

Open Source Software, Sony's way



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About myself

OSS Community liaison

- Establish, foster and operate CE Linux Forum since 2003
 - CE Linux Forum:
 - As from 2011 it merged with the Linux Foundation and the activities have been taken over to the CE Workgroup
 - The leading edge of the Linux and OSS for use of embedded systems



Within Sony...

- OSS strategist
- Promotion of OSS license compliance



Recent situations



- Until just few years ago, **only some software engineers should understand appropriate use of OSS**
- Now, **not only the software engineers but also many other people should know about OSS**
 - It becomes unrealistic developing software without OSS because of the evolution
 - Non software specialists become highly relate to software development
 - ODM, Software development out-sourcing
 - Web application, Android application, iOS application
- **Highly strategic use of OSS becoming to be observed**

It is time to review how companies relate with OSS and the communities



Sony's Principles to deal with OSS and the open communities

The most essential thing to deal with OSS

- Understand **OSS development community people's intention**
 - Pays **maximum respect** to the developers
 - **As much cooperation** as we can
- **Licensors of OSS:**
 - Community people who develop the OSS
 - **Think seriously about the licensor and behave appropriately**

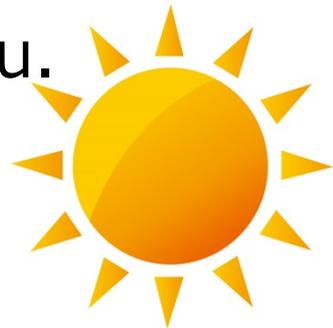
The behavior principal to the communities:

"Do not betray the Sun"

← **parents of Japanese family always tell to the children**

“Do not betray the Sun”... what it means?

- The Sun is always watching you.
- **You must not behave inappropriately!** If you do something bad even when there're no persons surrounding, it is betrayal to the Sun that is always watching you ubiquitously and keep you warm.



A very simple question

What is **software license**?

Software License?

- “License” is a document which the author describes the conditions allowing you to use the software (copyrighted material)
 - The license conveys the intention of the author
- The authors of OSS are the people who develop the software
 - The OSS license conveys the intention of the development community

Then, what would be the intention of OSS developers?

It must not be “Making Money”



Intention of OSS development community

- **Enjoy innovation!** Through the software development
- **Contribute human society** with the software they develop



Can we collaborate with such goodwill people?

I am always asking myself



If you betray the community people

- Community people who say:
 - "Let's enjoy innovation together!"
 - "Please do not free ride our outcomes, for the mercy's sake."
 - At least show us of your code if it should be GPL licensed

Betray
community
breaching such
license
requirement

Many community people know that the
free rider may become something like
cancer to kill the community

Make it
troublesome



Even Free Software Foundation says in their FAQ

- “we cannot act on our own if we do not hold copyright. Thus, be sure to find out who the copyright holders of the software are before reporting a violation.” (from “Violations of the GNU Licenses”)
 - <http://www.gnu.org/licenses/gpl-violation.en.html>
- The person who primary judge the license violation is the author, not FSF

The most essential thing in using OSS (including license compliance) is **to know the intention of the licensor (Community) and consent to those thoughts**

Don't you think legal / IP staff...

Legal / IP department staff



Together with persons who know community

*Legal / IP department
staff*

*Software Engineers who know
the technologies and
communities*

Decision to use OSS
Promotion of
appropriate use

Intra-company community

Introducing what Sony is doing

A brief introduction of Sony's OSS Guidelines



The Cost of Open Source Licensing Compliance

Size of Software Project & Development Organization		(A) No Legal Compliance Assurance	(B) QA Stage Analysis & Correction		(C) Preventive Legal Compliance Assistance & Build Stage Verification & Correction		
# Files (components) in Project	# Developers associated with Project	Cost of dealing with legal compliance in the field	Cost of IP Policy Compliance	\$ Savings vis-à-vis(A)	Cost of IP Policy Compliance	\$ Savings vis-à-vis(A)	\$ Savings vis-à-vis(B)
100,000	200	\$420,000	\$178,500	\$241,500	\$17,220	\$402,780	\$161,280
40,000	70	\$168,000	\$71,400	\$96,600	\$6,888	\$161,112	\$64,512
8,000	13	\$33,600	\$14,280	\$19,320	\$1,376	\$32,224	\$12,902
2,000		\$8,400	\$1,830	\$6,570	\$1,376	\$32,224	\$3,226

No Legal Compliance Assurance
\$ 420,000



QA Stage Analysis and Correction
\$ 178,000



From Build Stage Verification and Correction
\$ 17,220

http://www.ittoday.info/Articles/Open_Source_Legal_Compliance.htm

Sony In-house technology guidelines

- **GPL Guideline**

- Prepared in 2003 and have been maintaining

- **Technology guideline for all Sony companies**

- **Software development guideline in consideration of appropriate use of OSS**
- Originally it intended avoid GPL violation (2010)
- Rewrote and issued whole documents (April)
 - Promotion of more strategic use of OSS
 - Started publication of some portion and disclosing to ODM/OEM partners (assuming NDA)



Chapters in the Technology Guideline

- 1) Guideline for develop, release and maintain software for products or crowd services
- 2) Outsourcing software development
- 3) Collaborating with Open Community developers



1) Guideline for Software Development and Release

•Guideline for develop, release and maintain software for products or crowd services

What should be taken care while **software development** process

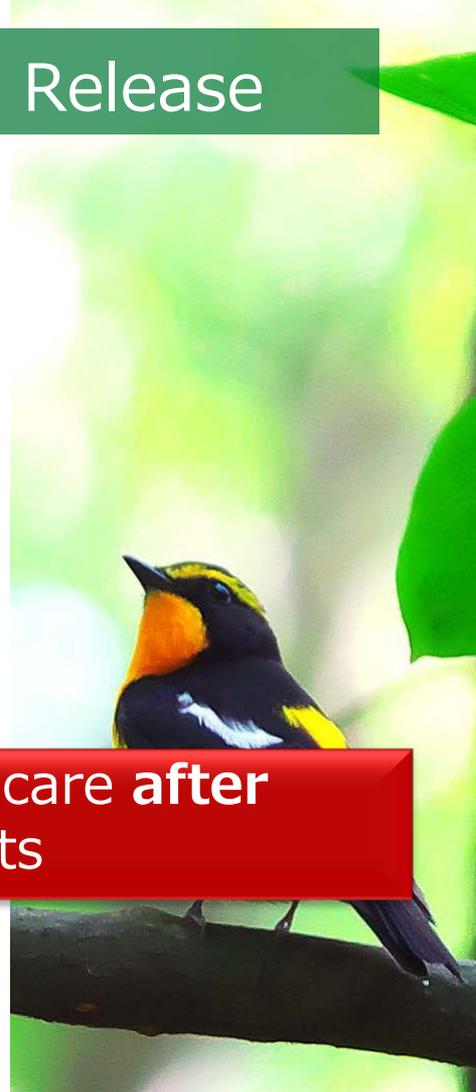
developers

development
community

What we should do when we **release our products**

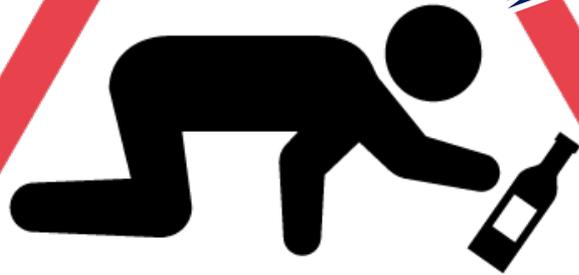
This section is shared with our OEM/ODM partners under NDA

What we should take care **after releasing** our products



“DO NOT EAT!”

Wow!
Here's useful software for
my project!



You must evaluate any OSS you find in internet sites, some books or any where, *you must evaluate them carefully before you use!*



What should be evaluated?

- **Is the community activated?** Can we collaborate?
 - **Open HUB** is a remarkably useful site
- Can we believe the quality enough for our products?
- **Can we comply the license requirement?**
- **How about patent issue?**
 - Is the OSS include someone's patent?
 - Is the OSS include our patent? (in some case such as "Apache License" may limit our own patent right execution)



Open HUB: <https://www.openhub.net/>

BLACKDUCK | Open HUB

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PROJECTS PEOPLE ORGANIZATIONS TOOLS CODE BLOG

Discover, Track and Compare Open Source

Connecting 3,793,245 open source contributors

Join Now



Claim your contributions

Manage your project's data



What's New

Ohloh has changed

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Projects

Open HUB



Linux Kernel

Settings | Report Duplicate



Very High Activity

7,052

I Use This!



Analyzed 5 days ago based on code collected 5 days ago.

Project Summary

Linux is a free software kernel, which combined with the GNU libraries, core utilities and shell form the GNU/Linux operating system.

!!!PLEASE!!! DO NOT REMOVE

git://git.kernel.org/pub/scm/linux/kernel/git/tglx/history.git enlistment. It contains historical pre-2.6.12 commit data.

Quick Reference

Organization: The Linux Foundation

Project Links: Homepage (2 Links)

Documentation (2 Links)

5484 commits

(home)

386 commits

178 commits

Most Active Contributors



Translation updater bot

2334 commits



Felix Yan

1807 commits



Juan RP

888 commits

Importance of Software Configuration Management

- When we use OSS

- Immediately record the information to specify the OSS
- If we make any correction, the record and the source code must be recorded into SCM
- We are referring to the SPDX

- SCM is crucial from view point of quality and product security issue

- OSS recording is included into our SCM process

In fact it is a fantastic tool, however...

- Too much depend on OSS code scanning tool may become troublesome
 - Black Duck Protex, Paramida, FOSSology...

- They are the tools to:
 - Ensure the OSS records in SCM
 - Ensure the appropriate use of OSS obtained from the external parties
 - Early timing use of the tool in the software development project

My nightmare

- Source code scanning tool reported:
 - “more than **5000 suspicious portions** in the project for inappropriate use of OSS” → All of them were turned to innocent
- Unfamiliar OSS license included
 - “**Give me beer license**”? What is it???

If you like my software please offer me a glass of free beer when you meet me!



2) Out-sourcing Software development

- Guideline for develop, release and maintain software for products or crowd services
- **Outsourcing software development**
- Collaborating with Open Community developers

Guideline to outsource the software development including such as OEM/ODM

Still remaining inappropriate understandings and behaviors for use of OSS among those OEM/ODM suppliers, unfortunately



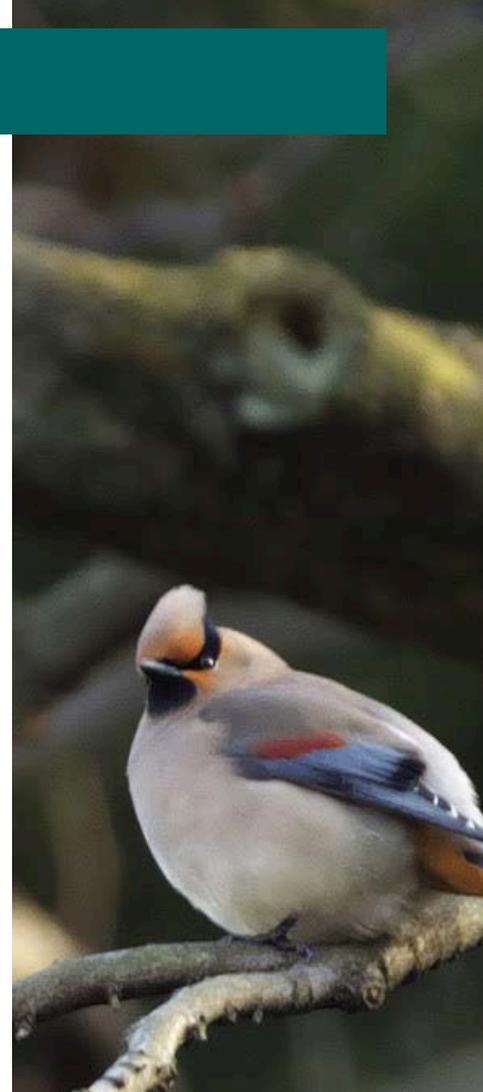
Ask outsourcers to perform as same thing as we do

- Let outsourcers to **understand Sony's basic policies** in using OSS
 - Standard document prepared for such explanations
- **Disclose** (under condition of NDA) **Sony's internal software design guideline** taking account of OSS issue



When outsourcers use OSS

- We are requesting to **conclude written agreement upon using OSS**
 - Including the detail information about those software components
 - Referring to **SPDX** for exact communication
 - **Requesting update** whenever they change anything about OSS usage



3) Guideline to collaborate with open community

- Guideline for develop, release and maintain software services

We aware Risks just using OSS and not make any feedback to the community

- Outsourcing software development

- **Collaborating with Open Community developers**

Guideline to perform up-streaming our patches

Guideline to publicize our own software technologies as OSS

More important strategic meanings



An accident which we experienced

We had been using **an OSS applied our original patches** to the serious bug
It turned out **some security hole to be fixed with the latest release**
In the latest release, we found it not fixed the bugs
but **even the situation became worse**

“Why we had not donated our original bug fixes back to the community?” (our engineers sighed)

We must be reminded that active communities tend to go far from our reach while we are not aware of it

The value of collaborating with open community



Open Community is the place to learn
the contemporary way of innovation

Place to foster next generation software engineers

Look at the GitHub Site



The screenshot shows the GitHub website interface. At the top, there is a navigation bar with the GitHub logo, a search bar, and links for 'Explore', 'Features', 'Enterprise', and 'Blog'. There are also 'Sign up' and 'Sign in' buttons. Below the navigation bar, the main content area displays the profile for 'Sony Corporation'. The profile includes the Sony logo, the name 'Sony', and the text 'Sony Corporation'. It also shows the location 'Minato-ku, Tokyo, Japan' and the website 'http://www.sony.co.jp/'. To the right of the profile, there is a 'People' section with one member listed: 'Yoshiyuki Mineo'. Below the profile, there is a search bar with the text 'Find a repository...'. The main content area lists two repositories: 'gobreaker' and 'sonyflake'. The 'gobreaker' repository is described as 'Circuit Breaker implemented in Go' and was updated 14 hours ago. The 'sonyflake' repository is described as 'A distributed unique ID generator inspired by...' and was also updated 14 hours ago. A large blue banner with the URL 'https://github.com/sony' is overlaid on the bottom right of the screenshot. At the bottom of the page, there is a footer with copyright information and links for 'Terms', 'Privacy', 'Security', and 'Contact'. There are also links for 'Status', 'API', 'Training', 'Shop', 'Blog', and 'About'.

A photograph of a duck with its wings spread wide, standing in a pond. The duck has a black head with a yellow eye, a blue beak, and brown and white feathers. The background is a dark, rippling pond.

It is time to review the value for companies to relate with OSS and the communities

If you just think the value of OSS as free of charge relatively matured software, you are missing another great value of open community

Open Communities will lead you the new era of innovation

At Embedded Linux Conference Europe 2015

Keynote by Executives

The CTO of HP appealed
the importance of
Community engagement





Thank you very much for your
kind attention