TeraCloud Storage Framework (TSF)™
Installation Guide

version 2.1.1

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INTRODUCTION

TeraCloud Storage Framework (TSF) v2.1.1 features a graphical user interface (GUI) that extends the storage reach to distributed platforms and lets you manage all distributed platforms as well as z/OS from a common interface. This easy to use interface provides Detail and Summary reporting, History and Trending capabilities as well as Saved User Views and print publishing facilities.

On the IBM z/OS platform (mainframe), TSF provides the GUI for Pools/Volumes, Datasets, DFSMShsm Management, Tape, and History/Logging. Using the GUI, you can manage multiple systems from one console–whether the DASD is shared or not shared. Additionally, there are many features in the ISPF components that allow you to automatically schedule the population of numerous databases, and action menus that allow you to perform various actions throughout TSF.

On the Distributed platform, TSF provides comprehensive storage management for Solaris, Linux, Windows and AIX in a simple to use, intuitive Java interface. Detail management, quick summarization, and the ability to launch corrective actions directly from the management console enable your organization to identify problems, monitor storage and make adjustments quickly.

Getting Started with TSF for z/OS

If you are installing TSF on the IBM z/OS platform continue to the following chapters in Part I:

- Chapter 1, z/OS Overview
- Chapter 2, System Requirements
- Chapter 3, Security Requirements
- Chapter 4, Installation Steps
- Chapter 5, Installation Settings
- Chapter 6, Password Key Statements
- Chapter 7, Collection Statements
- Chapter 8, TSF Console Commands

In addition, the appendices have useful information about installing TSF including the following:

- Appendix A, Product Overview for Batch Jobs and Started Tasks
- Appendix B, Quick Install Checklist
- Appendix C, Mainframe PARMLIB Members

Getting Started with TSF for Distributed

If you are installing TSF on the Distributed platform continue to the following chapters in Part II:

- Chapter 9, Distributed Overview
- Chapter 10, System Requirements

- Chapter 11, Supported Environments
- Chapter 12, Installing TSF Server
- Chapter 13, Installing TSF Client
- Chapter 14, Installing TSF Agent (Windows)
- Chapter 15, Installing TSF Agent (UNIX)
- Chapter 16, UnInstalling
- Chapter 17, TSF Client Configuration

Contacting Technical Support

Use any of the following methods to contact TeraCloud technical support.

- E-mail – Ask questions and receive answers directly from Technical Support specialists by sending a message to support@teracloud.com.
- Telephone – Access TeraCloud Technical Support at 1.800.555.9397.
- Web Support – Open problem-oriented cases or track previously submitted ones.
- FAQ – Visit the Resources + Support section of the TeraCloud website at *www.teracloud.com* to find answers for frequently asked questions.

To submit corrections or comments about documentation:

- Send e-mail to docs@teracloud.com.

I

Z/OS PLATFORM

1

z/OS Overview

TeraCloud Storage Framework (TSF) makes Z Series storage management simple and easy with an ISPF interface on the mainframe and a GUI that allows access to multi-platform storage metrics as well as multi-level media with the z/OS. Combined with a wide spectrum of automation capabilities, the TSF suite of products becomes a 24 hours a day, seven days a week storage administrator watching for proactive ways to maintain your environment.

With powerful Summary and Detail level reporting, our technology allows you to transform data by using automation and interactive facilities to select, submit, or correct actions. Whether you need to manage SMS or HSM, the architecture is flexible for your demands no matter how diverse they may be. By using the GUI, you can externalize data with export, print and graph engines that are unique to the industry. If you need historical and trending features, the product suite offers those options as well to facilitate better, proactive management.

The chapters in this section describe how to install the ISPF interface and the GUI. While similarities may exist between TSF and SpaceFinder, please note that TSF is a different product and has an entirely different underlying technology than SpaceFinder. Any procedures necessary for SpaceFinder installation may not be valid while installing the new TSF. Therefore, please read this guide thoroughly to be sure the product is properly installed. As always, please feel free to share any comments you may have.

Installation Items to Note Before Starting

Please pay particular attention to the following items:

- Default TSF dataset names in the settings panels may be changed to reflect naming conventions maintained under prior SpaceFinder installations.
- SAF compliant resource profiles have been implemented allowing security controls to be established within your primary security package (RACF, Top-Secret, ACF2).
- TSF requires a started task and includes a "Collection Scheduler," where at specified intervals, the task will submit database build collections and create history logs for trending purposes. Use the TSFCOLnn member found in PARMLIB for establishing these schedules.
- TSF requires its own VSAM (HLQ.STORDATA) database to be defined. SpaceFinder VSAM (HLQ.STORDATA) databases may be used in the COMPARE facility. Historical LOG data generated by SpaceFinder may also be used in TSF's history function by simply running them through a conversion routine.

Licensing

For TSF version 2.1.1, ownership of a z/Express license key is required, even if you are on a Professional version. The Professional version requires a set of keys that get placed alongside the z/Express key.

TSF z/OS Licensing
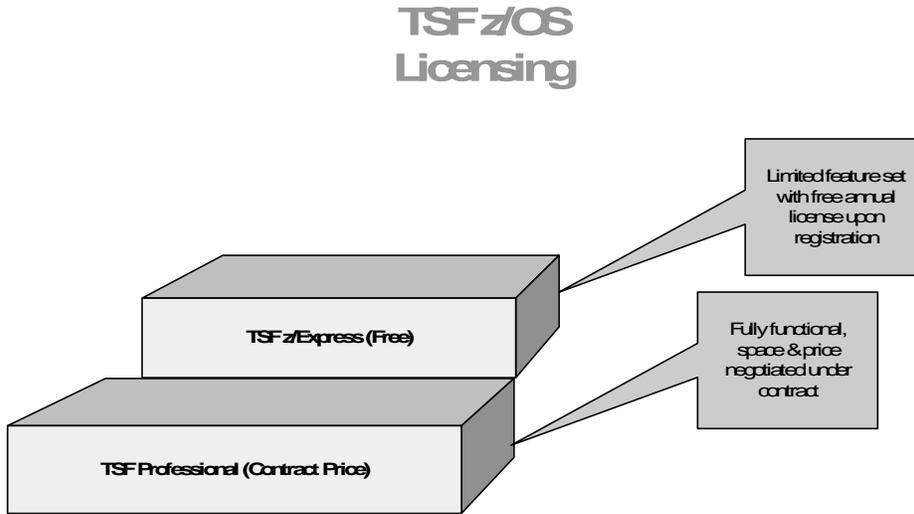
Table 1.1   Licensable Features (Z Series)

	TSF z/Express	TSF Professional
Pools	✔	✔
Volumes	✔	✔
Datasets		✔
Logical Pools		✔
HSM		✔
Tape		✔
Catalog		✔
Compare		✔
Batch Reporting/Command Line		✔
Automation		✔
GUI	✔	✔
Actions		✔
ProActivity		✔
History		✔
Trending		✔
Saved Views	✔	✔
Started Task Data Collection		✔
Technical Support/FAQ	✔	✔
Technical Support/Phone		✔

SYSTEM REQUIREMENTS

Operating System

- MVS z/OS, all versions

Space Allocation

- The TSF SMPE installation process requires approximately 385 MB (7,130 tracks) of disk space
- The TSFSET dialog process requires approximately 1,370 MB (25,375 tracks) of disk space
- Databases and history files should have extended attributes and be SMS managed
- Space for database build jobs depends on database size and environment; adjustable

Authorization

Before you begin the installation process, you must have authority to perform the following steps:

- Add program names to the AUTHPGM list in parmlib
- Grant APF permission and run authorized
- Grant SAF-compliant permissions

SECURITY REQUIREMENTS

Please perform the respective security updates as deemed necessary.

APF Authorization

System DLLs that are members of a library dataset whose name is usually
`SYS1.CBC.SCLBDLL2` or both `SCLBDLL@` and `SCEERUN@` should be in the system
LINKLIST and should be APF authorized. Please ensure that `CEE.SCEERUN2` is APF
authorized as well. The name of the datasets may vary from site to site but it should
match the expressions `*.CBC.SCLBDLL2` and `*.CEE.SCEERUN2` respectively.

SAF-Compliant Access

If you are running the Tape component, you must have SAF-compliant READ access to
your tape management subsystem catalog.

If you are running Tape and using RMM as your tape management system, the user and
started task (TSFEXEC) must have SAF-compliant CONTROL access to this
FACILITY class profile:

• STGADMIN.EDG.LISTCONTROL

Started Task

Apply any necessary security rules for the TSFEXEC started task in <HLQ>.CNTL.

Started Class Profile

TSFEXEC submits subtasks for data collection purposes. See Chapter 7, "Collection Statements." The JOBNAME parameter lets you specify a name that conforms to your standards. When you are using the JOBNAME parameter, certain security measures are needed because the job is being submitted by a started task and the jobs being submitted are actually *started tasks* rather than jobs as the name may imply. An entry must be added to the STARTED Class profile for the job names to be used in the collection statements.

See the STARTED class profile below, along with examples for each collection name in member TSFCOLxx. In the following examples, the job names (TSFDSNCT, TSFCATCT, and so on) would obtain a userid of TSFADM. TSFADM then has to be defined to RACF, ACF2, and Top Secret as a userid (or group name).

If you provide a generic job name (*.*) it will usually work in most environments; however, actual job names were used in this example for easier interpretation.

```
STARTED Class profiles - (ASCRE- address space creation)
<SR_jobname>.<SR_jobname> STDATA(USER(SR_userid) GROUP(CFG_groupid))
RDEFINE STARTED TSFDSNCT.* OWNER(SYSTEMS)
STDATA(USER(TSFADM))
RDEFINE STARTED TSFCATCT.* OWNER(SYSTEMS)
STDATA(USER(TSFADM))
RDEFINE STARTED TSFCA1CT.* OWNER(SYSTEMS)
STDATA(USER(TSFADM))
RDEFINE STARTED TSFRMMCT.* OWNER(SYSTEMS)
STDATA(USER(TSFADM))
RDEFINE STARTED TSFTLMCT.* OWNER(SYSTEMS)
STDATA(USER(TSFADM))
RDEFINE STARTED TSFHSMCT.* OWNER(SYSTEMS)
STDATA(USER(TSFADM))
RDEFINE STARTED TSFRECRD.* OWNER(SYSTEMS)
STDATA(USER(TSFADM))
RDEFINE STARTED TSFSPACE.* OWNER(SYSTEMS)
STDATA(USER(TSFADM))
RDEFINE STARTED TSFUNXCT.* OWNER(SYSTEMS)
STDATA(USER(TSFADM))
SETROPTS RACLIST(STARTED) REFRESH
```

SAF-Compliant Authority for TSF Components via FACILITY CLASS Profiles (optional)

You must have SAF-compliant authority to the following TSF components via FACILITY CLASS profiles. The started task ID for TSFEXEC as well as your TSO logon ID in the GUI should all have read and/or update authority to the profiles that are listed here.

- STGADMIN.TSF.AUTOMATION
- STGADMIN.TSF.CATALOG
- STGADMIN.TSF.COMPARE
- STGADMIN.TSF.CPUINFO
- STGADMIN.TSF.DISK.DATASETS
- STGADMIN.TSF.HISTORY
- STGADMIN.TSF.PROACTIVITY
- STGADMIN.TSF.SETTINGS
- STGADMIN.TSF.DISK.VOLUMES
- STGADMIN.TSF.TAPE
- STGADMIN.TSF.HSM
- STGADMIN.TSF.UNIX
- STGADMIN.TSF.DSNLEV01.HLQ
- STGADMIN.TSF.DSNLEV02.MLQ
- STGADMIN.TSF.DSNLEV03.PARMLIB
- STGADMIN.TSF.MEMBER.TSFPRMxx

Note: The DSNLEVxx is associated with the number of qualifiers you have used in your naming conventions for TSF. For example, SYS2.TSF.PARMLIB(TSFPRM00) would have three DSNLEVxx profiles and one member profile.

Security Profile Examples

RACF

Table 3.1   RACF security example using TSO

```
/PERMIT STGADMIN.TSF.HSM CLASS(FACILITY) ACCESS(UPDATE) ID(userid/group)
or
PERMIT STGADMIN.TSF.** CLASS(FACILITY) ACCESS(UPDATE) ID(userid/group)
```

Table 3.2   RACF REFRESH example using TSO

```
SETROPTS REFRESH RACLIST(FACILITY)
```

Top Secret

Table 3.3 Top Secret example defines ownership under the IBM Facility

```
TSS ADD (group) IBMF(TSF)
```

Table 3.4 Top Secret example permits whichever access level is needed

```
TSS PER (userid) IBMF(TSF.) ACC(READ) or ACC(UPD) or
   ACC(ALL)
```

ACF2

Table 3–1. ACF2 security examples

```
SET CONTROL(GSO)
 SET R(FAC)
 LIST LIKE(STGADMIN.TSF-)
 ACF75052 RESOURCE RULE STGADMIN.TSF.**** STORED BY xxxxx ON
   20/02/06-14:41
 $KEY(STGADMIN.TSF.*************************) TYPE(FAC)
 $USERDATA(TSF AUTOMATION CONTROL)
  UID(M STC**********TSF) ALLOW
  UID(M STC**********TSI) ALLOW
  UID(M0220OP) ALLOW
  UID(M0303SM) ALLOW
 ACF75051 TOTAL RECORD LENGTH= 370 BYTES, 3 PERCENT UTILIZED

 ACF75052 RESOURCE RULE STGADMIN.TSF.AUTOMATION STORED BY
   xxxxxxx ON
   20/02/06-11:07
 $KEY(STGADMIN.TSF.AUTOMATION) TYPE(FAC)
 $USERDATA(TSF AUTOMATION CONTROL)
  UID(M STC**********TSF) ALLOW
  UID(M0220OP) ALLOW
  UID(M0303SM) ALLOW
 ACF75051 TOTAL RECORD LENGTH= 327 BYTES, 2 PERCENT UTILIZED

 ACF75052 RESOURCE RULE STGADMIN.TSF.CATALOG STORED BY
   xxxxxxx ON 20/02/06-11:09
 $KEY(STGADMIN.TSF.CATALOG) TYPE(FAC)
 $USERDATA(TSF CATALOG CONTROL)
  UID(M STC**********TSF) ALLOW
  UID(M0220OP) ALLOW
  UID(M0303SM) ALLOW
 ACF75051 TOTAL RECORD LENGTH= 325 BYTES, 2 PERCENT UTILIZED
```

The following table shows TSF components that are installed and the security settings for each component.

Table 3.5 TSF Components and Security Settings

TSF Components	Normal Access to Queries	Refresh Capabilities
STGADMIN.TSF.AUTOMATION	Read	
STGADMIN.TSF.CATALOG	Read	Update
STGADMIN.TSF.COMPARE	Read	
STGADMIN.TSF.CPUINFO	Read	
STGADMIN.TSF.DISK.DATASETS	Read	Update
STGADMIN.TSF.HISTORY	Read – can perform H on line item for History	
STGADMIN.TSF.PROACTIVITY	Read- can perform proactivity commands	
STGADMIN.TSF.SETTINGS	Read – can update settings	
STGADMIN.TSF.DISK.VOLUMES	Read	Update (including UCBSCAN)
STGADMIN.TSF.TAPE	Read	Update
STGADMIN.TSF.HSM	Read	
STGADMIN.TSF.UNIX	Read	Update
STGADMIN.TSF.DSNLEV01	Read	
STGADMIN.TSF.DSNLEV02	Read	
STGADMIN.TSF.DSNLEV03	Read	
STGADMIN.TSF.MEMBER	Read	

4

INSTALLATION STEPS

TeraCloud now provides the capability to install via SMP/E.

SMP/E Installation Steps

Follow these steps to install TSF using SMP/E.

Note: These jobs are case sensitive. Set CAPS OFF in each member before pasting them in.

1   Edit and execute the TSFREAD job to get the README file from the FTP server. See Table 4.1 for the JCL.

2   Edit the README file and submit the job to create the PDS that contains SMP/E jobs for installation.

3   Edit and submit the following jobs:

- TSFSMPE – Create a new SMP/E environment
- TSFALLOC – Create SMP/E target and distribution libraries
- TSFDDDEF – Create DDDEF entries
- TSFFTP – Downloads compressed TSF installation files
- TSFRECVA – RECEIVE product FMID and maintenance PTFs
- TSFAPPLY – APPLY product FMID and maintenance PTFs
- TSFACCPT – ACCEPT product FMID and maintenance PTFs

4   Temporarily APF authorize the HLQ.LOADLIB dataset. The LOADLIB dataset is allocated as a PDSE.

```
setprog apf,add,dsname=TSF.STSFLOAD,sms
```

Note: Replace HLQ.LOADLIB with the actual naming convention to be used when the LOADLIB dataset is created.

5   Permanently APF authorize this LOADLIB by adding 'HLQ.LOADLIB' to 'SYS1.PARMLIB(PROGxx)'.

Post SMP/E Installation Steps

1 Add the following commands and programs to the IKJTSOxx member of your system PARMLIB:

```
AUTHPGM NAMES(
TSFARXR1,
TSFAINIT,
TSFCA1TF,
TSFCATVL,
TSFDSP00,
TSFDSP01,
TSFDSP02,
TSFDSP03,
TSFDSP31,
TSFDSP85,
TSFDSP86,
TSFDTYPE,
TSFHSM00,
TSFHSMCD,
TSFHSMCT,
TSIHSMVL,
TSFHSM00,
TSFLIGET,
TSFPARTR,
TSFPOLCT,
TSFRMMTF,
TSFSP121,
TSFTLMTF,
TSFTP000,
TSFTSOCE,
TSFUCBMT,
TSFUCBST,
TSFUNXCT)
```

2 Issue the TSO command PARMLIB UPDATE(xx) to activate these settings, where xx corresponds to the actual member name in PARMLIB.

Note: /D IKJTSO will display the contents of your IKJTSOxx member to verify its contents. If this command is not available, you can issue the TSO PARMLIB LIST command from option 6, TSO commands.

3 Update the program properties table (SCHEDxx) in the system PARMLIB and activate it to allow program TSFSMF01 to run in Key 4 rather than the default Key 8. This step prevents TeraCloud parameters from being overwritten, for example:

```
PPT PGMNAME(TSFSMF01)
KEY(4)
```

4 Set TSF variables. See Chapter 5, Installation Settings. Settings variables are used for all components and can be modified at any time by using the panels provided with TSFSET.

5 Contact TeraCloud Technical Support[1] to obtain your free z/Express license key. You must have a z/Express license key even if you are installing the Professional version.

6 Set TSF passwords in the TSFKEY00 member. See Chapter 6, Password Key Statements.

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1. To contact Tech Support:
 E-mail – Ask questions and receive answers directly from Technical Support specialists by sending a message to support@teracloud.com.
 Telephone – Access TeraCloud Technical Support 24 hours a day at 1.800.555.9397.
 Web Support – Open problem-oriented cases or track previously submitted ones.

7 Edit and submit the TSFPROCS job located in <HLQ>.CNTL. This job copies the started task procedure (TSFEXEC) into a system PROCLIB, where started tasks are allowed. Success is indicated by a zero return code.

Note: You may want to edit the PROCS individually and remove any necessary JCL to run a PROC in your environment.

8 Edit the TIME and INTERVAL parameters for collection statements located in member TSFCOLnn of the PARMLIB dataset with specified times for your batch jobs to run. See Chapter 7, Collection Statements.

9 Edit the JOBNAME parameter in the TSFCOLnn member to meet your site standards.

10 *Optional*. Concatenate ISPF Libraries–Create a two line CLIST in one of your concatenated SYSPROCS that would then explicitly execute the following:

```
PROC 0 EX 'XXX.XXX.PARMLIB(TSFMAIN)'
```

Note: If you do not concatenate the ISPF libraries, you must execute explicitly TSFMAIN from PARMLIB in the TSO command processor.

11 Start the TSF application with the following command, where jobname is anything that conforms to the naming conventions at your site:

```
S TSFEXEC,JOBNAME=jobname
```

12 Start the TSFSPACE subtask for DFSMShsm Management with the following command, where jobname is anything that conforms to the naming conventions at your site:

```
s tsfexec,prog=tsfsmf00,JOBNAME=jobname
```

Note: TSFSPACE must run first, then TSFRECRD. When stopping them, the inverse is true: TSFRECRD must be stopped first, then TSFSPACE. When in production these start statements should be added to your IPL procedures.

13 Start the TSFRECRD subtask for DFSMShsm Management with the following command, where jobname is anything that conforms to the naming conventions at your site:

```
s tsfexec,prog=tsfsmf01,JOBNAME=jobname
```

14 Edit the TSFAGENT job located in <HLQ>.CNTL and run it as a started task by executing the following command, where jobname is anything that conforms to the naming conventions at your site:

```
s tsfexec,prog=TSFAGENT,JOBNAME=jobname
```

15 Install the Graphical User Interface (GUI).

a Download member TSFGUIIN in binary format from the target library (&HLQ..STSFGUI) to the client workstation and name it as follows:
TSFClient2_1Installer.msi

b To install: Double click on TSFClient2_1Installer.msi.

c To start: Select Start | Programs | TeraCloud Corporation | TSF Client 2_1.

d To customize: Select View | Configure systems, click the z/OS tab, click add button. Enter host name, port number, TSO userid & password.

e Once you click on database name, the system will ping the agent and obtain this information.

Table 4.1   TSFREAD Job Sample

```
//TSFREAD  JOB <job parameters>
//***************************************************************
//*    Licensed Materials - Property of TeraCloud Corporation   *
//*    (C) Copyright TeraCloud Corporation 2007                 *
//*                                                             *
//*  This JCL will get the README file from the TeraCloud       *
//*  FTP server.                                                *
//*                                                             *
//*  CAUTION: This is neither a JCL procedure nor a complete    *
//*  job.  Before using this job step, you will have to         *
//*  make the following modifications:                          *
//*                                                             *
//*  1) Add the job parameters to meet your system requirements *
//*                                                             *
//*  2) Change ftpserver to the ftp server domain name          *
//*     provided by TeraCloud Corporation Technical Support     *
//*                                                             *
//*  3) Change ftpuserid to the ftp userid provided by TeraCloud *
//*     Corporation Technical Support.                          *
//*                                                             *
//*  4) Change ftppassword to the ftp password provided by      *
//*     TeraCloud Corporation Technical Support.                *
//*                                                             *
//*  5) Change ftppath to a UNIX system services path appropriate*
//*     to hold the README file, which is a sample job that     *
//*     allocates and loads the TSF installation jobs.          *
//*                                                             *
//*  Note: You can use OEDIT to edit and submit the job in the  *
//*  README file stored in ftppath.                            *
//*                                                             *
//*  Maintenance:                                               *
//*                                                             *
//*  Set return code 8 if FTP fails                    TS00434*
//*                                                             *
//***************************************************************
//*
//FTP      EXEC PGM=FTP,
//             COND=(0,NE),
//             REGION=4M
//INPUT    DD  *
ftpserver (exit=08
ftpuserid
ftppassword
cd /ATSF211
binary
get S0003.SEND.ATSF211.README ftppath (replace
quit
//OUTPUT   DD  SYSOUT=*
//SYSPRINT DD  SYSOUT=*
```

Installation Files

Table 4.2   TSF Installation Files

Library File	Library Description
TSF.STSFCLI0	Contains the ISPF CLISTs
TSF.CNTL	Contains JCL and PROCS for loading databases and individual batch reporting
TSF.EXEC	Contains REXX execs used to take action from the IF statements in automation
TSF.STSFLOAD	Contains the actual programs used by TSF
TSF.STSFMENU	Contains the error messages that are displayed dynamically, according to context
TSF.STSFPENU	Contains the TSF ISPF display panels
TSF.PARMLIB	Contains customizable tables for use in many TSF components
TSF.PROACT	Contains the TSF proactive skeleton jobs
TSF.STSFSENU	Contains the JCL TSF user profiles
TSF.SYSMDUMP	For use by TeraCloud if requested
TSF.STSFTENU	Contains queries shipped with the product that provide users with common or "Best Practice" queries

Applying Maintenance

TeraCloud now provides the capability to apply maintenance by using a Program Temporary Fix (PTF), or IBM sanctioned patch. Follow these steps to apply maintenance for TSF.

1   Edit and execute the TSFGETMA job to get the README file and current maintenance from the FTP server. See Table 4.3 for the JCL.

2   Edit the README file and submit the job to create the PDS that contains the current jobs for installation and maintenance.

3   Edit and submit the following jobs:

- TSFUNZIP – Decompress the current maintenance files
- TSFRCVMA – RECEIVE current maintenance PTFs
- TSFAPPMA – APPLY current maintenance PTFs
- TSFACCMA – ACCEPT current maintenance PTFs, if desired

4   After applying any maintenance to the TSF GUI patch update files in the `TSFGUIUP` member of target library (`&HLQ..STSFGUI`), `TSFGUIUP` must be downloaded in binary mode and named `TSFClient2_1Installer.msp`.

5   Execute `TSFClient2_1Installer.msp` in your Windows session to update an existing client installation.

Table 4.3   TSFGETMA Job Sample

```
//TSFGETMA JOB <job parameters>
//****************************************************************
//*     Licensed Materials - Property of TeraCloud Corporation    *
//*      (C) Copyright TeraCloud Corporation 2007                 *
//*                                                               *
//*   This JCL will get the compressed TSF SMPE maintenance files *
//*   via FTP and place them into UNIX System Services files for  *
//*   later GIMUNZIP processing using the TSFUNZIP job in the     *
//*   README file.                                                *
//*                                                               *
//*   CAUTION: This is neither a JCL procedure nor a complete     *
//*   job.  Before using this job step, you will have to          *
//*   make the following modifications:                           *
//*                                                               *
//*   1) Add the job parameters to meet your installation         *
//*      requirements.                                            *
//*   2) Replace ftpserver with the ip address of hostname        *
//*      provided by TeraCloud Technical Support.                 *
//*   3) Replace ftpuserid with the FTP userid provided by        *
//*      TeraCloud Technical Support.                             *
//*   4) Replace ftppassword with the FTP password provided by    *
//*      TeraCloud Technical Support.                             *
//*   5) Replace /u/userid with a path name that meets your       *
//*      installation requirements.  Anything following /u/userid *
//*      must remain as is in order to be used by subsequent      *
//*      jobs.                                                    *
//*                                                               *
//*   Maintenance:                                                *
//*                                                               *
//*   Jobs to ftp, unzip, receive, apply and accept PTF's  TS00433*
//*   Set return code 8 if FTP fails                       TS00434*
//*                                                               *
//****************************************************************
//FTP      EXEC PGM=FTP,
//             COND=(0,NE),
//             REGION=4M
//INPUT    DD  *
ftpserver (exit=08
ftpuserid
ftppassword
cd /ATSF211
lmkdir /u/userid/ATSF211
lcd /u/userid/ATSF211
binary
get S0003.SEND.ATSF211.README (replace
get GIMPAF.XML (replace
get GIMPAF.XSL (replace
cd /ATSF211/SMPPTFIN
lmkdir /u/userid/ATSF211/SMPPTFIN
lcd /u/userid/ATSF211/SMPPTFIN
get S0010.SEND.ATSF211.CUMPTFIN.pax.Z (replace
cd /ATSF211/SMPHOLD
lmkdir /u/userid/ATSF211/SMPHOLD
lcd /u/userid/ATSF211/SMPHOLD
get S0002.SEND.ATSF211.SMPHOLD.pax.Z (replace
quit
//OUTPUT   DD  SYSOUT=*
//SYSPRINT DD  SYSOUT=*
```

5

INSTALLATION SETTINGS

TeraCloud Storage Framework (TSF) uses variables to populate and execute application-specific parameters. This information—originally provided or updated during installation—can be modified at any time by using the Settings menu option.

Select Installation Option

To select the installation option, you must navigate to the TSF Settings panel.

1 From option 6, TSO Commands type: EX 'HLQ.STSFPENU(TSFSET)'.

2 The "Enter PARMLIB Dataset Name" panel will be displayed.

```
TeraCloud Storage Framework (TSF)
Command ===>                                              Scroll ===>

Primary Commands:

N  ┌─────── Enter PARMLIB Dataset Name ───────┐
   │                                          │
L  │ Command ===> _____    │
   │                                          │
S  │ Press ENTER to accept PARMLIB Data Set Name  │  ettings
G  │ and continue.                            │  ettings
   │                                          │  ettings
   │ END to leave the settings dialog.        │
S  │ _____ │
   │                                          │
   │ Parmlib Dataset Name (fully qualified):  │
   │ QA.X328.TSF.PARMLIB_____ │
   │                                          │
   └──────────────────────────────────────────┘



 4B▮              ✿:00.1                                     17/06
```

3 Type a dataset name for the PARMLIB member or press ENTER to accept the default name. The "Installation Type Selection" panel will be displayed.

```
.  TeraCloud Storage Framework (TSF)                                      .
.  C ┌───────────────── Installation Type Selection ─────────────┐ > PAGE  .
.    │ TSF V2R1M0.00374                                           │        .
.  P │ Option ===> _____   │        .
.    │                                                            │        .
.  N │ Select Installation Type:                                  │        .
.    │                                                            │        .
.  L │ 1  1. Standard Install                                     │        .
.    │    2. Conversion from Spacefinder 4.x.x                    │        .
.  S │       Copy entire PARMLIB from Spacefinder 4.x.x to new    │        .
.  G │       V2R1M0 PARMLIB.                                      │        .
.    │                                                            │        .
.    │ Old Parmlib Data Set (Required for option 2.)              │        .
.  S │   Data Set Name . . _____     │        .
.    │                                                            │        .
.  ─ │ Press ENTER to select Installation Type and continue.      │        .
.    │ Press END to cancel installation.                          │        .
.    │                                                            │        .
.    │                                                            │        .
.    │                                                            │        .
.    │                                                            │        .
.    └────────────────────────────────────────────────────────────┘        .
.                                                                           .
```

4   If this is a new installation of TSF, type 1 (Standard Install) and press ENTER.

5   The "Installation Datasets" panel will be displayed. This is the first panel in a series of installation settings panels that display TSFSET variables. These variables are used for all components of TeraCloud Storage Framework and can be modified at any time.

Useful tip. When you are completing information on the TSF Settings panels, remember to type END at the command line to accept changes or CANCEL to reject changes.

Installation Datasets Panel

```
TSF V2R1M0.00376 - Installation Datasets - suffix(00)
Command ===>

Primary Commands:

END     -- to accept changes          RESET   -- to values on entry
CANCEL  -- to reject changes          DEFAULT -- to set TSF defaults
------------------------------------------------------------------------

TSF Data Set Names:
  (Created at install time, these Data Sets must exist.)
  Panel    Library  . . : TECH.TSFX376.PANEL
  Clist    Library  . . . TECH.TSFX376.CLIST
  Loadlib  Library  . . . TECH.TSFX376.LOADLIB
  Message  Library  . . . TECH.TSFX376.MESSAGE
  Skeleton Library  . . . TECH.TSFX376.SKELETON
  Table    Library  . . . TECH.TSFX376.TABLE

Run Time Data Set Names:
  (Will be created, if necessary, when settings are saved.)
  Parmlib  Library  . . : TECH.TSFX376.PARMLIB
  Cntl     Library  . . . TECH.TSFX376.CNTL
  Command  Library  . . . TECH.TSF.PROACT

  Allocation Parameters (for Parmlib, Cntl and Command)
    Management Class . . . . . .            (Blank for default)
    Storage Class  . . . . . . .            (Blank for default)
     Volume serial . . . . . . .
     Unit  . . . . . . . . . . SYSALLDA   (Esoteric or Generic Unit)
    Data Class . . . . . . . . .            (Blank for default)
     Space units . . . . . . . . CYLINDERS  (CYLINDERS, TRACKS)
     Allocation Amount . . ( 1      , 1      ) (Primary , Secondary)
                                             (In above units)
     Directory blocks  . . . . . 45
     Data set type . . . . . . . PDS        (PDS or LIBRARY)

  SYSMDUMP Data Set . . . TECH.TSF.SYSMDUMP.INSTALL

  Allocation Parameters
    (These parameters will be used for SYSMDUMP data sets on all panels.)
    Management Class . . . . . .            (Blank for default)
    Storage Class  . . . . . . .            (Blank for default)
     Volume serial . . . . . . .
     Unit  . . . . . . . . . . SYSALLDA   (Esoteric or Generic Unit)
    Data Class . . . . . . . . . EXTADDR    (Blank for default)
     Space units . . . . . . . . CYLINDERS  (CYLINDERS, TRACKS)
     Allocation Amount . . ( 100    , 10     ) (Primary , Secondary)
                                             (In above units)

Started Task Proclib:
  Proclib PDS DSN . . . . TECH.TSFX376.PROCLIB
```

Field Descriptions

Table 5.1 TSF Data Set Names

Field Name	Description
Panel Library	Data set name of the TSF PANEL library. This field cannot be modified.
Clist Library	Enter the data set name of the TSF CLIST Library. This is the TSF data set, created during the installation of the product, that contains CLISTs and REXX execs. Typically, this will have an ending suffix of CLIST.
LOADLIB Library	Enter the data set name of the TSF LOADLIB Library. This is the TSF data set, created during the installation of the product, that contains load modules. Typically, this will have an ending suffix of LOADLIB. **Note**: This dataset will need to be APF authorized.
Message Library	Enter the data set name of the TSF Message Library. This is the TSF data set, created during the installation of the product, that contains ISPF messages. Typically, this will have an ending suffix of MESSAGE.
Skeleton Library	Enter the data set name of the TSF Skeleton Library. This is the TSF data set, created during the installation of the product, that contains ISPF skeletons. Typically, this will have an ending suffix of SKELETON.
Table Library	Enter the data set name of the TSF TABLE Library. This is the TSF data set, created during the installation of the product, that contains ISPF tables. Typically, this will have an ending suffix of TABLE.

Table 5.2 Run Time Data Set Names

Field Name	Description
Parmlib Library	Data set name of the TSF PARMLIB Library. TSF parameter definitions will be stored in this data set. This field cannot be modified.
Cntl Library	Data set name of the TSF CNTL Library. Sample TSF JCL will be stored in this library. If this data set does not exist, it will be created.
Command Library	Data set name of the TSF Command Library. TSF ProActivity JCL will be stored in this library. If this data set does not exist, it will be created.

Table 5.3 Allocation Parameters (for Parmlib, Cntl and Command)

Field Name	Description
Management Class	Enter the name of the management class that should be used to obtain the data management related information (migration, backup, and retention criteria) for the allocation of the data set.
Storage Class	Enter the name of the storage class that should be used to obtain the storage related information for the allocation of the data set.
Volume serial	Enter the volume serial of the direct access volume you wish to contain the data set.
Unit	The generic unit address for the direct access volume you wish to contain the data set, or the esoteric name, for example, SYSALLDA.
Data Class	Enter the name of the data class that should be used to obtain the data related information (SPACE, LRECL, etc.) for the allocation of the data set.
Space units	Enter any of the following: • TRACKS if data set size is expressed in tracks, or • CYLINDERS if data set size is expressed in cylinders. **Note**: Space units allows the shortest unique abbreviation for each attribute. For example, T for TRACKS, C for CYLINDERS.
Allocation Amount	This is a two-part field. • Enter the primary allocation quantity in tracks or cylinders as indicated in the Space units field. • Enter the secondary allocation quantity in tracks or cylinders as indicated in the Space units field.
Directory blocks	Enter the number of 256-byte directory blocks to be provided.
Data set type	Enter any of the following: • LIBRARY - allocates a partitioned data set extended. • PDS - allocates a partitioned data set.

Table 5.4 Allocation Parameters (for SYSMDUMP data sets on all panels)

Field Name	Description
SYSMDUMP Data Set	Enter the name of the TSF Dump dataset. Example: HLQ.SYSMDUMP - dataset which will contain debugging dumps.
See Allocation Parameters (Parmlib, Cntl, Command)	Descriptions are the same as allocation parameters for datasets.
Started Task Proclib: Proclib PDS DSN	Type the dataset name of the started task procedure library where the JCL for the TSF started tasks can be stored.

JCL Settings Panel

```
TSF V2R1M0.00376 - JCL Settings - suffix(00)
Command ===>

Primary Commands:

END     -- to accept changes         RESET  -- to values on entry
CANCEL  -- to reject changes         DEFAULT -- to set TSF defaults
--------------------------------------------------------------------------

Default Allocation values:
  Sysout Class  . . . . . *
  Perm Disk Unit  . . . . SYSALLDA
  Temp Disk Unit  . . . . SYSALLDA
  Work Area Size  . . . . CYL,(200,25)    (ex. CYL,(10,5) )

Sort Utility parameters:
  Sort Library  . . . . . SYS1.SORTLIB
  Sort Program  . . . . . SORT           (Member name)
  Sortwork Size . . . . . CYL,(10,5)      (ex. CYL,(10,5) )
  Sort Disk Unit  . . . . SYSALLDA

Job Card
  //TECHXXX5 JOB  (ACCOUNT),'NAME',
  // CLASS=A,MSGCLASS=X,NOTIFY=&SYSUID
  /*JOBPARM SYSAFF=TZ01
```

Field Descriptions

Table 5.5 Default Allocation Values

Field Name	Description
Sysout Class	Enter the name of the TSF Sysout Class.
	Example: * - Use default sysout class.
Perm Disk Unit	Enter the esoteric name of a disk unit where permanently allocated cataloged datasets can reside.
	Example: SYSALLDA is the esoteric unit name that TSF will use during allocation.
Temp Disk Unit	Enter the esoteric name of a disk unit where temporarily allocated datasets can reside.
	Example: VIO is the esoteric unit name that TSF will use for work datasets.
Work Area Size	Enter the amount of space that will be allocated to the Work area datasets (TSF database size)
	Example: CYL,(200,25) is a standard database size for medium size shops.

Table 5.6 Sort Utility parameters

Field Name	Description
Sort Library	Enter the name of the Sort library used on your system. Example: SYS1.SORTLIB is the library that TSF will allocate to perform sorts.
Sort Program	Enter the name of the Sort program that is used on your system. Example: SORT is the program that TSF will call to perform sorts.
Sortwork Size	Enter the amount of Sortwork size that TSF will allocate. Example: CYL,(10,5) is a standard sort work size for medium size shops.
Sort Disk Unit	Enter the esoteric name of a disk unit where SORTWKxx space can be allocated. Example: DISK is the esoteric unit name that TSF will use during allocation.

Table 5.7 Job card entry

Field Name	Description
Job Card	Enter your job card here. This job card will be placed into JCL in the CNTL lib. //HLQX JOB (ACCT),'NAME',CLASS=A,MSGCLASS=X, // NOTIFY=HLQ //*

Agent Settings Panel

```
TSF V2R1M0.00376 - Agent Settings - suffix(00)
Command ===>

Primary Commands:

END     -- to accept changes           RESET   -- to values on entry
CANCEL  -- to reject changes           DEFAULT -- to set TSF defaults
---------------------------------------------------------------------------

Graphical User Interface (GUI) Agent Settings
  Agent Bind IP  . . . . . . 0.0.0.0
  Agent Bind Port  . . . . . 7216

  Cache Query results  . . . YES  (YES or NO)

  SYSMDUMP Dataset Name  . . TECH.TSF.SYSMDUMP.AGENT
```

Field Descriptions

Table 5.8 Graphical User Interface (GUI) Agent Settings

Field Name	Description
Agent Bind IP	Agent Host System IP address. Enter the IP address of the host system that the TSF GUI agent will run on or leave the default IP address 0.0.0.0. In most cases the default should not be changed. Consult with your TCP/IP system administrator before changing the default.
Agent Bind Port	TSF agent port. Type the IP port number that the TSF GUI agent will listen on or leave the default port of 8372. In most cases, the default should not be changed. Consult with your TCP/IP system administrator before changing the default. If another application is using the same port the agent will fail. **Note**: Remember to write down the port number or IP address that you assign to this agent, because it will be used when you configure a system in the GUI.
Cache Query results	Indicates whether or not to cache the results of queries to the agent. • YES – Cache the results of queries • NO – Do not cache the results of queries **Note**: A setting of YES may improve the response time of the agent depending on usage.
SYSMDUMP dataset name	Data set name of the TSF AGENT SYSMDUMP data set.

Automation Settings Panel

```
TSF V2R1M0.00376 - AUTOMATN Settings - suffix(00)
Command ===>

Primary Commands:

END     -- to accept changes              RESET   -- to values on entry
CANCEL  -- to reject changes              DEFAULT -- to set TSF defaults
-------------------------------------------------------------------------


Automation Parameters
  IF statement member name . . . . . . . . IF
  Max automation requests in queue . . . . 500
  Max simultaneous execs to run  . . . . . 5
  Max seconds to allow exec to run . . . . 0
  Exec job name  . . . . . . . . . . . . . SPGGDREX
  Exec proc name . . . . . . . . . . . . . TSFEXEC
  Exec library DSN . . . . . . . TECH.TSF.EXEC
  SYSMDUMP Dataset Name  . . . . TECH.TSF.SYSMDUMP.AUTOMATN
```

Field Descriptions

Table 5.9 Automation Parameters

Field Name	Description
IF statement member name	Enter the member name (in the PARMLIB dataset) containing the IF statements to be used by the automation subtask in the TSF address space.
Max automation requests in queue	Enter the maximum number of automation requests that can be in the queue (including active requests). 500 - limit the automation queue to 500 requests
Max simultaneous execs to run	Enter the maximum number of simultaneous automation execs that can be active. 5 - at most 5 automation execs can be active at one time.
Max seconds to allow exec to run	Enter the maximum number of seconds an automation exec will be allowed to run. Value is in seconds and is elapsed (wall-clock) time. A value of 0 null means no limit. 15 - an automation exec can run for at most 15 seconds before being stopped.
Exec job name	Enter the job name of the address space(s) running automation execs. TSFAREXX - automation execs will run in an address space with a job name of TSFAREXX.
Exec proc name	Enter the name of the procedure used to start the address space(s) running automation execs. TSFEXEC - automation exec address spaces will be started using proc TSFEXEC.

Table 5.9 Automation Parameters

Field Name	Description
Exec library DSN	Enter the name of the data set containing the automation execs. HLQ.EXEC - Automation execs will be run from HLQ.EXEC.
SYSMDUMP Dataset Name	Data set name of the TSF Automation SYSMDUMP data set.

Catalog Scan Settings Panel

```
TSF V2R1M0.00376 - CATSCAN Settings - suffix(00)
Command ===>

Primary Commands:

END     -- to accept changes           RESET   -- to values on entry
CANCEL  -- to reject changes           DEFAULT -- to set TSF defaults
--------------------------------------------------------------------------

CATSCAN Parameters:
  Catalog Scan Database Name . . TECH.TSF.CATDB

  Allocation Parameters
    Management Class . . . . . .            (Blank for default)
    Storage Class  . . . . . . .            (Blank for default)
     Volume serial . . . . . . . *
     Unit  . . . . . . . . . . . SYSALLDA   (Esoteric or Generic Unit)
    Data Class . . . . . . . . . EXTADDR    (Blank for default)
     Space units . . . . . . . . CYLINDERS  (CYLINDERS, TRACKS or Block size)
      Allocation Amount . . ( 200    , 50     )  (Primary , Secondary)
                                                (In above units)

  Check for DASD Data Sets . . . YES       (YES or NO)
  Check for Tape Data Sets . . . YES       (YES or NO)
  Resolve Indirect Catalog . . . YES       (YES or NO)
  Include Migrated Data Sets . . YES       (YES or NO)
  Issue PUTLINE  . . . . . . . . YES       (YES or NO)

  Sort work size . . . . . . . . 500000    (Estimate for Internal Sort)

  Use Logical/Volume Pools . . . YES       (YES or NO)
  Logical Pool Table . . . . . . POOLTABL  (Member name)
  Volume Pool Table  . . . . . . POOLVOL   (Member name)

  Take SVCDUMP . . . . . . . . . NO        (YES or NO)
  SYSMDUMP Dataset Name  . . . . TECH.TSF.SYSMDUMP.CATSCAN
```

Field Descriptions

Table 5.10 CATSCAN Parameters

Field Name	Description
Catalog Scan Database Name	The name you want to give the TSF Catalog Scan Database on your system.
Management Class	The management class that should be used to obtain the data management related information (migration, backup, and retention criteria) for the allocation of the data set.
Storage Class	The storage class that should be used to obtain the storage related information for the allocation of the data set.
Volume serial	The volume serial or generic unit address for the direct access volume that you want to contain the data set. Leave this field blank if you want TSF to select an eligible volume.

Table 5.10 CATSCAN Parameters

Field Name	Description
Unit	Specifies the type of the unit to which a file or data set is to be allocated. An installation-defined group name, a generic device type, or a specific device number may be specified.
Data Class	The data class that should be used to obtain the data related information (SPACE, LRECL, etc.) for the allocation of the data set. VSAM databases and log history files should have EXTENDED attributes if possible.
Space units	TRACKS if data set size is expressed in tracks, or CYLINDERS if data set size is expressed in cylinders. You can enter Block size (numeric value) if data set size is expressed in blocks. **Note**: Space units allows the shortest unique abbreviation for each attribute. For example, T for TRACKS, C for CYLINDERS.
Allocation Amount	This is a two-part field: primary allocation quantity in tracks, cylinders, or blocks as indicated in the Space units field, and secondary allocation quantity in tracks, cylinders, or blocks as indicated in the Space units field.
Check for DASD Data Sets	Indicates whether or not to check for DASD data sets that are cataloged. • YES – Check for DASD data sets that are cataloged • NO – Do not check for DASD data sets that are cataloged
Check for Tape Data Sets	Indicates whether or not to check for Tape data sets that are cataloged. • YES – Check for Tape data sets that are cataloged • NO – Do not check for Tape data sets that are cataloged.
Resolve Indirect Catalog	Indicates whether or not TSF will resolve symbols in related symbolic aliases, and symbols and ****** in catalog entry volser fields. • YES – TSF will resolve symbols • NO – TSF will not resolve symbols
Include Migrated Data Sets	Indicates whether or not to include migrated data sets in the cataloged data. • YES – Include migrated data sets in the cataloged data • NO – Do not include migrated data sets in the cataloged data. **Note**: Use with caution as this parameter could cause your VSAM database to double in size.

Table 5.10 CATSCAN Parameters

Field Name	Description
Issue PUTLINE	Indicates where messages issued by the started task will be sent. • YES – Indicates that messages are to be sent to SYSTSPRT file in the started task instead of the system log as a write-to-programmer • NO – Indicates that messages are to be sent to the system log as a write-to-programmer
Sort work size	Enter the amount of Sortwork size that TSF will allocate.
Use Logical/Volume Pools	Indicates whether or not to assign logical pool names to groups of data sets and to groups of volumes via Pool Table members. • YES – Assign logical pool names • NO – Do not assign logical pool names
Logical Pool Table	Member name in TSF PARMLIB of the Logical Pool Table. The Logical Pool Table assigns a pool name to a logical grouping of data sets. **Note**: The Logical Pool Table is not used if the Use Logical/Volume Pools field is set to NO.
Volume Pool Table	Member name in TSF PARMLIB of the Volume Pool Table. The Volume Pool Table assigns a pool name to a logical grouping of volumes. **Note**: The Volume Pool Table is not used if the Use Logical/Volume Pools field is set to NO.
Take SVCDUMP	Indicates whether or not an SVC dump will be taken if an abend occurs in the TSF address space. • YES – SVC dump will be taken • NO – SVC dump will not be taken

HSM Scan Settings Panel

```
TSF V2R1M0.00383 - HSMSCAN Settings - suffix(00)
Command ===>

Primary Commands:

END     -- to accept changes          RESET   -- to values on entry
CANCEL  -- to reject changes          DEFAULT -- to set TSF defaults
----------------------------------------------------------------------------

Datasets:
  DFSMShsm MigData . . . . . TECH.TSF210.MCDS
  DFSMShsm BckData . . . . . TECH.TSF210.BCDS
  DFSMShsm Pool DB . . . . . TECH.TSF210.STORDATA
  DFSMShsm Pool DB Volser  . . . *
  SYSMDUMP Dataset Name  . . TECH.TSF210.SYSMDUMP

HSM Cost Per MB  . . . . . 0.03      (0.00 < cost < 99999.99)
Max table size . . . . . . 30000     (Number of rows)
Real DSN lookup  . . . . . YES       (YES or NO)
Process MCC records  . . . NO        (YES or NO)
HSM data in pool records   YES       (YES or NO)

Obtain HSM CDS and SMF info from HSM address space . . YES  (YES or NO)
----------------------------------------------------------------------------
        Below section is used only if "Obtain HSM..." is set to NO.

Enter HSM control dataset names:
  HSM BCDS . . . .
  HSM BCDS2  . . .
  HSM BCDS3  . . .
  HSM BCDS4  . . .
  HSM MCDS . . . .
  HSM MCDS2  . . .
  HSM MCDS3  . . .
  HSM MCDS4  . . .
  HSM OCDS . . . .

First HSM SMF Record Type  . . 240
```

Field Descriptions

Table 5.11 HSMSCAN Parameters

Field Name	Description
DFSMShsm MigData	The name of the database that TSF will store migrate/recall information in.
DFSMShsm BckData	The name of the database that TSF will store backup information in.
DFSMShsm Pool DB	The name of the dataset used to store collected HSM Pool records. This is usually the STORDATA file.
DFSMShsm Pool DB Volser	The VOLSER for DFSMShsm Pool DB
SYSMDUMP Dataset Name	Enter the name of the TSF SYSMDUMP dataset. Example: HLQ.SYSMDUMP - dataset which will contain debugging dumps.

Table 5.11 HSMSCAN Parameters

Field Name	Description
HSM Cost Per MB	Your Cost per Megabyte for HSM. This will be used to calculate costs in the HSM reports.
Max table size	The maximum number of records to display in an ISPF table.
Real DSN Lookup	Specifies whether or not TSF HSMSCAN should look up the real data set name of migrated data sets.
Process MCC records	Specifies whether or not TSF HSMSCAN should look up the MCC records pointed to by the backup (MCB) records in order to get SMS storage construct information. **Note**: Specifying YES may cause the HSM scan processing to run longer.
HSM data in pool records	Specifies whether or not the TSF pool collector should collect information from the HSM control datasets and include that information in the pool records. **Note**: Specifying YES may cause the TSF pool collection processing to run longer.
Obtain HSM CDS and SMF info from HSM address space	Used to determine if HSM CDS and SMF information is to be obtained from the HSM address space. • YES – Automatically obtain information from the HSM address space • NO – Do Not obtain system information. Information will be entered manually
This section is used only if "Obtain HSM..." is set to N.	
HSM BCDS HSM BCDS2 HSM BCDS3 HSM BCDS4	Enter the name(s) of the HSM backup control data set(s).
HSM MCDS HSM MCDS2 HSM MCDS3 HSM MCDS4	Enter the name(s) of the HSM migration control data set(s).
HSM OCDS	Enter the name of the HSM offline control data set.
First HSM SMF Record Type	Enter the decimal number of the first of the pair of HSM SMF records. This is the SMF record type specified in the HSM ARCCMDxx member

Logging Dataset Settings Panel

```
TSF V2R1M0.00376 - LOGDS Settings - suffix(00)
Command ===>

Primary Commands:

END     -- to accept changes          RESET   -- to values on entry
CANCEL  -- to reject changes          DEFAULT -- to set TSF defaults
--------------------------------------------------------------------------

Logging Dataset Parameters
  Data Set High Lvl Qual . . . . TECH.TSF.LOG

  Allocation Parameters
    Management Class . . . . . .              (Blank for default)
    Storage Class  . . . . . . .              (Blank for default)
     Volume serial . . . . . . .
     Unit  . . . . . . . . . . . SYSALLDA   (Esoteric or Generic Unit)
    Data Class . . . . . . . . . EXTADDR    (Blank for default)
     Space units . . . . . . . . CYLINDERS  (CYLINDERS, TRACKS or Block size)
     Allocation Amount . . ( 10     , 10    ) (Primary , Secondary)
                                                (In above units)
```

Field Descriptions

Table 5.12 LOGDS Parameters

Field Name	Description
Data Set High Lvl Qual	Enter the High Level Qualifier to use when creating log datasets.
	HLQ.LOG - Your log datasets will begin with HLQ.LOG.
Management Class	Name of the management class that should be used to obtain the data management related information (migration, backup, and retention criteria) for the allocation of the data set.
Storage Class	Name of the storage class that should be used to obtain the storage related information for the allocation of the data set.
Volume Serial	The volume serial of the direct access volume you wish to contain the data set.
Unit	Specifies the type of the unit to which a file or data set is to be allocated. An installation-defined group name, a generic device type, or a specific device number may be specified.
Data Class	The data class that should be used to obtain the data related information (SPACE, LRECL, etc.) for the allocation of the data set.

<div align="center">**Table 5.12** LOGDS Parameters</div>

Field Name	Description
Space Units	The type of space used to allocate a dataset. Use any of the following: • TRACKS, if data set size is expressed in tracks, or • CYLINDERS, if data set size is expressed in cylinders, or • Block Size, if data set size is expressed in Blocks. For Block Size, enter an integer that represents the block size.
Allocation Amount	Enter the amount of primary and secondary space used to allocate the log datasets. (10,10) - Will allocate 10 cylinders if CYLINDER was specified as Space Unit.

Schedule Settings Panel

```
TSF V2R1M0.00376 - SCHEDULE Settings - suffix(00)
Command ===>

Primary Commands:

END     -- to accept changes          RESET  -- to values on entry
CANCEL  -- to reject changes          DEFAULT -- to set TSF defaults
------------------------------------------------------------------------


Timed Scheduling Parameters
  COLLECT/RUN statement member name  . . . TSFCOLGD
  Max simultaneous scheduled events  . . . 5
  Max days to try to schedule ahead  . . . 31

SYSMDUMP Dataset Name  . . . . TECH.TSF.SYSMDUMP.SCHEDULE
```

Field Descriptions

Table 5.13 Scheduling Parameters

Field Name	Description
COLLECT/RUN statement member name	Enter the member name (in the parmlib dataset) containing the COLLECT and/or RUN statements for the scheduler subtask in the TSF address space.
Max simultaneous scheduled events	Enter the maximum number of simultaneous COLLECT or RUN statements which can be active. 5 - only allow up to 5 simultaneous COLLECT or RUN statements to be active.
Max days to try to schedule ahead	Enter the maximum number of days the scheduler should look ahead attempting to determine the next time a COLLECT or RUN statement will be executed. 31 - do not look more than 31 days ahead to find the next time of execution.
SYSMDUMP Dataset Name	The name of the TSF SCHEDULE SYSMDUMP data set.

SMF Scan Settings Panel

```
TSF V2R1M0.00377 - SMFSCAN Settings - suffix(02)
Command ===>

Primary Commands:

END     -- to accept changes          RESET   -- to values on entry
CANCEL  -- to reject changes          DEFAULT -- to set TSF defaults
-------------------------------------------------------------------------

SMFSCAN Parameters:
  HSM Activity Data Base . . . . TECH.TSF.DATABASE

  Allocation Parameters
    Management Class . . . . . .            (Blank for default)
    Storage Class  . . . . . . .            (Blank for default)
     Volume serial . . . . . . . *      *       *       *       *       *
    Data Class . . . . . . . . . EXTADDR   (Blank for default)
     Space units . . . . . . . . CYLINDERS  (CYLINDERS, TRACKS, RECORDS,
                                            KILOBYTES or MEGABYTES)
      Allocation Amount . . ( 60      , 20      ) (Primary , Secondary)
                                                  (In above units)

  Primary System List  . . . . .
  SMF Types  . . . . . . . . . .
  Initial Command  . . . . . . .
  Auto Command . . . . . . . . . STACK MEMBER(TSIPURGE)
  Auto Command Time  . . . . . . 0000     (HHMM format)
  Initial Data Space Blocks  . .           (Blank for default)
  Maximum Data Space Blocks  . .           (Blank for default)
  Record HSM Activity  . . . . . YES       (YES or NO)
  Record ABARS Activity  . . . . YES       (YES or NO)
  Record by Data Set Name  . . . YES       (YES or NO)
  Record by Volser . . . . . . . YES       (YES or NO)
  Record by Job Name . . . . . . YES       (YES or NO)
  Record by User ID  . . . . . . YES       (YES or NO)
  Record by Pool Name  . . . . . YES       (YES or NO)
  Record by Error  . . . . . . . YES       (YES or NO)

  Logical Pool Table . . . . . . POOLTABL  (Member name)

  Issue PUTLINE  . . . . . . . . YES       (YES or NO)
  Take SVCDUMP . . . . . . . . . NO        (YES or NO)
  SYSMDUMP Dataset Name  . . . . TECH.TSF.SYSMDUMP.SMFSCAN2

  If multiple Address images required on same SYSPLEX,
  use the following parameter:
    Group Name . . . . . . . . . . @GCD377@
```

Field Descriptions

Table 5.14 SMFSCAN Parameters

Field Name	Description
HSM Activity Data Base	Enter the name you want to give the HSM Activity Database on your system.
Management Class	Name of the management class that should be used to obtain the data management related information (migration, backup, and retention criteria) for the allocation of the data set.
Storage Class	Name of the storage class that should be used to obtain the storage related information for the allocation of the data set.
Volume serial	The volume serial of the direct access volume you wish to contain the data set, or The generic unit address for the direct access volume you wish to contain the data set, or Leave both blank to allow TSF to select an eligible volume
Data Class	The data class that should be used to obtain the data related information (SPACE, LRECL, etc.) for the allocation of the data set. This database should have EXTENDED attributes if possible.
Space units	Enter any of the following: • TRACKS if data set size is expressed in tracks, or • CYLINDERS if data set size is expressed in cylinders. • RECORDS • KILOBYTES • MEGABYTES **Note**: Space units allows the shortest unique abbreviation for each attribute. For example, T for TRACKS, C for CYLINDERS.
Allocation Amount	This is a two-part field. • Enter the primary allocation quantity in tracks, cylinders, records, kilobytes, or megabytes as indicated in the Space units field. • Enter the secondary allocation quantity in tracks, cylinders, and so on as indicated in the Space units field.
Primary System List	Specifies a system name or a list of system names separated by commas in preference order, highest preference first, which are to act as the primary system in a SYSPLEX when running in SYSPLEX mode.

Table 5.14 SMFSCAN Parameters

Field Name	Description
SMF Types	Specifies SMF record types that should be processed by TSFRECRD. This parameter can be a list of record types separated by blanks or commas, a range of record types separated by a colon (:), or a list of record types and ranges. An SMF record type is specified as a 1 to 3 digit decimal number between 0 and 255.
Initial Command	This command will be automatically issued after TSFSPACE initializes.
Auto Command	This command will be automatically issued by the primary system every day at the time specified in the Auto Command Time parameter defined below.
Auto Command Time	Where HHMM is the local time, in hours and minutes between 0000 and 2400, at which the command specified in the Auto Command parameter is to be issued on a daily basis. The default is 0000.
Initial Data Space Blocks	Where nnnnnn is a decimal number representing the initial size in 4K blocks of the data space obtained and initialized by the Started Task TSFSPACE.
Maximum Data Space Blocks	Where nnnnnn is a decimal number representing the maximum size in 4K blocks of the data space obtained by the Started Task TSFSPACE.
Record HSM Activity	Indicates whether or not HSM activity will be recorded. • YES – HSM activity will be recorded • NO – HSM activity will not be recorded
Record ABARS Activity	Indicates whether or not ABARS activity will be recorded. • YES – ABARS activity will be recorded • NO – ABARS activity will not be recorded
Record by Data Set Name	Indicates whether or not type 01 records will be recorded for each occurrence of a data set name. • YES – Type 01 records will be recorded • NO – Type 01 records will not be recorded
Record by Volser	Indicates whether or not type 02 records will be recorded for each occurrence of a volume serial number. • YES – Type 02 records will be recorded • NO – Type 02 records will not be recorded **Note**: These records types are not currently being used.
Record by Job Name	Indicates whether or not type 03 records will be recorded for each occurrence of a job name. • YES – Type 03 records will be recorded • NO – Type 03 records will not be recorded

Table 5.14 SMFSCAN Parameters

Field Name	Description
Record by User ID	Indicates whether or not type 04 records will be recorded for each occurrence of a user ID. • YES – Type 04 records will be recorded • NO – Type 04 records will not be recorded Note: These records types are not currently being used.
Record by Pool Name	Indicates whether or not type 05 records will be recorded for each occurrence of a logical pool name. • YES – Type 05 records will be recorded • NO – Type 05 records will not be recorded
Record by Error	Indicates whether or not type 06 records will be recorded for each occurrence of an error. • YES – Type 06 records will be recorded • NO – Type 06 records will not be recorded
Logical Pool Table	Member name in TSF PARMLIB of the Logical Pool Table. The Logical Pool Table assigns a pool name to a logical grouping of data sets.
Issue PUTLINE	Indicates where messages issued by the started task will be sent. • YES – Indicates that messages are to be sent to SYSTSPRT file in the started task instead of the system log as a write-to-programmer. • NO – Indicates that messages are to be sent to the system log as a write-to-programmer.
Take SVCDUMP	Indicates whether or not an SVC dump will be taken if an abend occurs in the TSF address space. • YES – SVC dump will be taken • NO – SVC dump will not be taken
SYSMDUMP Dataset Name	Enter the name of the TSF SMFSCAN SYSMDUMP data set.
Group Name	The 1 to 8 character SYSPLEX group name to be used for SYSPLEX definition purposes. The default is @TCLOUD@.

Tape Scan Settings Panel

```
 TSF V2R1M0.00383 - TAPESCAN Settings - suffix(00)
Command ===>

Primary Commands:

END     -- to accept changes         RESET   -- to values on entry
CANCEL  -- to reject changes         DEFAULT -- to set TSF defaults
--------------------------------------------------------------------------

TAPESCAN Parameters:
  Tape Scan Database Name  . . . TECH.TSF210.STORDATA

  Allocation Parameters
    Management Class . . . . . .            (Blank for default)
    Storage Class  . . . . . . .            (Blank for default)
     Volume serial . . . . . . . *
    Data Class . . . . . . . . .            (Blank for default)
     Space units . . . . . . . . CYLINDERS  (CYLINDERS, TRACKS, RECORDS,
                                             KILOBYTES or MEGABYTES)
      Allocation Amount . . ( 200     , 50      ) (Primary , Secondary)
                                              (In above units)

  Tape Subsystem . . . . . . . . RMM   (CA1, RMM, TLMS or None)
  Tape Mgmt Control DSN  . . . .
      Note: When Tape Subsystem is CA1 or RMM, the Tape
            Management Control Data Set name may be left blank.

            When Tape Subsystem is TLMS, the Tape Management
            Control Data Set name is required.

  TAPE Cost Per MB . . . . . . . 0.02      (0.00 < cost < 99999.99)
  Type of MB . . . . . . . . . . S         (I or S)
  Obtain Catalog Status  . . . . YES       (YES or NO)
  Calculate % used . . . . . . . YES       (YES or NO)
  Show CA1 DELETE status . . . . YES       (YES or NO) (For CA1 Only)
  HSM Tape . . . . . . . . . . . YES       (YES or NO)
  Include Pre-TMS tapes  . . . . YES       (YES or NO)
  Show RMM media types . . . . . YES       (YES or NO) (For RMM Only)
  Show SCRATCH status  . . . . . YES       (YES or NO)
  Search Volume Catalog  . . . . NO        (YES or NO)

  Use Logical/Volume Pools . . . YES       (YES or NO)
  Logical Pool Table . . . . . . POOLTABL  (Member name)
  Volume Pool Table  . . . . . . POOLVOL   (Member name)
  Tape Size Table  . . . . . . . TAPESIZE  (Member name)
  Max Table Size . . . . . . . . 12000     (Number of rows)
  Volume Pool Load . . . . . . . YES       (YES or NO)
  Tape data in pool records  . . YES       (YES or NO)

  Issue PUTLINE  . . . . . . . . YES       (YES or NO)
  Take SVCDUMP . . . . . . . . . NO        (YES or NO)
  SYSMDUMP Dataset Name  . . . . TECH.TSF210.SYSMDUMP
```

Field Descriptions

Table 5.15 TAPESCAN Parameters

Field Name	Description
Tape Scan Database Name	Enter the name you want to give the Tape Scan Database on your system. HLQ.STORDATA - This will be the name given to the Tape Scan DB.
Alternate Index Name	Enter the name of the VSAM datasets that contain an alternate index.
Path Name	The Path entry name for the VSAM database.
Management Class	Name of the management class that should be used to obtain the data management related information (migration, backup, and retention criteria) for the allocation of the data set.
Storage Class	Name of the storage class that should be used to obtain the storage related information for the allocation of the data set.
Volume serial	The volume serial of the direct access volume you wish to contain the data set.
Data Class	The name of the data class that should be used to obtain the data related information (SPACE, LRECL, etc.) for the allocation of the data set.
Space units	Enter any of the following: - TRACKS if data set size is expressed in tracks, or - CYLINDERS if data set size is expressed in cylinders. - RECORDS if data set size is expressed in records, or - KILOBYTES if data set size is expressed in kilobytes, or - MEGABYTES if data set size is expressed in megabytes. **Note**: Space units allows the shortest unique abbreviation for each attribute. For example, T for TRACKS, C for CYLINDERS.
Allocation Amount	This is a two-part field. - Enter the primary allocation quantity in tracks, cylinders, records, kilobytes, or megabytes as indicated in the Space units field. - Enter the secondary allocation quantity in tracks, cylinders, and so on as indicated in the Space units field.

Table 5.15 TAPESCAN Parameters

Field Name	Description
Tape Subsystem	Enter the code associated with your tape management subsystem. Options: • C - CA-1 • R - RMM • T - TLMS • N - None
Tape Mgmt Control DSN	The name of the Tape Management Control Data Set. **Note**: When Tape Subsystem is CA1 or RMM, the Tape Management Control Data Set name may be left blank. When Tape Subsystem is TLMS, the Tape Management Control Data Set name is required.
TAPE Cost Per MB	Your Cost per Megabyte for Tape. This will be used to calculate costs in the TAPE reports. 0.02 – This represents two cents per MB
Type of MB	Type of megabyte that you want to use in space calculations. • I – IBM megabyte is the amount of 1,000,000 bytes per MB • S – Standard megabyte is the amount of 1,048,576 bytes per megabyte (default)
Obtain Catalog Status	Indicates whether or not you want to obtain a catalog status for the data sets on a tape. • YES – Obtain catalog status • NO – Do not obtain catalog status
Calculate % used	TSF can calculate the percentage of a tape that is used. This is determined using the tape size table. • YES – Calculate percentage used • NO – Do not calculate percentage used
Show CA1 DELETE status	Indicates whether or not to show volumes that are defined in delete status. • YES – Show volumes that are defined in delete status • NO – Do not show volumes that are defined in delete status
HSM Tape	Indicates whether or not to read HSM control data sets to determine contents of a tape. • YES – Read HSM control data sets • NO – Do not read HSM control data sets
Include Pre-TMS tapes	Indicates whether or not to report on previously unused tape volumes. • YES – Report on previously unused tape volumes • NO – Do not report on previously unused tape volumes

Table 5.15 TAPESCAN Parameters

Field Name	Description
Show RMM media types	Indicates whether or not to you want to show tapes that have been given an alternate media type. • YES – Show tapes that have been given an alternate media type • NO – Do not show tapes that have been given an alternate media type
Show SCRATCH status	Indicates whether or not to show if the tape is marked for immediate scratch. • YES – Show if the tape is marked for immediate scratch • NO – Do not show if the tape is marked for immediate scratch
Search Volume Catalog	Indicates whether or not to search the Volume Catalog for Tape information such as media type and location (for example, silo, tape library and so on). • YES – Search the Volume Catalog • NO – Do not search the Volume Catalog
Use Logical/Volume Pools	Indicates whether or not to assign logical pool names to groups of data sets and to groups of volumes via Pool Table members. • YES – Assign logical pool names • NO – Do not assign logical pool names
Logical Pool Table	Member name in TSF PARMLIB of the Logical Pool Table. The Logical Pool Table assigns a pool name to a logical grouping of data sets. **Note**: The Logical Pool Table is not used if the *Use Logical/Volume Pools* field is set to NO.
Volume Pool Table	Member name in TSF PARMLIB of the Volume Pool Table. The Volume Pool Table assigns a pool name to a logical grouping of volumes. **Note**: The Volume Pool Table is not used if the *Use Logical/Volume Pools* field is set to NO.
Tape Size Table	Name of the TSF PARMLIB member that contains a mapping of tape cartridge types to tape cartridge capacity. **Note**: This table is used to calculate percentage of tape used.
Max Table Size	Used to limit the number of rows in the online ISPF table when displaying tape scan information.
Volume Pool Load	Indicates whether or not the VP command on the Tape Volume results panel in the online dialog will be available. • YES – VP command will be available • NO – VP command will not be available

Table 5.15 TAPESCAN Parameters

Field Name	Description
Tape data in pool records	Specifies whether or not the TSF pool collector should collect information from the Tape Stordata database and include that information in the pool records. **Note**: Specifying YES may cause the TSF pool collection processing to run longer.
Issue PUTLINE	Indicates where messages issued by the started task will be sent. • YES – Indicates that messages are to be sent to SYSTSPRT file in the started task instead of the system log as a write-to-programmer. • NO – Indicates that messages are to be sent to the system log as a write-to-programmer.
Take SVCDUMP	Indicates whether or not an SVC dump will be taken if an abend occurs in the TSF address space. • YES – SVC dump will be taken • NO – SVC dump will not be taken
SYSMDUMP Dataset Name	Name of the TSF TAPESCAN SYSMDUMP data set.

Task Log Settings Panel

```
TSF V2R1M0.00376 - TASKLOG Settings - suffix(00)
Command ===>

Primary Commands:

END     -- to accept changes          RESET  -- to values on entry
CANCEL  -- to reject changes          DEFAULT -- to set TSF defaults
--------------------------------------------------------------------------

Task Logging Parameters
  Data Set High Lvl Qual . . . . . TECH.TSF.TASKLOG

  Allocation Parameters
    Management Class . . . . . .          (Blank for default)
    Storage Class  . . . . . . .          (Blank for default)
     Volume serial . . . . . . .
     Unit  . . . . . . . . . . . SYSALLDA  (Esoteric or Generic Unit)
    Data Class . . . . . . . . . EXTADDR   (Blank for default)
    Records per Data Set . . . . 6000

  Write Interval . . . . . . . . 24  (hours)
  Write Level  . . . . . . . . .
  Write Threshold  . . . . . . . 85  (percent)
```

Field Descriptions

Table 5.16 Task Logging Parameters

Field Name	Description
Data Set High Lvl Qual	Enter the High Level Qualifier to use when creating task log datasets. HLQ.TASKLOG - Your task log datasets will begin with HLQ.TASKLOG
Management Class	Name of the management class that should be used to obtain the data management related information (migration, backup, and retention criteria) for the allocation of the data set.
	Note: The tasklog datasets generally are not needed after a few days and should therefore be assigned to an appropriate management class to delete after this timeframe.
Storage Class	Name of the storage class that should be used to obtain the storage related information for the allocation of the data set.
Volume Serial	The volume serial of the direct access volume you wish to contain the data set.
Unit	Enter the unit to allocate the task log datasets to.
	SYSALLDA - Your task log datasets will allocate to unit SYSALLDA.
Data Class	The name of the data class that should be used to obtain the data related information (SPACE, LRECL, etc.) for the allocation of the data set.

Table 5.16 Task Logging Parameters

Field Name	Description
Records per Data Set	The number of task log records which the task log buffer will hold and the maximum number which should be in any one task log data set.
Write Interval	Enter the interval (in hours) when the task log should be written out even if not filled.
Write Level	The minimum level of records which should be written to the task log data sets. • 255 – Only write records of level 255 • 200 – Only write records of level 200 or greater
Write Threshold	The percent full of the task log buffer which should trigger the writing of a task log data set.

UCB Scan Settings Panel

```
 TSF V2R1M0.00383 - UCBSCAN Settings - suffix(00)
Command ===>

Primary Commands:

END     -- to accept changes          RESET   -- to values on entry
CANCEL  -- to reject changes          DEFAULT -- to set TSF defaults
------------------------------------------------------------------------

UCBSCAN Parameters:
  UCB Scan Database  . . . . . . TECH.TSF210.STORDATA
    Alternate Index Name . . . . TECH.TSF210.STORDATA.AIX
    Path Name  . . . . . . . . . TECH.TSF210.STORDATA.PATH

  Allocation Parameters
    Management Class . . . . . .            (Blank for default)
    Storage Class  . . . . . . .            (Blank for default)
     Volume serial . . . . . . . *
    Data Class . . . . . . . . .            (Blank for default)
     Space units . . . . . . . . RECORDS    (CYLINDERS, TRACKS, RECORDS,
                                             KILOBYTES or MEGABYTES)
     Allocation Amount . . ( 1000000  , 200000   ) (Primary , Secondary)
                                              (In above units)

  DASD Cost Per MB:  . . . . . . 0.05       (0.00 < cost < 99999.99)
  Type of MB . . . . . . . . . . S          (I or S)
  Obtain Catalog Status  . . . . YES        (YES or NO)
  Use Exclude Table  . . . . . . NO         (YES or NO)
  Exclude Member . . . . . . . . EXCLUDE    (Member name)
  Extended Model Name  . . . . . YES        (YES, NO or C)
  Collect HSF Data Set Info  . . NO         (YES or NO)
  Collect PDS Information   . . . NO         (YES or NO)
  Collect PDSE Information . . . NO         (YES or NO)
  Collect RVA Information   . . . NO         (YES or NO)
  Collect ZFS Data Set Info  . . NO         (YES or NO)
  Collect Unused Track Space . . NO         (YES or NO)
  Use Multiple DB  . . . . . . . NO         (YES or NO)
  Use GDGs . . . . . . . . . . . NO         (YES or NO)
  Generate Dups for Clusters . . NO         (YES or NO)
  Filter as Pct Free . . . . . . YES        (YES or NO)
  Maximum number of Tasks  . . . 0          (1 to 255 or 0 for default)
  Budget Table . . . . . . . . . BUDGETAB   (Member name)
  Display CHPIDS . . . . . . . . NO         (YES or NO)
  Max table size . . . . . . . . 30000      (Number of rows)
  Cntl cards per Job . . . . . . 200        (1 to 999)
  Database Filter  . . . . . . .            (Member name)

  Use Logical/Volume Pools . . . YES        (YES or NO)
  Logical Pool Table . . . . . . POOLTABL   (Member name)
  Volume Pool Table  . . . . . . POOLVOL    (Member name)
  Disk data in pool records  . . YES        (YES or NO)

  Issue PUTLINE  . . . . . . . . YES        (YES or NO)
  Take SVCDUMP . . . . . . . . . NO         (YES or NO)
  SYSMDUMP Dataset Name  . . . . TECH.TSF210.SYSMDUMP
  Reuse Allocations  . . . . . . YES        (YES or NO)
```

Field Descriptions

Table 5.17 UCBSCAN Parameters

Field Name	Description
UCB Scan Database Name	Enter the name you want to give the UCB Scan Database on your system.
	HLQ.STORDATA - This will be the name given to the UCB Scan DB.
Alternate Index Name	Enter the name of the VSAM datasets that contain an alternate index.
Path Name	The Path entry name for the VSAM database.
Management Class	Name of the management class that should be used to obtain the data management related information (migration, backup, and retention criteria) for the allocation of the data set.
Storage Class	Name of the storage class that should be used to obtain the storage related information for the allocation of the data set.
Volume serial	The volume serial of the direct access volume you wish to contain the data set.
Data Class	The name of the data class that should be used to obtain the data related information (SPACE, LRECL, etc.) for the allocation of the data set.
Space units	Enter any of the following:
	• TRACKS if data set size is expressed in tracks, or
	• CYLINDERS if data set size is expressed in cylinders.
	• RECORDS
	• KILOBYTES
	• MEGABYTES
	Note: Space units allows the shortest unique abbreviation for each attribute. For example, T for TRACKS, C for CYLINDERS.
Allocation Amount	This is a two-part field.
	• Enter the primary allocation quantity in tracks, cylinders, records, kilobytes, or megabytes as indicated in the Space units field.
	• Enter the secondary allocation quantity in tracks, cylinders, and so on as indicated in the Space units field.
DASD Cost Per MB	Your Cost per Megabyte for Disk. This will be used to calculate costs in the DASD reports.
	0.02 – This represents two cents per MB
Type of MB	Type of megabyte that you want to use in space calculations.
	• I – IBM megabyte is the amount of 1,000,000 bytes per MB
	• S – Standard megabyte is the amount of 1,048,576 bytes per megabyte

Table 5.17 UCBSCAN Parameters

Field Name	Description
Obtain Catalog Status	Indicates whether or not you want to obtain a catalog status for the data sets on a tape. • YES – Obtain catalog status • NO – Do not obtain catalog status
Use Exclude Table	• Indicates whether or not an Exclude Table is to be used. The Exclude Table allows you to control which Volumes are to be scanned. • YES – Use the Exclude Table • NO – Do not use the Exclude Table
Exclude Member	The name of the Exclude Table located in the TSF PARMLIB data set. The Exclude Table allows you to control which Volumes are to be scanned.
Extended Model Name	Indicates the type of model name you want to see in reports. • C – Will display the extended model name obtained from the Configuration Definition Records, or • YES – Will display the extended model name obtained from a combination of Control Unit information and system generated information, or • NO – Model name is generated by TSF depending on the way the device was generated to the system
Collect HSF Data Set Info	Indicates whether or not a VTOC look up will be performed for HFS datasets in order to obtain space utilization information. • YES – Perform VTOC look up • NO – Do not perform VTOC look up **Note**: A setting of YES may impact performance.
Collect PDS Information	Indicates whether or not PDS data sets should be opened in order to obtain the number of members and directory block usage. • YES – Open PDS data sets to obtain additional information • NO – Do not open PDS data sets to obtain additional information **Note**: A setting of YES may impact performance.

Table 5.17 UCBSCAN Parameters

Field Name	Description
Collect PDSE Information	Indicates whether or not PDSE data sets should be opened in order to obtain additional information such as number of members and number of pages used. • YES – Open PDSE data sets to obtain additional information • NO – Do not open PDSE data sets to obtain additional information **Note**: A setting of YES may impact performance.
Collect RVA Information	Indicates whether or not to obtain additional information about RAMTAC Virtual Array (RVA) devices. • YES – Obtain additional RVA information • NO – Do not obtain additional RVA information **Note**: Set to YES only if you have RVA devices.
Collect ZFS Data Set Info	Indicates whether or not a VTOC look up will be performed for ZFS datasets in order to obtain space utilization information. • YES – Perform VTOC look up • NO – Do not perform VTOC look up **Note**: A setting of YES may impact performance
Collect Unused Track Space	Indicates whether or not information is to be collected to determine how much space is being lost due to unoptimal block sizes. • YES – Collect unused space information • NO – Do not collect unused space information **Note**: A setting of YES may impact performance.
Use Multiple DB	Indicates whether or not you are using multiple databases. • YES – You are using multiple databases • NO – You are not using multiple databases.
Use GDGs	Used in Compare utility for compatibility with older releases of Workbench. **Note**: Normally set to NO.
Generate Dups for Clusters	Indicates to ProActivty whether or not duplicates control cards should be generated for Clusters. One for data and one for index, for example, or just one for the entire cluster. • YES – Generate duplicate control cards for clusters • NO – Do not generate duplicate control cards for clusters.

Table 5.17 UCBSCAN Parameters

Field Name	Description
Filter as Pct Free	Indicates the type of filter you want to use on the dataset filter panel: Percent Free vs. Space Free. • YES – Show filter as Percent Free • NO – Show filter as Space Free
Maximum number of Tasks	Specifies the maximum number of tasks the USB Scan process can create. **Note**: A value of 0 will let TSF determine an appropriate default for your system
Budget Table	The member name in TSF PARMLIB of the Budget Table. The Budget Table is used by the Datasets Threshold component. The Threshold component provides the ability to view logical pool and budget information according to thresholds defined in the Budget table. Note: Before you view the Datasets Threshold panel, the Budget table must be updated so that information will appear.
Display CHPIDS	Indicates whether or not to display Channel Path IDs. • YES – Display Channel Path IDs • NO – Do not display Channel Path IDs
Max Table Size	Used to limit the number of rows in the online ISPF table when displaying UCB scan information.
Cntl cards per Job	Used to limit the number of Control Cards that are generated per job.
Database Filter	Enter a member name to be created in the PARMLIB dataset, which allows the user to build a database by specific criteria. When you are editing this member after creation there are five options that can be used to build databases by the following criteria: • DSN for Dataset Name • STGP for Storage Group • VPOOL for Volume Pool • SMS for SMS or non-SMS data • VOLSER for Volume Name
Use Logical/Volume Pools	Indicates whether or not to assign logical pool names to groups of data sets and to groups of volumes via Pool Table members. • YES – Assign logical pool names • NO – Do not assign logical pool names
Logical Pool Table	Member name in TSF PARMLIB of the Logical Pool Table. The Logical Pool Table assigns a pool name to a logical grouping of data sets. **Note**: The Logical Pool Table is not used if the *Use Logical/Volume Pools* field is set to NO.

Table 5.17 UCBSCAN Parameters

Field Name	Description
Volume Pool Table	Member name in TSF PARMLIB of the Volume Pool Table. The Volume Pool Table assigns a pool name to a logical grouping of volumes. **Note**: The Volume Pool Table is not used if the *Use Logical/Volume Pools* field is set to NO.
Disk data in pool records	Specifies whether or not the TSF pool collector should collect information from the Disk stordata database and include that information in the pool records.
Issue PUTLINE	Indicates where messages issued by the started task will be sent. • YES – Indicates that messages are to be sent to SYSTSPRT file in the started task instead of the system log as a write-to-programmer. • NO – Indicates that messages are to be sent to the system log as a write-to-programmer.
Take SVCDUMP	Indicates whether or not an SVC dump will be taken if an abend occurs in the TSF address space. • YES – SVC dump will be taken • NO – SVC dump will not be taken
SYSMDUMP Dataset Name	Name of the TSF UCBSCAN SYSMDUMP data set.
Reuse Allocations	Indicates whether to unallocate a dataset when a program is finished with it or just remove the in-use attribute so that it can be reused later without the overhead of reallocating the dataset. • YES – Remove the allocation in-use attribute. • NO – Unallocate the dataset.

UNIX Scan Settings Panel

```
TSF V2R1M0.00376 - UNIXSCAN Settings - suffix(00)
Command ===>

Primary Commands:

END     -- to accept changes          RESET   -- to values on entry
CANCEL  -- to reject changes          DEFAULT -- to set TSF defaults
-------------------------------------------------------------------------

UNIXSCAN Parameters:
  UNIXSCAN Database  . . . . . . TECH.TSF.UNIX

  Allocation Parameters
    Management Class . . . . . .              (Blank for default)
    Storage Class  . . . . . . .              (Blank for default)
     Volume serial . . . . . . . *
     Unit  . . . . . . . . . . . SYSALLDA   (Esoteric or Generic Unit)
    Data Class . . . . . . . . . EXTADDR    (Blank for default)
     Space units . . . . . . . . CYLINDERS  (CYLINDERS, TRACKS or Block size)
     Allocation Amount . . ( 200    , 50    )  (Primary , Secondary)
                                              (In above units)

  Issue PUTLINE  . . . . . . . . YES       (YES or NO)

  Sort work size . . . . . . . . 500000    (Estimate for Internal Sort)

  Take SVCDUMP . . . . . . . . . NO        (YES or NO)
  SYSMDUMP Dataset Name  . . . . TECH.TSF.SYSMDUMP.UNIXSCAN
```

Field Descriptions

Table 5.18 UNIXSCAN Parameters

Field Name	Description
UNIXSCAN Database	Gives the name of the VSAM data set to contain the volume data collected by the TSF address space. HLQ.STORDATA - volume data will be written to HLQ.STORDATA.
Management Class	Name of the management class that should be used to obtain the data management related information (migration, backup, and retention criteria) for the allocation of the data set.
Storage Class	Name of the storage class that should be used to obtain the storage related information for the allocation of the data set.
Volume serial	The volume serial of the direct access volume you wish to contain the data set.
Unit	Specifies the type of the unit to which a file or data set is to be allocated. An installation-defined group name, a generic device type, or a specific device number may be specified.
Data Class	The name of the data class that should be used to obtain the data related information (SPACE, LRECL, etc.) for the allocation of the data set.

Table 5.18 UNIXSCAN Parameters

Field Name	Description
Space units	Enter any of the following: • TRACKS if data set size is expressed in tracks, or • CYLINDERS if data set size is expressed in cylinders. • RECORDS • KILOBYTES • MEGABYTES **Note**: Space units allows the shortest unique abbreviation for each attribute. For example, T for TRACKS, C for CYLINDERS.
Allocation Amount	This is a two-part field. • Enter the primary allocation quantity in tracks, cylinders, records, kilobytes, or megabytes as indicated in the Space units field. • Enter the secondary allocation quantity in tracks, cylinders, and so on as indicated in the Space units field.
Issue PUTLINE	Indicates where messages issued by the started task will be sent. • YES – Indicates that messages are to be sent to SYSTSPRT file in the started task instead of the system log as a write-to-programmer. • NO – Indicates that messages are to be sent to the system log as a write-to-programmer.
Sort work size	Enter the amount of Sortwork size that TSF will allocate.
Take SVCDUMP	Indicates whether or not an SVC dump will be taken if an abend occurs in the TSF address space. • YES – SVC dump will be taken • NO – SVC dump will not be taken
SYSMDUMP Dataset Name	Name of the TSF VOLSCAN SYSMDUMP data set.

Volume Scan Settings Panel

```
TSF V2R1M0.00379 - VOLSCAN Settings - suffix(00)
Command ===>

Primary Commands:

END     -- to accept changes          RESET  -- to values on entry
CANCEL  -- to reject changes          DEFAULT -- to set TSF defaults
--------------------------------------------------------------------------

Volume Data Collection Parameters
  Volume Scan Database Name  . . TECH.TSF.DSNVOL.STORDATA

  Allocation Parameters
    Management Class . . . . . .            (Blank for default)
    Storage Class  . . . . . . .            (Blank for default)
     Volume serial . . . . . . . *     *      *       *       *      *
    Data Class . . . . . . . . . KSEXT      (Blank for default)
     Space units . . . . . . . . CYLINDERS  (CYLINDERS, TRACKS, RECORDS,
                                             KILOBYTES or MEGABYTES)
     Allocation Amount . . ( 200     , 50      ) (Primary , Secondary)
                                                  (In above units)

  Data collection interval . . . . . . . . . . 10    (minutes)
  Max volume reserve time  . . . . . . . . . . 2     (seconds)
  Max data collection subtasks . . . . . . . . 16    (1-16)
  Synchronize data collection to 24-hour . . . YES   (YES or NO)
  Collect I/O error data . . . . . . . . . . . NO    (YES or NO)
  Collect DASD Controller stats  . . . . . . . YES   (YES or NO)
  Collect Offline Volume Information . . . . . YES   (YES or NO)
  Display Error Messages . . . . . . . . . . . YES   (YES or NO)
  Batch Rexx Record areas  . . . . . . . . . . 10
  Volume Pool Table  . . . . . . . . . . . . . POOLVOL   (Member name)

  SYSMDUMP Dataset Name  . . . . TECH.TSF.SYSMDUMP.VOLSCAN
```

Field Descriptions

Table 5.19 VOLSCAN Parameters

Field Name	Description
Volume Scan Database Name	Gives the name of the VSAM data set to contain the volume data collected by the TSF address space.
	HLQ.STORDATA - volume data will be written to HLQ.STORDATA.
Management Class	Name of the management class that should be used to obtain the data management related information (migration, backup, and retention criteria) for the allocation of the data set.
Storage Class	Name of the storage class that should be used to obtain the storage related information for the allocation of the data set.
Volume serial	The volume serial of the direct access volume you wish to contain the data set.

Table 5.19 VOLSCAN Parameters

Field Name	Description
Data Class	The name of the data class that should be used to obtain the data related information (SPACE, LRECL, etc.) for the allocation of the data set.
Space units	Enter any of the following: • TRACKS if data set size is expressed in tracks, or • CYLINDERS if data set size is expressed in cylinders. • RECORDS • KILOBYTES • MEGABYTES **Note**: Space units allows the shortest unique abbreviation for each attribute. For example, T for TRACKS, C for CYLINDERS.
Allocation Amount	This is a two-part field. • Enter the primary allocation quantity in tracks, cylinders, records, kilobytes, or megabytes as indicated in the Space units field. • Enter the secondary allocation quantity in tracks, cylinders, and so on as indicated in the Space units field.
Data collection interval	The number of minutes between volume data collections in the TSF address space.
Max volume reserve time	The maximum number of seconds that TSF address space volume data collection is allowed to hold a reserve on a disk volume.
Max data collection subtasks	The maximum number of data collection subtasks that TSF address space volume data collection will start. Values range from 1 to 16.
Synchronize data collection to 24-hour	Controls whether or not the data collection interval is synchronized to the 24 hour day. • YES – Data collection will run at every multiple of the interval starting at midnight • NO – Data collection will run when the TSF address space starts and at each specified interval thereafter
Collect I/O error data	Indicates whether or not the I/O errors are collected as part of the volume data collection. • YES – I/O error data will be collected • NO – I/O error data will not be collected The default is NO and when set to YES, this will add additional overhead in order to obtain error information from the LOGREC SVC.

Table 5.19 VOLSCAN Parameters

Field Name	Description
Collect DASD Controller stats	Indicates whether or not DASD Controller stats should be collected. • YES – DASD Controller stats will be collected • NO – DASD Controller stats will not be collected **Note**: Performance impact for specifying YES is negligible.
Collect Offline Volume Information	Indicates whether or not offline volume information should be collected. • YES – Offline volume information will be collected • NO – Offline volume information will not be collected **Note**: Specifying YES may increase the time required to do a volume scan.
Display Error Messages	Indicates whether or not errors found during the collection process are to be output. • YES – Errors are to be written out • NO – Errors are not to be written out
Batch Rexx Record areas	Specifies the number of Batch Rexx Record areas. This will limit the number of Rexx routines running concurrently outside of the TSF address spaces that can use the TSF interface.
Volume Pool Table	Member name in TSF PARMLIB of the Volume Pool Table. The Volume Pool Table assigns a pool name to a logical grouping of volumes. **Note**: The Volume Pool Table is not used if the *Use Logical/Volume Pools* field is set to NO.
SYSMDUMP Dataset Name	Name of the TSF VOLSCAN SYSMDUMP data set.

6

PASSWORD KEY STATEMENTS

Passwords for all components of TSF are administered by the TSFKEY00 member of <HLQ>.PARMLIB. Password validation is handled through a KEY statement.

KEY Statement Parameters

Table 6.1 shows the password KEY statement parameters for TSF.

Table 6.1   Password KEY statement parameters.

Parameter	Format	Value
EXPIRATIONDATE	(mmddyyyy)	Where *mmddyyyy* is the 8-digit month, day, and year that the product license expires.
FEATURE	feature name (alphanumeric)	Where the value corresponds to the feature name; for example, *DISK*.
MANUFACTURER[a]	manufacturer name (alphanumeric)	Where the value corresponds to the manufacturer name; for example, *IBM*.
MODEL	model number (alphanumeric)	Where the value is the system model number.
MODELCAPACITY	model capacity (numeric)	Where the value is the system model capacity.
PLANT	plant (numeric)	Where the value is the plant of manufacture.
PASSWORD	password (alphanumeric)	Where the value is the provided by TeraCloud.
SERIAL	serial number (alphanumeric)	Where the value is the system serial number.
TYPE	(xxxx)	Where *xxxx* is the 4-digit hexadecimal system ID.

a. Contact Technical Support or your representative for information about using utilities to automatically extract system-parameter information.

COLLECTION STATEMENTS

The Collection Scheduler allows you to automatically populate the various databases in TeraCloud Storage Framework (TSF) during a specific time period or time interval. The Collection Scheduler uses a collection statement to accomplish this task. Each collection statement contains parameters for a CLIST command script. The CLIST command script resides in a CLIST library and executes the appropriate collection.

Collection Statement Structure

Collection statements are located in member TSFCOLnn of the TSF PARMLIB dataset. The parameters do not have to be placed in any specific order.

```
COLLECT NAME(Collection CLIST Name)
JOBNAME (name of the job to be run under)
TIME(hhmm) or INTERVAL(nnnn or nnH[,start time hhmm][,end time hhmm])
DOM(list of numbers 1-31 or LAST or LAST-n)
DOW(list of SUNDAY, MONDAY, TUESDAY, ...)
DOWPOS(one of FIRST, SECOND, THIRD, FOURTH, FIFTH, LAST, NEXTTOLAST, EVERY)
LOGFILTR(NONE)
LOADLIB(HLQ.MLQ.LOADLIB)
MEMBER(TSFPRM00)
PRMLIB(HLQ.MLQ.PARMLIB)
STORDATA(HLQ.MLQ.DSNVOL.STORDATA
```

Note: When you are using the JOBNAME parameter, certain security measures are needed–an entry must be added to the STARTED profile for the job names to be used in the collection statement. See Chapter 3, Security Requirements.

Collection Statement Parameters

Table 7.1   Collection statement parameters

Parameter	Value	Description
Collect Name	TSFDSNCT	Populates the main VSAM database.
	TSFCATCT	Populates the Catalog Utilities database.
	TSFxxxCT	Populates the catalog system for Tape.
	TSFHSMCT	Populates the HSM Detail database
	TSFPOOL	Collects the logical pooling information.
	TSFUNXCT	Populates the UNIX utilities database.
	TSFLOGST	Creates history logs for all volumes, datasets, tape and logical pools.
	TSFLOGSQ	Creates history logs for catalog, DFSMShsm BCDS, MCDS and logical pools.
JOBNAME	(XXXXXX)	Lets you specify a name under which to run each individual collection task instead of using the same procedure name (TSFEXEC) for every collection. Suggested JOBNAME: Use Collection Name.
PROC	(proc.name)	Use this parameter if you would like to specify a different procname to execute TSFEXEC.
LOGFILTR	('**,*,*,*')	Controls the writing of the log/history data when a collection job finishes running. LOGFILTR is a positional parameter: (dsn,volser,poolname,pooltype) Default value is NONE for no recording of history data when the collection job is finished running. Instead, the TSFLOGxx jobs in the Collect Name statements can be used to generate history logs for each specific category.
HOLD	HOLD(YES) HOLD(NO)	Places the scheduled job on hold until released (one-time event) and goes back on hold for the next cycle.
INTERVAL	(xx,xxxx,xxxx)	Describes when to run the collection. Lets you designate a start and end time so the collection only runs between those two times. Start default is 0000. End default is 2359. **Example**: INTERVAL (15,0800,1100) – Run a collection every 15 minutes between 8 and 11 a.m. INTERVAL and TIME are mutually exclusive.

Parameter	Value	Description
TIME	(HHMM,HHMM,HHMM,HHMM)	Time is stated in military time. **Example**: TIME(2300) – Run the collection at 11 p.m. You can specify as many times as you would like. TIME and INTERVAL parameters are mutually exclusive of one another.
DOM	(1,2,3,4,5,6,7,8,9,10,11,12, 13,14,15,16,17,18,19…….) or (LAST) or (LAST –2)	Days of the month. The default is all days of the month. The parameters for DOM include the following: 1 through 31 (represents days of the month) LAST (indicates the last day of the month) LAST-n (indicates a number of days from the last day of the month) For example, LAST -2 would run a collection on the second from the last day of the month.
DOW	(SUNDAY) (MONDAY) (TUESDAY) (WEDNESDAY) (THURSDAY) (FRIDAY) (SATURDAY)	Lets you run a collection during a designated day or days of a week. The default for DOW is all days of the week. **Example**: `DOW(MONDAY,WEDNESDAY,FRIDAY)` runs the collection on Monday, Wednesday, and Friday.
DOWPOS	(FIRST) (SECOND) (THIRD) (FOURTH) (FIFTH) (LAST) (NEXTOLAST) (EVERY)	Works with DOW and is located in the next line of the collection statement structure example. Lets you state the position of the day you want a collection to run. The default for DOWPOS parameter is EVERY. Example: `DOW (TUESDAY), DOWPOS(SECOND)` designates the collection job is scheduled to run on the second Tuesday of the month. Depending on the TIME or INTERVAL that is previously stated, a collection can run multiple times but only on the second Tuesday of the month. **Note**: If a collection is to run on a specific day, the stated day has to pass each of the DOM, DOW, and DOWPOS parameters. For example, the DOM(5) DOW (TUESDAY) parameters indicate the collection runs on the fifth day of the month and only if that day is Tuesday.

Parameter	Value	Description
CLIST	('HLQ.CLIST')	The CLIST parameter shows the library where a particular collection CLIST is stored. These collection jobs in turn start running the Collection Scheduler. For example, CLIST('SEND.SFWBRxxx.CLIST') indicates the library SFWBRxxx.CLIST.
LOADLIB	('HLQ.LOADLIB')	Points to the TeraCloud LOADLIB
MEMBER	TSFPRMxx	Name of the TSFPRMxx member.
PRMLIB	('HLQ.PARMLIB')	Points to the TeraCloud PARMLIB.
STORDATA	('HLQ.STORDATA')	The STORDATA parameter points to the STORDATA database being used.

Collection CLISTs and Databases

All scheduled collections are executed as started tasks with the name TSF. However, you have the option of executing the started task by specifying a procedural (PROC) name in the collect statement in the form of (PROC(name). The collection name is used as the step name. The following databases/datasets are populated when all of the collection subtasks are scheduled.

Table 7.2   Collection CLISTs and examples of the database names.

Collection CLIST	Database/Dataset Name
TSFDSNCT	<HLQ>.STORDATA
TSFCATCT	<HLQ>.CATDB
TSFXXXCT	Populates the tape catalog system for Tape in the main VSAM database. Alternatively, the Tape component can have its own VSAM database. In some cases, particularly in large tape environments, you will want a separate database.
TSFHSMCT	<HLQ>.BCDS, <HLQ>.MCDS
TSFPOOL	<HLQ>.STORDATA
TSFUNXCT	<HLQ>.UNIXDB
TSFLOGST	LOGDVOL(yes) creates:HLQ.SF.VOL.Dyyyyddd.Thhmmss LOGDDSN(yes) creates:HLQ.DF.DSN.Dyyyyddd.Thhmmss LOGTVOL(yes) creates:HLQ.TF.VOL.Dyyyyddd.Thhmmss LOGTDSN(yes) creates:HLQ.TF.DSN.Dyyyyddd.Thhmmss LOGVP(yes) creates:HLQ.SF.VPL.Dyyyyddd.Thhmmss LOGDP(yes) creates:HLQ.DF.DPL.Dyyyyddd.Thhmmss
TSFLOGSQ	HLQ.TR.BCK.Dyyyyddd.Thhmmss HLQ.TR.MIG.Dyyyyddd.Thhmmss HLQ.CT.ALL.Dyyyyddd.Thhmmss

Useful Tip. LOGDDSN, LOGTDSN and LOGTVOL could be quite large, so consider setting up SMS management classes to roll off old files as necessary. Also, consider migrating these files soon after they are created to save storage. They will be recalled as needed by the GUI or ISPF application.

TSF CONSOLE COMMANDS

You can issue console commands in TSF to start a data collection before its scheduled time, or to start and stop the application. TSF Console commands are issued via the MVS MODIFY (F) command, for example,

```
/F taskname,DIS QUEUE.
```

Console Commands

Table 8.1 shows the TSF console commands and sub-commands accepted by the application for data collection.

Table 8.1   TSF console commands and sub-commands

Command	Sub-command
DISABLE or HOLD	`HOLD number` – Number is a collection serial number
	`HOLD if label` – if label is an IF statement label
	`HOLD ID(<id>)` – id is a collection id (ID parameter on COLLECT statement)
DISPLAY	`DIS QUEUE (DIS Q)` – Displays the queue of data collections that are waiting to be run.
	`DIS ACTIVE (DIS ACT)` – Displays the data collections that are currently being executed.
	`DIS ACTIVE (DIS ACT)` – Displays the data collections that are currently being executed.
	`DIS STUFF` – Displays how long the application has been running, the maximum number of simultaneous data collections, maximum number of days ahead to the scheduled time, and the number of data collections that have run.
	`DIS (number)` – Displays the data collection with the ID number in detail. For example, DIS 1 is used to display the data collection with the ID number of 1.
	`DIS (name)` – Displays the data collections with the given name (name is the NAME parameter from a COLLECT statement).
	`DIS IFS` – Displays the IF statements
	`DIS IFS` – Displays the TSF tasks
ENABLE or RELEASE	`ENABLE <number>`, `ENABLE <if label>`, `ENABLE ID(<id>)`, `ENABLE ID=<id>`

Command	Sub-command
REFRESH or RELOAD	REFRESH DATA – Tells the TSF task to refresh Volume/Pool/Controller/ SMS data.
	REFRESH NOW – Specifies that any active collection should be cancelled and collect reloaded immediately.
	REFRESH WAIT – Specifies that the Scheduler should wait until any active collections end and then reload the collect statements.
	Note: WAIT is the default if REFRESH is specified without any other parameter.
	REFRESH COLLECTIONS – Refreshing collections will generate new ID numbers
	REFRESH COLLECTIONS,NOW – Specifies that any active collection should be cancelled and collect reloaded immediately.
	REFRESH COLLECTIONS,WAIT – Specifies that the application should wait until any active collections end and then reload the collect statements.
	REFRESH IFS – No DSN implies load from same place last loaded from
	REFRESH IFS,<*dsn*(<*mbr*>)> – dsn(mbr) is the data set and optional member to load IFs from
	REFRESH IFS,<*dsn*(<*mbr*>)>,FORCE REFRESH IFS,,FORCE FORCE means load even if errors exist.
RESTART	RESTART <*taskname*> Where taskname is one of the following: TSFASCHD – Scheduler subtask, TSFAUTST – Automation subtask, TSFADGST – Data collection subtask, TSFATLST – Task log writer subtask, TSFACTST – Actions subtask, TSFACONS – MVS console subtask
RUN	Runs the specified data collection. This command requires an ID number after RUN (same ID number shown by the DISPLAY command). For example, RUN 2 runs the data collection with the ID number of 2.
	Note: When a TIME parameter for a Collection Name specifies (NOW), the RUN command has no effect.
	RUN <*number*>, RUN ID(<*id*>), RUN ID=<*id*>
SET	SET MAXDAYS,<*max scheduling days*> – Sets the maximum number of days ahead to schedule according to the value you specify. For example, SET MAXDAYS 7 sets the maximum number of days ahead to schedule to seven days.
	SET MAXTASK,<*max collections*> – Sets the simultaneous data collection limit according to the value you specify. For example, SET MAXTASK 3 sets the simultaneous data collection to three.
STOP	STOP WAIT – Doesn't run any new data collections. Wait for any active collection or automation to finish and then stop.
	STOP LEAVE – Stops without waiting for any data collections to finish. Leave any active collection running and exit (automation will be cancelled). This is the default value (same as the MVS P command).
	STOP CANCEL – Doesn't run any new data collections and cancels any active data collections and then stops.
	STOP <*taskname*>
	STOP EXECS – Stop all automation execs
	STOP (P) – Stop command (with no operands)
	STOP EXEC,<*exec name*> – Stop a specific automation exec
UPDATE	UPDATE <*if label*>, UPDATE <*if label*>,<*dsn*(<*mbr*>)>

II

DISTRIBUTED PLATFORM

9

DISTRIBUTED OVERVIEW

TeraCloud Storage Framework (TSF) delivers the first Java-enabled enterprise Storage Resource Management (SRM) solution that simplifies the administration and management of distributed storage resources across the entire enterprise, from a single point of control.

The TSF architecture allows analysis of storage from the host (server) perspective. Any device mounted to the host may be analyzed, including the virtual layers presented through a Logical Volume Manager (LVM). A 5-layer model is utilized, starting at the file system/volume layer working down through virtualization layers and culminating at the drive layer. Information is supplied concerning DAS, SAN, NAS, IDE/SCSI, File System Type and even World Wide Names.

Independent of an operating system, file system, and hardware storage vendor, TSF enables you to manage storage centrally in any combination of complex heterogeneous environments. TSF helps you plan more effectively, lower administration costs, and puts you in control of your storage environment. Its reliable, easy-to-use centralized administration improves storage utilization of your existing storage assets, automates repetitive tasks, and helps control future storage expenditures through accurate trending and forecasting of storage growth.

Licensing

For TSF version 2.1.1, licensing of the software is handled by a license key that determines which features are enabled according to the product edition that you are installing. Each edition has its own pricing, scale, feature set, and support terms.
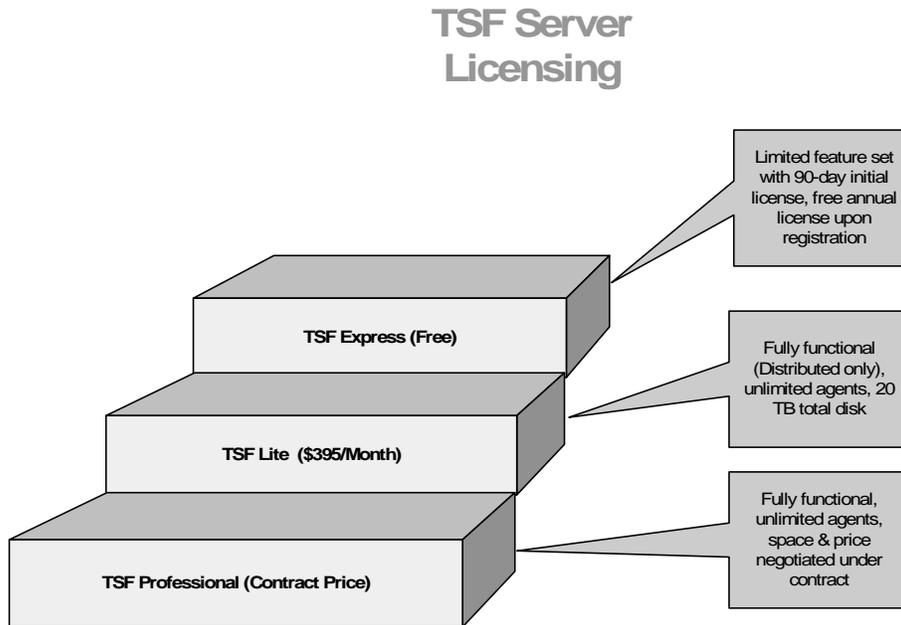
For example, if you are using TSF Express, this is how the license process works:

- Installation files include a free 90 day license key
- If you want to continue using the free version (TSF Express), you must register your license with TeraCloud at: `http://www.teracloud.com/licensing.html`
- Follow the web instructions and attach your current free license file.
- Upon successful registration, your 12 month license key will be sent to you for installation on the TSF Server.

This license key can be upgraded to TSF Lite or TSF Professional at any time. Please go to `http://www.teracloud.com/licensing.html` to purchase one of the options.

Table 9.1 Licensable Features (Distributed)

	TSF Express	TSF Lite	TSF Professional
Distributed Systems	✔	✔	✔
Distributed Drives	✔	✔	✔
Distributed Volumes	✔	✔	✔
Distributed File Systems	✔	✔	✔
File Search	✔	✔	✔
Full File Search		✔	✔
Groups		✔	✔
Policies		✔	✔
Accounts	✔	✔	✔
ProActivity		✔	✔

Table 9.1   Licensable Features (Distributed) (Continued)

	TSF Express	TSF Lite	TSF Professional
History		✔	✔
Full History		✔	✔
Trending		✔	✔
Topology		✔	✔
Real Time File Browsing		✔	✔
SRM Log		✔	✔
Printing		✔	✔
Graph	✔	✔	✔
Export		✔	✔
Saved Views	✔	✔	✔
Technical Support/FAQ	✔	✔	✔
Technical Support/Email		✔	✔
Technical Support/Phone			✔
z/OS Management			✔
Terabytes Managed	**20**	**20**	**Up to 100**

10

SYSTEM REQUIREMENTS

All Distributed components (TSF Client, TSF Server, TSF Agent) have the following system requirements:

- TCP/IP connectivity between the TSF Server, SQL Server, TSF Client and TSF Agents
- Adobe Acrobat Reader (available free at www.adobe.com)

TSF Client

TSF Client has the following system requirements:

- Pentium class processor (Pentium III 500-MHz or Higher) and 512 MB RAM
- Video resolution 1024 X 768 or higher
- 55 MB of disk space for Program Files
- Sun™ Microsystems Java Runtime Environment (JRE) Version 1.4.2_05

Note: Although the JRE is required, you do not have to do anything as we will install this version for you without overlaying your current versions.

TSF Server

TSF Server has the following minimum system requirements:

- Pentium class processor (Pentium IV 1000-MHz or Higher)
- 2 GB RAM
- Sun™ Microsystems Java Runtime Environment (JRE) Version 1.4.2_05

Note: Although the JRE is required, you do not have to do anything as we will install this version for you without overlaying your current versions.

Although not required, for performance reasons the TSF Server should be a dedicated server.

TSF Agent

All hosts with a Host Bus Adapter (HBA) card that is attached to a Storage Area Network (SAN) must have the HBAAPI Library installed or the TSF Agent will incorrectly report the device type as Direct Attached Storage (DAS) instead of SAN. This requirement pertains to all platforms. Please refer to your HBA card vendor for documentation on downloading and installing the HBAAPI Library.

11

SUPPORTED ENVIRONMENTS

TSF Client

TSF Client provides support for the following environments:

- Microsoft Windows XP
- Microsoft Windows 2000
- Microsoft Windows Server 2003
- Java Runtime Environment 1.4.2_05

TSF Server

TSF Server provides support for the following environments:

- Microsoft Windows Server 2003 Standard Edition (32 bit) and Windows Server 2003 Enterprise Edition (32 bit)
- Microsoft Windows Server 2000 and Windows Advanced Server 2000
- Microsoft Windows Server 2000 (32 Bit) and Windows Advanced Server 2000 (32 Bit)
- Microsoft SQL Server 2000 database with current Service Pack installed & patches applied
- Java Runtime Environment 1.4.2_05

TSF Agent

TSF Agent provides support for the following environments:

- Microsoft Windows Server 2003 Standard Edition (32 bit) and Windows Server 2003 Enterprise Edition (32 bit)
- Microsoft Windows Server 2000 and Windows Advanced Server 2000
- Microsoft Windows Server 2000 (32 Bit) and Windows Advanced Server 2000 (32 Bit)
- SUN Microsystems Solaris 8, 9 and 10
- IBM AIX 5.3
- Red Hat Enterprise Linux AS (kernel v2.4 & v2.6) and Red Hat Enterprise Linux ES (kernel v2.4 & v2.6)

INSTALLING TSF SERVER

TSF Server provides an installation program for Windows 2000 or Windows 2003 Standard Edition and Enterprise Edition servers.

Installation Files

The Windows installer file for the TSF Server is `TSFServer2_1Installer.msi`. The database tables and database user will be created by the TSF installation program, so you cannot use a pre-existing database or database user.

Installation Steps

Follow these steps to install the TSF Server:

1   Log on to the TSF Windows server machine as a user with administrator privileges.

2   Double-click `TSFServer2_1Installer.msi` to start the Wise Installation Wizard.®

3   In the **Welcome to the TeraCloud Storage Framework Server Installation Wizard** dialog box, Click **Next**.

4   In the **License Agreement** dialog box, Click **I accept the license agreement** and then click **Next**.

5   In the **User Information** dialog box, type your name in the **Full Name** box and your company name in the **Organization** box.

6   Click **Anyone who uses this computer** or **Only for me** to indicate how you want to install the application settings and then click **Next**.

7   In the **Destination Folder** dialog box, click **Next** to select the default folder for installing the TSF application, or click **Browse** to select another folder and then click **Next**.

   Note: We recommend that you install the TSF server in the default destination folder.

8   Select the installation components that you want to install, for example, complete install (recommended) or TSF server only and then click **Next**.
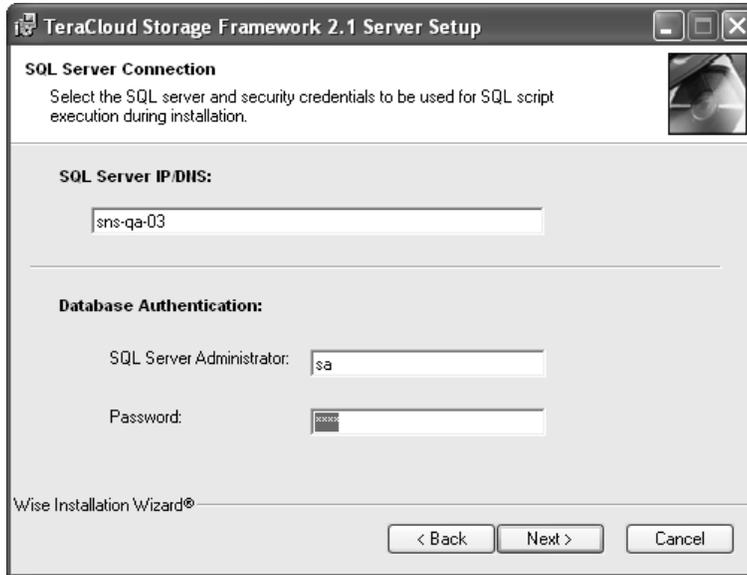
9   In the **SQL Server Connection** dialog box, type the complete IP address for the SQL Server or its host name in the **SQL Server IP/DNS** box.

10 In the **Database Authentication** section, type the administrator name in the **SQL Server Administrator** box, type the password in the **Password** box, and then click **Next**.

    Note: If the SQL Server connection fails because it does not exist or access is denied, you will not be able to complete a successful installation.
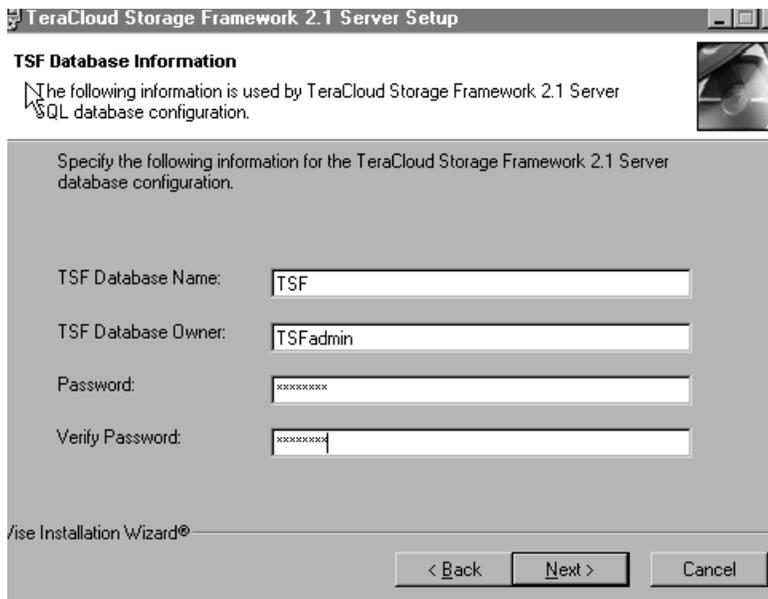
11 In the **TSF Database Information** dialog box, type the database name in the **TSF Database Name** box and the database owner in the **TSF Database Owner** box.

12 In the **TSF Database Information** dialog box, type the password in the **Password** box, type it again in the **Verify Password** box, and then click **Next**.

    Note: This step will create the SQL database tables and SQL user ID (owner for that database).

13 In the **Configuration Information** dialog box, type the **SQL Port Number**, **SMTP Server IP/DNS**, **TSF FROM Email Address**, **TSF Server Binding Address**, **TSF Server Port**, **TSF Server SSL Port**, and then Click **Next**.

14 In the **Logon Information** dialog, type the administrator user name in the **TSF Administrative User** box, type the password in the **Password** box, type it again in the **Verify Password** box, type the administrator's email address in the **Administrative Email** box, and then click **Next**.

Note: Logon information is for the TSF Server administrator, not a local, domain, LDAP, or NIS. That is, this logon is for a user name that only the TSF client will use.

15 In the **Ready to Install the Application** dialog, click **Next**.

16 In the **TeraCloud Storage FrameWork Server has been successfully installed** dialog box, click **Finish**.

Note: TSF Server installation includes an initial 90-day Express license. You must contact licensing@teracloud.com to obtain a longer term free or paid license key. See Licensing, page 9-2.

17 Verify the installation. Use the Windows Administrative Tools, which are usually located in the normal Programs section of the Start menu. Click **Start** | **All Programs** | **Administrative Tools** | **Services**. The TSF Server 2 should be running as a service. If not, click **Start the Service**.

INSTALLING TSF CLIENT

TSF Client creates and uses files in two locations: the installation directory and your home directory. Each user has their own home directory set by Windows, usually `C:\Documents and Settings\<your user name>`.

Installation Files

The Windows installer file for the TSF Client is `TSFClient2_1Installer.msi` and the default location for the installation directory is
`C:\Program Files\TeraCloud Corporation\TSFClient2_1` with the following folders:

- bin–binaries
- lib–libraries
- conf–configuration files
- doc–documentation and license files

The first time that you run the client, it creates a `TSF2_1` directory in your home directory. This directory contains log files and preferences including your password and settings. Like many files in the home directory, this file should be backed up regularly.

Note: Do not modify any of the files described here without permission from TeraCloud Technical Support.

Installation Steps

TSF provides an installation wizard for the client installation. Follow these steps to install the client:

1 Log on to the TSF Windows client machine as a user with administrator privileges.

2 Double-click `TSFClient2_1Installer.msi` to start the Wise Installation Wizard.®

   Note: We recommend that you install the TSF client in the default destination folder.

3 Follow the on-screen instructions to completion.

4 To verify the installation, click **Start** | **All Programs** | **TeraCloud Corporation** | **TSF Client 2.1**.

Getting Started

The first time that you log on to the TSF Client, you see the **Enter New Password** dialog box. The password that you enter here is not your mainframe or server password but is only used to provide access to the GUI. The password is not logged or stored in plain text. Follow these steps to create a new client password:

1 Click **Start** | **All Programs** | **TeraCloud Corporation** | **TSF Client 2.1**.

2 In the **Enter New Password** dialog box, type a unique password in the **New password** field. GUI passwords are case-sensitive.

3 Retype the password in the **Retype password** field and then click **OK**. To begin using the GUI, see Chapter 17, TSF Client Configuration. The next time that you log on you will see a **Login to System** dialog box.

14

INSTALLING TSF AGENT (WINDOWS)

TSF provides an installation wizard for the agent installation combined with a script for configuration.

Installation Items to Note Before Starting

You must have the following information available so that you can type it when prompted by the installation script:

- TSF Server IP address or host name
- TSF Server port number for agents
- TSF Agent IP address or host name
- TSF Agent listen on port

During the agent installation process, some information that is displayed on the screen may have the following names:

- SRMServer – This is the machine/server where the TSF Server is installed.
- SRMAgent – This is the machine/server where the TSF Agent is installed
- SRMClient – This is the machine/server where the TSF Client GUI is installed.

Installation Files

The installer file for the TSF Windows Agent is `TSF2_1AgentInstaller.msi`.

Installation Program Steps

Follow these steps to install the agent on the Windows platform:

1   Log on to the TSF Windows server machine as a user with administrator privileges.

2   Double-click `TSF2_1AgentInstaller.msi` to start the Wise Installation Wizard.[®]

3   In the **Welcome to the TeraCloud Storage Framework Agent Installation Wizard** dialog box, Click **Next**.

4   In the **License Agreement** dialog box, Click **I accept the license agreement** and then click **Next**.

5 In the **User Information** dialog box, type your name in the **Full Name** box and your company name in the **Organization** box.

6 In the **Destination Folder** dialog box, click **Next** to select the default folder for installing the TSF application, or click **Browse** to select another folder.

Note: We recommend that you install the TSF agent in the default destination folder.
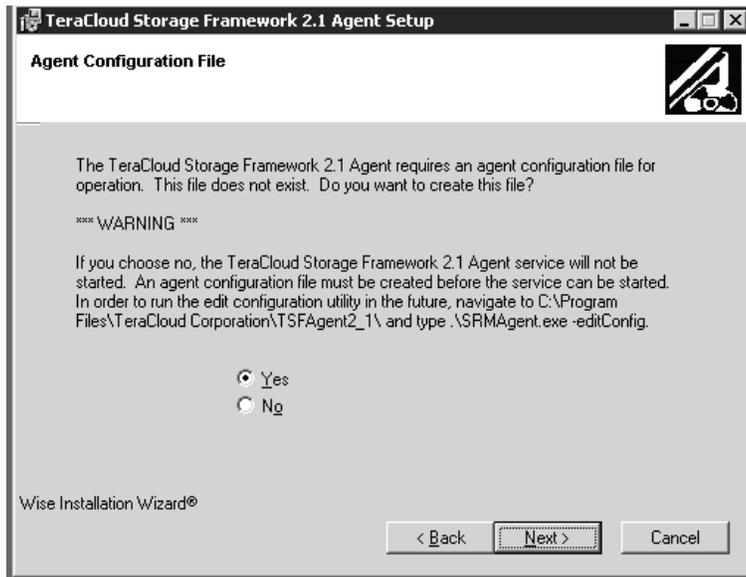
7 In the **Agent Configuration File** dialog box, click **Yes** or **No** to indicate whether or not you want to create the agent configuration file and then click **Next**.

Note: The agent configuration file is required for the agent service.

8 In the **Ready to Install the Application** dialog box, click **Next**. The installation program begins updating and installing files on the system.

Configuration Program Steps

When the installation program is finished, it displays a Command Prompt window (separate from the Installation Wizard) to guide you through the steps for creating the agent configuration file

```
CONTENTS

This program will guide you through the steps involved in
editing the configuration file for the Agent.

1) Gather SRMServer information
2) Gather SRMAgent information
3) Ask to re-edit information
4) Ask to save configuration file

The SRMAgent configuration file does not exist, it will be created now.

SRM SERVER INFORMATION

This section of configuration program will gather information
regarding how the SRMAgent will contact the SRMServer.

Enter the SRMServer hostname <ip|hostname>[]: sns-qa-03.qa1.local
Enter the SRMServer port <port>(80)[80]: 8080
Enter the SRMServer SSL port <port>(443)[443]: 443
Should the SRMAgent contact an HTTP proxy to access the
SRMServer? <y|N>:
```

Server Information

This section of the configuration program will gather information regarding how the agent will contact the server.

1 At the command prompt, type the host name for the TSF server or its full IP address and then press **Enter**.

2 At the command prompt, type the port number for the TSF server and then press **Enter**.

3 At the command prompt, type the SSL port number for the TSF server and then press **Enter**.

4 At the command prompt, answer the question, **Should the SRMAgent contact an HTTP proxy to access the SRMServer?** Type **Y** for Yes or **N** for No and then press **Enter**.

Note: The default is **N**. If you type **Y** for this step, you must provide a proxy host name or full IP address, proxy port number, and then you must determine whether or not the proxy requires authentication before continuing to the next step, agent configuration.

Agent Information

This section of the configuration program will gather information regarding how the agent itself will interact with the network.

1 At the command prompt, answer the question, **Should the SRMAgent use return ports and/or addresses?** Type **Y** for Yes or **N** for No and then press **Enter**. The default is **N**.

```
SRM AGENT INFORMATION

This section of the configuration program will gather information
regarding how the SRMAgent itself will interact with the network.

*** WARNING ***

Return ports and addresses are used in conjunction with firewalls.
They specify the TCP/IP ports and address from which the SRMAgent
can initiate communication. Unless there is a firewall between the
SRMAgent and the SRMServer which requires an application to
communicate from (not to) a specific port or address, the return
port/address option should not be used.
Should the SRMAgent use return ports and/or addresses? <y|N>:

The SRMAgent binds to specific port/address combinations when
listening for requests from the SRMServer. It can bind to
multiple port/address pairs.

The SRMAgent is not currently configured to bind to any port/address
pairs. It requires at least one port/address pair for proper operation.
Enter the address to listen on <ip|hostname>[gvanpeltpc]:
Enter the port to listen on <port>(8372)[8372]:
Do you want to add more port/address pairs? <y|N>:
```

2 At the command prompt, type the full IP address to listen on or the host name and then press **Enter**.

Note: If the agent is not currently configured to bind to any port/address pairs, it requires at least one port/address pair for proper operation.

3 At the command prompt, type a unique port to listen on and then press **Enter**.

4 At the command prompt, answer the question, **Do you want to add more port/ address pairs?** Type **Y** for Yes or **N** for No and then press **Enter**. The default is **N**.

Summary

You are almost finished with installation when the program displays the Summary section. This section lets you correct any mistakes to the previous information, for example, IP address, host name, port number, any question you already answered, and so forth.

1 At the command prompt, answer the question, **Do you want to modify your changes?** Type **Y** for Yes or **N** for No and then press **Enter**. The default is **N**.

```
SUMMARY

This section displays the current configuration.

 SRMServer hostname: sns-qa-03.qa1.local
 SRMServer port: 8080
 SRMServer SSL port: 443

 The SRMAgent is configured to NOT use an HTTP proxy.

 The SRMAgent is configured to NOT use return ports or
 addresses.

 The SRMAgent is configured to bind to the following
 port/address pairs:
        gvanpeltpc      8372

Do you want to modify your changes? <y|N>:
Changes have been made to the configuration.
Do you want to save the changes? <Y|n>:
```

2   At the command prompt, answer the question, **Do you want to save the changes?** This is a final warning for agent configuration changes. Type **Y** for Yes or **N** for No and then press **Enter**. The default is **Y**.

3   You have finished the steps for agent file configuration. The Command Prompt window will close and the installation program displays the following dialog box: **TeraCloud Storage FrameWork Agent has been successfully installed**.

4   Click **Finish**.

Verification

Verify the installation. Use the Windows Administrative Tools, which are usually located in the normal Programs section of the Start menu. Click **Start** | **All Programs** | **Administrative Tools** | **Services**. The TSF Agent should be running as a service. If not, click **Start the Service**.

15

INSTALLING TSF AGENT (UNIX)

This chapter describes how to install the agent on a Unix platform for AIX, Solaris, or Linux. If a step applies to a specific Unix platform it tells you beforehand.

Installation Items to Note Before Starting

You must have the following information available so that you can type it when prompted by the installation script:

- TSF Server IP address or host name
- TSF Server port number for agents
- TSF Agent IP address or host name
- TSF Agent listen on port

During the agent installation process, some information that is displayed on the screen may have the following names:

- SRMServer – This is the machine/server where TSF Server is installed.
- SRMAgent – This is the machine/server where the TSF Agent is installed
- SRMClient – This is the machine/server where the TSF Client GUI is installed.

Installation Steps

Follow these steps to install the TSF agent for Unix:

1   Get the installation files to the agent via ftp, scp, or burning to a CD.

2   Login as `root`.

3   CD to the `<files_root>`.

4   From `<files_root>/Installer`, execute the following command:

`./install.sh`

The installation script performs a pre-installation verification to check the user and the image file. If verification is successful, it starts installing files.

5   Answer questions that the installation program asks via the prompts Y for yes or N for No.

6 The agent requires a configuration file for operation. Answer Y for the following prompt and press ENTER:

```
This file does not exist. Do you want to create this file now? <Y|n>
```

7 After the configuration file is created, you must answer several prompts about how the agent will contact the server. Type the information for each prompt and press ENTER to continue:

```
Enter the SRMServer hostname <ip|hostname>
Enter the SRMServer port <port>
Enter the Secure Port <SSL Port>
Should the SRMAgent contact an HTTP proxy to access the SRMServer?
<y|N>
Should the SRMAgent use return ports and/or addresses? <y|N>
```

Note: The settings must match what the server has installed.

8 Type the information for each prompt about how the agent will interact with the network and press ENTER to continue.

```
Enter the address to listen on <ip|hostname>[solaris-9-02]:
Enter the port to listen on <port>(8372)[8372]:
Do you want to add more port/address pairs? <y|N>:
```

9 The program displays a summary of current configuration information followed by a prompt for user changes. Type Y or N and press ENTER:

```
Do you want to modify your changes? <y|N>
```

10 Finally, the program lets you save the configuration changes that you have made. Type Y or N and press ENTER:

```
Changes have been made to the configuration. Do you want to save the
changes? <Y|n>
```

11 The installation program prompts you for confirmation on starting the agent as a service. Type Y or N and press ENTER

12 The program starts the agent for you as follows:

```
Starting SRM Product Agent.
Finished installing
```

Starting and Stopping the Agent

Use the following UNIX commands to start or stop the TSF Agent. You must login as `root` before issuing these commands.

AIX Platform

Start AIX agent: `startsrc -s SRMAgent`

Stop AIX agent: `stopsrc -s SRMAgent`

Solaris Platform

Start Solaris agent: `/etc/init.d/rc.srmagent start`

Stop Solaris agent: `/etc/init.d/rc.srmagent stop`

LINUX Platform

Start LINUX agent: `/etc/init.d/srmagentd start`

Stop LINUX agent: `/etc/init.d/srmagentd stop`

16

UNINSTALLING

This chapter describes how to uninstall the TSF Server, TSF Client, or Windows Agent and the UNIX agent.

Uninstalling the Server, Client, or Windows Agent

Follow these steps to uninstall the TSF agent, client, or server on a Windows platform:

1 On the **File** menu, select **Exit** to log off and exit the TSF application.

2 Click the **Start** button in Windows, and then point to **Control Panel**.

3 In Control Panel, double-click **Add or Remove Programs** to open the List of Currently Installed Programs dialog.

4 In the **Add or Remove Programs** dialog box, do one of the following:

   • Select **TeraCloud Storage Framework 2.1.1 Agent**
   • Select **TeraCloud Storage Framework 2.1.1 Client**
   • Select **TeraCloud Storage Framework 2.1.1 Server**

5 Click the **Change/Remove** button.

6 Follow the prompts to completion. This procedure removes all program files that were originally installed. However, it leaves files in your home directory that were created by the TSF application, and these files remain available if you re-install or upgrade the client software.

   Note: The TSF Server license file, tsfsn.key, will not be removed from an uninstall process.

Uninstalling the Unix Agent

Follow these steps to uninstall the agent:

1 Log in as "root" (the administrator) using the password you picked during the installation. You will not see the password as you type it.

2 If you have not done so, navigate to the directory for the uninstall script, for example:

/opt/SRMProductAgent (for Linux or Solaris), or

/usr/lpp/SRMProductAgent (for AIX)

3 Execute the uninstall script:

./uninstall.sh

CHAPTER

17

TSF CLIENT CONFIGURATION

This chapter describes how to configure the TSF client. User and system preferences must be set before you begin using the software.

Set User and System Preferences

User preferences can be changed at any time by following these steps:

1 On the **Tools** menu, click **Preferences**.

2 In the **Preferences** dialog box, click **User** under the **Common** folder in the left pane.

3 In the right pane, click to select **Values** from the drop-down list for a User preference, or if there is no drop-down list, type a value in the **Values** text box. You are defining your display preferences. A short description of each is provided here.

4 Click **OK** when you are done.

Graphing – Select whether graphing is to be Off or On from drop-down list

Image and Reports Path – Type the path for the default location when printing various formats

Initial Graph Count – Type the number of returned rows to be included in the graph display

Log Filename – Type the name of the file for the text log output

Log Level – Select from the drop-down list the level of information to be logged: Off, Info, Warning, Severe, or Debug (default = *Info*)

Printed Reports Logo Path – Type the path for the default location of a logo (for example, when you want a specific corporate logo to appear on your printed reports)

Table 17.1 User Preferences

System preferences can be changed at any time by following these steps:

1   On the **Tools** menu, click **Preferences**.

2   In the **Preferences** dialog box, do one of the following:

  • Click **System** under the Common folder in the left pane.
  • Click **System** under the Distributed folder in the left pane.
  • Click **System** under the z/OS folder in the left pane.

3   In the right pane, click to select **Values** from the drop-down list for a System preference, or if there is no drop-down list, type a number in the **Values** text box. These preferences vary based on what you selected in step 2. A short description of each is provided here.

4   Click **OK** when you are done.

Concurrent Threads – Provides the number of threads to be used concurrently

Maximum rows for History – Defines the threshold for warning when the number of records returned is extensive for a filter criteria

Sort views – Defines whether saved views are sorted in ascending or descending order

Table 17.2 System Preferences (Common folder)

Byte Calculation – Defines how MB, GB, and TB are calculated based on bytes

Cost per megabyte (DAS, NAS, SAN) – Defines the unit to be used to calculate cost per MB.

Cost per megabyte Storage – Use this value for cost calculation except for Drive, Drive Device Type Summary and Drive History, which use **Cost per megabyte (DAS)** and **Cost per megabyte (SAN)**.

Time Display Format – Applies to data in the date and time field in all the tables on the Distributed side. The selectable system date time display formats are:
  UTC/GMT with Server Local Time Offset, e.g. 6/12/04 6:02:12 AM (GMT-05:00)
  Server Local Time, e.g. 06/12/04 1:02:12 AM
  Client Local Time, e.g. 06/11/04 11:02:12 PM

Table 17.3 System Preferences (Distributed folder)

Byte Calculation – Defines how MB, GB, and TB are calculated based on bytes

Cost per megabyte (Disk, HSM, Tape) – Defines the unit to be used to calculate cost per MB.

Fetch Warning – Defines the threshold for warning when the number of records returned is extensive for a filter criteria

Table 17.4 System Preferences (z/OS folder)

Set Tape Capacity Preferences

Tape capacity preferences for z/OS systems can be changed at any time by following these steps:

1   On the **Tools** menu, click **Preferences**.

2   In the **Preferences** dialog box, click **Tape Capacity** under the z/OS folder in the left pane.

3   In the right pane, type a tape capacity preference in the **Values** text box for each tape type.

4   Click **OK** when you are done.

Preferences

Preferences	
⊟ Common	
● User	
● System	
⊟ Distributed	
● System	
⊟ z/OS	
● System	
● Tape Capacity	

Preferences	Values
3480 (in megabyte)	1200
3480X (in megabyte)	2400
3490 (in megabyte)	2400
3490E (in megabyte)	4800
3590 (in megabyte)	20000
3590E (in megabyte)	40000
3590E128 (in megabyte)	60000
3590E256 (in megabyte)	120000
3590E384 (in megabyte)	180000
3590T128 (in megabyte)	30000
3590T256 (in megabyte)	60000
3590T384 (in megabyte)	90000
9840 (in megabyte)	200000
CART (in megabyte)	2400
REEL (in megabyte)	400
User Define Type 1 (in megabyte)	1000
User Define Type 2 (in megabyte)	1000
User Define Type 3 (in megabyte)	1000

[OK]   [Apply]   [Cancel]   [Help]

Add a System

Systems are added in the Configure Systems dialog. Follow these steps to add a system:

1   Do one of the following:

- In the Systems pane, right-click and then select **Add New System** from the floating menu.
- On the **View** menu, click **Configure Systems**.

2   In the **Configure Systems** dialog box, click **Add**.

3   Do one of the following:

- To add a Distributed system, click the **Distributed** tab.
- To add a z/OS system, click the **z/OS** tab.

Configure Systems

Host Name	Clear Text Port	Secure Port	User ID	Password	Communications
192.168.1.110	8080	777	test	****	Encrypt Passwords Only
SNS-QA-02.QA1.LOCAL	8080	4443	test	****	Encrypt Passwords Only

Distributed | z/OS

[OK]   [Cancel]   [Help]
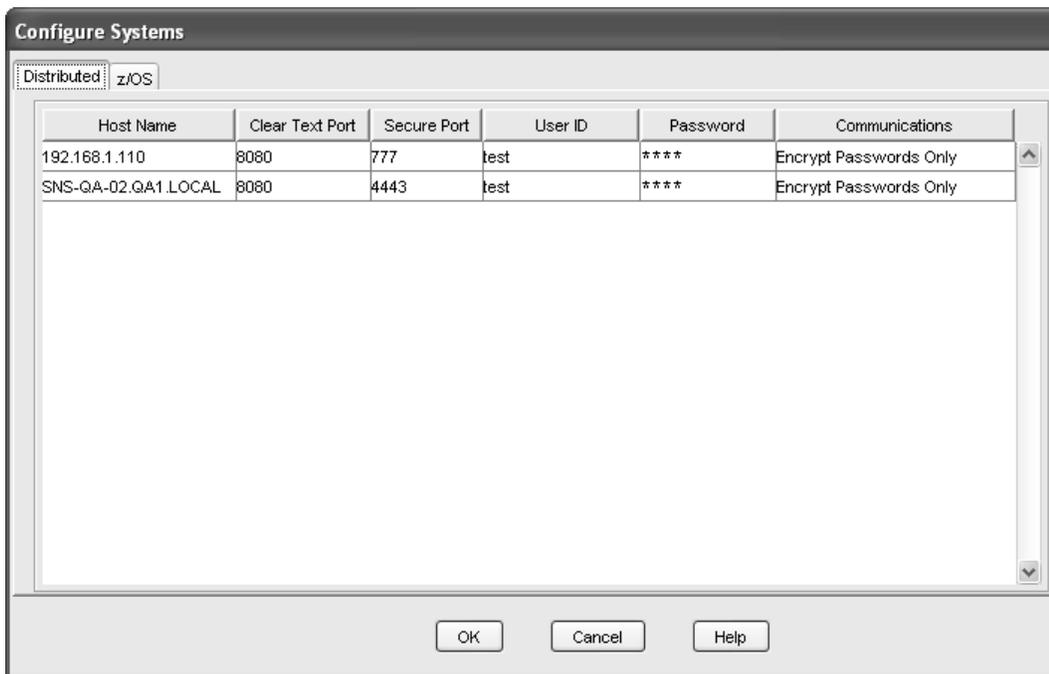
4   Tab to each field in the dialog box and type a value. The field values depend on the type of system that you are configuring as follows:

For the **Distributed** tab:

a   Type the actual host name or the IP address in the **Host Name** field.

b   Type the **Clear Text Port** number.

c   Type the **Secure Port** number.

d   Type your **User ID** and the system **Password**. You can optionally choose not to add your user ID and password at this time. However, you will be prompted for both when you access or select this system to query.

e   In the **Client-Server Communications** field, select **Encrypt All** (default) or select **Encrypt Passwords Only** from the drop-down list.

For the **z/OS** tab:

a Type the actual host name or the IP address in the **Host Name** field.

b Type the **Port** number.

c Type your **User ID** and the z/OS system **Password** in the corresponding fields.

d Tab to or click in the **Database Name** field. If you entered a valid User ID and Password, the system will complete this field for you and connect to the VSAM database.

e Tab to the **Budget Name** field. The system will complete this field for you.

f In the **Communications** field, select **Encrypt All** or select **Encrypt Passwords Only** (default) from the drop-down list.

6 Do one of the following:

- Click **OK** to complete the process.
- Click **Add** and repeat the previous steps to add additional systems.

Log on to a System or Refresh System

To log on to a system, in the **Systems** pane, click a system to log on to that system. To refresh a system, on the **View** menu, click **Refresh Systems** to check status for all systems in the Systems pane.

Set Distributed Server Settings

Follow these steps to set distributed server settings:

1   In the Systems pane, right-click on a system and then select **Distributed Server Settings** from the floating menu
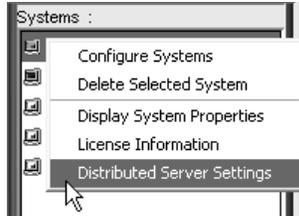
2   In the **Distributed Server Settings** dialog box, select **Encrypt All** or **Encrypt Passwords Only**. The server has two modes of operation: **Encrypt All**, which means encrypt everything over the SSL socket, or **Encrypt Passwords Only**, which means encrypt only messages or parts of messages that require encryption (for example, passwords and all ProActivity traffic).
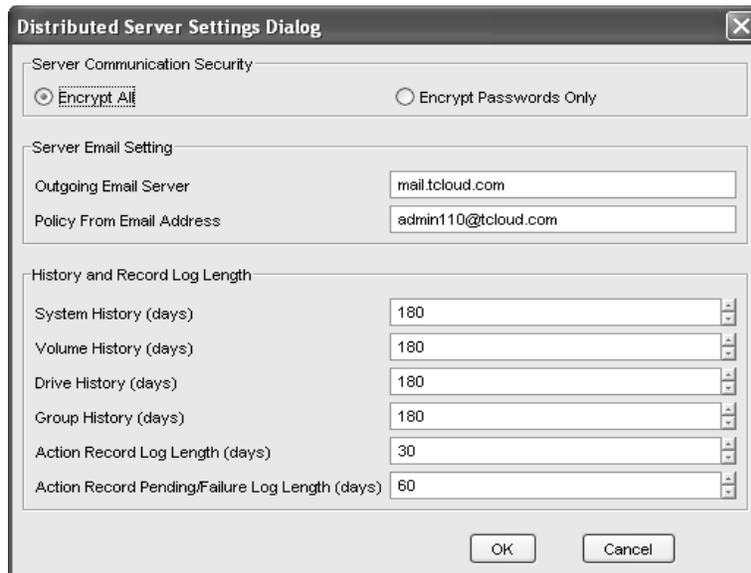
3   Type the E-mail address for **Outgoing Email Server** and **Policy from Email Address**.

4   For the **History and Record Log Length** fields, type a value or use the arrow up and down buttons to increase or decrease an existing value for each field.

5   Click **OK**.

License Information

The **License** dialog box displays a list of licensed and licensable features. Follow these steps to view license information:

1 In the Systems pane, right-click a system and select **License Information** from the floating menu
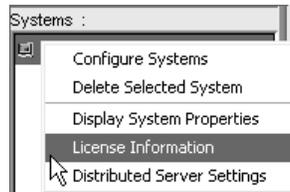
2 The **License** dialog box displays a **License Information** table and **License Features** table. If a license attribute is not relevant to the context of the module (such as not passed back by the server/agent), or is empty, it will not display in the License Information table. In the **Licensed Features** table, the left column shows the name of the feature and the right column shows a check mark indicating whether or not the feature is licensed.
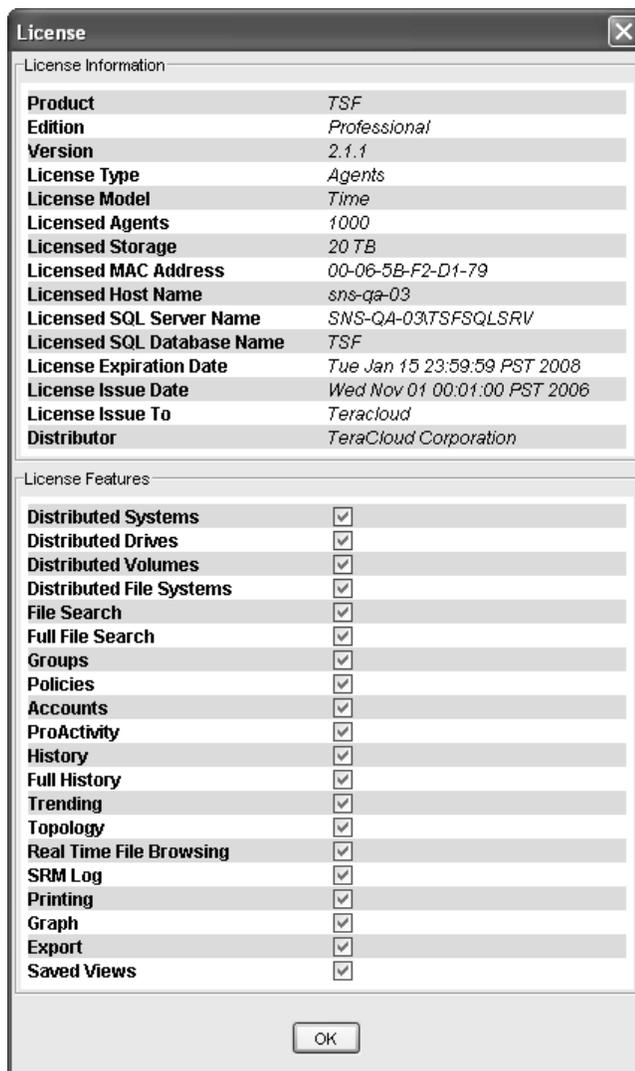
PRODUCT OVERVIEW FOR BATCH JOBS AND STARTED TASKS

Online Panels	Database Build Jobs	Database Names	Batch Jobs	TSFPRMxx
	(Schedule daily)	(For build DB jobs)	(CNTL file)	
1 **Pools/Volumes**	TSFEXEC[*]	hlq.stordata & memory		volscan
• Search & Filter			tsfvolls	
• Logical Pools				
• Controllers				
2 **Datasets**	TSFDSNCT	hlq.stordata		ucbscan
• Search & Filter			tsfdsnls	
• Logical Pools				
3 **Tape**	TSFXXXCT	hlq.stordata		tapescan
• Volumes			tsftvlst	
• Dataset			tsftdlst	
• Hsm Tape				
• Logical Pools	TSFPOOL			

* Started task names

Online Panels	Database Build Jobs	Database Names	Batch Jobs	TSFPRMxx
	(Schedule daily)	(For build DB jobs)	(CNTL file)	
4 **DFHSMsms**				
• Activity	TSFSPACE & TSFRECRD[*]	hlq.tsi.database		smfscan
• Detail	TSFHSMCT	hlq.tsi.mcds.trdbs	tsfmcds	hsmscan
		hlq.tsi.bcds.trdbs	tsfbcds	
		hlq.tsi.database		
• Logical Pools	TSFPOOL			
5 **Automation Wizard**				automatn
U **Utilities**				
• Compare	TSFDSNCT	*hlq.stordata* or *dsnout*	tsfcompr	
• Catalog	TSFCATCT	hlq.sfwb.save.catdb	tsfcatcp	catscan
• Unix	TSFUNXCT	hlq.sfwb.unix.dsnout		
• Diagnostics				
• Task Log	TSFEXEC[*]	hlq.tas.**		tasklog
Additional Information:				
History	TSFLOGST	hlq.log.sf.vpl		logds
		hlq.log.sf.vol		
		hlq.log.df.dpl		
		hlq.log.df.dsn		
	TSFLOGSQ	hlq.log.ct.all.**		
		hlq.log.tr.bcd		
		hlq.log.tr.mcd		
Collect	TSFEXEC[*]	*(schedules build jobs in conjunction with TSFCOLnn member)*		
GUI	TSFAGENT[*]	hlq.stordata		
Miscellaneous	TSFCVLOG	Batch job to convert old dsnout files to logs		

* Started task names

B

QUICK INSTALL CHECKLIST

I. Create TSF Libraries Using SMP/E

Task		✔
A.	Modify and execute `TSFREAD` (this gets the README file).	☐
B.	Navigate to the README file in USS, edit the first job in the jobstream and submit. This will create a PDS named by the edit you made with the members listed in the following steps.	☐
C.	Edit and submit `TSFSMPE` (to create a new SMP/E environment).	☐
D.	Edit and submit `TSFALLOC` (to create SMP/E target and distribution libraries).	☐
E.	Edit and submit `TSFDDDEF` (to create the DDDEF entries).	☐
F.	Edit and submit `TSFFTP` (to download the compressed TSF installation files).	☐
G.	Edit and submit `TSFRECVA` (to RECEIVE product FMID and maintenance PTFs).	☐
H.	Edit and submit `TSFAPPLY` (to APPLY the product FMID and maintenance PTFs).	☐
I.	Edit and submit `TSFACCPT` (to ACCEPT the product FMID and maintenance PTFs).	☐
J.	APF authorize the TSF 'LOADLIB' by issuing the SETPROG command: `SETPROG APF,ADD,DSNAME=hlq.TSFxxx.STSFLOAD,SMS` `/D PROG,APF` – Will display the contents to verify it is authorized.	☐

II. Provide Program Authorization

Task   ✔

A.   Add the following programs to the `IKJTSOxx` member of your system
PARMLIB:

```
AUTHPGM NAMES(TSFARXR1,TSFHSMVL,
         TSFCATVL,TSFHSM00,
         TSFCA1TF,TSFLIGET,
         TSFDSP00,TSFPARTR,
         TSFDSP01,TSFPOLCT,
         TSFDSP02,TSFRMMTF,
         TSFDSP03,TSFSP121,
         TSFDSP31,TSFTLMTF,
         TSFDSP85,TSFTP000,
         TSFDSP86,TSFTSOCE,
         TSFDTYPE,TSFUCBMT,
         TSFHSMCD,TSFUCBST,
         TSFHSMCT,TSFUNXCT)
```

    `TSO PARMLIB UPDATE(xx)`– Will update the list

    `/D IKJTSO` – Will display the contents of your `IKJTSO` member to verify its
contents or you can issue the `TSO PARMLIB LIST` command

B.   Add `'hlq.TSFxxx.loadlib'` to `'SYS1.PARMLIB(PROGxx)'` to permanently
authorize.

C.   Update the Program Properties Table (`SCHEDxx`) in the system PARMLIB
dataset to allow program `TSFSMF01` to run in Key 4. The default is Key 8.

    Example: `PPT PGMNAME(TSFSMF01)   KEY(4)`

III. Apply Security Considerations

Task   ✔

A.   Apply any necessary security rules for the following started task IDs: ☐

      `TSFSPACE, TSFRECRD, TSFEXEC, TSFAGENT`

B.   Have SAF-compliant CONTROL access to this FACILITY class profile: ☐

      `STGADMIN.EDG.LISTCONTROL`

C.   Have SAF compliant READ access to your tape management subsystem   ☐
      catalog.

D.   Provide SAF compliant UPDATE access for TSF components via Facility   ☐
      Class Profiles:

      `STGADMIN.TSF.CATALOG`

      `STGADMIN.TSF.COMPARE`

      `STGADMIN.TSF.CPUINFO`

      `STGADMIN.TSF.DISK.DATASETS`

      `STGADMIN.TSF.HISTORY`

      `STGADMIN.TSF.PROACTIVITY`

      `STGADMIN.TSF.SETTINGS`

      `STGADMIN.TSF.DISK.VOLUMES`

      `STGADMIN.TSF.TAPE`

      `STGADMIN.TSF.HSM`

      `STGADMIN.TSF.UNIX`

      `STGADMIN.TSF.DSNLEVEL01.VENDOR`

      `STGADMIN.TSF.MEMBER.TSFPRMxx`

E.   Provide authority for started task `TSFEXEC` to submit specified job names as   ☐
      started tasks:

      `Started Class profiles - (ASCRE - address space creation)`

      `<SR_jobname>.<SR_jobname> STDATA(USER(SR_userid) GROUP(CFG_groupid))`

Example: `RDEFINE STARTED BLDUCBMT.* OWNER(SYSTEMS) STDATA(USER(SFWADMIN))`

         `SETROPTS RACLIST(STARTED) REFRESH`

IV. Customize Installation via TSFSET Variables

Task   ✔

A.   From option 6, TSO Commands type: `EX 'HLQ.STSFPENU(TSFSET)'`

     Note: Settings variables are used for all TSF components and can be
     modified at any time. See Chapter 5, Installation Settings.

V. Set Workbench Passwords

Task   ✔

A.   Update member `TSFKEY00` in `'hlq.TSFxxx.PARMLIB'` with appropriate
     passwords.

     Note: Contact TeraCloud Technical Support to obtain your free z/Express
     license key. For TSF version 2.1.1, ownership of a z/Express license key is
     required, even if you are on a Professional version.

VI. Move Procs to PROCLIB

Task   ✔

A.   Submit TSFPROCS from the CNTL dataset.

VII.Modify the Collect Statements

Task   ✔

A.   Update `'hlq.TSFxxx.parmlib(TSFCOLxx)'` with specified times for your
     batch jobs to run.

B.   Modify job names in the `TSFCOLxx` member to your standards.

VIII.Concatenate ISPF Libraries (Optional)

Task   ✔

A.   Create a two line CLIST in one of your *concatenated* sysprocs that would
     then explicitly execute the following command:

```
PROC 0
EX 'XXX.XXX.PARMLIB(TSFMAIN)'
```

B.   Or, type the following command:

```
exec 'hlq.TSFxxx.parmlib(TSFMAIN)
```

IX. Start the TSF Application (Required)

Task   ✔

A.   Type the following command to start the TSF application:

```
S TSFEXEC
```

B.   Or, type the following command to stop the TSF application:

```
/F TSFEXEC,STOP
```

X. Start DFSMShsm Mgmt

Note: These jobs can be submitted via batch from `SFWB.CNTL` instead.

Task   ✔

A.   Start the started task `TSFSPACE`.   ☐

     `S tsfexec,,prog=tsfsmf00,jobname=TSFSPACE`

B.   Start the started task `TSFRECRD`.   ☐

     `s tsfexec,prog=tsfsmf01,jobname=TSFRECRD`

XI. Start the Agent

                                                                     ✔

Task

A.   Submit `TSFAGENT` (as a batch job),   ☐

B.   Or, start `TSFAGENT` (as a started task by executing the following):

     `S tsfexec,PROG=TSFAGENT,jobname=tsfagent`   ☐

XII.Installing the Graphical User Interface

Task   ✔

A.   Download member `TSFGUIIN` in binary format from the target library
(`&HLQ..STSFGUI`) to the client workstation and name it as follows:

     `TSFClient2_1Installer.msi`.   ☐

B.   To install: Double-click `TSFClient2_1Installer.msi`.   ☐

C.   To start: *Start | Programs | TeraCloud Corporation | TSF Client 2.1*.   ☐

D.   To customize: *View | Configure systems*, click the z/OS tab, click Add.   ☐

E.   Enter host name, port number, TSO userid & password.   ☐

F.   Click on database name; system will ping agent and obtain this information.   ☐

MAINFRAME PARMLIB MEMBERS

Member	Description	Components Used In
BUDGETAB	Used for Threshold management, provides examples of establishing budgets for various applications. Note the data sets must be assigned to a logical pool. To assign a dataset to a logical pool please see the member "POOLTABL"	Datasets (display option 'T' only)
CMPLPSRT	Sort parameters, not to be changed	Compare
COLLECT	Used to schedule all of the build jobs.	TSF
DEVTYPES	Used by TeraCloud Technical support	
DFINDPOL	Sort parameters, not to be changed	Datasets
DFINDSRT	Sort parameters, not to be changed	Datasets
DFINSRT2	Sort parameters, not to be changed	Datasets
EXCLUDE	Indicates which volumes are to be included or excluded. Note that the "exclude" parameter field must be set to "Y" for this option to be in effect.	Pools/Volumes, Datasets (Online & Batch)
IF	IF statements for TSF Automation	TSF
LPLSORT	Sort parameters, not to be changed	
MASTREC	Master Record for DSNOUT	Datasets
POOLTABL	Used to group datasets together for "logical pool" reporting.	Pools/Volumes, Datasets, DFSMShsm Mgmt, Tape, Utilities (Batch & Online)

Member	Description	Components Used In
POOLVOL	Used to group volumes together for "volume pool" reporting	Pools/Volumes, Datasets, DFSMShsm Mgmt, Tape, Utilities (Batch & Online)
SORTGN	Sort parameters, not to be changed	
SORTSG	Sort parameters, not to be changed	
TAPESIZE	Used for customization of Tape Media Type	Tape
TMCSORT1	Sort parameters, not to be changed	Tape
TMCSORT2	Sort parameters, not to be changed	Tape
TMCSORT3	Sort parameters, not to be changed	Tape
TRECREP	Repro for DFSMShsm Mgmt	DFSMShsm Mgmt
TRECSRT1	Sort parameters, not to be changed	DFSMShsm Mgmt
TSIBASE	IDCAMS define and repro fro TSI.DATABASE	DFSMShsm Mgmt
TSFGUENV	Stores the environment information for the Graphical User Interface which was entered during TSFSET execution	TSFAGENT
TSFKEY00	Used to authorize components of TSF to run on individuals computer systems	All components – online & Batch
TSFMAIN	Main CLIST to execute to get into the ISPF components	All components – online & Batch
TSFPRM00	**Contains parameters and settings to customize online and batch processes within TSF**	**TSF**
TSFSETTB	Used for initial settings in TSFSET.	TSFSET
TSFTAPSS	Used by TSFSET to find the tape management system	TSFSET
TSFVERSN	Used by TSFSET to get the current version number	TSFSET
TSIDAILY	Used to purge records and give the ability to use a temporary dataset for the reorg function instead of a permanent dataset. This member is used in conjunction with TSIREORA	DFSMShsm Mgmt

Member	Description	Components Used In
TSIPURGE	Used for cleaning up the DFSMShsm Mgmt activity database (hlq.tsi.database)	DFSMShsm Mgmt (Activity)
TSIREORA	Used in conjunction with TSIDAILY only to accomplish the new reorg method	DFSMShsm Mgmt
TSIREORG	Used for cleaning up the DFSMShsm Mgmt activity database (hlq.tsi.database)	DFSMShsm Mgmt (Activity)
TVARULES	Rules to identify and summarize data allocation changes.	Automation Batch
TVAVOLS	Used for volume rules in Total Volume Analyzer to create a baseline.	Automation Batch
UX001SRT	Sort parameters, not to be changed	UNIX Utility