



MC LDAP Integration Service Installation Guide

About

The Maintenance Connection LDAP Integration Service is used to setup the links and mapping information from a LDAP source to the Maintenance Connection user list and access group settings. Once the configuration has been completed, a LDAP syncing service can be installed which will, on a scheduled basis, setup new users for MC access and update existing users with the appropriate access rights.

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Supported Configurations

The LDAP Integration Service is a very flexible integration service and can be setup many different ways. While it is impossible to actually test every possible configuration here are some known good configurations. Some of these configurations may require additional licenses to work.

- Active Directory & Server 2003+ → Single MC Database
- Multiple Active Directory Forests/Domains & Server 2003+ → Single MC Database
- Active Directory & Server 2003+ → Multiple MC Databases
- Multiple Active Directory Forests/Domains & Server 2003+ → Multiple MC Databases
- Novell Groupwise → Single MC Database
- Novell Groupwise → Multiple MC Databases

Upgrading From Previous Versions

There have been many changes to the LDAP integration service over time. Due to these changes upgrading can be different depending upon which version is currently installed. Please ensure you select the most appropriate upgrade process to maximize the efficiency of upgrading.

Upgrading to LDAP v4 From Versions 1.x to 2.5

Many new changes and improvements were added after version 2.5 was released. Due to the significance of the changes made the configuration and setup of previous versions cannot be automatically imported into the new software.

1. Stop the Maintenance Connection LDAP Service using the Services tool in Windows.
2. Start the configuration program.
3. Click on Service Configuration, Uninstall the service.
4. Close the configuration program.
5. Backup the tool and configuration settings
6. Delete the old tool and software.
7. The old configuration tool can be run from the backup folder to enable easy discovery and transfer of settings from the old tool to the new service.
8. Follow the standard installation process

Upgrading to LDAP v4 from Version 3 or higher

Upgrading from version 3 to a new release is a fairly quick and easy process.

1. Download the upgrade exe file and place it into the install directory
2. Run the upgrade exe. It will uninstall the previous service and upgrade files, leaving important configuration files untouched.
3. The configuration will automatically start after the upgrade is complete.
4. Configure any new settings (if new features have been added)
5. Install and start the service



Configuration

Configuring the LDAP Integration service is explained in detail in the installation process. When making changes to settings the service should be stopped to ensure all settings are properly reloaded. After changes are complete start the service again.

Once setup is completed it is unlikely that extensive changes will need to be made. Individual settings can be changed (mostly) without concern for affecting other settings. With the wizard style interface all connected settings will normally be addressed at once to ensure no partial changes are made.

Pre-Installation

1. Make sure that Maintenance Connection has been installed and is working consistently.
2. Ensure that appropriate permissions have been granted within the LDAP directory to have either anonymous querying of the Domain or a user has been setup that has sufficient permissions.
3. **(Active Directory Only)** Confirm that the IIS Server has been attached to the Active Directory domain.
4. Download the install files.
5. Ensure the Pre-Installation questionnaire has been filled out.

Installation Process

Initial Installation

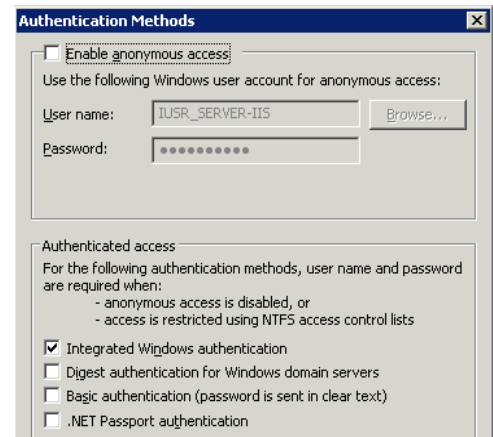
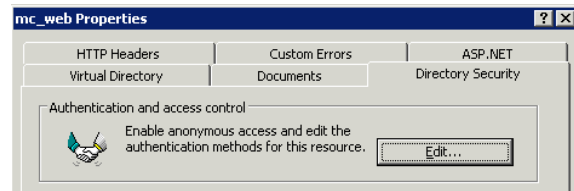
Initial installation of the integration service is simply performed running the install program (default install directory: C:\Maintenance Connection\mc_ldapService\). Due to network security requirements the LDAP service should only be installed on the IIS server and not the SQL server (if separate).

Version 4 of the LDAP Integration Service requires .NET 3.5 to be installed to work. The Microsoft installer for .NET 3.5sp1 has been included in the /preReq directory. This installer will install .NET 3.5sp1 or upgrade the existing installation to .NET 3.5sp1; it does require an internet connection to work. If .NET 3.5sp1 is already installed the installer will offer the ability to Repair or Remove the installation, in this case cancel the installer and continue with the rest of the installation.

Configuring IIS for LDAP (Active Directory Only)

To enable the LDAP extensions in Maintenance Connection; IIS must be reconfigured to require authenticated access to the mc_web virtual directory. Due to the Maintenance Connection login system existing exclusively in the /onsite sub-directory, this is the directory that should have the security changed upon. This will leave Maintenance Connection to manage internal permissions without extensive reconfiguration.

1. Open the IIS Manager.
2. Navigate in the IIS Manager to the mc_web virtual directory.
3. Navigate down to the /onsite sub directory in the mc_web virtual directory.
4. Right mouse and select properties.
5. Navigate to the Directory Security tab.
6. In the Authentication and access control area, select Edit.
7. Uncheck "Enable anonymous access".
8. Check "Integrated Windows authentication".
9. Make sure the other authentication methods are unchecked.
10. Select OK and exit IIS Manager.



Configuring for LDAP (Novell Only)

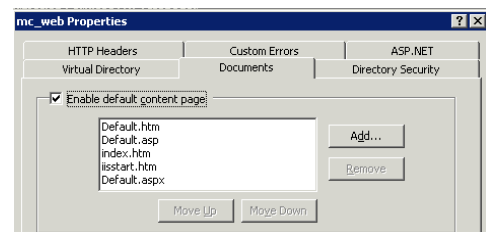
No IIS configuration is required for the Novell automatic login process to work. All configuration changes are applied to client machines Internet Explorer settings.

The Novell automatic login process is handled through an ActiveX control that will be automatically installed upon accessing the login page. This ActiveX control is provided by Novell but is unsigned. The server that Maintenance Connection is installed on must be a trusted site for the login to work. Also the Internet Explorer security settings for the Trusted Sites zone must allow Unsigned ActiveX controls to run without prompting (otherwise additional clicks are required). For maximum compatibility IE 6 should be used, IE 7+ requires an extra click to login since it will not run unsigned ActiveX controls without confirmation each time.

Installing Automatic Login Pages into Maintenance Connection

Once the LDAP integration is enabled the standard Maintenance Connection login pages do not function as a login page anymore. LDAP specific login pages need to be inserted to enable automatic login.

1. Open the file browser.
2. Navigate to the LDAP tool install folder.
3. Copy all the files located in the “mc_iis -ad” folder and sub-folders. (Active Directory Only)
4. Copy all the files located in the “mc_iis -novell” folder and sub-folders. (Novell Only)
5. Paste the files into the “\Maintenance Connection\mc_iis\” folder.
6. No files will be overwritten, select “Yes” to overwrite if prompted.
7. Open the IIS Manager.
8. Navigate in the IIS Manager to the mc_web virtual directory.
9. Right mouse and select properties.
10. Navigate to the Documents tab.
11. In the “Enable default content page” area select add.
12. Add “default_ldap_AD.asp” (Active Directory Only)
13. Add “default_ldap_NOVELL.asp” (Novell Only)
14. Press “Move Up” until the newly added default page is on the top of the list.
15. Select OK, apply, and exit IIS Manager.
16. If you wish to fully disable manually typed access to the old login pages (they don’t work for LDAP login regardless):
 - a. Rename the file extension of \mc_iis\default.htm to default.htm_
 - b. Rename the file extension of \mc_iis\default.asp to default.asp_
 - c. This 2 step process must be repeated for each version upgrade of Maintenance Connection.



Starting the Service

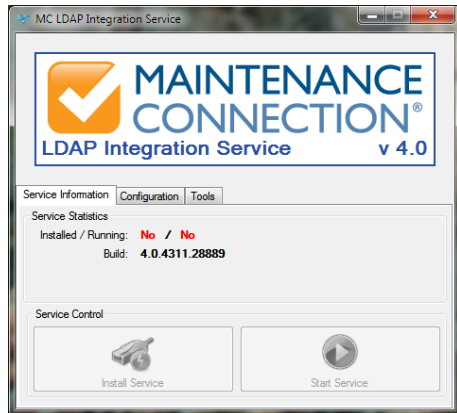
Once the service has been successfully configured and tested it can be installed and started. Installing and starting the service is controlled from the Service Information tab in the configuration application. See “Launching the Configuration Application” for a screenshot and details of how to start the configuration application.

Configuration Wizards in Detail

This configuration section applies to existing installations as well as new installs. All configuration steps are the same regardless of if the product is already installed and configured. The only exception to this is an existing installation does not need to re-insert configuration information that is already present.

You cannot change configuration options while the service is running. Always stop the running service (can be done in the configuration application) before performing any changes to the configuration.

Launching the Configuration Application



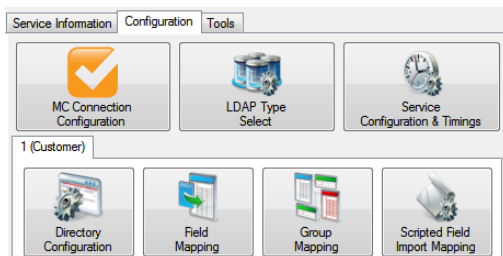
To launch the configuration application, double click on the Configure.exe application.

Name	Date modified	Type	Size
bin	2/22/2010 9:02 AM	File Folder	
mc_is -ad	8/27/2009 9:07 AM	File Folder	
mc_is -novell	8/13/2009 10:39 AM	File Folder	
preReq	12/3/2009 11:35 AM	File Folder	
Configure.exe	2/11/2010 3:07 PM	Application	394 KB
Configure.exe.config	12/4/2009 11:19 AM	XML Configuratio...	1 KB
MCLDAP_IntegrationService.exe	2/19/2010 4:15 PM	Application	934 KB
MCLDAP_IntegrationService.exe.config	12/4/2009 3:27 PM	XML Configuratio...	2 KB
MCLDAP_IntegrationService.pdb	2/19/2010 4:15 PM	Program Debug D...	400 KB

Launching Configure.exe may display a UAC elevation prompt. Select accept to enable the configuration program to properly launch.

Once running you will see a screen similar to the one to the left.

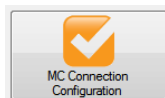
Areas that can be Configured



To the left is a screenshot of the various configuration wizards that can be used to configure the LDAP Integration Service. These configuration wizards are explained in the sections below.

Configuration can only occur when the service is not running.

Configuring the Connection to Maintenance Connection

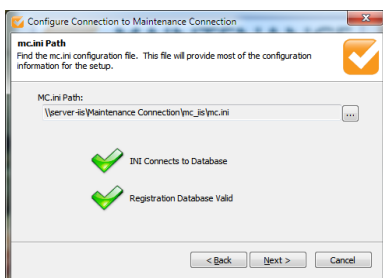


Configuring access to Maintenance Connection is the first step to having the LDAP Integration Service running. Launch the configuration wizard by selecting the MC Connection Configuration button on the Configuration tab. The wizard will launch and step you through connecting to Maintenance Connection.

Welcome Screen

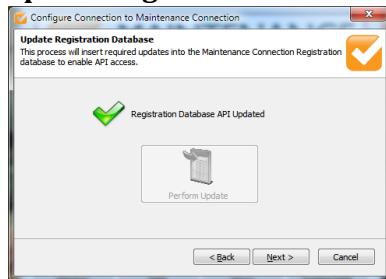
The first screen of the wizard is the welcome screen. It explains what the purpose of the wizard is. Select next.

mc.ini Path



This page of the wizard will enable you to select the location of the mc.ini file. This file contains the required connection information to connect to the Maintenance Connection databases. Once the file is selected a test will be performed to ensure the INI information can successfully connect to the database and that the database selected is considered a valid Registration database. Select next.

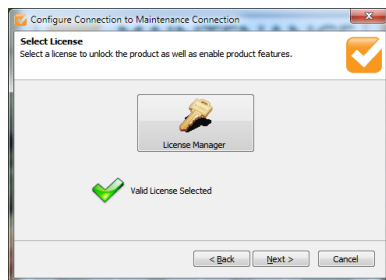
Update Registration Database



The LDAP engine requires certain API changes to the registration database to operate. This is essential for error free execution of the service.

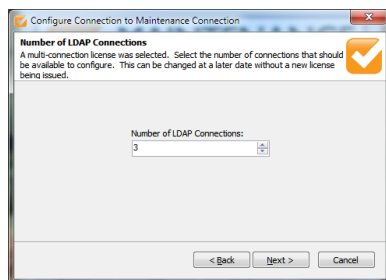
This should be checked on each upgrade of the service incase new features have been added to the database. If an update is required a red X will be displayed and the Perform Update button will be selectable. Perform the update if required and then select next.

Select License



On this page you will select the license to unlock the LDAP Integration service. This will allow the LDAP Integration service to be able to execute properly and display only the most relevant configuration options. If you need assistance with the License Manager please contact your Maintenance Connection administrator. Once the license has been selected it will be validated and you will be able to select next.

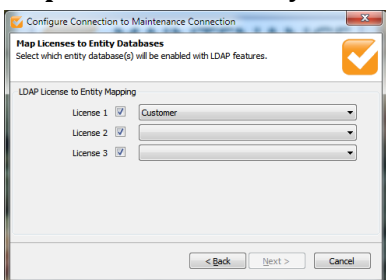
Number of LDAP Connections (optional screen)



This optional page of the configuration wizard will display if you have selected a license that contains 2 or more connections. This enables the user to customize the number of configurable connections without requesting an updated license from Maintenance Connection each time. A connection is defined as the configuration information between 1 LDAP directory and 1 MC database. Unlimited connections can be configured if the proper license has been

purchased.

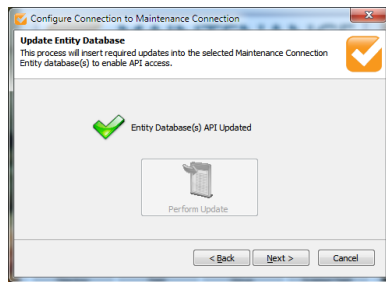
Map Licenses to Entity Databases



This page enables mapping each connection to a MC database. The same database can be used multiple times if required. If the mc.ini file is configured to use a fixed entity database it will be impossible to change the database references. The check boxes next to each license enables the user to temporarily disable the connection from syncing. This is useful if you want to configure a number of connections and leave them disabled until it is time to roll out the

functionality to the affected users.

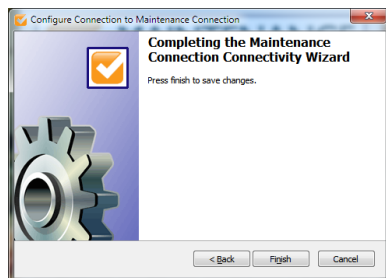
Update Entity Database



On this page you will have the ability to upgrade the entity database(s) with the updated LDAP API containing new functions, tables and columns to enable the LDAP service to run successfully. This is essential to error free execution of the service.

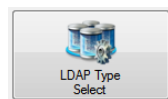
This should be checked on each upgrade of the service incase new features have been added to the database. If an update is required a red X will be displayed and the Perform Update button will be selectable. Perform the update if required and then select next.

Success Page



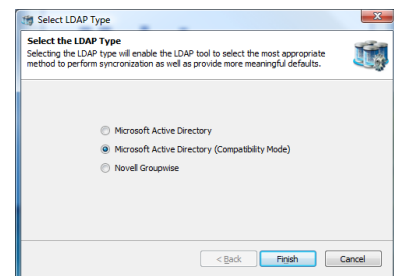
The last page will enable you to save your changes or cancel. Select finish to save your changes or select cancel to throw out your changes.

Configuring the LDAP Directory Type to Connect To



This allows you to change which type of LDAP directory you will connect to. The three available options are:

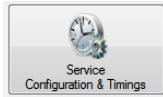
- Microsoft Active Directory
- Microsoft Active Directory (Compatibility Mode)
- Novell Groupwise



Select the appropriate option for the LDAP directory you will be using. Active Directory Compatibility Mode is available for instances where Active Directory 2003 is running in compatibility mode with Active Directory 2000, or has some required features disabled. This mode may not offer 100% of available functionality.

Select finish to save your changes.

Configuring Special Service Options and Sync Timings



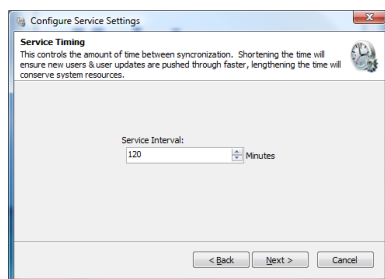
This wizard allows you to configure how the service will operate in the background. This wizard contains all the global options and settings for the service are set. Keep a careful eye on all the settings as many settings have a direct impact upon the first sync and effectively do nothing after the first sync is complete.

Please consider the following carefully. These settings customize how the LDAP service works at a very base level and will cause completely different results if set differently.

Welcome Screen

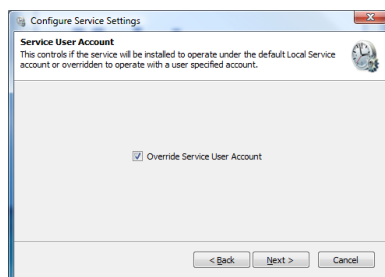
The first screen of the wizard is the welcome screen. It explains what the purpose of the wizard is. Select next.

Service Timing



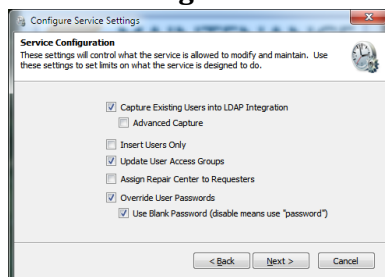
This page will enable you to configure the service interval. This is how often the service will attempt to synchronize between the LDAP directory and Maintenance Connection. Selecting a longer interval will mean that LDAP directory changes will take longer to appear into Maintenance Connection, a shorter interval will cause changes to appear sooner. Select next.

Service User Account



On this page you will be able to configure if the service will prompt for a special user account when installing the service. By default the service will install under the Local Service account, if this account does not have sufficient permissions to access the network (and LDAP) you will need to override the account with a different one. When you install the service it, Windows will prompt for a User Account and Password if this is enabled. Select next.

Service Configuration



On this page you will be able to configure how users are managed in the LDAP service. The options are explained here:



- **Capture Existing Users into LDAP Integration**

This option is to prevent duplicate Labor/Requester records from appearing after the first sync. It will allow the service to look at user accounts already in MC and attempt to find a valid mapping with a LDAP user account. This will look in the registration database for a user record that exactly matches the LDAP user being synchronized. If existing user names are not “Domain\Username” then advanced capture will be required as well. This is recommended to be enabled.

- **Advanced Capture**

This is an advanced form of the previous option, it will attempt to use more advanced means of capturing existing users, including looking at Labor IDs and e-mail addresses. This will enable a follow up page allowing you to select which advanced methods to use. This is recommended to be enabled. More details in “[Advanced Capture \(optional page\)](#)”

- **Insert Users Only**

This option is for when LDAP directory data is considered out of date. This will keep users Access Group settings matched correctly within Maintenance Connection but will not update any other LDAP sourced information such as Phone, Name and anything else. If this is set user information must be manually maintained within Maintenance Connection. If some LDAP information is considered incorrect but other information is correct this should be left disabled and “LDAP Field Mapping” should be used. This is recommended to remain disabled.

- **Update User Access Groups**

This option controls if the service should keep a users Access Group matched up to the LDAP directories groups. Disabling this allows Access Group changes within Maintenance Connection to be maintained. Enabling this will cause changes to a users Access Group (in MC) to be automatically reverted to the settings in the LDAP directory. This is recommended to be enabled.

- **Assign Repair Center to Requesters**

This option controls if the service should assign a Repair Center to requesters. If the service requester has not been assigned a Repair Center then work orders entered by the service requester will appear in the default Repair Center. This should be enabled only if requester management uses Repair Centers.

- **Override User Passwords**

This option will automatically erase user passwords contained within Maintenance Connection. Enabling this option will always wipe a user’s password on each sync process. Enable this option for maximum security. If using non-LDAP logins such as Tablet Hybrid or WAP this option should be disabled.

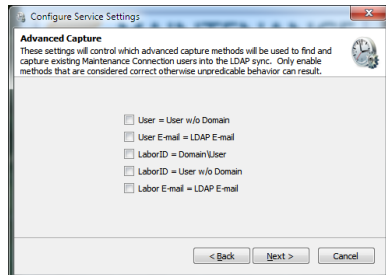
- **Use Blank Password (disable means use “password”)**

This option controls what default password should be used on new accounts as well as what password should be used if the “Override User Passwords” option is set. This is highly recommended to remain checked. If non-LDAP logins are required it is recommended that a user go through the password reset process rather than disabling this option. Leaving this

option enabled will ensure maximum security as users without a manually reset password will be unable to login except through the LDAP specific login pages.

Once configuration is complete, select next.

Advanced Capture (optional page)



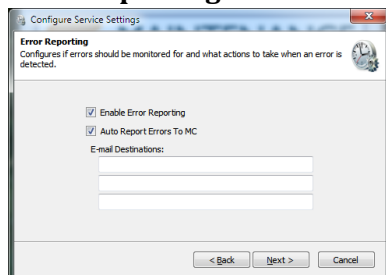
On this page you will be able to select which advanced capture methods to enable. Enabling all options will maximize the chance that existing users (from before the LDAP service was installed) will be captured into being managed by the LDAP service. Disable any options that do not make sense or will cause issues. Any capture action that results in more than 1 user being found will be discarded as a bad capture action. The available options are:

- **User = User w/o Domain**
This option will attempt to match a record in the registration database that matches LDAP username without the domain attached.
- **User E-mail = LDAP E-mail**
This option will attempt to match a record in the registration database using the LDAP account's e-mail address.
- **Labor ID = Domain\User**
This option will attempt to match a record in the entity database by matching the LDAP username against the Labor/Requester IDs looking for "Domain\Username".
- **Labor ID = User w/o Domain**
This option will attempt to match a record in the entity database by matching the LDAP username against the Labor/Requester IDs looking for the LDAP username without the domain.
- **Labor E-mail = LDAP E-mail**
This option will attempt to match a record in the entity database using the LDAP account's e-mail address.

Ensure that you disable any capture methods that specifically make no sense for the installed Maintenance Connection environment. For instance if many users use the same e-mail address, disabling matching via e-mail address would prevent a random match from occurring.

Once the methods to perform advanced mappings with have been selected, select next.

Error Reporting



This page configures e-mail error reporting features. It is recommended to enable error reporting so that errors can be monitored by e-mail.

Regardless of the settings here errors are automatically logged to the mccErrorLog table in the registration database and full logs (max 5 days) are stored in the \log subdirectory located in the installation folder (logging to the \log directory is prevented when insufficient permissions are granted to the

service user account). No reporting or logging is performed when manually executing sync procedures in the configuration UI.

Auto Report Errors To MC

This feature will automatically e-mail Maintenance Connection when Error level or above conditions occurs during the sync. E-mail reports are delivered to: errorReports@maintenanceconnection.ca. This should only ever be disabled if privacy regulations prevent sending error logs or the e-mail server is unable to deliver to outside e-mail addresses.

E-mail Destinations

This allows for entering an additional 3 e-mail destinations that can be alerted when an error occurs. Typically this should be filled in with a monitored IT support address so that if errors are related to new configuration or changed LDAP directory settings IT will be notified when the error occurs.

Success Page

Click the finish button to save your changes and close the wizard.

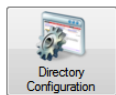
Configuring Each LDAP Connection

Each installed LDAP connection must be configured independently to connect to LDAP. This enables the ability to connect to multiple domain servers and/or have multiple databases or types of specific group mappings.



As shown above the bottom half of the configuration tab is headed by a second set of tabs. Each tab represents a configured connection and displays the name of the Entity database each license has been configured to connect to. To change these mappings see the instructions in “[Configuring the Connection to Maintenance Connection](#)”.

Configuring the LDAP Directory Connection

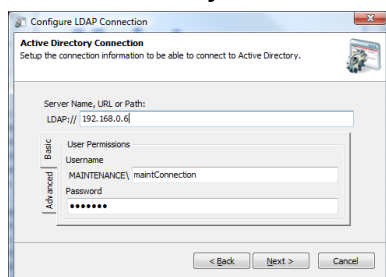


Ensuring a properly setup connection to the LDAP directory is integral to having the entire integration service work.

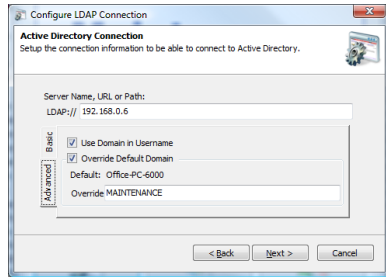
Welcome Screen

The first screen of the wizard is the welcome screen. It explains what the purpose of the wizard is. Select next.

Active Directory Connection (AD Only)

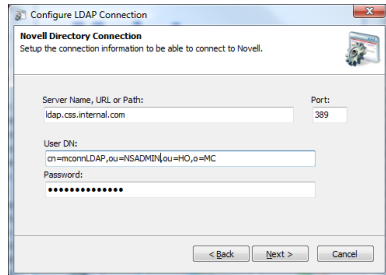


You will see the primary configuration for connecting to an Active Directory domain server. Fill in the LDAP path and a username & password for the connection. The username & password are optional though may be required depending upon the configuration of the domain server.



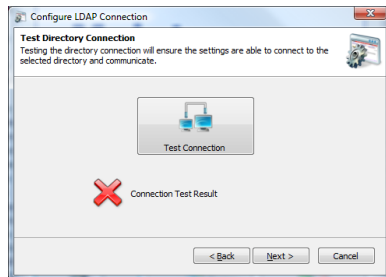
The advanced tab is used to change a few advanced settings for connecting to the domain server. If the domain server does not report usernames with the domain included uncheck the “Use Domain in Username”. If the domain name being reported is not the domain name the server uses, for example a multi-domain environment, override the domain name and type in the correct name. Once finished select next to continue.

Novell Directory Connection (Novell Only)



This is where you set the primary configuration for connecting to a Novell LDAP directory. Fill in the directory path and port number. Connecting to a LDAP directory also requires a fully qualified user distinguished name and the user’s password. Once finished select next to continue.

Test Directory Connection

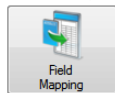


This is the wizard screen that allows you to test the connection to the LDAP directory. A connection attempt is made immediately upon going to the page. If the attempt fails a red X will appear; if it succeeds a green checkmark will be displayed. To receive a popup with error results select the Test Connection button. Once a connection is achieved select next.

Success Page

Click the finish button to save your changes and close the wizard.

Configuring LDAP Field Mapping (Active Directory Only)

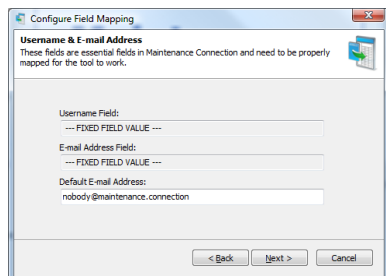


Configuring the field mappings ensure that the correct information flows from Active Directory into Maintenance Connection. Due to many fields in Active Directory being predefined by the system, several fields have fixed defaults.

Welcome Screen

The first screen of the wizard is the welcome screen. It explains what the purpose of the wizard is. Select next.

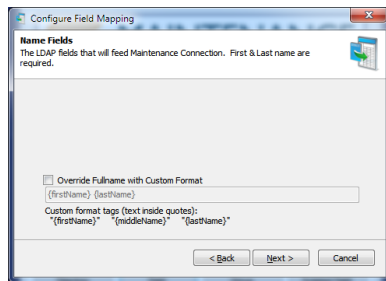
Username & E-mail Address



This is the page for configuring the default e-mail address of a user to be synchronized into Maintenance Connection. It is possible to insert users into Active Directory that do not have an e-mail addresses specified. Maintenance Connection does not allow this behavior and all users must have an e-mail address pre-defined. To allow for syncing users without a configured e-mail address you must setup a

fallback e-mail to use. Any e-mail addresses, including invalid ones are acceptable. Select next.

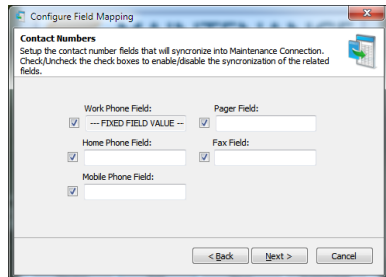
Name Fields



This is the page to configure how user's names will be added into Maintenance Connection. By default names in Active Directory are stored "Firstname Lastname". This can sometimes be undesirable behavior making it hard to look up users in Maintenance Connection (for instance using various address book functions). The Labor/Requester name can be overridden here with a custom name format. Allowed custom format fields are described on the screen.

Select next.

Contact Numbers

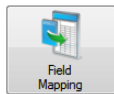


This is the page for configuring user phone numbers. If a field is configured and it does not contain any data the corresponding information in Maintenance Connection will not be overwritten. Any fields that have the checkmark next to the field unselected or are left non-configured (no value in the field) will not be synchronized. Select next.

Success Page

Click the finish button to save your changes and close the wizard.

Configuring LDAP Field Mapping (Novell Only)

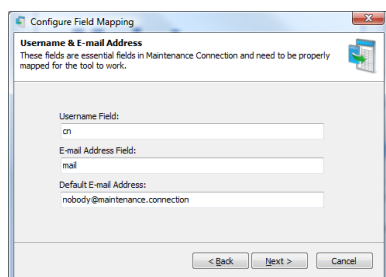


Configuring the field mappings ensure that the correct information flows from LDAP into Maintenance Connection. Since standard LDAP directories do not have a long list of pre-defined fields there are many fields that need to be configured for a successful sync.

Welcome Screen

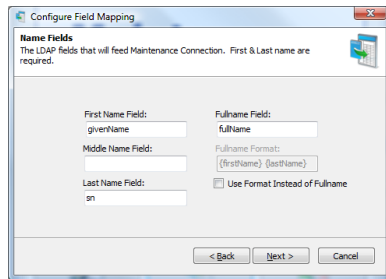
The first screen of the wizard is the welcome screen. It explains what the purpose of the wizard is. Select next.

Username & E-mail Address



This is the page where you will configure the LDAP fields for the Maintenance Connection username, the e-mail address and the default e-mail address to use in Maintenance Connection if an e-mail address is not available in the LDAP directory. Once configured select next.

Name Fields



Name Fields
The LDAP fields that will feed Maintenance Connection. First & Last name are required.

First Name Field: Fullname Field:

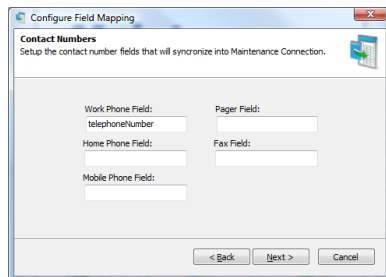
Middle Name Field: Fullname Format:

Last Name Field: ☐ Use Format Instead of Fullname

< Back Next > Cancel

This is the page where you configure what fields give a user their name. A full name format can be used instead of a field from the directory; anything can be hardcoded into the format. Available dynamic fields are: {firstName}, {middleName} and {lastName}. Select next when finished.

Contact Numbers



Contact Numbers
Setup the contact number fields that will synchronize into Maintenance Connection.

Work Phone Field: Pager Field:

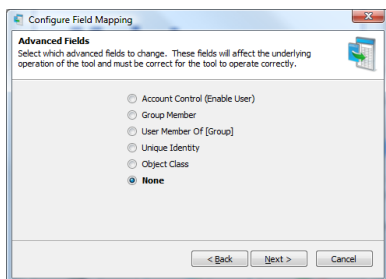
Home Phone Field: Fax Field:

Mobile Phone Field:

< Back Next > Cancel

This is the page for configuring user phone numbers. If a field is configured and it does not contain any data the corresponding information in Maintenance Connection will not be overwritten. A non-configured field will not be synchronized. Select next.

Advanced Fields



Advanced Fields
Select which advanced fields to change. These fields will affect the underlying operation of the tool and must be correct for the tool to operate correctly.

☐ Account Control (Enable User)
☐ Group Member
☐ User Member Of [Group]
☐ Unique Identity
☐ Object Class
☒ None

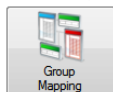
< Back Next > Cancel

This is the advanced fields wizard page. This page leads to special advanced fields configuration pages. Each advanced field needs to be correctly configured for full operation. Once finished change the setting to None and click next.

Success Page

Click the finish button to save your changes and close the wizard.

Configuring LDAP Group Mapping

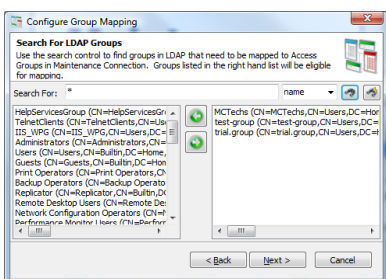


The group mapping wizard enables mapping groups from LDAP to a matching access group in Maintenance Connection.

Welcome Screen

The first screen of the wizard is the welcome screen. It explains what the purpose of the wizard is. Select next.

Search For LDAP Groups



Search For LDAP Groups
Use the search control to find groups in LDAP that need to be mapped to Access Groups in Maintenance Connection. Groups listed in the right hand list will be eligible for mapping.

Search For: name

Left list: HelpServicesGroup (CN=HelpServicesGroup), TelnetClients (CN=TelnetClients,CN=Users,DC=), ITS_WPG (CN=ITS_WPG,CN=Users,DC=), Administrators (CN=Administrators,CN=Users,DC=), Users (CN=Users,CN=BuiltIn,DC=), Guests (CN=Guests,CN=BuiltIn,DC=), Print Operators (CN=Print Operators,CN=BuiltIn,DC=), Backup Operators (CN=Backup Operators,CN=BuiltIn,DC=), Replicator (CN=Replicator,CN=BuiltIn,DC=), Remote Desktop Users (CN=Remote Desktop Users,CN=BuiltIn,DC=), Network Configuration Operators (CN=Network Configuration Operators,CN=BuiltIn,DC=), Performance Monitor Users (CN=Performance Monitor Users,CN=BuiltIn,DC=)

Right list: MCTechs (CN=MCTechs,CN=Users,DC=), test-group (CN=test-group,CN=Users,DC=), trial-group (CN=trial-group,CN=Users,DC=)

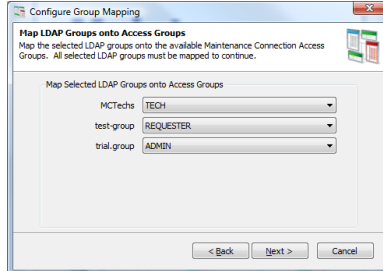
< Back Next > Cancel

This is the search for LDAP groups screen. This screen allows you to filter through the entire directory of LDAP groups to a select few groups that should be mapped to Maintenance Connection. Wildcard searches are allowed. Search results appear on the left, select a result to map and select the right pointing arrow to add it to the mapped groups list.

To search for all LDAP groups instead of just a few use the find button with a lightning bolt on it ().

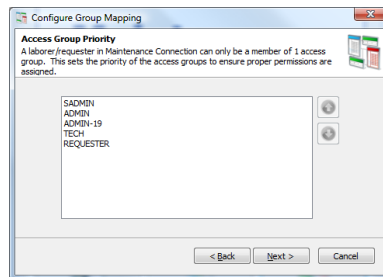
Once all the groups that need to be mapped are selected, click next.

Map LDAP Groups onto Access Groups



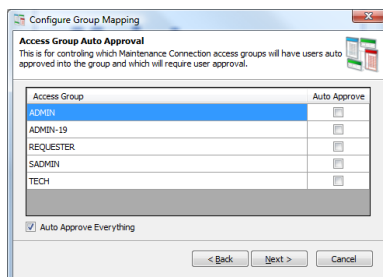
This is the screen for mapping the previously selected LDAP groups to a Maintenance Connection access group. The LDAP groups that were selected are listed on the left and a dropdown list offering available Maintenance Connection access groups are on the right. Once all the mappings have been set, click next.

Access Group Priority



This is the screen for setting Maintenance Connection access group priority. A user in Maintenance Connection can only be assigned 1 access group, due to this if a user happens to be in 2 or more mapped LDAP roles the highest priority mapped Access Group will be the one selected. Once the Access Group priorities are ordered correctly, click next.

Access Group Auto Approval

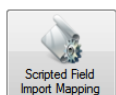


This is the screen for setting auto approvals in Maintenance Connection. This will configure if certain access groups will need manual intervention before the users assigned to them are fully approved for use in Maintenance Connection. The default is to approve everything. Once configured, click next.

Success Page

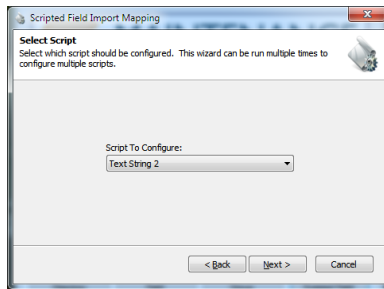
Click the finish button to save your changes and close the wizard.

Scripted Field Import Mapping



The scripted field import mapping wizard enables importing custom configured fields from LDAP into Maintenance Connection. This allows for custom logic to be implemented without requiring custom features to be implemented in the LDAP tool. Any field that is not available for mapping in the regular import (through “[Configuring LDAP Field Mapping \(Active Directory Only\)](#)”) can be filled using this method. Also delayed processing can be performed if calculations must be performed across several imported records.

Select Script



This page allows for selecting which script should be customized.

Currently there are 10 available scripts that can be customized, 5 each of 2 different types. The types are:

Text String

This script type stores data for change tracking and long term use in a column of the Labor table called "LDAPCustomFieldText#". The field is a varchar(50) field allowing for any type of data up to 50 characters

in size to be stored.

Hash Field

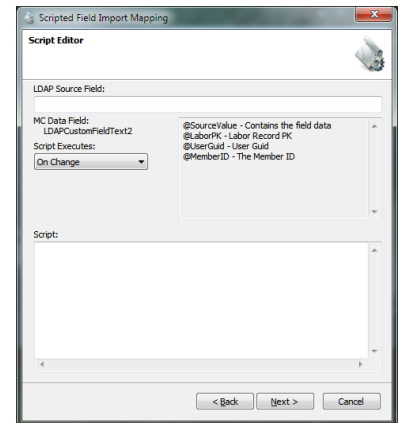
This script type stores data for change tracking hashed in a column of the Labor table called "LDAPCustomFieldHash#". The field is a varchar(32) field and due to storing data hashed can contain data of any type and length without limit.

Script Editor

This page allows for editing the script.

First a LDAP source field must be entered. This is the official LDAP field name in LDAP. Presently this field can be of any type excepting special fields such as array or object reference fields.

Second when the script executes must be selected. The script can be executed on change of the LDAP field or every time the LDAP service executes.



Lastly the script must be entered. This field is of unlimited length and can contain as many SQL statements as required to perform the custom logic required. "GO" and other special SQL Manager commands are not supported. 4 SQL variables will be passed into the script as parameters:

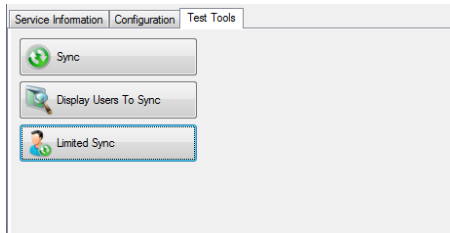
- @SourceValue
The value retrieved from the LDAP directory. This is in its original form. When using Hashed fields this is how you will retrieve the original unchanged value.
- @LaborPK
The PK of the Labor/Requester record being changed.
- @UserGuid
The Guid of the user record. Used as an alternative lookup method for the Labor/Requester record or a method to lookup the user in the Registration database.
- @MemberID
The member ID of the user being synchronized. This will take the form of "Domain\Username"

Once the script has been entered and checked over for errors, select next to continue.

Success Page

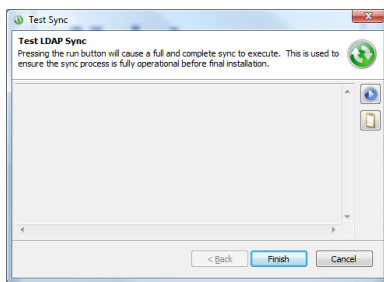
Click the finish button to save your changes and close the wizard.

Test Tools





To the left is a screenshot of the available test tools. These tools are used to perform various actions between the LDAP directory and Maintenance Connection. Some of these processes can be destructive processes and should be used with caution; backing up of the database is recommended.

Sync

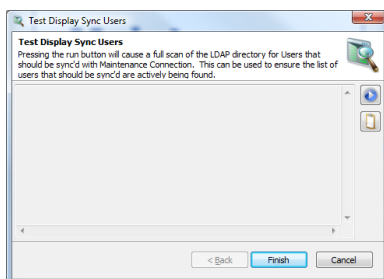


This test tool performs a full and complete sync. This is used to confirm that the tool is fully setup correctly or if a change has been made to the configuration and you do not wish to wait for a sync cycle to occur.

The play button () executes the sync. In the case of issues occurring during the sync the clipboard button () is available to copy the entire sync log to the clipboard for easier identification or



for sending in an e-mail.

Display Users To Sync

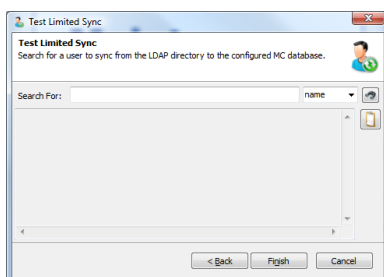


This test tool performs what might be considered “sync light”. This is a non-destructive process that will execute a standard sync to simply identify which users are expected to be synced. Standard Maintenance Connection database operations are not performed.

This is used to confirm that all the users that are expected to be found are actually being found.

The play button () starts the users search. The clipboard button () will copy the search results to the clipboard.


Limited Sync



This test tool performs a limited version of the standard sync. It will search for a single user in the LDAP directory and attempt to sync that user into Maintenance Connection. In the case of multiple connections, you will first need to select the connection to use.

Type the name in the search box and select the find button to begin the search. Wildcard searches are acceptable and multiple users can



be synced at a time using this tool. The clipboard button () will copy the sync results to the clipboard.

Q&A

In this area are various questions and answers that may not be covered in the rest of the installation guide.

Assigning Repair Centers to Labor/Requesters

Repair Centers are often an important part of being able to properly manage service requests and the access to work orders. Repair Centers are assigned based upon the following priorities:

1. If a Repair Center ID has been entered in User Defined field UDFChar1 of the assigned Access Group for the user.
2. The default Repair Center
3. Blank by default if the user is a Requester (MC will assign service requests to the default repair center)

Importing unmapped fields into MC from LDAP

If there is no option in “[Configuring LDAP Field Mapping \(Active Directory Only\)](#)” for importing a field into MC then importing those fields into MC can be accomplished by using “[Scripted Field Import Mapping](#)”. Simple SQL UPDATE scripts can be used to import these fields.

An example script for importing a custom LDAP field as a Craft is presented below:

```
UPDATE [Labor]
  SET [CraftID] = @SourceValue,
      [CraftName] = (SELECT LaborName FROM Labor WHERE LaborID = @SourceValue AND LaborType = 'CR'),
      [CraftPK] = (SELECT LaborPK FROM Labor WHERE LaborID = @SourceValue AND LaborType = 'CR')
WHERE
  LaborPK = @LaborPK
```