Pour une messagerie instantanée sécurisée et respectueuse de votre vie privée

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Intro

- Talk is in French
- Slides are in English

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DON'T PANIC

Why encrypt?

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Why privacy?

- It's also a question of hygene.
- Everything you say will be used against you.
- The people you talk to might need privacy to stay alive.

What about IM?

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- It generates (a lot of) "quality" data about you. (low noise/signal ratio) (contrary to data masturbation)
- Private stuff should remain private.

Quick note

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- NSA is not your primary threat.

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- NSA is NOT your adversary.

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- (it's everyone's.)

In the beginning...

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- Wow! Shit spreads FAST.

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- Wow! Shit spreads FAST.
- No passwords, everything is cleartext, THIS IS AWESOME

In the beginning...

Wait, WHAT?!

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Err... Maybe this was a bad idea.

In the beginning...

Oh, I know! Let's use symmetric encryption !

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It'll be fun!

In the beginning...

Oh, I know! Let's use symmetric encryption !
It'll be fun! I swear.

In the beginning...

Key exchange.

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- And symmetical crypto for encryption.
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In the beginning...

...right?

In the beginning...

To academics, pretty much.

In the beginning...

To academics, pretty much.
In real life, not so much.

The cypherpunk era.

Meanwhile, in real life...

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- 90's: End of cold war, explosion of the cypherpunk movement. OpenPGP is born.

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PGP as a frame of reference

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PGP as a worst case scenario

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- It's complicated.
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- It's really too fucking complicated.

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- early 10's: The rest of the world painfully realizes we're far from the truth.

Enters OTR.

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- Encryption key is thrown away forever, ASAP.
- "Light" authentication of messages during the conversation.
- Signatures mean nothing after the conversation is closed.

Enters OTR.

About OTR's "Plausible Deniability"

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- Countries violating basic human rights won't give you a fair trial
- Even in fair trials, courts probably won't care.
- Technical "Witnesses" of the chat can un-deny your messages.

Enters OTR.

But OTR is still a great tool.
Despite being young it has become to IM what PGP is to e-mail.

Using OTR.

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Pidgin

Pidgin

- Main OTR client out there.
- Using the reference C OTR library.
- Supports IRC, XMPP, FBchat, Skype, and a ton of other protocols
- Easy user inteface, multi-platform.

Pidgin

Issues.

- Pidgin is full of bugs, some were quite scary.
- Pidgin was *NOT* created with securiy in mind.
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- (but some security review work has started)

Jitsi

Jitsi

- Easy to use, multi-platform
- Uses thr OTR4J java implementation of OTR (same as mobile cliens)
- OTR is built-in by default.
- Also supports encrypted audio/video chat (but this is offtopic)

Jitsi

Issues with Jitsi

- User experience is... java-ish.
- Some debate in regard to cuting corners in terms of entropy (should be fine)
- No HTTPS when downloading the client (But they fixed it!!)
- Doesn't see as much code review as it should. I have no idea if it's any better than pidgin.

irssi-otr

irssi-otr

- Console IRC client.
- Uses the main C OTR implementation.
- Lightweight.

irssi-otr

Isues with irssi-otr

- Console IRC client. (forget about user experience.)
- Sort of kind of pracically not maintainted anymore. (it's being rebooted)
- Irssi sucks when you want a powerful OTR plug-in.

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- Console IRC client. (forget about user experience.)
- Sort of kind of pracically not maintainted anymore. (it's being rebooted)
- Irssi sucks when you want a powerful OTR plug-in.
- (also I hate irssi.)

weechat-otr

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- Console IRC client.
- Uses a pure python OTR implementation
- Better UX than irssi
- Actively maintained

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- Console IRC client.
- Uses a pure python OTR implementation
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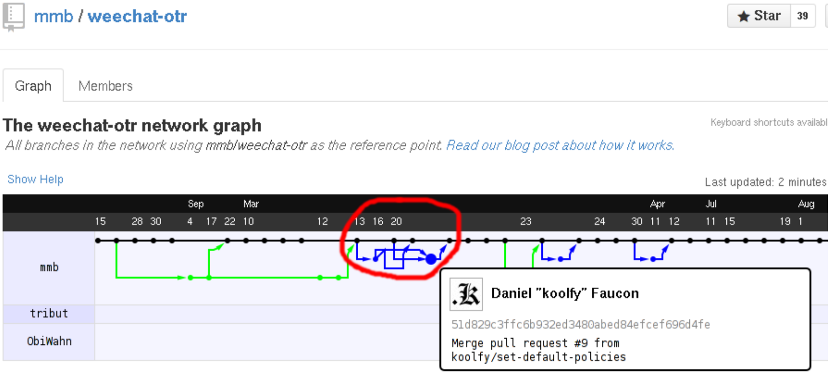
- Actively maintained
- (HEY LOOK I MAINTAINED IT FOR A YEAR!)

weechat-otr

GUESS WHO DID THIS



mmb / weechat-otr

★ Star 39

Graph Members

The weechat-otr network graph

Keyboard shortcuts availabl

All branches in the network using mmb/weechat-otr as the reference point. Read our blog post about how it works.

Show Help

Last updated: 2 minutes

Daniel "koolfy" Faucon

51d829c3ffc6b932ed3480abed84efcef696d4fe

Merge pull request #9 from koolfy/set-default-policies

weechat-otr

Issues with Weechat-otr

- Console IRC client. (still not for beginners)
- The python implementation needs more review.
- Weechat-otr needs more use/review too.

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- Weechat-otr needs more use/review too.
- (also it has my code it in. FEAR THE CONSEQUENCES.)

Mobile Apps

Chatsecure

- For Android and iOS
- Uses the same OTR4J java implementation as Jitsi
- But Apple's iPhone policies make the iOS client not very useful.

Beyond OTR

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OTR might still not be enough.

- OTR only allows 1-1 conversations.
- Like PGP, only a ridiculous minority use it.
- Skype and Facebook Chat are so much easier...

crypto.cat and Multiparty OTR

What about crypto.cat?

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- oh and by the way

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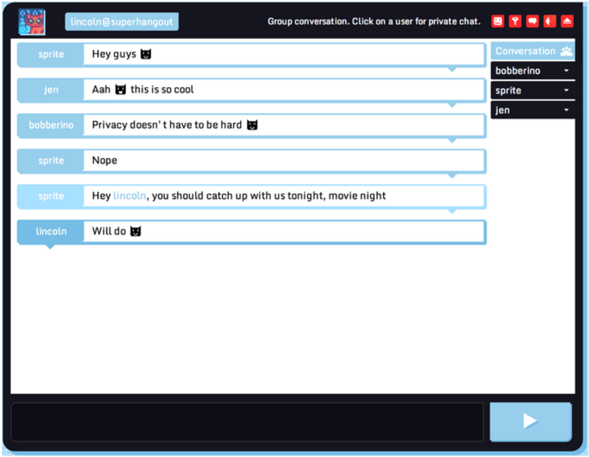
- Can handle encrypted *chatrooms*
- Full-JS in-browser plugin approach.
- "Usability as a security feature" doctrine.
- It's cute and full of cats!!
- oh and by the way IT SUPPORTS FACEBOOK CHAT TOO.

crypto.cat and Multiparty OTR



sprite: Hey guys

jen: Aah this is so cool

bobberino: Privacy doesn' t have to be hard

sprite: Nope

sprite: Hey lincoln, you should catch up with us tonight, movie night

lincoln: Will do

crypto.cat and Multiparty OTR

Issues with crypto.cat

- Has seen serious security bugs over the past year
- Full-JS. And let me tell you JS crypto isn't pretty.
- Invented its own multiparty-OTR protocol, which is experimental.

crypto.cat and Multiparty OTR

The future of crypto.cat

- Mobile apps?
- Native W3C browser crypto API offered to JS plugins?
- Whatever happens to crypto.cat, Multiparty-OTR need to happen.
- Whatever happens to crypto.cat, usability must be considered a security feature.

crypto.cat and Multiparty OTR

CRYPTOGRAPHY CANNOT WORK IF IT IS NOT USED.

Reality Check

About that Licence...

- NEVER use anything that is not FREE OPEN-SOURCE SOFTWARE for anything security related.
- Closed-source software or potocol = ZERO expectation of security
- The temptation (or gag order) to put an unnoticed backdoor is too strong.
- Open-source is not enough.

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- Open-source is not enough. ...Tryecrypt was Open-source. (lol.)

Reality Check

My advice to users

- Never trust non-free software.
- Chose a client that you understand.
- Don't keep logs. It's stupid and dangerous.
- Get in touch with developpers, they are nice people who want to help you.
- Never underetimate the importance of your feedback or suggestions.

Reality Check

My advice to cypherpunks

- Use an OTR client/implementation that you'd like to play with.
- Using it is the first step to contributions. Even if it's not yours.
- Stick to known secure protocols as much as possible, don't deviate.
- Never underetimate the importance of your feedback or suggestions.