

IBM Tivoli Key Lifecycle Manager Version 1.0
z/OS Fix Pack 1 README

Abstract

Readme documentation for IBM. Tivoli. Key Lifecycle Manager for z/OS Platforms, Version 1.0 Fix Pack 1 including installation-related instructions, prerequisites and corequisites, and list of fixes.

Readme file for: IBM Tivoli Key Lifecycle Manager for z/OS
Product/Component Release: 1.0
Update Name: Fix Pack 1
Fix ID: 1.0.0-TIV-TKLM-FP0001
TKLM for z/OS Fix Pack 1 APAR: OA28422
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Platform support

Tivoli Key Lifecycle Manager platforms supported with initial release installed
z/OS V1 Release 9, or later

Download location

The distribution medium for the IBM Tivoli Key Lifecycle Manager Version 1.0 Fix Pack 1 PTF (FMID HCKL100, APAR OA28422) is magnetic tape or electronic download from Retain. The PTF contains the following 2 SMP/E installable parts:
CKLTB001 OA28422A HCKL100
CKLMKDIR OA28422A HCKL100

Platforms updated by this fix pack.

Product/Component Name
IBM Tivoli Key Lifecycle Manager version 1.0 Fix Pack 1 -
1.0.0-TIV-TKLM-FP0001

Platform

z/OS V1 Release 9, or later

APAR
OA28422

Prerequisites and corequisites
None.

Known issues with TKLM for z/OS V 1.0 Fixpack 1

- * tklmCertList and tklmKeyList CLI command error messages are inconsistent for wrong keystore name.

- o When an incorrect keystore name is passed into the tklmKeyList CLI command, the following error message is displayed:

```
WASX7278I: Generated command line: AdminTask.tklmKeyList(
'-alias abc00000000000000000000 -keyStoreName "Tivoli Key
Lifecycle"') CTGKM0002 Command failed: CTGKM0558E Cannot
find the keystore named: Tivoli Key Lifecycle.
```

- o When an incorrect keystore name is passed to the tklmCertList CLI command, the following error message is displayed:

```
WASX7278I: Generated command line: AdminTask.tklmCertList(
'-alias cert1 -keyStoreName "Tivoli Key Lifecycle"')
CTGKM0002E Command failed: CTGKM0530E Cannot find the
certificate.
```

- * When using Tivoli Key Lifecycle Manager command line interface (CLI) all parameters containing spaces must be enclosed in single quotes.

For example:

```
print AdminTask.tklmKeyStoreDelete ('-storeName "Tivoli
Key Lifecycle Manager Keystore" -confirm y')
```

- * SMP/E install fails to create /usr/lpp/tklm/IBM directory

This fix pack contains a fix to the CKLMKDIR member for creating the /usr/lpp/tklm/IBM directory structure. In the original version of TKLM for z/OS the CKLMKDIR member would fail to create the /usr/lpp/tklm/IBM directory if the entire /usr/lpp/tklm directory structure did not already exist. To get around this the user had to manually create the /usr/lpp/tklm directory structure before performing the SMP/E install. This new job should be executed between the SMP/E receive and apply steps in order to create the entire /usr/lpp/tklm/IBM directory structure.

Known limitations with TKLM for z/OS V 1.0 Fixpack 1

- * Backups taken by Tivoli Key Lifecycle Manager version 1.0 without any fix pack installation cannot be restored once a fix pack has been applied.

Installation information:

Installation instructions for the TKLM for z/OS V 1.0 Fix Pack 1 are located in README file, ZTKLMFP1.OA28422.README.txt, at the following URL:

<ftp://ftp.software.ibm.com/eserver/zseries/zos/tkml/pdf/oa28422.pdf>

The TKLM for z/OS V 1.0 Fixpack 1 README file references various sections of the TKLM V 1.0 Infocenter, located at the following URL:

<http://publib.boulder.ibm.com/infocenter/tivihelp/v2r1/index.jsp?topic=/com.ibm.tkml.doc/welcome.htm>

Installing the Tivoli Key Lifecycle Manager fix pack.

Prior to fix pack installation

1. Ensure that Tivoli Key Lifecycle Manager is not being utilized before installing the fix pack. If your facility has a "service maintenance outage" process, consider installing this fixpack during a arrange service outage.
2. A backup of your Tivoli Key Lifecycle Manager server should be performed prior to installing this fix pack. Follow the steps 'Backing up critical files' in the Administering section of the Tivoli Key Lifecycle Manager Product Manuals.

Instructions

- A. If this is a NEW install of TKLM for z/OS follow the instruction in the "IBM Tivoli Key Lifecycle Manager: Installation and Configuration Guide", chapter "Installing Tivoli Key Lifecycle Manager for z/OS", up to and including step 3, "SMP/E install Tivoli Key Lifecycle Manager for z/OS".

If TKLM for z/OS has previously been installed skip all steps up to an including step 3.

In either case, keep this section of the Installation and Configuration Guide open as we will follow it through the steps below.

- B. Both NEW and PREVIOUS installs should SMP/E install the TKLM for z/OS Fix Pack 1 PTF (APAR OA28422).
- C. Both NEW installs and PREVIOUS installs should follow step 4 to create a directory that will contain the fix pack packages and files. For example, create a directory containing the APAR name so it may easily be identified in the future.

```
mkdir /tklmAparOA28422
```

Note: For PREVIOUS installs DO NOT use the same directory that was used to install the original version of

TKLM for z/OS V1. The original install directory must be left in tact as it will be needed by the fix pack install scripts to apply the fix pack.

You must create a new directory for housing and installing the fix pack. It is recommended that a new filesystem be created for this new fix pack directory (mountpoint).

For Sysplex installs, create a new unique directory on every subsystem that contains an instance of TKLM for z/OS. Each directory should be created under its associated subsystem root directory.

For example:

```
mkdir /SYSTEM_NAME/tklmAparOA28422
```

The fix pack must be applied to each instance of TKLM for z/OS in order to bring all members of the Sysplex up to the fix pack level. Ensure that the following 4 steps, D through G, are performed in parallel on each subsystem that contains an instance of TKLM for z/OS.

- D. Both NEW installs and PREVIOUS installs should follow step 5 to give the ssrecfg and ssregrp ID's ownership of the fix pack directory.

```
chown SSRECFG:SSREGRP /tklmAparOA28422
```

- E. Both NEW installs and PREVIOUS installs should follow step 6 to give the ssrecfg and ssregrp ID's read, write, and execute permission of the fix pack directory.

```
chmod 770 /tklmAparOA28422
```

- F. Both NEW installs and PREVIOUS installs should follow step 7 to switch to the ssrecfg user ID.

```
su ssrecfg
```

- G. Both NEW installs and PREVIOUS installs should follow step 8 to copy the fix pack tklm.tar file to the fix pack directory and extract its contents.

```
cd /tklmAparOA28422
cp /usr/lpp/tklm/tklm.tar /tklmAparOA28422/tklm.tar
tar oxvfp tklm.tar
```

- H. Both NEW installs and PREVIOUS installs should copy the 3 DB2 sample SPUFI scripts from Fix Pack 1 to a PDS.

```
cp -T /tklmAparOA28422/samples/tklmsql_zos_install.db2
    "'/'TKLM.SPUFI.OA28422(tklmdb2i)'"
cp -T /tklmAparOA28422/samples/tklmsql_zos_uninstall.db2
    "'/'TKLM.SPUFI.OA28422(tklmdb2u)'"
cp -T /tklmAparOA28422/samples/tklmsql_zos_migrate.db2
```

"/'TKLM.SPUFI.OA28422 (tklmdb2m) '"

Note: For PREVIOUS installs DO NOT overwrite the sample SPUFI scripts that were provided with the original version of TKLM for z/OS V1. The original sample SPUFI scripts may be used as a reference when customizing the new fix pack sample SPUFI scripts that are required to install the fix pack. The original sample SPUFI scripts may also be needed for future service.

For Sysplex installs, if you are running DB2 in datasharing mode between all subsystems within your parallel sysplex, you should only copy the fix pack sample SPUFI scripts to one subsystems PDS.

- I. NEW installs should follow Step 10, 11, and 12 for DB2 setup, SMF setup, and migration preparation. New installs should not run the sample SPUFI migrate script, tklsqldb2_zos_migrate.db2.

Previous installs should instead run the sample SPUFI migrate script, tklsqldb2_zos_migrate.db2. Open the PDS member to which the DB2 migrate script was copied in the previous step and modify the migrate script according to the instructions in the script header to match your environment. Then run the TKLM DB2 migrate SPUFI script to bring the TKLM database up to the fix pack level. Verify that all SQLCODEs are successful (0 or 100) in the SPUFI output dataset.

Note: For Sysplex installs, if you are running DB2 in datasharing mode between all subsystems within your parallel sysplex, you should only customize and execute the sample SPUFI script on one subsystem.

For both NEW and PREVIOUS installs, the sample SPUFI scripts, tklsqldb2_zos_migrate.db2 and tklsqldb2_zos_install.db2, will create a new TKLM Database with name TKLMDBFP. For PREVIOUS installs, all existing data from your original TKLM Database, TKLMDB, will be copied into the new TKLM Database. Any backup and recovery jobs that have been put in place prior to applying TKLM for z/OS Fixpack 1 will need to be updated from the old database name, TKLMDB, to the new database name, TKLMDBFP.

- J. NEW installs and PREVIOUS installs that need to create or change their installation parameters (for example the SSRECFG password) should follow step 13 to create a new TKLM response file.

Previous installs who have a valid TKLM response file may continue to use it to install the fix pack and skip this step.

/tklmAparOA28422/bin/createResponseFile.sh

Note: For Sysplex installs, if you need to create or change your installation parameters you will need to perform this step on all subsystems.

- K. NEW Installs should follow step 14 to install a new copy of TKLM at the fix pack 1 level.

PREVIOUS installs should instead run the updateTKLM.sh script located within the fix pack.

The -previousVersion flag is a mandatory argument of the updateTKLM.sh script that is used to point to your previous install directory of TKLM for z/OS.

New Installs:

```
/tklmAparOA28422/bin/installTKLM.sh
```

Previous Installs:

```
/tklmAparOA28422/bin/updateTKLM.sh -previousVersion  
/tklmProductInstall
```

Note: Sysplex installs will need to perform this step on all subsystems.

- L. Optionally both NEW and PREVIOUS installs may follow step 15 to configure file based auditing.

- M. NEW installs should follow steps 16, 17, and 18 for RACF Keyring setup and to configure SSRE to use available authentication data when an unprotected URI is accessed.

PREVIOUS installs should skip this step.

Note: NEW Sysplex installs will need to perform this step on all subsystems.

Performing the necessary tasks after fix pack installation.

1. Both NEW installs and PREVIOUS installs should verify the fix pack installation by following step 19 and ensuring that TKLM is listed on the ISC Console welcome page at Version 1.0.0.1.
2. A backup of your Tivoli Key Lifecycle Manager server should be performed after installing this fix pack. Follow the steps 'Backing up critical files' in the Administering section of the Tivoli Key Lifecycle Manager Product Manuals.

Note: For additional information on installing TKLM for z/OS within a Parallel Sysplex read the next section of the Tivoli Key Lifecycle Manager Product Manuals, "Installing Tivoli Key Lifecycle Manager on z/OS Parallel Sysplex systems".

Recovering from a failed fix pack installation

Steps for rolling back Tivoli Key Lifecycle Manager for z/OS Version 1, z/OS V1 Release 9, or later.

Instructions

- A. Start an OMVS session and switch to the SSRECFG user ID.

```
su ssrecfg
```

- B. Change directory to the location of the fix pack install directory.

```
cd /tklpmAparOA28422
```

- C. Run the updateTKLM.sh script with the -recover and -previousVersion flags. The -previousVersion flag takes an argument which must be the path of the directory where the original version of TKLM was installed from.

```
/tklmAparOA28422/bin/updateTKLM.sh -recover  
-previousVersion /tklmProductInstall
```

Note: When uninstalling the fix pack, the TKLM database updates resulting from the sample SPUFI migrate script, tkmlsql_zos_migrate.db2, do not need to be rolled back. The updated TKLM database will continue to function with the original version of TKLM for z/OS.

For Sysplex installs, steps A,B and C above must be performed on all subsystems that contain an instance of TKLM at the fix pack 1 level in order to roll back to the original version.

Fix pack installation error conditions

Exit Code - Description - Possible Causes, Recovery Actions

- 2 - Uninstall Failed - The uninstall script failed to uninstall all TKLM components. See the log file in /tklmAparOA28422/logs for more information.
- 3 - TKLM Fix Pack Install Failed - The install script failed to install all TKLM components. See the log file in /tklmAparOA28422/logs for more information.
- 4 - TKLM Database Connection Failure - TKLM's failed to connect to DB2. Ensure that your DB2 user ID has access to the TKLM database and your password is correct.
- 5 - Cannot Create Log File - The TKLM scripts were unable to create a log file in the /tklmAparOA28422/logs directory. Ensure that the /tklmAparOA28422/logs directory is owned by the SSRECFG user ID and SSREGRP group ID, and that the permissions are set to 770 (read, write, and execute for owner and group). Also ensure that you are logged on as the SSRECFG user ID.
- 8 - Cannot Backup Config Files - The TKLM update script failed to backup the TKLM configuration files. Ensure that the /tklmAparOA28422 directory is owned by the SSRECFG user ID and SSREGRP group ID, and that the permissions are set to 770 (read, write, and execute for

owner and group). Ensure that the TKLM_HOME directory within the SSRE config hfs allows the SSRECFG user ID read and write access. Also ensure that you are logged on as the SSRECFG user ID.

- 9 - Cannot Restore Config Files - The TKLM update script failed to restore the TKLM configuration files. Ensure that the /tklmAparOA28422 directory is owned by the SSRECFG user ID and SSREGRP group ID, and that the permissions are set to 770 (read, write, and execute for owner and group). Ensure that the TKLM_HOME directory within the SSRE config hfs allows the SSRECFG user ID read and write access. Also ensure that you are logged on as the SSRECFG user ID.
- 10 - Log Directory is a File - The TKLM scripts failed to create a log file within the /tklmAparOA28422/logs directory because /tklmAparOA28422/logs is a file, not an actual directory. Rename the /tklmAparOA28422/logs file to something else, and create a new directory named /tklmAparOA28422/logs. This directory should be owned by the SSRECFG user ID and SSREGRP group ID, and the permissions should be set to 770 (read, write, and execute for owner and group).
- 11 - Database Migration Failed - There was a failure with the database migration. See the log file for more information.
- 12 - Invalid TKLM Version - Either the fix pack level you are trying to install or the previous level you are pointing to with the -previousVersion flag is not valid. Execute the /tklmAparOA28422/bin/versionInfo.sh script to ensure you are installing z/OS Service Level: OA28422, and execute the /tklmProductInstall/bin/versionInfo.sh to ensure your previous version is the original version of TKLM for z/OS, z/OS Level: t10_072.090209.
- 15 - Log Directory Does Not Exist - The TKLM scripts failed to create a log file because the /tklmAparOA28422/logs directory does not exist. Create a new directory named /tklmAparOA28422/logs. This directory should be owned by the SSRECFG user ID and SSREGRP group ID, and the permissions should be set to 770 (read, write, and execute for owner and group).
- 20 - No Response File Found - The TKLM scripts failed to find a response file. Use the -responseFile flag to specify a valid response file, or create a new response file using the /tklmAparOA28422/bin/createResponseFile.sh script.
- 25 - Cannot Create Response File - The createResponseFile.sh script failed to create a response file. Ensure that the directory where you are trying to create the response file is owned by the SSRECFG user ID and SSREGRP group ID, and the permissions are set to 770 (read, write, and execute for owner and group). If no path is specified the default response file will be written to /tklmAparOA28422/bin/tklmInstall.response
- 30 - Cannot Update Response File - The createResponseFile.sh script failed to create a response file. Ensure that the directory where you are trying to create the response file is owned by the SSRECFG user ID and SSREGRP group ID, and the permissions are set to 770 (read, write, and execute for owner and group). If no path is specified the default response file will be written to

- /tklmAparOA28422/bin/tklmInstall.response
- 35 - Invalid Input - Invalid input was passed to the TKLM script. Run the script again with valid input.
 - 40 - Invalid Response File - The response file passed to the TKLM script is not valid. Create a new response file using the /tklmAparOA28422/bin/createResponseFile.sh script.
 - 45 - Cannot Create SSRE Product Directory - There was a failure when creating the SSRE product directory. This directory is located within your SSRE config HFS under SSRE_HOME. Ensure that the SSREGRP group has read, write, and execute permission of the SSRE_HOME directory.
 - 50 - Cannot Create TKLM Product Directory - There was a failure when creating the TKLM product directory. This directory is located within your SSRE config HFS under SSRE_HOME/products. Ensure that the SSREGRP group has read, write, and execute permission of the SSRE_HOME/products directory.
 - 55 - TKLM UI/Server Install Failed - There was a failure when deploying the TKLM binaries within SSRE. Ensure that the SSRE Config HFS is not full and that the SSREGRP group has read, write, and execute permission of the SSRE_HOME directory. Also ensure that the contents of the /tklmAparOA28422/bin directory are owned by the SSRECFG user ID and SSREGRP group ID, and the permissions are set to 770 (read, write, and execute for owner and group).
 - 60 - Cannot Start WAS Server - There was a problem starting SSRE. Ensure that you have specified the correct password for the SSRECFG user ID within the response file or by using the -wasPassword flag. Try stopping SSRE from the console and running the TKLM script again.
 - 65 - Cannot Stop WAS Server - There was a problem stopping SSRE. Ensure that the TKLM key server is not busy serving keys and attempt to stop SSRE from the console. If SSRE will not stop from the console you may need to cancel it before you can run the TKLM script again.
 - 70 - Database Configuration Failure - There was a problem configuring the database connection. Ensure that you have specified the correct DB2 parameters in the response file and that DB2 is started on the system.
 - 75 - Copy Failure - A file copy failed. Ensure that the file system is not full and that the SSRECFG ID has write permission to copy the file to the destination.
 - 80 - Plugin Initialization Failure - The TKLM binaries failed to initialize within SSRE. Ensure that the SSRE Config HFS is not full and that the SSREGRP group has read, write, and execute permission of the SSRE_HOME directory. Also ensure that the contents of the /tklmAparOA28422/bin directory are owned by the SSRECFG user ID and SSREGRP group ID, and the permissions are set to 770 (read, write, and execute for owner and group).
 - 85 - Invalid Response File - The response file passed to the TKLM script is not valid. Create a new response file using the /tklmAparOA28422/bin/createResponseFile.sh script.
 - 90 - Error In Migration - The EKM to TKLM migration failed. Ensure that the EKM files and configuration is valid.
 - 95 - TKLM Already Installed - A TKLM install failed because TKLM is either installed or in a partially installed

state. Use the update script,
/tklmAparOA28422/bin/updateTKLM.sh, to update TKLM to the
fix pack, or use the uninstall script,
/tklmAparOA28422/bin/uninstallTKLM.sh, to uninstall TKLM.

99 - Internal Error - There was an internal error while
running the TKLM scripts. See the log file in the
/tklmAparOA28422/logs directory for more information.

List of fixes

APAR fixes included in TKLM for z/OS v 1.0 Fix Pack 1

APAR No. Sev. Abstract

IZ44726	3	ADMINTASK.TKLMKEYEXPORT DOES NOT CLOSE OUTPUT STREAM
IZ44728	3	PASSWORD LENGTH VALIDATION IS NOT DONE FOR TKLMKEYSTOREUPDATE
IZ44844	2	EXPORTING SYMMETRIC KEYS FROM TKLM REQUIRES PRESENCE OF A
IZ45439	3	SSL PORT FAILS TO STAY UP IF SSL CERT ALIAS IS MIXED CASE
IZ45522	3	ADD CHECK TO NOT ALLOW RESTORE FROM VERSION 1.0 TO 1.0.0.1
IZ47216	2	RESTORE FAILS WHEN USING A TKLM BACKUP TAKEN BEFORE DST CHANGE
IZ47241	2	THE EXPORTING OF A PRIVATE KEY TO A PKCS12 KEYSTORE VIA TKLMKEYEXPORT, EXPORTS ONLY THE CERTIFICATE AND NOT THE KEY
OA28640	3	LTO KEY GROUP MODIFY FAILS FOR SELECT GROUPS
OA28644	3	CKLISMKD SMP/E SAMPLE DOES NOT CREATE /USR/LPP/TKLM PATH
IZ49606	3	WHEN USING CLI YOU NEED TO ENCAPSULATE IN QUOTE, PARAMETERS THAT CONTAIN SPACES. THIS INFORMATION IS NOT IN THE DOCUMENTATION.
IZ49678	3	TKLMDEVICEUPDATE COMMAND DOES NOT UPDATE KEY ALIAS2 FOR 3592
IZ49679	3	PROVIDE CORRECT ERROR MESSAGE WHEN RUN THE TKLMKEYIMPORT COMMAND TO IMPORT A SECRET KEY WITH WRONG PRIVATE KEY ALIAS.
IZ49680	3	MESSAGE "CTGKM0505I FOUND 1 KEYSTORE(S)" WAS NOT DISPLAYED WHEN TKLMKEYSTORELIST COMMAND WAS EXECUTED SUCCESSFULLY WITH ANY PARAMETER VALUES.
IZ49681	3	TKLMKEYIMPORT COMMAND IMPORTING A PRIVATE KEY WITHOUT SPECIFYING THE PASSWORD CAUSES MBEANEXCEPTION
IZ49684	3	CERT REMAINS AS SSL DEFAULT EVEN IF DELETED FROM THE KEYSTORE
IZ49686	3	FIX TKLMKEYEXPORT ERROR MSG WHEN PATH NOT RESOLVABLE
IZ49688	3	GROUPS W/ > 10% KEYS LEFT APPEAR ON HOME PAGE
IZ49750	3	MAY NOT SEE AN IMPORTED KEY USING EITHER THE GUI OR THE TKLMKEYLIST COMMAND

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