How do I trust my open source supply chain?
The OpenChain Project defines the key requirements for a quality open source compliance program.
Companies have the flexibility to decide the content of each specific process, policies and training.
OpenChain is run by users companies for user companies.
Our Latest Platinum Member

FUJITSU
Publicly Announced Conformant Programs
Our New Responsive Self-Certification App
Self-Certify or “health check” for free and in private:
https://certification.openchainproject.org
45% of organizations access the web app for conformance, 45% access it for health checks.
Audited Certification is an Option
OpenChain is Community First
Meetings in Japan
Japanese Mailing List

Japan WG ML registration

- Person
- Entity
OpenChain: raising all the boats for the benefit of all.
This is how we address software in the supply chain.
Using OpenChain For Practical “Open Source Software Supply Chain Management (OSSSCM)”

Masato ENDO
Project Manager
IP Strategic Group
Intellectual Property Div.
Toyota Motor Corporation
Introduction

Background

Communication Engineering & Informatics
Industrial & Management Systems Engineering
Business Administration
Intellectual Property Rights

Responsibilities

IP Strategy
OSS Governance
Community Works

http://linkedin.com/in/masato-endo-279026159
### The History of SCM

<table>
<thead>
<tr>
<th>Decade</th>
<th>Industry</th>
<th>Keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘70s</td>
<td>Automotive</td>
<td>JIT (Just In Time)</td>
</tr>
<tr>
<td>‘80s</td>
<td>Apparel</td>
<td>Informatization</td>
</tr>
<tr>
<td>‘90s</td>
<td>Computer</td>
<td>BTO (Build To Order), TOC (Theory Of Constraints)</td>
</tr>
<tr>
<td>‘00s</td>
<td>ALL</td>
<td>CPFR (Collaborative Planning, Forecasting and Replenishment)</td>
</tr>
<tr>
<td>‘10s</td>
<td>ALL</td>
<td>BCP (Business Continuity Planning)</td>
</tr>
</tbody>
</table>

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The concept of SCM

**WHY?**
- For improving customer’s experience
- For maximize effectiveness

**HOW?**
- Realizing Total Optimization
- Breaking down the intra- and inter-organizational barriers

**WHAT?**
- Collaboration with supply chain partners
- Managing bottlenecks
The Concept of OSSSCM

WHY?

Respecting the intention of community engineers
Maximizing effectiveness

HOW?

Realizing Total Optimization
Removing intra / inter-organization barriers

WHAT?

Collaboration between supply chain partners and community
Managing bottlenecks
Collaboration

1. Developing an OSS governance structure to promote collaboration

2. Standardization of methods for smart collaboration

- Community
- Supplier
- Maker
- Retailer
- Customer

- Executive
- Planning
- R&D
- Legal/IP
- Sales
- Procurement
- CS
- PR

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Governance of Each Organization

w/Community

Building out self-certification, Audited Certification and formal standardization

OPENCHAIN

Platinum Members:
Adobe/Arm/CISCO/COMCAST/GitHub/
HARMAN/HITACHI/QUALCOMM/SIEMENS
Sony/TOSHIBA/TOYOTA/Western Digital
Recently announced:
Bosch/Facebook/Google/Microsoft/Uber

In TOYOTA SC

Building an official group to manage OSS risks and community contributions

Companywide Group

- OSS Developer
- Security Specialist
- IP Specialist

R&D

Developing OSS Culture
Handling OSS Risks

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Standardization of Methods

w/Community

- OpenChain JP WG

In TOYOTA SC

Discussing Information Sharing Guidelines via OpenChain to address licensing information challenges

SUB Working Groups
- Planning SWG
- FAQ SWG
- Leaflet to Supplier SWG
- Education material for roles SWG
- License information exchange SWG
- Tooling SWG
- Promotion SWG

https://wiki.linuxfoundation.org/openchain/openchain-japanese-working-group
https://github.com/OpenChain-Project/Onboarding-JWG

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Standardization of Data Exchange

SPDX Lite (ex. Package Info.) would be an efficient way to manage supply chains where some suppliers cannot use the full SPDX specification.

DENSO TEN/Fujitsu/HITACHI/Panasonic/Pioneer/RENESAS/RICOH/Sony/TOSHIBA/TOYOTA
Managing Bottlenecks

1. Decreasing Patent Risks  2. Decreasing License Risks

Infrastructures of OSS

Community ➔ supplier ➔ Maker ➔ Retailer ➔ Customer

Executive Planning
R&D
Legal/IP
Sales
Procurement
CS
PR

3. Promote Internal and External Understanding OSS Compliance
Decrease Patent Risks

The expansion OIN Community resulted in a continuous reduction of OSS patent risks.

<table>
<thead>
<tr>
<th>Year</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>44%</td>
</tr>
<tr>
<td>2017</td>
<td>55%</td>
</tr>
<tr>
<td>2018</td>
<td>68%</td>
</tr>
</tbody>
</table>

Roughly Estimation of OIN Coverage

New Major Licensees OIN: HITACHI/KDDI/Microsoft

TOYOTA promoted its inclusion in the OIN Patent Non-Aggression Community. As a result, AGL technology has become part of this community.

OIN Board Members
Google/IBM/NEC/PHILIPS/Red Hat/Sony/SUSE/TOYOTA
Decrease License Risks

w/Community

GPL Cooperation Commitment (GPLCC) introduces a cure opportunity for GPLv2 and LGPLv2. This community is expanding rapidly.

<table>
<thead>
<tr>
<th>Nov.2017</th>
<th>Red Hat/Google/IBM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar.2018</td>
<td>CA Technologies/Cisco/HPE</td>
</tr>
<tr>
<td></td>
<td>Microsoft/SAP/SUSE</td>
</tr>
<tr>
<td>Jul.2018</td>
<td>Amazon/Arm/Canonical/Intel</td>
</tr>
<tr>
<td></td>
<td>Liferay/Linaro/MariaDB/NEC</td>
</tr>
<tr>
<td></td>
<td>Pivotal/Royal Philips/SAS/</td>
</tr>
<tr>
<td></td>
<td>TOYOTA/VMware</td>
</tr>
<tr>
<td>Nov.2018</td>
<td>Adobe/Alibaba/Amadeus/Ant</td>
</tr>
<tr>
<td></td>
<td>Financial/Atlassian, Atos</td>
</tr>
<tr>
<td></td>
<td>AT&amp;T/Bandwidth/Etsy/GitHub</td>
</tr>
<tr>
<td></td>
<td>Hitachi/NVIDIA/Oath/Renesas</td>
</tr>
<tr>
<td></td>
<td>Tencent/Twitter</td>
</tr>
</tbody>
</table>

In TOYOTA SC

TOYOTA became the first automotive company to join GPLCC.
https://www.toyota.co.jp/jpn/sustainability/governance/compliance/Toyota/GPL_Commitment.pdf

The eight board members of OIN announced that they had unanimously adopted GPLCC.
https://www.openinventionnetwork.com/pressrelease_details/?id=88

TOYOTA is introducing GPLCC at community events such as the AGL All Members Meeting.
Promote Understanding

w/Community

The OpenChain Japan WG is identifying bottlenecks caused by lack of understanding around compliance and building Sub-Groups for each bottleneck.

Executive Planning R&D Legal/IP Sales Procurement CS PR

Education material for roles Sub-G

FAQ Sub-G

Leaflet to Supplier Sub-G

In TOYOTA SC

TOYOTA introduced an OSS license manual on the employees intra-net and is sharing information with subsidiaries all over the world.

Outside professionals are delivering lectures for our engineers to further develop internal OSS culture.
Level of Understanding

Level 1
Not understand importance of OSS Compliance

- To join events (for Engineers/ Legal people/ IP people)
- PR (Traditional Media/ Tech Media/ SNS)

Level 2
Not understand what to do

- Workshop
- Case Materials (Wiki/ Handbook/ Academic paper)

Level 3
Not understand how to do

- Consultation
- Training support

Level 4
Not Understand how to get certification

- Self certification support
- Third-party certification

Comprehensive support is being developed
We have to reach people who doesn't recognize OSS compliance

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Engage with OpenChain – Start Your OSSSSCM

Join the community: https://www.openchainproject.org/community

Self-certify an organization: https://certification.openchainproject.org