

KAKAPO

SYSTEMS

# INTEGRATING WITH ACTIVE DIRECTORY

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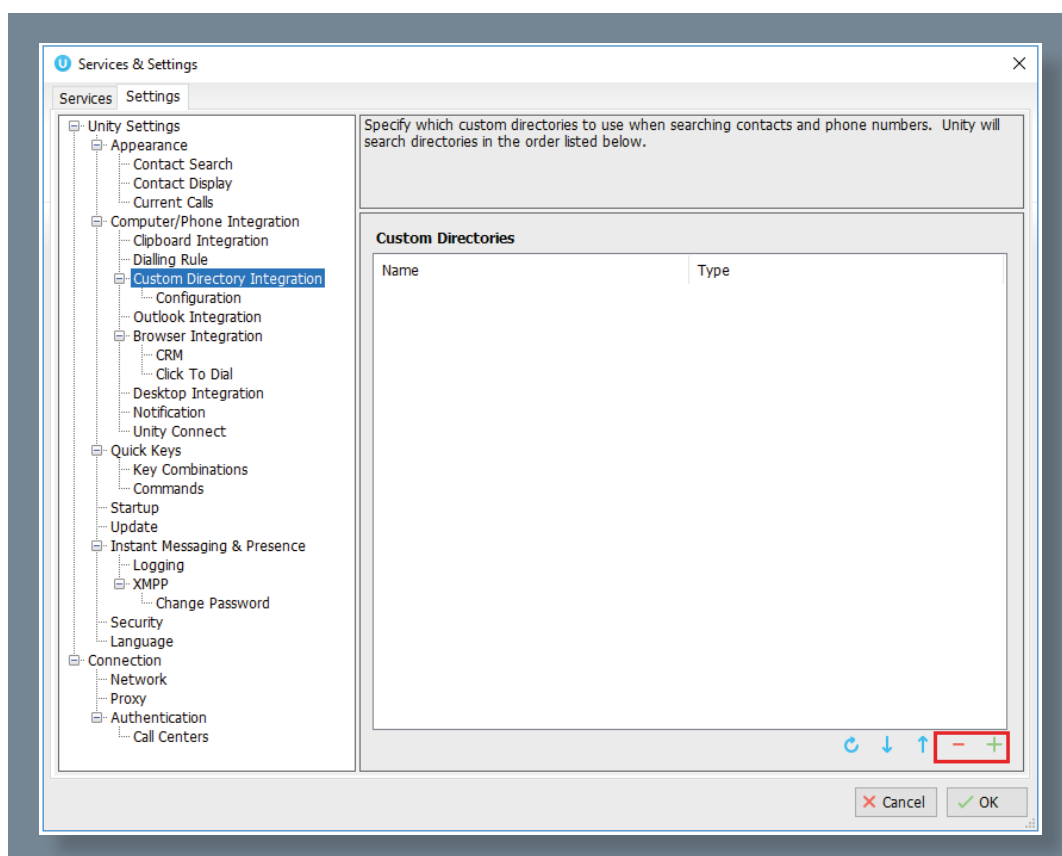
# 1 BACKGROUND

This document outlines the steps involved in integrating Unity Desktop with Microsoft Active Directory for click-to-dial and CLI popping functionality. This functionality is included with all Unity clients, but is currently only available within the Unity for Windows clients.

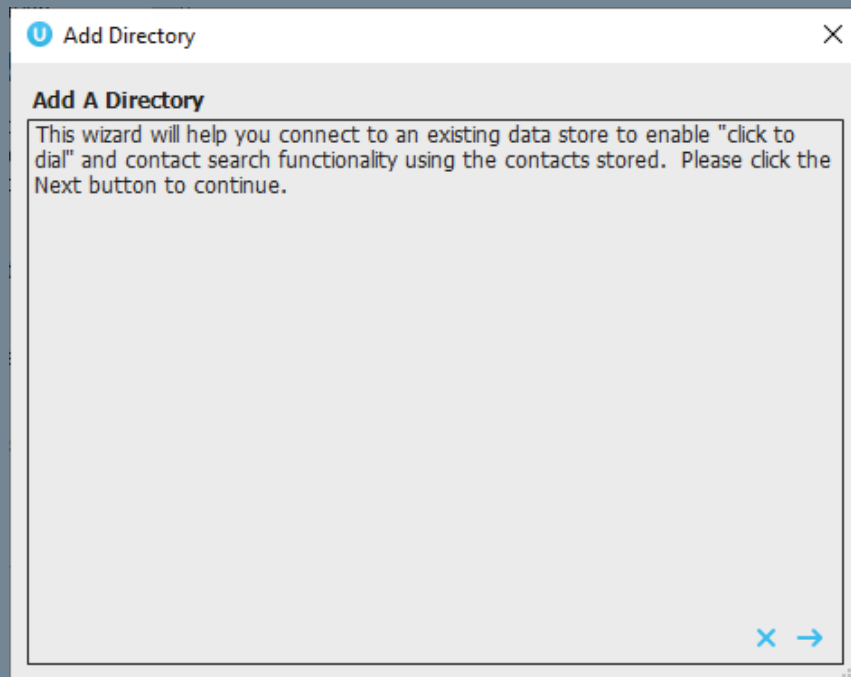
## 2 ADDING A CONNECTION TO THE LDAP DIRECTORY

Setting up a connection to an Active Directory server is made easy through the use of a wizard.

This is accessed by clicking Settings > Settings tab > Custom Directory Integration. Click the green plus sign which will open the following window.



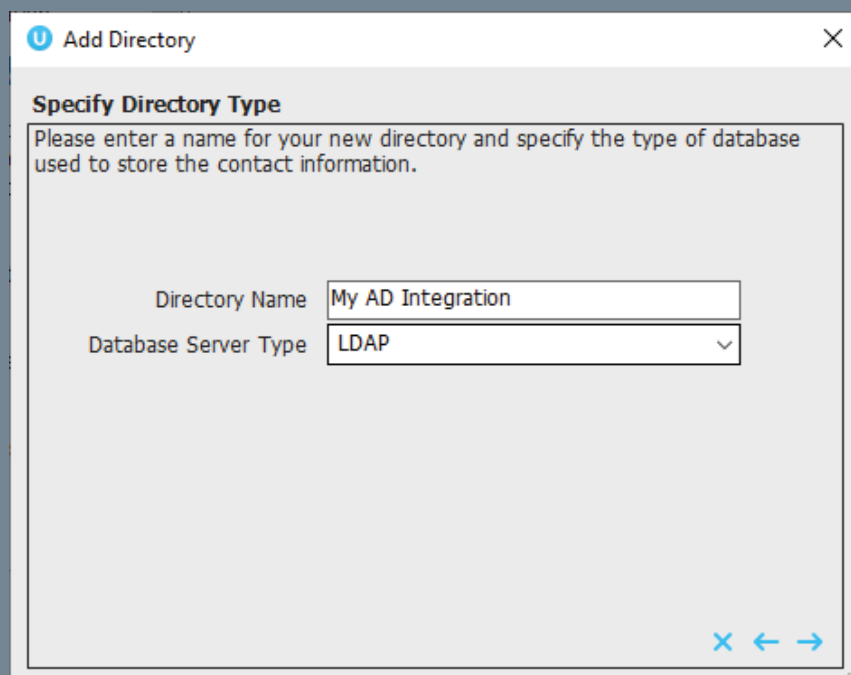
Click the arrow to progress to the next screen.



The screenshot shows a window titled "Add Directory" with a close button (X) in the top right corner. Below the title bar, the text "Add A Directory" is displayed. The main content area contains the instruction: "This wizard will help you connect to an existing data store to enable 'click to dial' and contact search functionality using the contacts stored. Please click the Next button to continue." At the bottom right of the window, there is a blue "X" button and a blue right-pointing arrow button.

Enter a name for the custom directory and select LDAP Directory from the drop-down list. Microsoft Active Directory is an LDAP-compliant directory, so Unity connects to it the same way it connects to a Lotus Notes or Open LDAP directory. Please note this is a native LDAP connection on TCP port 389, the Microsoft Graph API is not used to integrate.

Click the next button to progress to the next screen.



The screenshot shows a window titled "Add Directory" with a close button (X) in the top right corner. Below the title bar, the text "Specify Directory Type" is displayed. The main content area contains the instruction: "Please enter a name for your new directory and specify the type of database used to store the contact information." Below this instruction, there are two input fields: "Directory Name" with the text "My AD Integration" entered, and "Database Server Type" with a dropdown menu showing "LDAP". At the bottom right of the window, there is a blue "X" button, a blue left-pointing arrow button, and a blue right-pointing arrow button.

**Add Directory (Step 1 of 5)**

Please enter the connection details that will allow the wizard to connect to the LDAP directory.

LDAP Directory Server	ad.kakaposystems.com
Base DN	dc=kakaposystems.com,dc=com
Login DN	cn=admin,dc=kakaposystems.com,dc=com
Password	*****
Authentication Type	Secure

Navigation buttons: X, ←, →

In this screen the connection and authentication details must be entered. The base Distinguished Name (DN) is used to specify where all searches start. All child nodes and sub-trees are included from this point by default.

The Login must include the full DN; otherwise, the LDAP directory does not know where to find the account to authenticate.

Please note that by default Microsoft Active Directory uses the 'Secure' authentication type, while Open LDAP doesn't use an authentication type at all, so 'None' should be selected. Please check with your LDAP or network administrator for the authentication type used.

Once all fields are completed, click the next button to progress to the next screen.

**Add Directory (Step 2 of 4)**

Please enter the type of entry to be used as well as the LDAP fields to be displayed and searched on. All phone number fields should also be checked. Unity will verify these fields against the login DN.

Object Class (Type)	Contact
Properties	<input type="checkbox"/> cn <input checked="" type="checkbox"/> telephoneNumber

Navigation buttons: X, ←, →

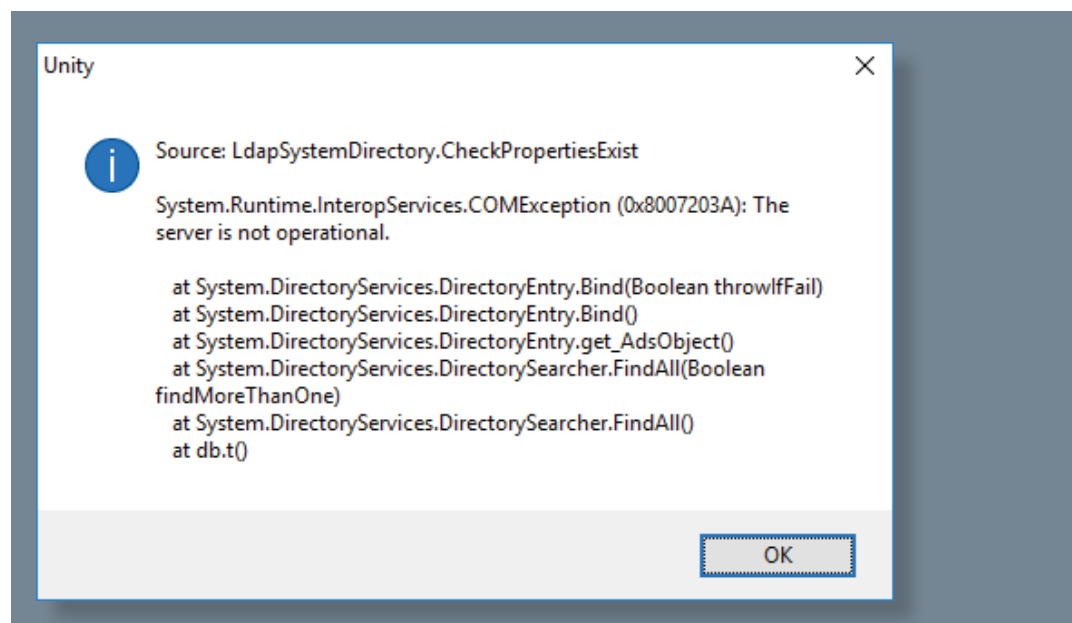
This step is used to enter the field information required by Unity to search the LDAP directory. Firstly, the object class must be entered, this is also known as the object type. There are many object types in any LDAP-compliant directory. For example, in Active Directory there are users, contacts, computers and domain controllers to name a few.

We are most interested in the user or contact object class as these classes represent a person in our organization. Therefore, in most cases the object class will be User when integrating with Active Directory. With Open LDAP directories, the object type most used is person as this class includes common name and number fields.

Enter all properties required to display and/or use to search. In the above screenshot, the cn field is used to display as well as search on the contact name. For each contact, as well as the name we want to show the telephone and mobile numbers. This also means that we will be able to perform a number-pop on these phone fields for incoming calls (if specified in a later step.) Remember, if you want to display or search on the field, then it must be included here. A list of relevant property names for Active Directory is provided in section 3.

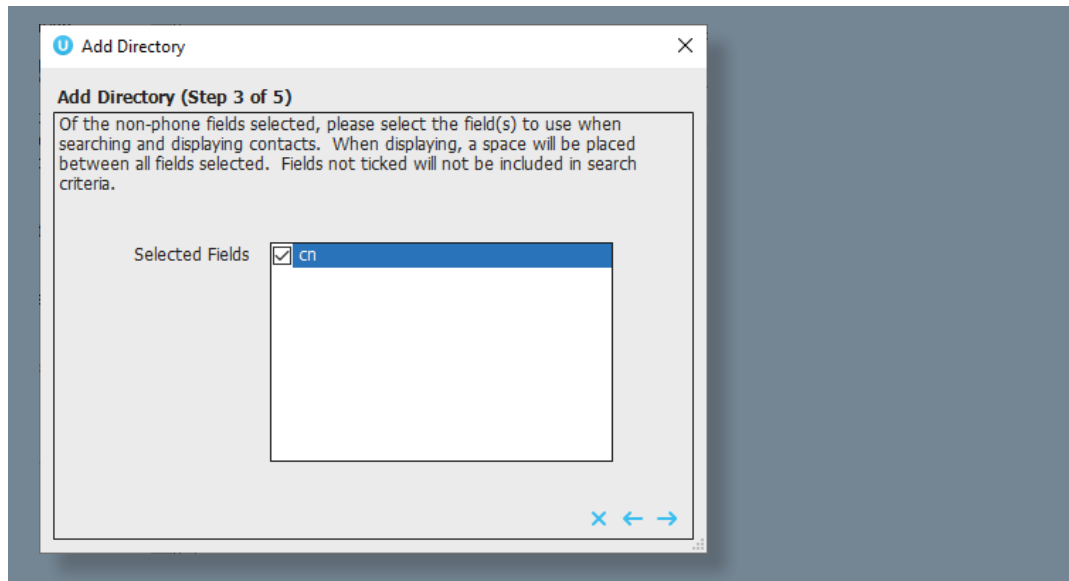
TIP: When integrating with Active Directory it is recommended that instead of using the Common Name (cn) property, the first name (givenName) and last name (sn) fields are used. This means that when searching on a contact, both the first and last name will be searched, instead of the common name as a whole. This provides increased search accuracy.

Once you click the next button, Unity attempts to connect the LDAP directory using the details provided and performs a check to make sure all properties entered exist. The user is prompted of any problems such as not being able to connect to the LDAP server, incorrect authentication details or if a field does not exist (as shown below.)



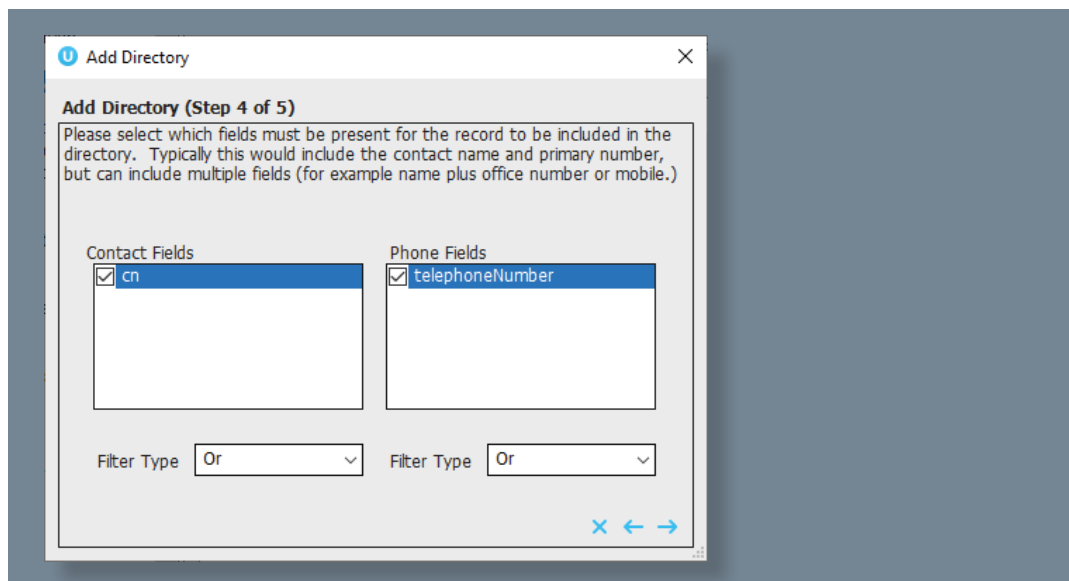
Once you see the following screen, you can be assured that the connection details provided are correct and that all properties exist in the LDAP directory. If Unity claims that a field does not exist, but you are sure that it does, one possible reason may be that the field does not contain any details for any users.

Go to a record in the LDAP directory and enter a value for that field. If this issue is then resolved you can assume that this field is not populated, so it can be excluded from the property list.

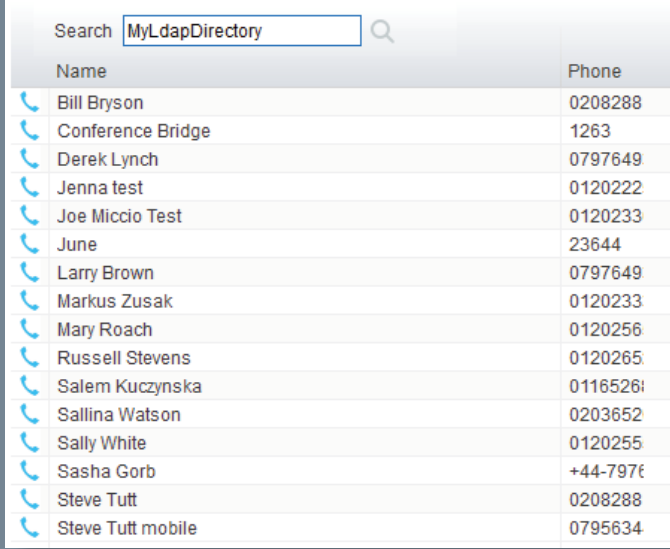


This screen is used to select which non-phone fields are to be used when displaying information. If there are multiple non-phone fields added to the properties list in the previous screen, you can join them together, for example joining the givenName and sn fields with Active Directory to show the full name as one field. Unity will place a space between any fields added.

Now click the next button to progress to the next screen.



This screen is used to specify which fields must be present to include the contact when displaying the directory. For example, in the above screenshot, the record will only be shown if there is a value in the cn (common name) and telephoneNumber fields. If there is a value in the mobile field this will be displayed otherwise the field will be empty, as shown below.

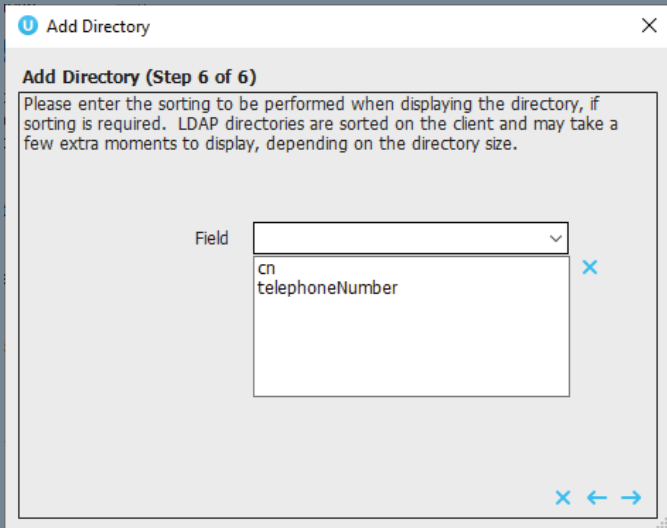


Name	Phone
Bill Bryson	0208288
Conference Bridge	1263
Derek Lynch	0797649
Jenna test	0120222
Joe Miccio Test	0120233
June	23644
Larry Brown	0797649
Markus Zusak	0120233
Mary Roach	0120256
Russell Stevens	0120265
Salem Kuczynska	0116526
Sallina Watson	0203652
Sally White	0120255
Sasha Gorb	+44-7976
Steve Tutt	0208288
Steve Tutt mobile	0795634

This LDAP directory actually contains more records than shown in the above screenshot, however only these records have values in the required fields, so they are the only records displayed.

Please also note that Unity supports multiple dimension LDAP directories. In the above screenshot the user Ingrid Thompson has multiple entries in the list. This is because in the LDAP directory multiple values have been entered in the telephoneNumber field. When displaying the entire directory, Unity will duplicate entries in order to show all values for all fields. This is also how Unity displays all numbers for a user when searching.

Now click the next button to progress to the next screen.



**Add Directory (Step 6 of 6)**

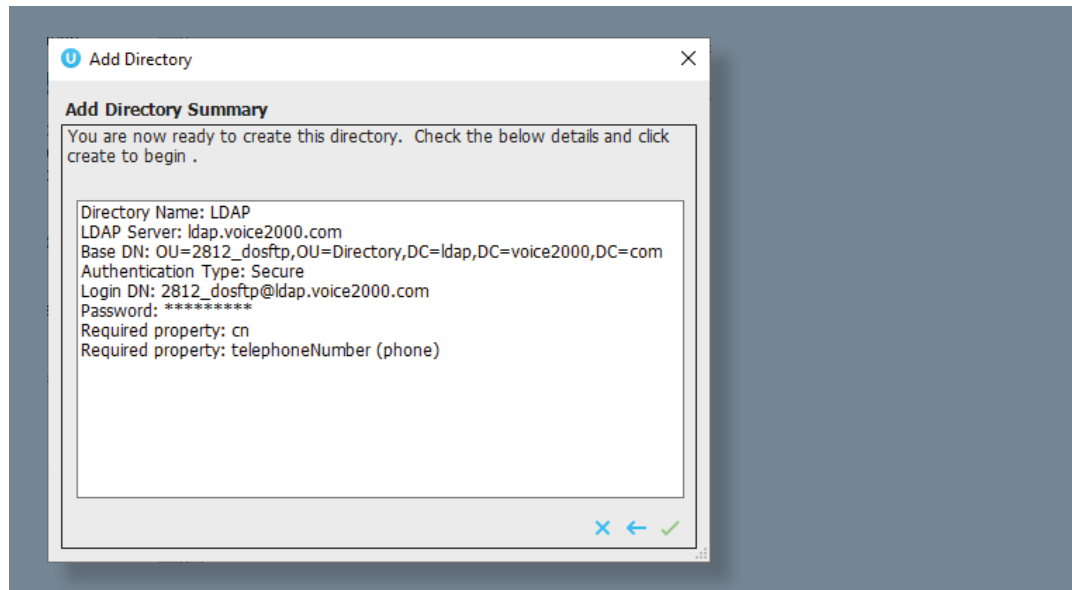
Please enter the sorting to be performed when displaying the directory, if sorting is required. LDAP directories are sorted on the client and may take a few extra moments to display, depending on the directory size.

Field:   
telephoneNumber

Navigation buttons: X, ←, →



This screen allows you to specify the order of columns when showing the directory. Select each column from the dropdown list in the order in which they should be displayed in the list. Then click Next to progress to the next screen.



Click the green tick to create the custom directory.

## 3 RELEVANT ACTIVE DIRECTORY FIELDS

For a full list of Active Directory fields, go to [www.winzero.ca/Active-Directory-users.html](http://www.winzero.ca/Active-Directory-users.html).

Display Name	Active Directory Field Name
International ISDN Number (Others)	internationalISDNNumber
Company	company
First Name	givenName
Full Name	cn
Home Phone	homePhone
Home Phone (Others)	otherHomePhone
Job Title	title
Mobile Number	mobile
Mobile Number (Others)	otherMobile
Pager Number	pager
Pager Number (Others)	otherPager
Phone (Others)	otherTelephone



KAKAPO

SYSTEMS

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