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Grandstream Networks, Inc.

GXV3275 IP Multimedia Phone for Android™

LDAP Phonebook User Guide

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Grandstream GNU GPL related source code can be downloaded from Grandstream web site from:
http://www.grandstream.com/sites/default/files/Resources/gxv32xx_gpl.zip

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INTRODUCTION

LDAP (Lightweight Directory Access Protocol) is an industry standard application for accessing and maintaining a distributed directory information via the Internet Protocol network. LDAP is specified in a series of RFCs (Request for Comments) from IETF (Internet Engineering Task Force).

LDAP is a client-server protocol and the GXV3275 can be used as LDAP client to access the directory and search contacts remotely from the LDAP server. This User Guide describes how to use the LDAP directory on the GXV3275 and a sample configuration is provided with the built-in LDAP server on the Grandstream UCM6XXX series IPPBX. The audience are administrators or who maintains the GXV3275 configurations. It is expected that the audience are familiar with basic knowledge of LDAP and tasks involved with configuring LDAP client.

To learn more about GXV3275's basic functions and advanced features, please visit link http://www.grandstream.com/support to download the latest "GXV3275 User Guide" and "GXV3275 Administration Guide".

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REQUIREMENT

The following equipment and services are required in order to use the GXV3275 LDAP directory:

- A properly installed and configured LDAP server

  The LDAP configuration on the GXV3275 relies on the LDAP server setup in order to retrieve the stored contacts information. Therefore, before starting using the LDAP directory on the GXV3275, please make sure the LDAP server is properly installed and configured.

  LDAP is an open and vendor-neutral standard. There are different LDAP servers that users can choose to install to host the cooperate directory. For example, OpenLDAP is commonly used on Linux operating system and it can be downloaded here: http://www.openldap.org/software/download/. OpenLDAP software for Windows operating system can also be found online with easy setup wizard. Besides OpenLDAP, the GXV3275 LDAP client works with Microsoft Active Directory server as well. The system administrators could choose the LDAP server to install based on the business needs and preference.

- GXV3275 with firmware version 1.0.1.20 or higher

  Please visit http://www.grandstream.com/support/firmware to download the latest GXV3275 firmware and release note.

- Functional network environment where the GXV3275 and the LDAP server are connected.

  The LDAP server can be located on the Internet or corporate intranet and the LDAP protocol runs over TCP/IP. Therefore, please keep the network access working between the GXV3275 and the LDAP server for the GXV3275 to retrieve information from the server.

LDAP CONFIGURATION ON GXV3275

In the LDAP server, the information is stored as "entry" which is a collection of attributes under a globally-unique DN. The LDAP client needs to be properly configured to access the LDAP server, perform search within the DN and retrieve the result. On the GXV3275, LDAP configurations can be done via web UI, LCD or configuration file provisioning. This section describes how to configure LDAP settings on the GXV3275 via these three methods.

Configure LDAP via WEB UI

1. Log in the GXV3275 web UI from your computer's web browser as administrator or end user.
2. Navigate to **Maintenance→LDAP Book** page.
3. Fill out the LDAP server address, attributes and filter information. See [*Table 1: LDAP Configuration Options*] below for detailed information of each option.
4. Once the configuration is done, click on "Save" on the bottom of the page.

Table 1: LDAP Configuration Options

Option	Description	Example
Connection Mode	Configure LDAP connection mode	• LDAP or LDAPS
Server Address	Configure the IP address or domain name of the LDAP server.	• mycompany.ldap.server.com • 192.168.0.44
Port	Configure the LDAP server port. The default LDAP server port number is 389.	• 389
Base DN	Base DN refers to the location in the directory where the search is requested to begin. The LDAP search will be performed within this directory.	• dc=grandstream,dc=com • ou=Boston,dc=grandstream,dc=com
User Name	Enter the login "Username" to access and query the LDAP server. Some LDAP servers allow anonymous binds in which case this setting can be left blank.	• cn=manager,dc=grandstream,dc=com

	Enter the login "Password" for the username to access and query the LDAP server. Some LDAP servers allow anonymous binds in which case this setting can be left blank.	
Password	Enter the login "Password" for the username to access and query the LDAP server. Some LDAP servers allow anonymous binds in which case this setting can be left blank.	• secret
LDAP Name Attributes	Specify the "name" attributes of each record which are returned in the LDAP search result. This field allows users to configure multiple name attributes separated by space.	• cn sn • CallerIDName FirstName LastName
LDAP Number Attributes	Specify the "number" attributes of each record which are returned in the LDAP search result. It allows the users to configure multiple number attributes separated by space.	• telephoneNumber • telephoneNumber Mobile sipAccount
LDAP Mail Attributes	Specify the "mail" attributes of each record which are returned in the LDAP search result.	• mail
LDAP Name Filter	This is the filter used for name lookups. Special characters: • ***** - Any characters • **%** - The entered string is used as prefix	• (|(cn=%)(sn=%)) This returns all the records which have the "cn" or "sn" field starting with the entered searching key words. • (&(cn=%) (telephoneNumber=*)) This returns all the records with the "cn" field starting with the entered searching key words and "telephoneNumber" field set. • (!(sn=%)) This returns all the records which do not have the "sn" field starting with the entered searching key words. • (CallerIDName=%) This returns all the records which have the "CallerIDName" field starting with the entered searching key words.

LDAP Number Filter	This is the filter used for number lookups. Special characters: • ***** - Any characters • **%** - The entered string is used as prefix	• (|(telephoneNumber=%)(Mobile=%) This returns all the records which have the "telephoneNumber" or "Mobile" field starting with the entered searching number. • (&(telephoneNumber=%) (Mobile=*)) This returns all the records which have the "telephoneNumber" field starting with the entered searching number and "Mobile" field set. • (sipAccount=%) This returns all the records which have the "sipAccount" field starting with the entered searching number.
LDAP Mail Filter	This is the filter used for mail lookups.	• (mail=%) This returns all the records which have the "mail" field starting with the entered searching key words.
LDAP Display Name Attributes	This is the display name of the entry to be shown on the phone's LCD.	• %cn %sn • %CallerIDName
Max Hits	Specify the maximum number of results to be returned by the LDAP server. The valid range is between 1 and 4000. The default setting is 50. Note: If large amount of searching result is to be returned, the searching time in the LDAP server might take long.	• 50

Search Timeout (ms)	Specify the interval (in ms) for the server to process the request and the client will wait for the server to return the result. The valid range is 1 to 4000.	• 1000
LDAP Lookup For Dial	If enabled, the phone will perform LDAP lookup for the dialed number when dialing out. The default setting is disabled.	• Enable • Disable
LDAP Lookup For Incoming Call	If enabled, the phone will perform LDAP lookup for the incoming call's number when receiving calls. The default setting is disabled.	• Enable • Disable
Default dial account	Configure which account to dial out LDAP contact	• Default/Account 1/Account 2

[*Figure 1: GXV3275 Web UI LDAP Settings*] shows the GXV3275 web UI LDAP settings web page, with all the options set to default value.
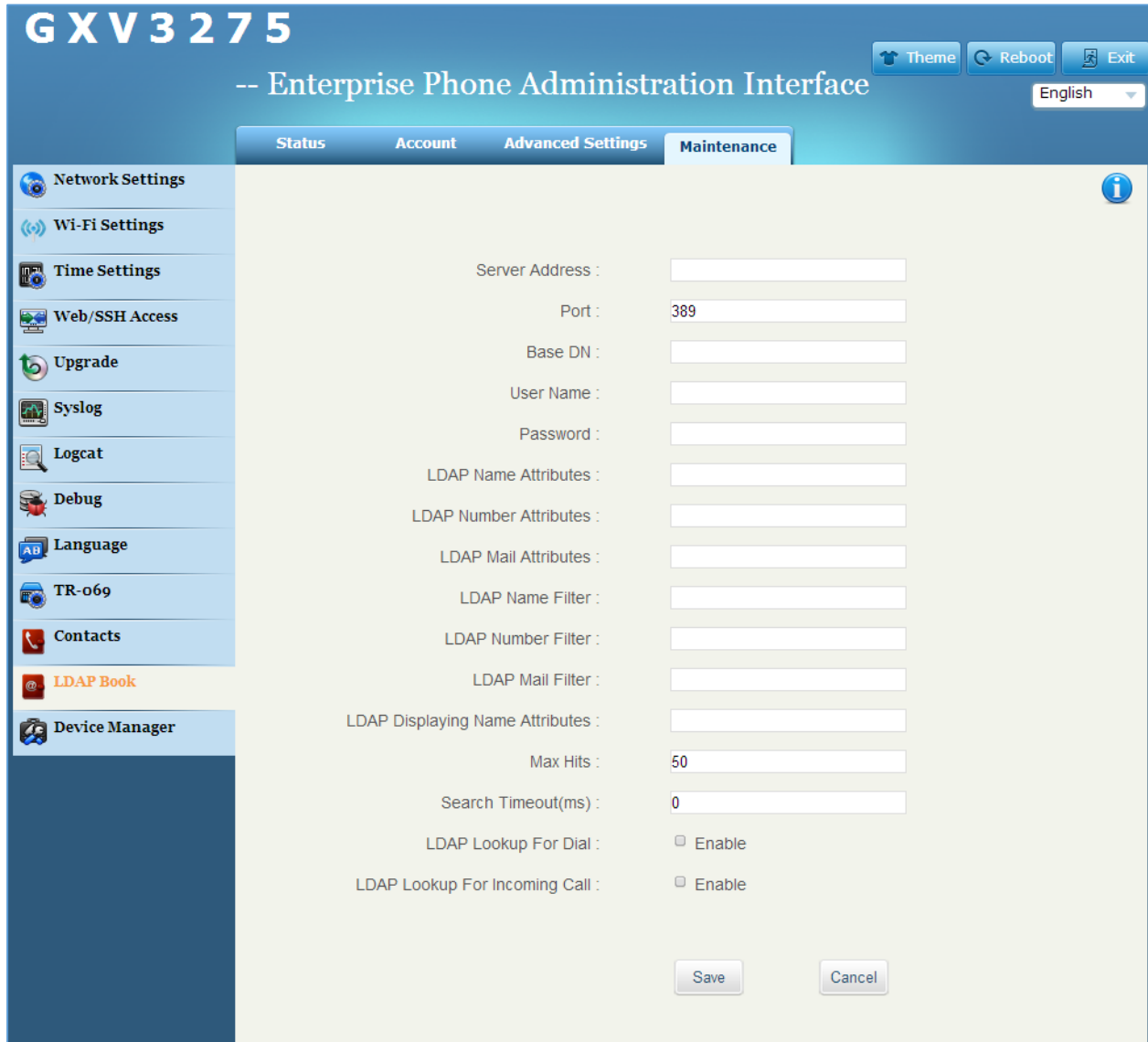
Figure 1: GXV3275 Web UI LDAP Settings

Configure LDAP via LCD

1. On the GXV3275 idle screen, tap on onscreen menu icon [grid icon] to access the application list.
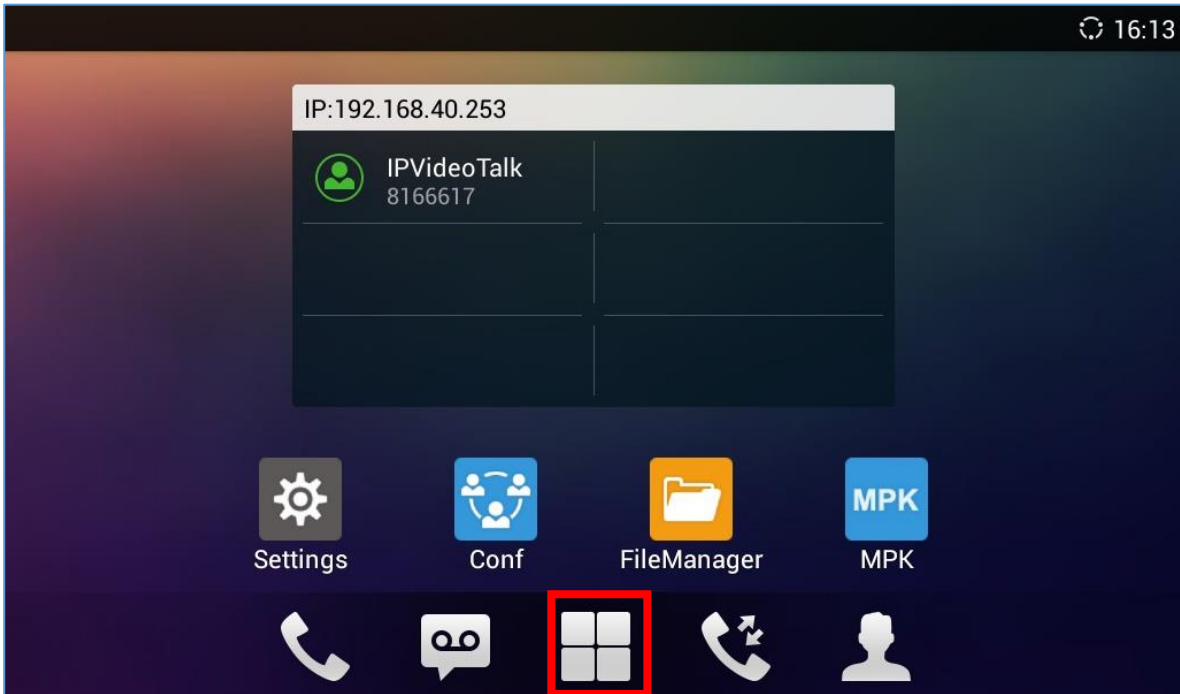
Figure 2: GXV3275 Idle Screen

2. In the menu, tap on "LDAP Book" icon to access contacts application.

Figure 3: GXV3275 Menu
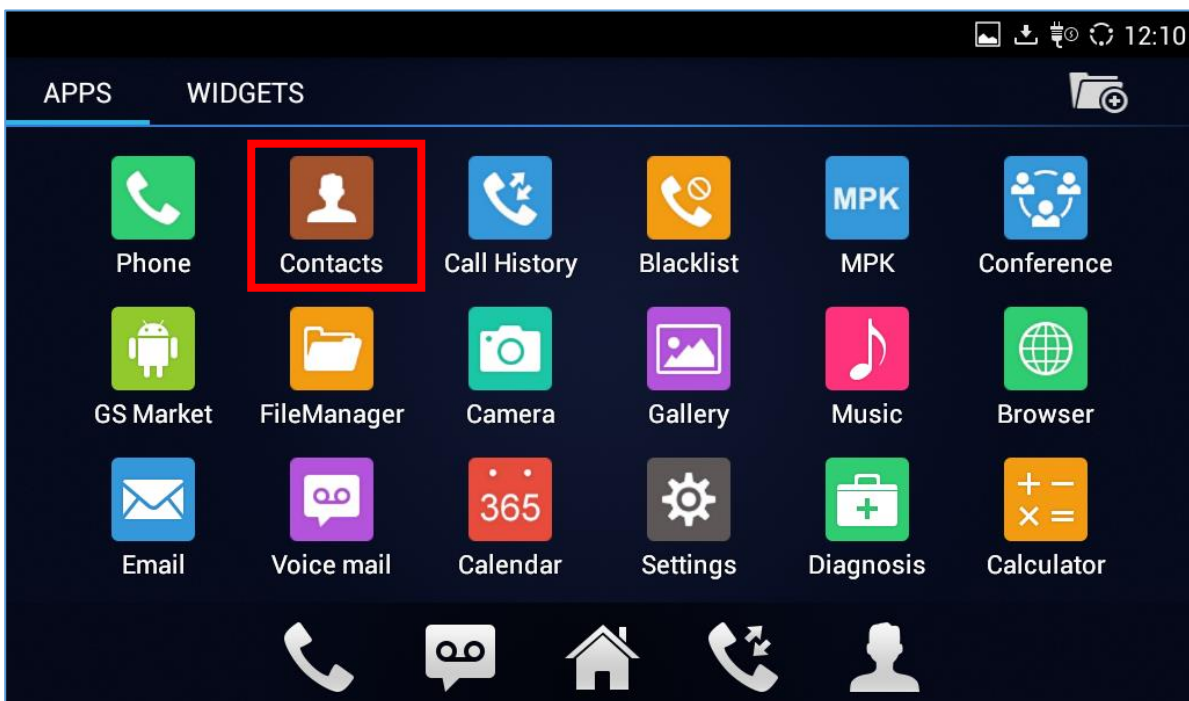
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3. Click on the icon [icon] to access the LDAP phonebook application.

4. In the LDAP Book application, tap on the setting icon [icon] on the upper right of the screen. LDAP configuration options will display.
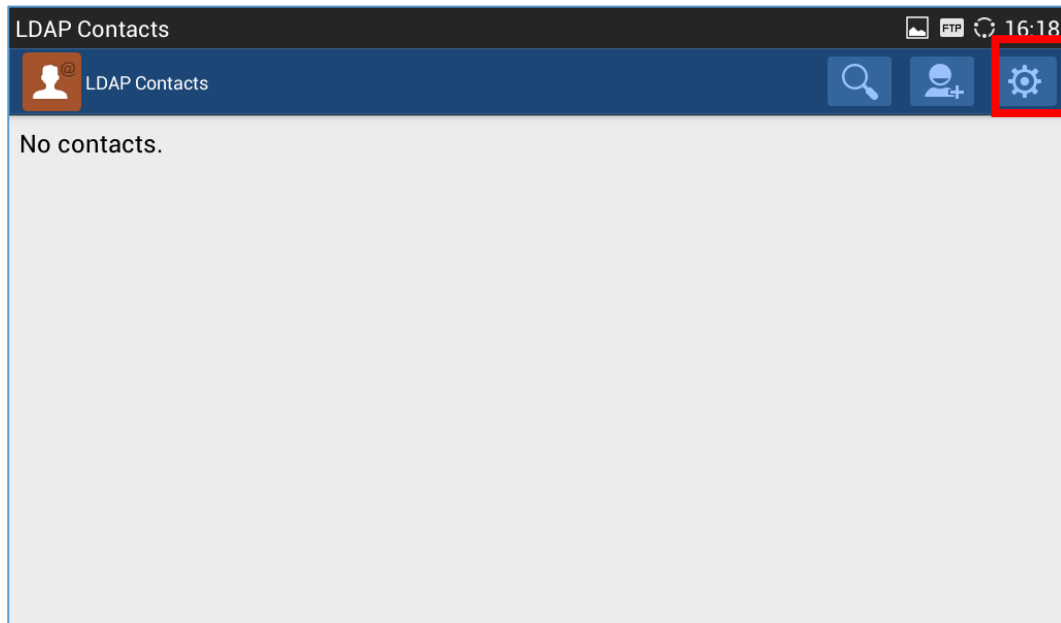
Figure 4: GXV3275 LDAP Book - Settings
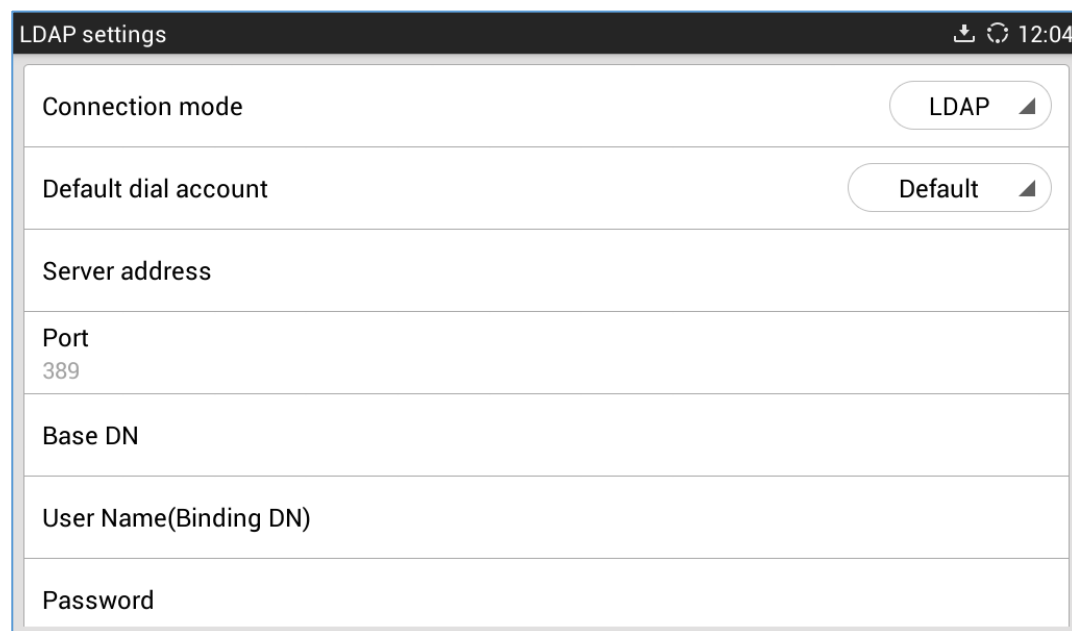
Figure 5: GXV3275 LDAP Settings via LCD

5. Select the option and tap on the input field to configure the LDAP settings using the onscreen keyboard (e.g., input server address 192.168.40.44 in the figure below). Please refer to [**Table 1:** **LDAP Configuration Options**] for detailed description an example for each option.
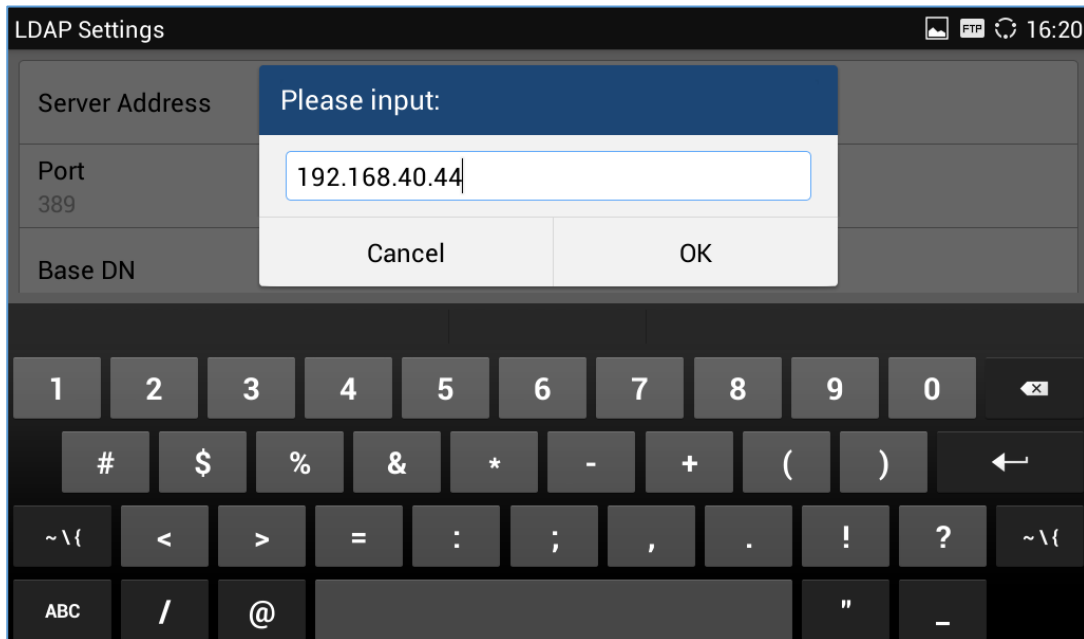
Figure 6: GXV3275 LDAP Settings - Configure Server Address

Configure LDAP via Configuration file

The following table shows the P parameters for the LDAP configuration options. Assign the proper value for each P parameters in the configure template and provisioning the phone. After successful provisioning, the phone will boot up with LDAP configuration set up and LDAP will be ready to use.

Table 2: LDAP Configuration P Values For Provisioning

Option	P Value	Example
LDAP Server Address	P8020	P8020=company.ldap.com
LDAP Server Port	P8021	P8021=389
Base DN	P8022	P8022=dc=grandstream,dc=com
User Name	P8023	P8023=cn=manager,dc=grandstream,dc=c
Password	P8024	P8024=secret
LDAP Name Attributes	P8028	P8028=CallerIDName FirstName
LDAP Number Attributes	P8029	P8029=telephoneNumber Mobile

LDAP Mail Attributes	P8038	P8038=mail
LDAP Name Filter	P8026	P8026=(CallerIDName=%)
LDAP Number Filter	P8025	P8025=(|(telephoneNumber=%)(Mobile=
LDAP Mail Filter	P8039	P8039=(mail=%)
LDAP Displaying Name	P8030	P8030=%CallerIDName
Max Hits	P8031	P8031=50
Search Timeout	P8032	P8032=1000
LDAP Lookup For Dial	P8034	P8034=1 - for "Enable" P8034=0 - for "Disabled"
LDAP Lookup For Incoming Calls	P8035	P8035=1 - for "Enable" P8034=0 - for "Disabled"

For more details about the GXV3275 configuration template and provisioning, please refer to the configuration tool, templates and documentation in the following link:

http://www.grandstream.com/support/tools

USE GXV3275 LDAP BOOK

Search Contacts IN LDAP Book

Once the LDAP configuration is done, users can start using the LDAP Book application on the GXV3275 to search directory information from the LDAP server.

1. On the GXV3275 idle screen, tap on onscreen menu icon ⊞ to access the phone's menu.
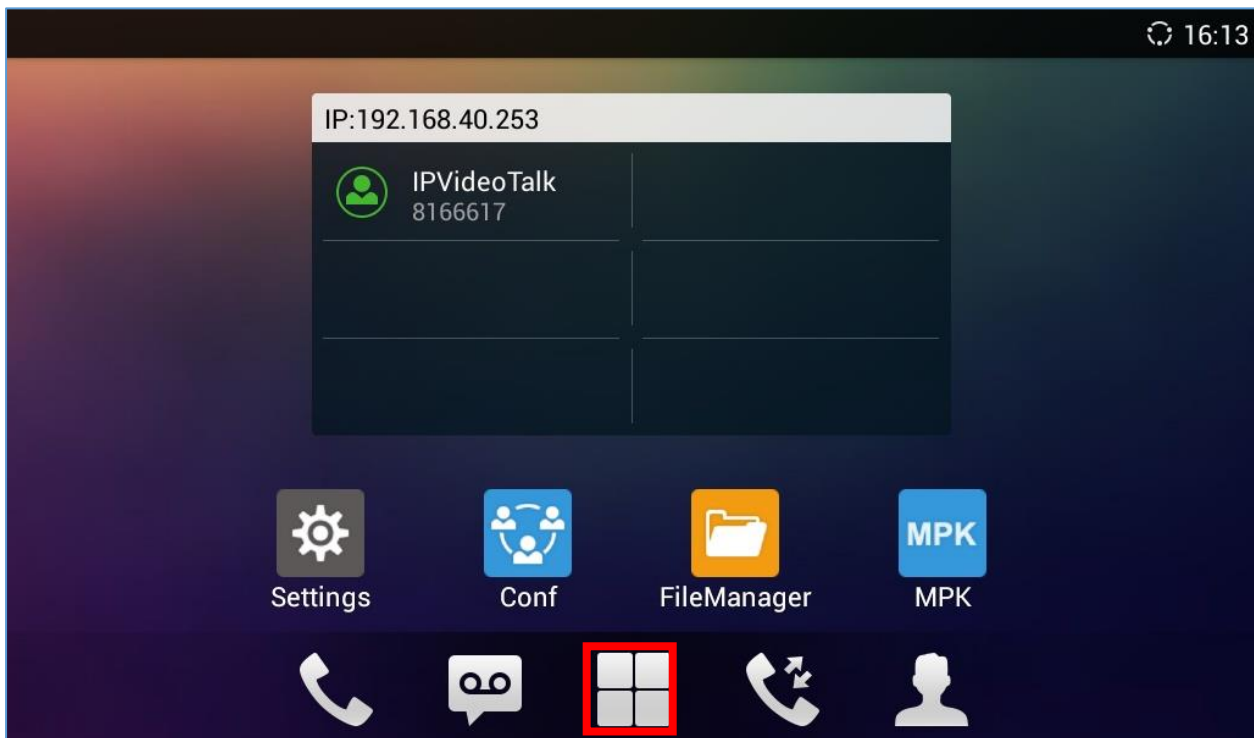
Figure 7: GXV3275 Idle Screen

2. In the menu, tap on "LDAP Book" icon to launch LDAP book application.

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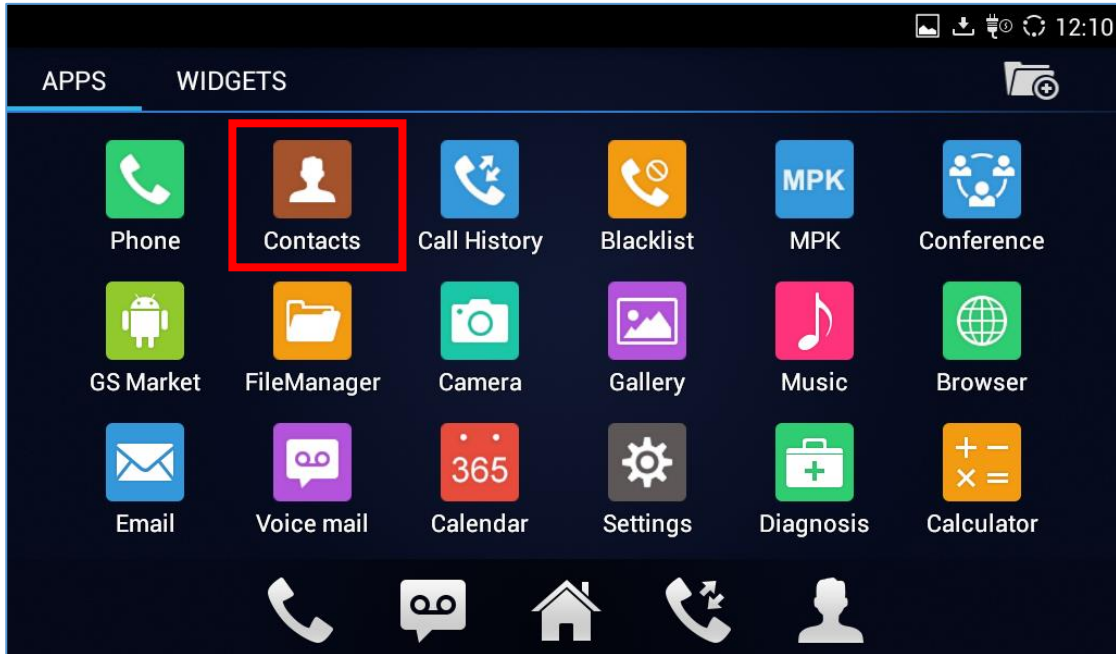
Figure 8: GXV3275 Menu

3. Click on the icon in order to access the LDAP phonebook application.
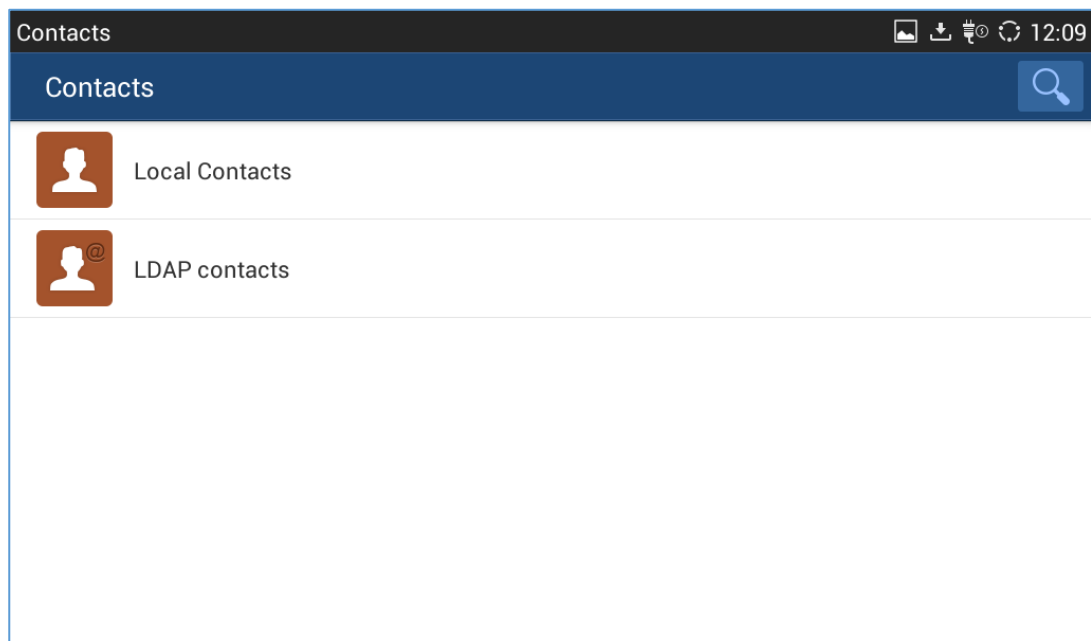
Figure 9: LDAP Phonebook

4. Tap on icon and a search bar will be displayed on the top or the LDAP book application.

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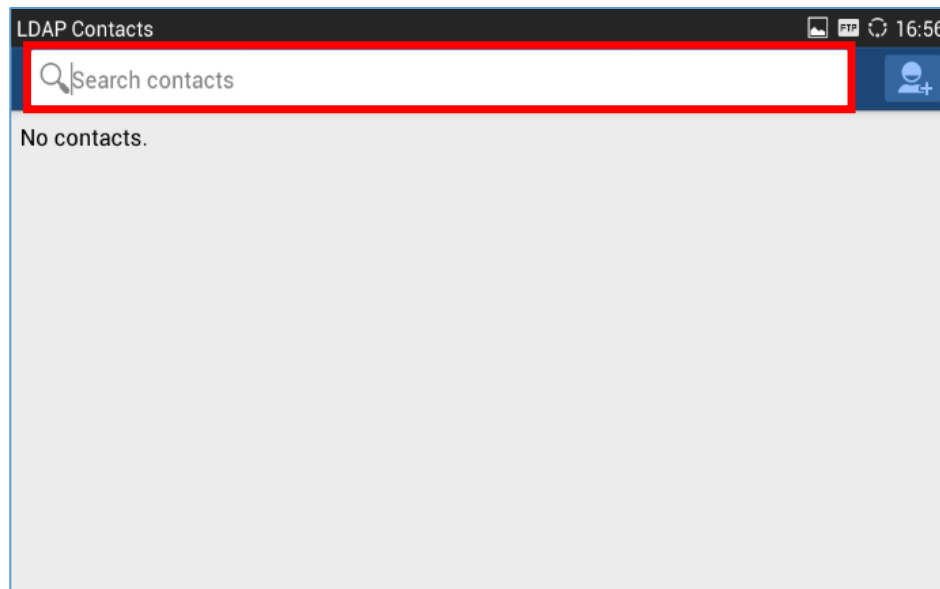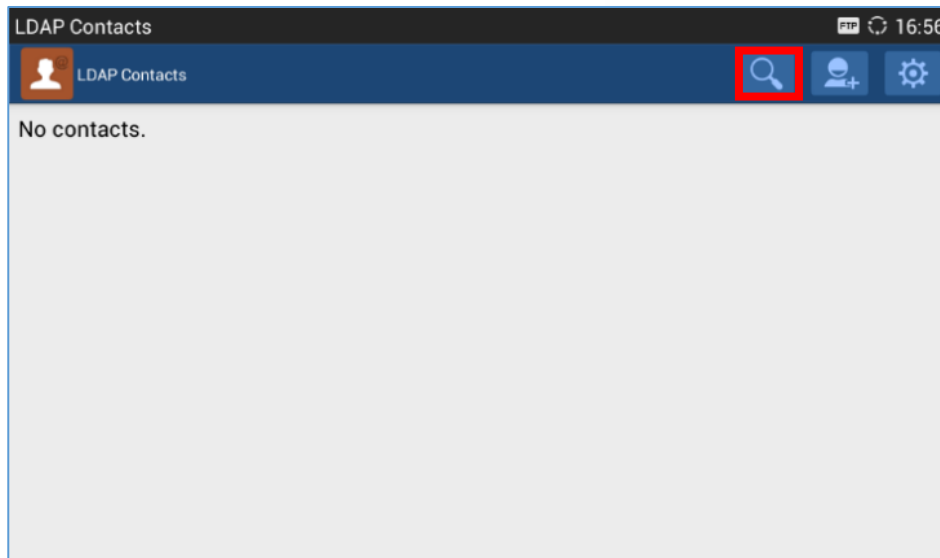
Figure 10: GXV3275 LDAP Book - Search

5. Type number using the keypad, the related contacts information returned from the searching result
   in the LDAP server will be instantly displayed under the search bar.
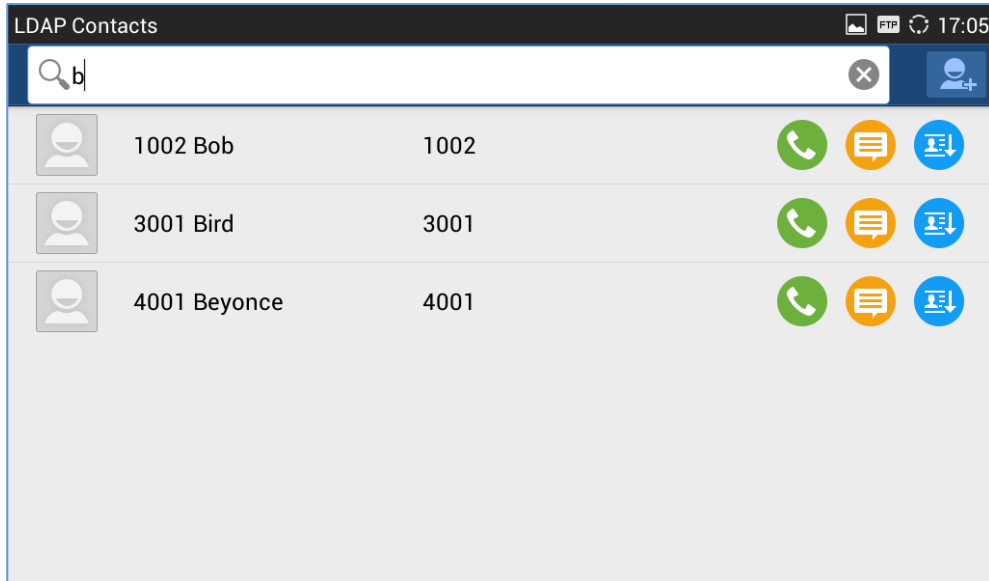
Figure 11: GXV3275 LDAP Book - Search Result

6. Users can perform the following on the returned result:

- Tap on the contact to view details

- Tap on icon then select which account you want to use to make the call.
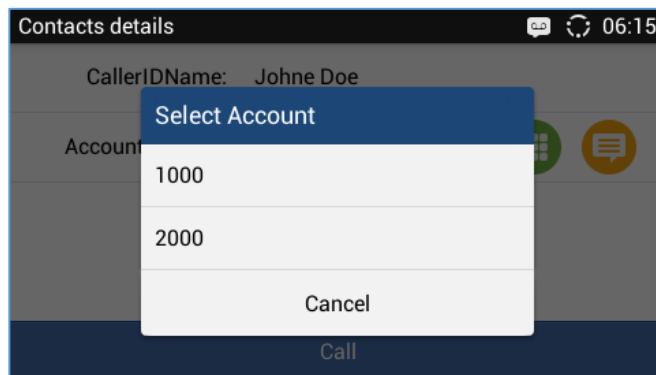
- Tap on icon to message the contact

- Tap on icon to add the contact to local phonebook.

Add LDAP Contacts to Local Phonebook

After the LDAP searching result is returned to the GXV3275 as shown in *[Figure 11: GXV3275 LDAP Book - Search Result]*, users can use the following two methods to add the contacts to local phonebook. To add single contact, tap on icon ▤↓ to add it to the local phonebook.
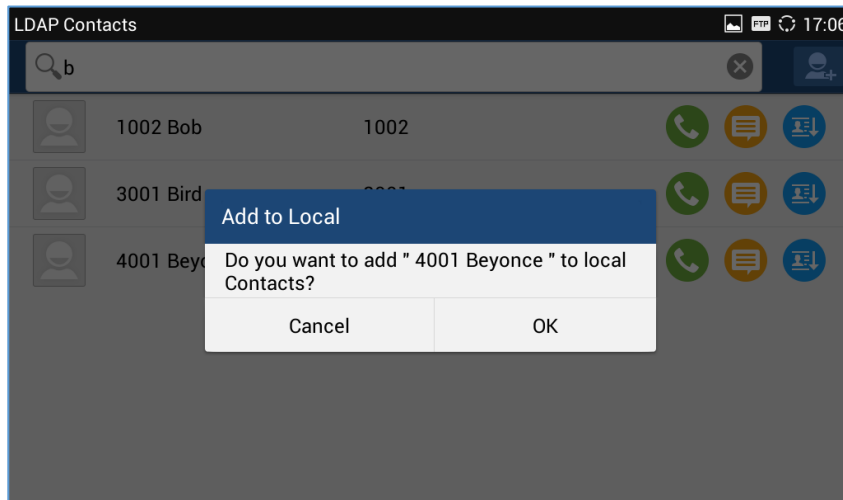
Figure 12: GXV3275 LDAP Book - Add Single LDAP Contact to Local Phonebook

Or

- Tap on icon 👤₊ on the upper right of the screen, all the searching result will be displayed with a checkbox right next to each result. Tap on the checkbox to select/unselect it. Then tap on "Add" softkey to add the selected contacts to local phonebook.
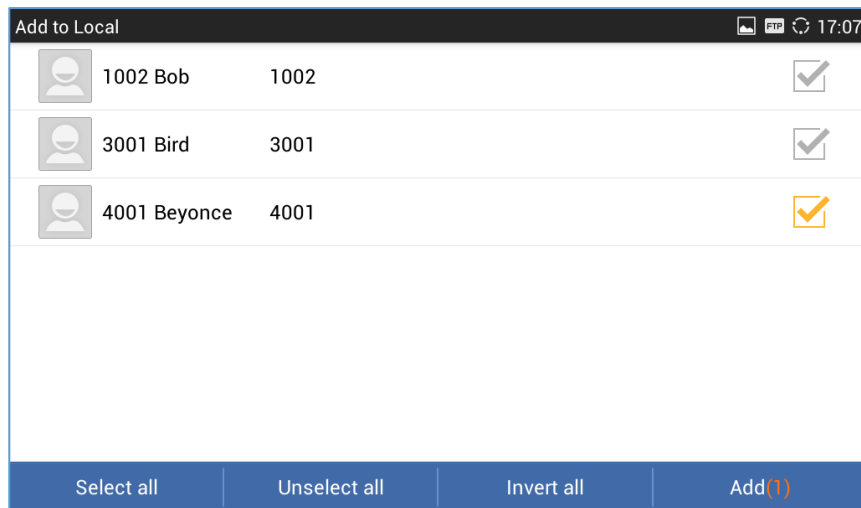
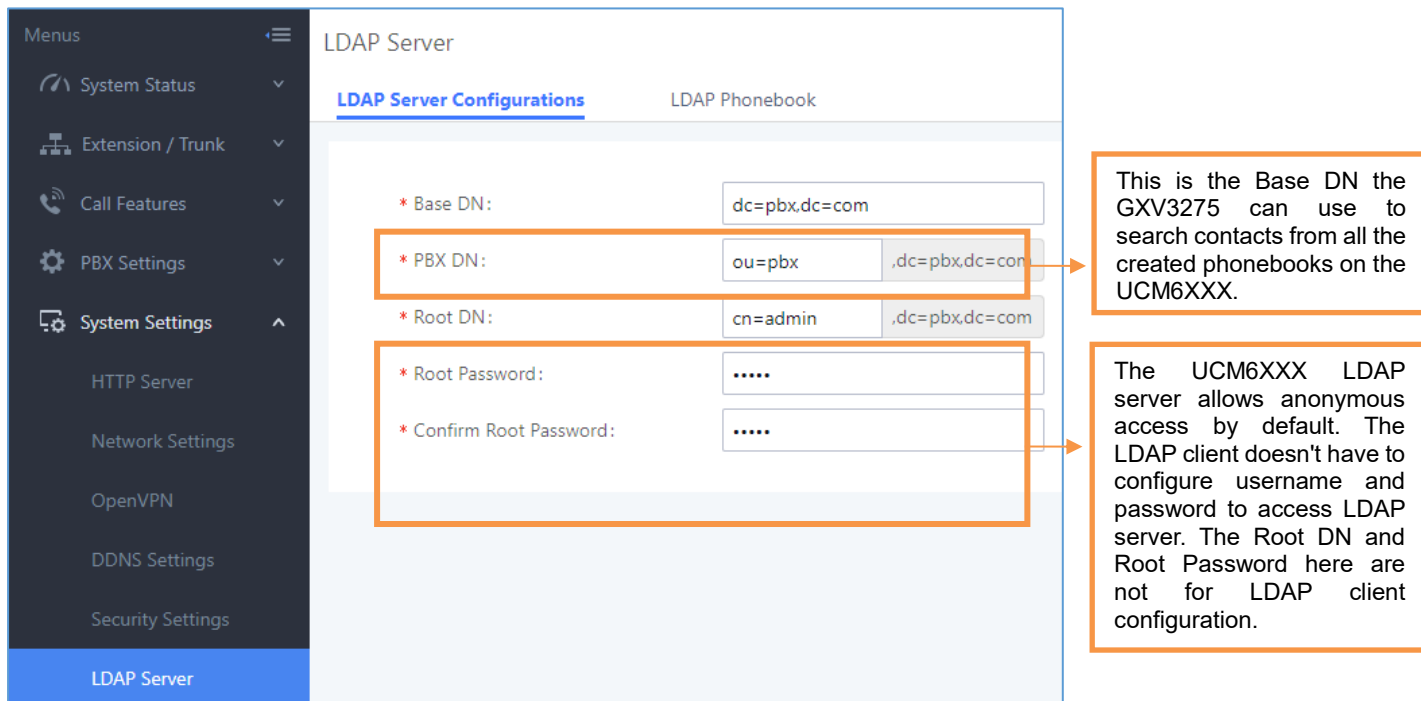**Figure 13: GXV3275 LDAP Book - Add Multiple LDAP Contacts to Local Phonebook**

USE LDAP WITH UCM6XXX SERIES IPPBX

UCM6XXX Series IPPBX LDAP Server

The UCM6XXX series IPPBX has a built-in LDAP server for users to manage cooperate phonebook.

1. Log in the UCM6XXX series IPPBX web UI.

2. Go to **System Settings→LDAP Server**. The LDAP server has the following settings pre-configured already.

Figure 14: UCM6XXX LDAP Server

3. The UCM6XXX has a default LDAP Phonebook with phonebook DN "ou=pbx,dc=pbx,dc=com", which

    contains all the extensions created on the PBX. Tap on icon   to check the phonebook entries.

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Figure 15: UCM6XXX LDAP Phonebook

Figure 16: UCM6XXX LDAP Default Phonebook Entries

GXV3275 LDAP Configuration for UCM6XXX Default LDAP Phonebook

The GXV3275 can be configured as shown in the figure below in order to use the default LDAP phonebook on the UCM6XXX LDAP server described in section [**UCM6XXX Series IPPBX LDAP Server**].

Figure 17: Configure GXV3275 LDAP with UCM6XXX LDAP Default Phonebook

Users could also change the above filters and attributes as preferred according to the LDAP client sample configuration from the UCM6XXX web UI→**System Settings**→**LDAP Server**.

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1. Client Configuration Examples

Assuming the server base dn is "dc=example", you can configure your LDAP clients as follows (these configurations are case insensitive.):

Base DN:	dc=example (the same as the server base dn or a subset of the server base dn)
Login DN:	Please leave this field blank!
Password:	Please leave this field blank!
Anonymous:	Please enable this option!
Filter:	(|(CallerIDName=%) (AccountNumber=%))
Port:	389

2. LDAP Configurations examples on Grandstream IP Phones

Server Address:	The IP address or domain name of this IP-PBX device.
Base DN:	dc=example (the same as the server base dn or a subset of the server base dn)
User Name:	Please leave this field blank!
Password:	Please leave this field blank!
LDAP Name Attributes:	CallerIDName Email Department FirstName LastName
LDAP Number Attributes:	AccountNumber MobileNumber HomeNumber Fax
LDAP Number Filter:	(AccountNumber=%)
LDAP Name Filter:	(CallerIDName=%)
LDAP Display Name:	AccountNumber CallerIDName
LDAP Version:	If this option exists, please choose "version 3".

Figure 18: LDAP Client Configuration Sample from UCM6XXX

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