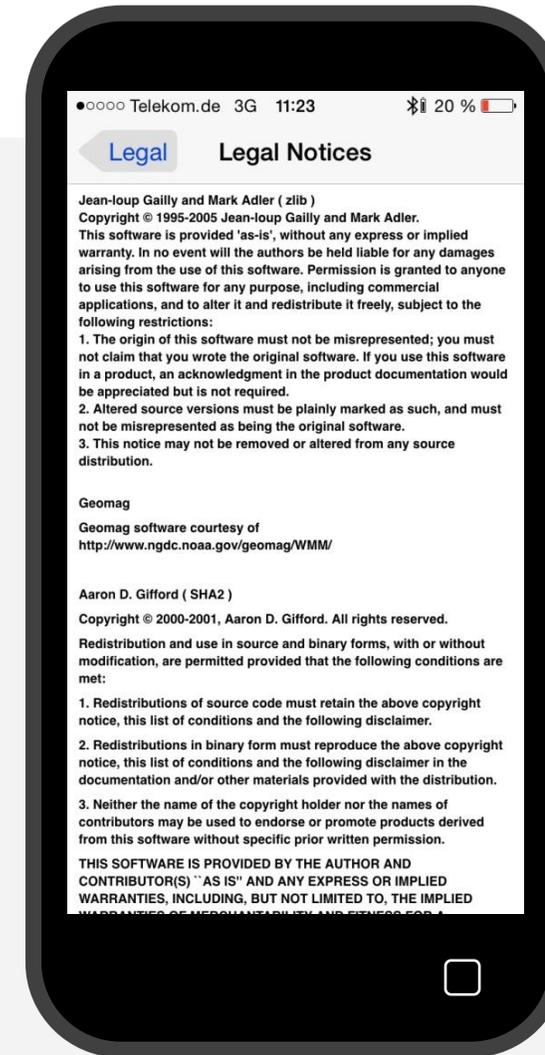


The Problem Actually

You know these examples

Distributing open source software requires to

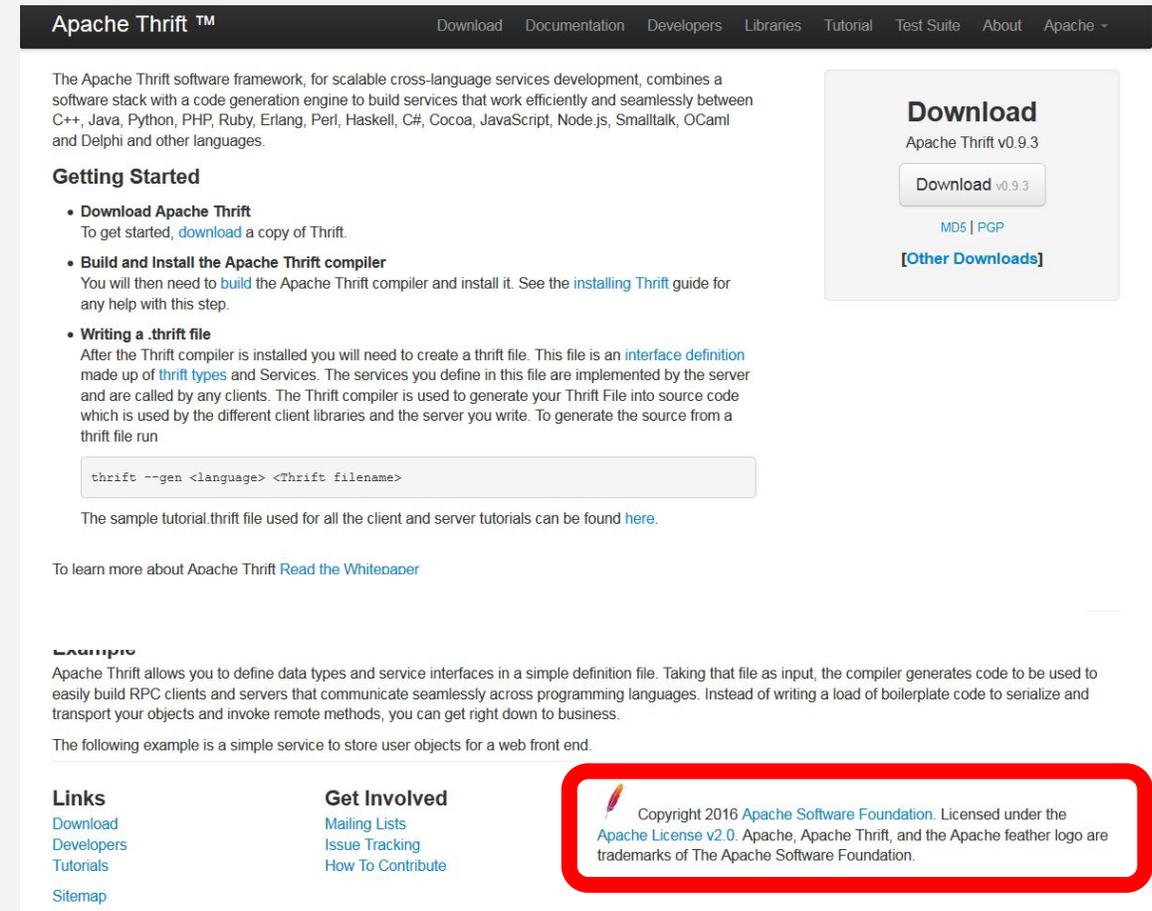
- Provide licenses of involved software
- Provide copyright statements of involved authors
- Provide disclaimers
- ... and much more



An Example – What do we find?

The Example

- (Apache projects are known for homogenous licensing)
- Such a project declares its licensing on its Website
- However, Open Source implies using other open source
- As such, a projects can contain also parts from other open source projects



The screenshot shows the Apache Thrift website. The navigation bar includes links for Download, Documentation, Developers, Libraries, Tutorial, Test Suite, About, and Apache. The main content area features a 'Download' section for Apache Thrift v0.9.3, with a 'Download v0.9.3' button and links for 'MD5 | PGP' and '[Other Downloads]'. Below this is the 'Getting Started' section, which includes instructions on how to download, build, and write a Thrift file. A code block shows the command: `thrift --gen <language> <Thrift filename>`. The footer contains 'Links' (Download, Developers, Tutorials, Sitemap) and 'Get Involved' (Mailing Lists, Issue Tracking, How To Contribute). A red box highlights the copyright notice: 'Copyright 2016 Apache Software Foundation. Licensed under the Apache License v2.0. Apache, Apache Thrift, and the Apache feather logo are trademarks of The Apache Software Foundation.'

Using FOSSology with this Example

Open Source and Reuse

- It is natural that an OSS project reuses available
<https://github.com/fossology/fossology>
- Likely OSS from other projects is found
- For example, FOSSology will find 25 other licensing relevant text occurrences in Apache thrift



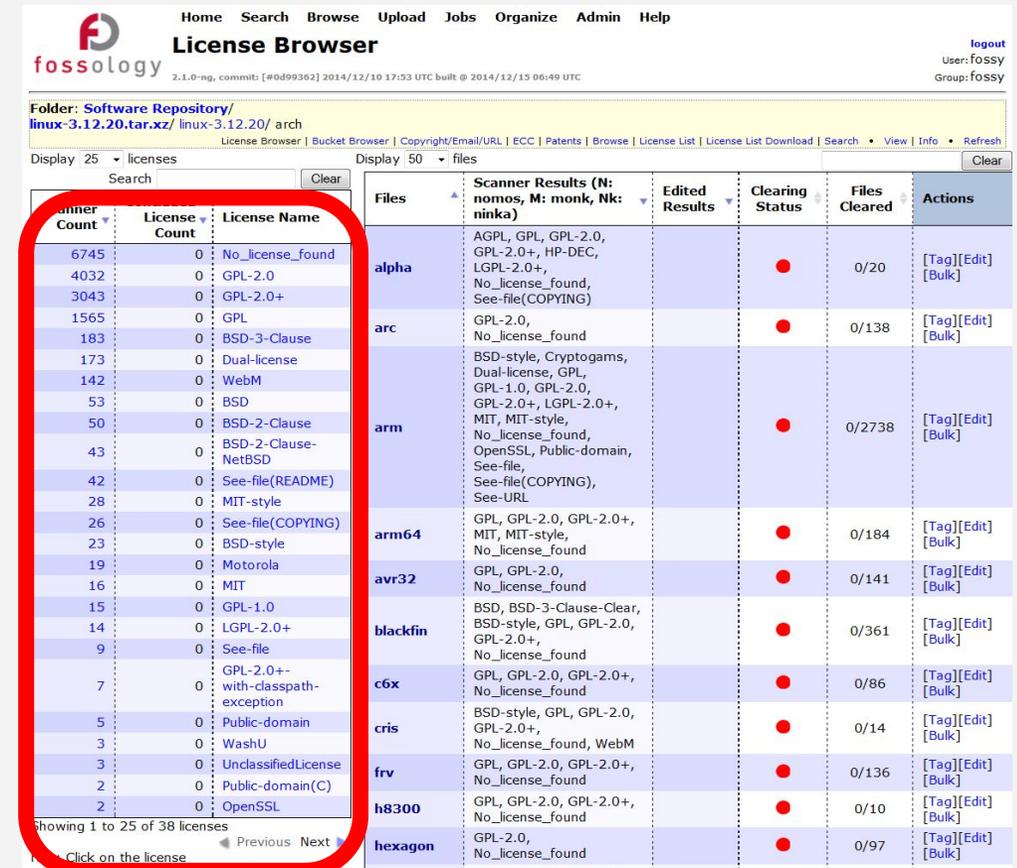
The screenshot shows the FOSSology License Browser interface. The top navigation bar includes links for Home, Search, Browse, Upload, Jobs, Organize, Admin, and Help. The user is logged in as 'fossy' with the group 'FOSSY'. The current folder is 'Software Repository/thrift-0.9.1.tar.gz/thrift-0.9.1'. The interface displays a table of scanner results for the 'thrift-0.9.1' folder. A red box highlights the 'Scanner Count' and 'Concluded License Count' columns. The table shows 25 rows of results, with the first row having a Scanner Count of 2421 and a Concluded License Count of 0. The license names listed include Apache-2.0, No_license_found, FSF, UnclassifiedLicense, Freeware, GPLv2+, GPL-exception, autoConfException, Zlib, MIT, LGPL-2.1, SeeFile, MIT-style, Trademark-ref, GPLv3+, GPL-3.0+-with-bison-exception, GPL-2.0-with-autoconf-exception, GPL-2.0+, BisonException, Apache-possibility, X11, WebM, See-file, and See-doc(OTHER).

Scanner Count	Concluded License Count	License Name
2421	0	Apache-2.0
819	0	No_license_found
132	0	FSF
94	0	UnclassifiedLicense
13	0	Freeware
8	0	GPLv2+
6	0	GPL-exception
6	0	autoConfException
4	0	Zlib
4	0	MIT
4	0	LGPL-2.1
3	0	SeeFile
3	0	MIT-style
2	0	Trademark-ref
2	0	GPLv3+
2	0	GPL-3.0+-with-bison-exception
2	0	GPL-2.0-with-autoconf-exception
2	0	GPL-2.0+
2	0	BisonException
2	0	Apache-possibility
1	0	X11
1	0	WebM
1	0	See-file
1	0	See-doc(OTHER)

Using FOSSology with this Example

Another Example: Linux Kernel Project

- Looking at the Linux kernel will result in thousands of files containing license relevant information
- Analyzing them yields about 30 distinctive licensing statements

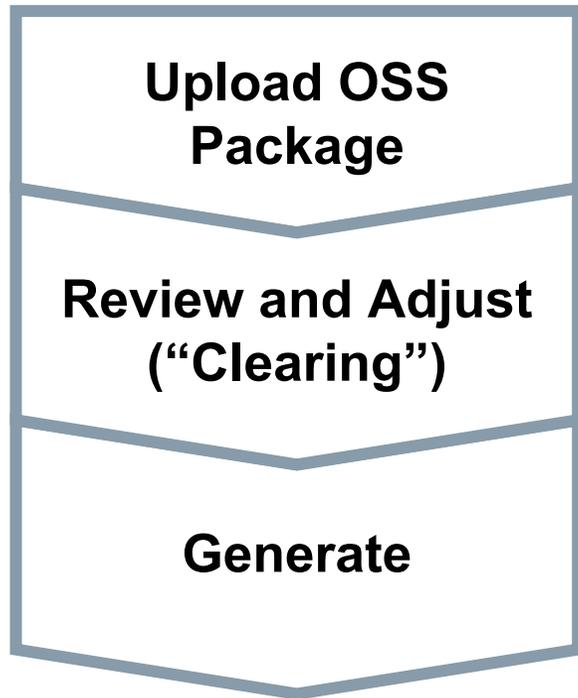


The screenshot shows the FOSSology License Browser interface. The main table displays a list of licenses found in the project, with columns for 'Licenses', 'Scanner Results', 'Edited Results', 'Clearing Status', 'Files Cleared', and 'Actions'. A red circle highlights the 'Licenses' table, which contains the following data:

License Count	License Name
6745	No_license_found
4032	GPL-2.0
3043	GPL-2.0+
1565	GPL
183	BSD-3-Clause
173	Dual-license
142	WebM
53	BSD
50	BSD-2-Clause
43	BSD-2-Clause-NetBSD
42	See-file(README)
28	MIT-style
26	See-file(COPYING)
23	BSD-style
19	Motorola
16	MIT
15	GPL-1.0
14	LGPL-2.0+
9	See-file
7	GPL-2.0+-with-classpath-exception
5	Public-domain
3	WashU
3	UnclassifiedLicense
2	Public-domain(C)
2	OpenSSL

How does FOSSology work? – Overview 1 of 2

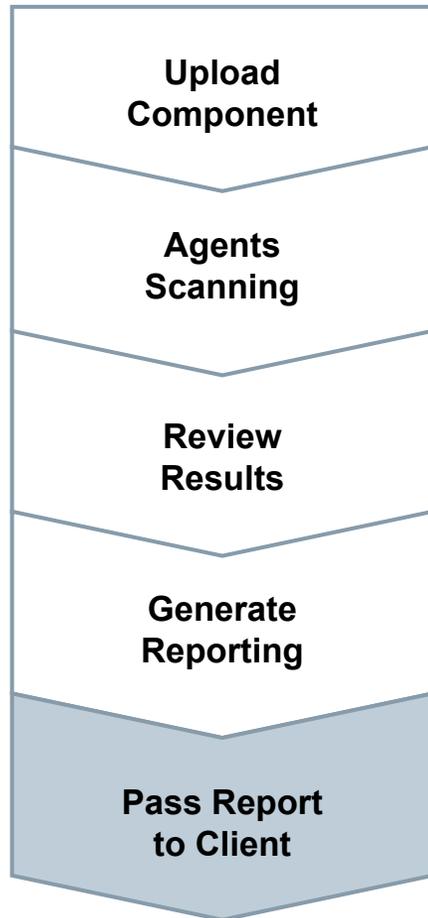
See more details the Basic Workflow Description: <https://www.fossology.org/get-started/basic-workflow>



- Upload an open source package to the server
- Select scan agents that analyze the software
- Review what scanners have found
- Review license occurrences and correct findings if necessary
- Generate report output
- For example list of licenses or SPDX



How does FOSSology work? – Overview 2 of 2



- Uploading source code archive (*.zip, *.tar.gz, etc)
- Agents scan for license relevant text
- Copyrights, Export Control (ECC), your keywords to look for etc.
- Review scanner results for wrong license classification
- Review other scanner findings (copyrights, ECC)
- Result of the “clearing”
 - SPDX reporting
 - Generated notice or readme file
 - debian-copyright



What is FOSSology?

A Web server application for license and copyright compliance of software components.

FOSSology Project

<https://www.fossology.org/>

- Published first in 2008, GPL-2.0
- 2015: Linux Foundation collaboration project
- Web server based and command line interfaces
- Scanning agents searching for license and copyright relevant hits (and more ...)
- A multi-user / multi-tenant Web UI for review organizing clearing job

FOSSology Development

<https://www.github.com/fossology/fossology>

- Standard Web application stack:
 - Linux, Apache 2, PostgreSQL, PHP,
- Web-based UI in PHP, but scanners written in C / C++
- Two ways to interact:
 - Web user interface
 - Command line utilities

FOSSology Feature Overview

A Web server application for license and copyright compliance of software components.

License Scan features

- Regular expression scanner
- Text similarity scanner
- License (text) management
- Aggregation of licenses in hierarchical view
- License histogram
- Supporting concluded vs. found license
- Bulk processing of files with same licensing
- Reusing of license conclusions

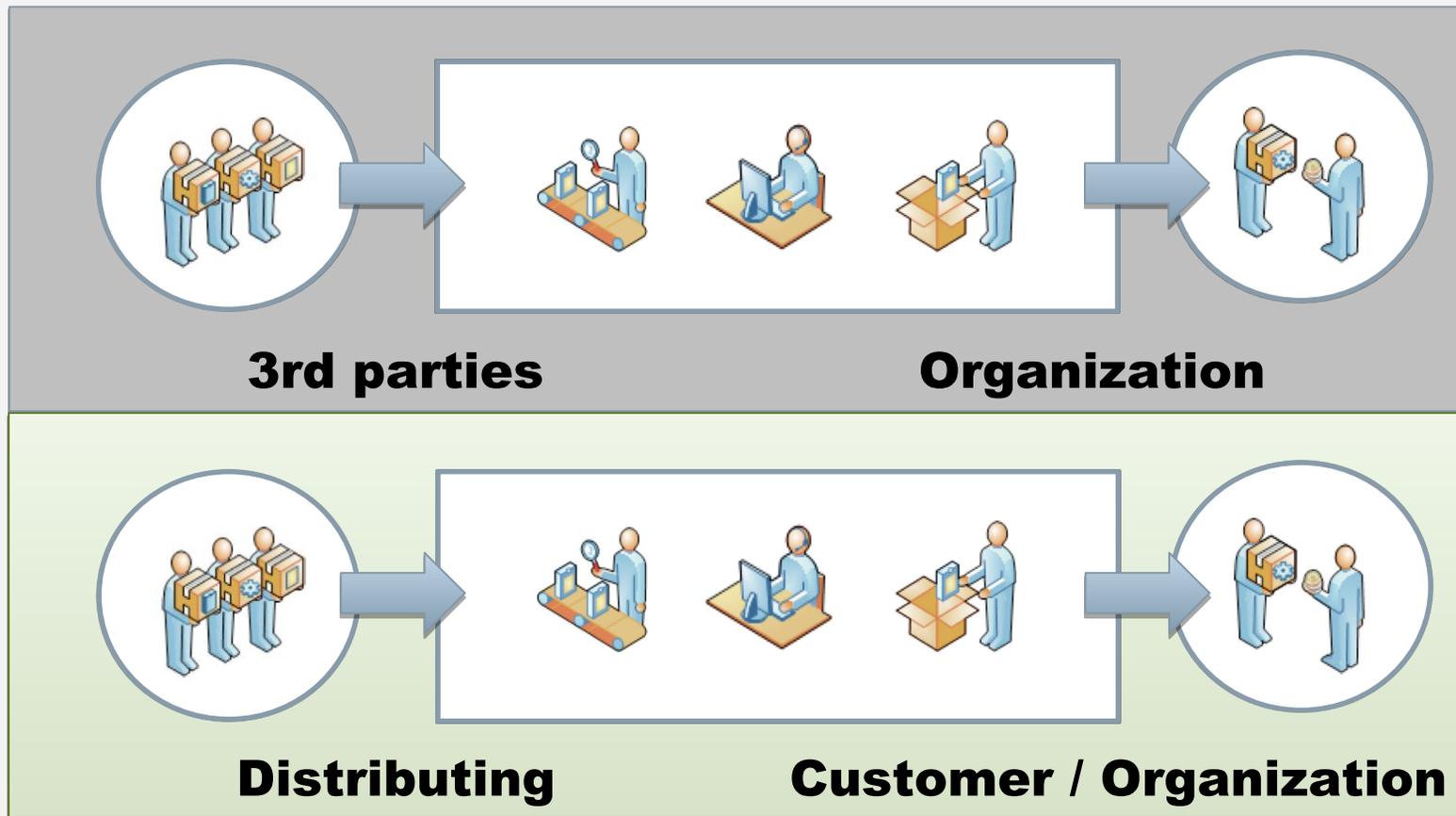
Other features

- Copyright, authorship statements scanner
- Export control and customs scanner
- Command line interfaces
- Reporting
 - SPDX RDF and tag-value
 - Debian-copyright
 - Plain text output
- Files sorting in buckets
- User, group and upload management

FOSSology is Open Source

What happens actually?

- As an organization distributing software there is responsibility for license compliance
- This work must be actually provided by 3rd parties as well!
- *With FOSSology, a tool is freely available supporting all kind of organizations with their license compliance efforts*
 - *GPL-2.0 licensed*



FOSSology is Popular

List of Public Supporters

- See the FOSSology.org website for the most recent list of public supporters.
- *Not on this list?* – Consider supporting the project with putting your logo there. To be included, send email to fossology-steering@fossology.org.

The screenshot shows the FOSSology website with three main navigation links: 'ABOUT FOSSOLOGY', 'GET STARTED WITH FOSSOLOGY', and 'IN THE NEWS'. Below these is a paragraph describing FOSSology as an open source license compliance software system and toolkit. A section titled 'Companies and Organizations Using FOSSology' displays a grid of logos for various organizations including Antelink, Bergische Universität Wuppertal, Bittium, Hewlett Packard Enterprise, HH PARTNERS, HP, Linux Foundation, Océ, RogueWave, SIEMENS, software freedom conservancy, SULLIVAN & WORCESTER, hiefo, Tjaldar Software Governance Solutions, tldrLegal, University of Nebraska Omaha, VALIDOS, and WIND.

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Please see our [privacy policy](#) and [terms of use](#).

FOSSology Conclusions

Major Takeaways

- **It is open source software**
 - No vendor lock-in, it can be shared among partners
- **It is a server-based Web application**
 - Allowing for multi user operations, allowing for reuse
- **It is design for efficiency**
 - Reducing the actual efforts for analyzing OSS components

You like it and would like to contribute?

- Put your logo on the FOSSology homepage if you use it.
Send email to fossology-steering@fossology.org
- Report issues on Github: <https://github.com/fossology/fossology>
- Consider contributing to the code base with your extensions



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<https://creativecommons.org/licenses/by-sa/4.0/>

Internet

<https://www.fossology.org>

Github

<https://github.com/fossology/fossology>

Further Links

<https://github.com/sw360/sw360portal>

