

# Integra Hosted Voice Service PC Communicator Desktop Enterprise Administrator Guide

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# 1 Introduction

Integra PC Communicator Desktop is a SIP softphone that runs on a user's Windows PC or laptop, enabling them to make VoIP voice and video calls directly from their computer.

You will need to carry out a number of tasks to deploy Integra PC Communicator Desktop at an Enterprise, including ensuring that the softphone client and your network are configured correctly.

This *Integra PC Communicator Desktop Enterprise Administrator Guide* provides more information on

- the features offered by Integra PC Communicator Desktop, described in Chapter 0
- the system requirements for your subscribers' PCs or laptops, described in Chapter 2
- what you need to decide before deploying Integra PC Communicator Desktop, described in Chapter 3
- the tasks you might need to carry out to deploy Integra PC Communicator Desktop at your Enterprise, including the network and firewall configuration required to ensure that Integra PC Communicator Desktop can function correctly, described in Chapter 4
- basic troubleshooting of the most common problems that you will encounter when deploying and using Integra PC Communicator Desktop, described in Chapter 5.

This information should assist you with the initial deployment of Integra PC Communicator Desktop and its ongoing use in your Enterprise.

The separately available *Integra PC Communicator Desktop End User Guide* provides sample text that you can use to write your own branded end-user material to ensure that your users know how to download and use the Integra PC Communicator Desktop softphone.



# Integra PC Communicator Desktop Features

Integra PC Communicator Desktop is a softphone that runs on a Windows PC or laptop allowing a user to make and receive VoIP voice and video calls directly from their computer and access other services including their voicemail account and XMPP-based IM services. It also offers contacts integration with both a user's personal Outlook contacts and your Corporate Directory (if you have one that supports LDAP or Active Directory).

Integra PC Communicator Desktop is available as an app for download by your users. Your users follow a link in their online Integra PC account to a download page and are then guided through a set up wizard to install Integra PC Communicator Desktop on their Windows PC or laptop.

## 1.1 The Integra PC Communicator Desktop UI

Figure 1: Integra PC Communicator Desktop UI



The Integra PC Communicator Desktop softphone enables a user to

- make and receive audio calls directly from their computer, either using a headset or the computer's inbuilt speakers and microphone
- receive video calls and, if they have a camera on their computer, make video calls
- view their call history
- maintain and manage a softphone Contact list and, if they use Microsoft Outlook 2007 or 2010, synchronize this with their Outlook contacts
- access contact information from a corporate LDAP or Active Directory
- see how many new voicemail messages they have, and access their Integra PC voicemail account at the click of a button
- integrate with third-party XMPP-based IM and Presence services such as Jabber and Google Talk, if you choose to enable it
- set up a Workgroup (Attendant Console) so that they can monitor activity on a selected group of lines and answer incoming calls to any of these lines. For example, a member of a sales team might want to be able to see when their colleagues are on a call, or a personal assistant may monitor and answer their boss's line.

You can choose which of these features you make available to users. Some of the features require additional configuration, as described in section 4.2.

To understand these features in more depth, please see:

*Integra PC Communicator Desktop End User Guide.*

The *Integra PC Communicator Desktop End User Guide*, available in Microsoft Word, provides instructions on downloading the Integra PC Communicator Desktop app from a Integra PC account, installing it on a computer and using it to make and receive calls.

You may want to take this document and rebrand it as an end user guide for your users.

- Help pages
- Integra PC Communicator Desktop includes extensive Help pages within the application. These are hosted on your system and are available in all supported languages. They should assist your users in the operation of Integra PC Communicator Desktop.

## 2 System Requirements

Your users must have a Windows PC or laptop with the following capabilities in order to use Integra PC Communicator Desktop.

**Table 1: Integra PC I Communicator Desktop Windows PC or laptop hardware requirements**

Processor	Intel Pentium 4 Processor, or, preferably, Intel Core 2 Duo or equivalent
Memory	Minimum: 1 GB RAM Recommended: 2 GB RAM
Hard Disk Space	50MB
Operating system	Windows XP Service Pack 3 Windows Vista Microsoft Windows Vista Service Pack 1, 32-bit and 64-bit architecture Microsoft Windows 7
Connection	IP network connection (broadband, LAN, wireless)
Sound Card	Full duplex, 16-bit, or use USB headset
Video Card	DirectX 9.0c support

You should decide whether you want to issue your users with headsets (or other external audio devices).

Integra PC Communicator Desktop can use any built in or external microphone and speakers, but we recommend using a headset for optimal audio quality.

- If your users will have headsets, you may also want to provide either an inbuilt or external speaker for their computer so that they can configure Integra PC Communicator Desktop to ring the speaker when an incoming call is received. They will then hear the phone ringing when they are not wearing their headset. This is not essential, because Integra PC Communicator Desktop also provides on-screen notification of an incoming call, but some users will find this helpful.

If users want to make video calls, they will also need a video camera. Users can still receive video calls if they do not have a camera on their computer, provided that you have enabled the video feature.





## 3 Getting Started

This section sets out what you need to do before you can get Integra PC Communicator Desktop up and running.

### 3.1 What you need to decide

#### 3.1.1 User equipment

You need to ensure that your users have everything they need to support the use of Integra PC Communicator Desktop.

- You should check that your users' PC or laptop hardware is compatible with Integra PC Communicator Desktop and decide whether you want to issue them with headsets or any other audio devices as set out in Chapter 2.

#### 3.1.2 End User Guide

You should decide whether you want to adapt the *Integra PC Communicator Desktop End User Guide* to provide your own, branded instruction material for your users.

Integra PC Communicator Desktop has inbuilt Help pages that your users can access once they have downloaded the soft phone. However, you might find it useful to issue written or online instructions to your users before they start on downloading the app, configuring the audio and video equipment and making calls.

- You should check whether or not you need to provide custom instructions on how your users should configure the firewall installed on their computer to support Integra PC Communicator Desktop.

The *Integra PC Communicator Desktop End User Guide* provides instructions that are suitable for users with a standard Windows Firewall installation, but you may need to adapt these if you use a different firewall configuration.

#### 3.1.3 Integra PC Communicator Desktop features

Some of the features available on Integra PC Communicator Desktop are optional. You should decide if you want to provide the following features to your subscribers. Some of these features will require you to carry out additional configuration, as indicated.

- Directory contacts
  - If you have a corporate Active Directory or LDAP Directory, you can choose to expose contacts from these within Integra PC Communicator.

- If you want to integrate one of these directories, you will need to set the appropriate fields in the Integra PC Communicator for Windows Phone Profile, as described in section 4.2.2 (Active Directory) or section 4.2.3 (LDAP Directory).
- Instant Messaging
  - Your users can add an XMPP account, for example a Jabber or Google Talk account, to their soft phone account to enable the Instant Messaging feature. Full instructions for doing this are given in the soft phone UI's inbuilt Help.
  - If you want your users to be able to use Instant Messaging on the Integra PC Communicator Desktop UI, you should ensure that you enable the XMPP option in the Integra PC Communicator for Windows Phone Profile, as described in section 4.2.4.
- Video calling
  - If you want to provide video calling function, you must ensure that your users have a suitable camera. This could be an inbuilt camera, or one attached via USB.
  - If you do not want to support video (for example, to reduce bandwidth usage within your network), you must disable support for video codecs, as described in section 4.2.5.
- Workgroup (Attendant Console)
  - The Workgroup feature on the Integra PC Communicator Desktop UI allows users to monitor and answer calls on other lines besides their own. For example, a personal assistant may need access to their boss's line, or salesmen within a team may need to be able to answer each other's calls. Full instructions for setting up the Workgroup feature are given in the soft phone UI's inbuilt Help.
  - In order to use the Workgroup feature:
    - Each user's line must be subscribed to Line State Monitoring and Call Pickup. (You should contact your Service Provider if this is not already the case.)
    - All members of the Workgroup must also be members of the same Call Pickup Group. You can use the Integra PC BG Admin interface to set up or change the membership of a Call Pickup Group. See the *Hosted PBX Administrator's Guide* for more information on working with Call Pickup Groups.

## 3.2 What you need to do before deploying Integra PC Communicator Desktop

If you have decided to provide features that require changes to your user's call services configuration or the Integra PC Communicator for Windows Phone Profile, you must be familiar with the Integra PC administrative interface. This is described in the *Hosted PBX Administrator Guide*.

- You must have the login details for the BG Admin Integra PC interface.
- You should ensure you are familiar with using the Phone Profile Editor to make changes to phone profiles.

## 3.3 What you need to do to deploy Integra PC Communicator Desktop

You should now follow the procedures for deploying Integra PC Communicator Desktop that are described in Chapter 4.



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## 4 Deploying Integra PC Communicator Desktop

You should work through the following procedures in order to deploy Integra PC Communicator Desktop at your enterprise.

- Carry out the network configuration described in section 4.1.
- Make any necessary changes to the Integra PC Communicator for Windows Phone Profile, as described in section 4.2.

### 4.1 Configure your network to support Integra PC Communicator Desktop

You must ensure that you have carried out the following configuration to ensure that your network is set up correctly to support Integra PC Communicator Desktop.

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#### *Notes for Service Providers*

*The following instructions are necessarily at a high level, because the network configuration may be very different at each enterprise customer.*

*You will therefore need to adapt the information in this section to make it suitable for your particular enterprise's network. For example, in 4.1.4, you should specify the address and port ranges on your Session Border Controller that Integra PC Communicator Desktop must be able to reach.*

*We assume that DSCP markings on media will be preserved between your core network and the Enterprise's network. If this is not the case, for example, because you do not own the network between the two, you may want to advise your enterprise customers to identify VoIP packets from your SBC and reinstate the appropriate DSCP markings (where they have a border router that supports it). This will typically be DSCP 24 if they are from ports 5060-5070 (signalling) or 46 if they are UDP from any port above 8000 (media).*

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#### 4.1.1 Bandwidth requirements

You must ensure that you have adequate bandwidth from your end-users' computers to the network device (LAN or WLAN) and then adequate bandwidth on the WAN side.

- For audio calls, the amount of bandwidth needed is dependent on the codec being used. You should allow 100kpbs (in each direction) for every call.

- Therefore, if you expect a maximum of 10 concurrent calls, you should assign 1Mbps of bandwidth for voice calls alone, and then ensure you have adequate bandwidth on top of that for other traffic (VPN, web, file transfer) which shares the same connection.
- For video calls, the bandwidth varies hugely depending on resolution, ranging from 500Kbps (low definition) up to 8000Kbps (HD), again in each direction per concurrent video call.

#### 4.1.2 Codec support

#### 4.1.3 Integra PC Communicator Desktop supports the use of the following codecs for direct media between Integra PC Communicator and another device that supports this codec.

- Speex WB FEC: HD voice
- Speex WB: HD voice
- Broadvoice 32: HD voice
- G.722 (WB) : HD voice (disabled by default)
- iLBC: Internet Low Bandwidth Codec
- H.264: Video

Any intervening firewalls or Session Border Controllers must permit the use of these codecs.

You must disable the H.264 video codec if you do not want to support video calling, as described in section 4.2.5.

#### 4.1.4 Firewall configuration

You must ensure that you have the correct ports open on your firewall to ensure that Integra PC Communicator Desktop can communicate with your Service Provider's servers.

By default many firewalls will allow communication from the internal LAN side meaning that no configuration is required here. However, if your firewall requires specific configuration, you must ensure that it is not blocking traffic.

The following table lists all the ports that must be open on your firewall. This table defines the external IP addresses and ports that the Integra PC Communicator Desktop client needs to be able to reach through your firewall. It is assumed that other standard ports, notably 443 for HTTPS are also open.

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#### *Note for Service Providers*

*In the following table, you will need to add the external IP address of your SBC to the SIP and RTP rows.*

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**Table 2: Firewall configuration for Integra PC Communicator Desktop**

Protocol/Service	Transport	External IP addresses and ports	Notes
SIP	UDP/TCP		The signaling IP address and port of your Service Provider's SBC
RTP (Windows Vista and above)	UDP		The media IP address and port range of your Service Provider's SBC
RTP (Windows XP)			
XMPP (Jabber)	TCP	The IP address or domain name of the XMPP server being used. Port will typically be 5222 but may also vary between services.	

### 4.1.5 Quality of service (QoS) configuration

For optimal audio quality, you must ensure that your network is set up to correctly prioritize VoIP signaling, voice and video traffic.

The steps you need to take will depend on the configuration of your network. If you have a very complex set up, then you may need to contact your network equipment vendor for advice.

- If you have a simple network, then typically you will only need to do the following.
  - If any Integra PC Communicator Desktop user will access your network via a wireless Access Point (AP), ensure that WMM (Wireless Multimedia extensions) support is available and enabled on any such access points.
  - Use Quality of Service (QoS) on the WAN/Internet router to prioritize all traffic to and from the SBC IP addresses.

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*The following instructions describe what is typically necessary at a high level in a more complex network, but these are guidelines only and what you actually need or choose to do will be very dependent upon your specific setup.*

*You should consult your Service Provider if you need any additional information.*

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- If you have a more complex network then you may need to do the following.
  - Ensure that the correct QoS information is signalled on traffic originated by users' PCs or laptops.
    - You can configure the QoS values that Integra PC Communicator Desktop will signal in the Integra PC Communicator for Windows Phone Profile, as described in section 4.2.6.
    - However, if you are in an Active Directory domain, Windows will override these values. Instead you will need to configure a QoS group policy that looks for any packets coming out of `communicator.exe` and marks them appropriately (typically with DSCP 24 if they are going to ports 5060-5070 (signalling) or 46 if they are UDP on any port above 8000 (media)).
  - Configure all your network equipment to correctly prioritize traffic based on the IP header DSCP markings.
    - Signalling traffic should be guaranteed delivery at a higher priority than regular traffic.
    - Media traffic should be expedited delivery at the highest priority.
  - You may also need to configure your equipment to re-write the Ethernet header COS values based on the IP header DSCP values – if you don't then most managed switches will re-write DSCP marking based on COS (and COS will typically be zero or incorrect on packets originated from a PC or laptop).

## 4.2 Make changes to the Integra PC Communicator for Windows Phone Profile

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*This task assumes that the enterprise administrator has sufficient permissions to edit a Phone Profile using the Integra PC BG Admin interface and can configure all of the fields described below.*

*If you, the Service Provider, chose to either not expose this configuration to the Enterprise at all, or to expose it but having locked down some of the fields, you may want to remove some or all of this section before this document is made available to the enterprise administrator.*

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The Integra PC Communicator Desktop app gets its configuration from a Integra PC Communicator for Windows Phone Profile. You may need to make changes to the Phone Profile(s) set up by your telephony provider for the following reasons.

- To integrate a corporate directory so that your users can access these contacts on a Directory tab on the Integra PC Communicator Desktop UI.



- See section 4.2.2 for instructions on integrating an Active Directory.
- See section 4.2.3 for instructions on integrating an LDAP Directory.
- To enable or disable support for XMPP-based Instant Messaging, as described in section 4.2.4.
- To enable or disable support for video calling, as described in section 4.2.5.
- To ensure that the softphone operates correctly in your network environment. This is not normally necessary as the default settings are usually adequate, but the available settings are described briefly in section 4.2.6.

You must be able to log on to the Integra PC interface as a Business Group Administrator to edit phone profiles. If your Business Group contains multiple departments then you can configure phone profiles at the BG scope and/or the scope of individual departments.

- If you want the same Integra PC Communicator Desktop settings to be used by everyone in your Business Group, you should just make any required changes to the Integra PC Communicator for Windows Phone Profile at the Business Group level.
  - You must be able to log on as the BG Admin for the whole Business Group to access this Phone Profile.
- If you need Integra PC Communicator Desktop settings to vary between departments, then you can either configure a Communicator Desktop phone profile separately for each department, or configure a default profile at the scope of the Business Group and then override this on one or more specific departments as necessary.

You should refer to the *Hosted PBX Administrator Guide* for more information about using the Phone Profile Editor and making changes to Phone Profiles.

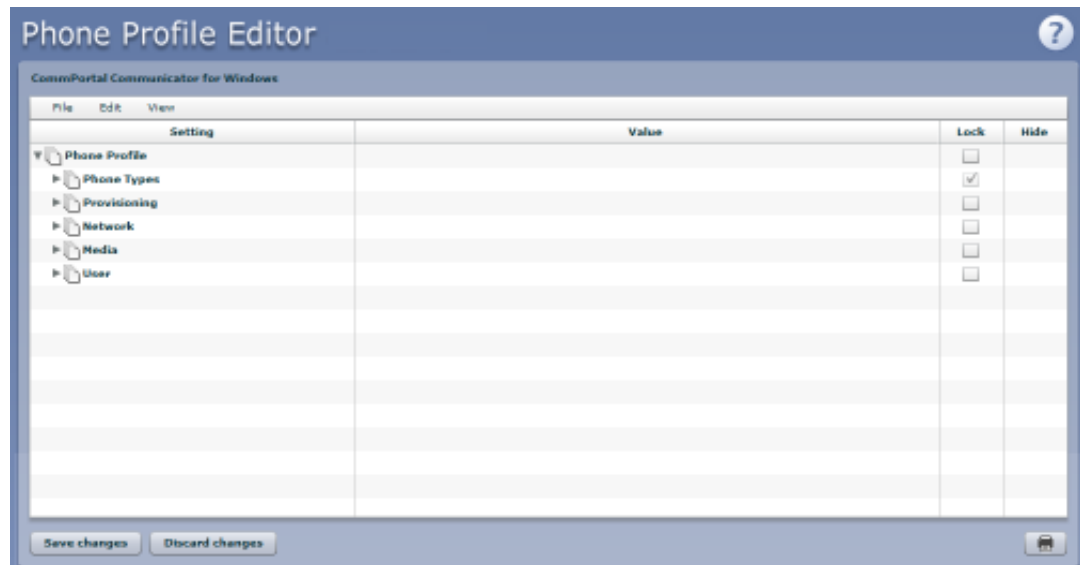
#### 4.2.1 **Launch the Phone Profile Editor and locate the Integra PC Communicator for Windows Phone Profile**

In this step, you will open the Integra PC Communicator for Windows Phone Profile so that you can make changes to it.

- Log in to Integra PC as a Business Group Administrator.
- Navigate to the Phones page, using the menu on the left hand side of the UI.
- If you want to change the Phone Profile at the Department level, use the drop-down at the top of the page to select the correct Department.
- Click the *manage your phone profiles* link at the top of the screen.
- The Phone Profile Editor opens in a new window. You may immediately see the graphical view of the Integra PC Communicator for Windows Phone Profile in this window.

- If the Integra PC Communicator for Windows Phone Profile does not appear automatically, select the *Create New Profile* option.
- From the list of phone profiles, scroll down to find and select the Integra PC Communicator for Windows Phone Profile and click **OK**.
- Click the **Edit** button at the bottom of the screen to open the Phone Profile in Table View.

**Figure 2: Phone Profile Editor showing the Integra PC Communicator for Windows Phone Profile in Table View.**



## 4.2.2 Configure the settings for an Active Directory

**You can access a corporate directory using either LDAP or AD. To use LDAP see section 4.2.3.**

If you have a corporate Active Directory, you can integrate this with Integra PC Communicator Desktop so that the entries in this directory appear on the Directory tab in the softphone UI.

To integrate an Active Directory, you will need to make the following changes to the Phone Profile.

- Expand the *User* option.
- Scroll down and find *Local Contacts Source*.
- If it has not already been ticked, tick the checkbox alongside the *Active Directory Contacts Source* field. More fields will now appear under the *Active Directory Contacts Source* field.

Make the following changes to these fields.

- 
- *Root DN.* This is an optional field that controls how much of the Active Directory tree is searched.
    - Leave the field blank if you want to include the entire tree.
    - Specify a subdirectory if you want to restrict the search.
  - *Search on Demand.* This field controls how searches are carried out.
    - If this box is unchecked, the client will periodically poll the directory for all entries and display the results in the *Directory* tab on the Integra PC Communicator Desktop UI. We recommend you do not use this option if you have more than 500 entries in your Directory.
    - If this box is checked, the client will only query the directory when users enter an explicit name to search for on the Directory tab. In this case the value of the *Poll Time* field described below is ignored.
  - *Poll Time.* This field sets the frequency of polling (in seconds) when the *Search on Demand* option is not enabled. The field is ignored if *Search on Demand* is configured.
    - The default value is 7200 seconds. Change the value if you have not configured *Search on Demand* and want the automatic polling interval to be higher or lower than this.
  - *Timeout.* This field sets the length of time (in seconds) that the client will wait for the directory to return a search result.
    - The default value is 2000 seconds. Change the value if you want the query timeout to be higher or lower than this.
  - *Size limit.* This field sets the maximum number of records to retrieve in a search.
    - The default value is 1000 records. Change the value if you want to increase or decrease this.
  - *Attribute Map.* Expand this option to expose the individual fields beneath it. These fields map the names of the attributes that are in your Active Directory to the corresponding fields in the Integra PC Communicator Desktop UI.

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*The following table shows how the Integra PC Communicator Desktop field names that appear as the label in the Phone Profile map to the Active Directory field names.*

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**Table 3: Active Directory Field Name Mapping**

<b>Integra PC Communicator Desktop Field Name</b>	<b>Active Directory Field Name</b>
Department	department
Display Name	displayName
Email Address	mail
First Name	givenName
Jabber	ipPhone
Last Name	sn
Location	physicalDeliveryOfficeName
Mobile Phone	mobile
Other Phone	otherTelephone
Work Number	ipPhone
Title	title
Work Phone	telephoneNumber

### 4.2.3 Configure the settings for an LDAP Directory

If you have a corporate LDAP directory, you can integrate this with Integra PC Communicator Desktop so that the entries in this directory appear on the Directory tab in the softphone UI.

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**Note that you cannot integrate both an Active Directory and LDAP Directory in the same Phone Profile.**

---

To integrate an LDAP directory, you will need to make the following changes to the Phone Profile.

- Expand the *User* option.
- Scroll down and find *Local Contacts Source*
- If it has not already been ticked, tick the checkbox alongside the *LDAP Contacts Source* field. More fields will now appear under the *LDAP Contacts Source* field.

Make the following changes to these fields.

- *Server*. This identifies the Directory server.
  - Enter either the hostname or IP address of the directory server.
- *Use Authentication*. This field controls whether or not your LDAP server requires a valid login in order to allow binding and searching the directory.

- 
- Tick the checkbox if you want to use authentication. The following fields will then appear.
  - *Username* – enter the DN of the username that will be used to authenticate the directory.
  - *Password* – enter the password for the Username.
  - *Use TLS*. This field controls whether TLS is used to secure the connection to the directory.
  - *Root DN*. This is an optional field that controls how much of the LDAP Directory tree is searched.
    - Leave the field blank if you want to include the entire tree.
    - Specify a subdirectory if you want to restrict the search.
  - *Search on Demand*. This field controls how searches are carried out.
    - If this box is unchecked, the client will periodically poll the directory for all entries and display the results in the *Directory* tab on the Integra PC Communicator Desktop UI. We recommend you do not use this option if you have more than 500 entries in your Directory.
    - If this box is checked, the client will only query the directory when users enter an explicit name to search for on the Directory tab. In this case the value of the *Poll Time* field described below is ignored.
  - *Query*. This field specifies the query used to filter valid users in the directory. For example, the following query can be used to retrieve only members of a group:

```
memberOf=CN=Corporate Users, Ou=Groups, OU=company,  
DC=example, DC=com
```
  - *Poll Time*. This field sets the frequency of polling (in seconds) when *Search on Demand* is disabled. The field is ignored when *Search on Demand* is configured.
    - The default value is 7200 seconds. Change the value if you have not configured *Search on Demand* and want the automatic polling interval to be higher or lower than this.
  - *Timeout*. This field sets the length of time (in seconds) that the client will wait for the directory to return a search result.
    - The default value is 2000 seconds. Change the value if you want the query timeout to be higher or lower than this.
  - *Size limit*. This field sets the maximum number of records to retrieve in a search.
-

- The default value is 1000 records. Change the value if you want to increase or decrease this.
- *Attribute Map*. Expand this option to expose the individual fields beneath it. These fields map the names of the attributes that are in your LDAP Directory to the corresponding fields in the Integra PC Communicator Desktop UI.

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*The following table shows how the Integra PC Communicator Desktop field names that appear as the label in the Phone Profile map to the Active Directory field names.*

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**Table 4: LDAP Directory Field Name Mapping**

<b>Integra PC Communicator Desktop Field name</b>	<b>LDAP Directory Field name</b>
Department	department
Display Name	Cn
Email Address	Mail
First Name	givenName
Unique ID	objectGUID
Jabber	jid
Last Name	sn
Location	l
Mobile Phone	mobile
Other Phone	telephoneNumber
Work Number	sipURI
Title	title
Work Phone	workNumber

#### **4.2.4 Configure XMPP**

You can allow your Integra PC Communicator Desktop users to add an existing XMPP account to the softphone so that they can use Instant Messaging from the softphone UI.

To enable XMPP, you will need to make the following change to the Phone Profile.

- Expand the *User* option.
- Scroll down and find *XMPP*.
- If it has not already been ticked, tick the checkbox alongside the *XMPP* field.

---

Your users will need to carry out some configuration on the soft phone to add the details of their XMPP-based account. This is described fully in the online Help within the Integra PC Communicator Desktop UI.

#### 4.2.5 Enable or disable video support

You can choose whether or not to offer support for video calling on Integra PC Communicator Desktop. For example, you may want to disable video to reduce bandwidth usage within your network.

To enable or disable support for video, you will need to change the following setting in the Phone Profile.

- Under *Media*, expand the *Codecs* option.
- Find Codec H.264.
  - The checkbox should be ticked if you want to support video.
  - The checkbox should be blank if you do not want to support video. Your users will then not be able to make or receive video calls using Integra PC Communicator Desktop.

#### 4.2.6 Change network settings

---

*The following settings are ones that you are unlikely to want to change as the default values should be appropriate for most deployments. If you are unsure, then leave these fields set to their defaults.*

---

- Network/IP/Traffic Types. The defaults are the most commonly used values so, unless your network is configured to use different values, you should not need to change them.
- 

*Even if you do change the values here, Windows may choose to override and use its own values (in particular this will typically be the case on Windows Vista or Windows 7 in a centrally administered corporate environment where DSCP values are determined by centralized Windows Policy-based Quality of Service rules).*

---

- Network/IP/Network Bandwidth Override. You should only need to change these values if your users are not connected via a LAN or you particularly want to limit bandwidth usage by configuring the client to prefer lower bandwidth codecs. Doing this will result in reduced media quality.
  - SIP/Local Ports. You should only need to change these if you need to avoid conflict with other applications on the user's computer or if your network uses source port to distinguish traffic for Quality of Service and expects RTP to use ports in some other range.
-





## 5 Troubleshooting: Integra PC Communicator Desktop FAQ

This section provides some guidance on the answers to the most commonly asked questions raised by users who are having difficulty using Integra PC Communicator Desktop.

### 5.1 Problems logging on

There are a number of reasons why your users might report that they are experiencing problems logging on to Integra PC Communicator.

ISSUE	ANSWER
I cannot log in to Integra PC Communicator Desktop	Check that the user is using the correct credentials. They should use their primary phone number and the password that they use to log in to their Integra PC account.
I see an error message in the UI indicating either that a login error has occurred, or the phone has failed to retrieve data.	A user may see an error message at login if they have tried to log in using a secondary mailbox number of the primary phone number for their Integra PC account. Ask the user to log in again, using their primary phone number.
I see a message saying that I have an incorrect version of Integra PC Communicator, or cannot use the service.	You should find out how the user tried to download Integra PC Communicator and check that they are accessing the right website. You should check with your Service Provider that the user is permitted to use Integra PC Communicator Desktop and their account has been configured correctly.
I see a message indicating that there is a problem with my Integra PC Communicator license.	Your users must have a valid license to use Integra PC Communicator on a Windows PC or laptop. This license is stored on the computer itself, but Integra PC Communicator will need to communicate with a remote License Server each time the user logs in to check that this license is still valid.  Some of these errors are transient, so you should ask the user to attempt to log in again. If there is still an error, you should check that the user's internet connection is working. If they still cannot log in, you should contact your Service Provider for assistance.
The audio quality on calls is poor.	Poor audio quality may be caused either by a problem with the user's audio equipment or by network issues.

ISSUE	ANSWER
	<p><b>Problems with audio equipment:</b></p> <p>If the general fidelity of the sound is poor, or the user is getting a lot of background noise or echo, this is likely to be an issue with the audio devices being used in the call.</p> <p>Check that the user has good quality audio equipment (ideally a headset).</p> <p>Check that Integra PC Communicator is configured to use the correct audio equipment (for example, if the user has a headset, check that Communicator is using this rather than the user's built in microphone).</p> <p>Use the <i>Devices</i> tab under <i>Troubleshooting</i> on the Desktop UI to check that the correct audio equipment has been selected and to run tests to ensure it is working properly. See the <i>Integra PC Communicator Desktop End User Guide</i> for instructions on how to do this.</p> <p><b>Network issues:</b></p> <p>If the audio is broken up, or there is a lot of latency on the call, this is more likely to indicate a problem with the network.</p> <p>Wired connections will generally offer better connectivity than wireless, so if the user has a choice and is using a wireless connection, you should tell them to switch to wired.</p> <p>If the user has a laptop with a wired connection <b>and</b> a wireless connection, ask them to try turning off the wireless connection to check that Windows is not using it by preference. They may need to restart Integra PC Communicator after doing this.</p> <p>If they are on a home wireless network and are a long way from their WiFi Access Point, moving closer to the Access Point may improve network connectivity.</p> <p>If they are on your enterprise network and none of the above helps, it is possible that either your network is overloaded or is not prioritizing voice and/or video traffic appropriately. See section 4.1 for more information on network configuration.</p>

## 5.2 Problems with audio and video

These are two main reasons why your users might report problems with audio and video when making or receiving Integra PC Communicator Desktop calls.

- Their audio equipment is not connected or configured correctly.
- They have poor network connectivity.

ISSUE	ANSWER
I am able to answer calls but cannot hear the caller, and/or the caller cannot hear me?	<p>If the issue applies to all of your users, check that your enterprise firewall is not blocking media.</p> <p>Check that any external audio equipment has been connected correctly.</p> <p>Check that the microphone has not been muted, for example some headsets have a mute button on the cable.</p> <p>Check that the speakers are turned on and the volume has not been turned down.</p> <p>Use the <i>Devices</i> tab under <i>Troubleshooting</i> on the Desktop UI to check that the correct audio equipment has been selected and to run tests to ensure it is working properly. See the <i>Integra PC Communicator Desktop End User Guide</i> for instructions on how to do this.</p> <p>Check that the user's PC firewall is not blocking media.</p>
I cannot make video calls.	<p>Users can only make video calls if the video service is enabled and they have a camera on their PC or laptop.</p> <p>Use the <i>Audio</i> tab on the <i>Troubleshooting</i> page to run tests on the video equipment that is being used to ensure it is working properly. See the <i>Integra PC Communicator Desktop End User Guide</i> for instructions on how to do this.</p>

## 5.3 Contacting your Service Provider for assistance

If you cannot resolve the problem using the information provided in this manual, you should contact your Service Provider. To help them, you should always provide the following information when reporting a problem.

- Client version and build number (found on the **About** page in the Integra PC Communicator Desktop UI)
- Platform version, for example Windows 7.
- Any error codes that may appear alongside error messages in the Integra PC Communicator Desktop UI.

- If appropriate, generate diagnostics logging that can be sent automatically to your Service Provider.
  - This logging can be run from the user's Integra PC Communicator Desktop UI, as described in section 5.3.1, or from their Windows PC or laptop if the problem means that the Integra PC Communicator Desktop UI is inaccessible, as described in section 5.3.2.

### 5.3.1 Generating diagnostics via the Integra PC Communicator Desktop UI

If the user reporting a problem can still access the Integra PC Communicator Desktop UI, you can ask them to generate some diagnostics that may help your service provider debug the problem.

Full instructions for using the Diagnostics Logging feature are included in the *Integra PC Communicator Desktop End User Guide*.

### 5.3.2 Generating diagnostics using your user's computer

If the user reporting a problem cannot access the Integra PC Communicator Desktop UI to generate diagnostics, you can ask them to generate these diagnostics using a command prompt on their Windows PC or laptop.

Ask the user to do the following:

- Click the Windows **Start** button on the PC.
- Click *Run*.
- Type `cmd` and then press **Enter**.
- On a 32-bit system, type

```
c:\ProgramFiles\MetaswitchNetworks\CommPortalCommunicator  
\Communicator.exe" -log.
```

- On a 64-bit system, type

```
c:\ProgramFiles(x86)\MetaswitchNetworks\CommPortalCommuni  
cator\Communicator.exe" -log
```

- When logging completes, they will be prompted to send the logs to Metaswitch.
- Navigate to one of the following directories, depending on the version of the OS that the computer is using, and select the logs to send.

```
Win XP: C:\Documents and Settings\\Local  
Settings\ApplicationData\MetaswitchNetworks\CommPortalCom  
municator\Logs Generating system information
```

Win Vista/Win 7:  
C:\Users\alCommunicator\Logs

- If the logging does not complete, error logs will have been written to these directories.



## 6 **Integra PC Communicator Desktop End User Guide**

A sample *Integra PC Communicator Desktop End User Guide*, written in Microsoft Word, is provided with the product documentation.

This includes full instructions on how to download and install the soft phone, and use it to make calls. There is also a information on troubleshooting, including how to run tests to ensure that audio and video equipment is configured correctly, and start diagnostics logging

You can use this document as a starting point for producing your own branded User Guide, instruction leaflet or online material to help your users get started with Integra PC Communicator Desktop.