IBM Breeze for SCLM for z/OS

IBM

Installation Guide

Release 1

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> **Note**
> Before using this document, read the general information under "Notices" on page 51.

About this book

This book describes how to complete the installation of IBM Breeze for SCLM for z/OS ("Breeze"), after you have followed the instructions in the *Breeze Program Directory*. The *Breeze Program Directory* describes the System Modification Program/Extended (SMP/E) installation of Breeze; this book describes the post-SMP/E installation. This book assumes that SMP/E installation is complete.

The book is organized into several steps, with checkpoints along the way for Installation Verification Procedure (IVP) testing. These steps should be followed in the order that they are presented.

When you have successfully completed all of the steps and run all of the IVP jobs described in this book, see the *Breeze Planning and Administration Guide* for further steps you might need to complete before using Breeze.

Who should read this book

This book is aimed at system administrators who are familiar with installing products under z/OS or OS/390.

Related information

For an introduction to Breeze, see the *Breeze Functional Overview*.

For the latest information about Breeze, go to www.ibm.com/software/ad/sclmsuite/breeze/

For information about using SCLM, see the *SCLM Project Manager's and Developer's Guide*.

For other related information, see the "Bibliography" on page 55.

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Summary of changes - Third Edition (August 2002)

The following enhancements and changes have been made to Breeze for SCLM for z/OS Version 1 since the last release of the documentation.

- Clarification of the Optional Email delivery system.
- Breeze package parameters added to the normal SCLM promote panel to allow changes to the Breeze parameters when submitting a batch promote.
- Various minor technical corrections.

Contents

Figures

Chapter 1. Installation Overview

This chapter describes the components of Breeze, and lists the JCL members that you will be using to install these components.

Breeze Components

Breeze consists of these components:

Package database
VSAM data set containing Breeze package records and (optionally) the three types of record for defining approvers: inventory junction records, approver group records and approver records.

Package records are created during the SCLM promote function by one of the Breeze user exits (see below).

The records for defining approvers are only required if your site uses Breeze to vote on package promotion. When you have completed the steps in this book, see the *Breeze Planning and Administration Guide* for information about using the Breeze batch utilities to define approvers.

User exits
Programs that customize the SCLM build and promote functions (for example, to create package records in the Breeze package database). For a detailed description of what these exits do, see the *Breeze User's Guide*.

ISPF components
Various ISPF pop-up windows that the Breeze user exits display during SCLM foreground processing. These are also described in the *Breeze User's Guide*.

CTS server
Combines:

- An HTTP server that hosts the Breeze Web interface
with
- Software that allows the Web interface to access the package database

Web interface
A Web page, hosted by the CTS server, that allows users to view and vote on packages. This Web page consists of a single HTML file and a Java applet. The HTML file acts as a container for the applet, allowing it to run inside a Web browser. To use the Breeze Web interface, users point their Web browsers to the HTML file on the CTS server. The HTML file contains tags that cause the browser to download the applet from the CTS server, and run the applet inside the browser. For information on using this applet, see the *Breeze User's Guide*.

Batch utilities
Various utilities for maintaining or reporting on the Breeze package database (for example, to define approvers, delete old package records, or report on specified packages).

JCL Members Modified During Installation

In the installation steps described later in this book, you will modify the following JCL members located in SBZZJCL:

BZZSMJX3	JCL to translate BZZHTML into ASCII format (optional)
BZZSMJX4	JCL to test the e-mail interface
BZZSMJ03	JCL to build package database with demo data
BZZSMJ04	JCL to create CIGINI
BZZSMJ05	JCL for define/backup of package database
BZZSMJ06	JCL to run batch reports
BZZSMPKG	JCL shell used in CTS server for approval process
BZZSMPRT	JCL shell used by CTS server for browse requests
BZZSMSRV	JCL to invoke the CTS server

SBZZJCL also contains sample JCL members for Breeze batch utilities that are not modified during installation (for more information about these utilities, see the *Breeze Planning and Administration Guide*):

BZZSMJU1	JCL to update individual approver records
BZZSMJG1	JCL to update approver group records
BZZSMJIJ	JCL to assign and update inventory locations
BZZSMJP1	JCL to run source monitoring utility
BZZSMJA1	JCL to build cross-reference reports
BZZSMJV1	JCL to cast and tally approver votes
BZZSMJS1	JCL to run the promotion sweep utility
BZZSMJD1	JCL to run the package delete utility

Sample Members Modified During Installation

In the installation steps described later in this book, you will be modifying the following sample (non-JCL) members located in SBZZJCL:

BZZSMFLM	Sample SCLM Exit Setup
BZZ$HTML	Sample HTML file for EMAIL
BZZ$SMTP	Sample SMTP control file
BZZTSTTO	Sample member SMTP setup test
BZZ$CNTL	Sample port definition parameter
BZZHTML	Sample HTML for Breeze Applet IVP

Chapter 2. A Step-by-Step Approach

Step	Description
	1. Review system, software, and hardware considerations.
	2. Implement site standards.
Checkpoint 1.	Verify steps so far.
	3. Set up the sample Database.
	4. Ensure database integrity via MIM or GRS.
	5. Set up the sample CIGINI initialization file.
	6. Set up database backup and restore jobs.
Checkpoint 2.	Verify steps since previous checkpoint.
	7. Review and customize the CTS server JCL.
	8. Run the CTS server invocation IVP.
Checkpoint 3.	Verify steps since previous checkpoint.
	9. Run the Breeze applet invocation and logon IVP.
Checkpoint 4.	Verify steps since previous checkpoint.
	10. Run the Breeze Package Detail Report IVP.
Checkpoint 5.	Verify steps since previous checkpoint.
	11. Modify the SCLM log-on proc.
	12. Connect Breeze to SCLM.
Checkpoint 6.	Verify steps since previous checkpoint.
	13. Configure and test email delivery system.
Checkpoint 7.	Verify steps since previous checkpoint.

Chapter 3. Steps to Checkpoint One

Step 1. Review Software and Hardware Considerations

In this step you will review the system, software, and hardware requirements for product installation.

System Requirements

To successfully install Breeze, the following system requirements must be in place at your installation:

- OS/390 Version 2 Release 7 or later, or z/OS Version 1 Release 1 or later
- Dedicated port number for CTS server (described in "Step 7c. Configure the Java CONTROL Member-- BZZ$CNTL" on page 26). This port number must be higher than 1024, as port numbers lower than this are reserved for internal system services.
- One authorized LOADLIB
- IP address of mainframe or named server on mainframe
- SMTP server (required for email notification)
- SYSOUT class and name of SMTP server
- SYSOUT class for internal job submission
- One of the following:
  - Microsoft Internet Explorer 5.0 or later
  - Netscape 4.7 or later

Software Requirements

Breeze requires that IBM's Software and Configuration Library Manager (SCLM) be implemented on your mainframe. Additionally, at least one SCLM Project must be defined. Before proceeding, contact your systems administrator to ensure that these requirements are in place.

Product Space Requirements

The table below outlines the space requirements for the Breeze product software and supporting libraries. Note that the following estimates are based on 3390 track allocations.

Table 1. Total DASD Space Required by Breeze

Library Type	Total Space Required
Target	112 Tracks on 3390
Distribution	112 Tracks on 3390

Step 2. Implement Site Standards

Make a copy of this page and, as you complete each installation step, fill in the worksheets for later use.

The following worksheet lists placeholders representing values that are site-specific. These placeholders are indicated in this chapter by the use of lowercase italics in the reproduced JCL. Substitute your site-specific values in all installation and implementation JCL.

Table 2. Worksheet for Site-Specific Placeholder Values

Place Holder	Definition	Your Site Value
dvolser	Volume serial number of the disk used to store permanent data sets (if needed).	
dunit	Unit label for permanent disk data sets (usually SYSDA). This specification is limited to 6 characters.	
tdisk	Unit label for temporary disk data sets: usually SYSDA). This specification is limited to 6 characters.	
flhq1	High-level qualifier for the Breeze datasets. (In the supplied JCL, the default high-level qualifier for the Breeze target library is BZZ.)	
flhq2	Second-level qualifier for the Breeze datasets.	
password	Breeze password.	
ip-addr	IP address of the z/OS or OS/390 host where Breeze is installed.	
port	Port number of the CTS server. **Note:** *ip-addr* and *port* determine the Web address of the Breeze Web interface: `http://ip-addr:port/brsclm.html`	

ISPF/SCLM Data Set Names

Additionally, identify the data set names for your current ISPF/SCLM environment as per the following worksheet. These data set names will be needed for batch JCL updates.

Table 3. Worksheet for Site-Specific DDnames

DDname	Dataset Names Examples	Your Dataset Names
STEPLIB	ISP.SISPLPA ISP.SISPLOAD	
ISPPLIB	ISP.SISPPENU	
ISPMLIB	ISP.SISPMENU	
ISPSLIB	ISP.SISPSLIB ISP.SISPSENU	
SYSPROC	ISP.SISPCLIB ISP.SISPEXEC	
ISPTLIB	ISP.SISPTENU	

Checkpoint 1

At this point the following libraries should be allocated and populated. Using ISPF Option 3.4, verify that these files have been created and contain data.

Data Set Names	Completed?
BZZ.SBZZLOAD	
BZZ.SBZZMENU	
BZZ.SBZZPENU	
BZZ.SBZZSENU	
BZZ.SBZZCLIB	
BZZ.SBZZJCL	
BZZ.SBZZJAVA	
BZZ.SBZZDMDB	

Chapter 4. Steps to Checkpoint Two

Step 3. Set Up the Breeze Sample Database

In this step you will create and populate the Breeze sample database, which is used as part of the Installation Verification Process (IVP).

Modify BZZSMJ03

In this step you will modify the member BZZSMJ03 that will define the Breeze Package database. BZZSMJ03 is located in the SBZZJCL target library.

```
//**(JOBCARD)
//**
//* ----------------------------------------------------------------- *
//* NAME:    BZZSMJ03                                                  *
//* PURPOSE: ALLOCATE THE BREEZE FOR SCLM DATABASE  AND POPULATE       *
//*          WITH THE BREEZE FOR SCLM DEMO DATA FOR IVP.               *
//* -----------------------------------------------------------------*
//*  TO USE THIS JCL, YOU MUST:                                       *
//*        1) INSERT A VALID JOB CARD WITH VALID CLASS.               *
//*        2) CHANGE THE DVOLSER VALUE AS PER WORKSHEET. IF YOUR       *
//*           SITE IS USING SMS FOR VSAM FILE ALLOCATION, THEN        *
//*           YOU MAY NOT NEED THIS PARAMETER.                        *
//* -----------------------------------------------------------------*
//* ALLOCATE THE BREEZE PACKAGE DATABASE                              *
//* -----------------------------------------------------------------*
//STEP1   EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//INDD01   DD  DSN=BZZ.SBZZDMDB(BZZDEMO),DISP=SHR
//SYSIN   DD *
 DELETE BZZ.SBZZPKG.DATABASE
 DEFINE CLUSTER -
   (NAME('BZZ.SBZZPKG.DATABASE') -
        SPEED UNIQUE FREESPACE(30 30) -
   CYLINDERS(10 10) -
   VOLUMES(dvolser) -
   SHR(4 3) -
   KEYS(80 0)  -
   RECORDSIZE(80 720)) -
  DATA  (CISZ(16000)) -
  INDEX (CISZ(4096))
 REPRO INFILE(INDD01) OUTDATASET('BZZ.SBZZPKG.DATABASE')
/*
```

Figure 1. BZZSMJ03

Step 4. Ensure Database Integrity Through GRS or Similar Product

The IBM product that is typically used to manage cross-system enqueues is the Global Resource Serialization (GRS) product. Sample setup parameters are shown below.

In this step, you will define the product enqueue name to GRS (or your choice of a similar program). If you are running SCLM suite products in a multi-LPAR and/or

multi-CPU environment where the product database(s) will be accessed from multiple operating system images, this step is required. This specifically applies to Parallel Sysplex implementations.

Database File Integrity

Breeze utilizes standard VSAM files for data storage. Internal product processing utilizes the operating system ENQ/DEQ macros when performing VSAM file access. The SYSTEMS option on the ENQ macro is used to ensure that cross-system file locking is performed. The Breeze QNAME is called CIGQNAME. The RNAME is the VSAM data set name (dsname).

Recommended GRS Parameters

The GRS parameters recommended for the CIGQNAME are:

```
RNLDEF RNL(INCL) TYPE(GENERIC)
QNAME(CIGQNAME)
RNLDEF RNL(CON) TYPE(GENERIC)
QNAME(CIGQNAME)
```

Step 5. Set Up the Sample CIGINI Initialization File

In this step you will create the CIGINI load module that contains various product parameters such as product password, database names, and the product load library name.

Creating a CIGINI Load Module

The CIGINI load module must be located in the Breeze LOADLIB (SBZZLOAD). Create the CIGINI load module by executing the JCL in member BZZSMJ04 of the SBZZJCL data set. As input to the job, you will need to do the following:

1. Modify BZZSMJ04. A sample CIGINI text member, shown below, is located in-stream in this SBZZJCL member. Change the configuration statements to reflect your site's information.
2. Submit BZZSMJ04 to create your CIGINI. When successful, a new load (CIGINI) will be added to the Breeze LOADLIB (SBZZLOAD).

CIGINI Sections

The CIGINI text shown below (available in the SBZZJCL data set) contains the options necessary for running Breeze using the sample database created in "Step 3. Set Up the Breeze Sample Database" on page 9. The CIGINI text member is divided into sections as described below:

COMMON SECTION   parameters common to all SCLM suite products

Breeze product   parameters

The COMMON SECTION is always required. Inclusion of additional sections is dependent upon the SCLM suite products that you are installing.

If you are also installing IBM Cloud 9 for SCLM for z/OS ("Cloud 9"), then you must modify the Cloud 9 members CLZJDYN and CLZJIBM to include the Breeze libraries. Also, you must modify the CIGINI member in Cloud 9 to include the DEFINE BRSCLM SECTION described below.

Note: This step of setting up the CIGINI initialization file should also terminate with COND CODE=0.

```
* ----------------------------------------------------- *
* THIS IS THE BREEZE FOR SCLM SAMPLE CIGINI INPUT.     *
* PLEASE MODIFY TO MEET YOUR NAMING STANDARDS.         *
* ----------------------------------------------------- *
DEFINE COMMON SECTION
  PRODUCT LOADLIB      = 'BZZ.SBZZLOAD'
  WORK UNIT            = tdisk
  VIO  UNIT            = VIO
  JAVASERVERCONTROL DSNAME = 'BZZ.SBZZJAVA'
                    MEMBER =  BZZ$CNTL
DEFINE BRSCLM  SECTION
  PASSWORD = 'password'
  VSAM DSNAME = 'BZZ.SBZZPKG.DATABASE'
```

Figure 2. Sample CIGINI

Define Common Section

This section is always required. The COMMON Section describes parameters required by all SCLM suite products.

Syntax	Purpose	Usage
DEFINE PRODUCT LOADLIB = BZZ.SBZZLOAD	Defines the name of the product load library. Default: None	Required
WORK UNIT = tdisk	Defines DASD unit name for temporary disk files. Maximum length = 6. Default: None	Required
VIO UNIT = tdisk	Defines DASD unit name for temporary disk files in those situations where SCLM suite products can take advantage of VIO disk access. Maximum length = 6.	Required
DO NOT ALLOW ALTERNATE CIGINI		
JAVASERVER CONTROL DATASET/DSNAME = BZZ.SBZZJAVA	Name of the Java Control Data set in the Common section. Default: None	Required
MEMBER	Name of member that contains the port number for the server. Default: BZZ$CNTL	Required

Define Breeze Section

This section describes parameters required by the IBM Breeze for SCLM product.

Syntax	Purpose	Usage
PASSWORD = password	This required keyword and variable are checked during invocation of the product. It must be a valid temporary or permanent password provided by IBM. Default: None	Required

Syntax	Purpose	Usage
VSAM DSNAME = BZZ.SBZZPKG.DATABASE	This required keyword and variable is how the Breeze product knows what database to use. This file must be allocated prior to compiling the CIGINI or the compilation will fail.	Required

Modify BZZSMJ04

```
//* (JOBCARD)
//* -----------------------------------------------------------------*
//*  NAME:    BZZSMJ04                                               *
//*  PURPOSE: PARSE, COMPILE AND LINK THE CIGINI MODULE.             *
//* -----------------------------------------------------------------*
//*  TO USE THIS JCL, YOU MUST:                                      *
//*        1) PERFORM MODIFICATION TO INLINE //CIGIN DATA.           *
//*            SAMPLE PROVIDED WILL NOT COMPILE AS DELIVERED.        *
//*        2) INSERT A VALID JOB CARD WITH VALID CLASS AND REGION=0M *
//*        3) CHANGE THE UNIT=TDISK AS PER THE WORKSHEET.            *
//*                                                                  *
//*-----------------------------------------------------------------*
//*                                                                  *
//* STEP 1: PARSE CIGINI SYNTAX.  BUILD INPUT FOR ASSEMBLER.         *
//*                                                                  *
//*-----------------------------------------------------------------*
//PARSE     EXEC PGM=ICOMPILE
//STEPLIB  DD  DSN=BZZ.SBZZLOAD,DISP=SHR
//CIGPUNCH DD  DSN=&&TEMP,DISP=(NEW,PASS),
//             UNIT=TDISK,SPACE=(10,10),
//             DCB=(BLKSIZE=3120,LRECL=80,RECFM=FB)
//CIGLOG   DD  SYSOUT=*
//CIGIN    DD  *
* ----------------------------------------------------- *
* THIS IS THE BREEZE FOR SCLM SAMPLE CIGINI INPUT.     *
* PLEASE MODIFY TO MEET YOUR NAMING STANDARDS.         *
* ----------------------------------------------------- *
DEFINE COMMON SECTION
  PRODUCT LOADLIB     = 'BZZ.SBZZLOAD'
  WORK UNIT           = tdisk
  VIO  UNIT           = VIO
  JAVASERVERCONTROL DSNAME = 'BZZ.SBZZJAVA'
                    MEMBER =  BZZ$CNTL

DEFINE BRSCLM  SECTION
  PASSWORD = 'password'
  VSAM DSNAME = 'BZZ.SBZZPKG.DATABASE'

continued on next page...
```

Figure 3. BZZSMJ04 (part 1)

```
//*------------------------------------------------------------------*
//*                                                                  *
//* STEP 2: ASSEMBLE THE CIGINI INPUT CREATED IN STEP 1.             *
//*                                                                  *
//*  NOTE: CHOOSE THE DESTINATION OF YOUR CIGINI FILE.               *
//*                                                                  *
//*------------------------------------------------------------------*
//*  ASMA90  (HL-ASM)
//*  IEV90   (ASSEMBLER-H)
//ASM      EXEC PGM=ASMA90,
//            REGION=3072K,
//            COND=(0,NE),
//            PARM='NODECK,OBJECT,NOTERM,LIST,XREF(SHORT)'
//SYSIN    DD  DSN=&&TEMP,DISP=(OLD,DELETE)
//SYSLIB   DD  DSN=SYS1.MACLIB,DISP=SHR
//SYSLIN   DD  DSN=&&SYSLIN,
//            UNIT=tdisk,SPACE=(TRK,(3,5)),
//            DISP=(NEW,PASS,DELETE),
//            DCB=(RECFM=FB,LRECL=80,BLKSIZE=3200)
//SYSPUNCH DD  DUMMY
//SYSUT1   DD  UNIT=tdisk,SPACE=(TRK,(5,15))
//SYSPRINT DD  SYSOUT=*
//*------------------------------------------------------------------*
//*                                                                  *
//* STEP 3: LINK EDIT THE CIGINI MODULE.                             *
//*                                                                  *
//*------------------------------------------------------------------*
//LINK     EXEC PGM=IEWL,
//            REGION=2048K,
//            PARM='LIST,NCAL,XREF,LET,RENT,REUS',
//            COND=(0,NE)
//SYSPRINT DD  SYSOUT=*
//SYSLIN   DD  DSN=&&SYSLIN,
//            DISP=(OLD,DELETE,DELETE)
//SYSLMOD  DD  DSN=BZZ.SBZZLOAD(CIGINI),DISP=SHR
//SYSUT1   DD  UNIT=tdisk,SPACE=(TRK,(5,15))
```

Figure 4. BZZSMJ04 (part 2)

Step 6. Set Up Database Backup and Restore Jobs

The VSAM files used by Breeze require regular maintenance and monitoring. In this step you will set up the database backup and maintenance job for the Breeze Package database. Note that this job will need to be implemented for all Breeze databases. The JCL member to accomplish this (BZZSMJ05) is located in the SBZZJCL data set.

Modify BZZSMJ05

```
//**(JOBCARD)
//**
//* ---------------------------------------------------------------- *
//* NAME:      BZZSMJ05                                               *
//* PURPOSE:   THE PURPOSE OF THIS JCL IS REORG AND REBUILD THE       *
//*            BREEZE FOR SCLM DATABASE.                              *
//* ---------------------------------------------------------------- *
//*                                                                   *
//* MODIFY THIS JCL TO MEET YOUR SITE REQUIREMENTS IN THE FOLLOWING   *
//* WAYS.                                                             *
//*                                                                   *
//*          1) INCLUDE A JOBCARD                                     *
//*          2) CHANGE FLHQ1 AS PER WORKSHEET.                        *
//*          3) CHANGE DVOLSER TO THE VOL SER OF THE DISK USED TO     *
//*             STORE THE BREEZE DATABASE.                            *
//*          4) CHANGE DUNIT AS PER WORKSHEET.                        *
//*          5) CHANGE TDISK AS PER WORKSHEET.                        *
//*          6) CUSTOMIZE STEP2 AND STEP3 TO INCLUDE YOUR PACKAGE     *
//*             REGISTRY CONTROL FILE NAME.                           *
//*          7) SIZE THE BOTH THE STEP2 SPACE PARAMETERS AND THE      *
//*             STEP3 SPACE PARAMETERS TO REFLECT PRODUCTION DATA     *
//*             BASE SIZE.                                            *
//* ---------------------------------------------------------------- *
//*                                                                   *
//* STEP1: DELETE THE OLD VERSION OF THE BACKUP, IF IT EXISTS.        *
//*        DELETE THE OLD VERSION OF THE SORT FILE. IF IT EXISTS.     *
//* STEP2: CREATE A SEQUENTIAL BACKUP OF THE PACKAGE DATABASE USING   *
//*        STANDARD IDCAMS REPRO SERVICES.DATA ONLY.                  *
//* STEP3: SORT THE DATA, OMITTING '..DEL' TYPE RECORDS.              *
//* STEP4: DELETE, DEFINE, AND REPRO THE PACKAGE DATABASE.            *
//*                                                                   *
//* ---------------------------------------------------------------- *
//* ---------------------------------------------------------------- *
//*                                                                   *
//* STEP1: DELETE THE OLD VERSION OF THE BACKUP, IF IT EXISTS.        *
//*                                                                   *
//* ---------------------------------------------------------------- *
//STEP1    EXEC PGM=IDCAMS
//SYSPRINT DD  SYSOUT=*
//SYSIN    DD  *
     DELETE 'flhq1.PACKAGE.SEQ'    PURGE
     DELETE 'flhq1.PACKAGE.SORT2' PURGE
     IF MAXCC <= 8 THEN DO
       SET MAXCC = 0
       SET LASTCC = 0
     END
```

continued on next page...

Figure 5. BZZSMJ05 (part 1)

```
//* ----------------------------------------------------------------- *
//*                                                                    *
//* STEP2: CREATE A SEQUENTIAL BACKUP OF THE PACKAGE DATABASE USING    *
//*        STANDARD IDCAMS REPRO SERVICES.                             *
//*                                                                    *
//* ----------------------------------------------------------------- *
//STEP2    EXEC PGM=IDCAMS,
//         COND=(0,LT)
//OUTDD02  DD DSN=flhq1.PACKAGE.SEQ,DISP=(NEW,CATLG,DELETE),
//         UNIT=dunit,SPACE=(CYL,(10,5),RLSE),
//         DCB=(RECFM=VB,LRECL=724,BLKSIZE=6160)
//INDD02   DD DSN=BZZ.SBZZPKG.DATABASE.DATA,DISP=OLD,
//         AMP='BUFNI=10,BUFND=10'
//SYSPRINT DD SYSOUT=*
//SYSIN    DD *
  REPRO IFILE(INDD02)  OFILE(OUTDD02)
/*
//* ----------------------------------------------------------------- *
//*                                                                    *
//* STEP3:  SORT THE DATA AND DELETE ALL RECORDS THE QUALIFY FOR A     *
//*         LOGICAL DELETE.                                            *
//*                                                                    *
//* ----------------------------------------------------------------- *
//STEP3    EXEC PGM=SORT,
//         COND=(0,LT)
//SORTIN   DD DSN=flhq1.PACKAGE.SEQ,DISP=SHR
//SORTOUT  DD DSN=flhq1.PACKAGE.SORT2,DISP=(NEW,CATLG,DELETE),
//         UNIT=dunit,SPACE=(CYL,(10,5),RLSE),
//         DCB=(RECFM=VB,LRECL=724,BLKSIZE=6160)
//SORTWK01 DD   UNIT=tdisk,SPACE=(CYL,(25,25))
//SORTWK02 DD   UNIT=tdisk,SPACE=(CYL,(25,25))
//SORTWK03 DD   UNIT=tdisk,SPACE=(CYL,(25,25))
//SORTWK04 DD   UNIT=tdisk,SPACE=(CYL,(25,25))
//SYSPRINT DD SYSOUT=*
//SYSOUT   DD SYSOUT=*
//SYSIN    DD *
  SORT FIELDS=(5,80,CH,A)
  OMIT COND=(85,2,CH,EQ,X'0000',&,87,3,CH,EQ,C'DEL')
  RECORD TYPE=V,LENGTH=(724,,,80)
  SUM FIELDS=NONE
/*
```

continued on next page...

Figure 6. BZZSMJ05 (part 2)

```
//* ------------------------------------------------------------------ *
//*                                                                     *
//* STEP4: DELETE AND DEFINE THE CURRENT PACKAGE DATABASE, REPRO        *
//*        THE BACKUP INTO THE NEW FILE.                                *
//*                                                                     *
//* ------------------------------------------------------------------ *
//* ------------------------------------------------------------------ *
//*                                                                     *
//* DO NOT MODIFY THE VSAM PARAMETERS PROVIDED IN THIS JCL. DOING SO    *
//* WILL PRODUCE UNEXPECTED RESULTS FROM THE BREEZE FOR SCLM            *
//* APPLICATION.                                                        *
//*                                                                     *
//* ------------------------------------------------------------------ *
//STEP4    EXEC PGM=IDCAMS,
//         COND=(0,LT)
//SYSPRINT DD SYSOUT=*
//INDD01   DD DSN=flhq1.PACKAGE.SORT2,DISP=SHR
//SYSIN    DD *
 DELETE BZZ.SBZZPKG.DATABASE
 DEFINE CLUSTER -
    (NAME('BZZ.SBZZPKG.DATABASE') -
         SPEED UNIQUE FREESPACE(30 30) -
    TRACKS(60 40) -
    VOLUMES(dvolser) -
    SHR(4 3) -
    KEYS(80 0)  -
    RECORDSIZE(80 720)) -
  DATA  (CISZ(16000)) -
  INDEX (CISZ(4096))
 REPRO INFILE(INDD01) OUTDATASET('BZZ.SBZZPKG.DATABASE')
/*
//* ------------------------------------------------------------------ *
//* EXPAND THE INDEX TO 2 LEVELS                                       *
//* ------------------------------------------------------------------ *
//STEP5    EXEC PGM=BZZVSM2L,PARM='BZZ.SBZZPKG.DATABASE'
//STEPLIB  DD  DSN=BZZ.SBZZLOAD,DISP=SHR
//*
```

Figure 7. BZZSMJ05 (part 3)

Checkpoint 2

At this point the demo database should be created and populated and the CIGINI initialization module should be created and stored in the product load library.

Task	Completed?
Allocated and populated the demo database?	
Reviewed the GRS or MIMS parameters?	
Built a CIGINI file that points to the demo database?	
Set up database backup and restore?	

Chapter 5. Steps to Checkpoint Three

Step 7. Customize the CTS Server JCL and Supporting Control Files

Step 7a. Modify BZZSMSRV

The Breeze TCP/IP server (also known as the CTS server) is an application specially designed to support the Breeze Web interface.

JCL to Invoke the Breeze CTS Server

The JCL member to invoke the CTS server (BZZSMSRV), shown in Figure 8 on page 20, is located in the SBZZJCL data set.

Attention: It is important that BZZSMSRV (as well as BZZSMPKG and BZZSMPRT) be reviewed for non-standard JCL issues.

Authorized Dataset Requirement

The CTS server must run from an authorized library due to RACROUTE calls made at logon time. If the target load library is not an authorized data set, then you must copy the target load library into the authorized library for server execution.

Timeout Parameter

Note, also, that this job MUST NOT TIME OUT. If the job is being run in batch, then you must specify a time parameter of TIME=NOLIMIT on the job card. This job can also be made a started task.

Sample JCL to Start the CTS Server

```
//* (JOBCARD)
//*----------------------------------------------------------------
//*    NAME....: BZZSMSRV                                  7/20/01
//*    PURPOSE : JCL TO INVOKE THE BREEZE FOR SCLM SERVER.
//*
//*----------------------------------------------------------------
//*
//*   **                              **
//*   ** PRODUCT INSTALLATION/SETUP ISSUES **
//*   **                              **
//*   THE FOLLOWING IS A LIST OF MODIFICATIONS REQUIRED DURING PRODUCT
//*   INSTALLATION AND INITIAL SETUP:
//*
//*       1. INCLUDE A VALID JOB CARD
//*       2. MAKE SURE THE TCP LIBRARY IS INCLUDED IN THE
//*          STEPLIB (OR LINKLIST) AND THAT IT IS APF AUTHORIZED.
//*       3. INCLUDE THE THREE DD FILES NEEDED FOR BATCH
//*          JOB SUBMISSION:
//*            CIGSMPKG - BREEZE PACKAGE SHELL
//*            CIGSMPRT - BREEZE PRINT SERVICES SHELL
//*            CIGINRDR - INTERNAL READER
//***********************************************************************
//*   PRINT CIGINI VALUES
//***********************************************************************
//PRINTINI  EXEC  PGM=BZZNTINI
//STEPLIB   DD    DSN=BZZ.SBZZLOAD,DISP=SHR <==BREEZE PRODUCT LIB
//          DD    DSN=TCPIP.SEZATCP,DISP=SHR
//CIGPRINT  DD    SYSOUT=*
//***********************************************************************
//*   SERVER JCL
//***********************************************************************
//CIGLISTN  EXEC  PGM=BZZLISTN
//STEPLIB   DD    DSN=BZZ.SBZZLOAD,DISP=SHR <==BREEZE PRODUCT LIB
//          DD    DSN=TCPIP.SEZATCP,DISP=SHR
//*- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
//CIGJAVA   DD    DSN=BZZ.SBZZJAVA,DISP=SHR
//CIGLOG    DD    SYSOUT=*
//CIGOUT    DD    SYSOUT=*
//*- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
//CIGINRDR DD  SYSOUT=(A,INTRDR),DCB=(LRECL=80,BLKSIZE=800,RECFM=FB)
//CIGSMPKG DD  DSN=BZZ.SBZZJCL(BZZSMPKG),DISP=SHR
//CIGSMPRT DD  DSN=BZZ.SBZZJCL(BZZSMPRT),DISP=SHR
//*
//*- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
//* TO TURN ON INTERNAL TRACES UNCOMMENT THE FOLLOWING DD STATEMENTS
//* DO NOT RUN IN PRODUCTION WITH THE TRACES TURNED ON.  THE TRACES
//* WILL CAUSE PERFORMANCE PROBLEMS.
//*- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
//*CIGXLSTN  DD    SYSOUT=*
//*CIGXSUBT  DD    SYSOUT=*
//*CIGFTP    DD    SYSOUT=*
//*- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

Figure 8. BZZSMSRV

Step 7b. Review the BZZSMPKG and BZZSMPRT Browser JCL Shells

JCL for Job Submission from the Breeze CTS Server

There are two JCL shells pointed to by the BZZSMSRV: BZZSMPKG and
BZZSMPRT. These members are JCL shells that set certain controls used by Breeze

to submit SCLM print and batch package jobs. Please review the job card portion of the JCL members to verify that the job card information is correct for your installation.

Note also the following:

1. The job name **must** remain **JC1** . The CTS server builds the job name from browser data.

2. If your installation requires a password for email or TSO SEND, or if, for authorization reasons, you need to submit a job with a different userid, use the jobcard options in the **Alternative** section of the JCL listed below.

3. If the BZZSMPRT and BZZSMPKG JCL shells do not include a *//JC1 USERID,PASSWORD* directive, then the job submitted through the server may have to be owned by the server id. Please review the job submission security issues with your security administrator to see how security is set up for your installation. This will determine how the jobcard on the BZZSMPRT and BZZSMPKG needs to be defined.

BZZSMPKG

The following BZZSMPKG JCL shell is located in the SBZZJCL target library.

```
//JC1      JOB (ACCT#),'NAME',CLASS=A,REGION=4096K,
//         MSGCLASS=H,MSGLEVEL=(1,1),
//JC1_USER,PASSWORD
//*----------------------------------------------------------------
//*  NAME:    BZZSMPKG
//*  PURPOSE: JCL TO SUBMIT VOTES FOR BREEZE FOR SCLM FROM BROWSER.
//*----------------------------------------------------------------
//*  JOB CARD USAGE NOTE:
//*  //JC1 IS REPLACED WITH USERID PLUS A J
//*  //JC1_USER OR //JC1_USER,PASSWORD MUST BE THE LAST JOB STATEMENT.
//*  THESE DIRECTIVES WILL BE REPLACED WITH // USER=USERID OR
//*  // USER=USERID,PASSWORD.
//*-----------------------------------------------------------------
//*
//*  **                                **
//*  ** PRODUCT INSTALLATION/SETUP ISSUES **
//*  **                                **
//*  THE FOLLOWING IS A LIST OF MODIFICATIONS REQUIRED DURING PRODUCT
//*  INSTALLATION AND INITIAL SETUP:
//*
//*     1. IMPORTANT!! LEAVE JOB NAME AS //JC1. SERVER EXPECTING
//*        TO BUILD JOB NAME FROM BROWSER DATA.
//*     2. IMPORTANT!! THE //CIGIN DD MUST REMAIN AN INSTREAM
//*        DD CARD. THE SERVER WILL BE BUILDING THE SYNTAX AND
//*        INSERTING.
//*     3. DETERMINE WHICH JOBCARD YOUR SITE WILL REQUIRE
//*     4. INCLUDE VALID JOB CARD INFORMATION ( ACCT#, CLASS, ETC)
//*     5. CHANGE THE STEPLIB AND CONLIB TO POINT TO THE
//*        CURRENT BREEZE PRODUCT LIBRARIES AT THE YOUR INSTALLATION.
//*
//**********************************************************************
//*  BATCH PACKAGE JCL SHELL FOR BROWSER.
//*  POINT TO THIS MEMBER IN THE BZZSMSRV SERVER JCL ( DD=CIGSMPKG)
//**********************************************************************
//VOTE     EXEC PGM=BZZFEXEC,PARM='BZZSAPV1',DYNAMNBR=1500
//STEPLIB DD  DSN=BZZ.SBZZLOAD,DISP=SHR <==BREEZE PRODUCT LIB
//SYSTERM  DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//**********************************************************************
//*  PACKAGE SCL REQUEST DATASET.
//*  INSTREAM DATA BUILT BY THE SERVER. DO NOT CHANGE DD CIGIN.
//**********************************************************************
//CIGIN DD    *
/*
//CIGLOG   DD   SYSOUT=*
//CIGRPT   DD   SYSOUT=*
```

Figure 9. BZZSMPKG

BZZSMPRT

The following BZZSMPRT JCL shell is located in the SBZZJCL target library. Note that this member is actually the standard SCLM batch JCL plus formatting and file return steps.

Because this is SCLM batch JCL, the **CMD0** step requires knowledge of the full suite of ISPF/SCLM data sets typically included in TSO batch. These data sets should have been identified in "Step 2. Implement Site Standards" on page 6 as the ISPF/SCLM site specific data set names. Please refer to "ISPF/SCLM Data Set Names" on page 6 for this information.

BZZSMPRT

```
//JC1      JOB (ACCT#),'NAME',CLASS=A,REGION=4096K,
//         MSGCLASS=H,MSGLEVEL=(1,1),
//JC1_USER,PASSWORD
//* --------------------------------------------------------------------
//* NAME:   BZZSMPRT
//* PURPOSE: JCL TO SUBMIT PRINT, CHANGES OR ACCOUNTING REQUESTS.
//*          RETURNS A FILE TO THE SERVER, WHICH IS WAITING FOR THE
//*          FILE FOR A PREDETERMINED AMOUNT OF TIME.
//*--------------------------------------------------------------------
//* JOB CARD USAGE NOTE:
//* //JC1 IS REPLACED WITH USERID PLUS A J
//* //JC1_USER OR //JC1_USER,PASSWORD MUST BE THE LAST JOB STATEMENT.
//* THESE DIRECTIVES WILL BE REPLACED WITH // USER=USERID OR
//* // USER=USERID,PASSWORD.
//*--------------------------------------------------------------------
//*
//* **                                  **
//* ** PRODUCT INSTALLATION/SETUP ISSUES **
//* **                                  **
//* THE FOLLOWING IS A LIST OF MODIFICATIONS REQUIRED DURING PRODUCT
//* INSTALLATION AND INITIAL SETUP:
//*
//*    1. IMPORTANT!! LEAVE JOB NAME AS //JC1. SERVER EXPECTING
//*       TO BUILD JOB NAME FROM BROWSER DATA.
//*    2. MODIFY THE DIRECTIVE HLQ1=FLQH1 TO TELL THE SERVER THE
//*       HIGH LEVEL QUALIFIER FOR TEMPORARY FILES. THE SERVER WILL
//*       GENERATE THE ACTUAL DATASET USING THE FOLLOWING NAMING
//*       STANDARD: FLHQ1.USERID.DYYMMDD.THHMM
//*       9/12/2001 &&SYSUID IS NOW SUPPORTED AS THE FIRST NODE.
//*
//*    3. IMPORTANT!! THE VARIOUS PROC OVERRIDE STATEMENTS AT THE
//*       END OF THIS MEMBER MUST REMAIN IN THE ORDER THAT THEY
//*       APPEAR AND MUST RETAIN THEIR NAMES AS GIVEN.  THESE SCLM
//*       INPUT STREAMS ARE CREATED BY THE SERVER IN RESPONSE TO
//*       THE REQUEST FROM THE BROWSER.
//*    4. INCLUDE VALID JOB CARD INFORMATION ( ACCT#, CLASS, ETC)
//*    5. MODIFY UNIT=TDISK AS PER WORKSHEET.
//*    6. MODIFY UNIT=DUNIT AS PER WORKSHEET.
//*    7. VERIFY THAT THE CMD0 STEPLIB HAS BOTH THE
//*       CURRENT ISPF/SCLM AND BREEZE PRODUCT LIBRARIES.
//*    8. THIS JCL REQUIRES THE FULL SUITE OF ISPF/SCLM
//*       LIBRARIES TO BE INCLUDED IN THE CMD0 STEP. PLEASE REVIEW
//*       THE LIBRARY NAMES WITH THE PERSON HOW MAINTAINS THE
//*       LOGON PROC FOR SCLM ACCESS.  THE CURRENT NAMES LISTED
//*       MAY NOT BE VALID FOR YOUR ENVIRONMENT.
//*
//********************************************************************
//*                                                                  *
//********************************************************************
//BRSCLM PROC
//GENER0   EXEC PGM=IEBGENER
//SYSPRINT DD SYSOUT=*
//SYSIN    DD DUMMY
//SYSUT1   DD DUMMY
//SYSUT2   DD DSN=&&CLIST0(TEMPNAME),UNIT=tdisk,
//          SPACE=(TRK,(1,1,2),RLSE),
//          DISP=(NEW,PASS),
//          DCB=(LRECL=80,BLKSIZE=20400,DSORG=PO,RECFM=FB)
//********************************************************************
//CMD0     EXEC PGM=IKJEFT01,REGION=4096K,TIME=1439,DYNAMNBR=200
//********************************************************************
//* STEPLIB LIBRARIES (BREEZE AND SCLM PRODUCTS)
//********************************************************************
//STEPLIB DD DSN=BZZ.SBZZLOAD,DISP=SHR <==BREEZE PRODUCT LIB
//         DD DSN=ISP.SISPLPA,DISP=SHR
//*
```

```
//********************************************************************
//* ISPF LIBRARIES
//********************************************************************
//ISPMLIB DD  DSN=BZZ.SBZZMENU,DISP=SHR
//        DD  DSN=ISP.SISPMENU,DISP=SHR
//*
//ISPSLIB DD  DSN=BZZ.SBZZSENU,DISP=SHR
//        DD  DSN=ISP.SISPSENU,DISP=SHR
//        DD  DSN=ISP.SISPSLIB,DISP=SHR
//*
//ISPPLIB DD  DSN=BZZ.SBZZPENU,DISP=SHR
//        DD  DSN=ISP.SISPPENU,DISP=SHR
//*
//ISPTLIB  DD  UNIT=VIO,DISP=(NEW,PASS),SPACE=(CYL,(1,1,5)),
//             DCB=(LRECL=80,BLKSIZE=19040,DSORG=PO,RECFM=FB),
//             DSN=                    TEMPORARY TABLE LIBRARY
//         DD  DSN=ISP.SISPTENU,DISP=SHR
//*
//ISPTABL  DD  UNIT=VIO,DISP=(NEW,PASS),SPACE=(CYL,(1,1,5)),
//             DCB=(LRECL=80,BLKSIZE=19040,DSORG=PO,RECFM=FB),
//             DSN=                    TEMPORARY TABLE LIBRARY
//*
//ISPPROF  DD  UNIT=VIO,DISP=(NEW,PASS),SPACE=(CYL,(1,1,5)),
//             DCB=(LRECL=80,BLKSIZE=19040,DSORG=PO,RECFM=FB),
//             DSN=                    TEMPORARY TABLE LIBRARY
//*
//ISPLOG   DD  SYSOUT=*,
//             DCB=(LRECL=120,BLKSIZE=2400,DSORG=PS,RECFM=FB)
//*
//ISPCTL1 DD DISP=NEW,UNIT=VIO,SPACE=(CYL,(1,1)),
//             DCB=(LRECL=80,BLKSIZE=800,RECFM=FB)    TEMPORARY FILE
//SYSTERM DD SYSOUT=*
//CIGVTRAX DD SYSOUT=*
//CIGTRACE DD DUMMY
//CIGLOG   DD SYSOUT=*
//*
//********************************************************************
//* TEMPORARY CLIST CONTAINING COMMAND TO BE EXECUTED
//********************************************************************
//SYSPROC DD  DSN=&&CLIST0,DISP=(OLD,DELETE)
//        DD DSN=BZZ.SBZZCLIB,DISP=SHR
//        DD  DSN=ISP.SISPCLIB,DISP=SHR            CLIST LIBRARY OW01230
//        DD  DSN=SYS1.CLIST,DISP=SHR             CLIST LIBRARY OW01230
//*
//********************************************************************
//* BUILD  USER EXIT OUTPUT FILE
//********************************************************************
//BLDEXIT  DD DUMMY
//********************************************************************
//* OUTPUT CARD
//********************************************************************
//BLDREPT  DD DUMMY
//BLDLIST  DD DUMMY
//BLDMSGS  DD DUMMY
//SYSPRINT DD SYSOUT=(*)
//********************************************************************
//* NLS TABLE AND TRANSLATION TABLE NAME FILE
//********************************************************************
//ZFLMDD    DD DUMMY
//********************************************************************
//* SCLMCMD FILES
//********************************************************************
//FLMMSGS DD SYSOUT=(*)
//********************************************************************
//* TSO OUTPUT FILE
//********************************************************************
//SYSTSPRT DD SYSOUT=(*)
```

```
//*******************************************************************
//* TSO INPUT FILE
//*******************************************************************
//SYSTSIN  DD DUMMY
//*******************************************************************
//* SUPERC OR IEBCOPY INPUT FILES
//*******************************************************************
//NEWDD    DD DUMMY
//OLDDD    DD DUMMY
//SYSIN    DD DUMMY
//*******************************************************************
//* DESIGNATED OUTPUT &&DSN NAME.
//* THE ACTUAL DDNAME CHANGES WITH FUNCTION.
//*******************************************************************
//CIGTEMP DD   DSN=&&CIGTEMP,
//         DISP=(NEW,PASS),
//         UNIT=TDISK,SPACE=(TRK,(45,45))
//*******************************************************************
//* GENERAL FORMAT STEP
//* PGM NAME IS DYNAMICALLY GENERATED
//*******************************************************************
//FORMAT  EXEC  PGM=BZZFEXEC,PARM=BZZFBR14
//STEPLIB DD DSN=BZZ.SBZZLOAD,DISP=SHR
//CIGIN   DD  DUMMY
//SYSIN   DD  DSN=&&CIGTEMP,DISP=(OLD,PASS)
//*******************************************************************
//*  THE OUTPUT FILE NAME MUST BE CIGPRINT.
//*  THE DATASET NAME WILL BE BUILT DYNAMICALLY BASED ON USERID,
//*  DATE AND TIME. THIS FILE DEFINITION MUST BE MODELED AFTER THE
//*  FOLLOWING JCL. THE HLQ1= PARAMETER MUST BE ON THE FIRST LINE OF
//*  CIGPRINT DD AND IT MUST BE THE ONLY PARAMETER ON THE LINE.
//*  THE GENERATED NAME OF THE FILE WILL BE:
//*   FLHQ1.USERID.DYYMMDD.THHMM
//*******************************************************************
//*  EFFECTIVE 9/12/2001 HLQ1=&&SYSUID IS SUPPORTED.  THIS USAGE WILL
//*  CAUSE THE SERVER TO USER THE USERID AS THE FIRST NODE OF THE DSN.
//*******************************************************************
//CIGPRINT DD   HLQ1=flhq1
//         DISP=(NEW,CATLG,KEEP),
//         UNIT=dunit,SPACE=(TRK,(45,45)),
//         DCB=(LRECL=133,BLKSIZE=26600,RECFM=FB)
//*
//*******************************************************************
//* IF THE RETURN CODE IS HIGHER THAN ZERO, THEN SEND ERROR MESSAGES.
//* THE SYSOUT LINE BELOW WILL BE DISGARDED.
//* THE SYSOUT LINE WILL BE BUILT FROM THE DATASET NAME ALREADY
//*  GENERATED IN A PREVIOUS STEP.
//*******************************************************************
//IFERR    IF  (CMD0.RC > 4 | FORMAT.RC > 0) THEN
//ERROR    EXEC  PGM=LISTFILE
//STEPLIB  DD   DSN=BZZ.SBZZLOAD,DISP=SHR <==BREEZE PRODUCT LIB
//SYSIN    DD   DSN=&&CIGTEMP,DISP=(OLD,DELETE)
//SYSOUT   DD   DSN=*.FORMAT.CIGPRINT,
//         DISP=MOD
//ENDIFERR ENDIF
//*
//BRSCLM   PEND
//BREEZE   EXEC PROC=BRSCLM
//*
//*  THIS IS THE COMMAND INPUT THAT CREATES %TEMPNAME.
//*  FIRST PORTION IS DYNAMICALLY CREATED BY SERVER.
//*
//GENER0.SYSUT1   DD *
  SET ZISPFRC = &LASTCC  ISPEXEC VPUT (ZISPFRC) SHARED
/*
//*
//*  THIS IS ADDITIONAL SYSIN TYPE INPUT DEPENDENT UPON REQUEST TYPE.
```

```
//*
//CMD0.ZFLMDD    DD *
   ZFLMNLST=FLMNLENU   ZFLMTRMT=ISR3278   ZDATEF=YY/MM/DD
/*
//CMD0.SYSTSIN    DD *
   ISPSTART CMD(%TEMPNAME)    TRACEX
/*
//CMD0.SYSIN   DD *
/*
//*
//*   THIS IS ADDITIONAL CIGIN TYPE INPUT DEPENDENT UPON REQUEST TYPE.
//*
//FORMAT.CIGIN   DD *
/*
//*
```

Step 7c. Configure the Java CONTROL Member-- BZZ$CNTL

The Breeze product needs to know the port number to use for all communications
between the server and browser, information that is completely determined by
your systems personnel. Once you have this information, it must be added to the
BZZ$CNTL member in *BZZ.SBZZJAVA*.

The following member (BZZ$CNTL) can be found in the SBZZJCL target library.
Change the port number to reflect the one used by your installation and save
BZZ$CNTL to BZZ.SBZZJAVA.

```
PORT 1799
```

Note: Note again that the port number must be higher than 1024, as port numbers
lower than 1024 are reserved for internal system services. If the port number
in BZZ$CNTL is incorrect, there will be an error message in the CIGLISTN
trace dd stating that the communication path cannot be established on the
port provided.

It is recommended that the Breeze port be reserved in TCP/IP for **Breeze
use only**. Port reservation is generally handled by the network systems
programmer and is implemented by updating the TCPIP.PROFILE data set.

Additionally, the port number provided in the BZZ$CNTL sample member
is only an example; the number that you use will likely be different.

Step 8. CTS Server Installation Verification

To test the CTS server:

Start the Server
1. Submit the BZZSMSRV job.
2. View the CIGOUT DD in the job output to verify that the port number listed
   matches the one you coded in "Step 7c. Configure the Java CONTROL
   Member-- BZZ$CNTL". It should look like the output below.

```
20:59:37  FST0001I P390
20:59:37  FST0001I WE ARE USING THE FOLLOWING IP NUMBER 999,999,999,999
20:59:37  FST0001I WE WILL BE LISTENING ON PORT 00001799
```

Shut Down the Server
To quiesce the server job, enter one of the following commands (replace
cts-job-name with your job name):

If entered on an MVS console:

F *cts-job-name*,X

If entered via a console interface, such as SDSF:

/F *cts-job-name*,X

Attention: Because the CTS server task utilizes the TCP/IP stack and a cancel does not always clean up storage, it is recommended that the MVS console command method be used over simply canceling the job. Issuing the console command will allow the CTS server job to end cleanly.

Restart the Server
Re-submit the server JCL (BZZSMSRV) for the next test.

Database Considerations
When the CTS server task is started, the Breeze package database is initialized and allocated to the CTS server task.

Note: Note that while the CTS server is running, users will not be able to delete, define, or reorg the database.

Checkpoint 3

At this point, you should have successfully completed the following tasks:

Task	Completed?
Modified the BZZSMSRV JCL as per instructions?	
Modified the BZZSMPKG and BZZSMPRT JCL shells as per instructions?	
Edited BZZ$CNTL to reflect correct port number?	
Submitted the CTS server JCL BZZSMSRV?	
Reviewed the CIGOUT file showing the port # and verifying that this is port # you expected?	
Issued a Quiesce of the server to test command and clean up?	
Resubmitted the server for the next test?	

Chapter 6. Steps to Checkpoint Four

Step 9. Customizing and Testing the Breeze Web interface

The Breeze Web interface allows users to view and vote on packages over the Web. The interface consists of a single HTML file and a Java applet. The HTML file acts as a container for the applet, allowing it to run inside a Web browser. To use the Breeze Web interface, users point their Web browsers to the HTML file at the Web address of your CTS server. The HTML file contains an <applet> tag that causes the browser to download the applet from your CTS server, and run the applet inside the browser.

In this step, you modify the <applet> tag in the sample HTML file (member BZZHTML in SBZZJCL) to refer to the Web address of your CTS server. Then you copy the modified HTML file to SBZZJAVA, renaming it to BRSCLM. Finally, you test the Breeze Web interface by pointing your browser to `http://ip-addr:port/brsclm.html`, logging in and viewing a list of packages in the sample Breeze package database.

BZZHTML

A sample HTML file (BZZHTML) is included in the SBZZJCL target library. The only customization required is that you need to add your installation's host IP address and CTS server port number to the archive and codebase attributes of the <applet> tag, as shown below in bold.

Attention: Please review all HTML comments prior to making any changes.

```
<!doctype html public "-//w3c//dtd html 4.0 transitional//en">
<html>
<head>
   <meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
   <meta name="GENERATOR" content="Mozilla/4.6 [en] (Win95; I)">
   <title>IBM Breeze for SCLM for OS/390</title>
</head>
<BODY BGCOLOR="#99CCFF">
<CENTER>
<! >
<! ----------------------------------------------------------------- >
<! OW50793 RMCC - changes to internal comments, as conversion      >
<!               to ASCII is no longer required.                   >
<!                                                                 >
<! Modify ONLY the archive and codebase lines below.              >
<! ------------------------------------------------              >
<!                                                                 >
<! 1.  Insert your ip-addr:port in the two commands.             >
<! 2.  Copy this BZZHTML member to the BZZ.SBZZJAVA target library >
<!     with a new name of BRSCLM.                                 >
<! 3.  Please check that BZZ.SBZZJAVA is the JAVA control DSN      >
<!     pointed to by the CIGINI file.                             >
<! ----------------------------------------------------------------- >
<body>
<applet CODE=Brsclm.class
 archive="http://ip-addr:port/bzzibmja.jar"
 codebase="http://ip-addr:port/"
 WIDTH=700 HEIGHT=500></applet>
</body>
</html>
```

Figure 10. BZZHTML

After you have modified BZZHTML, you can either:

- Use the BZZSMJX3 member of SBZZJCL (below) to convert it into ASCII format and save it as member BRSCLM in SBZZJAVA.

    or

- Copy the modified BZZHTML member directly into SBZZJAVA, renaming it as member BRSCLM, without translating it into ASCII format.

The CTS server makes the BRSCLM member of SBZZJAVA available to Web browsers as brsclm.html (that is, the member name, plus the file extension ".html").

Modify BZZSMJX3

Modify the JCL as documented in BZZSMJX3 and submit the job. The SYSPRINT file will contain any information messages and a trace of lines converted from EBCDIC to ASCII.

```
//*                                                           *
//* (JOBCARD)
//*
//* --------------------------------------------------------- *
//* NAME:     BZZSMJX3                                         *
//* PURPOSE:  TRANSLATE BRZHTML  TO BRSCLM.HTML IN ASCII.      *
//* --------------------------------------------------------- *
//*                                                           *
//*   THE PURPOSE OF THIS JCL IS TO TRANSLATE THE BRZHTML FILES  *
//*   CONTAINING SITE SPECIFIC MODIFICATIONS INTO THE REQUIRED   *
//*   NAMED BRSCLM.HTML IN ASCII FORMAT.                       *
//*                                                           *
//* REQUIRED JCL MODIFICATION:                                *
//* 1) INCLUDE A JOBCARD                                       *
//* 2) MAKE SURE THAT THE SYSOUT DD NAME IS POINTING AT THE JAVA  *
//*    CONTROL DATASET IN YOUR CIGINI FILE.                    *
//* 3) DO NOT CHANGE THE NAME OF THE MEMBER. IT IS REQUIRED TO BE  *
//*    BRSCLM.                                                  *
//* 4) MAKE SURE THE TCP LIBRARY IS INCLUDED IN THE STEPLIB    *
//*                                                           *
//***********************************************************************
//*  JCL FOR BRSCLM.HTML EBCDIC TO ASCII TRANSLATION.
//***********************************************************************
//ETOA     EXEC  PGM=BZZBETOA
//STEPLIB  DD   DISP=SHR,DSN=BZZ.SBZZLOAD  <==BREEZE PRODUCT LIB
//         DD   DSN=TCPIP.SEZATCP,DISP=SHR
//SYSIN    DD   DSN=BZZ.SBZZJCL(BZZHTML),DISP=SHR
//SYSOUT   DD   DSN=BZZ.SBZZJAVA(BRSCLM),
//         DISP=SHR
//SYSPRINT DD   SYSOUT=*
```

Figure 11. BZZSMJX3

Test brsclm.html

After creating the BRSCLM member in SBZZJAVA, point your Web browser to the brsclm.html file at your host IP address and CTS server port number:

```
http://ip-addr:port/brsclm.html
```

The brsclm.html file downloads the Java applet and displays it inside your Web browser window. Depending on the speed of your network connection, it may take a few seconds for the Java applet to download from the host.

Logging into Breeze and Testing Minimum Functions

When the Java applet has loaded, it displays a login prompt:
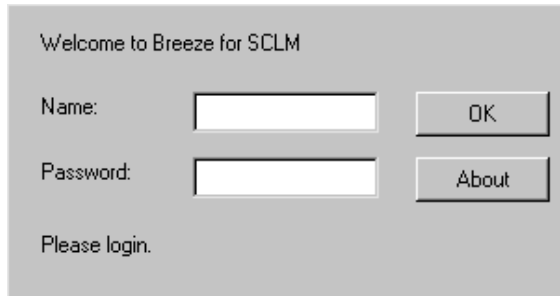
Figure 12. Breeze login prompt

Enter your TSO user ID and password, then click OK. The applet displays the main panel:
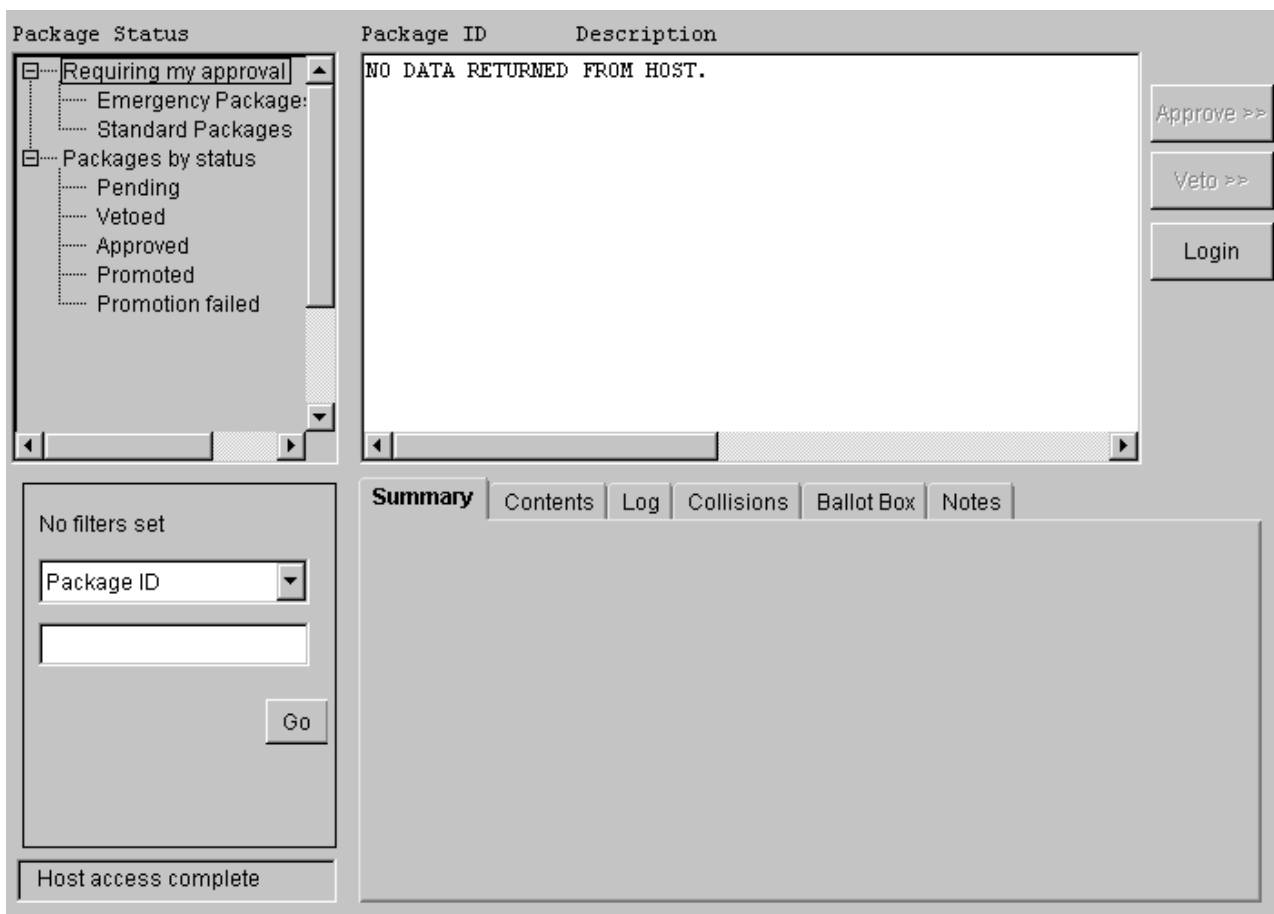
Figure 13. Breeze main panel

By default, when you login, the main panel displays a list of the packages that require your approval. However, because you have not yet been identified to Breeze as an approver, there are no packages for you to approve, so the main panel displays the message **NO DATA RETURNED FROM HOST.**

To test that the Java applet can access the package database:

1. Click **Packages by Status** at the top left of the main panel. The main panel should display a list of the packages in the sample database.

2. Click one of the packages in the list.
3. Click the Contents tab (one of the row of tabs near the center of the main panel). This tab displays a list of the source members in the selected package.
4. Click one of the source members in the Contents tab. A dialog with several buttons appears, offering information about the source member.
5. Click the **Browse** button. A new browser window appears, displaying the contents of the selected source member.

To finish testing, close both browser windows.

How will Your End-Users Access Breeze?

To enable users to access the Breeze Web interface, you can either send them the Web address as a link in an e-mail, or you can use Breeze to send them an e-mail containing this link when there is a package that requires their approval, as described in "Step 13. Approver Notification for Breeze Applet" on page 45.

Checkpoint 4

At this point, you should have successfully completed the following tasks:

Task	Completed?
Modified the BZZHTML member and either: • Used BZZSMJX3 to translate it to ASCII format and copy it to SBZZJCL, renamed as BRSCLM. or • Copied it directly to SBZZJCL and renamed it as BRSCLM yourself (without translating it to ASCII)?	
Loaded the Breeze applet, by pointing your Web browser to the brsclm.html file on the host?	
Logged into the applet, using your host TSO user ID and password?	
Displayed a list of packages on the main panel?	
Used the Contents tab to browse a source member?	
Exited successfully from the applet?	

Chapter 7. Steps to Checkpoint Five

Step 10. Package Detail Report IVP

BZZSMJ06—Batch Reporting Utility

In this step you will run a report to ensure that Breeze is properly installed and that the CIGINI has been configured correctly.

Modify BZZSMJ06

SBZZJCL member BZZSMJ06, shown below, will execute report commands to verify the successful implementation of the Breeze product. Modify and submit this JCL to produce the installation verification report shown in Figure 15 on page 36.

```
//**(JOBCARD)
//* -------------------------------------------------------------------*
//*  NAME:    BZZSMJ06                                                  *
//*  PURPOSE: JCL FOR BREEZE PACKAGE REPORTING.                         *
//*           THIS JCL WILL EXECUTE THE BATCH PACKAGE DETAIL REPORT.    *
//* -------------------------------------------------------------------*
//*  TO USE THIS JCL, YOU MUST:                                         *
//*         1) INSERT A VALID JOB CARD WITH VALID CLASS AND REGION=0M   *
//* -------------------------------------------------------------------*
//REPORT   EXEC PGM=BZZS0000
//STEPLIB DD DSN=BZZ.SBZZLOAD,DISP=SHR <==BREEZE PRODUCT LIB
//CIGLOG   DD SYSOUT=*
//CIGRPT   DD SYSOUT=*
//CIGIN    DD *
* -------------------------------------------------- *
* SAMPLE BREEZE FOR SCLM SYNTAX.                     *
* FOR MORE SYNTAX OPTIONS, REVIEW THE REPORT UTILITY *
* SYNTAX IN THE BREEZE FOR SCLM ADMIN GUIDE.         *
* -------------------------------------------------- *
REPORT PACKAGES 'DEMO*'
     OPTIONS ALL .
```

Figure 14. BZZSMJ06

The following syntax, which can be found in-stream in the SBZZJCL target library as member BZZSMJ06, will create a Breeze Package Detail Report. Output from BZZSMJ06 is shown in Figure 15 on page 36.

Syntax for IVP Report:

```
* -------------------------------------------------- *
* SAMPLE INPUT FOR BREEZE FOR SCLM IVP JCL JOB.
* FOR MORE SYNTAX OPTIONS, REVIEW THE REPORT UTILITY
* SYNTAX IN THE BREEZE FOR SCLM ADMIN GUIDE.
* -------------------------------------------------- *
REPORT PACKAGES 'DEMO*'
     OPTIONS ALL .
```

Sample Report Output: The sample report is shown below.

```
1DATE 00/02/03 TIME 13:59:35     B R E E Z E   F O R    S C L M, RELEASE 1.1
                          P A C K A G E   D E T A I L   R E P O R T
  FOR PACKAGE: DEMOPK1     COMMENT: BREEZE FOR SCLM DEMO DATA 1
  STATUS INFORMATION      :   APPROVED
  EXECUTION WINDOW        :   00/02/03 12:29  THROUGH 02/12/31 23:59
  LAST UPDATE INFORMATION :   P390C$ 00/02/03 12:29
  LAST BUILD INFORMATION  :   P390C$ 00/02/03 12:29
  LAST PROMOTE INFORMATION :
  ACTUAL CONTENT OF PACKAGE:
      X  MEMBER    PROJECT      GROUP      TYPE       LANGUAGE
         TEST01    SCLMTEST     DEV1       SOURCE     TEXT
                   SCLMTEST     TEST       SOURCE     TEXT
         TEST02    SCLMTEST     DEV1       SOURCE     TEXT
                   SCLMTEST     TEST       SOURCE     TEXT
  APPROVERS CURRENTLY ASSIGNED:
      APPROVER GROUP    QUORUM      STATUS
      OPSGUYS           01          APPROVED
      APPROVER GROUP    USER        DATE       TIME      DECISION
      OPSGUYS           P390B       00/02/03   01:30     FOR
      OPSGUYS           P390L       00/02/03   01:50     FOR
  LOG RECORDS RECORDED:
      ACTIVITY        USER        DATE       TIME     RC
      BUILD           P390C$      00/02/03   12:29    00
      APPROVE         P390B       00/02/03   01:30    00
      APPROVE         P390L       00/02/03   01:45    00
  CURRENT NOTES:
      THIS IS FOR THE BREEZE FOR SCLM IVP JOBS.
```

Figure 15. Package Detail Report

Checkpoint 5

At this point, the following tasks should have been successfully completed.

Task	Completed?
Ran the detail report using JCL provided?	
Reviewed the report output?	

Chapter 8. Steps to Checkpoint Six

Step 11. Modify the SCLM Log-On Proc to Include Breeze ISPF Component Libraries

The Breeze ISPF component libraries must be included in the same logon procedure that is used to access SCLM. This could also be a startup CLIST.

The Breeze components are invoked on behalf of the SCLM application and *do not* execute outside of this environment. Please see the systems personnel responsible for maintaining the SCLM logon proc. The following datasets must be included to ensure that foreground SCLM access includes the product exits and ISPF application pieces.

Data Set Names	DDname
BZZ.SBZZLOAD	Steplib or linklist
BZZ.SBZZMENU	ISPMLIB
BZZ.SBZZPENU	ISPPLIB
BZZ.SBZZSENU	ISPSLIB
BZZ.SBZZCLIB	SYSPROC or ISRCLIB

Additionally, the following work files are required by Breeze. Please ensure that these files are allocated to the logon proc.

```
//*------------------------------------------------------------------
//* BREEZE WORK FILES
//*------------------------------------------------------------------
//CIGLOG   DD  SYSOUT=*
//CIGLOG0  DD  DUMMY
//CIGLOG1  DD  DSN=&&CIGLOG1,
//             DISP=NEW,UNIT=SYSALLDA,SPACE=(CYL,(1,1)),
//             DCB=(LRECL=132,BLKSIZE=13200,RECFM=FB)
//CIGLOG2  DD  DSN=&&CIGLOG2,
//             DISP=NEW,UNIT=SYSALLDA,SPACE=(CYL,(1,1)),
//             DCB=(LRECL=132,BLKSIZE=13200,RECFM=FB)
//CIGLOG3  DD  DSN=&&CIGLOG3,
//             DISP=NEW,UNIT=SYSALLDA,SPACE=(CYL,(1,1)),
//             DCB=(LRECL=132,BLKSIZE=13200,RECFM=FB)
```

Step 12. Connect the Breeze product to SCLM

Step 12a. Review and Modify IBM Skeleton FLMLIBS

Modify Skeleton FLMLIBS
The primary skeleton that requires modification in this step is actually an IBM skeleton, FLMLIBS, a sample of which is shown below. A copy of FLMLIBS, called BZZFLMSK, is included in the BZZSENU target library.

Note: Note that this skeleton might already be in use at your installation. If it is, you will need to incorporate the modifications required for Breeze with your current FLMLIBS skeleton.

As indicated below in the sample skeleton (included on the installation tape) to use this skeleton, you must do the following:

1. Review the naming conventions of your ISPF libraries. FLMLIBS reflects default naming standards and should be modified to meet your installation's requirements.

2. Unless they are linklisted, ensure that the STEPLIB points to your installation's ISPF load libraries.

3. Ensure that the STEPLIB also points to the product libraries that contain the BZZFEXEC and CIGINI modules.

4. Rename the member BZZFLMSK to the required SCLM skeleton name of FLMLIBS.

Note: You should review this step with your ISPF system programmer.

IBM Skeleton FLMLIBS

```
)CM  NAME:    FLMLIBS (SHIPPED AS BZZFLMSK)               2000/10/10
)CM  PURPOSE: SCLM BATCH INCLUDE SKELETON FOR ALL BATCH PROCESSING.
)CM  NOTES  : THIS IS ACTUALLY AN IBM SKELETON FOR THE SCLM PRODUCT.
)CM             AN EXAMPLE OF THE DEFAULT PLUS OUR REQUIRED MODS.
//* -----------------------------------------------------------------*
//*  NAME:    FLMLIBS  (SHIPPED AS BZZFLMSK)                          *
//*  PURPOSE: SCLM BATCH INCLUDE SKELETON FOR ALL BATCH PROCESSING.   *
//*  NOTES  : THIS IS ACTUALLY AN IBM SKELETON FOR THE SCLM PRODUCT.  *
//*             TO BE USED AS AN EXAMPLE OF THE STANDARD PLUS BREEZE   *
//*             FOR SCLM REQUIRED MODIFICATIONS.                       *
//* -----------------------------------------------------------------*
//*  TO USE THIS SKELETON, YOU MUST:                                  *
//*         1) REVIEW THE FLMLIBS SKELETON CURRENTLY INSTALLED.        *
//*            YOU MAY NEED TO INCORPORATE THESE CHANGES WITH  THE     *
//*            CURRENT LEVEL OF CHANGES.                               *
//*         2) REVIEW THE NAMING CONVENTIONS OF THE ISPF LIBRARIES.    *
//*            THIS SKELETON REFLECTS DEFAULT NAMING STANDARDS.        *
//*            PLEASE MODIFY TO MEET YOUR INSTALLATION STANDARDS.      *
//*         3) MAKE SURE THAT THE STEPLIB POINTS TO YOUR INSTALLATION *
//*            ISPF LOAD LIBRARIES, UNLESS THEY ARE LINKLISTED.        *
//*            REVIEW THIS WITH YOUR ISPF SYSTEM PROGRAMMER.           *
//*         4) MAKE SURE THAT THE STEPLIB POINTS TO THE BREEZE PRODUCT*
//*            LIBRARIES THAT CONTAIN THE BZZFEXEC AND BZZINI MODULES.*
//*         5) CHANGE THE UNIT=TDISK TO THE APPROPRIATE UNIT          *
//*            NAME.                                                   *
//* -----------------------------------------------------------------*
)CM
)CM THIS DEFINES THE STEPLIB AND ISPF LIBRARIES
)CM TO BE USED DURING SCLM BATCH OPERATIONS
)CM
)CM BE SURE TO INCLUDE THE LOAD LIBRARIES CONTAINING ISPF.
)CM

)CM                                                  BEGIN M45P1452
)CM IF YOU ARE RUNNING ADA AND NEED THE ADA RUNTIME LIBRARIES,
)CM THEN ADD THE RUNTIME LIBRARY TO THE STEPLIB DD:
)CM //        DD  DSN=ADA110.EVHLOAD,DISP=SHR
)CM                                                  END M45P1452
)CM
)CM FOR CSP/370AD 4.1:
)CM *** UN-COMMENT OUT THE FOLLOWING TO INCLUDE CSP/370AD 4.1
)CM )IM FLMCSPLB
)CM
)CM ALSO, PERFORM THE FOLLOWING ACTIVITIES (BY UN-COMMENTING THE
)CM LINES WITH )CM //):
)CM  + ADD DATASET TO SYSPROC AND PROCLIB:
)CM //        DD  DSN=CSP410.EZECLST,DISP=SHR
)CM  + ADD DATASETS TO STEPLIB AND ISPLLIB:
```

```
)CM //          DD  DISP=SHR,DSN=CSP410.SEZELMD
)CM //          DD  DISP=SHR,DSN=CRS210.SELALMD
)CM  + ADD DATASET TO ISPMLIB AND ISPPLIB:
)CM //          DD  DISP=SHR,DSN=CSP410.SEZEPNL
//*
//********************************************************************
//* STEPLIB LIBRARIES
//********************************************************************
//STEPLIB  DD  DSN=BZZ.SBZZLOAD,DISP=SHR
//         DD  DSN=ISP.SISPLPA,DISP=SHR
//         DD  DSN=ISP.SISPLOAD,DISP=SHR
//         DD  DSN=ISP.SISPSASC,DISP=SHR
//*
//********************************************************************
//* ISPF LIBRARIES
//********************************************************************
//ISPMLIB DD  DSN=BZZ.SBZZMENU,DISP=SHR
//         DD  DSN=ISP.SISPMENU,DISP=SHR
//*
//ISPSLIB DD  DSN=BZZ.SBZZSENU,DISP=SHR
//         DD  DSN=ISP.SISPSENU,DISP=SHR
//         DD  DSN=ISP.SISPSLIB,DISP=SHR
//*
//ISPPLIB DD  DSN=BZZ.SBZZPENU,DISP=SHR
//         DD  DSN=ISP.SISPPENU,DISP=SHR
//*
//ISPTLIB  DD  UNIT=&VIOUNIT.,DISP=(NEW,PASS),SPACE=(CYL,(1,1,5)),
//             DCB=(LRECL=80,BLKSIZE=19040,DSORG=PO,RECFM=FB),
//             DSN=&TABLESP                TEMPORARY TABLE LIBRARY
//         DD  DSN=ISP.SISPTENU,DISP=SHR
//*
//ISPTABL  DD  UNIT=&VIOUNIT.,DISP=(NEW,PASS),SPACE=(CYL,(1,1,5)),
//             DCB=(LRECL=80,BLKSIZE=19040,DSORG=PO,RECFM=FB),
//             DSN=&TABLESP                TEMPORARY TABLE LIBRARY
//*
//ISPPROF  DD  UNIT=&VIOUNIT.,DISP=(NEW,PASS),SPACE=(CYL,(1,1,5)),
//             DCB=(LRECL=80,BLKSIZE=19040,DSORG=PO,RECFM=FB),
//             DSN=&TABLESP                TEMPORARY TABLE LIBRARY
//*
//ISPLOG   DD  SYSOUT=*,
//             DCB=(LRECL=120,BLKSIZE=2400,DSORG=PS,RECFM=FB)
//*
//ISPCTL1  DD DISP=NEW,UNIT=TDISK,SPACE=(CYL,(1,1)),
//             DCB=(LRECL=80,BLKSIZE=800,RECFM=FB)    TEMPORARY FILE
//*                                                   TAILORING DATASET
//*                                                        OW01230
//SYSTERM  DD SYSOUT=*
//*
//*------------------------------------------------------------------
//* TEMPORARY CLIST CONTAINING COMMAND TO BE EXECUTED
//*------------------------------------------------------------------
//SYSPROC  DD  DSN=&&&&CLIST&STEP,DISP=(OLD,DELETE)
//         DD  DSN=BZZ.SBZZCLIB,DISP=SHR
//         DD  DSN=ISP.SISPCLIB,DISP=SHR          CLIST LIBRARY OW01230
//         DD  DSN=SYS1.CLIST,DISP=SHR            CLIST LIBRARY OW01230
//*------------------------------------------------------------------
//* BREEZE WORK FILES
//*------------------------------------------------------------------
//*IGTRACE DD  DUMMY
//*
//* BREEZE FOR SCLM WORK FILES
//*
//CIGLOG   DD SYSOUT=*
//CIGLOG0  DD DUMMY
//CIGLOG1  DD DSN=&&CIGLOG1,
//             DISP=NEW,UNIT=tdisk,SPACE=(CYL,(1,1)),
//             DCB=(LRECL=132,BLKSIZE=13200,RECFM=FB)
```

```
//CIGLOG2  DD DSN=&&CIGLOG2,
//             DISP=NEW,UNIT=tdisk,SPACE=(CYL,(1,1)),
//             DCB=(LRECL=132,BLKSIZE=13200,RECFM=FB)
//CIGLOG3  DD DSN=&&CIGLOG3,
//             DISP=NEW,UNIT=tdisk,SPACE=(CYL,(1,1)),
//             DCB=(LRECL=132,BLKSIZE=13200,RECFM=FB)
//*
```

Step 12b. Update the FLMCNTRL Definition in the Project Definition Table

Prior to executing this step:

1. SCLM must be implemented on your mainframe.

2. At least one SCLM Project must be defined.

3. The systems personnel responsible for maintaining SCLM must be involved in any updates made to the Project Definition Table.

Review BZZSMFLM

At this point, you are ready to connect Breeze to SCLM by modifying the existing Project Definition Table (PROJDEFS).

For installation purposes, it is recommended that you install the product exits into a pilot project first.

The following member, BZZSMFLM, can be found in the SBZZJCL target library.

Note: Note that BZZSMFLM is meant to be an example of how to modify your current PROJDEFS. **It is not meant to replace your current PROJDEFS.**

```
**********************************************************************
*               PROJECT CONTROL EXAMPLE
**********************************************************************
**********************************************************************
* FLMCNTRL IS ONE OF THE REQUIRED DEFINITIONS FOR
* AN SLCM PROJECT. AS THIS IS JUST A SMALL PORTION OF THE OVER
* PROJECT DEFINITION, THIS MEMBER IS TO BE USED AS AN EXAMPLE
* FOR HOOKING UP THE IBM BREEZE EXITS.
**********************************************************************
* THERE ARE FOUR EXIT PROGRAM NAMES.
*         BZZSME01  - BUILD EXIT
*         BZZSME02  - PROMOTE VERIFICATION EXIT
*         BZZSME03  - PROMOTE COPY EXIT
*         BZZSME04  - PROMOTE PURGE EXIT
* THE EXITS ARE REXX EXECS THAT CALL OTHER REXX EXECS AND ASSEMBLER
*   PROGRAMS.
* MAKE SURE THE EXIT DATASETS BELOW POINT TO THE SBZZCLIB DATASET
*   OFFLOADED FROM THE BREEZE SMP/E INSTALL.
**********************************************************************
         FLMCNTRL ACCT=SCLMHQ1.ACCOUNT.FILE,                         C
               MAXVIO=999999,                                        C
               BEXT1CM=TSOLNK,                                       C
               BEXT1DS=BZZ.SBZZCLIB,                                 C
               BLDEXT1=BZZSME01,                                     C
               PEXT1CM=TSOLNK,                                       C
               PEXT1DS=BZZ.SBZZCLIB,                                 C
               PRMEXT1=BZZSME02,                                     C
               PEXT2CM=TSOLNK,                                       C
               PEXT2DS=BZZ.SBZZCLIB,                                 C
               PRMEXT2=BZZSME03,                                     C
               PEXT3CM=TSOLNK,                                       C
               PEXT3DS=BZZ.SBZZCLIB,                                 C
               PRMEXT3=BZZSME04,                                     C
               VIOUNIT=VIO
```

Checkpoint 6

At this point the SCLM integration should be complete.

Task	Completed?
Does the SCLM logon contain the Breeze ISPF product libraries?	
Does the SCLM FLMLIBS skeleton contain the Breeze ISPF product libraries?	
Has the pilot SCLM project definition module been updated to point to the Breeze exits, contained in the Breeze ISRCLIB target library?	

Chapter 9. Steps to Checkpoint Seven

Step 13. Approver Notification for Breeze Applet

Step 13a. Configure the SMTP Server to Support Email

This step is optional and only needs to be performed if Email notification via an SMTP server is required. If only TSO SEND messages are to be used then go to Step 13b.

The Email interface serves as a companion piece to the standard approver notification. Once selected as an approver, anytime there are packages in need of approval the user will receive an email that contains an html link to the Breeze product.

How does it Work?

With its TCP/IP services, IBM bundles a Simple Mail Transfer Protocol (SMTP) server. In order to enable Breeze to pass the messages to SMTP for handling, you must:

1. Format the commands and the body of the message text
2. Write that data to a sysout class that has the SMTP server associated with it as a sysout writer.

Configure the SMTP Interface

In order to configure the email interface, you will need to collect the following items and information from your systems programming personnel:

- The name of the SMTP address space.
- The sysout class to write the SMTP data to.
- The fully qualified machine name, for example, **p390.companyname.com**.

Step 13b. Create the Configuration Member $$$$SMTP

This member must exist, as it contains not only the optional SMTP server information but also information required for sending TSO messages. If an SMTP server is not required then the SMTP information can be set to dummy values but must exist in this member. The JCL is required in this member in order to put the TSO SEND messages created during a batch promote onto the internal reader.

Once you have the information you need from the systems programming personnel, you will be ready to create configuration member **$$$$SMTP** in the **BZZ.SBZZJAVA** target library. Member BZZ$SMTP in the SBZZJCL target library, an example of which is shown below, contains several lines of configuration information, with the data starting in the first column on both lines. You must copy the member BZZ$SMTP to member name $$$$SMTP in the SBZZJAVA target library.

```
A,SMTP
P390.CIGI.NET
FROMUSER=JPRESTON@CAPECOD.NET
INTERNAL_READER=A,INTRDR
//*THE FROMUSER= IS THE OVERRIDE FOR SMTP MAIL FROM USER ID
//*SOME INSTALLATIONS REQUIRE A VALID SMTP MAIL ID
//*
//*THE INTERNAL_READER= IS THE CLASS AND PROGRAM THAT HANDLES THE INTERNAL
//*READER .  THIS IS USED FOR BATCH TSO SEND COMMANDS
```

```
//*
//*THE FOLLOWING (THRU THE SYSTSIN DD) IS THE REQUIRED JCL. THE FORMATTED
//*SEND COMMANDS WILL BE APPENDED TO THIS JCL AND SUBMITTED TO THE INTERNAL
//*READER
//*
//SMTPRDR JOB 'SEND',REGION=4096K,MSGCLASS=X,CLASS=A,MSGLEVEL=(1,1),
// NOTIFY=&SYSUID
//STEP010 EXEC PGM=IKJEFT01
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD *
```

Line 1 contains *class,addressspacename* terminated by a blank. For example:

```
B,SMTP
│││
││SMTP address name begins in column 3
││
│Comma must appear in column 2
│
Output class appears at column 1
```

Note that the default SMTP address name is SMTP.

Line 2 also begins in column 1 and contains the fully qualified machine name (or IP address) terminated by a blank. For example:

```
local.myname.com
```

FROMUSER=
   is the override for SMTP Mail from User id. If your installation requires a valid SMTP mail id, you must code one into this syntax. If your installation does not require a valid SMTP mail id, you may leave this blank as Breeze will default to your TSO userid

INTERNAL_READER
   is the class and program that handles the internal reader for batch TSO send commands.

// Section
   is the REQUIRED JCL required thru the SYSTSIN DD* line. Be sure to include a valid jobcard. The formatted send commands will be appended to this JCL and submitted to the internal reader.

Test the Interface

1. The sample member **BZZTSTTO** is shown below. It can be found in the SBZZJCL target library. Rename member BZZTSTTO to **TESTTO**, modify it, and save into the *SBZZJAVA* data set. Since the test program (BZZEMAIL) will use this member, TESTTO should contain actual email addresses, preferably ones that you can access on-site.

```
USERID1
EMAIL-ADDRESS1
USERID2
EMAIL-ADDRESS2
USERID3
EMAIL-ADDRESS3
```

2. Use the sample JCL BZZSMJX4 for your test:

```
//**(JOBCARD)
//**
//* ---------------------------------------------------------------
//* NAME:      BZZSMJX4                                            *
//* PURPOSE:   THE PURPOSE OF THIS JCL IS TO TEST THE SMTP CONTROL *
//*            MEMBER $$$$SMTP AND THE SETUP OF EMAIL. MEMBER      *
//*            $$HTML, AS SPECIFIED IN JAVASERVERCONTROL DSNAME    *
//*            PARAMETER, IS THE BZZINI/CIGINI FILE THAT WILL      *
//*            BE EMAILD TO THE USER(S) AS DEFINED IN THE TESTTO   *
//*            MEMBER OF THE JAVASERVERCONTROL LIBRARY.            *
//*                                                                *
//*            FILES USED BY THE BZZSMJX4/BZZTSTEM:                *
//*            $$$$SMTP - CONTROL INFORMATION USED TO              *
//*                       COMMUNICATE WITH SMTP AND TSO SEND.      *
//*            $$HTML   - TEST MESSAGE TO BE SENT.                 *
//*            TESTTO   - USER(S) TO RECEIVE $$HTML MESSAGE.       *
//*                                                                *
//* --------------------------------------------------------------- *
//* MODIFY THIS JCL TO MEET YOUR SITE'S JCL NAMING STANDARDS.      *
//*                                                                *
//*   1) INCLUDE A JOBCARD                                         *
//*                                                                *
//* --------------------------------------------------------------- *
//TESTE    EXEC  PGM=BZZTSTEM
//STEPLIB  DD  DSN=BZZ.SBZZLOAD,DISP=SHR <==BREEZE PRODUCT LIB
//CIGLOG   DD  SYSOUT=*
//SYSUDUMP DD  SYSOUT=*
```

Figure 16. BZZSMJX4

3. Return Codes:
   - When the return code is zero but no email has been received, you need to examine the output of the job. The SMTP server will periodically drain the spool queues that specify the SMTP server as the writer. If you see output for CIGEMAIL, it means that either the SMTP server has not yet drained the queue, or that the name of the SMTP started task that you specified as the writer name is incorrect.
   - If the return code is *not* zero, you will need to examine the CIGLOG output for messages.

TESTTO is a sample for the purpose of validating that the $$$$SMTP control member is configured correctly and that the SMTP server at your installation is running.

The actual Breeze notification interface utilizes email addresses that are stored in the Breeze database and does not store or look for email attributes in TESTTO or any other location.

Step 13c. Configure the $$HTML Member

The Breeze Approver notification interface expects to find a member called $$HTML in the *SBZZJAVA* target library. This member MUST exist. This is the message that will be sent to approvers' Email ID and/or TSO userid when the SCLM promote function is used to request package promotion.

A sample member BZZ$HTML can be found in the SBZZJCL target library. This member must be renamed to $$HTML.

$$HTML needs to be modified to include your IP address and port number as defined early in this manual. Any other changes will be cosmetic to the end user.

Attention: Please review the modification comments prior to making any modifications. In HTML comments are denoted using a '<!' as the first character and '>' as the last.

If you include the symbol %%PACKAGEID (in all uppercase) in $$HTML, then before Breeze sends the e-mail, it replaces %%PACKAGEID with the package name.

The following BZZ$HTML sample member, renamed to $$HTML, can be found in the SBZZJCL library provided on the product tape. The bolded section of the http statement must be modified to reflect the location of your server.

```
There are Breeze packages that need to be approved (or vetoed) by you.
The current package id requiring your attention is %%PACKAGEID.
Click on the link below to perform review and approve/veto processing.

http://ip-addr:port/brsclm.html
```

Sample Email Output

```
HELO P390.CIGI.NET
MAIL FROM:<P390C@P390.CIGI.NET>
RCPT TO:<RLAUREN@BUTTERFLY.NET>
RCPT TO:<SFLATHEAD@BUTTERFLY.NET>
DATA
DATE:  08/02/00 16:41:09 GMT
FROM:  P390C@P390.CIGI.NET
TO:  PSYSB@P390.CIGI.NET
 PSYSLP390.CIGI.NET,
 RLAUREN@BUTTERFLY.NET,
 SFLATHEAD@BUTTERFLY.NET
SUBJECT: PLEASE APPROVE PACKAGE DEMOPK1
There are Breeze packages that need to be approved (or vetoed) by you.
The current package id requiring your attention is DEMOPK1.
Click on the link below to perform review and approve/veto processing.

http://209.244.240.219:1799/brsclm.html
```

Chapter 10. Checkpoint 7

At this point the following email related tasks should have been successfully completed.

Task	Completed?
Created and Modified the $$$$SMTP member and copied it to the BZZ.SBZZJAVA target library from BZZ$SMTP?	
Created and Modified the TESTTO member and copied it to the BZZ.SBZZJAVA target library from member BZZTSTTO?	
Modified the BZZSMJX4 JCLl and tested the EMAIL interface?	
Review the contents of the CIGEMAIL dd?	
Created and Modified the $$HTML member and copied it to the BZZ.SBZZJAVA target library from member BZZ$HTML?	

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Glossary

activity log. See *log*.

administrator. Person responsible for using batch utilities on the host to:
- Define Breeze records for inventory junctions, approver groups and individual approvers
- Create reports of package activity
- Delete Breeze records of old packages

approved. A package status. Indicates either:
- The package was in pending status, and approvers have voted. In every approver group, there is a quorum of votes; all required approvers have voted and more than half of the votes cast were "for" (approve) votes. The package has not yet been promoted.

    or
- The package does not require approval, but has not yet been promoted.

If the package reaches approved status before its execution window end date, then the package can be promoted.

However, if there is a problem with the SCLM promote copy or purge phase,then the promotion will fail, and the package will go into incomplete status.,

approver. A Breeze user who is responsible for voting on (approving or vetoing) requests to promote members from a particular inventory location to the next higher group in the project hierarchy.

To vote, approvers use either the Breeze Web interface or the host-based voting batch utility. Approvers can use the Breeze Web interface to leave notes explaining their vote, and view package information: summaries, status, activity logs, source member contents and line-by-line changes, member collisions, ballot (who has voted, and how) and notes left by other approvers.

If your site does not use Breeze for voting, then there will be no approvers defined, and the role of administrator will be limited to creating reports of package activity and deleting Breeze records of old packages.

approver group. A set of approvers. An approver group can be assigned to an inventory location by an inventory junction record.

blank. A package status. Indicates that the Breeze administrator has run the delete batch utility on a package, leaving only summary and log information.

general user. A Breeze user who can use the Breeze Web interface to view package information. Unlike

approvers, general users cannot vote. A general user is anyone with a TSO user ID on the host where Breeze is installed.

host. The OS/390 or z/OS system where Breeze is installed.

inventory junction record. A type of Breeze record that links an inventory location to an approver group.

inventory location. A particular SCLM project, group, type and language. Identifies a set of source members in an SCLM project hierarchy.

log. A history of the actions performed on a package. Contains the action type, date and time, return code and user ID that performed the action.

package. An SCLM high-level (HL) architecture member. Developers create packages to identify source members that should be promoted together because they contain related changes. For details, see the *SCLM Project Manager's and Developer's Guide*.

package status. One of the following: pending, approved, vetoed, promoted, promotion failed, updated or blank.

pending. A package status. Indicates that a developer has used the SCLM promote function to request approval to promote a package. Breeze caused the promote function to fail because the package requires approval. Approvers can now vote on the package.

promoted. A package status. Indicates that SCLM has promoted the package.

quorum. The number of votes required in an approver group before the group vote can be decided as "approve" or "veto". (An approver group with required approvers cannot have a quorum of zero. A quorum must be equal to or greater than the number of required approvers in the group.)

required approver. An approver whose vote is required before the vote of the approver group can be decided.

updated. A package status (displayed online with a leading asterisk, like this: *UPDATED). Indicates that the package has been rebuilt since the request for approval. The package cannot be promoted (because source members might have been changed). The administrator can reset the package to its previous status by running the reset utility, BZZSMJD1.

vetoed. A package status. Indicates that, in at least one approver group, there is a quorum of votes, all

required approvers in the group have voted, and at
least half of the votes cast by the group were "against"
(veto) votes. The package cannot be promoted.

Bibliography

- *Breeze Program Directory*, GI10-3179-00
- *Breeze Planning and Administration Guide*, SC31-8817-03
- *Breeze Functional Overview*, SC31-8818-01
- *SCLM Project Manager's and Developer's Guide*, SC34-4750-01
- *Breeze User's Guide*, SC31-8820-03

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Installation Guide
Release 1

Publication No. SC31-8819-03

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Installation Guide

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