCI, ECI, DR1
             RU DATA . . . . . :  039980502B5066E0C9D5D4D9F0F100420001000200 5C101100010008E2F7   *.R.&.&..INMR01.......*......S7*
                                  F8F0F1F8F9F41012000100008C5F1F0F0F3F882241001000100008D5D1C5E2   *801894......E10038B.......NJES*
                                  C8D9F9F0100200010008E2F1F0F0F3F8F840102400010000EF1F903998050   *HR90......S100388 ......19.R.&.*
                                  1350F9F4F0F7F2F0F1F1F2F1F2F4102F00010004C30009014DE0C9D5D4D9   *.&940720112124......C...(.INMR*
                                  F0F2C3002F01003C000100024000004200010002005C0049000100020002   *02C......... ........*........*
                                  102C000100040000011410280001000 7C9D5D4C3D6D7039980503050E800   *.................INMCOP.R.&.&Y.*
                                  0200020004E3C5E2E30006D8C3D3E2D9C3FFA0C9D5D4D9F0F41029000101   *.....TEST..QCLSRC..INMR04.....*
                                  D5E2F7F8F0F1F8F9F4C5F1F0F0F3F8821CF0F0F1F107CA07140B151800D5   *NS7801894E10038B.0011........N*
                                  D1C5E2C8D9F9F0E2F1F0F0F3F8F840C3F003998050015 0C3F01007CA0714   *JESHR90S100388 CO.R.&.&CO.....*
                                  0B15180002C6D8C3D3E2D9C38402005CC300040300000C1F0000399805001   *.....FQCLSRCD..*C.....A0..R.&.*
                                  50FF00CE0003E2E3C5039980500350E2E3860200009802E660A4C8000399   *&.....STE.R.&.&STF...Q.W-UH..R*
                                  805010500000F0F9F4F0F7F2F0F1F0F2F7F5F2FF000200000399805001 50   *.&.&..0940720102752......R.&.&.*
                                  FF00D100039980500150D8002C2AE0C9D5D4D9F0F3003C00010002400000   *..J..R.&.&Q....INMR03...... ..*
                                  4200010002005C00490001000200011102C000100040000011436C0C3F001   *......*..................{CO.*
                                  F1C8F0039980502B50F1F2F3F4F5F6F7F8F9F0F1F2F3F4F5F6F7F8F9F0F1   *1H0.R.&.&1234567890123456789 01*
                                  F2F3F4F5F6F7F8F9F0F1F2F3F4F5F6F7F8F9F036C0C3F023F2F0F0F9F4F0   *2345678901234567890.{CO.200940*
                                  F7F2F0C1C2C3C4C5C6C7C8C9D1D2D3D4D5D6D7D8D9E2E3E4E5E6E7E8E903   *720ABCDEFGHIJKLMNOPQRSTUVWXYZ.*
                                  9980                                                  *R.                            *
   230   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=LAST         ODAI=0, DAF'=01, OAF'=02, SNF'=0006
             RU DATA . . . . . :  4C014CC5F1C5F2C4F302360C0C3F009F3F0F0F9F4F0F7F2F0CAC1CAC28AC5   *<.<E1E2D3..{C0.300940720.A.B.E*
                                  C3C5C40808E0C9D5D4D9F0F6                              *CED...INMR06                  *
   234   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=02, SNF'=0007
                                    RH :  ('038000'X)  REQ FMD, BCI, ECI, DR1
             RU DATA . . . . . :  0399D02F020030C300012CC30001C1DD00010BC400C407                *.R}....C...C..A....D.D.       *
   238   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=02, SNF'=0008
                                    RH :  ('038000'X)  REQ FMD, BCI, ECI, DR1
             RU DATA . . . . . :  03990000                                          *.R..                          *
COMMUNICATIONS TRACE       TITLE: MVS/NJE-SNDFILE                  94/07/20  11:22:02                          PAGE:       4
RECORD       CONTROLLER  DATA
NUMBER  S/R  NAME        TYPE      SNA DATA: TH, RH, RU
------  ---  ----------  ------   ------------------------------------------------------------------------------------------
   239   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=02, OAF'=01, SNF'=0004
                                    RH :  ('039000'X)  REQ FMD, BCI, ECI, DR1, ERI
             RU DATA . . . . . :  169A007C6477005FE2F7F8F0F1F8F9F400C5F1F0F0F3F88227D5D1C5E2C8   *...@...—S7801894.E10038B.NJESH*
                                  D9F9F001F1F14BF1F94BF0F140D1D6C2F0F0F7F1F5405BC8C1E2D7F5F4F6   *R90.11.19.01 JOB00715 $HASP546*
                                  40C1E2F4C4F006F1404DD1D6C2C4F033F140C6D9D6D440E2F7F8F0F1F8F9   * AS4D0.1 (JOBD0.1 FROM S780189*
                                  F45D40E2E8E2E3C5D440D6E4E3D7E4E340D9C5C3C5C9E5C5C440C1E340D5   *4) SYSTEM OUTPUT RECEIVED AT N*
                                  D1C5E2C8D9F9F0                                        *JESHR90                       *
   240   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=02, OAF'=01, SNF'=0005
                                    RH :  ('039000'X)  REQ FMD, BCI, ECI, DR1, ERI
             RU DATA . . . . . :  03C09900                                          *.{R.                          *
```

Figure 253 (Part 3 of 4). Trace Data Between the AS/400 and the MVS/JES2

```
4 End QSNADS Subsystem
COMMUNICATIONS TRACE       TITLE: MVS/NJE-ENDSBS                    94/07/20  11:23:50                          PAGE:       3
RECORD       CONTROLLER  DATA
NUMBER  S/R  NAME        TYPE      SNA DATA: TH, RH, RU
------  ---  ----------  ------    ------------------------------------------------------------------------------------------
   130   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=00, OAF'=02, SNF'=0001
                                   RH :  ('0B8000'X)  REQ FMD, FI, BCI, ECI, DR1
             RU COMMAND . . . . :  TERM-SELF
             RU DATA . . . . . :  0106836CF300                                          *..C%3.                      *
   131   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=02, OAF'=01, SNF'=0521, EFI
                                   RH :  ('6B8000'X)  REQ  SC, FI, BCI, ECI, DR1
             RU COMMAND . . . . :  UNBIND
             RU DATA . . . . . :  320F                                                  *..                          *
   132   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=02, OAF'=00, SNF'=0001
                                   RH :  ('8B8000'X)  RSP  FMD, FI, DR1
             RU COMMAND . . . . :  TERM-SELF
             RU DATA . . . . . :  010683                                                *..C                         *
   133   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=02, OAF'=00, SNF'=0522, EFI
                                   RH :  ('6B8000'X)  REQ  SC, FI, BCI, ECI, DR1
             RU COMMAND . . . . :  DACTLU
             RU DATA . . . . . :  OE                                                    *.                           *
   135   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=02, SNF'=0521, EFI
                                   RH :  ('EB8000'X)  RSP  SC,  FI, DR1
             RU COMMAND . . . . :  UNBIND
             RU DATA . . . . . :  32                                                    *.                           *
   136   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=00, OAF'=02, SNF'=2222
                                   RH :  ('0B8000'X)  REQ FMD, FI, BCI, ECI, DR1
             RU COMMAND . . . . :  NOTIFY
             RU DATA . . . . . :  8106200C06010001000000                               *A.........                  *
   137   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=00, OAF'=02, SNF'=0522, EFI
                                   RH :  ('EB8000'X)  RSP  SC,  FI, DR1
             RU COMMAND . . . . :  DACTLU
             RU DATA . . . . . :  OE                                                    *.                           *
   138   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=02, OAF'=00, SNF'=0523, EFI
                                   RH :  ('6B8000'X)  REQ  SC, FI, BCI, ECI, DR1
             RU COMMAND . . . . :  ACTLU
             RU DATA . . . . . :  0D0201                                                *...                         *
   290   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=00, OAF'=02, SNF'=0523, EFI
                                   RH :  ('EB8000'X)  RSP  SC,  FI, DR1
             RU COMMAND . . . . :  ACTLU
             RU DATA . . . . . :  0D0101008500000000C0F0100010000004040404040404040000    *....E...........       .    *
* * * * *  E N D  O F  C O M P U T E R  P R I N T O U T  * * * * *
```

Figure 253 (Part 4 of 4). Trace Data Between the AS/400 and the MVS/JES2

The following is the data sent from the AS/400:

```
0001000000001234567890123456789012345678901234567890
000200940720ABCDEFGHIJKLMNOPQRSTUVWXYZ11111222223333
000300940720AAAAAAAAAABBBBBBBBBB          CCCCCDDDDD
```

Figure 254. Transferred Data from the AS/400 to the MVS/JES2 NJE

Note: When you see the above data in the trace, please note that duplicate characters are compressed.

Appendix B. Sample Trace Data Between AS/400 and VM/RSCS

This appendix provides examples of trace data at the session establishment, the file transmission, and the session closing between the AS/400 and the VM/RSCS. For the format of the initial signon and response signon records, see *NJE Formats and Protocols.*

Figure 255 shows the sample operation and data flow.

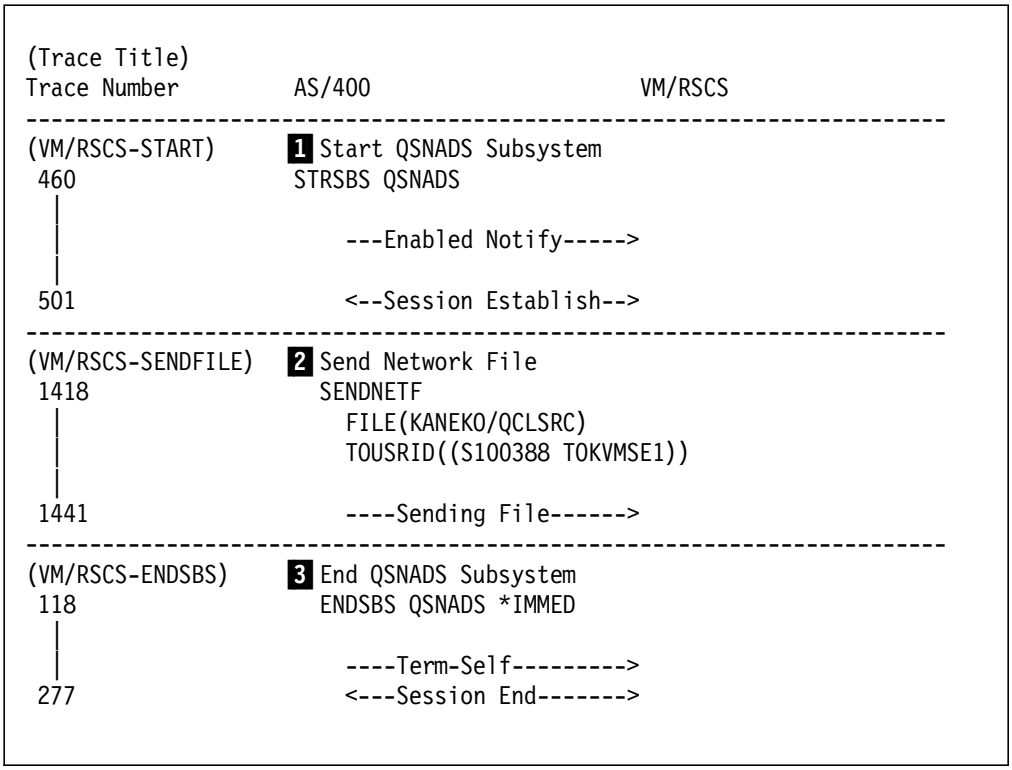

Figure 255. Sample Operation and Data Flow

Following is the trace data.

```
COMMUNICATIONS TRACE       TITLE: VM/RSCS-START                    94/07/20  10:21:30                        PAGE:       1
  TRACE DESCRIPTION  . . . . . :   VM/RSCS-START
  CONFIGURATION OBJECT . . . . :   SHRMVS
  TYPE . . . . . . . . . . . . :   1            1=LINE, 2=NETWORK INTERFACE
  OBJECT PROTOCOL  . . . . . . :   SDLC
  START DATE/TIME  . . . . . . :   94/07/20  10:20:16
  END DATE/TIME  . . . . . . . :   94/07/20  10:21:20
  BYTES COLLECTED  . . . . . . :   11478
  BUFFER SIZE  . . . . . . . . :   1            1=128K, 2=256K, 3=2048K
                                                4=4096K, 5=6144K, 6=8192K
  DATA DIRECTION . . . . . . . :   3            1=SENT, 2=RECEIVED, 3=BOTH
  STOP ON BUFFER FULL  . . . . :   N            Y=YES, N=NO

  NUMBER OF BYTES TO TRACE
    BEGINNING BYTES  . . . . . :   *CALC        VALUE, *CALC
    ENDING BYTES   . . . . . . :   *CALC        VALUE, *CALC
  CONTROLLER NAME  . . . . . . :   *ALL         *ALL, NAME
  DATA REPRESENTATION  . . . . :   2            1=ASCII, 2=EBCDIC
  FORMAT SNA DATA ONLY . . . . :   Y            Y=YES, N=NO
  FORMAT RR, RNR COMMANDS  . . :   N            Y=YES, N=NO
COMMUNICATIONS TRACE       TITLE: VM/RSCS-START                    94/07/20  10:21:30                        PAGE:       2
RECORD NUMBER . . . .  NUMBER OF RECORD IN TRACE BUFFER (DECIMAL)
S/R . . . . . . . . .  S=SENT   R=RECEIVED    M=MODEM CHANGE
CONTROLLER NAME . . .  NAME OF CONTROLLER ASSOCIATED WITH RECORD
DATA TYPE . . . . . .  EBCDIC DATA, ASCII DATA OR BLANK=UNKNOWN
SNA DATA  . . . . . .  TH, RH AND RU FOR RECORD
TH  . . . . . . . . .  TRANSMISSION HEADER
RH  . . . . . . . . .  REQUEST/RESPONSE HEADER
RU  . . . . . . . . .  REQUEST/RESPONSE UNIT
TH PARAMETER DESCRIPTIONS:
  FID . . . . . . . . .  FORMAT IDENTIFICATION
  MPF . . . . . . . . .  MAPPING FIELD (SEGMENT OF BASIC INFORMATION
                          UNIT (BIU) - ONLY, FIRST, MIDDLE, LAST)
  OAF . . . . . . . . .  ORIGINATION ADDRESS FIELD
  DAF . . . . . . . . .  DESTINATION ADDRESS FIELD
  SNF . . . . . . . . .  SEQUENCE NUMBER FIELD
  DCF . . . . . . . . .  DATA COUNT FIELD
  LA  . . . . . . . . .  LOCAL ADDRESS
  ODAI  . . . . . . . .  OAF-DAF ASSIGNOR INDICATOR
  EFI . . . . . . . . .  EXPEDITED FLOW INDICATOR
  LU  . . . . . . . . .  LOGICAL UNIT
  SSCP  . . . . . . . .  SYSTEM SERVICES CONTROL POINT
  PU  . . . . . . . . .  PHYSICAL UNIT
RH PARAMETER DESCRIPTIONS:
  REQ . . . . . . . . .  REQUEST
  RSP . . . . . . . . .  RESPONSE
  RH CATEGORY DESCRIPTIONS:
    NC . . . . . . . .  NETWORK CONTROL
    SC . . . . . . . .  SESSION CONTROL
    DFC  . . . . . . .  DATA FLOW CONTROL
    NC . . . . . . . .  NETWORK CONTROL
    FMD  . . . . . . .  FUNCTION MANAGEMENT DATA
    FMH  . . . . . . .  FUNCTION MANAGEMENT HEADER
  RH INDICATORS:
    FI   . . . . . . .  FORMAT INDICATOR
    SDI  . . . . . . .  SENSE DATA INCLUDED INDICATOR
    BCI  . . . . . . .  BEGIN CHAIN INDICATOR
    ECI  . . . . . . .  END CHAIN INDICATOR
    DR1  . . . . . . .  DEFINITE RESPONSE 1 INDICATOR
    LCCI . . . . . . .  LENGTH-CHECKED COMPRESSION INDICATOR
    DR2  . . . . . . .  DEFINITE RESPONSE 2 INDICATOR
    ERI  . . . . . . .  EXCEPTION RESPONSE INDICATOR
    RTI  . . . . . . .  RESPONSE TYPE INDICATOR
    QRI  . . . . . . .  QUEUED RESPONSE INDICATOR
    EBI  . . . . . . .  END BRACKET INDICATOR
    CDI  . . . . . . .  CHANGE DIRECTION INDICATOR
    PI   . . . . . . .  PACING INDICATOR
    BBI  . . . . . . .  BEGIN  BRACKET INDICATOR
    CSI  . . . . . . .  CODE SELECTION INDICATOR
    EDI  . . . . . . .  ENCIPHERED DATA INDICATOR
    PDI  . . . . . . .  PADDED DATA INDICATOR
    CEBI . . . . . . .  CONDITIONAL END BRACKET INDICATOR
    RLWI . . . . . . .  REQUEST LARGER WINDOW INDICATOR
```

Figure 256 (Part 1 of 4). Trace Data Between the AS/400 and the VM/RSCS

```
1 Start QSNADS Subsystem
COMMUNICATIONS TRACE       TITLE: VM/RSCS-START                    94/07/20  10:21:30                          PAGE:       3
RECORD       CONTROLLER  DATA
NUMBER  S/R  NAME        TYPE      SNA DATA: TH, RH, RU
------  ---  ----------  ------    ------------------------------------------------------------------------------------------
   460   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=00, OAF'=01, SNF'=2222
                                   RH :  ('0B8000'X)  REQ FMD, FI, BCI, ECI, DR1
             RU COMMAND . . . . :  NOTIFY
             RU DATA . . . . . :  8106200C06030001000000                                  *A.........                  *
   461   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=00, SNF'=2222
                                   RH :  ('8B8000'X)  RSP  FMD, FI, DR1
             RU COMMAND . . . . :  NOTIFY
             RU DATA . . . . . :  810620                                                  *A..                         *
   462   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0A7D, EFI
                                   RH :  ('6B8000'X)  REQ  SC, FI, BCI, ECI, DR1
             RU COMMAND . . . . :  BIND
             RU DATA . . . . . :  3101030372724020000 7C7C7830000000000000000000000000008D8C8   *...... ...GGC.............QH*
                                   E2C6D9E2C3F100                                         *SFRSC1.                     *
   464   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0A7D, EFI
                                   RH :  ('EB8000'X)  RSP  SC,  FI, DR1
             RU COMMAND . . . . :  BIND
             RU DATA . . . . . :  31                                                      *.                           *
   473   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0A7E, EFI
                                   RH :  ('6B8000'X)  REQ  SC, FI, BCI, ECI, DR1
             RU COMMAND . . . . :  SDT
             RU DATA . . . . . :  A0                                                      *.                           *
   475   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0A7E, EFI
                                   RH :  ('EB8000'X)  RSP  SC,  FI, DR1
             RU COMMAND . . . . :  SDT
             RU DATA . . . . . :  A0                                                      *.                           *
   476   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0001
                                   RH :  ('0B8100'X)  REQ FMD, FI, BCI, ECI, DR1, PI
             RU COMMAND . . . . :
             RU DATA . . . . . :  080404000000C080                                       *......{.                    *
   478   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0000
                                   RH :  ('830100'X)  RSP  FMD, PI
                                   NO RU DATA
   490   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0001
                                   RH :  ('0B8000'X)  REQ FMD, FI, BCI, ECI, DR1
             RU COMMAND . . . . :
             RU DATA . . . . . :  080408000000C080                                       *......{.                    *
   491   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0001
                                   RH :  ('838000'X)  RSP  FMD, DR1
                                   NO RU DATA
   497   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0001
                                   RH :  ('838000'X)  RSP  FMD, DR1
                                   NO RU DATA
   498   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0002
                                   RH :  ('039000'X)  REQ FMD, BCI, ECI, DR1, ERI
             RU DATA . . . . . :  29F0C929E3D6D2E5D4E2C5F101000000000000040040404040404040404   *.0I.TOKVMSE1.........       *
                                   4040404040404001C000000                                *       .....                *
COMMUNICATIONS TRACE       TITLE: VM/RSCS-START                    94/07/20  10:21:30                          PAGE:       4
RECORD       CONTROLLER  DATA
NUMBER  S/R  NAME        TYPE      SNA DATA: TH, RH, RU
------  ---  ----------  ------    ------------------------------------------------------------------------------------------
   500   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0002
                                   RH :  ('038000'X)  REQ FMD, BCI, ECI, DR1
             RU DATA . . . . . :  29F0D129E2F7F8F0F1F8F9F401FFFFFFFF000004004040404040404040404   *.0J.S7801894.........       *
                                   4040404040404000000000000                              *       .....                *
   501   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0003
                                   RH :  ('039000'X)  REQ FMD, BCI, ECI, DR1, ERI
             RU DATA . . . . . :  039A805A3F0077043DE2F7F8F0F1F8F9F400000041000000000E3D6D2E5   *...!.....S7801894.........TOKV*
                                   D4E2C5F100C4D4E3D5C3D9F9F0F5C940E2C9C7D5D6D540D6C640D3C9D5D2   *MSE1.DMTNCR905I SIGNON OF LINK*
                                   40E2F7F8F0F1F8F91CF440C3D6D4D7D3C5E3C56B40C2E4C6C6C5D940E2C9   * S780189.4 COMPLETE, BUFFER SI*
                                   E9C57EF1F0F2F4                                         *ZE=1024                     *
```

Figure 256 (Part 2 of 4). Trace Data Between the AS/400 and the VM/RSCS

```
2 Send Network File
COMMUNICATIONS TRACE       TITLE: VM/RSCS-SNDFILE                  94/07/20  10:29:10                          PAGE:       3
RECORD       CONTROLLER  DATA
NUMBER  S/R  NAME        TYPE      SNA DATA: TH, RH, RU
------  ---  ----------  ------   ------------------------------------------------------------------------------------------
  1418   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0010
                                    RH :  ('038000'X)  REQ FMD, BCI, ECI, DR1
             RU DATA . . . . . :  03909900                                          *..R.                          *
  1419   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0007
                                    RH :  ('039000'X)  REQ FMD, BCI, ECI, DR1, ERI
             RU DATA . . . . . :  03A09900                                          *..R.                          *
  1421   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0011
                                    RH :  ('038000'X)  REQ FMD, BCI, ECI, DR1
             RU DATA . . . . . :  0399C0CB02000CCC30001C8C3000701C1C100070001C4008803C1E2F4C4F0   *.R{....C..HC...AA....D.H.AS4D0*
                                  07F1C5F1F0F0F3F882D00016A99AB3C7B100007DE2F7F8F0F1F8F9F4C5F1   *.1E10038B}..Z..G.../S7801894E1*
                                  F0F0F3F8820EE2F7F8F0F1F8F9F4C5F1F0F0F3F8821FE3D6D2E5D4E2C5F1   *0038B.S7801894E10038B.TOKVMSE1*
                                  E2F1F0F0F3F8F840E3D6D2E5D4E2C5F1E2F1F0F0F3F8F889D00006C5F1F0   *S100388 TOKVMSE1S100388I}..E10*
                                  F0F3F8A6C300010B                                      *038WC...                      *
  1425   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0012
                                    RH :  ('038000'X)  REQ FMD, BCI, ECI, DR1
             RU DATA . . . . . :  0399E073020074C300177000000E3D6D2E5D4E2C5F1E2F1F0F0F3F8F840E3   *.R.....C.....TOKVMSE1S100388 T*
                                  C5E2E38406D8C3D3E2D9C38A04000100C1C300050B10800050C4009808E2   *ESTD.QCLSRC.....AC......&D.Q.S*
                                  F1F0F0F3F8F840C8000160C30088                          *100388 H..-C.H                *
  1429   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=FIRST        ODAI=0, DAF'=01, OAF'=01, SNF'=0013
                                    RH :  ('038000'X)  REQ FMD, BCI, ECI, DR1
             RU DATA . . . . . :  039980502B5066E0C9D5D4D9F0F100420001000200 5C101100010008E2F7   *.R.&.&..INMR01.......*......S7*
                                  F8F0F1F8F9F41012000100008C5F1F0F0F3F882241001000100008E3D6D2E5   *801894......E10038B.......TOKV*
                                  D4E2C5F1100200010008E2F1F0F0F3F8F840102400010000EF1F903998050   *MSE1......S100388 ......19.R.&.*
                                  1350F9F4F0F7F2F0F1F0F2F8F1F9102F00010004C30009014DE0C9D5D4D9   *.&940720102819......C...(.INMR*
                                  F0F2C3002F01003C000100024000004200010002005C0049000100020002   *02C......... ........*........*
                                  102C000100040000011410280001000 7C9D5D4C3D6D7039980503050E800   *.................INMCOP.R.&.&Y.*
                                  0200020004E3C5E2E30006D8C3D3E2D9C3FFA0C9D5D4D9F0F41029000101   *.....TEST..QCLSRC..INMR04.....*
                                  D5E2F7F8F0F1F8F9F4C5F1F0F0F3F882C3F019F607CA07140A1C1300E3D6   *NS7801894E10038BC0.6........TO*
                                  D2E5D4E2C5F1E2F1F0F0F3F8F840C3F003998050015 0C3F01007CA07140A   *KVMSE1S100388 C0.R.&.&C0......*
                                  1C130002C6D8C3D3E2D9C38402005CC300040300000C1F000039980500150   *....FQCLSRCD..*C.....A0..R.&.&.
                                  FF00CE0003E2E3C5039980500350E2E3860200009802E660A4C800039980   *.....STE.R.&.&STF...Q.W-UH..R.*
                                  5010500000F0F9F4F0F7F2F0F1F0F2F7F5F2FF000200000039980500150FF   *&.&..0940720102752......R.&.&.*
                                  00D1000399805001 50D8002C2AE0C9D5D4D9F0F3003C000100024000004 2   *.J..R.&.&Q....INMR03...... ...*
                                  000100020005C00490001000200011 02C000100040000011436C0C3F001F1   *.....*..................{C0.1*
                                  C8F0039980502B5 0F1F2F3F4F5F6F7F8F9F0F1F2F3F4F5F6F7F8F9F0F1F2   *H0.R.&.&123456789012345678 9012*
                                  F3F4F5F6F7F8F9F0F1F2F3F4F5F6F7F8F9F036C0C3F023F2F0F0F9F4F0F7   *345678901234567890.{C0.2009407*
                                  F2F0C1C2C3C4C5C6C7C8C9D1D2D3D4D5D6D7D8D9E2E3E4E5E6E7E8E90399   *20ABCDEFGHIJKLMNOPQRSTUVWXYZ.R*
                                  804C                                                  *.<                            *
  1430   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=LAST         ODAI=0, DAF'=01, OAF'=01, SNF'=0013
             RU DATA . . . . . :  014CC5F1C5F2C4F30236C0C3F009F3F0F0F9F4F0F7F2F0CAC1CAC28AC5C3   *.<E1E2D3..{C0.300940720.A.B.EC*
                                  C5C40808E0C9D5D4D9F0F6                                *ED...INMR06                   *
  1434   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0014
                                    RH :  ('038000'X)  REQ FMD, BCI, ECI, DR1
             RU DATA . . . . . :  0399D02F020030C300012CC30001C1DD00010BC400C407                *.R}....C...C..A....D.D.       *
  1437   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0008
                                    RH :  ('039100'X)  REQ FMD, BCI, ECI, DR1, ERI, PI
             RU DATA . . . . . :  039A80773F2077045AE2F7F8F0F1F8F9F400C5F1F0F0F3F84040E3D6D2E5   *........!S7801894.E10038  TOKV*
                                  D4E2C5F100C4D4E3C1E7D4F1F0F4C940C6C9D3C5404DF0F0F0F15D40E2D7   *MSE1.DMTAXM104I FILE (0001) SP*
                                  D6D6D3C5C440E3D63940E2F1F0F0F3F8F840606040D6D9C9C7C9D540E2F7   *00LED TO. S100388 -- ORIGIN S7*
                                  F8F0F1F8F9F44DC5F1F0F0F3F85D40F0F761F2F161F9F440F0F017AF2F87A   *801894(E10038) 07/21/94 01:28:
                                  F2F040D1E2E3                                          *20 JST                        *
COMMUNICATIONS TRACE       TITLE: VM/RSCS-SNDFILE                  94/07/20  10:29:10                          PAGE:       4
RECORD       CONTROLLER  DATA
NUMBER  S/R  NAME        TYPE      SNA DATA: TH, RH, RU
------  ---  ----------  ------   ------------------------------------------------------------------------------------------
  1439   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0015
                                    RH :  ('038000'X)  REQ FMD, BCI, ECI, DR1
             RU DATA . . . . . :  03990000                                          *.R..                          *
  1440   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0000
                                    RH :  ('830100'X)  RSP  FMD, PI
                                    NO RU DATA
  1441   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0009
                                    RH :  ('039000'X)  REQ FMD, BCI, ECI, DR1, ERI
             RU DATA . . . . . :  03C09900                                          *.{R.                          *
```

Figure 256 (Part 3 of 4). Trace Data Between the AS/400 and the VM/RSCS

```
3 End QSNADS Subsystem
COMMUNICATIONS TRACE       TITLE: VM/RSCS-ENDSBS                    94/07/20  10:30:43                          PAGE:       3
RECORD       CONTROLLER  DATA
NUMBER  S/R  NAME        TYPE      SNA DATA: TH, RH, RU
------  ---  ----------  ------    ------------------------------------------------------------------------------------------
   118   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=00, OAF'=01, SNF'=0001
                                   RH :  ('0B8000'X)  REQ FMD, FI, BCI, ECI, DR1
             RU COMMAND . . . . :  TERM-SELF
             RU DATA . . . . . :  0106836CF300                                          *..C%3.                    *
   119   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=00, SNF'=0001
                                   RH :  ('8B8000'X)  RSP  FMD, FI, DR1
             RU COMMAND . . . . :  TERM-SELF
             RU DATA . . . . . :  010683                                                *..C                       *
   120   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=00, SNF'=04DB, EFI
                                   RH :  ('6B8000'X)  REQ  SC, FI, BCI, ECI, DR1
             RU COMMAND . . . . :  DACTLU
             RU DATA . . . . . :  0E                                                    *.                         *
   121   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0A8A, EFI
                                   RH :  ('6B8000'X)  REQ  SC, FI, BCI, ECI, DR1
             RU COMMAND . . . . :  UNBIND
             RU DATA . . . . . :  320F                                                  *..                        *
   123   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=00, OAF'=01, SNF'=04DB, EFI
                                   RH :  ('EB8000'X)  RSP  SC,  FI, DR1
             RU COMMAND . . . . :  DACTLU
             RU DATA . . . . . :  0E                                                    *.                         *
   124   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=01, SNF'=0A8A, EFI
                                   RH :  ('EF9000'X)  RSP  SC,  FI, SDI, DR1, RTI
                                   SENSE CODE . . . : 80050000,
             RU COMMAND . . . . :  UNBIND
             RU DATA . . . . . :  32                                                    *.                         *
   125   R   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=01, OAF'=00, SNF'=04DC, EFI
                                   RH :  ('6B8000'X)  REQ  SC, FI, BCI, ECI, DR1
             RU COMMAND . . . . :  ACTLU
             RU DATA . . . . . :  0D0201                                                *...                       *
   277   S   SHRMVS      EBCDIC    TH :  FID=2,  MPF=ONLY         ODAI=0, DAF'=00, OAF'=01, SNF'=04DC, EFI
                                   RH :  ('EB8000'X)  RSP  SC,  FI, DR1
             RU COMMAND . . . . :  ACTLU
             RU DATA . . . . . :  0D0101008500000000C0F0100010000004040404040404040000            *....E...........      .    *
* * * * *  E N D   O F   C O M P U T E R   P R I N T O U T   * * * * *
```

Figure 256 (Part 4 of 4). Trace Data Between the AS/400 and the VM/RSCS

The following is the data sent from the AS/400:

```
000100000000123456789012345678901234567890123456789012345678901234567890
000200940720ABCDEFGHIJKLMNOPQRSTUVWXYZ11111222223333
000200940720AAAAAAAAAABBBBBBBBBB          CCCCCDDDDD
```

Figure 257. Transferred Data from the AS/400 to the VM/RSCS

Note: When you see the above data in the trace, please note that duplicate characters are compressed.

Appendix C. Retrieving Files Between AS/400 VM/MVS Bridge and MVS/JES2 NJE

This appendix describes how to retrieve files back and forth between the AS/400 VM/MVS Bridge and the MVS/JES2 NJE. There are no standard functions that can do this; however, combining the job execution function and the file transmission function will give you the functions of file retrieval. The following sections show sample programs to retrieve a file:

- Retrieving a PDS file member on the MVS from the AS/400
- Retrieving a source file member on the AS/400 from the MVS

C.1 Retrieving a PDS File Member on the MVS from the AS/400

Submitting the sample JCL on Figure 258 to the MVS/JES2 NJE by using the SBMNETJOB command on the AS/400, you can retrieve a PDS file member on the MVS.

```
//S100388A JOB CLASS=A,MSGCLASS=H
//*PARTITION DATASET TRANSFER
//STEP1   EXEC PGM=IEBUPDTE                                          1
//SYSUT1   DD DSN=S100388.AS400.CMDPROC,DISP=OLD
//SYSUT2   DD DSN=S100388.AS400.CMDPROC,DISP=OLD                     2
//SYSIN    DD DATA
./  REPL   LIST=ALL,NAME=PROCPDS                                    3
PROC 0
PROFILE WTPMSG
CONTROL MSG PROMPT LIST SYMLIST CONLIST
XMIT S7801894.E10038 DATASET(S100388.AS400.JCL) MEMBERS(MBRMVS)-    4
     SEQUENTIAL
./  ENDUP
/*
//SYSPRINT DD SYSOUT=H
//TMP     EXEC PGM=IKJEFT01,DYNAMNBR=40,REGION=3000K                 5
//*
//SYSPROC  DD DSN=S100388.AS400.CMDPROC,DISP=SHR                     6
//SYSTSPRT DD SYSOUT=*
//OUTPUT   DD SYSOUT=*
//SYSTSIN  DD *,DLM=AA
  PROFILE PLANG(ENU)
  PROCPDS                                                           7
AA
//
```

Figure 258. Sample JCL to Retrieve a PDS Member

1 This step is to register the transmit command as a CLIST by the IEBUPDTE utility.

2 A data set name (S100388.AS400.CMDPROC) in which the CLIST is registered. In this case, the data set is already allocated.

3 The CLIST between './ REPL' and './ ENDUP' is to be registered (actually, replaced) as a member named PROCPDS. (In this example, the PROCPDS was already created.)

4 A transmit command. The files and the destinations are listed below:
Node name (S7801894)
User ID (E10038)
Data set name (S100388.AS400.JCL)
Member name (MBRMVS)

5 This step is to execute the CLIST named PROCPDS registered in the previous step.

6 A data set name which includes the CLIST.

7 The CLIST name to be executed to send the dataset to the AS/400.

Note: To send a sequential dataset, the file name of the PS (physical sequential) will be like the following sample.

```
XMIT S7801894.E10038 DATASET(S100388.A)
```

C.2 Retrieving a Source File Member on the AS/400 from the MVS

A sample program shown in Figure 259 is to retrieve a source file member on the AS/400 by submitting from the host system. You must have a user profile on the AS/400, by using the WRKDIR command. In this case, since the QBATCH job description is used and its default user is QPGMR, the QPGMR user is already registered by the WRKDIR command as a local user.

```
//S100388 JOB MSGLEVEL=1,CLASS=A,MSGCLASS=A
/*XMIT S7801894.E10038  DLM=AA
//BCHJOB JOB(RTRVFILE) JOBD(*LIBL/QBATCH)
 SNDNETF FILE(KANEKO/QCLSRC) TOUSRID((S100388 NJESHR90)) +    1
         MBR(MBRAS400) TOTYPE(*DATA) FORMAT(*F)
//ENDBCHJOB
AA
```

Figure 259. Retrieving an AS/400 Source File Member

1 The following is information on the destination and the file:
Node name (NJESHR90)
User ID (S100388)
Library name (KANEKO)
File Name (QCLSRC)
Member Name (MBRAS400)

List of Abbreviations

APPN	advanced peer-to-peer networking
CL	control language
DDS	data description specification
IBM	International Business Machines Corporation
ITSO	International Technical Support Organization
JCL	job control language
LU	logical unit
NDT	network definition table
NJE	network job entry
NRZI	non-return-to-zero inverted
PIU	path information unit
PLU	primary logical unit
PU	physical unit
RH	request header
RJE	remote job entry
RU	request unit
SDLC	synchronous data link control
SLU	secondary logical unit
SNA	systems network architecture
SNADS	systems network architecture distribution services
SNUF	systems network architecture upline facility
SSCP	system services control point
TH	transmission header

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