

Open Source Solutions Initiative

The FOSSology project

Bruno Cornec

Open Source and Linux
Technology Consultant





- Software engineering and Unices since 1988
 - Mostly Configuration Management Systems (CMS), Build systems, quality tools, on multiple commercial Unix systems
 - Discover Open Source & Linux (OSL) & first contributions in 1993
 - Full time on OSL since 1995, first as HP reseller then @HP
- Currently:
 - Master Technology **Architect** on OSL for the HP/Intel Solution Center, Grenoble
 - OSL HP **Advocate**
 - EMEA OSL HP **Profession Lead**
 - Solutions Linux Conference and OWF board member
 - MondoRescue, Dploy.org, Project-Builder.org **project lead**
 - LinuxCOE, mrepo, tellico, rinse, fossology, collectl **contributor**
 - FOSSBazaar and OSL **Governance** enthusiast
 - Mandriva, Mageia, Fedora **packager**





FOSS-ology

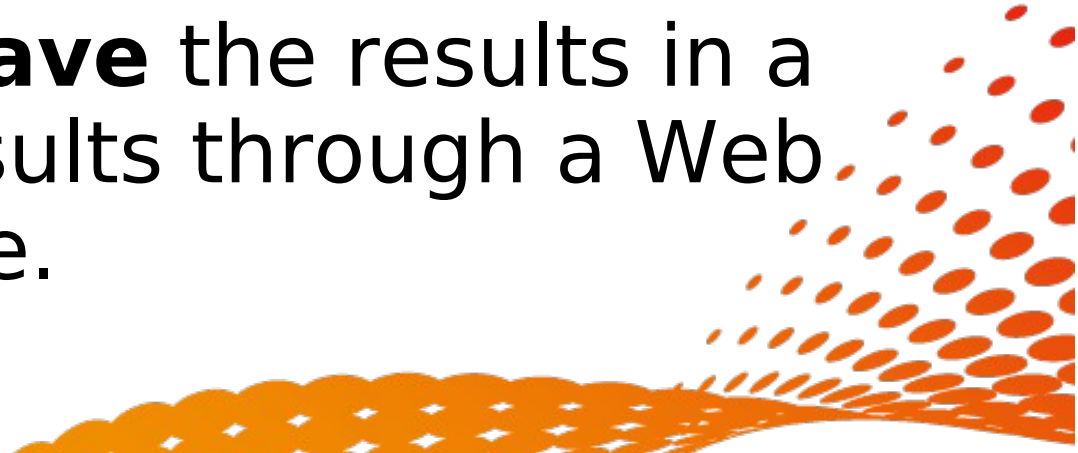
The study of FOSS
(Free Open Source Software)



The **goal** of the FOSSology project is create tools and a framework to reduce fear, uncertainty, and doubt in the use, development, and distribution of open source software.

FOSSology is a static analysis **framework** to learn what we can by scanning FOSS itself.

Analyze the code, **save** the results in a database, **report** results through a Web (or scripted) interface.



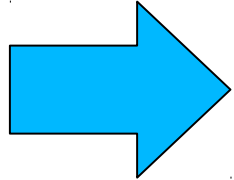


Our goal is to provide **tools** to solve major FOSS governance problems. Such as:

- License Management
- Code Plagiarism
- Vulnerability tracking



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License Management
Code Plagiarism
Vulnerability tracking

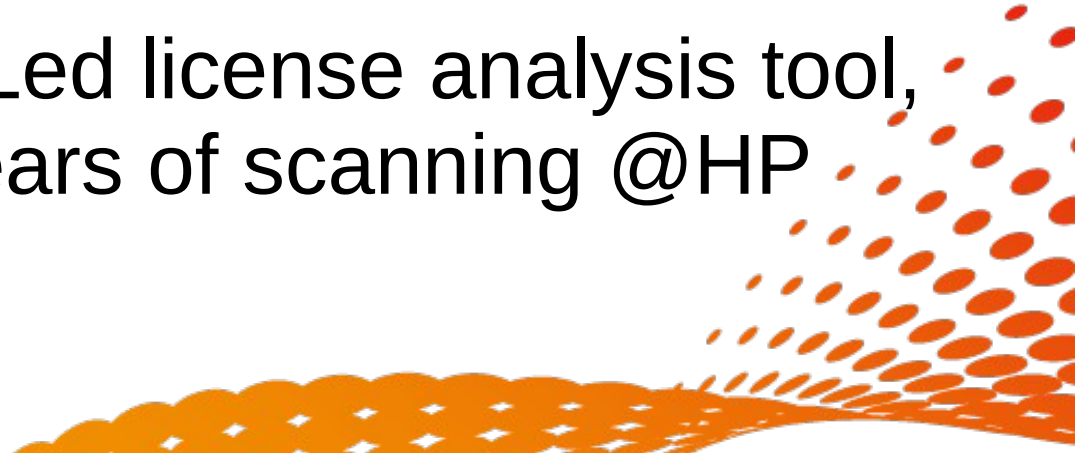


Scan every single file in a package (or distro, or ...)

Fuzzy **match** against a library of > 400 known licenses.

Examine the non-matching portions looking for text that could be an unknown **license**.

Nomos, the now GPLed license analysis tool, is the result of 10+ years of scanning @HP



A Simple FOSSology Process Flow



Submit software to the FOSSology batch queue



File upload screenshot



Home Search Browse Upload Organize Jobs Admin
Help

Upload from URL

User: fossy
[logout](#)

This option permits uploading a file from a remote web for FTP server to FOSSology. The file to upload must be accessible via a URL and must not require human interaction such as login credentials.

1. Select the folder for storing the uploaded file:

2. Enter the URL to the file:

NOTE: If the URL requires authentication or navigation to access, then the upload will fail. Only provide a URL that goes directly to the file. The URL can begin with HTTP://, HTTPS://, or FTP://.

3. (Optional) Enter a description of this file:

4. (Optional) Enter a viewable name for this file:

NOTE: If no name is provided, then the uploaded file name will be used.

5. Select optional analysis

- Schedule License Analysis
- Schedule MIME-type Analysis
- Schedule Metadata Analysis
- Schedule Spec File Analysis

Let's Use FOSSology



OPEN SOURCE SOLUTIONS INITIATIVE



Mozilla Firefox

File Edit View History Bookmarks Yahoo! Tools Help

http://osrb-1.fc.hp.com/repo/?mod=showjobs

Most Visited Snapshot Marquee Snapshot Window Windows Marketplace

Home Search Browse Upload Organize

fossology Show Job Queue

Queued Scheduled **Running** Finished Blocked Failed

Fedora-9-source-DVD.iso

Job/Dependency	Job Name: license
925 / 924	license
926 / 925	licinspect
927 / 926	filter_clean
928 / 927	sqlagent
929 / 928	sqlagent

Done

Mozilla Firefox

File Edit View History Bookmarks Yahoo! Tools Help

http://osrb-1.fc.hp.com/repo/?mod=runningjobs

Most Visited Snapshot Marquee Snapshot Window Windows Marketplace

Home Search Browse Upload Organize Jobs Admin Help

fossology Show Agent Status

User: XUSER [logout](#)

[Refresh](#)

Update time	Status	Agent Name	Host	Parameters
2008-11-10 13:50:22	RUNNING	scheduler	sirius	
2008-11-10 13:50:22	RUNNING	license	buckbeak.rags	akey="2422214" a="93DBEA23265D03118EDCA53B906D6428A1092775.1E6 size="95096"
2008-11-10 13:50:22	RUNNING	license	buckbeak.rags	akey="2501746" a="24618D4FFE5E5660267310AD9E05A3293389E194.9E0 size="95110"
2008-11-10 13:50:22	RUNNING	license	buckbeak.rags	akey="2345839" a="4975DD0846B5B46638B0F0035BEFDC538384684B.F12 size="95133"
2008-11-10 13:50:22	RUNNING	license	fawkes.rags	akey="2555923" a="D0B2D4A77059B8510532EF2303E816ACE9867AA9.0E1 size="95139"
2008-11-10 13:50:22	RUNNING	license	fawkes.rags	akey="2487061" a="1E6C93915221B79A6443FEED2E792F75E4C38E.989 size="95129"
2008-11-10 13:50:22	RUNNING	license	fawkes.rags	akey="2018867" a="804CDEF7488B38616852B2477C660F2C8706D13B.D66 size="95101"
2008-11-10 13:50:22	FREE	fosscp_agent	buckbeak.rags	
2008-11-10 13:50:22	FREE	wget	buckbeak.rags	
2008-11-10 13:50:22	FREE	unpack	buckbeak.rags	
2008-11-10 13:50:22	FREE	filter_license	buckbeak.rags	

Done

Let's Use FOSSology



Nomos License Browser - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://randotest.ostt/repo/?mod=nomoslicense&show=de

@hp Employee Portal Fossology Languages Home - OSPO Tools ... repo.fossology.org

Nomos License Browser

fossology **Nomos License Browser** Home Search Browse Upload Organize Jobs Admin Obsolete Help

User: demo [logout](#)

Folder: [Software Repository/](#) [Examples/](#)
[FOSSologyExample.tar.bz2/](#) fossology
[Bucket Browser](#) | [Copyright/Email/URL](#) | [Browse](#) | [Nomos License](#) | [Nomos License List](#) | [Nomos License List Download](#) • [bsam License](#) | [License Tree](#) | [License Groups](#) • [Refresh](#)

Count	Files	License Name
225	Show	GPL_v2
41	Show	(C)HP-Dev
29	Show	No License Found
24	Show	GPL
17	Show	LGPL_v2.1
2	Show	Apache_v2.0
2	Show	(C)IETF
2	Show	GFDL
2	Show	Public-domain-claim
1	Show	APSL_v2.0
1	Show	Artistic
1	Show	Boost
1	Show	BSD
1	Show	FSF-possibility
1	Show	GPL_v2.1+
1	Show	GPL_v3
1	Show	Indemnity
1	Show	LGPL_v2.1+

agents/
 Apache_v2.0 ,(C)HP-Dev ,(C)IETF ,FSF-possibility ,GPL ,GPL_v2 ,No License Found ,PHP-possibility ,Public-domain-claim ,X11-possibility

cii/
 (C)HP-Dev ,GPL_v2 ,No License Found

debian/

devel/
 (C)HP-Dev ,LGPL_v2.1 ,No License Found

Makefile [\[View\]](#)[\[Info\]](#)
 (C)HP-Dev [\[Download\]](#)

Makefile.conf [\[View\]](#)[\[Info\]](#)
 (C)HP-Dev [\[Download\]](#)

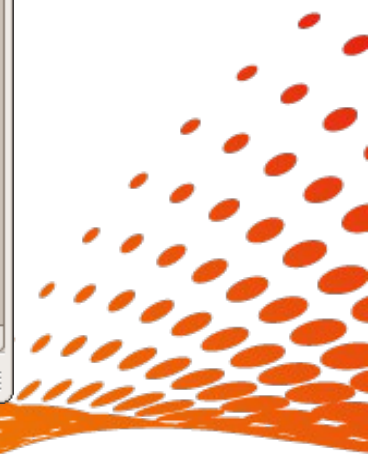
mkcheck.sh [\[View\]](#)[\[Info\]](#)
 GPL_v2 [\[Download\]](#)

mkinstall.sh [\[View\]](#)[\[Info\]](#)
 GPL_v2 [\[Download\]](#)

mkstar.sh [\[View\]](#)[\[Info\]](#)
 GPL_v2 [\[Download\]](#)

mkuninstall.sh [\[View\]](#)[\[Info\]](#)
 GPL_v2 [\[Download\]](#)

Done Download No Rank



Disturbing Image



Know Thy Licenses

Skype's GPL Follies

Posted by [Serdar Yegulalp](#), May 9, 2008 12:29 PM

From: David Turner <novalis@fsf.org>
To: linux-kernel@vger.kernel.org
Subject: Linksys/Cisco GPL Violations

xtreme Networks Latest Target Of GPL Enforcement

This is the sixth lawsuit the Software Freedom Law Center has filed against xtreme Networks seeking to uphold open source software principles.

By [Charles Babcock](#)
InformationWeek

July 22, 2008 01:30 PM

Verizon Settles Open Source Software Law: Alleged GPL violation spurs accusations, lawsuit

By [Bruce Byfield](#) on September 14, 2006 (8:00:00 AM)

The issue centered on claims that a subcontractor used an open source software package called BusyBox in Verizon's wireless routers.

By [Paul McDougall](#)
InformationWeek

March 17, 2008 12:50 PM

Asus resolves Eee GPL violation, releases asus_acpi code changes

By [Ryan Paul](#) | Published: November 27, 2007 - 05:45PM CT

Defendant is ordered to disclose to Plaintiff how many items of the data storage unit "[...] Wireless G Network media Storage DSM-G600" Defendant has acquired, the number of items of this data storage unit Defendant has sold, the identity of the commercial purchasers of the device, and from whom



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Hosted by FOSSBazaar, under the Linux Foundation.

Oregon State University
- Open Source Lab (OSUOSL)

Public availability June 2008 (available today with authorization)



Hosted by FOSSBazaar, under the Linux Foundation.

Oregon State University
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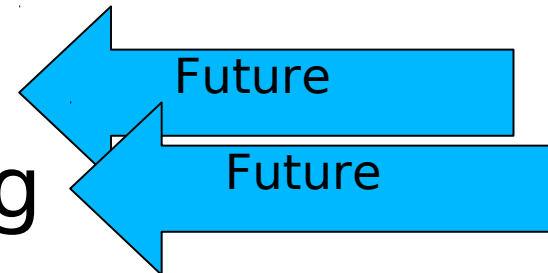


Major FOSS Governance problems:

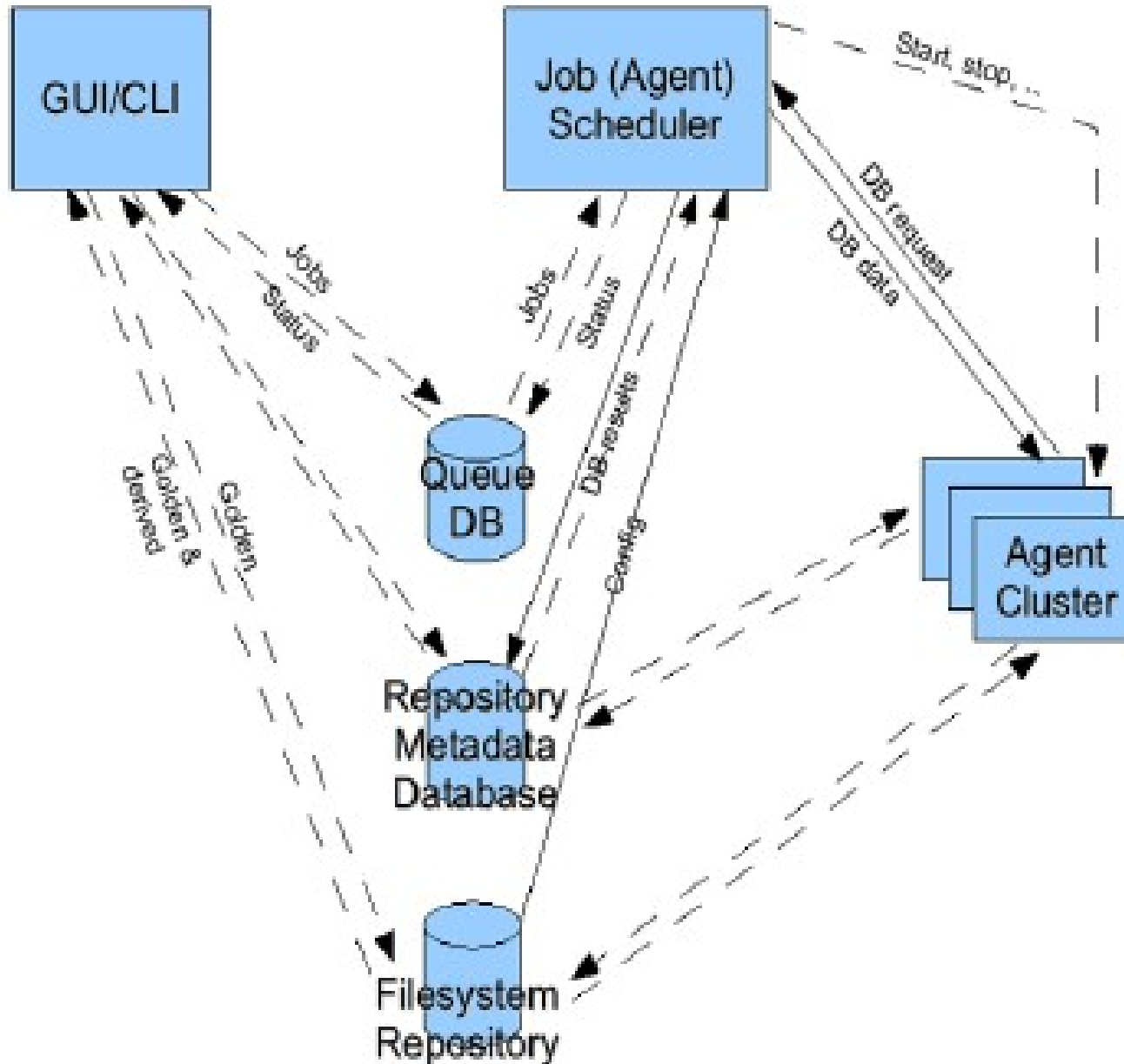
License discovery

Code plagiarism

Vulnerability tracking



Architecture



Requirements

- Linux System
- Apache Web Server 2.x
- PHP 5.x
- PostgreSQL > 8.3
- Some libraries (libmagic, libxml2, libextractor)
- Some commands (ar, bzip2, cabextract, fls, cpio, dpkg, icat, isoinfo, pdftotext, rpm, rpm2cpio, tar, upx-ucl, unrar, unzip, wget, zcat)
- Disk Space
- CPU resources



Other uses for FOSSology

Copyright geneology

Trademark search

Vulnerability tracking

Dependency graphs

Distro, package, file diffs

Localization reports

?

Your input here

An Open Source project. =>

Contributions are encouraged.



What's new in fossology 1.1.0

Email notification of job status on per user basis.

Roll-up of many bug fixes.

Several **new license templates** added.

Code cleanup for improved efficiency and maintainability.

Tutorial section, with examples, added to fossology.org.

Lots of new **tests** added to the automated test suite.

RPM packages for RHEL4/5, CentOS4/5 in addition to Debian ones

Many improvements to **scheduler** to improve robustness (watchdog).



What's new in fossology 1.2.1

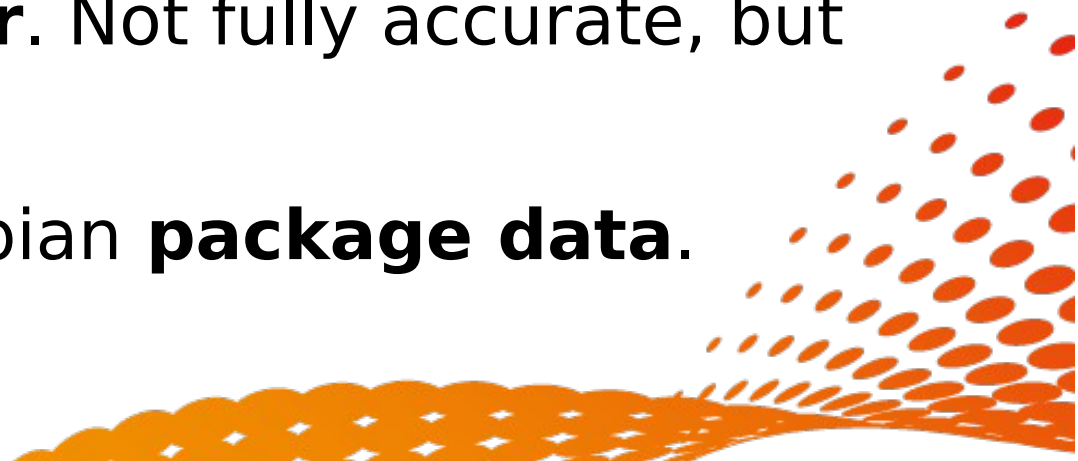
Nomos: Much faster and accurate licence scanner. New heuristic based on small phrases and phrases relative to other phrases.

Much **faster report** (Web page) generation.

Buckets: Creation of categories in licence reports (e.g. 'good licence', 'commercial licenses', 'files without licence', ...). No UI. But a very powerful way of adding licence processing.

Copyright/URL/email **scanner**. Not fully accurate, but useful for beta-testers.

Cataloging both RPM and Debian **package data**.



Meta data



View Meta Data

Folder: [Software Repository/ Fedora8-Test2/ d-f/ eclipse/ eclipse/ eclipse/ eclipse.spec](#)

Item	Meta Data		
1	Unpacked file type	application/x-rpm-spec	
2	Copyright	Eclipse Public License	
3	Epoch	1	
4	Group	Development/Languages	
5	Group	Text Editors/Integrated Development Environm	
6	License	Eclipse Public License	
7	Name	eclipse	73 Requires lucene-contrib >= 1.9.1
8	Name	eclipse-cvs-client	74 Requires mx4j >= 2.1
9	Name	eclipse-jdt	75 Requires regexp
10	Name	eclipse-pde	76 Requires rpmlib(VersionedDependencies) <= 3.0.3-1
11	Name	eclipse-pde-runtime	77 Requires tomcat5 >= 5.5.23-9jpp.4
12	Name	eclipse-platform	78 Requires tomcat5-jasper-eclipse >= 5.5.23-9jpp.4
13	Name	eclipse-rcp	79 Requires tomcat5-jsp-2.0-api >= 5.5.23-9jpp.4
14	Name	libswt3-gtk2	80 Requires tomcat5-servlet-2.4-api >= 5.5.23-9jpp.4
15	Obsoletes	ecj	81 Requires /usr/lib64/eclipse/plugins/org.eclipse.swt.gtk
16	Obsoletes	eclipse-sdk	82 Summary An open, extensible IDE
17	Provides	ecj	83 Summary Eclipse Compiler for Java
18	Provides	eclipse	84 Summary Eclipse CVS Client
19	Provides	eclipse-sdk	85 Summary Eclipse Java Development Tools
20	Release	19	86 Summary Eclipse platform common files
21	Requires	ant-antlr	87 Summary Eclipse Plugin Development Environment
22	Requires	ant-apache-bcel	88 Summary Eclipse Plugin Development Environment run
23	Requires	ant-apache-log4j	89 Summary Eclipse Rich Client Platform
24	Requires	ant-apache-oro	90 Summary SWT Library for GTK+-2.0
25	Requires	ant-apache-regexp	91 URL http://www.eclipse.org/
26	Requires	ant-apache-resolver	92 Version 3.3.0
27	Requires	ant-commons-logging	
28	Requires	ant-javamail	

Total meta data records: 92

Bucket Browser - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://randotest.ostt/repo/?mod=bucketbrowser&show=

@hp Employee Portal Fossology Languages Home - OSPO Tools ... repo.fossology.org

Bucket Browser

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Bucket Pool: GPL Demo bucket pool

Count	Files	Bucket
268	Show	GPL Licenses (Demo)
77	Show	non-gpl (Demo)

Unique buckets: 2

- 0 source packages
- 0 binary packages
- 0 binary packages with no source package

agents/

[GPL Licenses \(Demo\)](#), [non-gpl \(Demo\)](#)

cli/

[GPL Licenses \(Demo\)](#), [non-gpl \(Demo\)](#)

debian/

devel/

[GPL Licenses \(Demo\)](#), [non-gpl \(Demo\)](#)

Makefile [\[View\]\[Info\]\[Download\]](#)

[non-gpl \(Demo\)](#)

Makefile.conf [\[View\]\[Info\]\[Download\]](#)

[non-gpl \(Demo\)](#)

mkcheck.sh [\[View\]\[Info\]\[Download\]](#)

[GPL Licenses \(Demo\)](#)

mkinstall.sh [\[View\]\[Info\]\[Download\]](#)

[GPL Licenses \(Demo\)](#)

mktar.sh [\[View\]\[Info\]\[Download\]](#)

[GPL Licenses \(Demo\)](#)

mkuninstall.sh [\[View\]\[Info\]\[Download\]](#)

[GPL Licenses \(Demo\)](#)

README [\[View\]\[Info\]\[Download\]](#)

[non-gpl \(Demo\)](#)

scheduler/

[GPL Licenses \(Demo\)](#), [non-gpl \(Demo\)](#)

setup/

[non-gpl \(Demo\)](#)

tests/

[GPL Licenses \(Demo\)](#), [non-gpl \(Demo\)](#)

ui/

[GPL Licenses \(Demo\)](#), [non-gpl \(Demo\)](#)

utils/

[GPL Licenses \(Demo\)](#), [non-gpl \(Demo\)](#)

Done

Download No Rank



What's new in fossology 1.3.0

BSAM analyser retired.

File **tagging**: attach short (max 32 chars) tag, + long text to a container.

Implementing **access control** (user groups)

Unpack agent performance improvements.

New and faster **copyright agent**.

I18n support.

Use project-builder.org to create **upstream packages**
(Fedora, RHEL, CentOS, as a start)

QA



What's new in fossology 1.4.0

New **Comparison tool**: focus on diff between 2 file trees.

New **Simplified UI** (now default) in addition to the original one (customizable at user level).

Improved **User documentation**.

Multiple file upload from URL.

As of now (2011-05-11) :

RC5 available.



fossology Compare License Browser

[login](#) | [HP Support](#)

[Jump to histogram](#)

Filter:

Folder: Software Repository/ cpio/ cpio sub folder/

cpio-2.9-4.fc8.src.rpm/

cpio.1	[View] [Info]
No License Found	[Download]
cpio.spec	[View] [Info]
GPL-possibility	[Download]
cpio-2.9-chmodRaceC.patch	[View] [Info]
No License Found	[Download]
cpio-2.9-exitCode.patch	[View] [Info]
No License Found	[Download]
cpio-2.9-rh.patch	[View] [Info]
No License Found	[Download]
cpio-2.6-setLocale.patch	[View] [Info]
No License Found	[Download]
cpio-2.9.tar.gz	[View] [Info]
BSD, FSF, GFDL_v1.2+, GPL, GPL-exception, GPL_v2+, GPL_v3, GPL_v3+, LGPL_v2.1+, LGPL_v3+, No License Found, NOT-public-domain, Public-domain-claim, Public-domain-ref, TeX-exception, X11	[Download]

Folder: Software Repository/

**Fedora-14-source-DVD.iso/
cpio-2.11-2.fc14.src.rpm/**

cpio.1	[View] [Info]
No License Found	[Download]
cpio.spec	[View] [Info]
GPL-possibility	[Download]
cpio-2.9.90-defaultremoteshell.patch	[View] [Info]
No License Found	[Download]
cpio-2.9-dev_number.patch	[View] [Info]
No License Found	[Download]
cpio-2.9-dir_perm.patch	[View] [Info]
No License Found	[Download]
cpio-2.9-exitCode.patch	[View] [Info]
No License Found	[Download]
cpio-2.10-patternnamesigsegv.patch	[View] [Info]
No License Found	[Download]
cpio-2.9-rh.patch	[View] [Info]
No License Found	[Download]
cpio-2.9-sys_umask.patch	[View] [Info]
No License Found	[Download]
cpio-2.11.tar.bz2	[View] [Info]
BSD-lite, FSF, GFDL_v1.2+, GPL, GPL-exception, GPL_v2+, GPL_v3, GPL_v3+, LGPL_v3+, No License Found, NOT-public-domain, Public-domain-claim, TeX-exception, X11	[Download]

FLOSS Governance Workshop

Workshop designed to guide through the top issues around management of Open Source in the enterprise.

Targeted at a cross-organizational audience, including auditing, legal, procurement, operational risk management, technology strategy, and line-of-business departments

Open Source Baseline

Business Drivers

Various open source touch points in your company

Awareness, responsibilities , risks, processes

Legal Aspects of Open Source Governance

Assessment of Free and Open source software phenomenon

Detailed discussion of Open Source Licenses

Bridging the legal and technical communities

Other considerations: WEB-based services, mergers and acquisitions, other

Automating Open Source Compliance

Open Source discovery

License detection and analysis

Open Source Policy Best Practices

Use of open source - when appropriate, when not appropriate for your business

Review of licenses, product distribution considerations

Considerations for employee contribution to open source community

Company relationship with community

Open Source Governance Processes


Best practices for open source tracking, review and management

Open Source Compliance Lifecycle, workflow

Building Internal Open Source Communities



- **FOSSology** main site
<http://www.fossology.org>
- **Mailing Lists, contacts**
http://fossology.org/contact_us
- **Plume** details
<http://www.projet-plume.org/fiche/fossology>
- **Project-Builder**
<http://trac.project-builder.org>
- Open Source at **HP**
<http://opensource.hp.com>
- **ProLiant** & Linux
<http://www.hp.com/go/proliantlinux>



fossology

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- Developers
 - » Developer Docs
 - » Source Code
 - » Coming up
 - » Contributing
- SysAdmins
 - » Administration & Installation
 - » Buckets
 - » Login

FOSSology

Advancing open source analysis and development

FOSSology in the News

FOSSology 1.4.0 RC5 available See below for details.

Nathan Willis:  Weekend Project: Get to Know Your Source Code with FOSSology

 A Linux Foundation paper on FOSSology using v 1.2

The FOSSology Project

Our mission is to build free software tools to facilitate the study and analysis of Free and Open Source

Installing the FOSSology software:

- creates an empty software filesystem repository
- creates a database (PostgreSQL) for metadata storage and retrieval
- provides web and command line interfaces to populate the software repository
- provides web interface for viewing reports
- provides a batch subsystem for running lengthy analyses and reports
- provides engines (run from the web or cli) for:
 - License analysis (analyzes EVERY file for license information)
 - RPM spec file parsing
 - metadata extraction from libextractor (jpg headers, pdf, doc, ...)
 - file type
 - executing ad hoc sql
 - executing ad hoc scripts

FOSSology 1.4.0 Release Candidate 5, May 2011

- RC5 Announced 5/2/2011
- Release notes are [here](#).

*“The evolution of FLOSS
and the Internet are
tightly coupled”*

FOSSology users: HP, ALU, Siemens,
INRIA, OW2



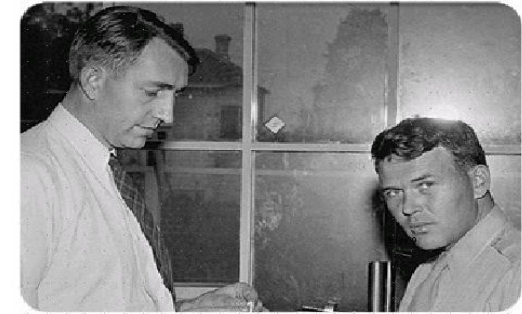
Bruno.Cornec@hp.com

(Open Source and Linux Technology Architect at
the HP/Intel Solution Center)

<http://www.hp.com/linux>

<http://opensource.hp.com>

<http://fossology.org>



Thanks goes to:

Linus Torvalds, Richard Stallman, Eric Raymond, Nat Makarevitch, René Cougnenc, Eric Dumas, Rémy Card, Bdale Garbee, Bryan Gartner, Craig Lamparter, Lee Mayes, Gallig Renaud, Andree Leidenfrost, Phil Robb, Bob Gobeille, Martin Michlmayr among others, for their work and devotion to the Open Source Software cause... and my family for their patience :-)

Changes are never easy to make. There is comfort and safety in tradition, but change must come, no matter how painful or expensive it may be.”

Bill Hewlett

