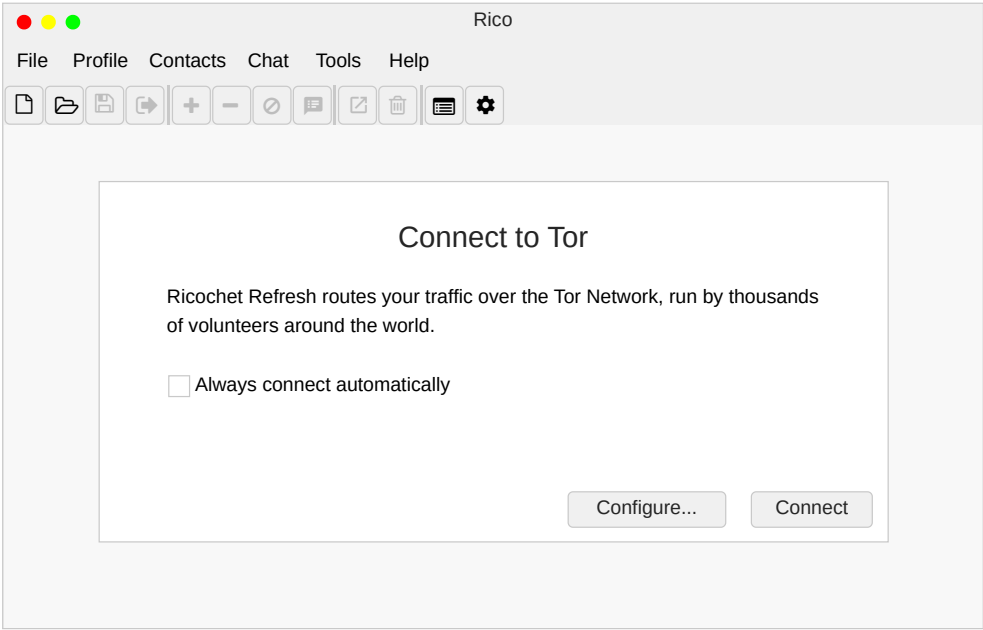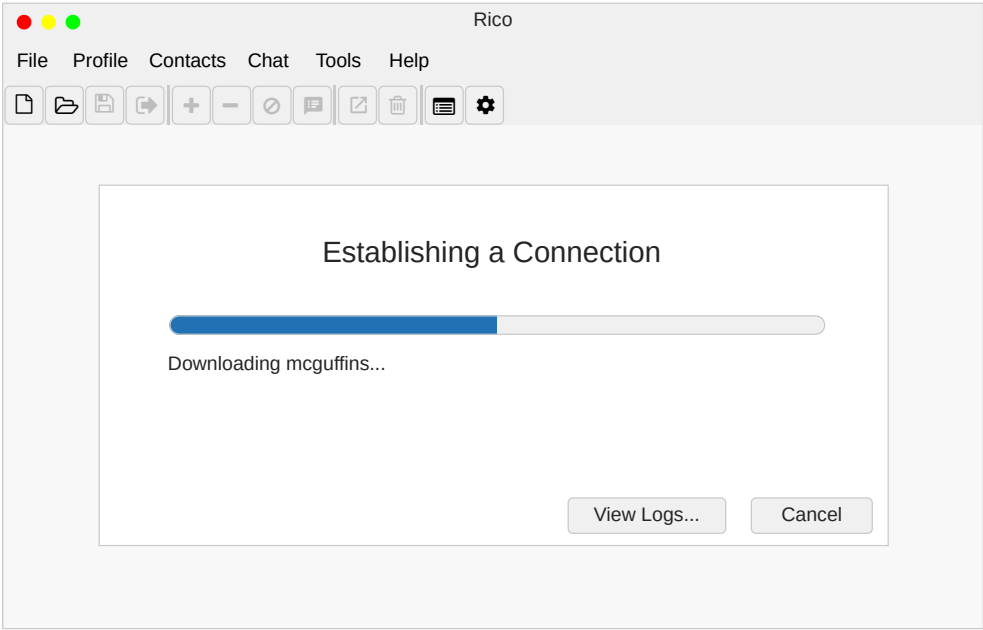# Rico - Connect

Users first reach this screen on application launch. At this point, the application is not yet connected to the Tor Network. This screen will allow the user to connect and/or configure the application preferences (including connection settings).

Rico

File Profile Contacts Chat Tools Help

Connect to Tor

Ricochet Refresh routes your traffic over the Tor Network, run by thousands of volunteers around the world.

☐ Always connect automatically

[Configure...] [Connect]

We will try to follow a desktop'ified version of Tor Browser's about:torconnect page here

Configure opens the Preferences dialog

Connect begins bootstrapping tor

Rico

File Profile Contacts Chat Tools Help

Establishing a Connection

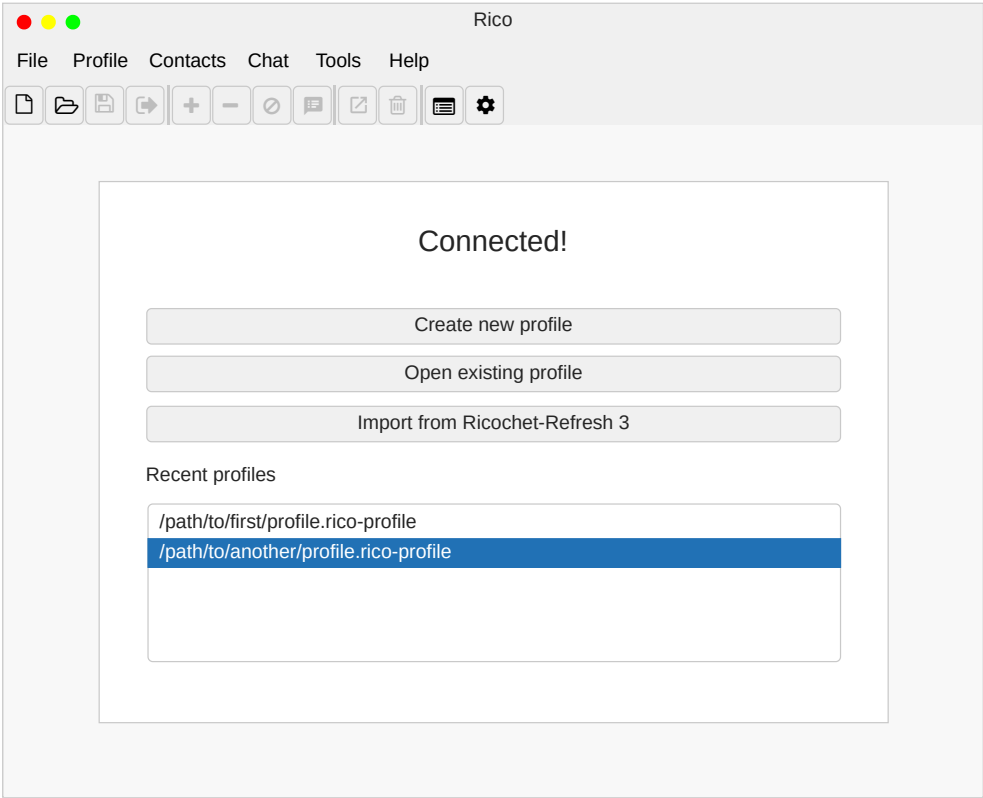Downloading mcguffins...

[View Logs...] [Cancel]

Open the Tor Logs dialog

Cancel current bootstrap attempt

Rico - Connected

User reaches this page after succesfully connecting to the Tor Network

Rico

File   Profile   Contacts   Chat   Tools   Help

Connected!

Create new profile

Open existing profile

Import from Ricochet-Refresh 3

Recent profiles

/path/to/first/profile.rico-profile

/path/to/another/profile.rico-profile

Recent profile list can be disabled in application settings

Rico - Connection Status

Provide logs from the underlying Tor Provider. Some Tor Providers will not have logs
to display (eg System Tor Daemon)

Other possible backends:
- system tor daemon
- in-proc arti-client
- bundled arti daemon
- system tor daemon

Statuses:
- Offline
- Connecting
- Connected

● ● ●   Rico

File   Profile   Contacts   Chat   Tools   Help

Connection Status

Tor backend: Bundled tor daemon   Status: Offline

Version: 0.4.8.10

Feb 18 16:33:36.142 [notice] Tor 0.4.8.10 (git-680415826c5fd786) running on Linux with Libevent 2.1.12-
stable, OpenSSL 3.0.12, Zlib 1.3.1, Liblzma N/A, Libzstd N/A and Glibc 2.36 as libc.
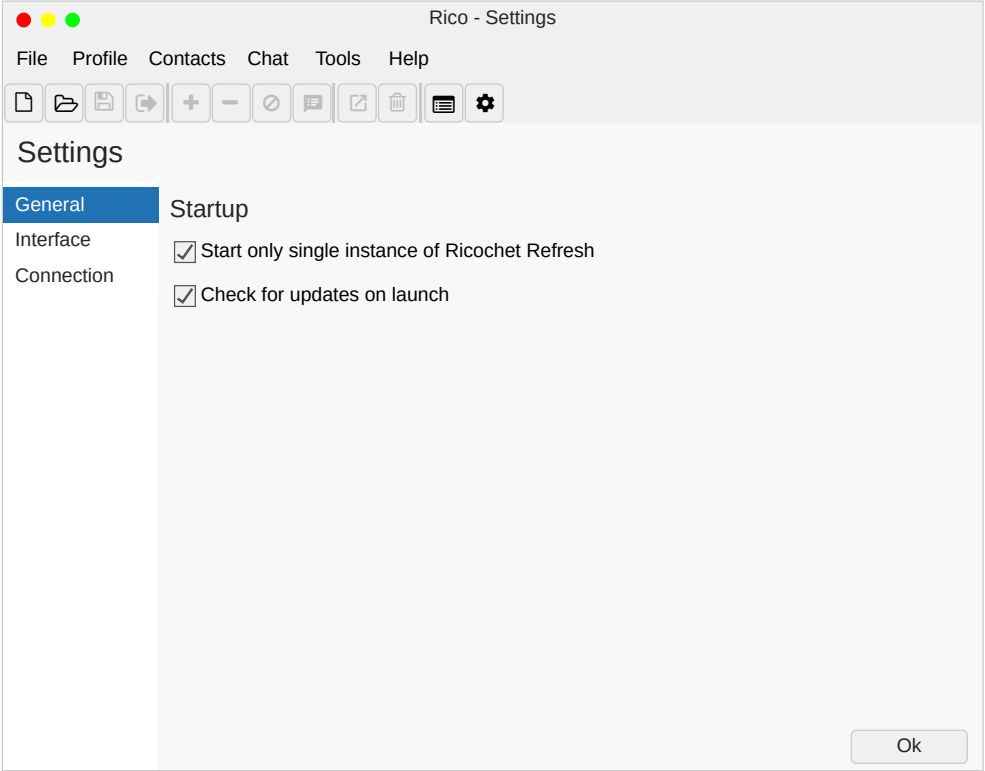
Copy Logs to Clipboard   Ok

Rico - Settings (General)

The General section of the Preferences pane. Should enable configuring general application behaviour that are not specific to the other sections.

All options in this dialog must be safe to store un-encrypted in the application config; no privacy or security related settings belong here! Those must be saved in the profile itself.

Rico - Settings

File   Profile   Contacts   Chat   Tools   Help

Settings

General
Interface
Connection

Startup

☑ Start only single instance of Ricochet Refresh

☑ Check for updates on launch

Ok

Rico - Settings (Interface)

The Interface section provides users with UI customisation options

Rico - Settings (Connection)

The Connection section provides users with Tor Provider related options. This page may vary a lot depending on which Tor Provider is selected. For instance, a System Tor Daemon Tor Provider (eg on Tails) would have this section almost entirely empty. For now let's have this mostly mirror about:preferences#connection in Tor Browser.

This entire section will be disabled if the user is already connected to the Tor Network

Add bridges region collapses if Use bridges is not ticked

Rico - Settings

File   Profile   Contacts   Chat   Tools   Help

Settings

General
Interface
Connection

Backend

Select which Tor client implementation to use. Changing requires an application restart.

(●) Out-of-Process Tor daemon (default)

(○) System Tor daemon

(○) In-Process Arti

Quickstart

Quickstart connects Rico to the Tor Network automatically when launched, based on your last used connection settings

[✓] Always connect automatically

Bridges

Bridges help you securely access the Tor Network in places where Tor is blocked. Depending on where you are, one bridge may work better than another.

[✓] Use Bridges

Add bridges

(●) Chose from one of Ricochet Refresh's built-in bridges

  (●) obfs4

    Makes your Tor traffic look like random data. May not work in heavily censored regions.

  (○) Snowflake

    Routes your connection through Snowflake proxies to make it look like you're placing a video call, for example.

  (○) meek-azure

    Makes it look like you're connected to a Microsoft website, instead of using Tor. May work in heavily censored regions, but is usually very slow.

(○) Enter bridge addresses you already know

    Paste your bridge addresses here

Network Settings

[ ] I use a proxy to connect to the internet

    Proxy Type   SOCKS5 ▼

    Address   IP address or hostname   Port

    Username   Optional   Password   Optional

[ ] This computer goes through a firewall that only allows connections to

    Allowed Ports   80,443

Ok

Rico - Unlock Profile

Users reach this window after connecting to the Tor Network and opening a profile. A password is required to decrypt a Rico profile. Obviously we draw a lot of inspiration here from KeyPassXC and friends.
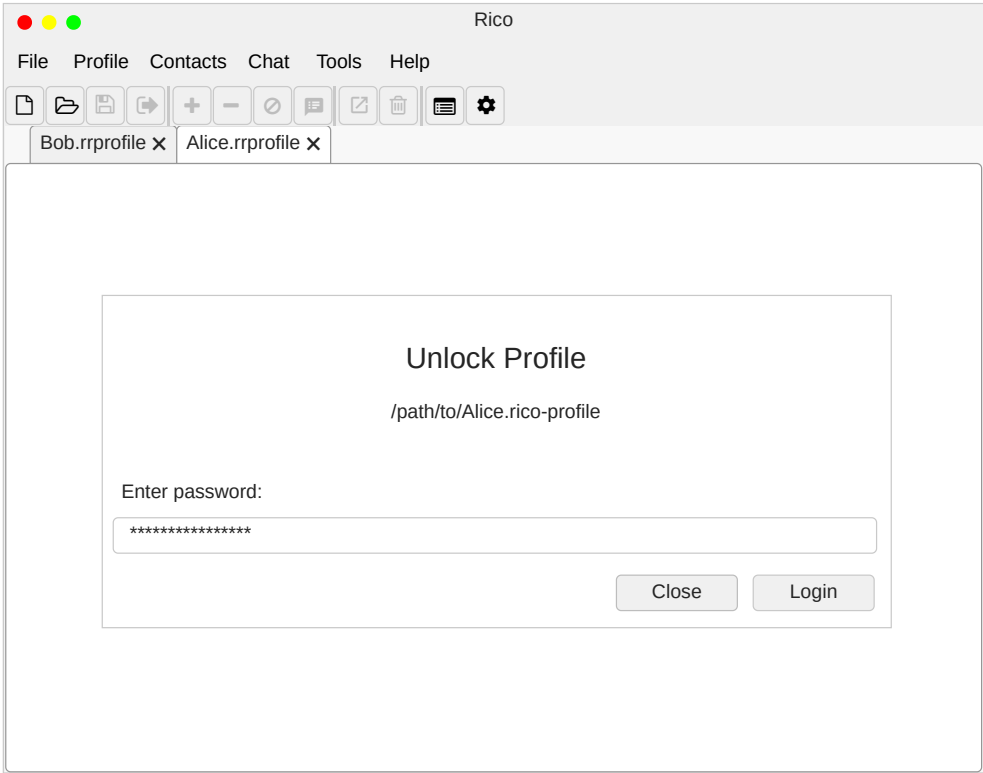
Menus

File:	Profile:	Contacts:	Chat:	Tools:	Help:
- New Profile	- Set Visibility	- Add Contact...	- Export Logs...	- Downloads...	- Manual
- Open Profile...	- Online	- Delete Contact	- Delete Logs...	- Tor logs...	- Licenses...
- Close Profile	- Restricted	- Connect/Disconnect		- Preferences...	---
- Save Profile As...	- Hidden	Contact			- Check for Updates...
---	- Copy Ricochet Id	- Ban/Unban Contact			- Changelog...
- Logout	- Edit Profile...				- About
- Logout All Profiles					

- Quit					

- Licenses menu option should open a folder containing relevant licenses
- Changelog menu option opens CHANGELOG.txt in system default text editor

Toolbar Icons

New Profile, Open Profie, Save Profile As, Logout | Add Contact, Delete Contact, Ban Contact, Connect/Disconnect Contact | Export Logs, Delete Logs | Connection Status, Preferences

---

Rico

File   Profile   Contacts   Chat   Tools   Help

Bob.rrprofile ✕   Alice.rrprofile ✕

Unlock Profile

/path/to/Alice.rico-profile

Enter password:

****

Close   Login

Users will always 'login' into the 'offline' state, they will opt-in to less private visibility states

Rico - New Profile

Accessed via New Profile button or New Profile... option in File menu. Walks the user through creating a new Rico profile.

Start

Rico

File   Profile   Contacts   Chat   Tools   Help

New Profile

Create a new Rico profile
Step 1 of 3

Profile creation method:

○ Generate new

○ Import Ricochet-Refresh 3.0 series profile

Cancel   Back   Next

Generate New

Rico

File   Profile   Contacts   Chat   Tools   Help

New Profile

Create a new Rico profile
Step 2 of 3

Profile destination:

/path/to/profile.rr   Browse...

Cancel   Back   Next

Import Legacy

Rico

File   Profile   Contacts   Chat   Tools   Help

New Profile

Create a new Rico profile
Step 2 of 3

Profile destination:

/path/to/profile.rr   Browse...

Ricochet-Refresh profile:

/path/to/ricochet.json   Browse...

⚠️ WARNING: You will not be able to use legacy Ricochet Refresh 3.0 concurrently with Ricochet Refresh 4.0. You can chat with imported legacy contacts but more advanced functionality will not be available.

Cancel   Back   Next

Credentials

Rico

File   Profile   Contacts   Chat   Tools   Help

New Profile

Create a new Rico profile
Step 3 of 3

Display name:

Alice

Password:

●●●●●●

Confirm password:

●●●●●●

Cancel   Back   Finish

Finish writes new profile to disk and focuses new profile tab in the main chat view

TODO: Maybe we add a 4th screen with a summary along with the rico id.

Rico - Profile

Profile view/edit is necessarily part of a loaded profile, so it appears within a profile tab. The user can get the rico id associated with this profile here.

Rico

File   Profile   Contacts   Chat   Tools   Help

Bob.rrprofile ✕   Alice.rrprofile ✕

Profile

Profile destination:

/path/to/profile.rico-profile

Rico ID:

rico:6l62fw7tqctlu5fesdqukvpoxezkaxbzllrafa2ve6ewuhzphxczsjyd

Display name (required):   Name shown to your contacts

Pronouns (optional):   Your preferred pronouns

Avatar (optional):

Path to avatar image   Browse...

Image will be rescaled to 256 x 256 pixels

Remove

Description (optional):

Text description displayed in your user profile

1024 characters available

Cancel   Ok

Rico - Conversations (Online)

Profile tab when the user is logged in. In 'Online' mode identity and endpoint servers are enabled, anyone can cyberstalk the user if they know the user's Identity Server Service ID

- Hide a conversation by clicking on a user entry again to unselect
- Per-contact context menu will have all the per-contact commands from the Contacts menu

User groups:

- Connected: users which have connected to our, or which we have connected to their endpoint server

- Connecting: users which we are explicitly attempting to connect to

- Disconnected: no active connection; offline to us

- Requesting: in-progress outoing friend requests

- Banned: no endpoint server, actively blocking attempts when accessing our identity server

Rico

File   Profile   Contacts   Chat   Tools   Help

Bob.rrprofile ✕ | Alice.rrprofile ✕

▼ Connected

👤 Cameron

👤 Elizabeth

▼ Disconnected

👤 Diego

▼ Requesting

❓ Frederick

▸ Banned

🟢 Online ▾ 👤

(2024-04-14 10:00) Alice: Hey Cameron! You into dinosaurs?
(2024-04-14 10:02) Cameron: Hey Alice! Yeah, I think they are pretty fascinating. Velociraptors are especially cool.
(2024-04-14 10:05) Alice: Agreed! They were like the ultimate predators, so sleek and deadly.
(2024-04-14 10:07) Cameron: Definitely. Plus, the whole pack hunting thing adds another level of awesomeness.
(2024-04-14 10:10) Alice: Exactly! So, do you have any other favorite dinos?
(2024-04-14 10:13) Cameron: Hmm, tough call. T-Rex is a classic choice, but I am also intrigued by the smaller ones like Compsognathus.
(2024-04-14 10:15) Alice: Nice choices! Hey, did you know birds are technically descendants of dinosaurs?
(2024-04-14 10:18) Cameron: Yeah, it is mind-blowing to think about. Evolution is wild!

B *I* U̲ 📎 🖼

It really is|

➤

Visibility Modes:

- Online: identity and endpoint servers are enabled

- Restricted: endpoint servers are enabled

- Hidden: no endpoints enabled, but outgoing connections can occur

- Offline: no endpoints enabled, no outgoing connections either

NOTE: Online should really communicate most risk, users can be cyberstalked if they always stay in Online mode

Minor text formatting:
- Bold
- Italic
- Underline
Add Atachment
Inline-image

Profile button:

Open an Edit Profile dialog where user can:

- get Ricochet id
- set display name
- set profile image
- set profile info
- w/e else metadata users opt into

Minor text formatting:
- Bold
- Italic
- Underline
Add Attachment
Inline-image

NOTE:

- Attachments are sent as-is, but are not rendered/previewed by the application.
- Inline-images will be somehow re-encoded to hopefully avoid malformed image decoder bugs/exploits

- URLS will never open a browser, only open a context menu with the option to copy the URL to clipboard - exported conversations should be standardised to avoid leaking user's locale re timestamps, any potential formatting options, etc - user status (connect/disconnect) messages will appear in chat

TODO: Chat Thumbnail and Image UI; images should have be optionally spoiler'd and have text descriptions

TODO: Incoming Friend Request flow

TODO: Status bar with: Onion Service status, reachability, service id

TODO: Smily selector

TODO: Invite-only connectivity to identity server using client auth

Rico - Conversations (Restricted)

In 'Restricted' mode (identity server disabled, endpoint servers enabled) only confirmed/allowed contacts may contact us. New contacts will not be able to access the public identity server to get through the gosling handshake to get their own endpoint server. This way stranges will not be able to cyber-stalk a user based off of their (potentially) public identity server. The UX should be identical to Online mode, except the user will never receive new friend requests.

Rico

File Profile Contacts Chat Tools Help

Bob.rrprofile ✕   Alice.rrprofile ✕

▼ Connected

Cameron

Elizabeth

▼ Disconnected

Diego

▼ Requesting

Frederick

▸ Banned

◯ Restricted

(2024-04-16 11:16) Alice: Hey?
(2024-04-16 11:19) Diego has disconnected

B I U 🔗 🖼

- Chat input widgets are disabled if the user is not connected

Rico

File Profile Contacts Chat Tools Help

Bob.rrprofile ✕   Alice.rrprofile ✕

▼ Connected

Cameron

Elizabeth

▼ Disconnected

Diego

▼ Requesting

Frederick

▸ Banned

◯ Restricted

(2024-04-14 10:00) Alice: Hey Cameron! You into dinosaurs?
(2024-04-14 10:02) Cameron: Hey Alice! Yeah, I think they are pretty fascinating. Velociraptors are especially cool.
(2024-04-14 10:05) Alice: Agreed! They were like the ultimate predators, so sleek and deadly.
(2024-04-14 10:07) Cameron: Definitely. Plus, the whole pack hunting thing adds another level of awesomeness.
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(2024-04-14 10:18) Cameron: Yeah, it is mind-blowing to think about. Evolution is wild!

B I U 🔗 🖼

It really is|

Rico - Conversations (Hidden)

In 'Hidden' mode we do not enable any of our endpoint servers or identity servers, so even contacts do not gain our online/offline metadata. Connections are outgoing only and must be explicitly initiated by the user. This does imply that two users which are both in 'Hidden' mode will not be able to ever connect to each other!

Rico

File   Profile   Contacts   Chat   Tools   Help

Bob.rrprofile ✕   Alice.rrprofile ✕
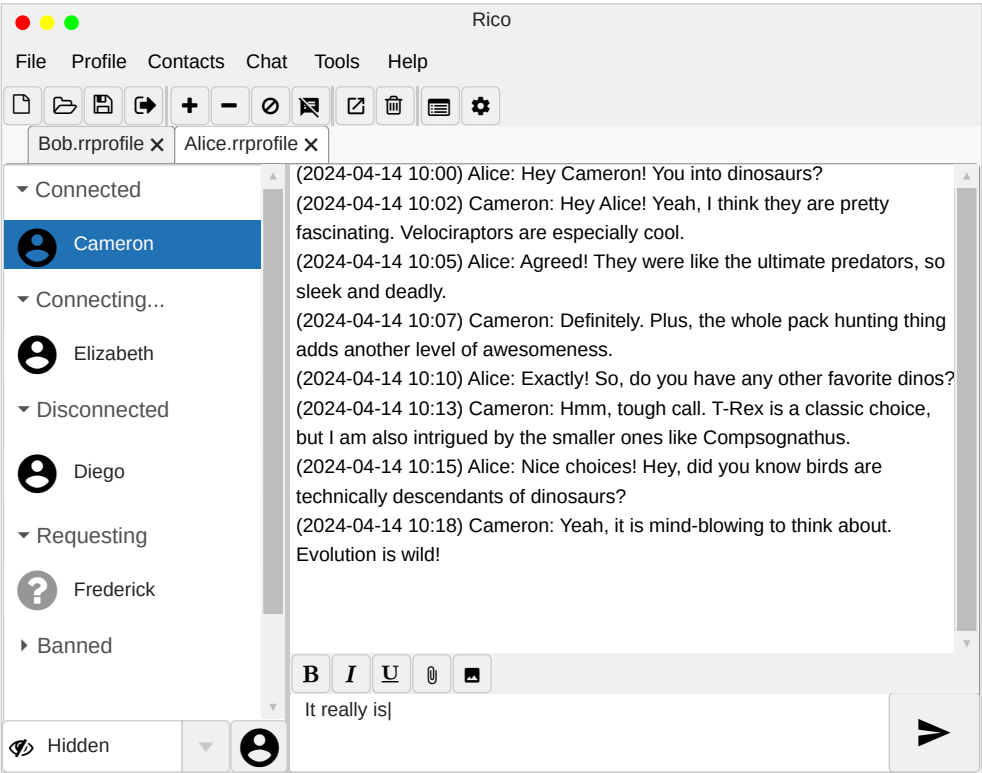
▾ Connected

👤 Cameron

▾ Disconnected

👤 Diego

👤 Elizabeth

▾ Requesting

❓ Frederick

▸ Banned

👁 Hidden   👤

(2024-04-18 12:01) Alice: o/
(2024-04-18 12:02) Elizabeth has disconnected

B *I* U 📎 🖼
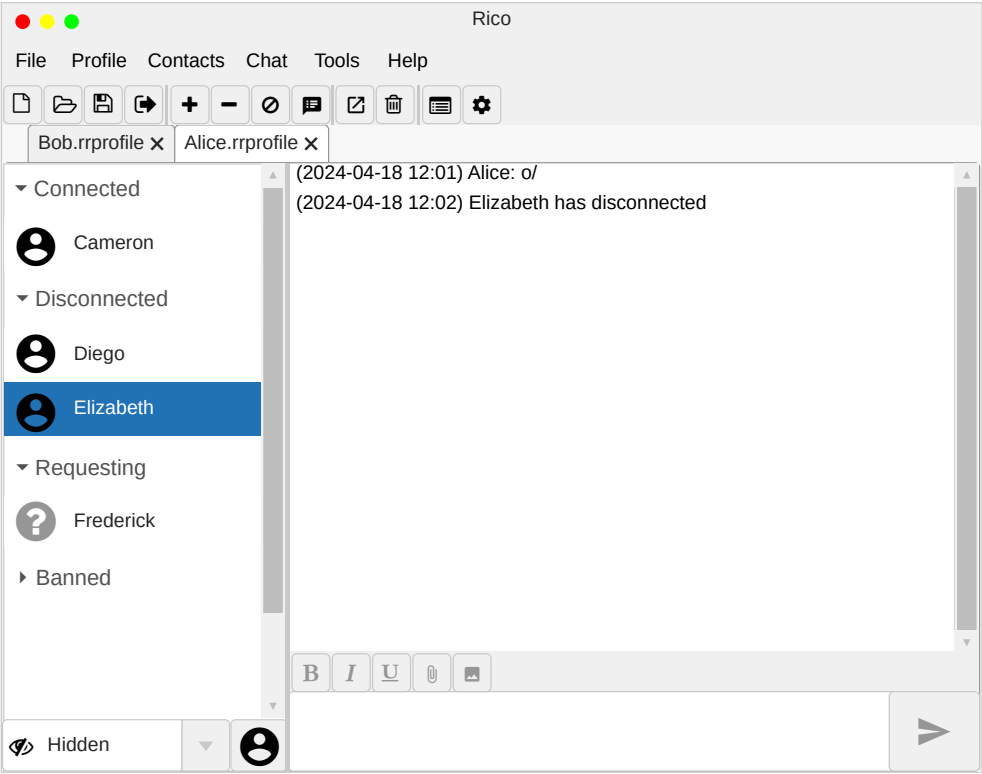
- Chat input widgets are disabled if the user is not connected

- User must opt-in to connecting to contacts when in Hidden mode using the chat icon in the toolbar or connect action in the contacts menu

---

- Contact goes into Connecting... group when connect is initiated
- Once a user reaches Connected, then chat can happen

Rico

File   Profile   Contacts   Chat   Tools   Help

Bob.rrprofile ✕   Alice.rrprofile ✕

▾ Connected

👤 Cameron

▾ Connecting...

👤 Elizabeth

▾ Disconnected

👤 Diego

▾ Requesting

❓ Frederick

▸ Banned

👁 Hidden   👤

(2024-04-14 10:00) Alice: Hey Cameron! You into dinosaurs?
(2024-04-14 10:02) Cameron: Hey Alice! Yeah, I think they are pretty fascinating. Velociraptors are especially cool.
(2024-04-14 10:05) Alice: Agreed! They were like the ultimate predators, so sleek and deadly.
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(2024-04-14 10:18) Cameron: Yeah, it is mind-blowing to think about. Evolution is wild!

B *I* U 📎 🖼

It really is|

Rico - Attachments

Attachments in general appear in-line with chat messages.

Window 1

Rico

File   Profile   Contacts   Chat   Tools   Help

Bob.rrprofile ✕   Alice.rrprofile ✕

▼ Connected

👤 Cameron

👤 Elizabeth

▼ Disconnected

👤 Diego

▼ Requesting

❓ Frederick

▶ Banned

🟢 Online

(2025-01-01 12:24) Cameron: Can you send me that book?
(2025-01-01 12:25) Alice: Yeah one sec

B *I* U 🔗 🖼

Here it is!

Attachments (7.1 MB)

Cross-Platform GUI Programming with wxWidgets.pdf   •••

➤
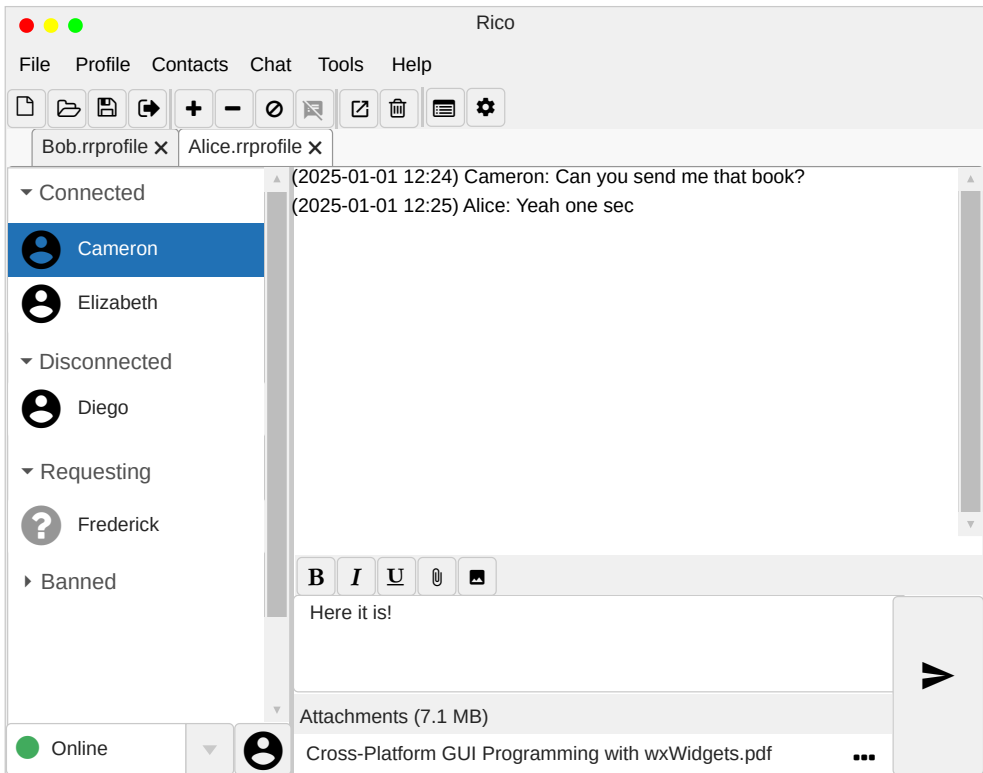
Attachment button opens file selection dialog; selected file added to Attachments section. Attachment message is sent like an ordinary message

Per-attachment Meatball menu:
- Remove
- Open Folder

Window 2

Rico

File   Profile   Contacts   Chat   Tools   Help

Bob.rrprofile ✕   Alice.rrprofile ✕

▼ Connected

👤 Cameron

👤 Elizabeth

▼ Disconnected

👤 Diego

▼ Requesting

❓ Frederick

▶ Banned

🟢 Online

(2025-01-01 12:24) Cameron: Can you send me that book?
(2025-01-01 12:25) Alice: Yeah one sec
(2025-01-01 12:27) Alice: Here it is!

📄 Cross-Platform GUI Programming with wxWidgets.pdf
7.1 MB

(2025-01-01 1:15) Cameron: Thanks!

B *I* U 🔗 🖼

➤
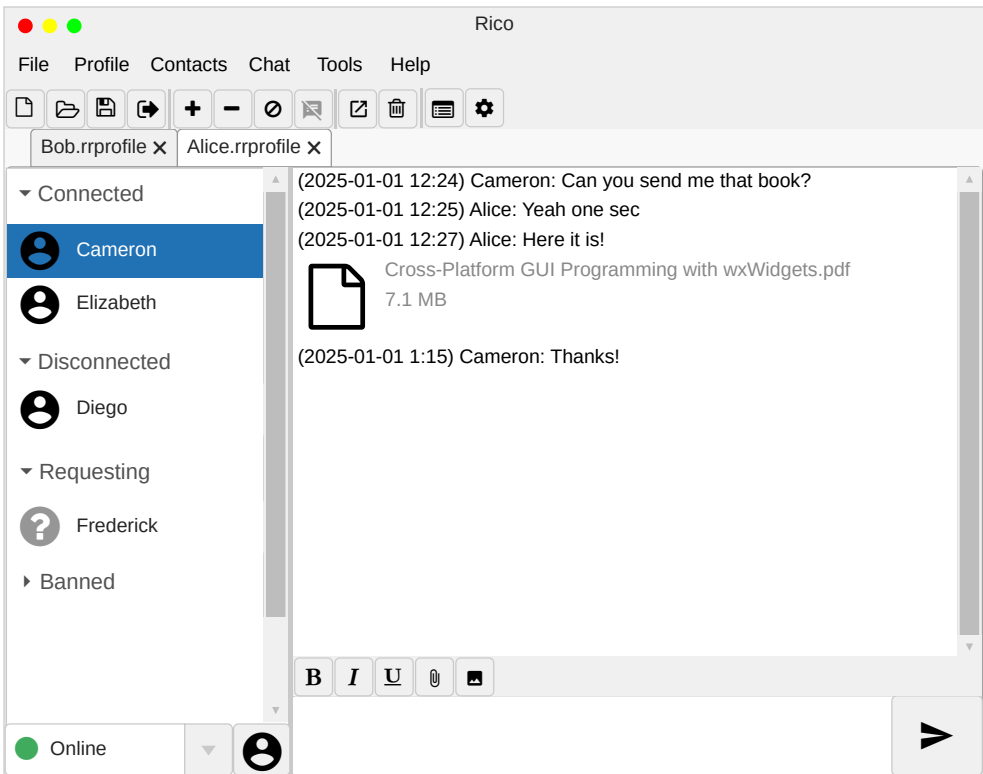
User initiates download by clicking on the attachment preview widget
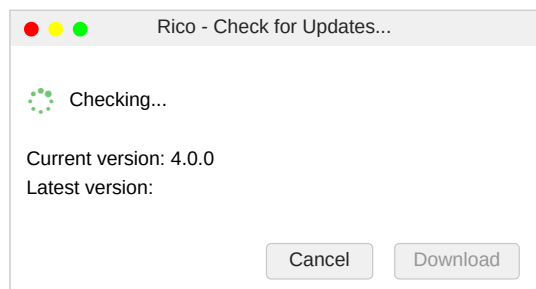
Rico - Attachments (continued)

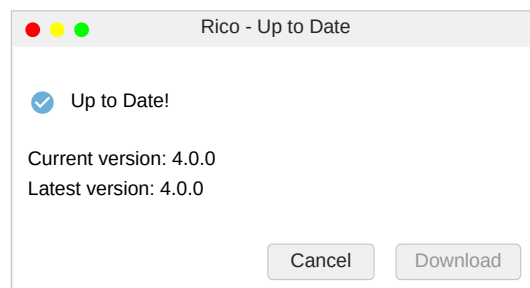Attachments in general appear in-line with chat messages.
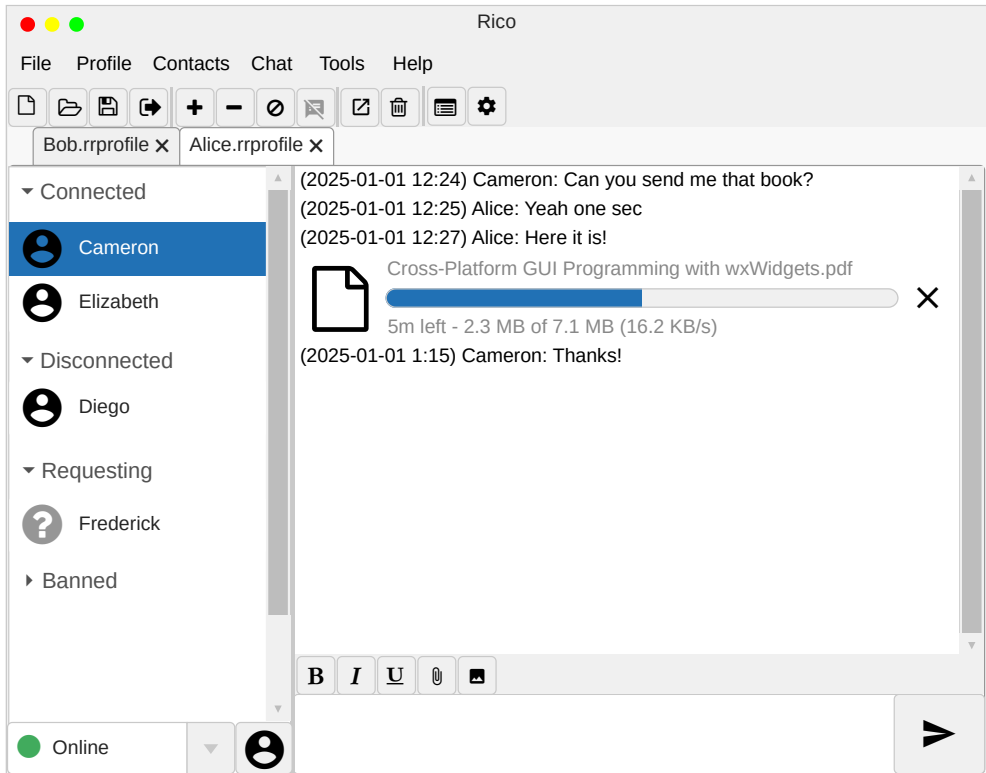
User initiates download by clicking on the attachment preview widget; on cancel widgets goes back to original ready to download state
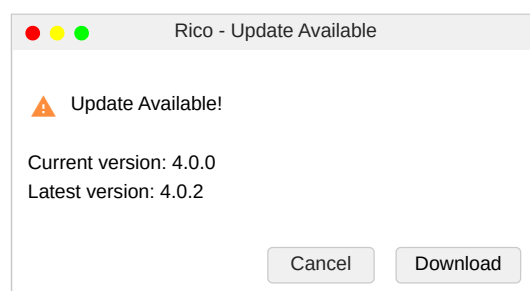
Updates Dialog

Accessed via the Help > Check for Updates... menu item. This will open a dialog which pings an onion service for update jsons, which will tell this dialog which install media/package to download.

Rico - Up to Date

✓ Up to Date!

Current version: 4.0.0
Latest version: 4.0.0

Cancel   Download

- Ricochet Refresh is up to date so we good

Rico - Check for Updates...

⟳ Checking...

Current version: 4.0.0
Latest version:

Cancel   Download

- Check happens over Tor to Onion Service endpoint
- Will need some to maintain some update jsons

Rico - Update Available

⚠ Update Available!

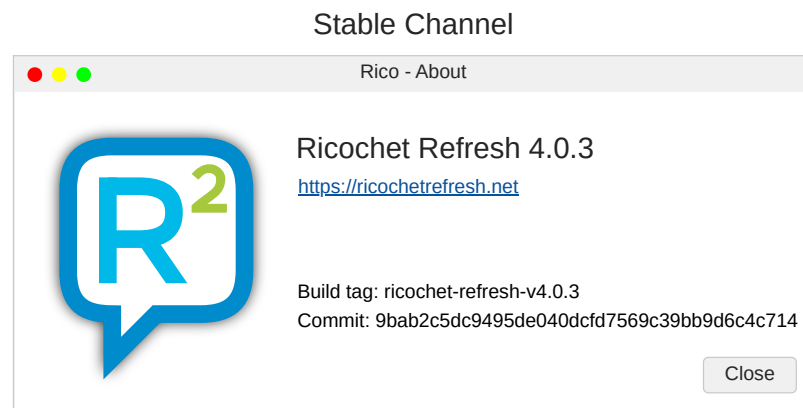Current version: 4.0.0
Latest version: 4.0.2

Cancel   Download

- Download the correct package based on the current insalled version (eg a deb, appimage, dmg, windows installer, etc

- Download button will open Downloads dialog

About Dialog

Accessed via the Help > About menu item. Dialog should show simple version and build info

Stable Channel

Like in chats, the URL will open a context menu allowing the user to copy the link to the clipboard

Ensure tag and commit labels are copy-able

Rico - About

Ricochet Refresh 4.0.3

https://ricochetrefresh.net

Build tag: ricochet-refresh-v4.0.3
Commit: 9bab2c5dc9495de040dcfd7569c39bb9d6c4c714

Close

Alpha Channel

Rico - About

Ricochet Refresh 4.1.0 Alpha 1

https://ricochetrefresh.net

Build tag: ricochet-refresh-v4.1.0-alpha.1
Commit: 581a3a68e9837def3bbb6d7b5e197bc0410f68a5

Close