London DevOps

#85

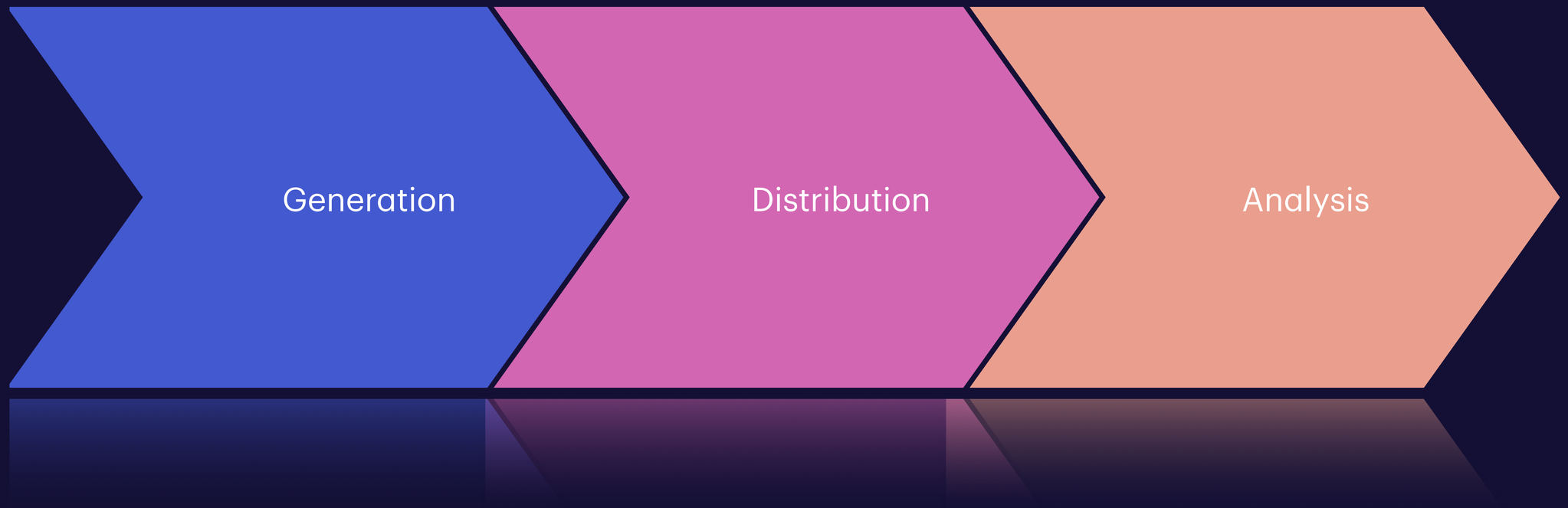
Viktor Petersson
vpetersson.com

$ whoami

What are SBOMs?

Why now?

What are SBOMs used for?



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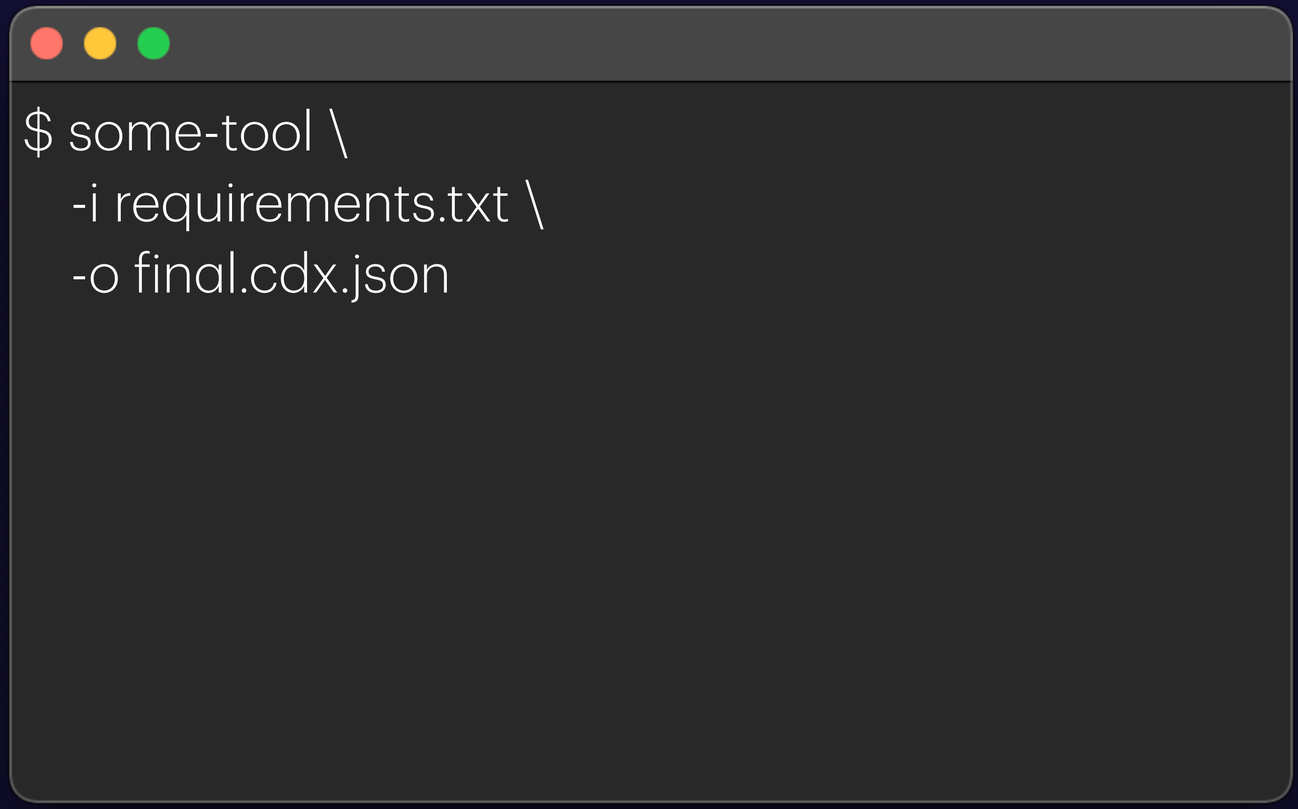
Generation

Expectation

- Run one of the many tools
- Get a valid SBOM
- Move on

or

- Download SBOM from GitHub



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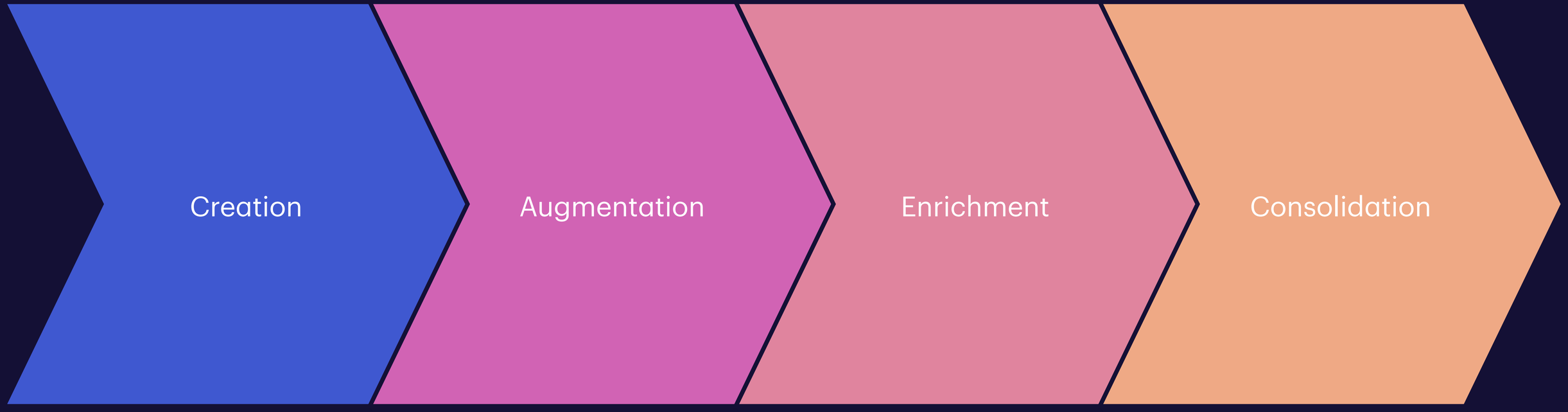
SBOM Generation Steps



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The format war

SPDX

from

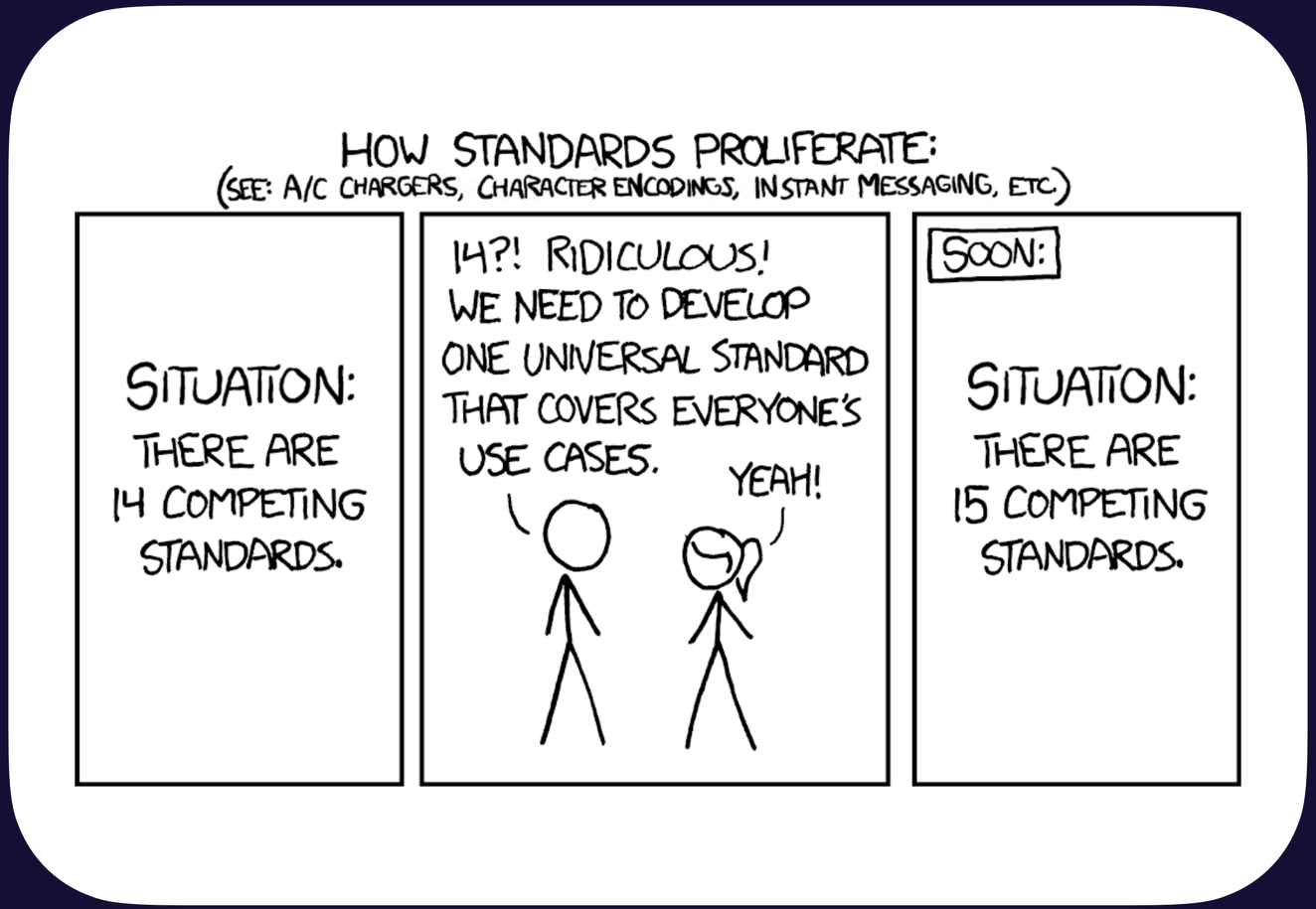
THE LINUX FOUNDATION

CycloneDX

from

OWASP

Open Web Application
Security Project


HOW STANDARDS PROLIFERATE:
(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC.)
SITUATION: THERE ARE 14 COMPETING STANDARDS.
14?! RIDICULOUS! WE NEED TO DEVELOP ONE UNIVERSAL STANDARD THAT COVERS EVERYONE'S USE CASES.
YEAH!
SOON:
SITUATION: THERE ARE 15 COMPETING STANDARDS.

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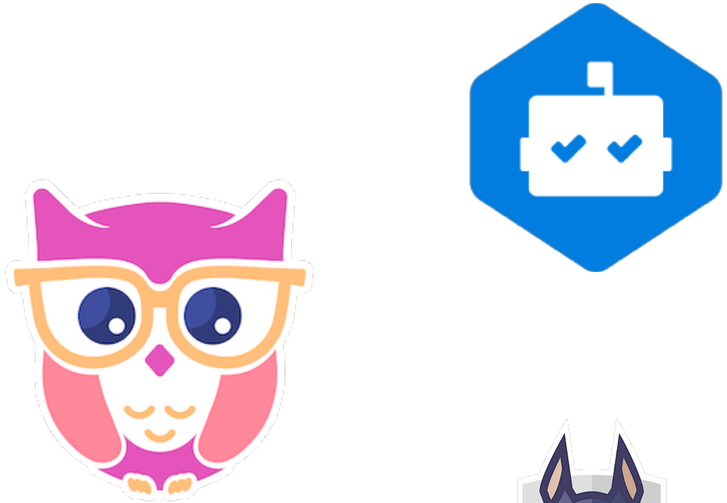
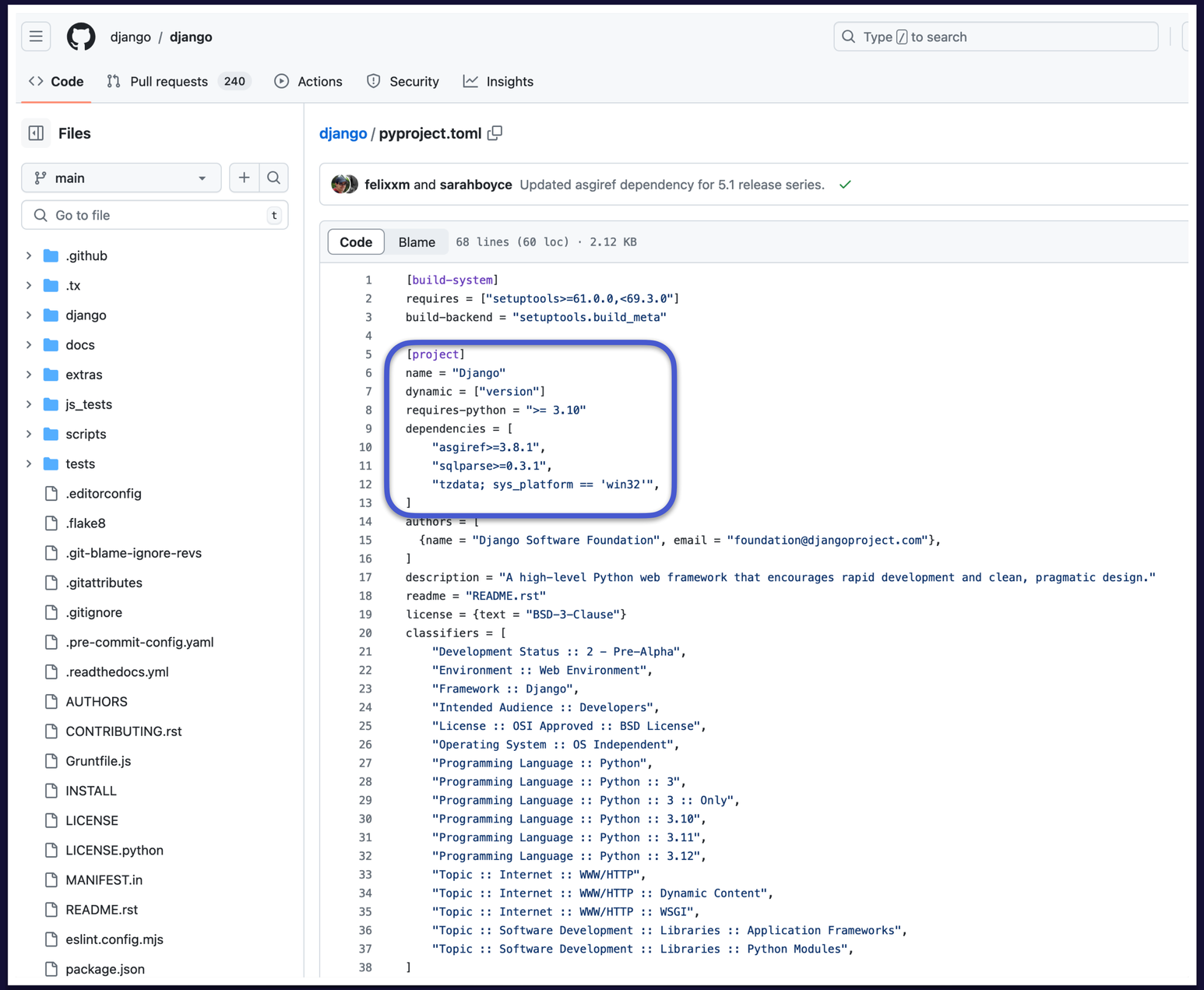
The tools

Generic



Domain specific tools

Transitive vs. primary dependencies


django / django
Type / to search
Code
Pull requests 240
Actions
Security
Insights
Files
main
Go to file t
.github
.tx
django
docs
extras
js_tests
scripts
tests
.editorconfig
.flake8
.git-blame-ignore-revs
.gitattributes
.gitignore
.pre-commit-config.yaml
.readthedocs.yml
AUTHORS
CONTRIBUTING.rst
Gruntfile.js
INSTALL
LICENSE
LICENSE.python
MANIFEST.in
README.rst
eslint.config.mjs
package.json
django / pyproject.toml
felixxm and sarahboyce Updated asgiref dependency for 5.1 release series.
Code
Blame
68 lines (60 loc) · 2.12 KB
[build-system]
requires = ["setuptools>=61.0.0,<69.3.0"]
build-backend = "setuptools.build_meta"
[project]
name = "Django"
dynamic = ["version"]
requires-python = ">= 3.10"
dependencies = [
"asgiref>=3.8.1",
"sqlparse>=0.3.1",
"tzdata; sys_platform == 'win32'",
]
authors = [
{name = "Django Software Foundation", email = "foundation@djangoproject.com"},
]
description = "A high-level Python web framework that encourages rapid development and clean, pragmatic design."
readme = "README.rst"
license = {text = "BSD-3-Clause"}
classifiers = [
"Development Status :: 2 - Pre-Alpha",
"Environment :: Web Environment",
"Framework :: Django",
"Intended Audience :: Developers",
"License :: OSI Approved :: BSD License",
"Operating System :: OS Independent",
"Programming Language :: Python",
"Programming Language :: Python :: 3",
"Programming Language :: Python :: 3 :: Only",
"Programming Language :: Python :: 3.10",
"Programming Language :: Python :: 3.11",
"Programming Language :: Python :: 3.12",
"Topic :: Internet :: WWW/HTTP",
"Topic :: Internet :: WWW/HTTP :: Dynamic Content",
"Topic :: Internet :: WWW/HTTP :: WSGI",
"Topic :: Software Development :: Libraries :: Application Frameworks",
"Topic :: Software Development :: Libraries :: Python Modules",
]

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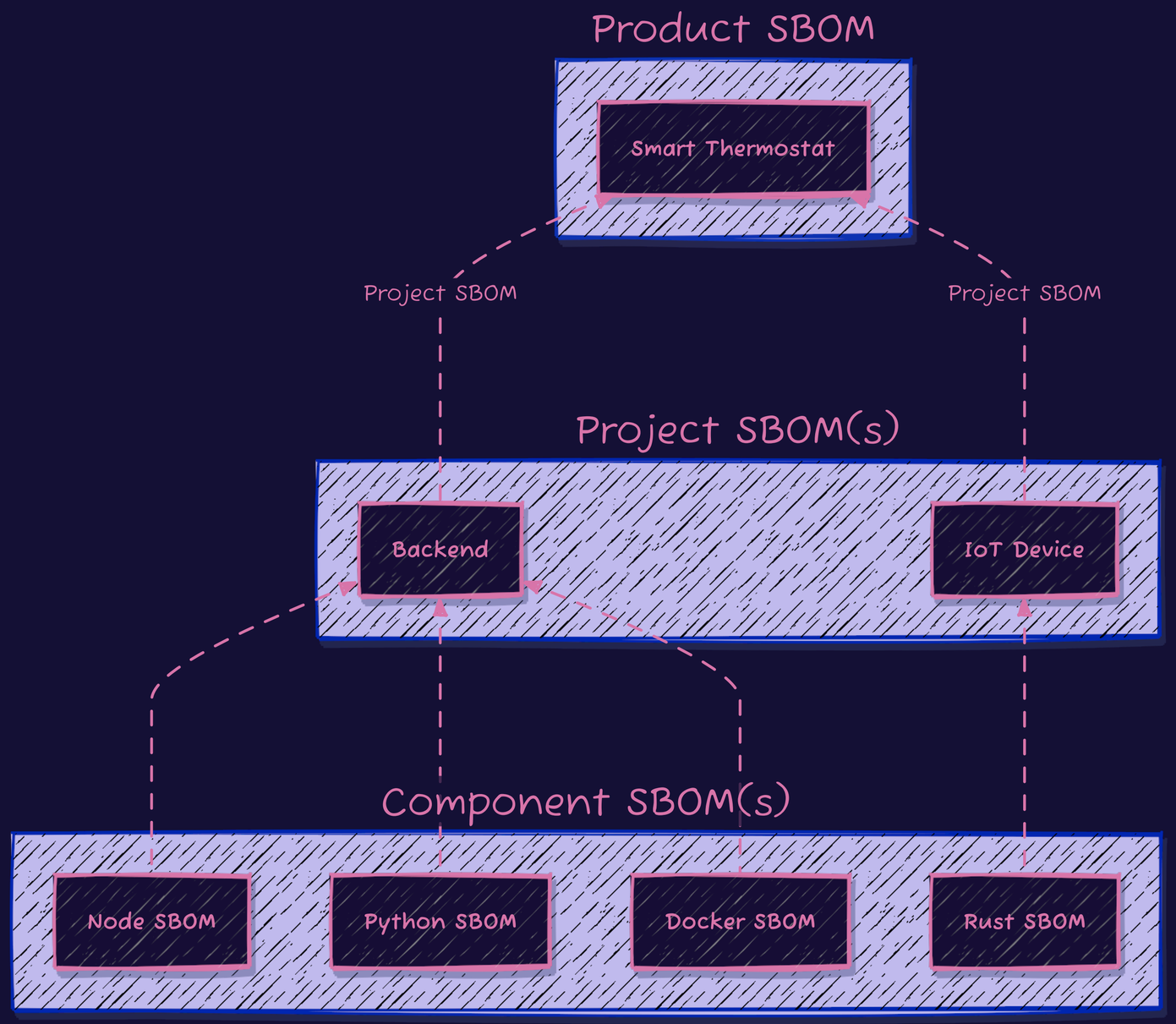
Source vs. Build SBOMs

But wait...there's more


Product SBOM
Smart Thermostat
Project SBOM
Project SBOM
Project SBOM(s)
Backend
IoT Device
Component SBOM(s)
Node SBOM
Python SBOM
Docker SBOM
Rust SBOM

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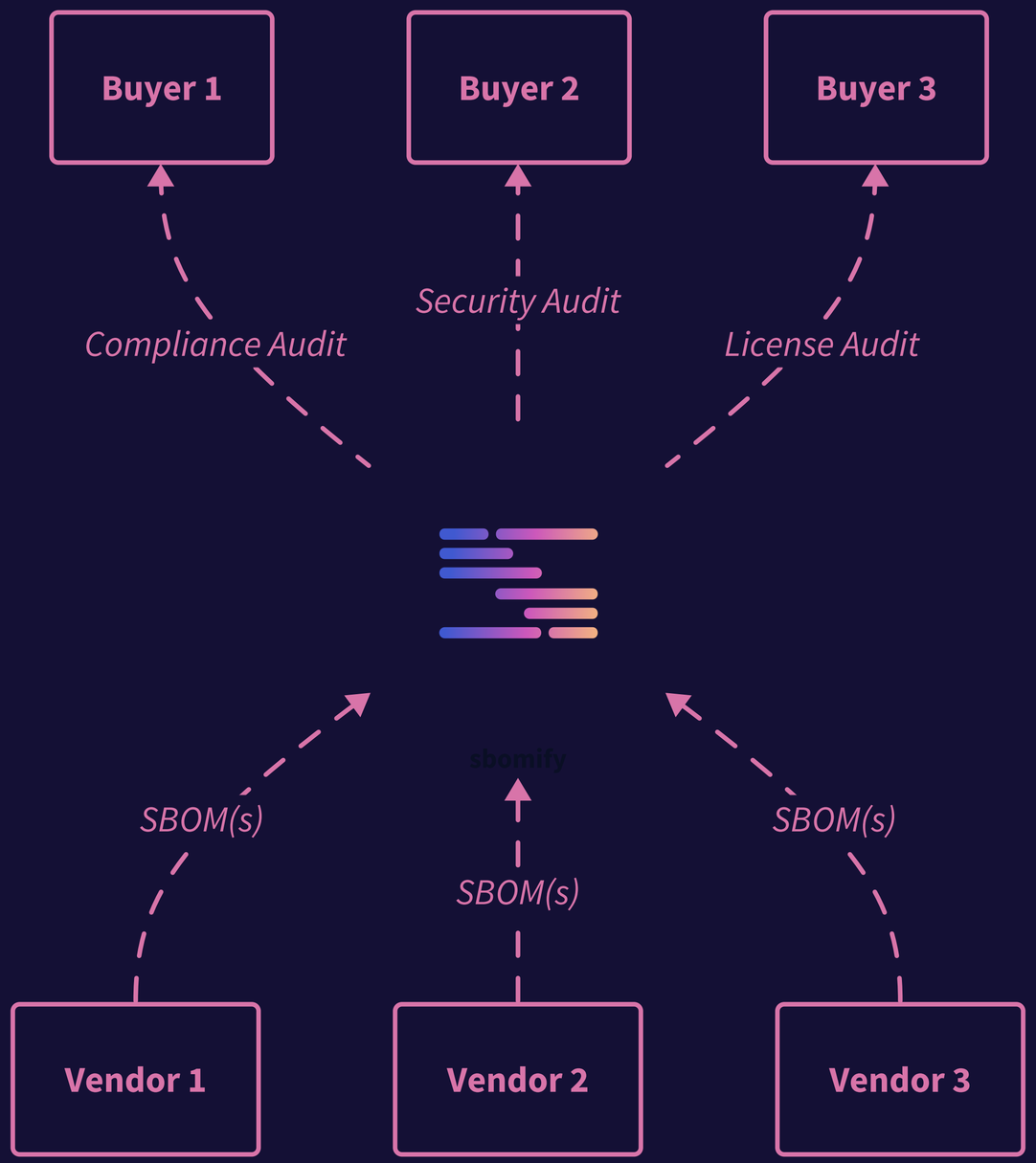
But what about security?

Distribution

Handling SBOMs today feels like managing source code in the 90s, with patches sent over email.


Buyer 1
Buyer 2
Buyer 3
Compliance Audit
Security Audit
License Audit
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SBOM(s)
SBOM(s)
SBOM(s)
Vendor 1
Vendor 2
Vendor 3

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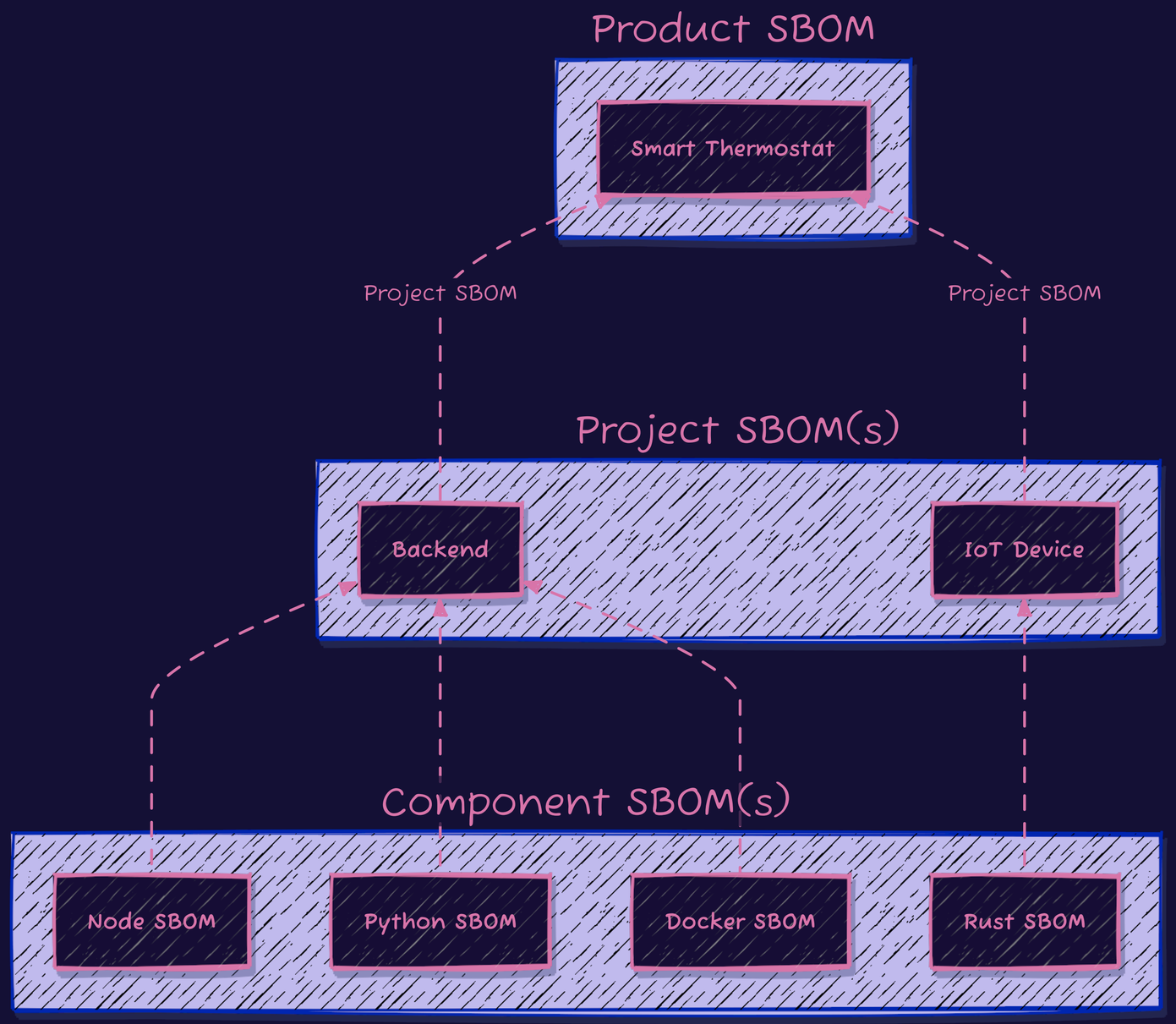
Analysis

dependency track

Big Picture


Product SBOM
Smart Thermostat
Project SBOM
Project SBOM
Project SBOM(s)
Backend
IoT Device
Component SBOM(s)
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Docker SBOM
Rust SBOM

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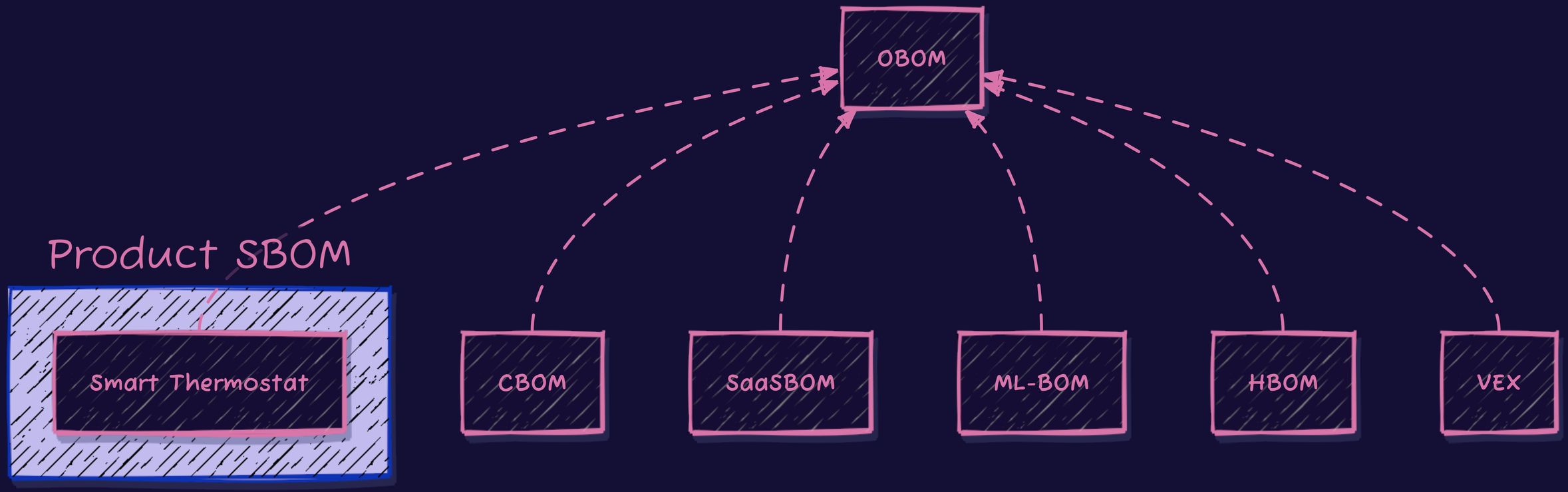
OBOM
Product SBOM
Smart Thermostat
CBOM
SaaSBOM
ML-BOM
HBOM
VEX

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State of SBOMs

Q & A


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More reading

- NTIA Minimum Elements
- Framing Software Component Transparency: Establishing a Common Software Bill of Materials (SBOM) (2nd edition)
  - 3nd edition is released shortly
- SBOM Resources
- CISA Working Group: SBOM Generation
- Shameless self plug: sbomify
- Slides will be available on vpetersson.com/about

Scan for deep dive!

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