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Abstract
Ring KDE Client is a KDE client for Ring, a robust enterprise-class desktop phone.
Chapter 1

Introduction

This user manual is intended to describe the contents and use of the Ring KDE Client 1.1.0 soft-phone. Ring KDE Client is a KDE client for Ring. It communicates with the core side, Ring daemon, through D-Bus. Ring is meant to be a robust enterprise-class desktop phone. It provides functions like call transfer, call hold, multiple lines, multiple accounts support. It is SIP and IAX2 compatible. Ring audio layer is built upon a native ALSA interface and a native PulseAudio interface.
Chapter 2

Getting Started with Ring KDE Client

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When you start Ring KDE Client for the first time, you get an account configuration wizard. This wizard will help you setting up an account for Ring to use. You should complete the wizard before going to the main window of Ring KDE Client for it will not work without at least one account set up. You can still change all the settings of the account from the main window after the wizard is complete. You can also start the wizard from the main window at any time. We will now describe the different options of this wizard.

The wizard introduction page.  
The registering type page.  
Creating a new account.  
Register an existing account.  
The STUN settings.  
The conclusion page.
2.1 Welcoming page

You can navigate in this wizard using the **Next**, **Previous** and **Cancel** buttons. If you click on the **Cancel** button, the wizard will close without adding the account. Click on the **Next** button to start configuring the account.
2.2 Create or register

You can now choose to create a new account hosted by Ring.org or register an existing account that you own. If you use Ring for the first time and want to make things work the simplest way possible, you should choose create a new account. It will create an account and add it to Ring. If you already have a SIP or IAX account created with Ring or by any other way, you can add it to Ring by choosing register an existing account.

2.3 Creating a new account

If you choose to create an account on Ring.org, the wizard will need very few information to create the account, create it automatically and add the information of the new account in Ring. It creates a SIP account, so you will then be able to use this new account from any other system, with any software handling SIP accounts, using the information of the new account that are displayed at the end of the process or reachable from the main window.
2.3.1 Email address

![Account Wizard](image)

*The email address page*

The first information it will ask for is your email address. This is non-obligatory, so you can just skip that step by clicking Next button. But it will enable you to receive some notifications about the voice or text messages you receive while you are away.

2.4 Register an existing account

If you have already created a SIP or IAX account with Ring from another computer or with another software, or if you want to use an existing account, you can register it with this wizard to be able to use it with this instance of Ring. The wizard will ask you for the basic information of this account in order to find it back. These information are described in this section.
2.4.1 SIP or IAX

Ring handles two protocols for calls, SIP and IAX2. The wizard will now ask you which of those is your account. If you already have an account created, just choose the right type. If you want to create one without Ring and you wonder which type to choose, you can refer to this document to know which one fits your needs best.
### 2.4.2 Account settings

The wizard needs a few information to find your account. The alias is for convenience only, you can choose anyone. It will be applied only on Ring on this system, not in the account. Server is the one that hosts your account. User is the username of the account. Unlike the alias, it has to be the username chosen while creating the account. Password is also the one chosen for the account. Mailbox number will be used by the mailbox button to keep you from having to type that number too often. Usually it is 888.
2.5 STUN settings

The STUN page

If you register a SIP account or create it on Ring.org (that also means registering a SIP account after all), the wizard proposes you to enable STUN. You may want to do it if you are connected under a firewall. Actually, this is not an option of this account in particular, but of the Ring configuration; it will be applied for any account. If you enable this option, you have to choose the STUN server you want to use (e.g.: stunserver.org).
2.6 The conclusion page

The conclusion page resumes the information you have sent during the wizard process. It has not done anything yet so you can still give up clicking Cancel button. If you click on Finish, it will send all the information and create the account if you chose to create it or register it if you were registering an existing account. As it has not sent the information at this step, it cannot know if the registration will succeed. To check this, once you are in the main window, go to the account settings page to see the state of your accounts.
Chapter 3

Basic use of Ring KDE Client

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Although Ring is enterprise oriented, its interface is very easy to use and you can use the basic features without any particular skills or knowings.

3.1  Presentation of the main window

The main window is composed of four main parts: the current call list, the history list, the bookmark list and the contact list. By default, they are stacked, but it is possible to separate them by using the drag and drop handle on top of each “tab” of the application. Note that this handle is disabled in the current call list.

3.1.1  The call page

To switch between those windows, click on the History, Bookmark and Address Book tabs on the bottom of the screen. Each tab page can be docked on the left or right of the call page and tabbed in various configurations.
The default call list

The current call list is composed on the list itself, hosting call and conferences. There is also an optional dial pad, instant message box and volume controls. They can be enabled or disabled from the View menu.

3.1.2 The History page

The history list host the previous calls. It is possible to sort it in multiple ways. By default, it ordered from the most recent to the most ancient call with “smart” categories. A filter text box is available for quick searches.
The History tab

By default, each call display if the call is incoming, outgoing or missed as emblems in the bottom right of the widget. It also display the peer name using the contact information or the name provided by the phone server. If a call has a recording, the play and remove buttons will be displayed.

3.1.3 The Contact page

The contact list provide an easy access to KDE address book contacts. By default, it is sorted by alphabetical order, but can also be displayed in various other orders. A quick search text field is also provided. Contacts with multiple phone numbers are collapsed by default. To display all numbers it is possible to double click on the collapsed item in the list or activate the option in the Display page of the configuration dialog. The information being displayed are also configurable from that same page. Users with many contacts might want to display minimal details to reduce the size of the contacts.
3.1.4 Contact presence

SIP accounts support a feature called “presence”. This allow softphone users to track other users current status ("on the phone", "ready", "busy" and so on). It can be compared to an usual instant messaging online buddy list, but is more restricted. Each “buddy” have to be tracked individually and using this feature alongside IP2IP or DNS based phone number can consume extra energy, reducing notebook battery life. As of 2014, it also prove to be unreliable and multiple PBX such as Asterisk only support a subset of the protocol.

Ring KDE Client will only track phone numbers if “Enable presence support” is checked for an account, that the phone number have already been called and if it is either bookmarked or is part of an explicitly tracked contact collection.

Presence publishing allow some accounts to publish a presence message and status (either online or offline) to other softphones. If an account support it (and have presence enabled), Ring KDE Client will display a widget in the status bar to set the presence message. Some predefined messages can be configured in the configuration dialog, but a custom one can also be used. The default is “Online”. An online presence status doesn’t imply that you can make a call or that and account is online or not. As Ring also support calls over ssh tunnels and localhost addresses, Ring is, in theory, always online. Again, empirical testing show this feature does not work very well on the vast majority of PBX and registrar. Freeswitch based registrar seem to have the best support. This information can also be lost when calls are routed though proxies and intermediary PBX.

When the presence subscription work as expected, contacts, history calls and bookmarked numbers will have either a red or green tint or halo around them. This information will also be used to the auto completion engine to give better results.

3.1.5 The Bookmark page

The Bookmark page allow to save some phone numbers to be more accessible. This is done by clicking with the right mouse button on a contact or a history item and pressing the Bookmark
3.2 Making a call

3.2.1 Dialing one’s number

If you know the number of the people you want to call, you may just type it on the dial pad or on your keyboard while you are in the Current calls window, then click on the Accept button in the tool part’s toolbar or in the Actions menu, or press Enter on your keyboard, or double-click on the number to call once you have finished dialing it.

Following behavior, common part...

3.2.2 Calling from call history

If you want to call somebody from whom you missed a call, or you already called earlier, you may go to the Call history window. The detailed use of this window and its features (search, etc.) is described in this section. Once you are in it, find the number or name of the person you want to call, then you can double click on the history call, drag and drop it on the current call list, pressing Enter or right clicking and press Call Again.

3.2.3 Calling from address book

If you have configured contacts in either KAddressBook or Akonadi, Ring KDE Client should automatically import them. To call a contact, it is possible to double click on it, drag and drop it to the current call list, press Enter or right click and select Call.

If the contact have multiple phone numbers, a dialog will be shown to select the right number.

Beginning with version 1.4.0, Ring KDE Client can also act as a complete contact manager (oriented on phone related features). It is possible to add, manage and configure Akonadi collection directly from the configuration dialog “Address Book” section. It is also possible to add and remove contacts directly from the main interface.
If your addressbook contain incomplete phone numbers or only phone extensions, it is possible to set a “default account” in the “Basic” tab of the account configuration dialog. This account will be used to call these numbers. If you have incomplete phone number belonging to multiple accounts, it is advised to edit those contacts to ensure the number is complete or add @hostname at the end of the number (replace hostname with a valid server hostname).

3.3 Basic call actions

3.3.1 Receiving a call

When one of the account registered in Ring receives an incoming call, it will be displayed as a new item in the Current calls window with the “incoming” icon. You can either accept or refuse it. To accept it, select the item and click on the Accept button which replaced the Call button in toolbar and Actions menu, or double click the item, or press Enter. To refuse it, select it and click on the refuse button that replaced the Hang up button in toolbar and Actions menu or press Esc.

Following behavior, common part...

3.3.2 The call is ringing

Once you called a number, the call is normally in ringing state. It will then pass to Current or Busy state, according to the decision of the called peer to accept or refuse the call. If it is in Busy state, you can just hang it up with the Hang up button or pressing Esc.

If the number does not exist or if any other error occurred (see the list of common errors here), it is in failure state, then you can hang it up with the Hang up button or pressing Esc.

Following behavior, common part...

3.3.3 The call is current

Once the call is in current state, you can now communicate with your peer. You have a bunch of useful features when in current state that are described in the common use chapter. To end the call, select it and click on Hang up button in toolbar or pressing Esc.

3.3.4 The call is recording

Recording a call will create a .wav file in the directory chosen in the Audio configuration dialog. Recording can be activated by pressing the Record button of the toolbar. The call emblem should turn to:

The record emblem

Once the call is over, you can play the recording from the history page be pressing the play button. This overlay should appear.
3.3.5 The call is being transferred

Ring support two types of transfer, direct and attended. Attended will be discussed in the next section. Direct transfer is the action of transferring a call to another number. Once the call is transferred, it is considered over by Ring. It should start ringing on the number you transferred to. To transfer a call, press on the **Transfer** button in the toolbar. This overlay should be presented:

![Transfer overlay](image)

### The record overlay

3.4 Managing calls

Ring support multiple calls at once. Managing multiple call offer many features, but it is also important to understand the relation between them. In theory, only 1 call or group of calls, referred here as conferences, can be active. Other calls are going to be on hold. A call on hold can not communicate, be it by instant message or voice unless it is activated again. Double click or press **Enter** to re-activate the call. Active call should have a green icon emblem are be more saturated than inactive calls.

Conferences are a group of intercommunicating calls. Each participant of a conversation can hear all the other participants. However, it is important to note that if a conference have been created in Ring, the other participants would not know about it, so it is useful to actually tell them they are in a conference.
Call management is mostly using drag and drop. Dragging a call on another call will result in this overlay being displayed.

**Call overlay**

Dropping the call on “conference” will add the call being dropped to the conference of the call it is drop on to. If the later is not part of a conference, one will be created. Dropping the call on transfer will trigger an attended transfer. Attended transfers will give ownership of the call being dropped to the owner of the call it is being dropped onto. It is useful if you want to notice the person you are transferring the call to before actually transferring it. You put the person on hold, call the second one, then perform an attended transfer. The call will then be removed and considered over.

Dropping a call on an history call will display this overlay:

**History overlay**

It will trigger a direct transfer. The phone of the person you are transferring to should start ringing. The call will be removed and considered over. This feature is also available for contacts:
3.5 Account configurations

For the account setup wizard, please refer to the Getting Started chapter of this handbook.

Advanced configuration of the accounts is available in the Account section of the configuration dialog. The page is divided in two sections, the accounts list and the configurations tabs.

3.5.1 The account list

The account list allow to enable or disable account by checking them, moving account priority use the up and down buttons, adding and removing them using the add and remove buttons.

The tinted background represent the account state. Normal represent a disabled account, red an invalid or inaccessible account, yellow an account in the process of registering itself and green a valid, registered account. The icons represent the current local status of the account. A little floppy represent a modified and unsaved account and the reload icon an account that have changed on the server or by another client, like the plasmoid and need to be reloaded.
3.5.2 Basic settings

**Basic account dialog**

This tab allows to configure the basic credentials of a SIP account. The **default resolve account** checkbox is used to know if that account has priority when performing contact information lookup.

The settings in the basic tab are often present in other tabs in more advanced details. The **credential** tab allows to configure chained credentials, this feature is rarely used and you should avoid using them unless you really need to.

**Chained credentials**

It is also possible to enable Secure SIP in the security dialog. Most accounts are used in an intranet or using a VPN, so they are not secured. But if your account is, the **Security** dialog is here for you.
Account security

The advanced dialog host some rarely used configuration such as the default network interface, alternative ports and STUN server.

Advanced settings

The ringtone dialog allow to select a ringtone from the default list or from a file on your disk.
Ringtone settings

Finally, the codec tab allow to enable or disable codecs or change their priority. That way, it is possible to have higher quality call or save bandwidth. Some video codecs also have configuration parameter of their own.

Codec settings

3.6 Other configurations

Ring KDE also have settings not related to SIP accounts. Those settings allow to configure how the application look and behave.
3.6.1 Display

Display settings

The display page allows various configurations related to how the application looks. The first sub-section, Display Main Window, configures when Ring will pop-up the GUI when it is minimized in the system tray. The second, Notifications, configures when Ring should display a notification pop-up. The third, Visible Call Details, enables or disables various information fields in the call item. It also allows selecting a minimum size for call items, making them easier to target with the mouse. The last section, Visible Contact Details, does the same for the contact items.

3.6.2 Audio

Display settings

The audio config allows you to select between PulseAudio and ALSA. It also makes it possible to select devices for various operations, like ringing.
Chapter 4

Common use of Ring KDE Client

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4.1 Handling a call

There are a bunch of features that you can apply on a current call with Ring. Here are their descriptions.

4.1.1 Placing a new call

You can have plenty of calls in parallel, even if only one is current (i.e.: you can talk through) and the others are on hold. To place a new call when you are on a current call, click on the Place new call button, it will create a new empty item and select it automatically, then type the phone number you want to call and click Call or press Enter to place the call. You can also go to the Call history window or the Address book window and valid a call, and it will be added ringing in the Current calls window. When a new call is placed, any other one is put on hold, so that you cannot mix two calls. If you want to go back to one of the calls put on hold, just double-click on the corresponding item and it will go back to current state while the old one is put on hold.

4.1.2 Holding a call

If you want to place the current call on hold, you just have to click on the Hold button. The icon of the call will then be changed and communication is paused with your peer. You can then place a new call, transfer the held one (see Section 4.1.3)... To take the communication back, just double-click on the item or click on Unhold button.

4.1.3 Transferring a call

If you want to transfer the current call to another phone number, click on the Transfer button, the item will change and enable you to type the number to which you want to transfer your peer. Once you have typed it, click on Valid transfer button or press Enter to effectively transfer the call. You can place the call on hold while typing the number (see Section 4.1.2).
4.1.4 Recording a call

If you want to record the current call, click on the Record button, the button will become triggered and the light may come on. Since Ring only records calls when they are current (i.e.: not on hold), the light will be on if the selected call is current and can be recorded, and off if it is not. But if the button is triggered, Ring will record as soon as it is communicating.

4.2 Call mailbox

You can call your mailbox typing your account’s mailbox number. But if you have registered this number in account’s settings, you can just click on Mailbox button. It will call the mailbox of the first registered account.

In both case, you can then type your mailbox’s password without worrying about people around, since Ring will not display what you type if the called number is the registered mailbox number of the current call’s account.

4.3 Use the address book

Ring KDE Client communicates with the KDE Address Book and gathers all the phone numbers matching your request and the options chosen. Here we will explain how to configure and use it.

4.3.1 Configuring KDE Address Book

As it is fully designed for KDE, Ring KDE Client looks for your contacts in KDE Address Book. So you first have to configure it. Choose Applications → Office → Address Book from the K menu. You are now in the main window of the KDE address book. You can add contacts and handle them from here. Press F1 to see this application’s help page if you have some problems with it.

Ring KDE Client looks into the standard address book, that means it will look into the contacts displayed in the contact list on the left of the window. The selected address books in the bottom left of the window will be searched. If you add some contacts, you may have to restart Ring KDE Client before it can see them.

4.3.2 Configuring Ring KDE Client

You can now go to the Configuration Dialog to choose how Ring will handle your searches in the address book. This step is optional though, because the default settings enable you to use the feature without more setup.

The maximum results setting enables you to choose how many phone numbers can be displayed when you look for a contact. KDE address book can contain lots of contacts, especially if connected to LDAP directories, and you do not want to see thousands of contacts displayed as soon as you type a letter to search for.

KDE address book can contain a photo for your contacts. Ring KDE Client can display it in the result of your searches, but as it can take a little more time, you can choose to disable that feature.

Each phone number in KDE address book is linked to a contact, and has a phone number type to differentiate work phones, home phones, and cell phones. You can choose to display only certain of those numbers. Check the types you are interested in and uncheck the other ones.
4.3.3 Search in Address Book

Now that everything is set up, you can go to the Address book window, then type some letters of the name you want to phone. You will see all the phone numbers that match your request and their type. When the resulting list’s size is greater than the maximum chosen in configuration, it will only display the beginning of the list with the maximum size, and will display a warning message to let you know that your wanted number may be in the rest of the list and so not displayed. In that case you should type some more letters to improve precision of the search. Once you found the right number, double click on the item to call it.

4.4 Configuration Dialog

There are a lot of options in Ring. All of them are gathered and sorted in the Configuration Dialog. You can reach it choosing Settings → Configure Ring.... Here are presented some commonly useful options.

4.4.1 General settings

Here you can choose the capacity of the call history.
Chapter 5

Advanced use of Ring KDE Client

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5.1 Macros

Macros are used to automate some type of calls. The basic use case is to assign a phone number to a keyboard shortcut. To do so, a new macro have to be created in the configuration dialog “accessibility” section. It can then be assigned to a shortcut either in the dialog itself or in the dedicated shortcut dialog. It is also possible add a macro to the toolbar using the dedicated dialog.

Macros also support the “\n” escape sequence to emulate the effect of the “Enter” keyboard key and the “Pick up” button. The time between each keystroke is also configurable to match some PBX dial plan configuration (such as phone extensions or audio menu).

5.2 Codecs

To communicate voice information, Ring uses some codecs. You can choose which codec to use in the audio configuration panel.

In this panel you will see the codecs available on your system with all their parameters. Ring will use the first activated one in the list. So you can change the order of the list, and activate/deactivate some ones, to change which one will be used. To do that, select a codec and click on the up/down arrows, or just check/uncheck the corresponding checkbox.

5.3 Video

Ring versions higher than 1.1.2 have built in support for video calls. This feature work mostly the same way as the audio codecs. An option as also available to disable video transmission.

During a video call, some display options are available to change the aspect ratio or rotate the video. By pressing the advanced settings button, it is also possible to switch from different camera, disable video, stream a file or share your screen(s). Sharing a file is also accessible by drag and dropping it on top of the video window.

Video devices settings can be configured from the configuration window “video” section.
Chapter 6

Credits and License

PROGRAM:

• The initial application were written by Jérémy Quentin jeremy.quentin@savoirfairelinux.com.

DOCUMENTATION:

• The initial contents of this manual were written by Jérémy Quentin jeremy.quentin@savoirfairelinux.com.

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This program is licensed under the terms of the GNU General Public License.
Appendix A

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(... to be written ...)

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