CHAPTER

3

CMS: IUCV Access Method

SAS/SHARE

To use the IUCV access method with a CMS host for SAS/SHARE , perform this task:

1 Verify that you have met all your site and software requirements.

System and Software Requirements for SAS/SHARE

To support the IUCV access method, SAS/SHARE requires that

1 SAS software has been installed, and the client and server must be running on the host.

2 Verify that the resources for the IUCV access method have been defined.

Defining Resources for the IUCV Access Method

Network Administrator

Before you can use SAS/SHARE with the IUCV access method, you must first define IUCV resources for the CMS system. This enables CMS to behave as a SAS/SHARE server or client. See "Creating the Server VM Directory Entry for the Server Virtual Machine" on page 49 for SAS/SHARE resource configuration.

Client Tasks

System Administrator or User

Before you can create and then access a SAS/SHARE server, perform the following tasks:

1 Specify the IUCV access method.

2 Specify a server name.

Specifying the IUCV Communications Access Method

Note: IUCV is the default communications access method on the CMS platform. You may omit specifying the access method in an OPTIONS statement and the IUCV access method is assumed by default. △

If you specify the IUCV communications access method, do it before you access the server.

```
OPTIONS COMAMID=access-method-id;
```

where COMAMID is an acronym for Communications Access Method Identification. *access-method-id* identifies the method used by the client to communicate with the server. IUCV (an abbreviation for Inter-User Communication Vehicle) is an example of an *access-method-id*.

Example:

```
options comamid=iucv;
```

The server is accessed using the IUCV access method.

You may specify the COMAMID option in an OPTIONS statement, at a SAS invocation, or in a SAS configuration file.

Additionally, you may use the COMAUX1 and COMAUX2 options to designate auxiliary communications access methods. See Table 1.3 on page 10 for a list of the supported access methods by host. If the first method that is specified fails to access a server, the second method will be attempted, and so on. You can specify up to two auxiliary access methods, depending on the number of methods that are supported between client and server hosts.

COMAUX options can be specified only at a SAS invocation or in a SAS configuration file. The syntax for the COMAUX options follows:

```
COMAUX1=alternate-method
COMAUX2=alternate-method
```

An example of configuration file entries for a CMS client connecting to a CMS server follows:

```
comamid=iucv
comaux1=appc
comaux2=tcp
```

If the server cannot be reached using the IUCV method, a second attempt is made with the APPC access method, then with the TCP/IP access method.

Specifying a Server Name

To use the IUCV access method, a server and a client must be running on the same CMS system.

You must specify the server name in the LIBNAME and PROC OPERATE statements. Use the following syntax:

```
SERVER=server-id
```

where *server-id* is the userid of the server.

See *SAS Language Reference: Dictionary* for details about SAS naming rules. See *SAS/SHARE User's Guide* for details about the PROC OPERATE and LIBNAME statements.

Client Example

At a CMS client, the following statement is included in the VM directory entry for the client's virtual machine:

```
option maxconn 128
```

Here is an example that illustrates the statements that you specify in a CMS client SAS session to connect to a server with the IUCV access method:

```
options comamid=iucv;
libname sasdata 'edc.prog2.sasdata' server=share1;
```

The IUCV access method is declared, and the LIBNAME statement specifies that the data library will be accessed through the server SHARE1.

Server Tasks

Server Administrator

Before you can create and then access a SAS/SHARE server, perform the following tasks:

1 Specify the IUCV access method.

2 Specify the server name.

Specifying the IUCV Communications Access Method

Note: IUCV is the default communications access method on the CMS platform. You may omit specifying the access method in an OPTIONS statement and the IUCV access method is assumed by default. △

If you specify the IUCV communications access method at the server, do it before you start a server.

Use the following syntax to specify the IUCV access method at the server:

```
OPTIONS COMAMID=access-method-id;
```

where COMAMID is an acronym for Communications Access Method Identification. *access-method-id* identifies the method used by the server to communicate with the client. IUCV (an abbreviation for Inter-User Communication Vehicle) is an example of an *access-method-id*.

For a server that is running on a host on which only one communications access method is available, use only the COMAMID option.

Example:

```
options comamid=iucv;
```

The server will be available only to SAS/SHARE sessions that use the IUCV access method.

You may specify the COMAMID option in an OPTIONS statement, at a SAS invocation, or in a SAS configuration file.

If, however, the host on which a server is running supports multiple access methods, you may specify up to two auxiliary access methods by which clients may access the server. See Table 1.3 on page 10 for the supported access methods by host.

All of the access methods initialize when the server initializes. The activation of multiple access methods makes a server available to several groups of clients, each of them using a different communications access method simultaneously.

COMAUX options can be specified only at a SAS invocation or in a SAS configuration file. The syntax for the COMAUX options follows:

```
COMAUX1=alternate-method
COMAUX2=alternate-method
```

An example of configuration file entries for a server that is running on a CMS host follows:

```
comamid=iucv
comaux1=appc
comaux2=tcp
```

When the server starts, all of the communications access methods are initialized. The server is simultaneously available to client sessions that use the IUCV access method as well as to clients that use the APPC and TCP/IP access methods.

See *SAS/SHARE User's Guide* for details about starting and accessing a server.

Specifying a Server Name

To use the IUCV access method, a server and a client must be running on the same CMS system.

You may specify the server name in the PROC SERVER statement. Use the following syntax:

```
SERVER=server-id
```

where *server-id* is a name that you assign to the server. The server name may contain up to eight characters.

IUCV clients must reference the server by userid, not by server-id if the two identifiers are different. However, if the server supports multiple access methods, clients using an access method other than IUCV will reference the server using the server-id.

See *SAS Language Reference: Dictionary* for details about SAS naming rules. See *SAS/SHARE User's Guide* for details about the PROC SERVER statement.

Server Example

At the CMS host on which the server runs, the following statements that relate to the IUCV access method are included in the VM directory entry for the server's virtual machine:

```
option maxconn 1024
iucv allow priority msglimit 255
```

In the first line, MAXCONN specifies the maximum number of simultaneous client connections to the server. The second line allows users to connect to the server's virtual machine, allows the server to send priority messages to users, and increases the number of outstanding messages for each path from the default value of 10 to 255.

The following example illustrates the statements that you specify in a SAS session on the CMS host at which you start a server:

```
options comamid=iucv;
proc server server=share1;
run;
```

The IUCV access method is declared, and the server SHARE1 is started on the CMS host.

System Configuration for the IUCV Access Method for SAS/SHARE

Systems Personnel

To configure resources for the CMS system that will enable it to behave as either a SAS/SHARE server or a client using the IUCV access method, perform the following tasks:

1 At a CMS server, create a VM directory entry for the server's virtual machine.

2 At a CMS client, create an entry in the VM directory for each user who will access the server.

Creating the Server VM Directory Entry for the Server Virtual Machine

You must include the following statements in the VM directory entry for the server's virtual machine:

```
USER SASSHARE XXXXXXX 20M 20M G 100
MACHINE XA
IPL CMS PARM AUTOCR
OPTION MAXCONN 1024
IUCV ALLOW PRIORITY MSGLIMIT 255
CONSOLE 009 3215
SPOOL   00C 2540 READER *
SPOOL   00D 2540 PUNCH A
SPOOL   00E 1403 A
LINK MAINT 19E 19E RR
LINK MAINT 19D 19D RR
LINK MAINT 190 190 RR
MDISK 191 3380 707 5 VM0800 MR XXXXXXX
MDISK 192 3380 501 3 VM0450 MR XXXXXXX
```

Several lines that are specific to the IUCV access method are explained in more detail.

```
OPTION MAXCONN 1024
IUCV ALLOW PRIORITY MSGLIMIT 255
```

The first line specifies the maximum number of simultaneous connections to the server that you want to allow. Generally, you should allow four to five connections for

each user who accesses data through the server. The number shown is only a guideline. The default MAXCONN value is 64. The maximum MAXCONN value is 65535.

The second line allows users to establish IUCV connections to the server's virtual machine. The ALLOW parameter enables users to establish IUCV connections to the server's virtual machine.

The PRIORITY parameter enables the server to send IUCV priority messages to users.

The MSGLIMIT parameter increases the number of outstanding messages allowed on each path from the default value of 10 to 255.

Modifying an Entry in the VM Directory for Each User

Modify the VM directory entry by including the following statement in the VM directory entry for each user who will access a server:

```
OPTION MAXCONN 128
```

This statement specifies the maximum number of simultaneous connections to a server that you want to allow. Generally, you should allow four to five connections for each server. The default MAXCONN value is 64. The maximum MAXCONN value is 65535.

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