

# FOSSology SPDX in HD

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# What is this about?

## You know these examples

- It is about licensing of software packages
- Licensing is expressed in files
- You would like to find licensing statements ...
- ...and summarize this in SPDX



```
<spdx:hasExtractedLicensingInfo>
<spdx:ExtractedLicensingInfo
rdf:about="http://spdx.org/licenses/Apache-
1.1">
<spdx:licenseId>Apache-
1.1</spdx:licenseId>
<spdx:extractedText>
<![CDATA[
The Apache Software License, Version 1.1
*
* Copyright (c) 2000 The Apache Software
Foundation. All rights
* reserved.
*

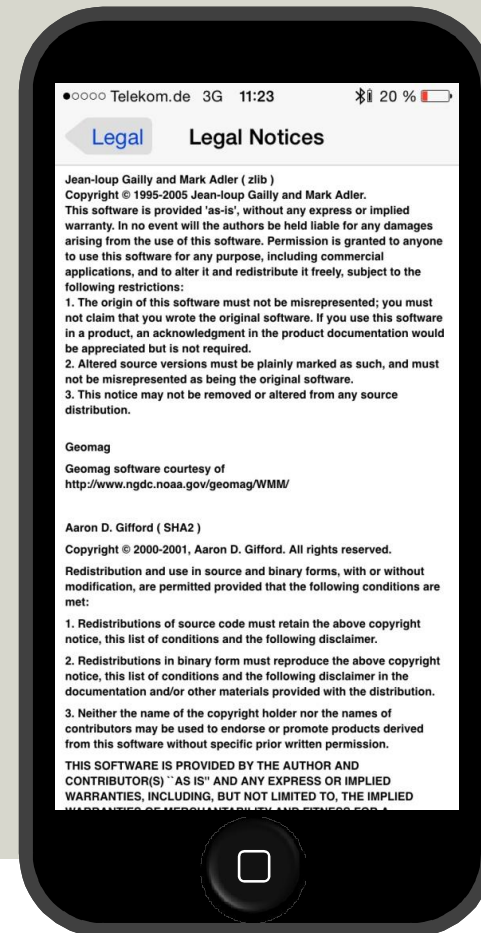
```

# Why we are doing this?

## You know these examples

Distributing open source software requires to

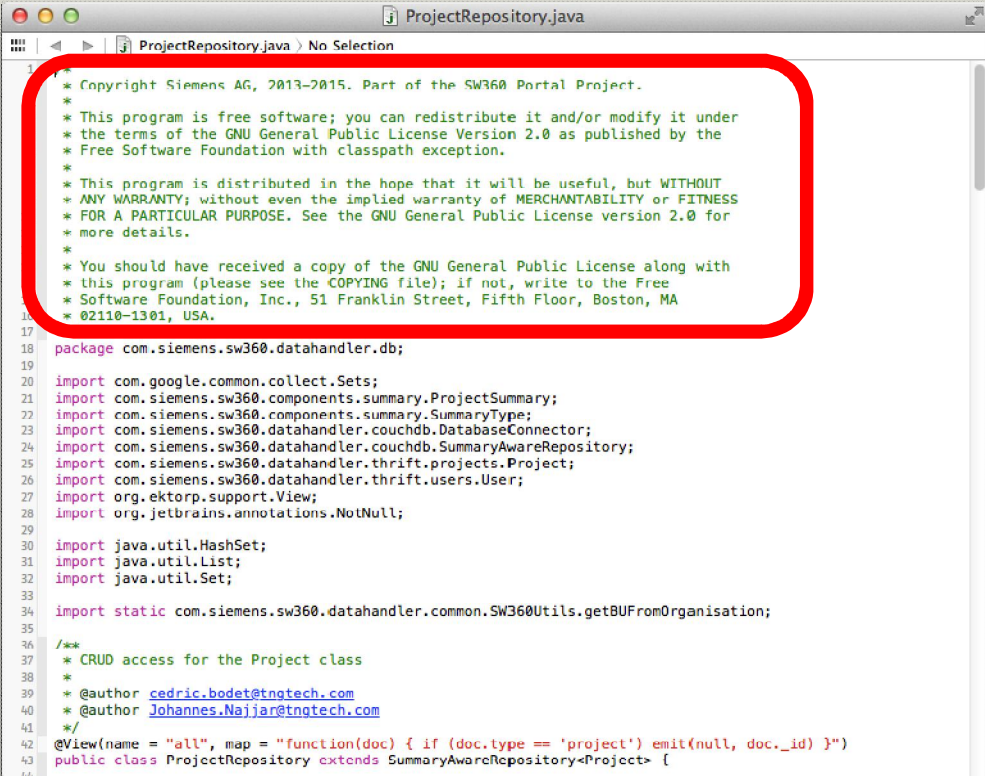
- Provide licenses of involved software
- Provide copyright statements of involved authors
- Provide disclaimers
- ... and much more



# It is about finding licenses

## Finding Licenses

- License texts
- References to licenses
- Written texts explaining licensing
- License relevant statements



```
1  * Copyright Siemens AG, 2013-2015. Part of the SW360 Portal Project.
2  *
3  * This program is free software; you can redistribute it and/or modify it under
4  * the terms of the GNU General Public License Version 2.0 as published by the
5  * Free Software Foundation with classpath exception.
6  *
7  * This program is distributed in the hope that it will be useful, but WITHOUT
8  * ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS
9  * FOR A PARTICULAR PURPOSE. See the GNU General Public License version 2.0 for
10 * more details.
11 *
12 * You should have received a copy of the GNU General Public License along with
13 * this program (please see the COPYING file); if not, write to the Free
14 * Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA
15 * 02110-1301, USA.
16
17 package com.siemens.sw360.datahandler.db;
18
19
20 import com.google.common.collect.Sets;
21 import com.siemens.sw360.components.summary.ProjectSummary;
22 import com.siemens.sw360.components.summary.SummaryType;
23 import com.siemens.sw360.datahandler.couchdb.DatabaseConnector;
24 import com.siemens.sw360.datahandler.couchdb.SummaryAwareRepository;
25 import com.siemens.sw360.datahandler.thrift.projects.Project;
26 import com.siemens.sw360.datahandler.thrift.users.User;
27 import org.ektorp.support.View;
28 import org.jetbrains.annotations.NotNull;
29
30 import java.util.HashSet;
31 import java.util.List;
32 import java.util.Set;
33
34 import static com.siemens.sw360.datahandler.common.SW360Utils.getBUFFromOrganisation;
35
36 /**
37  * CRUD access for the Project class
38  *
39  * @author cedric.bodet@tngtech.com
40  * @author Johannes.Najjar@tngtech.com
41  */
42 @View(name = "all", map = "function(doc) { if (doc.type == 'project') emit(null, doc._id) }")
43 public class ProjectRepository extends SummaryAwareRepository<Project> {
44
```

# 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 main content area includes a 'Getting Started' section with instructions on how to download and use the software. A 'Download' button is visible on the right side of the page. At the bottom of the page, there is a copyright notice for 2016 Apache Software Foundation, which is highlighted with a red box.

Apache Thrift™

Download Documentation Developers Libraries Tutorial Test Suite About Apache -

The Apache Thrift software framework, for scalable cross-language services development, combines a software stack with a code generation engine to build services that work efficiently and seamlessly between C++, Java, Python, PHP, Ruby, Erlang, Perl, Haskell, C#, Cocoa, JavaScript, Node.js, Smalltalk, OCaml and Delphi and other languages.

**Getting Started**

- **Download Apache Thrift**  
To get started, [download](#) a copy of Thrift.
- **Build and Install the Apache Thrift compiler**  
You will then need to [build](#) the Apache Thrift compiler and install it. See the [installing Thrift](#) guide for any help with this step.
- **Writing a .thrift file**  
After the Thrift compiler is installed you will need to create a thrift file. This file is an [interface definition](#) made up of [thrift types](#) and Services. The services you define in this file are implemented by the server and are called by any clients. The Thrift compiler is used to generate your Thrift File into source code which is used by the different client libraries and the server you write. To generate the source from a thrift file run

```
thrift --gen <language> <Thrift filename>
```

The sample tutorial.thrift file used for all the client and server tutorials can be found [here](#).

To learn more about Apache Thrift [Read the Whitepaper](#)

**Example**

Apache Thrift allows you to define data types and service interfaces in a simple definition file. Taking that file as input, the compiler generates code to be used to easily build RPC clients and servers that communicate seamlessly across programming languages. Instead of writing a load of boilerplate code to serialize and transport your objects and invoke remote methods, you can get right down to business.

The following example is a simple service to store user objects for a web front end.

**Links**

- [Download](#)
- [Developers](#)
- [Tutorials](#)
- [Sitemap](#)

**Get Involved**

- [Mailing Lists](#)
- [Issue Tracking](#)
- [How To Contribute](#)

**Download**  
Apache Thrift v0.9.3

Download v0.9.3

[MD5](#) | [PGP](#)

[\[Other Downloads\]](#)

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# 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

Scanner Count	Concluded License Count	License Name	Files	Scanner Results (N: nomos, M: monk, Nk: ninka)
2421	0	Apache-2.0	adocal	Freeware, FSF, GPL-2.0-with-autoconf-exception, GPLv2+,
819	0	No_license_found	compiler	Apache-2.0, BisonException, FSF, GPL-3.0+-with-bison-exc
132	0	FSF	contrib	No_license_found, UnclassifiedLicense, Zlib
94	0	UnclassifiedLicense	debian	Apache-2.0, Freeware, No_license_found, See-file, SeeFile,
13	0	Freeware	doc	Apache, LGPL-2.1, MIT, MIT-style, No_license_found, Unclas
8	0	GPLv2+	lib	Apache-2.0, LesserGPLv2.1+, LGPL-2.1, MIT, MIT-style, MIT
6	0	GPL-exception	test	UnclassifiedLicense
6	0	autoConfException	tutorial	Apache-2.0, Apache-possibility, BSD-3-Clause, FSF, No_licer
4	0	Zlib	.travis.yml	See-doc(OTHER), SeeFile, UnclassifiedLicense, WebM
4	0	MIT	adocal.m4	Apache-2.0, FSF, No_license_found, UnclassifiedLicense
4	0	LGPL-2.1	CHANGES	Apache-2.0, FSF, No_license_found, Trademark-ref, Unclas
3	0	SeeFile	config.guess	Apache-2.0 [Nk: 100%][N]
3	0	MIT-style	config.h	FSF [M: 94%][N], autoConfException [Nk: 100%], GPLv2+
2	0	Trademark-ref	config.hin	with-autoconf-exception [N]
2	0	GPLv3+		UnclassifiedLicense [Nk], Apache-possibility [N]
2	0	GPL-3.0+-with-bison-exception		autoConfException [Nk: 100%], GPLv2+ [Nk: 100%], GPL
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 another Example

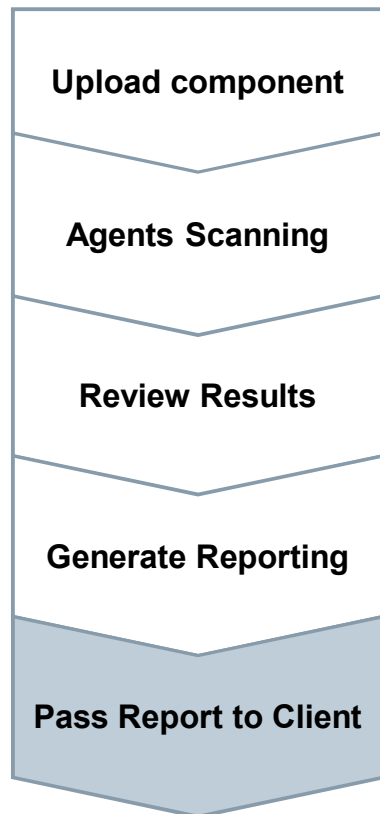
## Another Example: Linux Kernel

- 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 'Software Repository' folder. The 'License Name' and 'License Count' columns are highlighted with a red circle. The table includes columns for 'Files', 'Scanner Results', 'Edited Results', 'Clearing Status', 'Files Cleared', and 'Actions'.

License Count	License Name	Files	Scanner Results (N: nomos, M: monk, Nk: ninka)	Edited Results	Clearing Status	Files Cleared	Actions
6745	No_license_found						
4032	GPL-2.0	alpha	AGPL, GPL, GPL-2.0, GPL-2.0+, HP-DEC, LGPL-2.0+, No_license_found, See-file(COPYING)		●	0/20	[Tag][Edit][Bulk]
3043	GPL-2.0+						
1565	GPL						
183	BSD-3-Clause	arc	GPL-2.0, No_license_found		●	0/138	[Tag][Edit][Bulk]
173	Dual-license						
142	WebM						
53	BSD						
50	BSD-2-Clause	arm	BSD-style, Cryptogams, Dual-license, GPL, GPL-1.0, GPL-2.0, GPL-2.0+, LGPL-2.0+, MIT, MIT-style, No_license_found, OpenSSL, Public-domain, See-file, See-file(COPYING), See-URL		●	0/2738	[Tag][Edit][Bulk]
43	BSD-2-Clause-NetBSD						
42	See-file(README)						
28	MIT-style						
26	See-file(COPYING)						
23	BSD-style	arm64	GPL, GPL-2.0, GPL-2.0+, MIT, MIT-style, No_license_found		●	0/184	[Tag][Edit][Bulk]
19	Motorola						
16	MIT	avr32	GPL, GPL-2.0, No_license_found		●	0/141	[Tag][Edit][Bulk]
15	GPL-1.0						
14	LGPL-2.0+	blackfin	BSD, BSD-3-Clause-Clear, BSD-style, GPL, GPL-2.0, GPL-2.0+, No_license_found		●	0/361	[Tag][Edit][Bulk]
9	See-file						
7	GPL-2.0+-with-classpath-exception	c6x	GPL, GPL-2.0, GPL-2.0+, No_license_found		●	0/86	[Tag][Edit][Bulk]
5	Public-domain	cris	BSD-style, GPL, GPL-2.0, GPL-2.0+, No_license_found, WebM		●	0/14	[Tag][Edit][Bulk]
3	WashU						
3	UnclassifiedLicense	frv	GPL, GPL-2.0, GPL-2.0+, No_license_found		●	0/136	[Tag][Edit][Bulk]
2	Public-domain(C)						
2	OpenSSL	h8300	GPL, GPL-2.0, GPL-2.0+, No_license_found		●	0/10	[Tag][Edit][Bulk]
		hexagon	GPL-2.0, No_license_found		●	0/97	[Tag][Edit][Bulk]

# How does FOSSology work?



- Uploading source code archive (\*.zip, \*.tar.gz, etc)
- Agents scan for license relevant text
- Copyrights, 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++
- Besides Web UI:
  - Command line utilities

# Why SPDX in HD?

*SPDX is for sharing metadata*

## What is SPDX?

- SPDX= Software Package Data Exchange
- Defines a format for exchanging metadata about software packages
  - Licensing
  - Copyrights
  - Extension for much more
  - Formats: RDF/XML, Tag-Value and Excel
  - Standardizing license identification
    - SPDX License List

## More Information

- SPDX Homepage  
<https://spdx.org/>
- SPDX Standard description  
<https://spdx.org/specifications>
- SPDX License list  
<https://spdx.org/license-list>
- SPDX Example?
  - You can use FOSSology

# What is this about? (Again)

## You know these examples

- It is about licensing of software packages
- Licensing is expressed in files
- You would like to find licensing statements ...
- ...and summarize this in SPDX



```
<spdx:hasExtractedLicensingInfo>
<spdx:ExtractedLicensingInfo
rdf:about="http://spdx.org/licenses/Apache-
1.1">
<spdx:licenseId>Apache-
1.1</spdx:licenseId>
<spdx:extractedText>
<![CDATA[
The Apache Software License, Version 1.1
*
* Copyright (c) 2000 The Apache Software
Foundation. All rights
* reserved.
*

```


# Why do we call it HD - High Definition?

- **How do you find actually licenses?**  
... it depends on scanners, text finding implementations.
- **How do you deal with thousands of files and dozens of licenses?**  
... you will need overview.
- **What if automated scanners cannot determine the licenses?**  
... not only scanning, but also reviewing.
- **Found a new license text?**  
... you will need to extract the text.
- **Copyrights with review?**  
... fishing them out too and eliminate false positives.
- **Dual licensing**  
... does the scanner find it?

# Multiple Scanners for License Relevant Texts

## Maturity, Precision, Speed

- FOSSology is a framework for agents
- Three scanners as agents
  - **Nomos**: Keyword and regular exp
  - **Ninka**: An sentence-based approach
  - **Monk**: Text similarity comparison
- Deferent scanners have their strength
- Perform differently for different contexts
  - For standard licenses
  - For finding license relevant statements



**Upload a New File**  
 fossology Version: [unknown], Branch: [unknown], Commit: [#unknown] unknown built @ 2016/08/24

[logout](#)  
 User: fossy  
 Group: fossy

18:49 UTC

---

To manage your own group permissions go into **Admin > Groups > Manage Group Users**. To manage permissions for this one upload, go to **Admin > Upload Permissions**.

This option permits uploading a single file (which may be iso, tar, rpm, jar, zip, bz2, msi, cab, etc.) from your computer to FOSSology. Your FOSSology server has imposed a maximum upload file size of 700Mbytes.

1. Select the folder for storing the uploaded files:
2. Select the file to upload:  
 zlib128.zip
3. (Optional) Enter a description of this file:
4.  Visible only for active group
  - Visible for all groups
  - Make Public
5. Select optional analysis
  - Copyright/Email/URL/Author Analysis
  - ECC Analysis, scanning for text fragments potentially relevant for export control
  - MIME-type Analysis (Determine mimetype of every file. Not needed for licenses or buckets)
  - Monk License Analysis, scanning for licenses performing a text comparison
  - Ninka License Analysis
  - Nomos License Analysis, scanning for licenses using regular expressions

# Overview gives you control

## Handling Large Packages

- Smaller packages (<200 Files) and some licenses are easy to handle
  - Maybe tool support is even not required
- However, thousands of files, many folders and several different licenses are not ideal candidates for manual
  - How to keep overview and focus?
- FOSSology aggregates by two directions
  - Histogram of **Licenses** to focus on particular licenses
  - **Folder** hierarchy aggregation allowing

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 main header displays the FOSSology logo and version information: Version: [unknown], Branch: [unknown], Commit: [#unknown] unknown built @ 2016/08/24 18:49 UTC. The user is logged out as 'fossy'.

The interface is set to the 'Software Repository' folder, specifically the path 'toybox-0.5.2.tar.gz/toybox-0.5.2.tar/toybox-0.5.2'. The 'Licenses' section is active, displaying a table with 9 licenses. The 'Files' section is also active, showing a tree view of files with their respective scanner results and edited results.

Scanner Count	Concluded License Count	License Name
11	1	GPL-2.0
7	0	GPL-2.0+
3	0	Public-domain
3	0	MIT-style
2	0	GPL-3.0
2	0	BSD
1	0	Public-domain(C)
1	0	GPL-2.0+-with-bison-exception
1	0	BSD-possibility

Files	Scanner Results (N: nomos, M: monk, Nk: ninka)	Edited Results	Clear Status
kconfig	GPL-2.0, GPL-2.0+, GPL-2.0+-with-bison-exception, No_license_found		●
lib	No_license_found		●
scripts	No_license_found		●
tests	No_license_found		●
toys	No_license_found, Public-domain, Public-domain(C)		●
www	BSD, BSD-possibility, GPL-3.0, MIT-style, No_license_found, Public-domain		●
Config.in	No_license_found [N]		●
configure	No_license_found [N]		●

Summary:

Unique licenses	9	344	Files
Unique scanner detected	10	1	Unique concluded

# Review Enhances Precision

## Scanner cannot determine all

- Some license relevant statements require review
  - References to files
  - New (or unknown) licenses
  - Uncommon statements about licensing
  - Different GPL versions
  - Similar licenses with a twist
- Example:
  - *“This software is licensed as described in the file COPYING, which you should have received as part of this distribution. The terms are also available at <http://subversion.tigris.org/license-1.html>. If newer versions of this license are posted there, you may use a newer version instead, at your option.*

The screenshot shows the fossology web interface for reviewing a license. The main content area displays a license text with various annotations: green highlights for added text, red highlights for removed text, and yellow highlights for modified text. A legend on the right side explains these symbols: green for 'identical', yellow for 'modified', red for 'added', and pink for 'removed'. The interface also shows a 'Change concluded License' header, a breadcrumb trail, and a 'Clearing decision' sidebar with options like 'Apply decision', 'No license known', 'To be discussed', 'Irrelevant', and 'Identified'.

# Custom License Texts

## Licenses not “databased”

- License relevant statements can be
  - References to files
  - New licenses / unknown licenses
  - Uncommon statements about licensing
- Moreover, scanners can be imprecise
  - Different GPL versions
  - Different GPL exceptions
  - Undefined references

The screenshot shows the FOSSology interface for a file named 'lib128.zip/zlib-1.2.8/doc/rfc1952.txt'. The main content area displays the file's text, including a copyright notice: 'Copyright (c) 1996 L. Peter Deutsch.' and a license permission statement: 'Permission is granted to copy and distribute this document for any purpose and without charge, including translations into other languages and incorporation into compilations, provided that the copyright notice and this notice are preserved, and that any substantive changes or deletions from the original are clearly marked.' A table on the right shows the detected license and source information:

License	Source	Text
Trademark-ref	nomos: #1 User decision	Copyright (c) 1996 L. Peter Deutsch
See-file	ninkat1 (100 %)	Permission is granted to copy and distribute purpose and without charge, including trans languages and incorporation into compilati copyright notice and this notice are preserv substantive changes or deletions from the o marked.

A red box highlights the 'Clearing decision type' options: 'No license known', 'To be discussed', 'Irrelevant', and 'Identified'. A green arrow points to the 'User Decision' button at the bottom of the table.

Copyright (c) 1996 L. Peter Deutsch: Permission is granted to copy and distribute this document for any purpose and without charge, including translations into other languages and incorporation into compilations, provided that the copyright notice and this notice are preserved, and that any substantive changes or deletions from the original are clearly marked.



# Copyright Statements

## Handling Copyrights

- An agent finds copyright relevant statements
- Copyright statement listing in a basic obligation in licenses
  - legal obligation
  - but also fair use
- Bulk edit of copyright statements
- Efficient sorting out of false positives
  - Corrections required with, for example:  
*Gnomovision version 69,*  
*Copyright (C) year name of author*

[home](#) [search](#) [browse](#) [upload](#) [jobs](#) [organize](#) [admin](#) [help](#)  
**Copyright/Email/URL/Author Browser** logout  
User: fossy  
Group: fossy  
 Version: [unknown], Branch: [unknown], Commit: [#unknown] unknown built @ 2016/08/24 18:49 UTC

Folder: **Software Repository/**  
**toybox-0.5.2.tar.gz**  
[License Browser](#) | [File Browser](#) | [Copyright/Email/URL](#) | [ECC](#) | [Browse](#) | [License List](#) | [Search](#) • [View](#) | [Info](#) • [Refresh](#)

Show all  **toybox-0.5.2.tar**  
 Jump to: [Emails](#) | [URLs](#) | [Authors or Maintainers](#)  
 Show 10 entries Search:

Count	Copyright	
2	Copyright 2012 Harvind Singh <harvindsingh1981@gmail.com>	✘
2	Copyright 2012 Andreas Heck <aheck@gmx.de>	✘
2	Copyright 2010 Rob Landley <rob@landley.net>	✘
2	Copyright 2006, 2007 Rob Landley <rob@landley.net>	✘
1	(c) yyunput( c, (yytext_ptr) )	✘
1	(c) return c + 1; return name;	✘
1	copyrights to my work), then <a href=http://landley.net/notes-2011.html#13-11-2011>relaunched</a> under a 2-clause BSD license in 2011. The following news entries predate that relaunch:</p>	✘
1	Copyright (C) 2008 David Anders <danders@amltd.com>	✘
1	Copyright (C) 2006 by Rob Landley &lt;rob@landley.net&gt;	✘
1	Copyright (C) 2006, 2013 by Rob Landley <rob@landley.net>	✘

Showing 41 to 50 of 109 entries ◀ Previous Next ▶

# Dual Licenses

## SPDX OR Operator

- Multiple licenses for a file is common
  - One part is different than other part
  - AND-based listing of files
- But multi licensing is different
  - Copyright holder allows user for choosing under which license conditions the usage rights can be exercised
- Changes the situation:
  - GPL-2.0 AND BSD-3-Clause
  - GPL-2.0 OR BSD-3-Clause

Home Search Browse Upload Jobs Organize Admin Help  
 fossology **Change concluded License** logout  
User: fossy  
Group: fossy

Version: [unknown], Branch: [unknown], Commit: [#unknown] unknown built @ 2016/08/24 10:49 UTC

Folder: **Software Repository/**  
**openssl-0.9.8w.tar.tar/openssl-0.9.8w.tar/openssl-0.9.8w/crypto/sha/asm/sha1-586.pl**

[One-Shot Copyright/Email/URL](#) | [One-Shot License](#) | [License Browser](#) | [File Browser](#) | [Info](#) | [View](#) | [Licenses](#) | [Copyright/Email/Url/Author](#) | [ECC](#) | [Bucket](#) | [Hex](#) | [Text](#) | [Formatted](#) | [Refresh](#)

Close Cleared: 0/991

Hide Legend

```
#!/usr/bin/env perl

# -----
# [Re]written by Andy Polyakov <appro@fy.chalmers.se>
# project. The module is, however, dual licensed und
# CRYPTOGAMS licenses depending on where you obtain
# details see http://www.openssl.org/~appro/cryptoga
# -----

# "[Re]written" was achieved in two major overhauls.
# functions were re-implemented to address P4 perform
# commentary below], and in 2006 the rest was rewrit
# gain freedom to liberate licensing terms.

# It was noted that Intel IA-32 C compiler generates
# performs ~30% *faster* on P4 CPU than original *ha
# SHA1 assembler implementation. To address this pro
# prove that humans are still better than machines:-
# original code was overhauled, which resulted in fo
# performance changes:
#
# compared with original compared wit
```

Submit

Go through all files  
 Go through all files with licenses  
 Go through all files with licenses and no clearing result

Clearing decision scope

Apply decision to all future occurrences of this file

Clearing decision type

No license known  
 To be discussed  
 Irrelevant  
 Identified

License	Source	Text	Comment	Act
Dual-license	nomos: #1	Click to edit	Click to edit	
Cryptogams	nomos: #1	Click to edit	Click to edit	
OpenSSL	nomos: #1	Click to edit	Click to edit	

Showing 1 to 3 of 3 entries


# FOSSology is Popular

## List of Disclosed Users

- See the FOSSology.org website for the most recent list of disclosed users
- *Not on this list?* – Consider supporting the project with putting your logo there



**ABOUT FOSSOLOGY**  
Learn more about FOSSology, the project governance, and license details.



**GET STARTED WITH FOSSOLOGY**  
Instructions on how to get a local instance of FOSSology up and running from source.



**IN THE NEWS**  
The latest announcements, news articles and events related to FOSSology.

FOSSology is an open source license compliance software system and toolkit. As a toolkit you can run license, copyright and export control scans from the command line. As a system, a database and web ui are provided to give you a compliance workflow. License, copyright and export scanners are tools available to help with your compliance activities.

---

**Companies and Organizations Using FOSSology**

© 2016 FOSSology Workgroup a Linux Foundation Collaborative Project. All Rights Reserved.  
Linux Foundation is a registered trademark of The Linux Foundation. Linux is a registered trademark of Linux Torvalds.  
Please see our [privacy policy](#) and [terms of use](#).

# FOSSology Conclusions

## Most important

- **It is open source software**
  - No vendor lock-in, it can be shared among partners
- **It supports SPDX**
  - Supporting the leading standard for package description
- **It has features for detailed and advanced SPDX generation**
  - Several features resulting from evolution over years of license clearing

## You like it and would like to contribute?

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

Thank you for your attention ... questions?

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Otto-Hahn-Ring 6  
81793 Munich, Germany

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Internet  
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More links  
<https://github.com/fossology/fossology>  
<https://github.com/sw360/sw360portal>