

Peregrine

ServiceCenter

SC3270 Client Installation Guide

Release 5.1

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Introducing the SC3270 Client Installation Guide

Welcome to the *SC3270 Client Installation Guide*. This guide provides instructions for installing SC3270, ServiceCenter software that allows 3270 terminals to operate ServiceCenter servers running on non-OS/390 (MVS) platforms such as Windows 2000/NT and Unix.

This preface provides a brief introduction to this guide, information about the knowledge requirements, and explains how to contact Peregrine Systems for customer support.

For instructions on installing the ServiceCenter client/server on a Windows platform, refer to the *Client/Server Installation Guide for Windows*.

For instructions on installing the ServiceCenter client/server on a Unix platform, refer to the *Client/Server Installation Guide for Unix*, and the *Java Client Installation and Configuration Guide*.

For instructions on installing the ServiceCenter client/server on an OS/390 (MVS)-based system, refer to the *Client/Server Installation Guide for OS/390*.

The *SC3270 Client Installation Guide* is organized as follows:

- *Introducing the SC3270 Client Installation Guide* on page 5 — Provides a brief introduction to this guide, describes the knowledge requirements implied for users, and explains how to contact Peregrine Systems for customer support.
- *Before You Begin* on page 9 — outlines system requirements for installing ServiceCenter.

- *Installation Instructions* on page 15 — describes the steps required for a basic installation of ServiceCenter on OS/390.
- *Running SC3270* on page 25 — explains how to verify your installation of ServiceCenter.
- *System Considerations* on page 35 — includes tips on how to avoid memory problems, and provides information about region size requirements and console communication.
- *Login Security Interface* on page 31 — describes the ServiceCenter login security interface to RACF, CA-ACF2, and CA-Top Secret for password validation.
- *ServiceCenter Messages* on page 43 — lists messages that may display on the console during your installation of ServiceCenter.
- *Installation Errors and Responses* on page 53 — describes installation errors that may occur during your installation and provides responses to these errors.

Knowledge Requirements

The instructions in this guide assume a working knowledge of Peregrine Systems ServiceCenter and the platform you will be making the installation on. Additional reference information for ServiceCenter can be found in the *Installation and Technical Reference* guide.

For information on a particular platform, refer to that platform's supporting documentation.

- Basic usage information is contained in the *User's Guide*.
- Administration and configuration information is contained in the *System Administrator's Guide* and the *Application Administration Guide*
- Database configuration information is contained in the *Database Management and Administration Guide*.
- For copies of the manuals, download .PDF files of the documentation using the Adobe Acrobat Reader (also available on the web site). Additionally, you can order printed copies of the documentation through your Peregrine Systems sales representative.

Contacting Customer Support

For more information and assistance with this new release or with SC in general, contact Peregrine Systems' Customer Support.

Peregrine's CenterPoint Web site

Current details of local support offices are available through the following main contacts or at:

<http://support.peregrine.com/>

After logging in with your login and password, select **Whom Do I Call?** from **Contents** on the left side of the page to display the Peregrine Worldwide Contact Information.

Corporate Headquarters

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North America and South America

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Fax:	+(1) (858) 480-3928
E-mail:	support@peregrine.com

Contacting Education Services

Training services are available for the full spectrum of Peregrine Products including ServiceCenter.

Current details of our training services are available through the following main contacts or at:

<http://www.peregrine.com/education>

Address: Peregrine Systems, Inc.
Attn: Education Services
3611 Valley Centre Drive
San Diego, CA 92130

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1 Before You Begin

CHAPTER

This chapter gives instructions for installing SC3270. It gives a brief overview of using SC3270 to communicate between ServiceCenter OS/390 clients and servers running on Windows or Unix.

Your system must meet the installation requirements before you will be able to install ServiceCenter. For a complete listing of client and server platform requirements, see the compatibility matrix on the Peregrine Systems, Inc. Customer Support web site at <http://support.peregrine.com/>. You must have a current login and password to access this web site.

Topics in this chapter include:

- *Overview of SC3270* on page 10
- *Sufficient Disk Space* on page 13
- *Prerequisite Software* on page 13

Overview of SC3270

SC3270 provides communication between an OS/390 system and ServiceCenter servers running on Unix or Windows NT.

SC3270 provides three services:

- 3270 terminals can communicate with ServiceCenter servers on Windows NT or Unix.
- Access to OS/390 data sets and printing for non-OS/390 ServiceCenter clients.
- OS/390-based sign-on security.

3270 Terminal Communication with Non-OS/390 ServiceCenter Servers

SC3270 allows 3270 terminals (on an SNA network) to connect to ServiceCenter servers. The operation of 3270 terminals under SC3270 is transparent to users accustomed to running ServiceCenter on an OS/390 platform.

SC3270 is installed on an OS/390 system. SC3270 identifies the host and port or service where the ServiceCenter server is running using the *express* parameter in the SC32PRM member of the SAMPLIB library. SC3270 parameters are discussed in *Customizing ServiceCenter* on page 23.

In Figure 1-1 on page 11, the ServiceCenter server's host name is *SCPROD*, with a port number of *12680*. *SCPROD* is running as a server, as set by the start-up command of *SCENTER -listener:12680*. Setting up this option is discussed in *Starting SC3270* on page 26.

In SC3270, the parameter `express:SCPROD.12680` identifies the host as SCPROD and the port as 12680.

3270 terminal access to ServiceCenter on Windows NT or UNIX

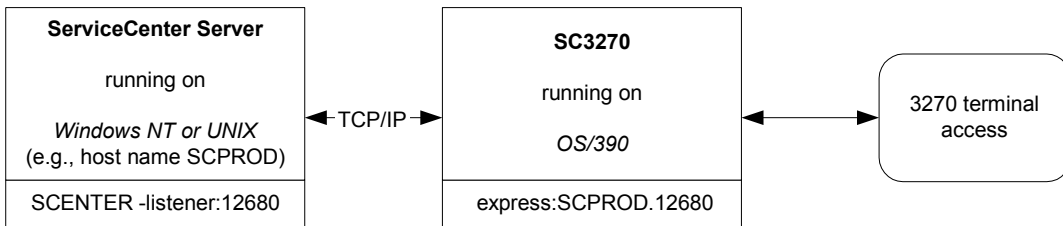


Figure 1-1: 3270 terminal access to a ServiceCenter server on Windows NT or Unix

Using SC3270 to Access OS/390 from ServiceCenter on Other Platforms

SC3270 provides non-OS/390 ServiceCenter users with access to:

- OS/390 data sets using QSAM or VSAM.
- Printing on OS/390.

For example, ServiceCenter running on Windows NT could direct printing to the OS/390 JES spool, or an OS/2 Java client could read data from an OS/390 sequential file.

To set up the access to OS/390, the `mvstcp` parameter must be set in the SC32PRM member of the SAMPLIB library for SC3270 in OS/390. SC3270 parameters are discussed in *Customizing ServiceCenter* on page 23. In Figure 1-2 on page 12, the parameter is set as `mvstcp:12700`.

With the destination set, the `mvssrv` option must be set in the ServiceCenter `sc.ini` file on the Unix or Windows NT server. This option specifies the destination on the OS/390 system for the requests from the non-OS/390 users.

In Figure 1-2 on page 12, the option is set to mvssrv:mvsprod.12700.

ServiceCenter on Windows NT or UNIX access to MVS files, printing or security

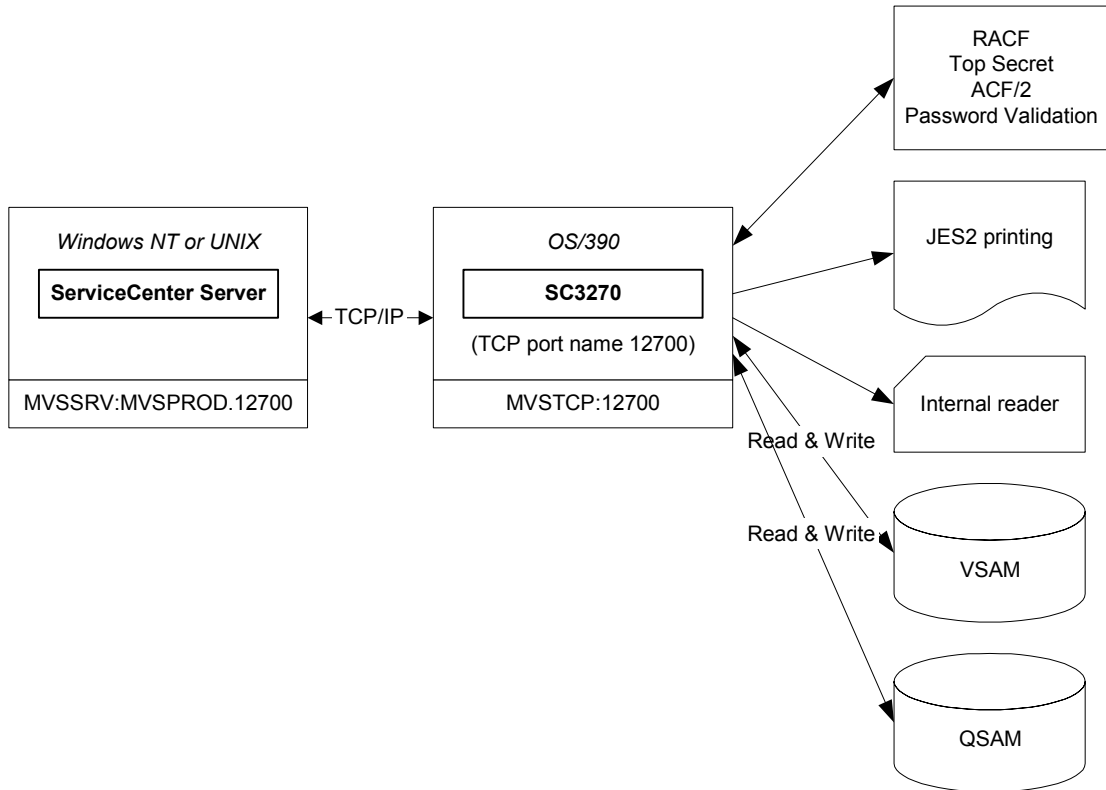


Figure 1-2: Access to OS/390 files, printing or security for non-OS/390 ServiceCenter users

Utilizing OS/390-Based Security

By providing access to the OS/390 system, SC3270 allows the ServiceCenter servers on Windows NT and Unix to utilize OS/390-based sign-on security through RACF, CA-ACF2, and CA-Top Secret. This feature functions the same as accessing OS/390-data sets and printing, as described in the previous section. See Figure 1-2 on page 12.

Login security is discussed in *Login Security Interface* on page 31.

Sufficient Disk Space

The SC3270 server requires approximately 30 cylinders or 450 tracks to unload the distribution files from the cartridge.

Prerequisite Software

SC3270 uses the TCP/IP protocol stack for network communications.

OS/390 TCP/IP

The TCP/IP stacks currently supported are:

- IBM TCP/IP Version 3 Release 1 and higher.
- IBM Communications Server Version 2 Release 4 and higher.
- CA Network*IT* TCPaccess Version 5 Release 3, or Version 5 Release 2 with module LSCNCOM that supports SAS 6.5. This module is not currently shipped with Network*IT* TCPaccess and must be obtained from CA Technical Support.

2 Installation Instructions

CHAPTER

This chapter provides information for installing the ServiceCenter SC3270 software on OS/390 (MVS).

Topics in this chapter include:

- *Introduction* on page 16
- *Preliminary Steps* on page 16
- *Loading the SAMPLIB Library* on page 17
- *Loading the Remaining Installation Files* on page 18
- *Installing the VTAM APPLID* on page 20
- *ServiceCenter Startup Parameters* on page 20
- *Setting Up TCP/IP* on page 21
- *Customizing ServiceCenter* on page 23

Introduction

Peregrine Systems recommends that you complete the server installation before doing the client portion of your installation.

Installation instructions for the ServiceCenter clients on specific platforms are available in the following guides:

- *Client/Server Installation Guide for Windows* — instructions for installing the ServiceCenter client on Windows to communicate with servers running on Windows, OS/390, or Unix.
- *Java Client Setup and User's Guide* — instructions for installing the ServiceCenter Java clients on Windows, Unix, and OS/2 to communicate with servers running on Windows, OS/390, or Unix.
- *Client/Server Installation Guide for OS/390* — instructions for installing the ServiceCenter client/server on OS/390, to communicate with servers running on OS/390, Windows or Unix.

Important: In the following procedures, variables are shown in brackets < >. Assign the appropriate value to the variable based on your particular installation. Do not type the brackets < > as part of the command.

Preliminary Steps

To begin your installation of SC3270, perform the following preliminary steps (in any sequence):

- Select a target disk on which to unload the data sets. You will need approximately 30 cylinders or 450 tracks to unload the distribution files from the cartridge.
- Insert the ServiceCenter installation cartridge into the drive on the server computer.

Loading the SAMPLIB Library

The screen example below shows the text (highlighted in **bold**) you may need to change when you unload the first file from the ServiceCenter installation cartridge. The first file is a partitioned data set that contains README files and sample JCL members. The sample JCL includes the *SAMPLIB library*; the JCL necessary to load the remaining files on the cartridges.

To load the SAMPLIB library:

- 1 Change the **JobName**, **Accounting Information**, **Notification Userid** and **Message class** in the Job Card to suit your sites specification.

IEBCOPY on the second line many not need to be changed.

CART on the second line many not need to be changed.

Note: For **VERSION**, use the version number on the cartridge label (for example, V5R1M0). For **VOLSER**, use the volser number on the cartridge label.

```
//SCINST JOB (PNMS), 'IEBCOPY', NOTIFY=&SYSUID, MSGCLASS=X
//SMPLIB EXEC PGM=IEBCOPY
//SYSUT1 DD DISP=OLD, UNIT=CART, VOL=(, RETAIN, SER=VOLSER),
// LABEL=(1, EXPDT=98000),
// DSN=SAMPLIB
//SYSUT2 DD DSN=PREFIX.VERSION.SAMPLIB,
// DISP=(, CATLG, DELETE),
// SPACE=(TRK, (10, 10, 30)),
// * SPACE=(TRK, (10, 2)),
/ UNIT=SYSALLDA, VOL=SER=ALLOCATEDVOLUME
//SYSPRINT DD SYSOUT=*
//SYSIN DD DUMMY
```

- 2 Submit the job for processing.
- 3 Mount the cartridge.
- 4 Verify that the cartridge is successfully loaded by reviewing the SYSOUT.

Make note of the following items that you have set on your system — you will need this information later in the installation process:

```
LOADLEV= _____ TUNIT= _____
DVOLSER= _____ HILEV= _____
DUNIT= _____
```

These items are defined as follows:

- LOADLEV - rtelevel
- DVOLSER - VOLSER of the target disk
- DUNIT - Disk Unit type
- TUNIT - Tape Unit type
- HILEV - High Level Qualifier

Loading the Remaining Installation Files

The SAMPLIB partitioned data set created in the previous steps includes sample JCL that is used to unload the remaining installation files.

To unload the remaining files:

- 1 Edit the *HILEV.VERSION.SAMPLIB* member SC32INST. This member contains notes that indicate the changes that must be made.

Change the Job card to meet your sites specifications. 000001//SCLOAD

```

JOB (ACCTINGINFO), 'SERVICECENTER',MSGCLASS=X,
000002 //          REGION=4096K
000003 //*****
000004 //*
000005 //* THIS IS THE JCL REQUIRED TO LOAD SERVICECENTER FILES OFF
000006 //* THE DISTRIBUTION TAPE.
000007 //*
000008 //*
000009 //* BEFORE RUNNING THIS JOB YOU MUST:
000010 //* 1) MODIFY THE JOB CARD TO MEET YOUR SITES SPECIFICATIONS
000011 //* 2) MODIFY THE PREFIX VARIABLE ON THE PROC STATEMENT
000012 //*    TO SPECIFY THE CORRECT HIGH LEVEL QUALIFIER
000013 //* 3) MODIFY THE DVOLSER VARIABLE ON THE PROC STATEMENT
000014 //*    TO SPECIFY THE VOLSER OF THE TARGET DISK
000015 //* 4) MODIFY THE DUNIT VARIABLE ON THE PROC STATEMENT
000016 //*    TO SPECIFY THE DISK UNIT TYPE
000017 //* 5) MODIFY THE TUNIT VARIABLE ON THE PROC STATEMENT
000018 //*    TO SPECIFY THE TAPE UNIT TYPE
000019 //*
000020 //*****
000021 //*
000022 //SCLOAD  PROC PREFIX='SC' ,
000023 //          DVOLSER=XXXXXX,
000024 //          DUNIT=SYSALLDA,
000025 //          TUNIT=3480,
000026 //          LOADLEV=V5R1M0,
000027 //          *
000028 //*
000029 //SCLOAD  EXEC PGM=IEBCOPY

```

```

000030 //SYSPRINT DD SYSOUT=*
000031 //SYSUT1 DD DSN=LOAD,
000032 // LABEL=(2,EXPDT=98000),DISP=OLD,
000033 // DCB=(,RECFM=U,BLKSIZE=6160),
000034 // VOL=(,RETAIN,SER=SC51),UNIT=&TUNIT
000035 //SYSUT2 DD DSN=&PREFIX..&LOADLEV..LOAD,
000036 // SPACE=(CYL,(16,30,30),RLSE),
000037 // DCB=*.SYSUT1,
000038 // DISP=(,CATLG,DELETE),UNIT=&DUNIT,VOL=SER=&DVOLSER
000039 //SYSIN DD DUMMY
000040 //PEND
000041 //RUNSTEP EXEC SCLOAD
***** ***** Bottom of Data *****

```

2 The following items need to be changed:

- Modify the PREFIX variable on line 22 to specify the correct High Level Qualifier.
- Modify the DVOLSER variable on line 23 to specify the VOLSER of the target disk.
- Modify the DUNIT variable on line 24 to specify the disk unit type.
- Modify the TUNIT variable on line 25 to specify the Tape Unit Type
- Modify the LOADLEV variable on line 26 to specify the correct rtelevel.
- Modify the SER parameter on line 34 to specify the volser number on the cartridge label.

3 Submit the JCL for processing.

4 Mount the cartridge.

5 Follow the prompts.

6 Verify that the cartridge was successfully loaded by reviewing the SYSOUT.

7 When the job is complete, verify that all job steps issue a return code of 0000.

Note: If you cannot resolve errors associated with one or more job steps, contact Peregrine Systems Customer Support for assistance. Be prepared to provide information about any error messages you received and any steps taken towards resolution.

Installing the VTAM APPLID

To access ServiceCenter from a 3270 terminal, a VTAM APPLID must be installed.

To install the default APPLID (SC):

- 1 Copy the *HILEV.VERSION.SAMPLIB* member VTAMLST to your SYS1.VTAMLST (or the corresponding data set).
- 2 Activate the application by issuing the following console command:
V NET,ACT,ID=<member name> (where *member name* is the added member in SYS1.VTAMLST).

The following messages indicate that the application has been successfully activated:

- *IST097I VARY ACCEPTED*
- *IST903I <member name> ACTIVE* (where *member name* is the added member in the SYS1.VTAMLST).

ServiceCenter Startup Parameters

The SC32PRM member in the *HILEV.VERSION.SAMPLIB* partitioned data set contains the authorization key and sample startup parms.

Sample SC32PRM File

```
000001 # ** NOTE ** all parms are case sensitive
000002 #
000003 #=====
000004 # SC3270 parms
000005 #=====
000006 applid:APPLID
000007 #
000008 # express specifies the host and service name of the express
server
000009 # running on UNIX or NT. This parameter directs the
connection of
000010 # 3270 terminals to the appropriate express server.
000011 #express:host.service
000012 #
000013 #=====
000014 # Required parms
000015 # Do not alter
000016 #=====
000017 tcpserver:sctcp32s
```

```

000018 #
000019 #=====
000020 # MVS Server parms
000021 #=====
000022 #
000023 # mvstcp specifies the TCP/IP port name to be used for the
MVS
000024 # file/print server.
000025 # Processes running on UNIX or NT can connect to this server
by
000026 # use of the mvssrv parameter in the sc.ini file
000027 #mvstcp:t3271
000028 #
000029 # mvstcp_prefix specifies the dataset prefix of the TCP/IP
system
000030 # datasets. TCPIP is the default value for this parameter.
000031 #mvstcp_prefix:TCPIP
000032 #
000033 # mvstcp_addrspc specifies the name of the TCP/IP address
space.
000034 # TCPIP is the default value for this parameter.
000035 #mvstcp_addrspc:TCPIP

```

Customizing Startup Parameters

Edit the SC32PRM member in SAMPLIB as follows:

applid:<terminalapplid>

where <terminalapplid> is the VTAM application ID that 3270 users sign on to (1 to 8 characters)

express:<host>.<service>

Remove the # from the beginning of the statement and change <host> to the host name or IP address of the Unix or Windows machine running ServiceCenter. Change <service> to the service name or port number of the ServiceCenter server. The Unix or Windows server will support the 3270 terminal connections.

Setting Up TCP/IP

Edit the SC32PRM member in the SAMPLIB as follows:

mvstcp:<t3271>

Remove the # from the beginning of the statement and change <t3271> to the TCP port name you previously assigned.

Note: This parameter is case sensitive.

`mvstcp_prefix:<TCPIP>`

Remove the # from the beginning of this statement and change <TCPIP> to the data set prefix used for your TCP/IP data sets. If you omit this parameter, the system uses TCPIP as the default high-level qualifier. For example, if the data set name for the `etc.services` file is `SYS1.TCPIP.ETC.SERVICES`, then the following parameter is required: `mvstcp_prefix:SYS1.TCPIP`

`mvstcp_addrspc:<TCPIP>`

Remove the # from the beginning of the statement and change <TCPIP> to the name of the TCP/IP address space. The default name is TCPIP.

The following describe how to determine the address space names:

- **IBM TCP/IP** — the name is the job name for the TCP/IP started task/job. See the `TCPIPUSERID` parameter in the `TCPIP.TCPIP.DATA` data set for the job name. For example, if the `TCPIPUSERID` is `MVSPROD`, change the `mvstcp_addrspc` parameter to: `mvstcp_addrspc:MVSPROD`.
- **CA NetworkIT TCPAccess** — the name is the subsystem ID of the `TCPIP` address space. The ID is assigned during the installation of `NetworkIT TCPAccess`. For example, if the subsystem ID is `ACSS`, change the `mvstcp_addrspc` parameter to: `mvstcp_addrspc:ACSS`.

`tcpserver:<server>`

Specify the name of the server program to be used by `SC3270`. This value **MUST** be `SCTCP32S`. Any other value will cause `SC3270` to fail.

Assigning a TCP Port

Assign a TCP port according to the instructions that apply to your particular system. This port will be used to support OS/390 file I/O (QSAM, JES, VSAM and VTAM) operations. Specify this port with the `mvstcp` parameter. For more information on this parameter, see [Setting Up TCP/IP](#) on page 21.

NetworkIT TCPAccess

Assign a TCP/IP port using the `mvstcp` parameter in the `PARMS` data set. You can find information about assigning a TCP port in the *SNS/NFS Installation and Administration Guide*.

If you are using `NetworkIT TCPAccess`, you must place the `NetworkIT TCPAccess` link library first in the `STEPLIB` concatenation. The `TCPAccess` link library must contain module `LSCNCOM`.

IBM TCP/IP

In the OS/390 TCP/IP `etc.services` data set, assign a port number to the OS/390 server. You can find information about assigning a TCP port in the IBM TCP/IP Version 3 Release 1 for MVS: Planning and Customization Manual.

Customizing ServiceCenter

A complete list of startup parameters that control various features of the ServiceCenter client and server is available in the *Technical Reference*.

For further customization, see the *System Tailoring Guide*

For further administration and setup, see the appropriate guide.

- *System Administrator's Guide*
- *Application Administration Guide*
- *Database Management and Administration Guide*

3 Running SC3270

CHAPTER

This chapter describes the procedures to start and stop SC3270 in order to verify your installation of SC3270 on OS/390 (MVS).

Topics in this chapter include:

- *Starting SC3270* on page 26
- *Logging On to ServiceCenter* on page 27
- *Logging Off of ServiceCenter* on page 28
- *Stopping ServiceCenter* on page 28

Starting SC3270

To start SC3270:

- 1 Edit the SC32JOB member in the *HILEV.VERSION.SAMPLIB* partitioned data set created during installation. This member contains sample JCL that starts ServiceCenter as a batch job and also contains notes indicating the necessary changes.

The following changes can be made on the JCL SC32JOB:

- Job card could be changed to meet your sites specifications.
- Modify the PREFIX variable on line 18 to specify the correct High Level Qualifier.
- Modify the PARMMEM variable on line 19 to specify the SAMPLIB member that contains the ServiceCenter initialization parameters
- Modify the LOADLEV variable on line 20 to specify the correct *rtelevel*.

- 2 *For started tasks only:*

- a Copy the SC32JOB member to your started task PROCLIB.
- b Delete the JOBCARD, and delete the PEND and EXEC SC32JOB statements, the last two statements in the member. If possible, use the preset parameters for REGION and TIME.

Note: For more information about these DD statements, see *SC3270 Dump Parameters* on page 38.

- 3 Submit the batch job (or initiate the started task). Within one minute, ServiceCenter issues the following console message:

```
SC001 SERVICECENTER LOGONS ENABLED -- APPLID
```

If ServiceCenter does not issue this console message, refer to *ServiceCenter Messages* on page 43.

When you submit the job for execution, the following message should appear in the job log.

```
SC060 TCP SC3270 LISTENER IS ON HOST:HOSTNAME PORT # nnnn
```

where *HOSTNAME* is your OS/390 host name and *nnnn* is the port number associated with the *mvstcp* parameter.

If ServiceCenter does not issue this message, refer to *ServiceCenter Messages* on page 43.

Note: If you are unable to resolve startup errors, contact Peregrine Systems Customer Support for assistance. Be prepared to provide information about any *abend* messages and steps taken towards resolution.

Logging On to ServiceCenter

To log onto the ServiceCenter text client:

- ▶ When the ServiceCenter server is running, log on by entering one of the following commands at the VTAM prompt on a 3270 terminal or emulator:
 - `logon applid= <sc>` (where *sc* is the APPLID).
 - `logon applid(<sc>)` (where *sc* is the APPLID).

Note: Use the first form if USSCMD was assembled with option `FORMAT=PL`; use the second if USSCMD was assembled with `FORMAT=BAL`. If you do not know which to use, try both. You can also make an entry in the USS table to enable access to ServiceCenter by entering SC or another appropriate APPLID. You will have to restart VTAM to activate this definition. See the appropriate VTAM manual for details.

Note: For instructions on how to log on with a GUI client, see the *SC3270 Client Installation Guide*.

Operator IDs for Logging On

Peregrine Systems delivers an initial ServiceCenter Operator ID of FALCON with the system. FALCON allows you, as a system administrator, to access ServiceCenter to perform preliminary verification and maintenance.

For more information on ServiceCenter Operator IDs, see the *Application Administration* guide, and the *System Administrator's Guide*.

Logging Off of ServiceCenter

Use one of the following methods to log off of ServiceCenter when using SC3270:

- Press the F3 (logoff) option key on the Main Menu. At the prompt, press F3 or select **Exit ServiceCenter**.
- Type **logoff** on any menu command line and press Enter. At the prompt, select **Exit ServiceCenter**.

Stopping ServiceCenter

External Shutdown

- The OS/390 Modify command: *F jobname*, SHUTDOWN.
- The OS/390 P (stop) command.

Note: Both external shutdown methods permit the system to complete active I/O transactions, which preserves the integrity of the file system.

Warning: Do not use the OS/390 C (cancel) command to stop ServiceCenter. Canceling ServiceCenter prevents it from completing active I/O Shutdown messages.

Shutdown Messages

The following messages appear in the job log during ServiceCenter shutdown (internal or external):

```
SC004 SERVICE CENTER LOGONS DISABLED -- applid
SC062 SHUTDOWN OF TCP LISTENER COMPLETE
SC070 SHUTDOWN MAY TAKE OVER 1MINUTE
SC002 USER (userid) SYSTEM SHUTDOWN COMPLETE
```

Note: Message SC062 appears only if the corresponding server was initialized.

The system normally shuts down thirty seconds after message SC070 appears.

If for some reason users are still active after thirty seconds, the following message is displayed:

```
SC072 SHUTDOWN WAITING FOR n TASK(S) TO TERMINATE
```

The shutdown waits another thirty seconds, again checks for active users, and again issues message SC072. This continues for a set number of iterations or until no active users are found. Set the number of wait iterations using the startup parameter `shutdownattempts`. The default is 10, which takes approximately 5 minutes.

Note: The `shutdownattempts` and `detach` parameters can be set in the SC32PRM member of SAMPLIB dataset.

If after the given number of iterations, active tasks are still found, the active tasks are terminated based on the setting of the `detach` parameter.

- If `detach` is set to 0, the active tasks are not terminated, and ServiceCenter continues to check for active tasks every thirty seconds until ServiceCenter terminates.

- If `detach` is set to 1, each active task is terminated immediately. The following message appears in the job log for each active task:

```
SC074 SHUTDOWN DETACHING PID nn, USER ccccccc
```

- If `detach` is set to 2, you are prompted to terminate each remaining active task. The following message appears on the console:

```
SC072 TERMINATE PID nn, USER ccccccc, REPLY 'Y' or 'N' TO TERMINATE
```

Reply Y to terminate the task; reply N to leave the task active. For each N response, ServiceCenter waits another thirty seconds, and then prompts you with the SC072 message for any remaining active tasks.

In the unlikely event that ServiceCenter fails to terminate, issue the STATUS command (`F jobname,STATUS`). A list of active users appears in the job log. Try to determine what each user is doing. If none of the users are actively updating the database, terminate each user session by issuing the KILL -9 command (`F jobname,KILL -9 pid`) for each PID listed in the STATUS list.

Warning: Any action that prematurely terminates an active ServiceCenter task prevents it from completing active I/O transactions, which can cause file system corruption. These actions include using `detach:1` and using the KILL -9 command.

4 Login Security Interface

CHAPTER

SC3270 includes a built-in login security interface to RACF, CA-ACF2, or CA-Top Secret. This interface allows ServiceCenter to perform password validation using your existing security framework.

This chapter was designed to aid ServiceCenter Implementers setup SC3270 Login Security Interface on their systems.

Topics in this chapter include:

- *Activating the Login Security Interface* on page 32
- *Testing the Login Security Interface* on page 33
- *Deactivating the Login Security Interface* on page 34

Activating the Login Security Interface

Activation of the interface is optional. If you choose not to use the Login Security Interface, ServiceCenter performs login validation using passwords in the ServiceCenter operator database.

To activate the login security interface

- 1 Ensure that the SC3270 load library is APF authorized.
- 2 Add the `mvssrv:host.service` parameter to the `sc.ini` file on the ServiceCenter server platform, where `host` is the hostname of OS/390 and `service` is the service name or port number established during the SC3270 installation.
- 3 Set the password of the operator records which are to be validated using RACF, CA-ACF2, or CA-Top Secret to SAF.
- 4 As a precautionary measure, login to two concurrent ServiceCenter sessions. One session allows you to modify the login and test the interface. If the modifications fail, you can use the second session to restore login capability.
- 5 If your security application is CA-ACF2, ensure that the PROF rules allow ServiceCenter to communicate with SAF.

The parameter list for SAF is:

```
RACROUTE=MACRO  USERID=          ACE=
REQUEST=        VERIFYPASSWORD=
```

Verification of Users via Application Name

The SAF interface checks a user's user ID and password to verify that the user is allowed to access ServiceCenter. Optionally, the SAF interface can pass an application name to perform this check. The default, however, is to not pass an application name.

The application name is specified in the SC3270 job JCL parameters as `R=name`. The name must be ≤ 8 characters. For example:

```
RUNPARMS='R=SCENTER'
```

In this example, `SCENTER` is passed to SAF as the application name when ServiceCenter is verifying the user's login ID and password. If the user ID is not allowed to use the application `SCENTER`, the login is rejected.

Note: For information on how to define an application name and user ID, see the documentation for the Security Package used by your system.

Password Case Conversion

If your external security application expects upper-case passwords, you can automatically translate user-entered passwords to uppercase by:

In Text Mode, do one of the following:

- Use Forms Designer to edit the format `login.prompt`
- Change the `ctrl` setting for the input field password to 264 (hidden and uppercase conversion).

In GUI Mode, do one of the following:

- Use Forms Designer to edit the format `login.prompt.g`
- Change the `CaseConversion` property to `Upper`.

Testing the Login Security Interface

Even though the login security interface is active, it checks only those operators whose `ServiceCenter` password is `SAF`.

To test the interface:

- 1 Create an operator record in the `ServiceCenter` operator file for a user who is defined to the security interface.
- 2 Set the password in the operator record to `SAF`.
- 3 Log in from another terminal with the operator ID and password (`SAF`) you have just established.
- 4 When you are satisfied that the interface is working properly, change the remaining operators' passwords to `SAF`.

Note: If the connection to SC3270 is not successful, the message “Connection to SC3270 failed, cannot verify userid and password” will be displayed when you try to log on.

Deactivating the Login Security Interface

If you experience difficulty logging in after activating the security interface:

- 1 Switch to your second ServiceCenter session.
- 2 Change the password in the operator record to its original value or some value other than SAF.
- 3 If you forced the input field password to uppercase, then:

In Text Mode:

- Reset the **Ctrl** setting from 264 back to 8.

In GUI Mode:

- Reset the **CaseConversion** from **Upper** to **None**.

5 System Considerations

CHAPTER

This chapter includes tips on how to avoid memory problems, and provides information about region size requirements and console communication.

Topics in this chapter include:

- *Avoiding Memory Problems* on page 36
- *Region Size Requirements* on page 37
- *SC3270 Dump Parameters* on page 38
- *Console Communication* on page 39
- *Server Resources* on page 41

Avoiding Memory Problems

ServiceCenter manages all small storage requests by first allocating a 4K page and then breaking this storage into smaller units. Choosing a larger page size has been shown to significantly reduce the CPU time as overall storage increases. As the page size increases the overall memory usage of ServiceCenter will also increase to some extent. A page size of 16384 has proven to yield the best CPU/Memory size combination. For sites with a small user base, less than 75 users, the default value of 4096 will yield the best performance in most cases.

The initialization parameter **M** can be used to control the size of the pages. For an example of how to set this value, see the ServiceCenter Client/Server Installation Guide for OS/390.

Since each new user or task requires memory, and memory is a fixed resource (controlled by the **REGION** parameter in the ServiceCenter JCL), it is possible to exhaust the memory allotted to the SC32JOB member of the SAMPLIB dataset, resulting in system abends (for example, 80A, 878, or 0F9) and job termination.

To avoid this possibility, you can specify two startup parameters in the SC32PRM member of SAMPLIB dataset to ensure that enough memory is available for existing tasks to execute successfully. These parameters are:

```
btl_free:nnnn  
atl_free:nnnn
```

where **nnnn** represents the number of kilobytes of memory, below the line (**btl_free**) and above the line (**atl_free**), that must be available before a new task will run. By default, no memory checking is performed. The memory check is performed only once during task initialization, so overhead is negligible.

Using the following values will reserve 12 KB of below the line memory and 220 KB of above the line memory:

```
btl_free:12  
atl_free:220
```

If the specified amounts of memory are not available, the new task is terminated and one of the following messages will appear in the SC3270 log:

Low on above the line storage, session terminated.

— or —

Low on below the line storage, session terminated.

and in the job log:

SC082 LOW ON ABOVE THE LINE STORAGE, SESSION TERMINATED.

— or —

SC083 LOW ON BELOW THE LINE STORAGE, SESSION TERMINATED.

If these messages appear, you can increase the **REGION** parameter in the SC32JOB member of the SAMPLIB dataset to provide more memory for SC3270. If you receive the below the line message and your **REGION** parameter is greater than 12 MB, then increasing the **REGION** further will have no effect.

Region Size Requirements

The region size must be large enough for program storage and user storage. User storage ranges from 500 KB for an inactive user to approximately 1 MB for an active user or background task. The specific Private Storage requirements for both above and below the line storage can be found in the chart below.

Storage Requirements

Item	Above the Line	Below the Line
Base system	1 MB	512 KB
3270 user*	220 KB	4 KB
Print/File server	400 KB	4 KB

* If you have your data mapped to DB2, allow 4 MB above the line per user.

Example:

A 40-user system with five Print/File would require a Region Size of 11.8 MB, calculated as follows:

3270 Users	Print/File server	Base	Region Size
$(40 * 220 \text{ KB}) +$	$(5 * 400 \text{ KB}) +$	1 MB =	11.8 MB above the line
$(40 * 4 \text{ KB}) +$	$(5 * 4 \text{ KB}) +$	512 KB =	692 KB below the line

Keep the following items in mind regarding OS/390 and region size:

- OS/390 automatically assigns a job 32 MB of extended Private region whenever the REGION parameter is between 1 and 16 MB, and automatically assigns a job the largest allowable Private *below the line* storage size when the REGION parameter is above 16 MB.
- The limiting number of SC3270 tasks in your system is dependent upon the amount of Private *below the line* storage available at your site.
- SC3270 does not explicitly allocate any common area storage.
- Your installation may have OS/390 exits installed (for example, IEFUSI) to limit the amount of REGION available to a batch job or started task, regardless of the REGION size specified in the SC3270 job JCL.

SC3270 Dump Parameters

To obtain useful information from SC3270 abend output, include DD statements for the following files in the SC32JOB member of the SAMPLIB dataset:

- SYSPRINT
- SYSTEMR
- SYSUDUMP
- SNAP

Note: Route the above DD statements to a SYSOUT class that can be printed or loaded on tape.

SC3270 abend processing must use the standard OS/390 facilities to provide the information necessary for analysis. In its default configuration, ABEND-AID takes control of all abends. If ABEND-AID is used on your OS/390 system, exclude SC3270 from its control.

Generally, the SYSOUT class used for SYSPRINT, SYSTEM, SYSUDUMP, and SNAP can be the same class. This concatenates them into one data set to be printed or loaded on tape, and shipped for analysis.

Route the JESLOG and SYSMMSGs from SC3270 to the same SYSOUT class used for SYSPRINT, SYSTEM, SYSUDUMP, and SNAP. This is not always possible because of the method by which installations define started tasks to JES.

Console Communication

SC3270 provides console support via the OS/390 Modify command (F). The general format of the modify command is:

```
F jobname,command parameter1 parameter2
```

The supported commands, along with a description and examples, are shown below.

DIAG

This command sets the internal diagnostic level for internal tracing. It is currently supported for SC3270 only.

Example: Set the diagnostic level to 1.

```
F SCJOB,DIAG
```

```
SC040 DIAG COMMAND BEING PROCESSED
SC044 COMMAND COMPLETED SUCCESSFULLY
```

KILL

This command terminates a process. It is functionally equivalent to the kill command issued from the online status display. The KILL command will terminate the process after all must complete locks and database I/O for the process are complete. Obtain the process ID for the task to be terminated by issuing the STATUS command.

Example: Terminate process 345.

```
F SCJOB,KILL 345
```

```
SC040 KILL COMMAND BEING PROCESSED
SC044 COMMAND COMPLETED SUCCESSFULLY
```

KILL -9

This command immediately terminates a process. Use this command only after the KILL command has proven to be unsuccessful. Obtain the process ID for the task to be terminated by issuing the STATUS command.

Example: Force immediate termination of process 345.

```
F SCJOB,KILL -9 345
```

```
SC040 KILL -9 COMMAND BEING PROCESSED
SC044 COMMAND COMPLETED SUCCESSFULLY
```

QUIESCE

This command quiesces the VTAM applid used by SC3270, preventing further logins from VTAM. Once you place the applid in the quiesce state, it cannot be reversed. SC3270 must be shut down and restarted to enable logins.

Example: Prevent further VTAM logins.

```
F SCJOB,QUIESCE
```

```
SC040 QUIESCE COMMAND BEING PROCESSED
SC004 SERVICE CENTER LOGONS DISABLED -- MRB1
SC044 COMMAND COMPLETED SUCCESSFULLY
```

SHUTDOWN

This command stops SC3270. See *Stopping ServiceCenter* on page 28 for details.

Example: Stop SC3270.

```
F SCJOB,SHUTDOWN
```

START

This command restarts any terminated servers used for client/server communications based on the parameters supplied at startup.

Example: Restart the TCP/IP server.

```
F SCJOB,STARTSERVERS
```

```
SC040 START COMMAND BEING PROCESSED
SC060 TCP LISTENER IS ON HOST(MVS) PORT#(2501)
SC060 TCP LISTENER IS ON HOST(MVS) PORT#(1426)
SC044 COMMAND COMPLETED SUCCESSFULLY
```


STATUS

This command provides a list of the currently executing processes. The list contains the process name, process ID, memory utilization, CPU utilization, I/Os, and semaphores held.

Example: List the currently executing processes.

```
F SCJOB,STATUS
```

```
SC040 STATUS COMMAND BEING PROCESSED
SC010  PID  USERID      CPU    MEMORY    I/O's    SEM
      ---  -
SC011  2    sctcplis    0.63  12288    0        0
SC044 COMMAND COMPLETED SUCCESSFULLY
```

WHERE

This command is used for diagnostic purposes only. It shows the current program stack for the given process. Using the process ID "*" (asterisk) will generate a report on all active processes.

Example: Show the program stack for process 133.

```
F SCJOB,WHERE 133
```

```
SC040 WHERE COMMAND BEING PROCESSED
SC044 COMMAND COMPLETED SUCCESSFULLY
SC050 -SIGROUTE SIGPAUS  SLEEP EVSLEEP  EVAL1  EVAL@@261549  MAINL
```

Server Resources

Shared Memory

A server uses approximately 8192 K of base shared memory plus 110 K per logged-on user.

For example, if you have 50 users, the shared memory requirement is 8192K + (110K * Users) + (4000 * Background Processes) = 13692K, if background processes = 0.

The amount of shared memory allocated by ServiceCenter is specified by `shared_memory`: in the SC32PRM member of the SAMPLIB library.

Processes

A process starts for each ServiceCenter user. In addition, a process starts for each background scheduler.

For a 50-user system, where all users are client server, and assuming there are 17 background schedulers, the number of ServiceCenter processes on the server computer is $50 + 17 = 67$.

Semaphores

ServiceCenter uses 14 semaphores, regardless of the number of users logged on to the system.

A

APPENDIX

ServiceCenter Messages

This appendix lists messages that may be displayed on the console when you run ServiceCenter.

SC000 SERVICECENTER (v.r). sp (Build)

This message displays on the console when you start ServiceCenter.

v.r	Version and Release (5.0)
sp	Service Pack (0)
build	Build number (0690????)
System Action:	None.
Operator Action:	None.

SC001 SERVICECENTER LOGONS ENABLED -- XXXX

This message displays on the console when you open the VTAM applid (XXXX) and enable logons.

System Action:	Logons are enabled.
Operator Action:	Terminal users may log on to ServiceCenter.

SC002 USER XXXX SYSTEM SHUTDOWN COMPLETE

This message displays on the console when you successfully shut down ServiceCenter.

xxxx: The User ID that started ServiceCenter.
 System Action: The system terminates.
 Operator Action: None.

SC003 SYSTEM TERMINATED -- termination reason

This message displays on the console when the system fails to start. The termination reason contains the reason for the failure.

System Action: ServiceCenter terminates
 Operator Action: Correct the cause of the error stated in the termination reason, additional information may be found in the SYSPRINT or SYSTEM output

SC004 SERVICECENTER LOGONS DISABLED -- XXXX

This message displays on the console when the VTAM applid (XXXX) for logons is disabled because of a quiesce command or RAD function. Logons cannot be re-enabled without restarting ServiceCenter.

System Action: Logons are disabled.
 Operator Action: None.

SC005 ABEND xx: lu=lllll, User=uuuuuuuu, Application=aaaaaaaaaa, Panel=pppppp

This message displays on the console when a user task abends. The abend code (xx) is the signal number that intercepted the error:

09: SIGIDIV (abend 0C9)
 15: SIGFPDIV (abend 0CF)
 33: SIGFPE (abend 0CD)
 34: SIGILL (abend 0C1/0C2/0C3/0C6)
 35: SIGSEGV (abend 0C4)
 37: SIGABRT (abort)

Use the LU name (*lllll*), User ID (*uuuuuuuuu*), application (*aaaaaaaaaaa*) and the panel (*pppppp*) at the time of the error to determine the cause of the error.

System Action: The user task is removed from the system.

Operator Action: Correct the cause of the error.

SC006 VTAM OPEN FAILED - 3270 ACCESS DISABLED

This message displays on the console when ServiceCenter cannot open the VTAM application ID specified on the `applid` parameter.

System Action: 3270 connections are not available.

Operator Action: Check the SYSPRINT output for the following message:
*VTAM open failed for applid cccccc, return code=nn,
 error=nn*

The `applid` (*cccccc*) is the application ID specified on the `applid` parameter. Some of the common return codes and errors are listed below:

Return Code	Error	Definition
-------------	-------	------------

8	86	The <code>applid</code> parameter specifies a name that is not an application ID.
8	88	The <code>applid</code> parameter specifies a name that is already in use by another program.
8	90	The <code>applid</code> parameter specifies a name that is not defined to VTAM.

For a complete listing of all return codes and errors, see the *OPEN Macro Instruction* section in the IBM manual, *VTAM Programming*.

SC007 APPLID NOT PROVIDED - 3270 AND VTAM PRINTING DISABLED

This message displays on the console when ServiceCenter was not provided an `applid` parameter.

System Action: 3270 connections and VTAM printing are not available.

Operator Action: Verify that this is the intended mode of operation.

SC010 PID USERID CPU MEMORY IN USE I/O's SEM

This message displays on the console after you enter an `F scproc,STATUS` command.

SC011 ppp uuuuuu ccc mmmmmm mmmmmm iiiii sss

SC011 messages follow for each task.

PID (ppp):	Process ID of the task.
USERID (uuuuuu):	ServiceCenter User ID.
CPU (ccc):	Accumulated CPU time.
MEMORY(mmmmmm):	Current memory allocated in bytes.
IN USE (mmmmmm):	Current memory used in bytes.
I/O's (iiiiii):	Physical I/O's.
SEM (sss):	Semaphore Locks currently held.
System Action:	None.
Operator Action:	None.

SC027 UNABLE TO ALLOCATE FILE dsn

This messages displays on the console when the I/O task failed to allocate any of the first four SCDB files.

System Action:	The system terminates.
Operator Action:	Verify that the path parameter is referring to the correct files and that none of the files have been deleted nor renamed

SC028 SHORT BLOCK FOUND IN FILE dsn

This message displays on the console when the I/O task detects that one of the P4 physical files has been reblocked incorrectly.

System Action:	The system terminates.
Operator Action:	Reblock the mentioned file using the reblock utility in your SAMPLIB. For more information, refer to the Client/Server Installation Guide for OS/390.

SC030 KERNEL DUMPING BECAUSE OF ABEND

This message displays on the console when the kernel task abends.

System Action: The system terminates.

Operator Action: Look for messages in sysprint for the reason the kernel task failed.

SC033 KERNEL ABEND REQUESTED BY ABORT

This message displays on the console when the kernel task is aborting because of a request by a console command or internal abort.

System Action: The system terminates with an abend.

Operator Action: Look for messages in sysprint for the reason the kernel task aborted.

SC035 KERNEL TERMINATING BECAUSE OF ABORT

This message displays on the console when the kernel task aborts because of an error.

System Action: The system terminates.

Operator Action: Look for messages in sysprint for the reason the kernel task aborted.

SC040 xxxxxx COMMAND BEING PROCESSED

This message displays on the console when a valid command (xxxxxx) was entered by modifying SC--F scproc,xxxxxx.

Command	Description
KILL -9 ppp:	Kill PID (<i>ppp</i>).
QUIESCE:	Disable VTAM logins.
STATUS:	Display system status.
SHUTDOWN:	Shut down the system after all users and background tasks terminate. Use OS/390 stop (P) command to shut down immediately.
scenter aaaaa bbbbb:	Run application (<i>aaaaa</i>) and pass parms (<i>bbbb</i>).

Note: The application must not attempt to interact with a user in foreground. The application must be designed to run solely in background.

System Action: The command processes.

Operator Action: None.

SC041 COMMAND SYNTAX IS INVALID

This message displays on the console when you type an invalid command.

System Action: The command is ignored.

Operator Action: Re-enter the correct command.

SC042 INVALID PID SPECIFIED FOR WHERE COMMAND

This message displays on the console when you type an invalid PID for the WHERE command.

System Action: The command is ignored.

Operator Action: Re-enter the correct command.

SC043 ERROR FREEING CIB

This message displays on the console when the command interface block cannot be freed.

System Action: The storage is not freed.

Operator Action: None

SC044 COMMAND COMPLETED SUCCESSFULLY

This message displays on the console after a command processes and a good return code is returned. For scenter commands, this means that scenter successfully started.

System Action: The system waits for another command.

Operator Action: None

SC045 COMMAND FAILED

This message displays on the console after a command processes and an error return code is returned.

System Action: The system waits for another command.

Operator Action: Determine the reason the command failed.

**SC050 XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXX
XXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX P P P P P**

This message displays on the console as a result of a WHERE command. The module names (XXXXXXX) in the back trace display with the PID number (PPPPP).

System Action: None.

Operator Action: None.

**SC060 TCP (application) LISTENER IS ON HOST (ccccccc) PORT#
(nnnn)**

The TCP/IP listener is initialized.

System Action: Clients may now connect to SC using the specified host (ccccccc) and service (nnnn).

Operator Action: None.

SC061 ERROR INITIALIZING TCP LISTENER

The TCP/IP listener could not be initialized.

System Action: Clients cannot connect to the server.

Operator Action: Check the SYSTEM output for messages of type LSCXnnn and contact Peregrine Systems Technical Support with complete messages.

SC062 TCP LISTENER SHUTDOWN COMPLETE

The TCP/IP listener terminates.

System Action: Task SCTCPLIS is detached.

Operator Action: None.

SC072 TERMINATE PID nn, USER cccccc REPLY 'Y' or 'N' TO DETACH",

The system is being shut down. The detach startup parameter is specified in the SC32PRM member of SAMPLIB dataset.

System Action: The user (ccccc) could not be terminated.

Operator Action: Reply Y to terminate the task, N to allow the task 30 more seconds to achieve a normal termination.

SC073 SHUTDOWN WAITING FOR nn TASK(S) TO TERMINATE

The system is being shut down. nn are still active tasks. This message repeats every 30 seconds until no active tasks are found or until the shutdownattempts limit is reached. The shutdownattempts parameter is specified in the SC32PRM member of SAMPLIB dataset.

System Action: SC waits while active tasks terminate.

Operator Action: None.

SC074 SHUTDOWN DETACHING PID nn, USER cccccc

The system is being shut down and forced the task identified by PID nn because it did not terminate by itself.

System Action: User (ccccc) has been terminated.

Operator Action: None.

SC080 ABEND OCCURRED IN VTAM EXIT

This message displays on the console when the ServiceCenter logon or losterm VTAM exit abends. The abend is recovered and retried, so ServiceCenter does not abend.

System Action: If the logon exit abends, the user logon is rejected. If the losterm exit abends, the session is not terminated.

Operator Action: Monitor the system for any VTAM logon problems. If the error occurs repeatedly, ServiceCenter may need to be shut down and re-cycled to clear the error.

SC082 LOW ON ABOVE THE LINE STORAGE, SESSION TERMINATED

This message displays on the console when ServiceCenter is low on storage.

System Action: The attempt to start a new session was terminated because the OS/390 system did not have enough above the line storage to satisfy the storage request specified by the `atl_free` parameter in the SC32PRM member of SAMPLIB dataset.

Operator Action: Increase the OS/390 REGION size for the ServiceCenter job.

SC083 LOW ON BELOW THE LINE STORAGE, SESSION TERMINATED

This message displays on the console when ServiceCenter is low on storage.

System Action: The attempt to start a new session was terminated because the OS/390 system did not have enough below the line storage to satisfy the storage request specified by the `btl_free` parameter in the SC32PRM member of SAMPLIB dataset.

Operator Action: Increase the OS/390 REGION size for the ServiceCenter job.

SC088 UNIDENTIFIED SERVER ON TCPSEVER PARAMETER

This message displays on the console when the `tcpserver` parameter contains an invalid value. The TCP/IP listener could not be initialized.

System Action: The listener process is not started. Clients cannot connect to the server

Operator Action: For an SC3270 listener the value must be SCTCP32S. For an SCAUTO listener the value must be SCASERVR. Check the PARMs file for an invalid `tcpserver` parameter. Valid values are SCENTER, SCTCP32S and SCASERVR

SC100 SC MALLOC VIRTUAL MEMORY SHORTAGE - NOTIFY ADMINISTRATOR

This message displays on the console when ServiceCenter is not able to obtain virtual storage for a memory allocation (MALLOC) request. This message is only sent to the console once for each user.

System Action: The memory allocation request fails.

Operator Action: Increase the region size available to ServiceCenter.

SC105 SC INVALID FREE STORAGE REQUEST

This message displays on the console when ServiceCenter passes an invalid storage address to free memory. This message is only sent to the console once for each user.

System Action: The memory free request fails.

Operator Action: None.

SC220 LOAD LIBRARY MUST BE APF-AUTHORIZED FOR SAF

This message displays on the console when the SAF security interface request fails because load library is not APF-authorized.

System Action: The SAF request fails. If the SAF request was from the SAF panel in login, the user logon fails.

Operator Action: APF-authorize the ServiceCenter load library.

SC250 SMF RECORDING REQUIRES APF AUTHORIZATION

This message is displayed on the console when SMF recording is requested (Kernel parm -S), but the ServiceCenter load library (or other libraries in the STEPLIB) are not APF-authorized.

System Action: SMF Recording is not activated.

Operator Action: APF-authorize the ServiceCenter load library.

SC255 SMF RECORD NUMBER xxx is INVALID

This message displays on the console when SMF recording is requested (Kernel parm -S), but the record number is not between 128 and 255.

System Action: SMF Recording is not activated.

Operator Action: Correct the SMF number and restart ServiceCenter.

B Installation Errors and Responses

APPENDIX

This appendix describes errors that may occur during your installation of ServiceCenter, and their responses.

Error 8, Return Code 86, 88, or 90

Occurs when the APPLID specified in the ACB statement is the same as your VTAM member name (major node). The APPLID does not exist on the system. See your Systems Programmer.

Resource Unavailable / Resource Inactive / Insufficient Region / Session Not Bound

These errors could be an across-domain link problem. If you have a multiple domain environment, ServiceCenter may reside on one computer, and the VTAM definitions on another computer. See your Systems Programmer.

Abend or JCL Error When the ServiceCenter Job is Submitted

The SC32JOB JCL may not be properly modified. Ensure that you followed all the instructions in the JCL that explained the necessary modifications. If you renamed any of the unloaded data sets, the names may not match what is expected by the JCL.

Other reasons for this error include: (1) the VTAM ID may not be activated, or (2) no time parameter is set.

ServiceCenter Does Not Start

If you submitted ServiceCenter as a batch job, there may not be any initiators of the right class available.

The ServiceCenter Job Times Out

Set the time parameter in the run JCL to TIME=1440 to prevent time outs.

Security Abend

ServiceCenter cannot start because it cannot write to its data sets. ServiceCenter must be given read/write authority within the security package employed.

Messages LSCX830 and LSCX474

SAS runtime modules generate these messages if you are using Interlink TCP/IP and did not place the Interlink LINK library *first* in the STEPLIB concatenation.

Message LSCX470

The following message is generated when the ServiceCenter job does not have RACF authority to HFS.

```
LSCX470 **** WARNING **** ERRNO = ESYS
Generated in SOCKET called from @@585615(SCTCPLI), offset 0001C8
Extended name: setupSocket
Vendor-specific TCP/IP error condition (IBM TCP/IP: errno=156).
socket() call failed in setupSocket(): Operating system interface failure
```

Message LSCX920

The following message is generated when the ServiceCenter job does not have access to the Open Edition file /dev/null or the file does not exist.

```
LSCX920 **** WARNING **** ERRNO = EACCES
Generated in TAKSOCK called from MAIN(MAIN), offset 00026E
Unable to open shadow file (/dev/null) for socket.
```

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