### Tails - Feature #5688

**Tails Server: Self-hosted services behind Tails-powered onion services**

**07/18/2013 07:44 AM - Tails**

<table>
<thead>
<tr>
<th>Status:</th>
<th>Confirmed</th>
<th>Start date:</th>
<th>04/03/2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority:</td>
<td>Normal</td>
<td>Due date:</td>
<td></td>
</tr>
<tr>
<td>Assignee:</td>
<td>segfault</td>
<td>% Done:</td>
<td>29%</td>
</tr>
<tr>
<td>Category:</td>
<td></td>
<td>Estimated time:</td>
<td>0.00 hour</td>
</tr>
<tr>
<td>Target version:</td>
<td>feature/5688-tails-server</td>
<td>Spent time:</td>
<td>0.00 hour</td>
</tr>
<tr>
<td>Feature Branch:</td>
<td>feature/5688-tails-server</td>
<td>Starter:</td>
<td></td>
</tr>
<tr>
<td>Type of work:</td>
<td>Code</td>
<td>Affected tool:</td>
<td>Server</td>
</tr>
<tr>
<td>Blueprint:</td>
<td><a href="https://tails.boum.org/blueprint/tails_server">https://tails.boum.org/blueprint/tails_server</a></td>
<td>Related issues:</td>
<td></td>
</tr>
</tbody>
</table>

#### Description

Team: segfault, anonym

Development repositories:
- https://gitlab.com/segfault3/onionclient

#### Subtasks:

- Feature # 11313: Design the GUI of Tails Server
- Feature # 11314: Implement a Tails Server prototype
- Feature # 11551: Install the mumble VoIP client
- Feature # 12230: Release Tails Server Beta
- Feature # 12226: Initial review of Tails Server implementation
- Bug # 12232: Base feature/5688-tails-server on feature/stretch
- Feature # 12235: Remove client authentication support from Tails Server
- Feature # 12237: Reduce apt update time during first start of Tails Server
- Feature # 12478: Add a chat service (XMPP or IRC) to Tails Server
- Feature # 12479: Write Tails Server beta release announcement
- Feature # 12231: Write Tails Server Design Documentation
- Bug # 12253: Use persistence.conf in Tails Server
- Feature # 12255: Use polkit with Tails Server
- Bug # 12297: Make Tails Server compatible with Wayland
- Feature # 14456: Finish documenting Tails Server
- Feature # 15034: Create apparmor rules for Tails Server services
- Feature # 15299: Restrict access to onionkit via D-Bus
- Feature # 15300: Redesign Tails Server GUI
- Feature # 15301: Run Tails Server services in containers
- Feature # 15343: Add schleuder list to Tails Server
- Feature # 15348: Have an icon for the Tails Server GUI
- Feature # 15899: Rethink goals of Tails Server

#### Related issues:

- Related to Tails - Feature #7879: Document how to serve files over HTTP behind...
- Rejected 09/07/2014
- Related to Tails - Feature #12236: Add more services to Tails Server
- Confirmed 01/16/2018
- Related to Tails - Feature #15035: Use systemd security features for Tails Ser...
- Confirmed 12/10/2017
- Related to Tails - Feature #15181: Help create Debian packages for Tails Server
- Confirmed 01/17/2018
- Related to Tails - Feature #8333: firewall exceptions for user-run local serv...
- Confirmed 10/04/2013
- Related to Tails - Feature #11241: Consider including mumble-server and mumbl...
- Resolved 03/15/2016
#1 - 07/19/2013 01:47 AM - intrigeri

Type of work set to Code

Type of work: Code

#2 - 03/19/2015 05:48 PM - segfault

I wrote a script to start a hidden web server on Tails. This is a very simple solution without any of the many features planned in the blueprint. It just installs apache (could be any other web server), binds the persistent hidden_service directory to /var/lib/tor, configures Tor to use the hidden service and adds a rule to iptables allowing Tor to access the webserver.

I can try to figure out how to integrate this into Tails if you think this is useful in any way.

#3 - 03/19/2015 05:52 PM - segfault

Attaching the files doesn't work, progress bar just states 'error', so I'll just paste them here:

setup.sh:

#!/bin/bash
echo "Installing apache."
apt-get install apache2
echo "Configuring tor hidden service."
./configure_hidden_service.sh
echo "Adding iptables rules."
./add_iptables_rules.sh

configure_hidden_service.sh:

#!/bin/bash
# bind hidden service dir
sudo mount --bind ./hidden_service /var/lib/tor/hidden_service

# add hidden service to torrc
TORRC=/usr/share/tor/tor-service-defaults-torrc
echo HiddenServiceDir /var/lib/tor/hidden_service >> $TORRC
echo HiddenServicePort 80 127.0.0.1:80 >> $TORRC

# reload tor
sudo service tor restart

add_iptables_rules.sh:

#!/bin/bash

### Allow access to web server on lo ###
# allow user tor (hidden service)
iptables -I OUTPUT -d 127.0.0.1/32 -o lo -p tcp -m tcp --dport 80 --tcp-flags FIN,SYN,RST,ACK SYN -m owner --uid-owner debian-tor -j ACCEPT

# allow user root
iptables -I OUTPUT -d 127.0.0.1/32 -o lo -p tcp -m tcp --dport 80 --tcp-flags FIN,SYN,RST,ACK SYN -m owner --uid-owner root -j ACCEPT
# allow unsafe browser
#iptables -I OUTPUT -d 127.0.0.1/32 -o lo -p tcp -m tcp --dport 80 --tcp-flags FIN,SYN,RST,ACK SYN -m owner --uid-owner clearnet -j ACCEPT

#4 - 03/19/2015 06:17 PM - intrigeri
- Related to Feature #7879: Document how to serve files over HTTP behind a Tor Hidden Service added

#5 - 03/19/2015 06:17 PM - intrigeri

I wrote a script to start a hidden web server on Tails.

Great! It's work in progress on #7879 => please report about your own version there.

#6 - 06/29/2016 03:23 AM - anonym
- Related to Feature #11551: Install the mumble VoIP client added

#7 - 06/29/2016 05:22 AM - anonym
- Related to deleted (Feature #11551: Install the mumble VoIP client)

#8 - 06/29/2016 05:22 AM - anonym
- Blocks Feature #11551: Install the mumble VoIP client added

#9 - 08/20/2016 12:36 PM - Dr_Whax
- Description updated
- Assignee set to segfault
- Target version set to 2017

#10 - 02/14/2017 05:12 PM - segfault

#11 - 02/14/2017 05:47 PM - segfault
- Related to Feature #12237: Reduce apt update time during first start of Tails Server added

#12 - 02/14/2017 05:47 PM - segfault
- Related to Feature #12236: Add more services to Tails Server added

#13 - 02/14/2017 05:47 PM - segfault
- Related to Bug #12232: Base feature/5688-tails-server on feature/stretch added

#14 - 02/14/2017 05:47 PM - segfault
- Related to Feature #12231: Write Tails Server Design Documentation added
We plan to release Tails Server with the first point release after the release of the next-generation onion services (scheduled for August 2017). This will be Tails 3.2, scheduled for 10/03/2017.
It didn't make it into 3.2 so best case it'll be for 3.4, if your new job (VeraCrypt! :) leaves you enough spare time.

#32 - 12/10/2017 11:08 AM - segfault
- Related to Feature #15035: Use systemd security features for Tails Server services added

#33 - 12/10/2017 11:09 AM - segfault
- Related to Feature #15034: Create apparmor rules for Tails Server services added

#34 - 01/15/2018 03:22 PM - Anonymous
What's the current release plan? You said that you are waiting for next-generation onion services, and Torproject said they released a beta in November 2017: https://blog.torproject.org/tors-fall-harvest-next-generation-onion-services. Do we know more about their release schedule (just so that we can track this on this ticket / on our side)?

#35 - 01/15/2018 05:06 PM - segfault
- Target version changed from Tails_3.5 to Tails_3.8

What's the current release plan?

Ok, a little overdue update: I worked a lot on this in the last months. I redesigned and rewrote a lot of code, and plan to make Debian packages with the names onionkit for the backend and onionservices (if I don't find something better) for the GUI. It's not finished yet, I still have quite some work to do, and I would also like to redesign the GUI to fit the new GNOME Settings design. But I have to focus on other projects with hard deadlines in the next weeks, so this will have to wait some more. I will set the target version 3.8 for now, as I don't think 3.6 is realistic.

You said that you are waiting for next-generation onion services, and Torproject said they released a beta in November 2017: https://blog.torproject.org/tors-fall-harvest-next-generation-onion-services. Do we know more about their release schedule (just so that we can track this on this ticket / on our side)?

The next-gen onions were the main blocker before the redesign, but they actually already got released in the latest stable release, so they are not a blocker anymore. And I hope that they will also be supported in Stem by the time I finished everything else.
I'm setting 3.9 as target as this will be the next major release (3.9~rc1 is planned for 2018-08-17).

segfault wrote:

What's the current release plan?

Ok, a little overdue update: I worked a lot on this in the last months. I redesigned and rewrote a lot of code, and plan to make Debian packages with the names onionkit for the backend and onionservices (if I don't find something better) for the GUI.

Wow, that's really awesome!

I'd like to help with debianizing these two pieces of code: Will add a ticket for this.

Concerning the names, I think you might want to send an email to tails-dev (?) and ask for comments. I'm unsure if these names correctly reflect what the software does.
Maybe: onionservices & onionservices-gui would be more appropriate? or onionservices-client or something.

#38 - 01/17/2018 01:55 PM - Anonymous
- Related to Feature #15181: Help create Debian packages for Tails Server added

#39 - 02/10/2018 09:32 AM - segfault
- Related to Bug #12297: Make Tails Server compatible with Wayland added

#40 - 03/06/2018 10:22 AM - segfault
- Description updated

#41 - 03/13/2018 10:00 PM - bertagaz
It would be great to update the FAQ once this is out

#42 - 08/05/2018 07:23 PM - segfault
- Target version deleted (Tails_3.9)

It's unclear when Tails Server will get its review, so I'm unsetting the target version.

#43 - 08/19/2018 08:30 AM - Anonymous
- Related to Feature #6333: firewall exceptions for user-run local services added

#44 - 05/06/2020 01:30 PM - syster

- Related to Feature #11241: Consider including mumble-server and mumble in Tails added