

Release Notes



IBM® Tivoli® Identity Manager RACF Adapter

Fourth Edition (June 24, 2015)

This edition applies to version 5.1 of Tivoli Identity Manager and to all subsequent releases and modifications until otherwise indicated in new editions.

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Preface

Welcome to the IBM Tivoli Identity Manager RACF Adapter.

These Release Notes contain information for the following products that was not available when the IBM Tivoli Identity Manager manuals were printed:

- IBM Tivoli Identity Manager RACF Adapter Installation and Configuration Guide

Adapter Features and Purpose

The RACF Adapter is designed to create and manage RACF accounts. The adapter runs in "agent" mode and must be installed on z/OS. One adapter is installed per RACF Database, but the RACF Adapter may be configured to support a subset of the accounts through the scope of authority feature on the RACF Service Form.

The deployment configuration is based, in part, on the topology of your network domain, but the primary factor is the planned structure of your Identity Manager Provisioning Policies and Approval Workflow process. Please refer to the Identity Manager Information Center for a discussion of these topics.

The Identity Manager Adapters are powerful tools that require administrator level authority. Adapters operate much like a human system administrator, creating accounts, permissions and home directories. Operations requested from the Identity Manager server will fail if the adapter is not given sufficient authority to perform the requested task. IBM recommends that this adapter run with administrative (root) permissions.

Service Groups Management

The ability to manage service groups is a new feature introduced in TIM 5.1. By service groups, TIM is referring to any logical entity that can group accounts together on the managed resource.

Managing service groups implies the following:

- Create service groups on the managed resource.
- Modify attribute of a service group.
- Delete a service group.

Note that service group name change is not supported in TIM 5.1 release.

The RACF adapter does not support service groups management.

Contents of this Release

Adapter Version

Component	
Release Date	July 10, 2015
Adapter Version	5.1.20
Component Versions	Adapter Build 5.1.10200 Profile 5.0.1003 ADK 6.02 z/OS enRole Resource Management API 6.0.2 OpenSSL 1.0.1g
Documentation	RACF Adapter Installation and Configuration Guide SC23-6162-02

New Features

Enhancement # (FITS)	Description
	Items included in current release
	No enhancements for this release
	Items included in 5.1.19 release
	No enhancements for this release
	Items included in 5.1.18 release
	No enhancements for this release
	Items included in 5.1.17 release
RTC 93081	Remove APPC protocol dependency
	Items included in 5.1.16 release
	None
	Items included in 5.1.15 release
	None
	Items included in 5.1.14 release
	None
	Items included in 5.1.13 release
RTC 74287	Added support for password phrases
RTC 35332	Added support for custom fields (CSDATA)
RTC 75819	Changed KERB form: Added AES and changed DESD description
	Changed agent behavior: Setting a boolean flag to blanks is now the same as setting it to FALSE
	Items included in 5.1.12 release
	None
	Items included in 5.1.11 release
OSDB Update	RACF Adapter and z/OS V1R13 support
	Items included in 5.1.10 release

MR1108102228	RACF Adapter and z/OS V1R12 support
	Items included in 5.1.3 release
MR1026063837 MR0523074234	Enhanced the adapter to call the ITIMEXIT program on account modify request.
N/A	Updated installation procedure to use ISPF
	Items included in 5.1.2 release
	Added support for RACF on z/OS V1R11.
	Items included in 5.1.1 release
	Initial release for TIM v5.1

Closed Issues

Internal#	APAR#	PMR# / Description
		Items closed in current release
RTC 125820	IV74312	RACF Adapter failed to open output file when processing >1000 simultaneous requests
		Items included in 5.1.19 release
RTC 124239	55658,0 21,724	Clear text password visible while changing password using ISIM
RTC 121370	IV68067	Recon failed, adapter didn't wait 99 seconds
RTC 121366	IV68479	RACF adapter crashes when using PASSEXPIRE is true in combination with a pass phrase ending with a '\$' character.
RTC 121368	IV71138	Reconciliation fails due to prefixing.
RTC 121369	IV67084	Errors in CSDATA processing for one-character fields and integer fields.
RTC 121371	IV67900	Help panel message AMGRA034 should be AGRMA034.
		Items included in 5.1.18 release
RTC 118499		Pre-Delete exit does not work
	IV65985	Add account fails if 'KJ56644/ NO VALID TSO USERID, DEFAULT USER ATTRIBUTES USED' is returned from RACF.
	IV65547	RACF adapter password command formatting errors when creating a new account.
RTC 117760		AGRCCFG utility not working as expected
	IV65076	ISIM RACF 6.0.7 SHORTCONNECT REGISTRY DEFAULT
	IV65073	ISIM RACF 6.0.7 ADAPTER MISSING PERMISSION INFO
		Items included in 5.1.17 release
RTC 113676	IV63089	Password is set to EXPIRED on password change although "PASSEXPIRE" is set to "TRUEADD"
		Items included in 5.1.16 release
RTC 112167	IV62670	Password not propagated on password change
		Items included in 5.1.15 release
RTC 109531	IV60839	Erracupwinterval: Interval 0 not interpreted as NOINTERVAL
RTC 67672		Update on previous fix: now also includes solution for agentCfg dumping when entering a 4 character key when starting agentCfg
RTC 99335		AgentCfg -codepages does not return information
RTC 108483		RacfAgent.dat overwritten every IPL
RTC 108485		Openssl upgraded to 10.1.g
RTC 109528		Changed max thread settings and additional debug messages
RTC		Running the adapter in -console mode does not open remote socket

109530		
		Items included in 5.1.14 release
RTC 98358	IV52342	Warning messages CONNECT group: incorrect characters returned in errorMessage when creating a new account on the ITIM server and specifying a connect group to which the user can not be added by the adapter resulting in the following message on the ITIM server: CTGIMD812E An error occurred while processing the adapter response message. The following error occurred. Error: An invalid XML character (Unicode: 0x7) was found in the value of attribute "errorMessage" and element is "attr".
		Items included in 5.1.13 release
RTC 95787	IV47040	Adapter issue with CONNECT group
RTC 95782	IV42240	Incorrect characters present in some account attributes
RTC 64756	IV25449	Error in setting the READ_TIMEOUT parameter.
RTC 67672	IV27957	When trying to change the ITIM adapter Configuration Key using agentCfg, a problem is encountered if the length of the new key is less than 5 characters. If it is 4 characters or less the registry will be corrupted.
		Items included in 5.1.12 release
N/A	IV37098	ErRacUPWNoExpire not checked correctly on user add.
		Items included in 5.1.11 release
N/A	IV01401	Three RACF OPERPARM segment attributes are incorrect: ERRACUOPAUTH incorrectly returns "MSTR" instead of "MASTER" on a reconciliation. ERRACUOPLEVEL requires a value of "I". ERRACUOPMFORM requires a value of "J". ERRACUOPMFORM and ERRACUOPMONITOR incorrectly returned on a reconciliation.
N/A	IV14398	RACF adapter to include a timeout setting.
		Items included in 5.1.10 release
N/A	N/A	SearchRequest attributes not set correctly so reconciliation under a requester ID not honoured correctly.
	N/A	13681,112,848 certTool generating corrupt CSRs
	IZ86303	RACF and ACF2 adapter with 2-way SSL (Register certificate). Registered certificates giving 'Subject validation failed' message even when correctly registered.
	IZ92541	Minor corrections to the new RACF adapter installation dialog.
	IZ94090	RACF adapter failure during reconciliation - FIX0205: FAILED, RC= 16. Correction to reconciliation transaction JCL.
	IZ94640	The data sets are not allocated correctly in a non-sms environment

	IZ94656	RACF adapter reconciliation does not return select 'boolean' values.
	IZ95315	RACF adapter post modify option is in the wrong place
	IZ95829	RACF adapter 5.1.3 missing registry settings in the documentation.
	IZ96327	Response message for request shows a parsing error. Error: An invalid XML character (Unicode: 0x1a) was found in the value of attribute "matchedDN" and element is "LDAPResult"
	IZ98511	Error modifying connected groups.
		Items included in 5.1.3 release
N/A	N/A	Corrections to future revoke date and future resume date processing. They must be processed in date order if both are specified on the same add or modify request. Also the dates are now reset correctly, if no date is specified, and a resume or revoke date already exists.
N/A	N/A	The maximum length of 20 for the attribute RACF UserName (erracuname) must be enforced in the profile.
		Items included in 5.1.2 release
N/A	N/A	Removed obsolete xforms.xml from adapter profile.jar.
		Items included in 5.1.1 release

Known Issues

Internal#	APAR#	PMR# / Description
RTC 98378	N/A	This release of the adapter returns an empty error message field for failures in defining CONNECT GROUPS. The failed CONNECT GROUPS are correctly updated on the ITIM server. The error reported by RACF is presented in the adapter log file.
	N/A	This release of the RACF Adapter does not support FIPS.

Installation and Configuration Notes

The 5.1.17 and higher Resource Access Control Facility (RACF) adapter release no longer require an APPC configuration to perform RACF user identity management functions. Starting the 5.1.17 release the adapter will use the standard OMVS shell command `tsocmd` to execute authorized TSO/E based commands allowing it to interact with z/OS and RACF. For a full overview of the TSO/E based implementation please refer to the chapter “Overview of the RACF Adapter” in the 6.0 based IBM Security Identity Manager Adapter Installation Guide: [“RACF Security for z/OS® Adapter”](#).

The 5.1.19 and higher Resource Access Control Facility (RACF) adapter release implemented the `R_admin(IRRSEQ00)` callable service to execute RACF operator command transactions.

Corrections to Installation Guide section of the 6.0 based IBM Security Identity Manager Adapter installation Guide.

Overview of the adapter

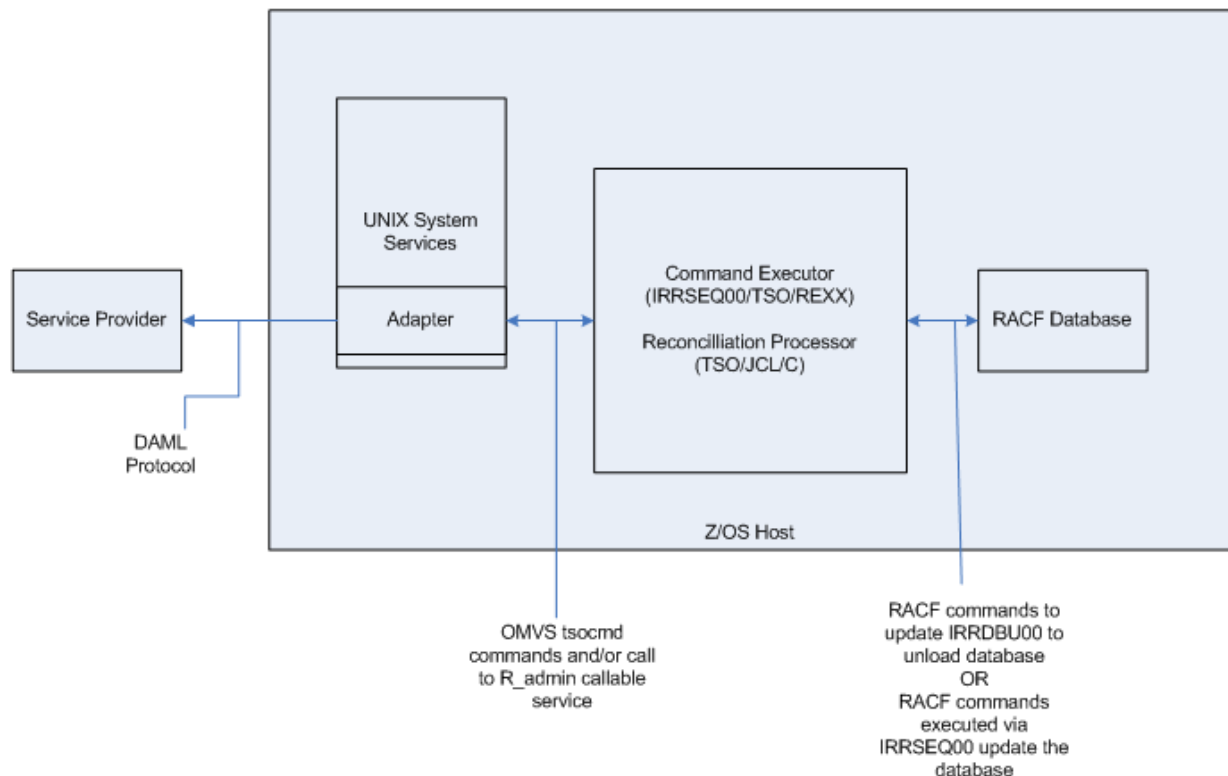


Figure 1. The RACF Adapter components

Command Executor

Operates as either a TSO command transaction (tsocmd based) or a RACF operator command transaction (R_admin API /IRRSEQ00 based) that is triggered by an incoming request from the adapter. These requests consist of commands.

TSO command transactions support reconciliation and ITIMEXIT processing. RACF operator commands supports account Add, Modify and Delete processing. The adapter runs these commands from the UNIX System Services environment and collects the results that are returned by RACF, MVS, and/or REXX depending on the specific command to run.

RACF Adapter Considerations

The RACF Adapter requires APF authorization. As such, the RACF ID used by the adapter must have READ access to the BPX.SERVER profile in the FACILITY class.

For the R_admin callable service (IRRSEQ00) for RACF operator command processing additional profile access is required.

The R_admin callable service requires READ permission to be defined for the ADAPTER user and/or SURROGAT user on the following profiles:

CLASS PROFILE

FACILITY IRR.RADMIN.ADDUSER
FACILITY IRR.RADMIN.ALTUSER
FACILITY IRR.RADMIN.CONNECT
FACILITY IRR.RADMIN.DELUSER
FACILITY IRR.RADMIN.PASSWORD
FACILITY IRR.RADMIN.REMOVE

Please note it is required to use the full command name as shown in the examples above when defining the resource.

Also please note the adapter libraries and binaries require to be program controlled and run from an APF authorized library which is accomplished by the extattr +ap commands executed at installation time.

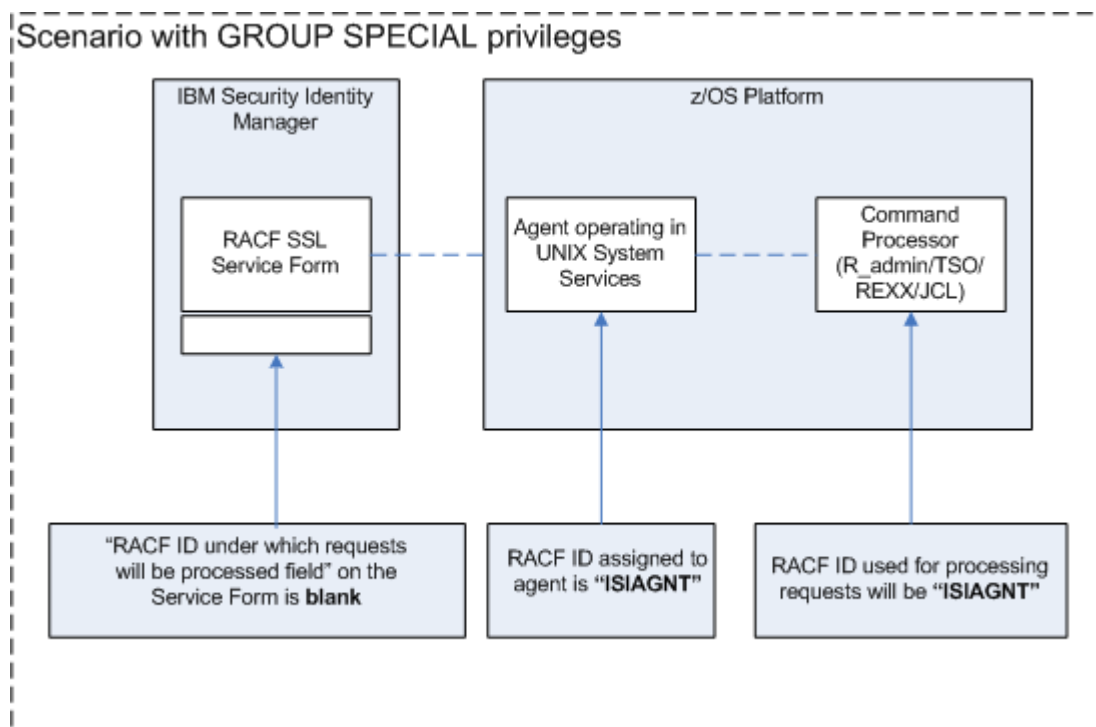


Figure 2. Scenario with GROUP SPECIAL privileges

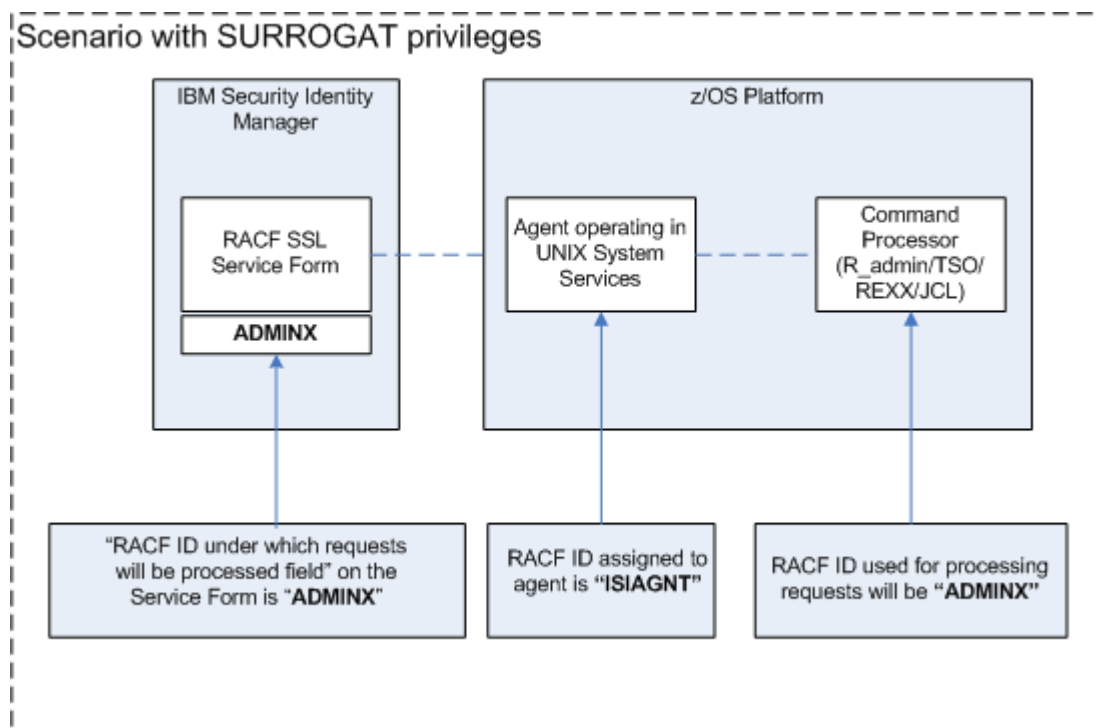


Figure 3. Scenario with surrogate authority

RACF access configuration

RACF user ID

The adapter must run under a valid RACF user ID, with an OMVS segment, a valid UID, and a valid TSO account number. This user default group must have an OMVS segment with a valid GID. The adapter RACF user ID must have READ permit on BPX.SERVER in class FACILITY.

The R_admin callable service requires READ permission to be defined for the ADAPTER user and/or SURROGAT user on the following profiles:

CLASS PROFILE

FACILITY IRR.RADMIN.ADDUSER
FACILITY IRR.RADMIN.ALTUSER
FACILITY IRR.RADMIN.CONNECT
FACILITY IRR.RADMIN.DELUSER
FACILITY IRR.RADMIN.PASSWORD
FACILITY IRR.RADMIN.REMOVE

For example, If the adapter RACF user ID is ISIAGNT then the following commands define the required profile update:

```
PERMIT BPX.SERVER CLASS(FACILITY) ID(ISIAGNT) ACCESS(READ)
PERMIT IRR.RADMIN.ADDUSER CLASS(FACILITY) ID(ISIAGNT) ACCESS(READ)
PERMIT IRR.RADMIN.ALTUSER CLASS(FACILITY) ID(ISIAGNT) ACCESS(READ)
PERMIT IRR.RADMIN.CONNECT CLASS(FACILITY) ID(ISIAGNT) ACCESS(READ)
PERMIT IRR.RADMIN.DELUSER CLASS(FACILITY) ID(ISIAGNT) ACCESS(READ)
PERMIT IRR.RADMIN.PASSWORD CLASS(FACILITY) ID(ISIAGNT) ACCESS(READ)
PERMIT IRR.RADMIN.REMOVE CLASS(FACILITY) ID(ISIAGNT) ACCESS(READ)
SETROPTS REFRESH RACLIST(FACILITY)
```

Upgrading to Version 5.1.20

Instructions for upgrading version 5.1.19

Refer to the Installing and configuring section of the RACF adapter guide for full details.

- 1) Upload the XMI file and install the ISPF dialog as described in the "Installing and configuring the adapter" chapter of the RACF adapter guide.
- 2) Run the ISPF dialog and load previously saved variables using option 1, then generate the job streams using option 3. This generates the JCL in userid.ITIMRACF.CNTL and populates userid.ITIMRACF.DATA.
- 3) Assuming installing directly over an existing, working adapter running on ADK version 5.17+ with no changes to the installation parameters (the saved variables), then the only installation jobs in data set userid.ITIMRACF.CNTL that need to be submitted:

J3: This job allocates and populates the load and exec data sets, and populates the OMVS directories. You may require superuser authority to submit this job successfully.

J6: This job registers the APPC/MVS transactions.

If you are upgrading from a version 5.1.1.18 or earlier adapter then a full installation is required

Refer to the "Installing and configuring section" of the 6.0 based [IBM Security Identity Manager Adapter Installation Guide](#) for full details.

Where in the 6.0 based guide is being referred to IBM Security Identity Manager this also applies to IBM Tivoli Security Identity Manager. All usage of the phrase ISIM in installation panels, paths and parameters should be read as ITIM for the 5.1.20 and higher adapter releases.

Corrections to Installation Guide

The following section of the 6.0 ISIM RACF Adapter Installation Guide does not apply to the IBM Tivoli Identity Manager Server:

Section: Creating a RACF Adapter service

Paragraph: On the Status and information tab

The Status and information tab is not available for the IBM Tivoli 5.1.x Identity Manager Server.

The version 5.1.18 adapter introduced a new configuration setting which is not described in the current version of the RACF adapter guide. This is the DEBUG registry setting which is described in the *Documentation Updates* section of this document. The DEBUG registry setting is added to the **Adapter specific parameters** panel as depicted below.

```

----- ITIM RACF Adapter Customization -----
Option ==>
Adapter specific parameters
Name of adapter instance ==> RACFAGENT
Name of Started Task JCL procedure name ==> ITIAGNT
IP Communications Port Number
==> 45580
Note: The adapter will always require access to ports 44970 through 44994.
These ports are implicitly reserved.
Adapter authentication ID (internal) ==> agent
Adapter authentication password (internal) ==> agent
PDU backlog limit ==> 2000
DEBUG mode ==> TRUE (True, False)
Do you want passwords set as expired? ==> TRUE (True, False, Trueadd)
  
```


Do you use SYS1.BROADCAST in the environment? ==> TRUE (True, False)
 RACF user ID for the ITIM adapter ==> ITIAGNT
 RACF z/OS Unix group for the ITIM adapter ==> OMVS
 OMVS UID to be assigned to RACF ID ==> 999
 Scoped reconciliation VSAM data set
 (blank if scoped reconciliation not required) ==> IBMUSER.ITIMRACF.GROUPS

Configuration Notes

The following configuration notes apply to this release:

Error messages (IKJ56644I and zSecure command Verifier related)

RACF Adapter version 5.1.18 introduces a new registry setting:

Option attribute	Default value	Valid value	Function and meaning	Required?
DEBUG	TRUE	TRUE or FALSE	<p>When set to TRUE warning messages will be returned to the ITIM server for those attributes for which the request to add, delete or modify was executed successfully with return code 0, but informational messages are returned by RACF. This is the default setting.</p> <p>When set to FALSE warning messages will NOT be returned to the ITIM server for those attributes for which the request to add, delete or modify was executed successfully with return code 0, but informational messages are returned by RACF. This setting is REQUIRED to be set to FALSE when using zSecure Command Verifier in debug mode and can be useful when aware of a configuration issue but waiting for this issue to be resolved (e.g. when receiving IKJ56644I messages and waiting for the TSO segment to be added to the ISIAGNT account in which case it is still possible to manage accounts but not to perform reconciliations).</p>	Yes

agentCfg configuration key minimum characters

A configuration key is not allowed to be less than five characters. When starting agentCfg to configure an active adapter the following message is displayed when entering a configuration key of less than five characters:

```
Configuration key too short - 5 characters minimum.  Aborting...
After which the agentCfg processing will abort.
```

Registry file initialization

Additional information is logged in the z/OS syslog during adapter initialization regarding the initialization of the registry file for the following scenario's:

1. The registry file configured in the shell script used to start the adapter does not exist.
In this event a new registry file is created and the following messages are written to the syslog:
racfAgent: Registry file specified by environment
REGISTRY is '<adapter_read_write_home>/data/<adapter_name>.dat '
racfAgent: REGISTRY does not exist
racfAgent: Creating a new registry file
2. The registry file does exist, but can not be accessed (e.g. incorrect file permissions).
In this event the adapter will abort initialization and the following messages are written to the syslog:
racfAgent: Registry file specified by environment
REGISTRY is '<adapter_read_write_home>/data/<adapter_name>.dat '
racfAgent: FATAL ERROR: REGISTRY file open error: EDC5111I Permission denied.
racfAgent: can't continue without access to the registry file
racfAgent: exiting process
3. The registry does exist but the adapter can't access part of the path. In this event the adapter will abort initialization and the following messages are written to the syslog:
racfAgent: Registry file specified by environment
REGISTRY is '<adapter_read_write_home>/data/<adapter_name>.dat '
racfAgent: FATAL ERROR: REGISTRY file stat error:
EDC5111I Permission denied.
racfAgent: can't continue without access to the registry file
racfAgent: exiting process
4. The registry does exist, but is not specified in the shell script used to start the adapter.
In this event a new registry file is created in /tmp and the following messages are written to the syslog:
racfAgent: WARNING no REGISTRY file specified by the environment
racfAgent: Creating a new registry file
racfAgent: Registry to be created is '/tmp/<adapter_name>.dat '

Max Thread settings for adapter operations.

The default maximum number of threads for all adapter operations (search, modify, add, delete) is set to three at adapter initialization. The default minimum number of threads for all adapter operations is set to one at adapter initialization since at least one thread is required to perform an operation. The adapter now writes debug messages to the adapter log regarding the number of threads currently still available for performing new operations. This will provide more insight in possible thread availability related delays in processing.

Starting the adapter in console mode.

For debugging purposes it might be useful to start the adapter directly from the command line in console mode. Doing so will provide all messages otherwise written to either the syslog or the adapter log to be displayed on the console used to start the adapter from. Starting the adapter in console mode can be done by executing all export commands as configured in the shell script used to start the adapter to ensure all libraries are available to the adapter and then executing the following command to start the adapter:

```
/<adapter_readonly_home>/lpp/bin/racfAgent -name <adapter_name> -registry  
<adapter_readwrite_home>/data/<adapter_name>.dat -console
```

RACF UNLOAD missing 0102 record processing

In case a RACF database unload 0102 record is missing, so the true connect authority value is unknown, <AUTHORITY>USE</AUTHORITY> will be generated.

In case a 0102 record is missing, a message starting with "Fix0205" will be printed to the SYSPRINT of the ITIMRECO program. This message will show the group and user information for which the default authority USE is generated.

Customizing or Extending Adapter Features

The Identity Manager adapters can be customized and/or extended. The type and method of this customization may vary from adapter to adapter.

Getting Started

Customizing and extending adapters requires a number of additional skills. The developer must be familiar with the following concepts and skills prior to beginning the modifications:

- LDAP schema management
- Working knowledge of scripting language appropriate for the installation platform
- Working knowledge of LDAP object classes and attributes
- Working knowledge of XML document structure

Note: This adapter supports customization only through the use of pre-Exec and post-Exec scripting. The RACF adapter also has REXX scripting options. Please see the RACF Installation and Configuration guide for additional details.

Tivoli Identity Manager Resources:

Check the “Learn” section of the [IBM Security Identity Manager Knowledge Center](#) for links to training, publications, and demos.

Support for Customized Adapters

The integration to the Identity Manager server – the adapter framework – is supported. However, IBM does not support the customizations, scripts, or other modifications. If you experience a problem with a customized adapter, IBM Support may require the problem to be demonstrated on the GA version of the adapter before a PMR is opened.

Supported Configurations

Installation Platform

The IBM Tivoli Identity Manager Adapter was built and tested on the following product versions.

Adapter Installation Platform:

RACF on z/OS V1R12, V1R13 and V2.1

Managed Resource:

IBM Security Server (RACF) for z/OS

IBM Tivoli Identity Manager:

Identity Manager v5.1

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