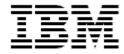# Release Notes

IBM® **Tivoli**® **Identity Manager**

Novell Directory Services (NDS) Adapter

Version 5.0.7

First Edition (June 15, 2011)

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 Novell Directory Services (NDS) 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 Novell Directory Services Adapter Installation and Configuration Guide

Adapter Features and Purpose

The NDS Adapter is designed to create and manage NDS accounts within a single domain. The adapter runs in "agentless" mode and communicates to the managed system using Novell API calls to the Novell client software.

IBM recommends the installation of this adapter in agentless mode. 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	June 15, 2011
Adapter Version	5.0.7
Component Versions	Adapter Build 5.0.1004 Profile 5.0.1003 ADK 5.18
Documentation	Novell Directory Services Adapter Installation and Configuration Guide SC23-6155-00

New Features

Enhancement # (FITS)	Description
	Items included in current release
MR1018104618	Support for Novell Client 2 SP1 for Windows
	Items included in 5.0.1 release
	Initial release for Tivoli Identity Manager v5.0

Closed Issues

Internal#	APAR#	PMR# / Description
		Items closed in current version
		None
		Items closed in 5.0.6 version
	IZ77116	38980,999,624 Unique ID attribute is single-valued on TIM but multi-valued on Novell.
		Items closed in 5.0.5 version
	IZ74980	63731,122,000 Netware accounts with a 'ERUID' value containing 29 or more characters are not handled properly by the adapter during recon.
		Items closed in 5.0.4 version
	IZ35671	52773,SGC,724 NetWare Adapter does not handle umlauts in password.
		Items closed in 5.0.3 version
	IZ18039	06533,442,000 Account creation fails when User Template is specified. Error occurs on ERNETWLOGINALLOWEDTIMEMAP attribute. NOTE: See the additional information in "Behavior of the TimeMap Attribute" in the Configuration Section of this document.
		Items closed in 5.0.2 version
31867	N/A	Internal NDS bool attributes are not updated in Event Notification DB which creates wrong request to ITIM.
	IZ14900	09114,379,000 Novell adapter incorrectly handles ernetwloginallowedtimemap. See notes on "Login Allowed Time Map" in the Configuration Notes section of this document.
	IZ17017	24004,379,000 Novell Adapter changes timezone while in middle of a transaction See notes on "Login Allowed Time Map" in the Configuration Notes section of this document.

		Items closed in 5.0.1 version
		None

Known Issues

Internal#	APAR#	PMR# / Description
N/A	N/A	Editing adapter profiles on UNIX or Linux. The adapter profile JAR file can 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.
		This adapter does not use an xforms.xml file. Errors in the adapter log concerning xforms may be safely ignored. Error message is: "Unable to load XML transformation buffer from...".

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 share common components or run-time environments. The version 4.6 adapters might not be compatible with the version 5.0 component and 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:

NOTE: The Adapter Installation and Configuration Guide lists Windows 2000 as a supported platform, however, Microsoft has recently ended mainstream support for this version. While there are no known issues associated with hosting the adapter on Windows 2000, if a problem does arise that is tracked to the OS, Tivoli Support will ask you to upgrade to the officially supported version, Windows 2003.

NOTE: The following correction applies to the supported NDS versions and the client software:
        Novell Netware NDS with eDirectory version 8.7 and 8.8
        -- with --
        Novell Client 4.91 SP2 for Windows XP/2003
        Novell Client 2 SP1 for Windows (IR4 and above)

Configuration Notes

The following configuration notes apply to this release:

NOTE: The NDS Adapter will reset the user's "account locked" status when resetting a password.

NOTE: Xerces libraries are replaced with XML4C libraries for NDS Adapter. Following DLLs will be present in bin folder of adapter: icudt32.dll, icuuc32.dll, xml4c_5_5.dll, XML4CMessages5_5.DLL

Login Allowed Time Map

The login allowed time map requires specially handling in TIM. The attribute is a series of checkboxes and, therefore, TIM performs no time zone conversions. In brief, the rule is as follows:

> **The times specified on the TimeMap UI reflect the time zone of the server on which the adapter is installed.**

Internally, the Novell adapter uses its time zone (the server it runs on) to convert the time specified on the TIM TImeMap into GMT. The API calls to Novell then use these GMT values to set the allowed login

times. When viewing the times from within Novell's Console One, the times are converted into the time zone of the person using Console One.

Example:

	TIM Server	NDS Adapter	NDS Server	NDS Console One
Time Zone	(GMT - 08:00) Pacific Time (PST)	(GMT - 08:00) Pacific Time (PST)	(GMT - 08:00) Pacific Time (PST)	(GMT - 08:00) Pacific Time (PST)
Time Map bit set for specified time duration	Value entered from TIM UI as: 04:00 to 04:30 AM (Monday)	Receives as: 04:00 to 04:30 AM (Monday) Converts to GMT as: 12:00 to 12:30 PM (Monday)	Set on NDS Server as: 12:00 to 12:30 PM (Monday)	Viewed from Console One as: 04:00 to 04:30 AM (Monday)

Configuring the Adapter for use with Novell Clusters

The NDS Agent Service form has the following required parameters:

1. NDS Server
   Specify the name of the NDS server that this service will manage. In case of Cluster setup, specify the name of the virtual server, which is also called NCP Server.

2. NDS Tree
   Specify the name of the NDS tree for the specified NDS Server.

3. NDS Context
   Specify the name of the NDS container that is under the specified NDS Tree. This NDS Service will manage all the users present under this NDS container.
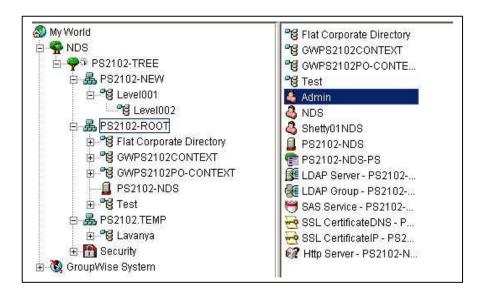
4. NDS Username
   Specify the name of the NDS user ID that the adapter will use to connect to the NDS server.

5. NDS Password
   Specify the password for the NDS user ID.

Consider the following NDS tree structure.
The highlighted user "Admin" and "PS2102-NDS" server is present under "PS2102-ROOT" context.

The above NDS tree PS2102-TREE contains the following organizations:

1. PS2102-NEW
2. PS2102-ROOT
3. PS2102-TEMP

Format for specifying NDS Server name:

1. If the NDS Server (PS2102-NDS) is present under the specified NDS Context (PS2102-ROOT), then the NDS Server name must be specified in this format:
   <NDSServerName>
   Example: PS2102-NDS
2. If the NDS Server (PS2102-NDS) is not present under the specified NDS Context (PS2102-NEW), then the NDS Server name must be specified in this format:
   .<NDS Servername>.<ContainerName>
   Example: .PS2102-NDS.PS2102-ROOT
   Where ContainerName is the full path of the container, which contains the NDS Server.

NOTE: In case of NDS Cluster setup, specify the name of the volume of the cluster, which is the NCP Server Object name for the NDS Server parameter.

Format for specifying NDS Username:

1. If the NDS Username is present under the specified NDS Context, then the NDS Username must be specified in this format:
   <NDSUserName>
2. If the NDS Username is not present under the specified NDS Context, then the NDS Username must be specified in this format:
   .<NDS Username>.<ContainerName>
   Where ContainerName is the full path of the container, which contains the NDS Username.

NOTE: Basically, the values of parameters specified on Service form depends upon the specified Context and its relationship with other objects.

Examples for specifying the appropriate values for NDS Service form parameters:

<u>Case 1:</u>

Suppose you want to manage all users present under PS2102-ROOT Organization, the Service form parameters will be:

NDS Server	PS2102-NDS	Because it is directly present under specified context
NDS Tree	PS2102-TREE	
NDS Context	PS2102-ROOT	Users present under this Container object gets reconciled.
NDS Username	Admin	Because it is directly present under specified context
NDS Password	*****	As applicable

<u>Case 2:</u>

Suppose you want to manage all users present under Level002.Level001.PS2102-New container object, and then the Service form parameters will be:

NDS Server	.PS2102-NDS.PS2102-ROOT	Note the "." at the start. Full path needs to be specified because the Server PS2102-NDS is present under a different container object Ps2102-ROOT, instead of Level002.Level001.PS2102-New
NDS Tree	PS2102-TREE	
NDS Context	Level002.Level001.PS2102-New	Users present under this Container object gets reconciled.
NDS Username	.Admin.PS2102-ROOT	Note the "." at the start. Also, the full path needs to be specified because user **Admin** is not present under specified context Level002.Level001.PS2102-New
NDS Password	*****	As applicable

Case 3:

Suppose you want to manage all users present under Test.PS2102-ROOT container object, and then the Service form parameters will be:

NDS Server	.PS2102-NDS.PS2102-ROOT	Note the "." at the start. Full path needs to be specified because the Server PS2102-NDS is present under a different container object PS2102-ROOT, instead of Test.PS2102-ROOT
NDS Tree	PS2102-TREE	
NDS Context	Test.PS2102-ROOT	Users present under this Container object gets reconciled.
NDS Username	.Admin.PS2102-ROOT	Note the "." at the start. Also, the full path needs to be specified because user **Admin** is not present under specified context Test.PS2102-ROOT
NDS Password	*****	As applicable

Adding Custom Attributes to Novell eDirectory Adapter

A. Adding Custom Attribute Mappings to "CustomAttributes.xml" FILE

CustomAttributes.xml file translate Netware agent custom attributes to actual resource attributes that agent need to provision.

Each custom attribute of Netware agent is mapped to resource attribute in following format:

<CustomAttribute RemoteName = "ernetwnscpemployeenumber" ResourceName
           = "NSCP:employeeNumber" ResourceType = "CaseIgnoreString"
        MaxLength = "200" MultiValued = "false" />

Where,
   RemoteName   = Agent side name of the attribute (same as attribute name in "schema.dsml")
   ResourceName   = Attribute name on Novell Directory server.
   ResourceType   = Attribute type on resource. Resource Type Value should be
                      one of the supported values defined in
                      "CutomAttributes.dtd".
   MaxLength   = Maximum length of the attribute.
   Multivalued   = Indicates whether attribute is single valued or
                      Multi valued.

B. Adding Custom Mappings to the Adapter Profile

To support custom attributes following changes need to be done in Netware adapter profile

  a. schema.dsml:
          Attribute definition for custom attribute erNetwNSCPemployeeNumber will be
                <attribute-type single-value = "false" >
                        <name>erNetwNSCPemployeeNumber</name>
                        <description>NSCPemployee Number</description>
                        <object-identifier>1.3.6.1.4.1.6054.3.58.2.66</object-identifier>
                        <syntax>1.3.6.1.4.1.1466.115.121.1.15</syntax>
                </attribute-type>

          Object-identifier must be unique.

          Add this attribute into erNetwAccount Class defination.
                <attribute ref = "erNetwNSCPemployeeNumber" required = "false" />

  b. CustomLabels.properties:
          Lable for the attribute ernetwnscpemployeenumber will be
            ernetwnscpemployeenumber=Employee Number**.**

  c. erNetwareAccount.xml:
          Custom attributes will not be present by default on Netware account
          Provisioning form on Tivoli Identity Manager user interface.
          Add the following element in the file.

          <formElement name="data.ernetwnscpemployeenumber"
             label="$ernetwnscpemployeenumber" required="true">
             <input name="data.ernetwnscpemployeenumber" size="50"
             type="text"/>
          </formElement>

  d. resource.def:
          No changes are required.

  e. erNetwareDAMLService.xml:
          No changes are required.

Behavior of timemap attribute

If attribute ernetwloginallowedtimemap is present on account form, each ADD request will contain the value of attribute "ernetwloginallowedtimemap" as all zeroes (default - even if value of timemap attribute ernetwloginallowedtimemap is not set on account form), which will be set on the resource during ADD operation. On resource the user will not be allowed to login for all the times.

The attribute "ernetwloginallowedtimemap" is removed from the Account form from profile version 5.0.1001 onwards. From now ADD request will not contain the attribute "ernetwloginallowedtimemap", so user is allowed to login for all the times on resource.

If template is used during ADD operation and if the attribute "ernetwloginallowedtimemap" is not present on the TIM account form, adapter will set the value of timemap from the template for the user to be added on the resource.

If the attribute "ernetwloginallowedtimemap" is present on the TIM account form, the value of the attribute "ernetwloginallowedtimemap" on the TIM account form override the timemap attribute value in template.

Follow the steps to add the attribute "ernetwloginallowedtimemap" on the account form:

1.   Unzip the NetwareProfile.jar in NetwareProfile folder
2.   Open the file erNetwareAccount.xml.

        Current contents :

                <tab index="3" selected="false">
                <title>$ernetwloginrest</title>
                .
                .
                .
                </formElement>
                <!-- <formElement name="data.ernetwloginallowedtimemap"
                label="$ernetwloginallowedtimemap"> -->
                <!-- <loginHours>   <interval>midhour</interval> -->
                            <!-- <orientation>landscape</orientation> -->
                <!-- </loginHours></formElement> -->
                .
                .
                .
                </tab>

        Modified contents :

                <tab index="3" selected="false">
                <title>$ernetwloginrest</title>
                .
                .
                .
                </formElement>
                 <formElement name="data.ernetwloginallowedtimemap"
                label="$ernetwloginallowedtimemap">
                 <loginHours>   <interval>midhour</interval>
                            <orientation>landscape</orientation>
                 </loginHours></formElement>
                .
                .
                .
                </tab>

3.   Save the changes
4.   Build the NetwareProfile.jar
5.   Import the new profile into TIM.

Behavior of checkbox attributes while using templates

When you create a user account from the TIM account form, the values of the attributes on the TIM account form override the attribute values in template.

For example, in the TIM account form, the value of Password Allow Change attribute is specified as FALSE, and in the template, the value of the Password Allow Change attribute is specified as TRUE. If you use the template to create the user account from Tivoli Identity Manager, the adapter uses the value specified in the TIM account form; that is, FALSE.

Following attributes with the checkbox are sent with each ADD request with default value "FALSE" even though neither their values are modified nor the tab with the checkboxes attribute is accessed from the TIM50 account form. Adapter will not set the value of following attributes from the template on the resource as TIM account form's attribute value override the attribute value in template.
- Password Allow Change
- Password Required
- Password Unique Required

If you want to use the checkbox attributes from the template, remove above checkbox attributes from the TIM Account form.

There are many other attributes depend on the above checkboxe attributes, so it is required to remove those attributes too from the TIM account form so that their values can be set from the template and not from the TIM account form.
- Password Expiration Date
- Password Expiration Interval
- Password Minimum Length
- Login Grace Limit
- Login Grace Remaining

Steps to remove following attributes from account form :
- Password Allow Change
- Password Required
- Password Unique Required
- Password Expiration Date
- Password Expiration Interval
- Password Minimum Length
- Login Grace Limit
- Login Grace Remaining

1.   Unzip the NetwareProfile.jar in NetwareProfile folder
2.   Open the file erNetwareAccount.xml

        Current contents :

```
<page>
<body>
<tabbedForm>
.
.
.
<tab index="3" selected="false">
<title>$ernetwpasswdopt</title>
<image/>
<url>javascript:switchTabs(document.forms['body'],3);</url>
```

```
<formElement name="data.ernetwpasswordallowchange"
label="$ernetwpasswordallowchange">
<checkbox name="checkbox" value="no"/></formElement>
<formElement name="data.ernetwpasswordrequired" label="$ernetwpasswordrequired">
<checkbox name="checkbox" value="no"/></formElement>
<formElement name="data.ernetwpassworduniquerequired"
label="$ernetwpassworduniquerequired">
<checkbox name="checkbox" value="no"/></formElement>
<formElement name="data.ernetwpwdexptime" label="$ernetwpwdexptime">
<optDateInput/>
</formElement>
<formElement name="data.ernetwpwdexpinterval" label="$ernetwpwdexpinterval">
<input name="data.ernetwpwdexpinterval" size="50" type="text"/>
</formElement>
<formElement name="data.ernetwpasswordminimumlength"
label="$ernetwpasswordminimumlength">
<input name="data.ernetwpasswordminimumlength" size="50" type="text"/>
</formElement>
</tab>
<tab index="4" selected="false">
<title>$ernetwloginrest</title>
<image/>
<url>javascript:switchTabs(document.forms['body'],4);</url>
<formElement name="data.ernetwloginexpirationtime"
label="$ernetwloginexpirationtime">
<optDateInput/>
</formElement>
<!-- <formElement name="data.ernetwloginallowedtimemap"
label="$ernetwloginallowedtimemap"> -->
<!-- <loginHours>       <interval>midhour</interval> -->
        <!-- <orientation>landscape</orientation> -->
<!-- </loginHours></formElement> -->
<formElement name="data.ernetwgracelimitlogin" label="$ernetwgracelimitlogin">
<input name="data.ernetwgracelimitlogin" size="50" type="text"/>
</formElement>
<formElement name="data.ernetwgraceremaininglogin"
label="$ernetwgraceremaininglogin">
<input name="data.ernetwgraceremaininglogin" size="50" type="text"/>
</formElement>
<formElement name="data.ernetwloginmaximumsimultaneous"
label="$ernetwloginmaximumsimultaneous">
<input name="data.ernetwloginmaximumsimultaneous" size="50" type="text"/>
</formElement>
<formElement name="data.erlastaccessdate" label="$erlastaccessdate"
isReadOnlyOnModify="true">
<input name="data.erlastaccessdate" size="50" type="text"/>
</formElement>
<formElement name="data.ernetwprofile" label="$ernetwprofile">
<searchFilter type="input">
<filter>(objectclass&#61;erNetwareProfileList)</filter>
<base>contextual</base>
<attribute>erNetwProfile</attribute>
<sourceAttribute>erNetwProfile</sourceAttribute>
<size></size>
<prepopulate>false</prepopulate>
</searchFilter>
```

```
                    </formElement>
                    </tab>

                    </tabbedForm>
                    </body>
                    </page>
```

Modified contents :

```
                    <page>
                    <body>
                    <tabbedForm>
                    .
                    .
                    .
                    <tab index="3" selected="false">
                    <!-- <title>$ernetwpasswdopt</title> -->
                    <!-- <image/> -->
                    <!-- <url>javascript:switchTabs(document.forms['body'],3);</url> -->
                    <!-- <formElement name="data.ernetwpasswordallowchange"
                    label="$ernetwpasswordallowchange"> -->
                    <!-- <checkbox name="checkbox" value="no"/></formElement> -->
                    <!-- <formElement name="data.ernetwpasswordrequired"
                    label="$ernetwpasswordrequired"> -->
                    <!-- <checkbox name="checkbox" value="no"/></formElement> -->
                    <!-- <formElement name="data.ernetwpassworduniquerequired"
                    label="$ernetwpassworduniquerequired"> -->
                    <!-- <checkbox name="checkbox" value="no"/></formElement> -->
                    <!-- <formElement name="data.ernetwpwdexptime" label="$ernetwpwdexptime"> -->
                    <!-- <optDateInput/> -->
                    <!-- </formElement> -->
                    <!-- <formElement name="data.ernetwpwdexpinterval" label="$ernetwpwdexpinterval">
                    -->
                    <!-- <input name="data.ernetwpwdexpinterval" size="50" type="text"/> -->
                    <!-- </formElement> -->
                    <!-- <formElement name="data.ernetwpasswordminimumlength"
                    label="$ernetwpasswordminimumlength"> -->
                    <!-- <input name="data.ernetwpasswordminimumlength" size="50" type="text"/> -->
                    <!-- </formElement> -->
                    <!-- </tab> -->
                    <!-- <tab index="4" selected="false"> -->
                    <title>$ernetwloginrest</title>
                    <image/>
                    <!-- <url>javascript:switchTabs(document.forms['body'],4);</url> -->
                    <url>javascript:switchTabs(document.forms['body'],3);</url>
                    <formElement name="data.ernetwloginexpirationtime"
                    label="$ernetwloginexpirationtime">
                    <optDateInput/>
                    </formElement>
                    <!-- <formElement name="data.ernetwloginallowedtimemap"
                    label="$ernetwloginallowedtimemap"> -->
                    <!-- <loginHours>          <interval>midhour</interval> -->
                            <!-- <orientation>landscape</orientation> -->
                    <!-- </loginHours></formElement> -->
                    <!-- <formElement name="data.ernetwgracelimitlogin" label="$ernetwgracelimitlogin"> -->
```

```
<!-- <input name="data.ernetwgracelimitlogin" size="50" type="text"/> -->
<!-- </formElement> -->
<!-- <formElement name="data.ernetwgraceremaininglogin"
label="$ernetwgraceremaininglogin"> -->
<!-- <input name="data.ernetwgraceremaininglogin" size="50" type="text"/> -->
<!-- </formElement> -->
<formElement name="data.ernetwloginmaximumsimultaneous"
label="$ernetwloginmaximumsimultaneous">
<input name="data.ernetwloginmaximumsimultaneous" size="50" type="text"/>
</formElement>
<formElement name="data.erlastaccessdate" label="$erlastaccessdate"
isReadOnlyOnModify="true">
<input name="data.erlastaccessdate" size="50" type="text"/>
</formElement>
<formElement name="data.ernetwprofile" label="$ernetwprofile">
<searchFilter type="input">
<filter>(objectclass&#61;erNetwareProfileList)</filter>
<base>contextual</base>
<attribute>erNetwProfile</attribute>
<sourceAttribute>erNetwProfile</sourceAttribute>
<size></size>
<prepopulate>false</prepopulate>
</searchFilter>
</formElement>
</tab>

.
.
.
</tabbedForm>
</body>
</page>
```

3.   Save the changes
4.   Build the NetwareProfile.jar
5.   Import the new profile into TIM.

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.

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 might 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 Server 2003
>Windows Server 2008 R2

Managed Resource:
>Novell Netware NDS with eDirectory version 8.7 and 8.8
>-- with --
>Novell Client 4.91 SP2 for Windows XP/2003
>Novell Client 2 SP1 for Windows (IR4 and above)

IBM Tivoli Identity Manager:
>Identity Manager v5.0

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