Eclipse SW360 Presentation

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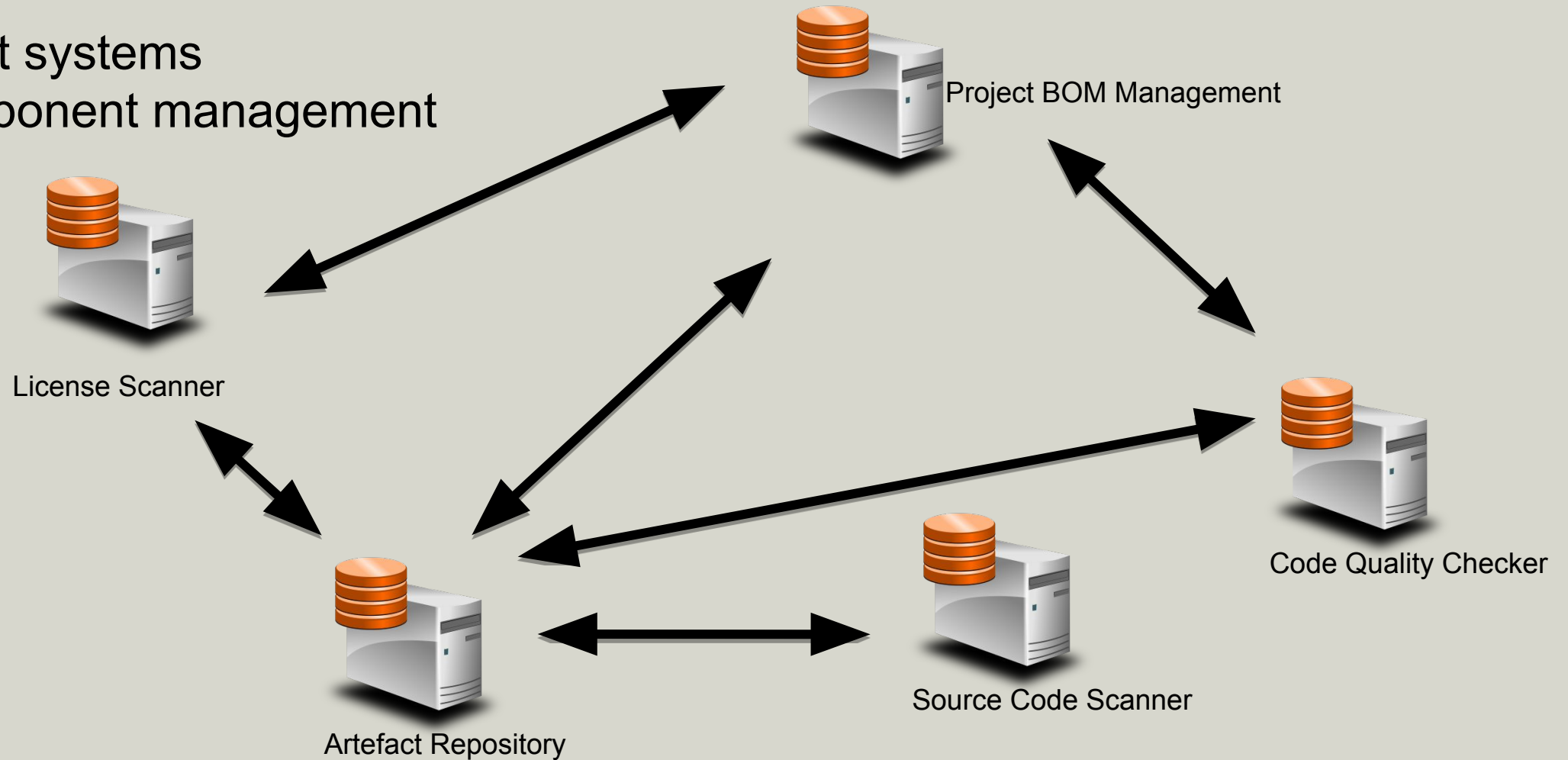
Agenda

- ○ SW360 Introduction & Overview
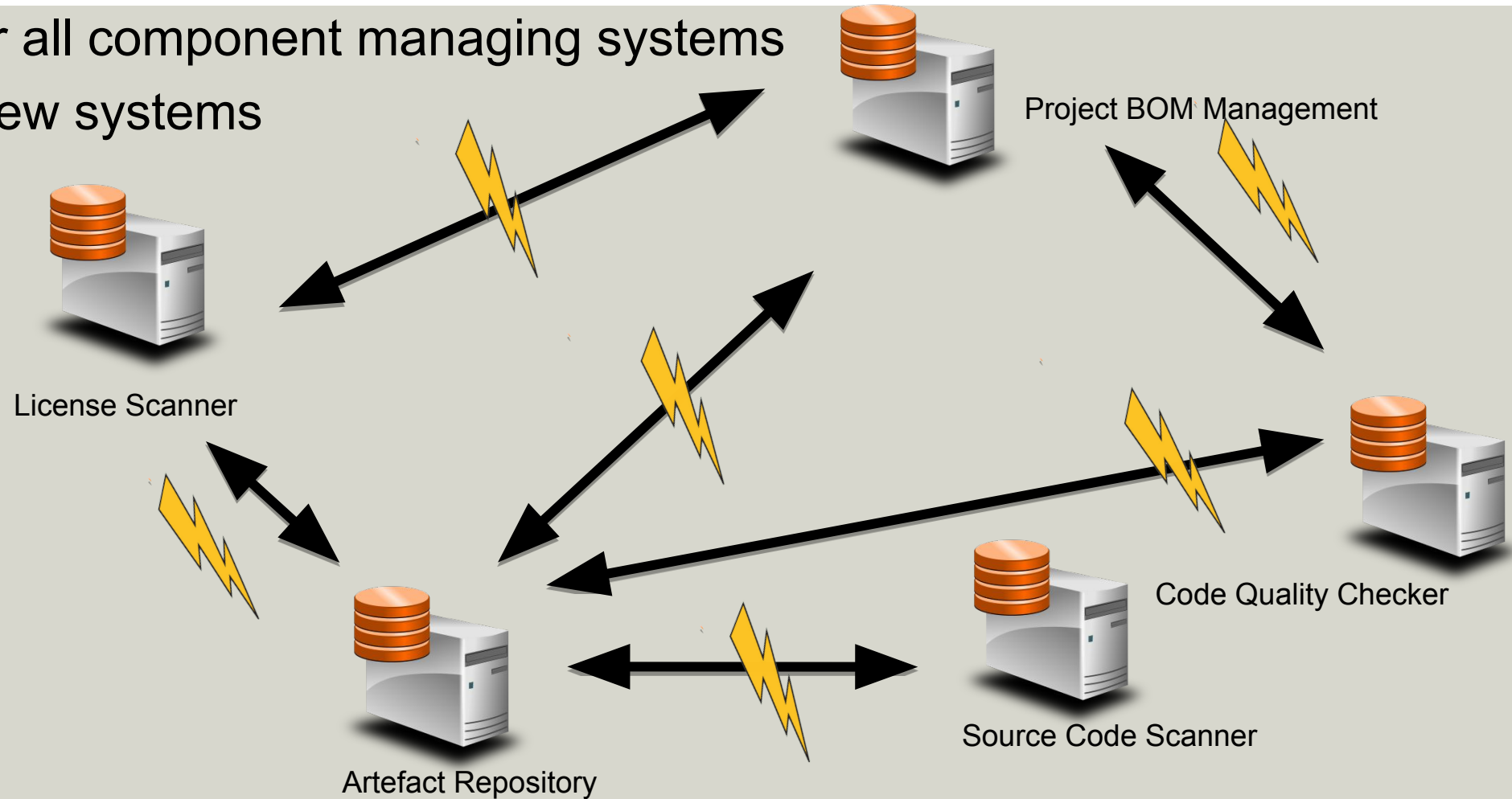
- ○ SW360 and Software Composition

- ○ REST API

SW360 Motivation

Handling of Software Components
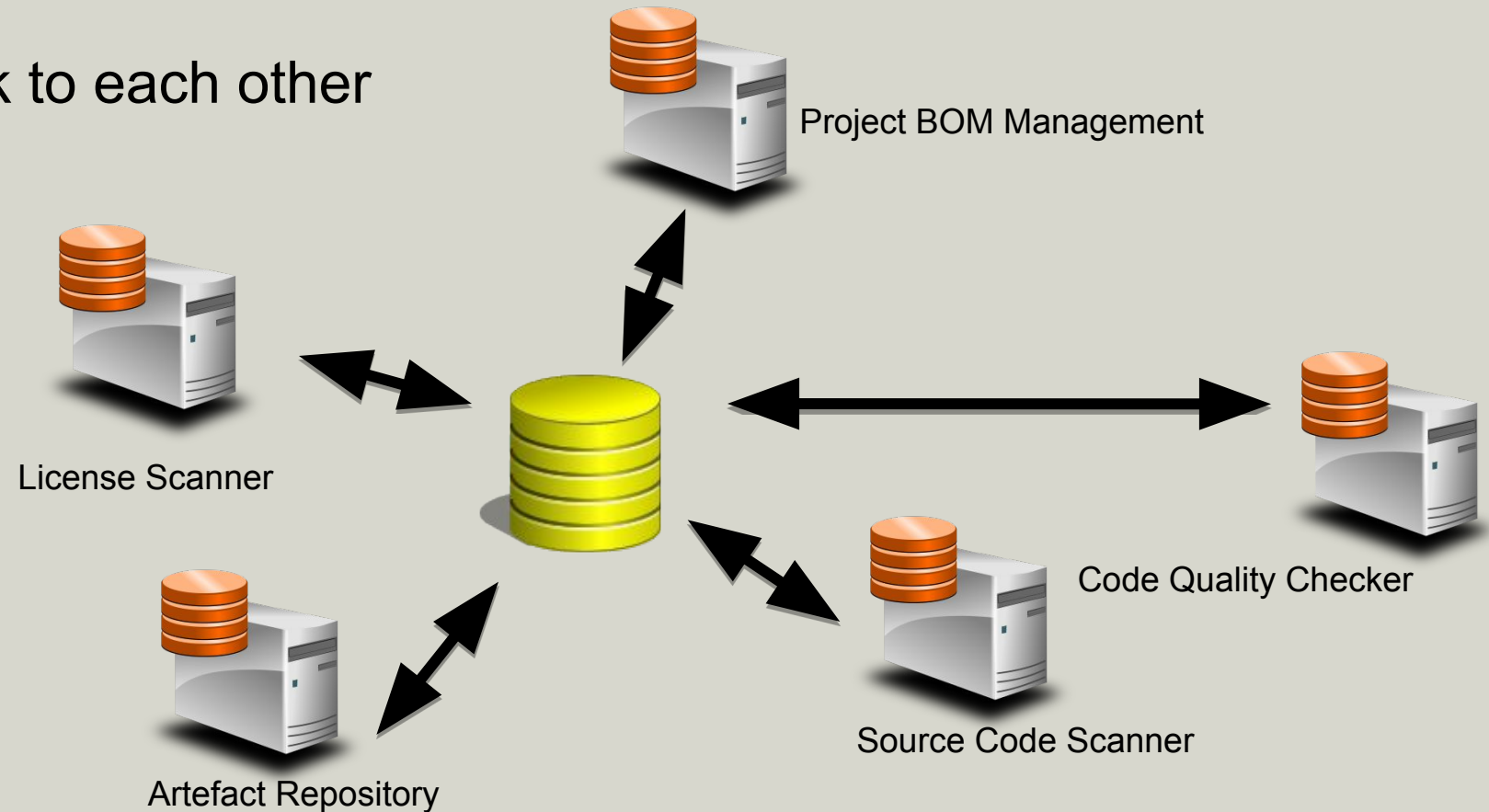
▪Different systems
for component management

Project BOM Management

License Scanner

Code Quality Checker

Artefact Repository

Source Code Scanner

Problem: not 1-to-1 but many-to-many

- Mapping effort for all component managing systems
- Will multiply for new systems

Project BOM Management

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Solution: Phonebook for Components

- Central database for names for software components
- Connect systems to talk to each other

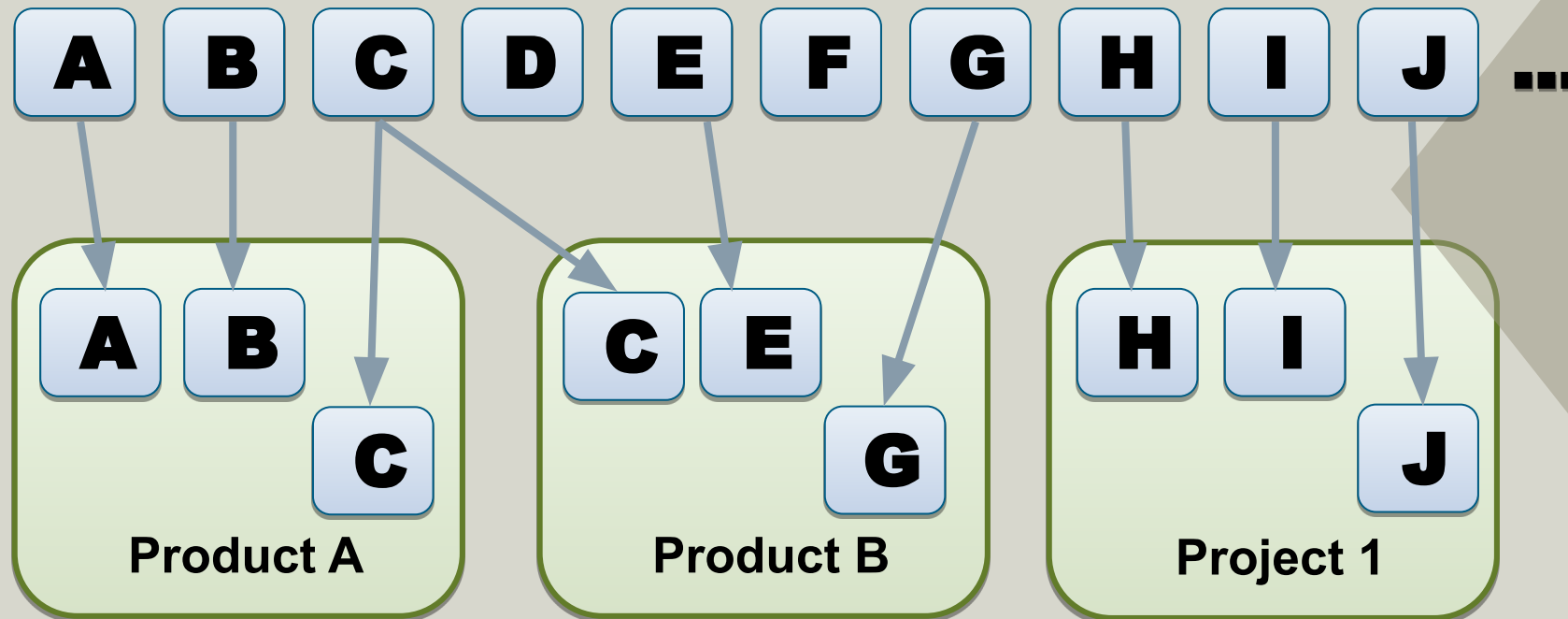- Like person directory for persons in organisations already

Project BOM Management

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Introduction: SW360

SW360 is a 3rd party software component catalogue

Assigns 3rd party and own components

to products or projects

- **Goals and Benefits**
- Reuse information about components
- Coordinate product documentation process
- Support software clearing

Product A

Product B

Project 1

SW360 History

Release History

- 2015: Initial release github.com/sw360/sw360portal

- 2018: SW360 3.3: first release Eclipse project

- 6.0: New FOSSology integration (REST)

- 7.0: Relicensing to EPL-2.0

- 9.0: Changelog for records, custom fields

- 11.0: Java 11, Liferay 7.3

- 12.0: Improved obligations, latest release

- **SW360 is OSS**
- Java / Tomcat
- Spring for REST
- Liferay for UI

SW360 and Software Composition and Bill-of-Materials

New Since Last Year

New features since our last presentation ere

- SPDX import for Bill-of-Material (very basic, but working)
- FOSSology scans can be triggered via SW360 REST API
- SW360 in Japanese and Vietnamese!
- We mentioned the change log: very important for a collaborative group
- A lot of new REST endpoints including search, attachment handling
- Documents linked on every footer of the page
- Improving custom fields and external ids
- Obligations support & Clearing requests

S-BOM-Driven View

S-BOM: Bill of Material

- Once the software contents are in a number of new use cases:
    - License compliance documentation
    - Collection of source code
    - ECC
    - Vulnerabilities
    - Statistics

SW360 cannot determine the

S-BOM, but other OSS tools can:

- *SW360antenna*
- *OSS Review Toolkit*
- *Qmstr*
- *Tern*
- *SW360 REST client*

Compliance Documenation

Different Use Cases per Product / Project

- Component approval
  - Listing approval status of components
- Compliance documentation
  - Generating license texts,
    copyrights from SPDX as HTML or Text
- Source code bundle generation
  - Covering the work of source code collections
- Product approval documentation
  - Major updates to data model: obligations for a product

Obligation Support

After licenses, how is about tracking obligations?

- Licenses are there and so are "to do" items, the obligations
- Connect them with obligations, i.e. OSADL license checklist
- Tracking status of obligation implementations

First: type of obligations
Permissions, Risks, Obligations, Restrictions and Exceptions

Second: level of obligations
Organisation, Project, Component and Licenses

Change Logs

To keep track of every single change made with a document

- Maintains a log history for every change made in any of the sw360 document

Clearing Status	Date	Change Log Id	Change Type	User	Actions
Attachment Usages	2020-09-24	d5d8a06e53ec8ddfc7e4da0c1602e11c	Attribute Changes	admin@sw360.org	
Obligations 0/0	2020-09-24	d5d8a06e53ec8ddfc7e4da0c1602cb30	Attribute Changes	admin@sw360.org	
ECC Status	2020-09-24	d5d8a06e53ec8ddfc7e4da0c1602c2d6	Attribute Changes	admin@sw360.org	View Change Logs
Attachments	2020-09-24	d5d8a06e53ec8ddfc7e4da0c1602a4f3	Attribute Changes	admin@sw360.org	
Vulnerabilities ?/?	2020-09-23	d5d8a06e53ec8ddfc7e4da0c16024510	Attribute Changes	admin@sw360.org	
Change Log	2020-09-23	d5d8a06e53ec8ddfc7e4da0c160244e8	Attribute Changes	admin@sw360.org	
	2020-09-23	d5d8a06e53ec8ddfc7e4da0c1601fd6d	Attribute Changes	admin@sw360.org	

Clearing Request: Workflow & Creation

- User can create the Clearing Request from `Clearing Status` tab.
- All component releases with NEW clearing status is sent for clearing.

Clearing Request: Dashboard

Request ID	Business Area/Line	Project	# of Components to be cleared	Status	Requesting User	Clearing progress
CR-132 P-1	SHS TE	Demo Project SHS (1.0)	3	New	Arun Azhakesan	not available
CR-131 P-1			25	Accepted		67%
CR-130 P-0			1	Accepted		86%
CR-129 P-2			5	Accepted		72%
CR-128 P-1			7	Accepted		30%
CR-127 P-2			0	Accepted		100%
CR-126 P-0			2	Accepted		
CR-125 P-3			2	Accepted		0%
CR-122 P-0			3	In Progress		
CR-115 P-0			158	New		not a

Showing 1 to 10 of 34 entries

Clearing Request Comments: (1)

Comments

Enter Comment...

Add Comment

AA   *** This is auto-generated comment ***
Linked release(s) with clearing state new:
- OpenSSL 1.0.0.d
- Apache Commons Beanutils 1.6.1
- Boost C++ 1.36

— by *Arun Azhakesan* on *2020-11-23 09:29*

- Unique CR is created for each project.
- User can track the progress of their clearing via Request Dashboard.
- Release specific changes (project) are tracked & added as comment.

SW360 REST API

SW360 – REST API

Interpolation with other systems & automation:

**You want to have a REST API
for easy and universal access**

- A RESTful Spring Boot Application which is fully integrated into the SW360 stack

- The REST API is Hypermedia-style, using HAL (Hypertext Application Language)

- Supports Resource Server and Authorization Server with OAuth2 and Access Tokens

- … or

SW360 REST Interface

How to get information

- At every instance
- https://host/resource/docs/api-guide.html
- Link is there at the footer of every page
- Note that development of new endpoints is **usage based**
- We cannot anticipate all the uses
- Report the use case you would like to have
- Good endpoints are based on actual usage

SW360 REST API: Token Generator!

Every user can generate a token

- Two problems:
  - Usually in IT, application accounts are used for running a service (e.g. "web" for httpd)
  - Obtaining tokes is difficult to implement for clients
- Solution is to have tokens being generated from the SW360 UI with users permissions
- Token can used for clients directly

SW360 REST Interface

What can be done: Reading

- Statistics
- Number of processed OSS components in products
- Inner source or internal component usage
- Number of OSS vs. commercial components
- Coverage of license compliance information

SW360 REST Interface

What can be done: CI

- Checking components available
- Checking for license or vulnerabilities information
- Getting clearing information (downloading SPDX attachments)
- Download OSS disclosure information for products
- Getting more reports in different formats

SW360 REST Interface

What can be done: Writing

- Project entries
- Entire Software Bill-of-material
- Create components
- Use package management Id
- Key value based external id
- Add external Ids: maven id, package URL

-> Software Composition Tools can transfer SBOM to SW360 over REST

How to Run?

Deployment

- Vagrant-based setup at https://github.com/sw360/sw360vagrant
- Docker-based setup at https://github.com/sw360/sw360chores
- Deployment info at: https://github.com/eclipse/sw360/wiki

Documentation

- Markdown based
- REST API Docs
- Documents linked on every footer of the page

Thank you!

Useful Links

- CC-BY-SA 4.0
  https://creativecommons.org/licenses/by-sa/4.0/

- **Internet**
  https://www.eclipse.org/sw360

- **Github**
  https://www.github.com/eclipse/sw360
  https://www.github.com/sw360

- **Further Links**
  https://www.spdx.org

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