Release Notes

IBM® **Tivoli**® **Identity Manager**

Active Directory (WinAD) Adapter

Version 5.0.2

First Edition (March 31, 2008)

This edition applies to version 5.0 of Tivoli Identity Manager and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

Preface

Welcome to the IBM Tivoli Identity Manager Active Directory (WinAD) 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 Active Directory Adapter Installation and Configuration Guide

Adapter Features and Purpose

The Active Directory Adapter is designed to create and manage accounts on Microsoft Active Directory. The adapter runs in "agentless" mode and communicates using Microsoft ADSI API and CDOEXM (for exchange communication) to the systems being managed.

IBM recommends the installation of this adapter in "agentless" mode on a computer in the domain being managed. Installation on a Domain Controller is not recommended. A single copy of the adapter can handle multiple Identity Manager Services. 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.

Contents of this Release

Adapter Version

Component	Version
Release Date	February 15, 2008
Adapter Version	5.0.2
Component Versions	Adapter Build 5.0.1014 Profile 5.0.1006 ADK 5.07
Documentation	Active Directory Adapter Installation and Configuration Guide SC23-6175-00 Active Directory Adapter User Guide SC23-6176-00 Password Synchronization for Active Directory Plug-in Installation and Configuration Guide SC23-6178-00

New Features

Enhancement # (FITS)	Description
	Items included in current release
N/A	Adapter has been enhanced to support Group DN and Group GUID values. See Configuration Notes section for additional information.

Closed Issues

CMVC#	APAR#	PMR# / Description
		Items closed in current version
	IZ09072	20243,999,760 Unable to set some AD account attributes that are related to passwords (TIM Express only).
	IZ14154	38318,L6Q,000 Incorrect response on group modification. Status code from the adapter may report "error" or "warning" if the only attribute value set is a group.
	IZ14468	23949,292,848 The street attribute is not set properly on the resource, the XML parser in ADK removes \r from newline.

Known Issues

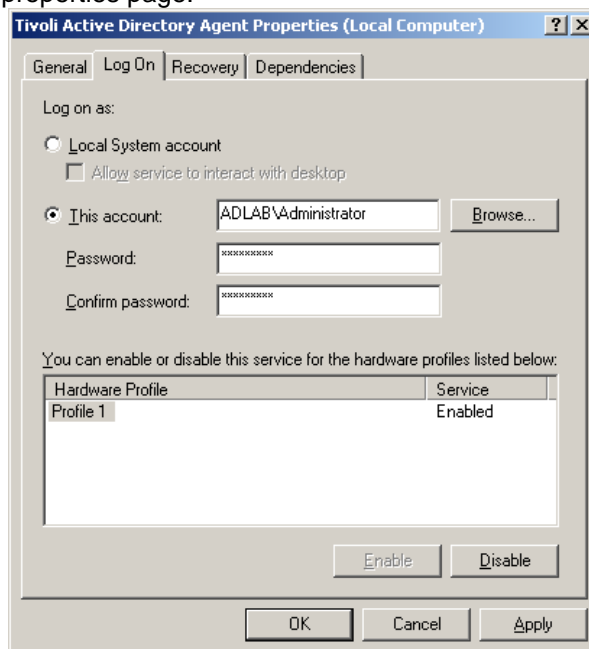| CMVC#	APAR#	PMR# / Description
N/A	N/A	Editing adapter profiles on UNIX or Linux. The adapter profile JAR file may contain ASCII files created using MS-DOS ASCII format (i.e. schema.dsml, CustomLabels.properties, and service.def). If you edit a MS-DOS ASCII file in Unix you will often see the characters ^M at the end of each line. This is the extra character 0x0d that is used to indicate a new line of text in MS-DOS. There are tools, such as dos2unix, that can be used to strip out the ^M character. In addition, there are text editors that will ignore the ^M character. If you are using the vi editor, you can strip out the ^M character as follow: From the vi's command mode: :%s/^M//g followed by pressing Enter. The ^M (or Ctrl-M) typed to show it here should actually be entered by pressing ^v^M in sequence. (The ^v preface tells vi to use the next keystroke literally instead of taking it as a command.)
N/A	N/A	Using the Upgrade Option: The Upgrade option is applicable only to 5.0.x maintenance upgrades. The upgrade option is not designed for v4.6 to v5.0 migrations. NOTE: After using "Update Installation" option with higher version of Adapter, an extra folder with name "_uninst2" is created. It can be ignored. To Uninstall the Adapter, use "_uninst" folder.
N/A	N/A	Event Notification Account status (Active/Inactive) might not be correctly updated on Identity Manager after event notification.
N/A	N/A	Event Notification "Adapter Based" event notification is not supported in this release.
N/A	N/A	N/A The User ID field cannot contain a "," (comma).
		IMPORTANT NOTE: The BasePoint (on Service form) and the Event Notification Context (in agentCfg) must be in proper DN format. All special characters must be escaped.

CMVC#	APAR#	PMR# / Description
		IMPORTANT NOTE: The Windows AD agent does not use an xforms.xml file. Errors in the Agent Log concerning xforms may be safely ignored. Error message is: "Unable to load XML transformation buffer from...".
N/A	N/A	PMR 83403,057,649 - AD Agent hangs on second error Work around implemented for Microsoft issue (KB article 293278). For user add request, the agent binds to the basepoint/default domain and checks to see if the specified user already exists. Each operation is run in a separate thread which first initializes COM using CoInitialize and upon operation completion calls CoUninitialize to uninitialize COM. However for second request, the connection is reused and agent quickly establishes connection with AD. MS KB article 293278 (http://support.microsoft.com/default.aspx?scid=kb;en-us;293278) states that 'PRB: Problems When You Call CoInitialize and CoUninitialize Repeatedly in Multithreaded Apartment' - To avoid the issue, a small delay (1 sec) has been inserted before COM is uninitialized at the end of operation. This delay is ONLY applicable when 'User already exists' condition is encountered and DOES NOT affect any other functionality.
S17341	IY84890	55259,379,000 and 59749,227,000 Windows AD adapter crash when trying to change value of existing mailstore attribute with Exchange 2003sp2. This condition may occur if an "Administration User Account" is specified on the Service Form. The recommendation is to run the Windows Service using this Account instead of specifying it on the Service form. The issue results from a restriction in Active Directory APIs. The details and case number are listed below. If "Administration User Account" and "Administration User Password" is given on AD service form on ITIM side and AD adapter is running either as service or in console mode, CreateMailbox API of IMailboxStore fails to create mailbox. If we leave administrator username and password field blank on Ad service form on ITIM side and run "Tivoli Active Directory Agent" windows service under domain administrator account by configuring windows service "Log on as:" property then mailbox gets created successfully. For more information refer Microsoft Case ID SRZ060616001384. This affects the Deployment Configurations scenario 8 (Page: 26, Scenario 8: Adapter on Adapter Server in Multi-Domain Active Directory). This scenario will be supported provided both domain "Doamin1" and "Domain2" has common domain administrator. Steps to configure "Tivoli Active Directory Agent" windows service: 1. Open the windows Services panel. Select "Tivoli Active Directory Agent" and click on "Properties".
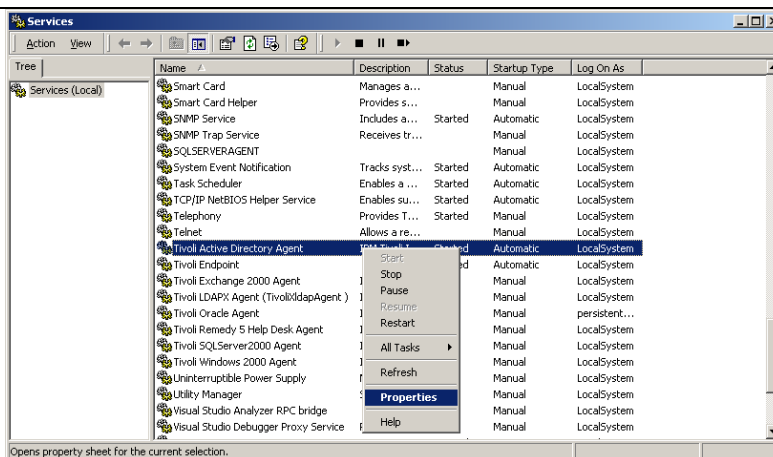
2. Click on "Log On" tab. Select "This account" and enter domain administrator username and password. Click on "OK" to close the properties page.

CMVC#	APAR#	PMR# / Description
		Below is list of TIM AD adapter attributes and corresponding attribute in Active Directory erADLastFailedLogin -> badPasswordTime erADBadLoginCount -> badPwdCount erADLastLogoff -> lastLogoff erADLastLogon -> lastLogon The above attributes are nonreplicated attribute, which means that each domain controller holds its own copy of the attribute, likely with different values. The WinAD adapter may not show actual value for these attributes.

Installation and Configuration Notes

See the IBM Tivoli Identity Manager Adapter Installation Guide" for detailed instructions.

Running v4.6 and v5.0 Adapters on the Same Server

The Identity Manager version 5.0 adapters have enhanced capabilities that are not compatible with older version 4.6 adapters. It is highly recommended that all adapters hosted on an individual server are upgraded at the same time.

Adapters installed on the same server may share common components or run-time environments. The version 4.6 adapters may not be compatible with the version 5.0 component and may no longer operate as expected after installation of a version 5.0 adapter. On Windows servers all adapters must be upgraded simultaneously due to the sharing of DLLs. Check the adapter installation guide for additional information.

Corrections to Installation Guide

The following corrections to the Installation Guide apply to this release:

Configuration Notes

The following configuration notes apply to this release:

Note that the "supported configurations" diagrams have been moved into the Installation Guide.

Adding a Primary Group

To add a primary group to a user, the user must be a member of the group.

Delete Roaming Profile On Deprovision

If the delRoamingProfileOnDeprovision key is set to TRUE, the key enables user profile directory deletion when the user is de-provisioned. After successfully deleting the user from the Active Directory, the adapter deletes the user profile directory, subdirectories, and files. If this key is set to FALSE, or if the key does not exist, the adapter does not delete the user profile directory.

Deleting a Mailbox

To delete a Mailbox, delete the Alias attribute. Submit a reconciliation request to clear unnecessary values from the account form and to verify that the mailbox has been removed.

Proxy Address Configuration

A primary proxy address for each type must be added before additional proxy addresses of the same type can be added. The Win AD Agent requires that the Primary SMTP Address be set before setting the X.400 email address in proxy addresses field.

Directory NTFS and Share Access

The Agent returns the actual, effective permissions granted to a user and not the specific access assigned to the user account. For example, if the directory grants FULL permission to the Everyone group but only CHANGE permission to the user's account, a reconciliation request will return the account access permission as FULL. Therefore, it is necessary to properly define the policies local to the managed resource prior to using Tivoli Identity Manager to prevent these types of conflicts.

Expiration Date

Per Microsoft's documentation, the Active Directory Users and Computers MMC snap-in will display the account expiration date as one day earlier than the date contained in the accountExpires attribute. The Tivoli Identity Manager Server will display the value contained in the account expires attribute.

Password Properties

The password properties are specific to the account. However, these properties can be overridden by the security policies of the managed resource (Domain Controller Security Policies, Domain Security Policies, and Local Security Policies).

Setting Language Preference for Accounts

The Languages attribute (eradlanguage) is an Exchange attribute. If using a configuration without Exchange, setting this attribute will return a warning.

Log Message: Error More Data

NOTE: If a Reconciliation is run while the Active Directory server is under load, a logging message may appear in the WinAD Adapter log that says, "Error_More_Data." The Adapter is designed to retry the query three times before terminating the Reconciliation. Please see the Microsoft Knowledge base article below for more information.

When the IDirectorySearch::GetNextRow function returns S_ADS_NOMORE_ROWS, it may not have retrieved all the data from the server. In some cases, S_ADS_NOMORE_ROWS is returned by GetNextRow function when the server was unable to find an entry that matched the search criteria within a predefined two-minute time limit. This two-minute time limit is defined by means of an LDAP policy.

If the server exceeds the two-minute time limit, it returns an LDAP cookie in the response so that you can restart the search where it left off. Inefficient searches and heavily loaded systems can cause the server to exceed the time limit. When the server cannot find an efficient index to search, the server may have to apply the filter to every object in the directory, in which case it can run through many entries and not find a match within the two-minute time limit.

Therefore, when returning S_ADS_NOMORE_ROWS, ADSI also sets an extended error code, which can be queried using ADsGetLastError function. If ADsGetLastError returns ERROR_MORE_DATA, it means that the server has not completed the query and must call GetNextRow again.

The AD Agent code is structured as per the logic above and what Microsoft has advised. It attempts to get data from the paged result in max 3 attempts. If the AD Agent is running on AD server itself, Moving the AD Agent onto a different machine would take off some load from AD server.

In addition to this Microsoft has provided an article as how to configure the LDAP policy so as to customize the Active Directory searches. http://support.microsoft.com/kb/315071/EN-US/.

<u>Use SSL Configuration Option</u>

The registry setting "useSSL" is to enable SSL communicating between AD Agent and Active Directory. If TRUE, agent communicates over SSL with Active Directory. If this key is not present or FALSE, agent does not use SSL.

By default this key is set to FALSE. No ITIM side changes are required to use this enhancement.

Following resource side changes are required to use this feature.

a. Active Directory must have enabled Public Key Infrastructure (PKI). For this Enterprise Certificate Authority should be installed on one of the domain controller machine in the domain. Setting up an enterprise certificate authority causes an Active Directory server to get a server certificate that can then be used to do SSL-based encryption.

b. Machine on which AD Agent is running should have certificate installed. The certificate is issued by CA as mentioned in point (a).

<u>Use Default DC Configuration Option</u>

The useDefaultDC registry setting is to provide failover capability to agent when host specified in base point is down. If agent is unable to connect to hostname specified in base-point and key is set to TRUE, agent will connect to the base-point without the host name. If it still fails then agent will report failure. By setting this key to TRUE also affects behavior of RAS server and Terminal server lookup.

Caution: When the adapter is deployed in a cross-domain scenario, the useDefaultDC option should always be set to FALSE to avoid provisioning to an unintended domain. For example, if the adapter is installed in domain A but provisioning to domain B, and the host in domain B is down, the adapter will detect the default domain as domain A.

By default this key is set to FALSE.

The behavior of agent will be as follows:

    A. useDefaultDC = FALSE

        i.   If hostname (target server name) is specified in the base point and ForceRASServerLookup and ForceTerminalServerLookup registry keys are set as FALSE, then agent uses the given hostname as RAS server and Terminal server.

        ii.   If hostname (target server name) is specified in the base point and ForceRASServerLookup and ForceTerminalServerLookup registry keys are set as TRUE, then agent will determines the RAS and Terminal server name.

    B. useDefaultDC = TRUE and host is down.

        i.   Agent will determines RAS and Terminal server irrespective of values set for ForceRASServerLookup and ForceTerminalServerLookup.

Use new Win2003 ADSI API for managing WTS attributes

Agent will use WTS ADSI API's or old style WTS API's to set or retrieve WTS attributes. Agent will try to use WTS ADSI API's, if it fails to get interface or attribute is not supported then agent will use old style WTS API's.

If agent is running on Windows 2003 then agent will use WTS ADSI API's. On Windows 2000 agent will use old style WTS API's.

From log it can be found out which WTS API's agent is using. Some of the attributes are not supported by WTS ADSI API's; for that agent will use old style WTS API's on Windows 2000 and Windows 2003.

If debug logging is enabled, then agent will show lines like:

❑ *Start using extended interface for WTS Attributes for getting WTS attribute.*
❑ *Start using extended interface for WTS Attributes for setting WTS attribute.*
❑ *End using extended interface for WTS Attributes for setting WTS attribute.*
❑ *End using extended interface for WTS Attributes for getting WTS attribute.*

This means agent is using WTS ADSI API's.

If log is showing lines like:

❑ *Using old style API for WTS Attributes for getting WTS attribute*
❑ *Using old style API for WTS Attributes for setting WTS attribute*

This means agent is using old style WTS API's.

Win AD Agent handle Add and Delete operations for erGroup attribute

WinAD Adapter by default honors only replace operation from Tivoli Identity Manager. WinAD Adapter now supports Add and Delete operation for erGroup attribute for Modify request.

On Tivoli Identity Manager profile changes are required in ADprofile to send group operation as add, delete for modify request.
See the steps below
• Locate the following line in resource.def file under <Operation Name="modify"> tag.

• Replace the above line with following line.

• Reinstall the profile. Please see Windows Active Directory Adapter Install guide for further references.

Running Mixed Versions of Active Directory and Exchange

The agent is certified to run in Windows 2003 Active Directory and Exchange 2000 Exchange server environment. Windows 2003 Active Directory and Exchange 2000 on same server is not a valid configuration. These must be installed on separate machines.

The following limitations apply to this mixed mode environment:

1) A domain controller must be specified as a part of base point to create mailbox on the Member server.

2) Mailbox move is not supported in a mixed mode environment. Move mailbox operation will fail when an attempt is made to move a mailbox from or to a mailstore on the member server.

   a. Move mailbox from a Mailstore on Member server to a Mailstore on Primary DC **fails.**

   b. Move mailbox from a Mailstore on Member server to another Mailstore on Member server **fails.**

   c. Move mailbox from a Mailstore on Primary DC to another Mailstore on Primary DC **succeeds.**

Using DN or GUID for the regroup Attribute

Windows Active Directory Adapter has been enhanced to support Group DN and Group GUID values for erGroup attribute. With this enhancement, multiple groups with the same name that are present in different organizational units on active directory can be processed by the adapter.

Beginning with this version of the adapter, the new registry key "UseGroup" is introduced. The default value for this key is CN. The registry key value can be set to CN or DN or GUID as per the requirement.

Configuration required for using this feature:
Perform the following steps:

A] Set the UseGroup registry key to CN or DN or GUID using agentCfg.

B] Change the profile files "erADAccount.xml" and "resource.def"

Find the table below describing what change need to be done when UseGroup registry value is set to CN or DN or GUID

UseGroup value	Change required in
CN It is default value	**erADAccount.xml** \<formElement name="data.ergroup" label="$ergroup"\> \<searchFilter multiple="true" type="select"\> \<filter\>(objectclass=eradgroup)\</filter\> \<base\>contextual\</base\> **\<attribute\>eradgroupcn\</attribute\>** **\<sourceAttribute\>eradgroupcn\</sourceAttribute\>** \<size\>\</size\> \<objectClass\>\</objectClass\> \<showQueryUI\>false\</showQueryUI\> \<paginateResults\>false\</paginateResults\> \</searchFilter\> \</formElement\> **Resource.def**

	```<ServiceGroups><GroupDefinition ProfileName="ADGroupProfile"ClassName = "erADGroup"RdnAttribute = "erADGroupCN"AccountAttribute = "erGroup"><AttributeMap>```**`<Attribute Name="erGroupId" Value="erADGroupCN" />`****`<Attribute Name="erGroupName" Value="erADGroupCN" />`**```<Attribute Name="erGroupDescription" Value="description" /></AttributeMap></GroupDefinition></ServiceGroups>```
DN	**erADAccount.xml**```<formElement name="data.ergroup" label="$ergroup"><searchFilter multiple="true" type="select"><filter>(objectclass=eradgroup)</filter><base>contextual</base>```**`<attribute>eradgroupdn</attribute>`****`<sourceAttribute>eradgroupdn</sourceAttribute>`**```<size></size><objectClass></objectClass><showQueryUI>false</showQueryUI><paginateResults>false</paginateResults></searchFilter></formElement>```**Resource.def**```<ServiceGroups><GroupDefinition ProfileName="ADGroupProfile"ClassName = "erADGroup"RdnAttribute = "erADGroupCN"AccountAttribute = "erGroup"><AttributeMap>```**`<Attribute Name="erGroupId" Value="erADGroupDN" />`****`<Attribute Name="erGroupName" Value="erADGroupDN" />`**```<Attribute Name = "erGroupDescription" Value="description" /></AttributeMap></GroupDefinition></ServiceGroups>```
GUID	**erADAccount.xml**```<formElement name="data.ergroup" label="$ergroup"><searchFilter multiple="true" type="select"><filter>(objectclass=eradgroup)</filter><base>contextual</base>```**`<attribute>eradgroupdn</attribute>`****`<sourceAttribute>eradgroupguid</sourceAttribute>`**```<size></size><objectClass></objectClass><showQueryUI>false</showQueryUI><paginateResults>false</paginateResults></searchFilter></formElement>```**Resource.def**```<ServiceGroups>```

```
<GroupDefinition ProfileName="ADGroupProfile"
ClassName = "erADGroup"
RdnAttribute = "erADGroupCN"
AccountAttribute = "erGroup">
<AttributeMap>
<Attribute Name="erGroupId" Value="erADGroupGUID" />
<Attribute Name="erGroupName" Value="erADGroupDN" />
<Attribute Name = "erGroupDescription" Value="description" />
</AttributeMap>
</GroupDefinition>
</ServiceGroups>
```

NOTE:

1] The value of the "attribute" tag of the formElement "data.ergroup" in erADAccount.xml should match with the value of "erGroupName" in resource.def.

2] The value of the "sourceAttribute" tag of the formElement "data.ergroup" in erADAccount.xml should match with the value of "erGroupId" in resource.def

3] Keep the value of the "sourceAttribute" tag of the formElement "data.eradprimarygroup" unchanged to "eradprimarygrptkn". This value has to remain unchanged for CN, DN or GUID support.

C] Build the ADprofile.jar and import the new profile into TIM

D] Run a full reconciliation.

NOTE: If an event notification is enabled, delete the event notification data base using the agentCfg (Refer Install guide for the deleting the event notification database) and then run a full reconciliation. This will make sure that new database get created with correct values for attribute "erGroup"

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 both through the use of pre-Exec and post-Exec scripting and schema extensions using the extshema.txt file.

Tivoli Identity Manager Resources:
   Check the "Learn" section of the Tivoli Identity Manager Support web site 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:
  Windows 2003

Managed Resource:
  Windows 2003 Enterprise Edition with Active Directory
  Exchange 2003 (optional)
  -- with --
  Exchange Administration Tool 2003 SP2

IBM Tivoli Identity Manager:
  Identity Manager v5.0

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