FileStream Side Meeting
TNC 2023 - Tirana

News from the Board
Guido Aben, Rogier Spoor, Jan Meijer

www.filesender.org
https://github.com/filesender
https://github.com/filesender/governance
Agenda

- Round table
  - Who are you, where are you from, what is your interest in FileSender, what do you hope to get out of this side meeting
- News from the FileSender Board
  - What is FileSender
  - The current team
  - Deployments in NREN space
  - Finances and contributor contracts
  - Current strategic roadmap
  - State of development
- Update on new UI
  - Process with Marleen (Rogier)
  - Dev update (and demo?) RNP
  - Timeline towards production release (audit)
- Future strategic roadmap
- Discussion on topics of most interest
New to FileSender?

• Quick intro-slide
• **Value proposition:** simple and secure sharing of arbitrarily large files through a trusted intermediary
• **Tech:** php + javascript
• **Strategy:**
  • targeting usage by the masses
  • simple for user, simple for service provider, secure, open standards
• BSD licensed, native federated AAI
• **Development:** one lead dev/lead maintainer, in-kind contributions Aves-IT, RNP, others
• **Funding:** community funded, larger number of smaller contributions
• **Governance:** FS is programme in TCC, “vote-with-your-feet”
• No-frills approach
Active people and organisations

• Guido Aben, Rogier Spoor, Jan Meijer: board, strategic roadmap, coordination,
• Ben Martin: Lead developer/maintainer (paid)
• Nils Vogels, Aves IT: commit rights
• Marleen Velthuis: redesign UI (paid)
• Olga Popcova: communication
• SURF (William van Santen): in-kind security audit results
• RNP (Sergio with team): in-kind development – currently UI
Global R&E deployments (April 2023)
GÉANT community deployments (april 2023)
Finances and financial contributor contracts

• Main current cost: lead dev (Ben Martin)
• 2nd half of 2022 – out of cash – no engagement with lead dev
• Moved to financial contribution contracts
  • Policy choice by board: enough money in bank to pay for 1 year of minimum maintenance
  • Minimum maintenance currently defined at 55K, gives part-time lead dev / lead maintainer
Contributions not (yet) backed by agreements

<table>
<thead>
<tr>
<th>Actual paid ad-hoc contributions</th>
<th>2024</th>
<th>2023</th>
<th>2022</th>
<th>2021</th>
<th>2020</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
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<tbody>
<tr>
<td>SURF</td>
<td>€ 15,000</td>
<td>€ 10,000</td>
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<tr>
<td>HEAnet</td>
<td>€ 0</td>
<td>€ 0</td>
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<td>AARNet</td>
<td>€ 0</td>
<td>€ 0</td>
<td>€ 10,000</td>
<td>€ 10,000</td>
<td>€ 9,200</td>
<td>€ 15,000</td>
<td>€ 15,000</td>
<td>€ 15,000</td>
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<tr>
<td>Cesnet</td>
<td>€ 10,000</td>
<td>€ 15,000</td>
<td>€ 19,000</td>
<td></td>
<td>€ 5,000</td>
<td>€ 3,000</td>
<td></td>
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<tr>
<td>Switch</td>
<td>€ 0</td>
<td>€ 0</td>
<td>€ 10,000</td>
<td>€ 5,000</td>
<td>€ 5,000</td>
<td>€ 5,000</td>
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<td>Belnet</td>
<td>€ 5,000</td>
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<td></td>
<td>€ 0</td>
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<tr>
<td>DeiC</td>
<td>€ 0</td>
<td>€ 7,500</td>
<td>€ 7,500</td>
<td></td>
<td>€ 7,500</td>
<td>€ 7,500</td>
<td>€ 5,000</td>
<td></td>
</tr>
<tr>
<td>CSC</td>
<td>€ 0</td>
<td>€ 5,000</td>
<td>€ 0</td>
<td>€ 5,000</td>
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<td>Aconet</td>
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<td>€ 5,000</td>
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<td>€ 5,000</td>
<td>€ 0</td>
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<tr>
<td>Singaren</td>
<td></td>
<td>€ 1,400</td>
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<td></td>
<td></td>
<td></td>
<td>€ 1,200</td>
<td></td>
</tr>
<tr>
<td>GARR</td>
<td>€ 0</td>
<td>€ 0</td>
<td>€ 5,000</td>
<td>€ 5,000</td>
<td>€ 5,000</td>
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<tr>
<td>APAN</td>
<td>€ 10,000</td>
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<tr>
<td><strong>Ad-hoc income per year</strong></td>
<td>€ 0</td>
<td>€ 10,000</td>
<td>€ 73,900</td>
<td>€ 72,500</td>
<td>€ 64,000</td>
<td>€ 56,700</td>
<td>€ 58,700</td>
<td>€ 48,000</td>
</tr>
</tbody>
</table>

In-kind contributions:
- SURF – annual partial security audit
- Aves-IT – maintainer/dev
- RNP - development
Current status finances

collecting money in 2023 to pay bills in 2024
To prevent the fall 2022 scenario

<table>
<thead>
<tr>
<th>Budgeted (financial expectations)</th>
<th>2024</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash reserve (per 1 January)</td>
<td>€ 68,300</td>
<td>€ 67,000</td>
</tr>
<tr>
<td>Total expected income from contributor contracts</td>
<td>€ 50,000</td>
<td>€ 40,000</td>
</tr>
<tr>
<td>Total expected ad-hoc income</td>
<td>€ 0</td>
<td>€ 17,500</td>
</tr>
<tr>
<td>Total expected expenditure</td>
<td>€ 55,000</td>
<td>€ 56,200</td>
</tr>
<tr>
<td>Difference expected income - expenditure</td>
<td>-€ 5,000</td>
<td>€ 1,300</td>
</tr>
</tbody>
</table>

Active contribution agreements (4 under discussion)

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Level</th>
<th>Annual amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>AARNet</td>
<td>Silver</td>
<td>€10,000</td>
</tr>
<tr>
<td>ACONet</td>
<td>Bronze</td>
<td>€5,000</td>
</tr>
<tr>
<td>CSC</td>
<td>Silver</td>
<td>€10,000</td>
</tr>
<tr>
<td>GARR</td>
<td>Bronze</td>
<td>€5,000</td>
</tr>
<tr>
<td>HEAnet</td>
<td>Silver</td>
<td>€10,000</td>
</tr>
<tr>
<td>SWITCH</td>
<td>Silver</td>
<td>€10,000</td>
</tr>
</tbody>
</table>

Note: in-kind «glue» time to keep everything together is *not represented*
Note: budget should probably be 2 to 4 times this amount (either in-kind or cash)
Current strategic roadmap

• Integrating community contributions, fixing bugs, security audits + issues, minimum level of continuous development

• **UI-update**
  • Update UI-plumbing to Bootstrap (done in 3.x code)
  • Modernise UX (ongoing)
  • Modernise UI (ongoing)

• **TeraReceiver**. Improve download speed of large encrypted and unencrypted transfers alike
UI update (demo!)

Process with Marleen (Rogier)
Dev update (and demo?) RNP
Timeline towards production release (with security audit)

after: future strategic roadmap and other wishes
Strategic roadmap – FileSender vision

• FileSender aims to be a **widely deployed** platform enabling **anyone** to **easily and securely** transfer files of **any size** from **any person or machine** to **any person or machine**.

• FileSender explicitly targets mass-usage and is built to service the 99% of users who have better things to do with their time than figuring out how to do large file transfer.

• **Strategy:**
  • Long term engagement with financiers and contributors
  • large installed base allows sharing the development cost over many at low support cost per contributor (financial or in-kind contribution)
  • Main target market is R&E, in particular NRENs/national deployments
  • Secure: regular security audits etc.
long term budget needs to cover:

**A healthy minimum level of activity for a good quality relevant product:**

A well-maintained, secure, well-documented product that is easy to install and operate for service providers  
• with a UI that is sufficiently modern and easy to use and adheres to universal access standards  
• with existing features, technology and project infrastructure kept up-to-date to modern standards  
• ability to absorb community contributions and address community reported issues in a timely fashion  
• a level of community-management activity that is adequate to ensure that key community members retain a sense of affiliation and solidarity with the project  
• sufficient fund-raising

**Advancing the strategic roadmap with larger new developments:**

• larger product developments  
• larger project infrastructure developments

**There are two ways to achieve larger new developments:**

1. divide them in smaller pieces to be realised in the time available for “a minimum of continuous improvement”  
2. split such a development out as a separate activity with its own budget and e.g. do a kickstarter-style process: development starts once the necessary budget is collected, a budget that comes in addition of that required for the minimum healthy level of activity.  
• Experience shows larger items can be achieved using the first method, but with a long lead time.
Estimate in 2020 of work required and cost

<table>
<thead>
<tr>
<th>Work item</th>
<th>Priority</th>
<th>Budget required (2022 estimate)</th>
<th>Current status</th>
<th>Current source of funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Governance (board work)</td>
<td>1</td>
<td>value not estimated yet</td>
<td>sufficient</td>
<td>In-kind contribution</td>
</tr>
<tr>
<td>2. Development infrastructure</td>
<td>1</td>
<td>value not estimated yet</td>
<td>good</td>
<td>In-kind contribution (Github, free)</td>
</tr>
<tr>
<td>3. Ensuring maintained code and a minimum of continuous improvements</td>
<td>2</td>
<td>€20,000</td>
<td>sufficient, trending upward</td>
<td>stakeholder funding</td>
</tr>
<tr>
<td>4. External security audits</td>
<td>2</td>
<td>€25,000</td>
<td>needs more</td>
<td>In-kind contribution</td>
</tr>
<tr>
<td>5. Capacity to fix security issues, especially after planned audits</td>
<td>2</td>
<td>€15,000</td>
<td>sufficient</td>
<td>stakeholder funding</td>
</tr>
<tr>
<td>6. A continuous minimum level of continued improvement</td>
<td>2</td>
<td>€50,000</td>
<td>insufficient</td>
<td>stakeholder funding</td>
</tr>
<tr>
<td>7. An up-to-date automated testing infrastructure</td>
<td>3</td>
<td>€25,000</td>
<td>insufficient</td>
<td>stakeholder funding and in-kind (tech infra)</td>
</tr>
<tr>
<td>8. External crypto subsystem security audits</td>
<td>3</td>
<td>?</td>
<td>insufficient</td>
<td>not executed</td>
</tr>
<tr>
<td>9. Up-to-date documentation</td>
<td>4</td>
<td>€10,000</td>
<td>insufficient</td>
<td>limited executed</td>
</tr>
<tr>
<td>10. Up-to-date UI</td>
<td>5</td>
<td>cost not estimated yet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Multi-language support infrastructure</td>
<td>5</td>
<td>€ check POEditor pricing</td>
<td>good</td>
<td>In-kind contribution by POEditor (free for open source projects)</td>
</tr>
<tr>
<td>12. Community management</td>
<td>6</td>
<td>€10,000</td>
<td>insufficient</td>
<td>not executed</td>
</tr>
<tr>
<td>13. Public demonstrator</td>
<td>7</td>
<td>€?? What would it cost to run this?</td>
<td>insufficient</td>
<td>not executed</td>
</tr>
<tr>
<td>12. Business development and fund raising</td>
<td>8</td>
<td>unknown</td>
<td>insufficient</td>
<td>not executed</td>
</tr>
</tbody>
</table>

Current budget & in-kind contributions:
- 75K realistic (previous years)
- 100K perhaps
- RNP, RENATER in-kind coding & testing
- RENAM in-kind comms
- board & coordination in-kind
- 1 partial security audit in-kind
Main scenarios future strategic roadmap

• “as is” -> will cause issues in a couple of years due to too low quality
• “as is” but improve quality of core functionality -> more budget, coordinator?
  • Compliance (Cyber Resiliency Act)
  • Ensure UI stays up-to-date
  • Improve documentation, ease of installation, upgradability
• New security features “secure sender” -> more budget, coordinator?
  • Leverage aggregated 100,000 users
  • Integrate data sealing/timestamping/signing functionality to stimulate good secure data hygiene
• FileSender R&E federation -> more budget, coordinator
  • Addressable data repositories, other send/receive targets
  • Present as a single infrastructure rather than 40+ disconnected (EOSC-relevant!)
  • Common policies and standards
• Increase footprint (and funding base) inside R&E, and/or outside R&E (more budget)
Some benefits with an R&E FS federation

- Present one coherent infra to users and stakeholders
  - Some ideas that may or may not be more feasible:
    - A joint community policy, e.g. privacy policy, security policy
    - A coherent UI experience across FS federation instances (towards single-pane-of-glass)
    - Feature and version consistency (e.g. all nodes run same version)
    - Clear quality expectations on maintenance, upgrade, etc.
- Show the aggregated use and value of the FS infrastructure to our stakeholders
  - Show deployment map with some numbers
  - Concrete: gather automated aggregated basic stats on total infra
    - Transfers, sizes, encrypted transfers, number of users/month
- Addressbook
  - Cross-community addressable destinations: research data repositories, HPC facilities, archives, x-cloud drives, Office 365 etc.
  - Authenticated download at larger scale
    - must_be_logged_in_to_download (boolean): To download the files the user must log in to the FileSender server. This allows people to send files to other people they know also use the same FileSender server.
    - E.g. common eduTeams
  - Perhaps in some future: addressable source destinations?
- Technically interesting: “upload nodes” and “data movement” optimalisation
  - Facilitate larger uploads
  - Facilitate using FS as a command&control node for moving data directly from A to B