SUPPLY CHAIN SECURITY

Sicherheitslücken in eigener und fremder Software identifizieren

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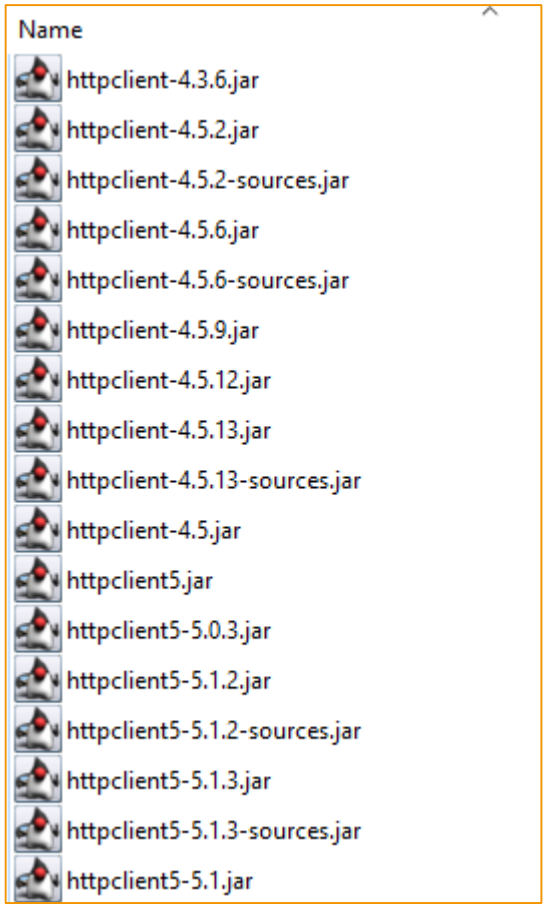
SICHERHEIT IN DER DIGITALEN LIEFERKETTE

ABHÄNGIGKEITEN ÜBERWACHEN

- SBOM: Software Bill of Materials
  - Was wird wo verwendet in welcher Version?
- Schwachstellenmanagement
  - Welche Versionen sind verwundbar?
- Risikomanagement
  - Auswirkungen der Schwachstelle
- Patchmanagement



WIE LANGE GAB ES CVE-2021-44832 ?

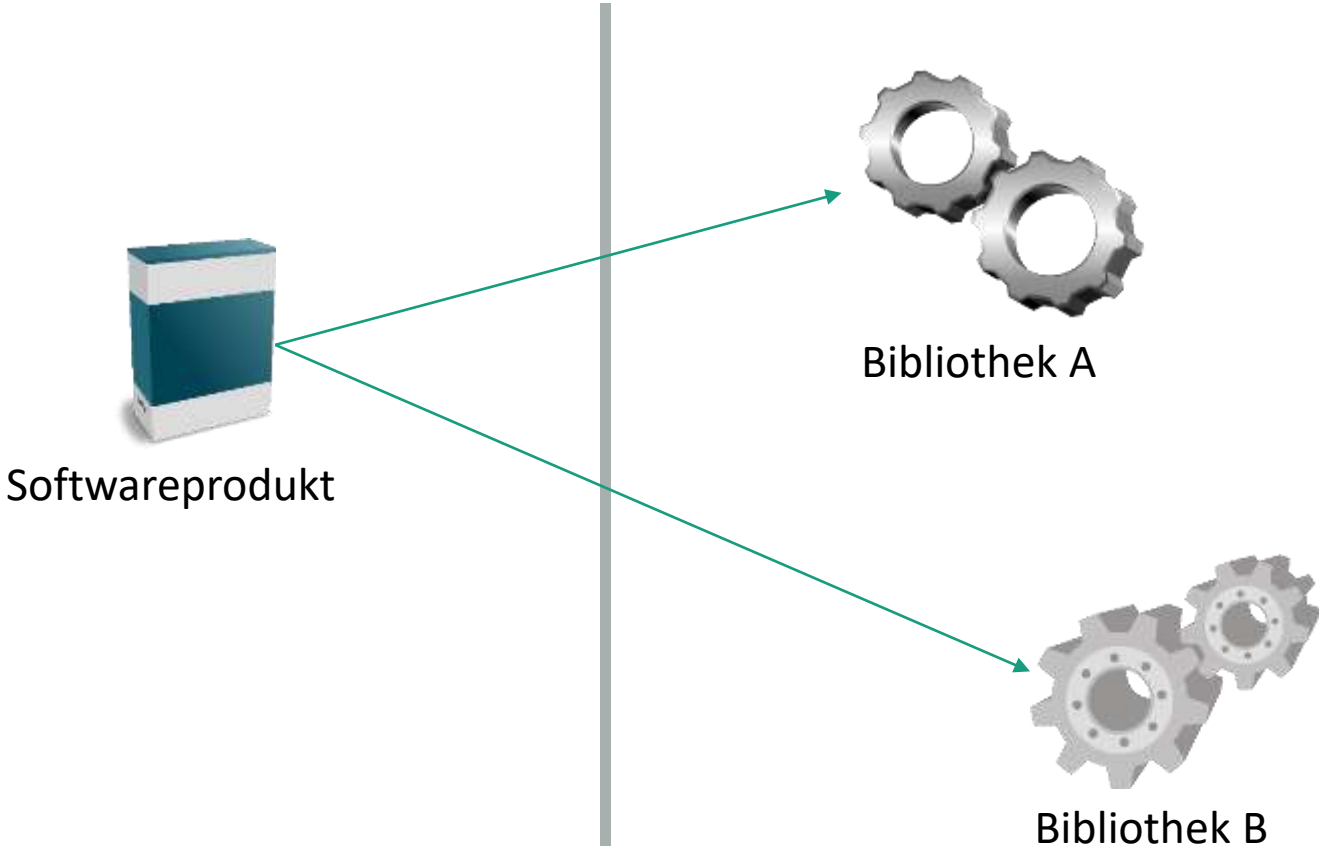
	2.17.0	2 vulnerabilities	Central	965	Dec 18, 2021
2.16.x	2.16.0	3 vulnerabilities	Central	988	Dec 13, 2021
2.15.x	2.15.0	5 vulnerabilities	Central	1,179	Dec 10, 2021
2.14.x	2.14.1	8 vulnerabilities	Central	1,092	Mar 12, 2021
	2.14.0	8 vulnerabilities	Central	1,079	Nov 10, 2020
2.13.x	2.13.3	8 vulnerabilities	Central	1,342	May 14, 2020
	2.13.2	8 vulnerabilities	Central	874	Apr 21, 2020
	2.13.1	9 vulnerabilities	Central	343	Feb 29, 2020
	2.13.0	9 vulnerabilities	Central	403	Dec 12, 2019
2.12.x	2.12.4	6 vulnerabilities	Central	117	Dec 29, 2021
	2.12.3	8 vulnerabilities	Central	74	Dec 22, 2021
	2.12.2	9 vulnerabilities	Central	33	Dec 14, 2021
	2.12.1	9 vulnerabilities	Central	1,485	Aug 09, 2019
	2.12.0	9 vulnerabilities	Central	264	Jun 29, 2019
2.11.x	2.11.2	9 vulnerabilities	Central	547	Feb 09, 2019
	2.11.1	9 vulnerabilities	Central	1,424	Jul 23, 2018
	2.11.0	9 vulnerabilities	Central	1,025	Mar 11, 2018
2.10.x	2.10.0	9 vulnerabilities	Central	704	Nov 19, 2017

2.9.x	2.9.1	9 vulnerabilities	Central	992	Sep 18, 2017
	2.9.0	9 vulnerabilities	Central	394	Aug 26, 2017
2.8.x	2.8.2	9 vulnerabilities	Central	1,197	Apr 02, 2017
	2.8.1	10 vulnerabilities	Central	387	Feb 27, 2017
	2.8	10 vulnerabilities	Central	114	Jan 22, 2017
2.7.x	2.7	10 vulnerabilities	Central	1,021	Oct 02, 2016
2.6.x	2.6.2	10 vulnerabilities	Central	836	Jul 06, 2016
	2.6.1	10 vulnerabilities	Central	248	Jun 06, 2016
	2.6	10 vulnerabilities	Central	167	May 25, 2016
2.5.x	2.5	10 vulnerabilities	Central	620	Dec 07, 2015
2.4.x	2.4.1	10 vulnerabilities	Central	128	Oct 09, 2015
	2.4	10 vulnerabilities	Central	35	Sep 20, 2015
2.3.x	2.3.2	7 vulnerabilities	Central	10	Dec 29, 2021
	2.3.1	9 vulnerabilities	Central	11	Dec 22, 2021
	2.3	10 vulnerabilities	Central	273	May 10, 2015
2.2.x	2.2	10 vulnerabilities	Central	179	Feb 22, 2015
2.1.x	2.1	10 vulnerabilities	Central	266	Oct 20, 2014
	2.0.2	10 vulnerabilities	Central	64	Aug 17, 2014
	2.0.1	10 vulnerabilities	Central	34	Jul 30, 2014
	2.0	10 vulnerabilities	Central	43	Jul 12, 2014

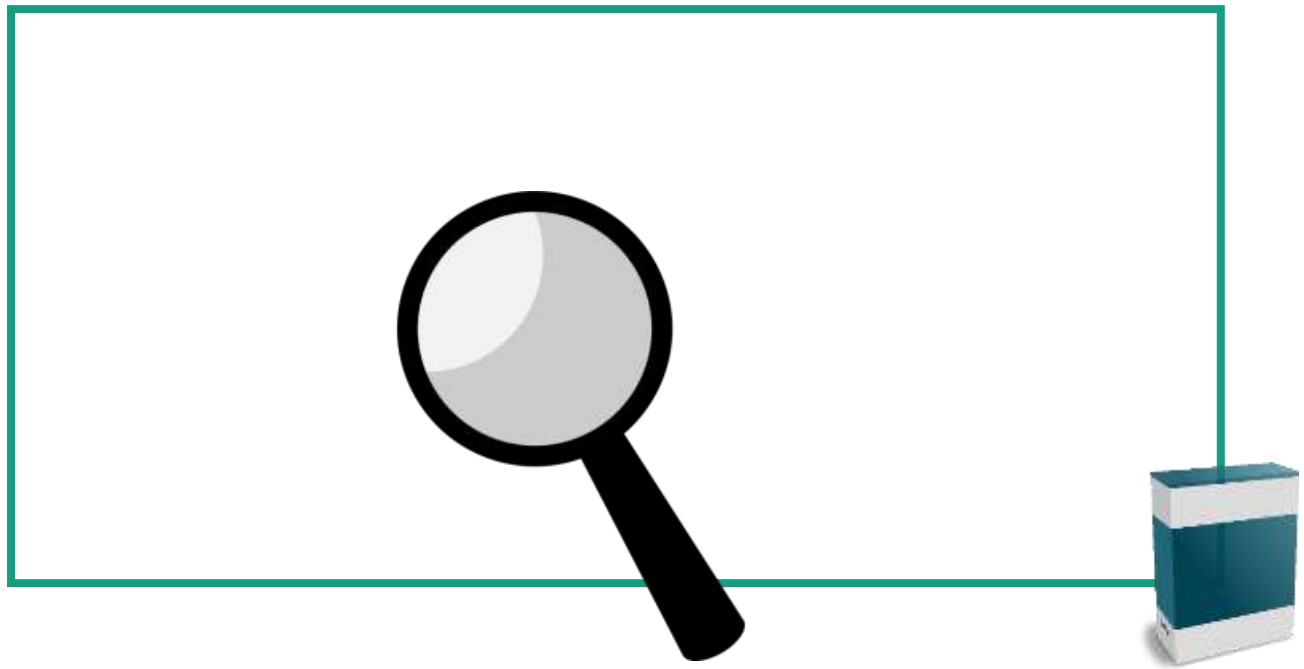
WER PRÜFT DIE BIBLIOTHEKEN?

- Open Source = Sicher?
  - Code prüfbar heißt nicht Code wird geprüft!
  - Viele Projekte haben nur wenige Beitragende
  - Sicherheitskonzepte stark unterschiedlich
- Probleme in großen Projekten
  - Log4jshell
  - Spring4shell
  - Debian OpenSSH

ERWARTUNGEN ENTWICKLER VS. ANWENDER (1)



ERWARTUNGEN ENTWICKLER VS. ANWENDER (2)



Softwareprodukt

ERKENNEN VON SICHERHEITSLÜCKEN

Pentest

Code Review

VUSC Dashboard

Manuelle Verfahren

Automatisierte Verfahren

QUELLCODE SCANNEN

Quelldateien

Build-Konfiguration

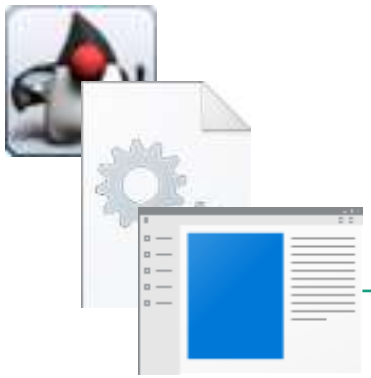
Code Scanner

Schwachstellen nur

in Anwendungscode!

CVE-Liste

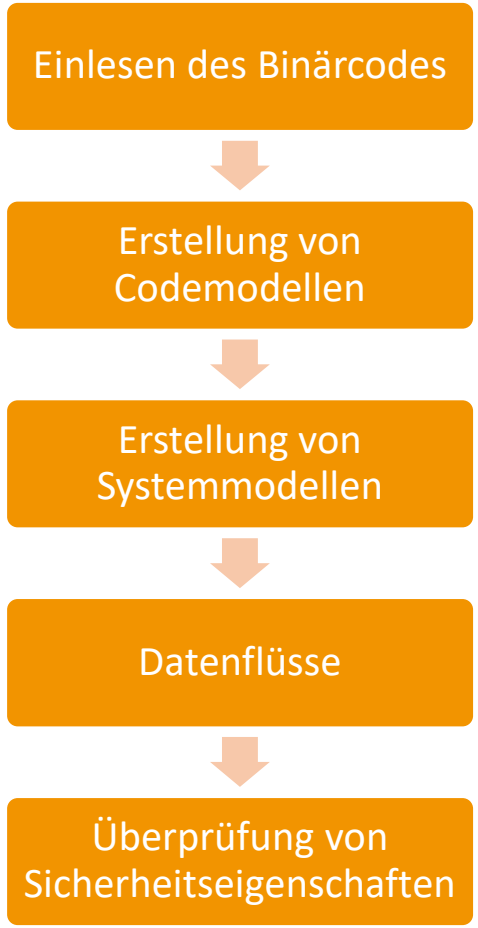
BINÄRCODE SCANNEN



Programmdateien

Schwachstellen

FUNKTIONSPRINZIP VUSC



APK, IPA, EAR, WAR, JAR, …

Klassen, Methoden, Statements

Instruktionen, Bytecode Offsets

Activities, Services, Intents

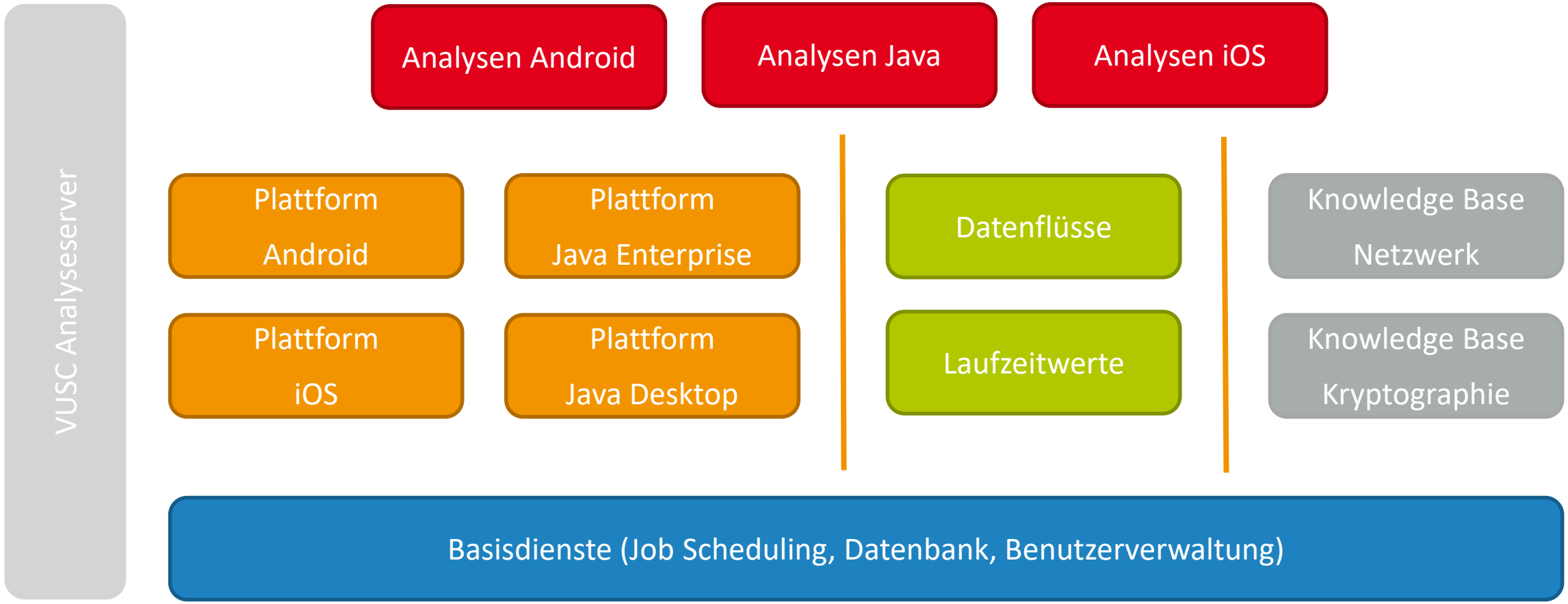
Servlets, Beans

Quellen, Senken

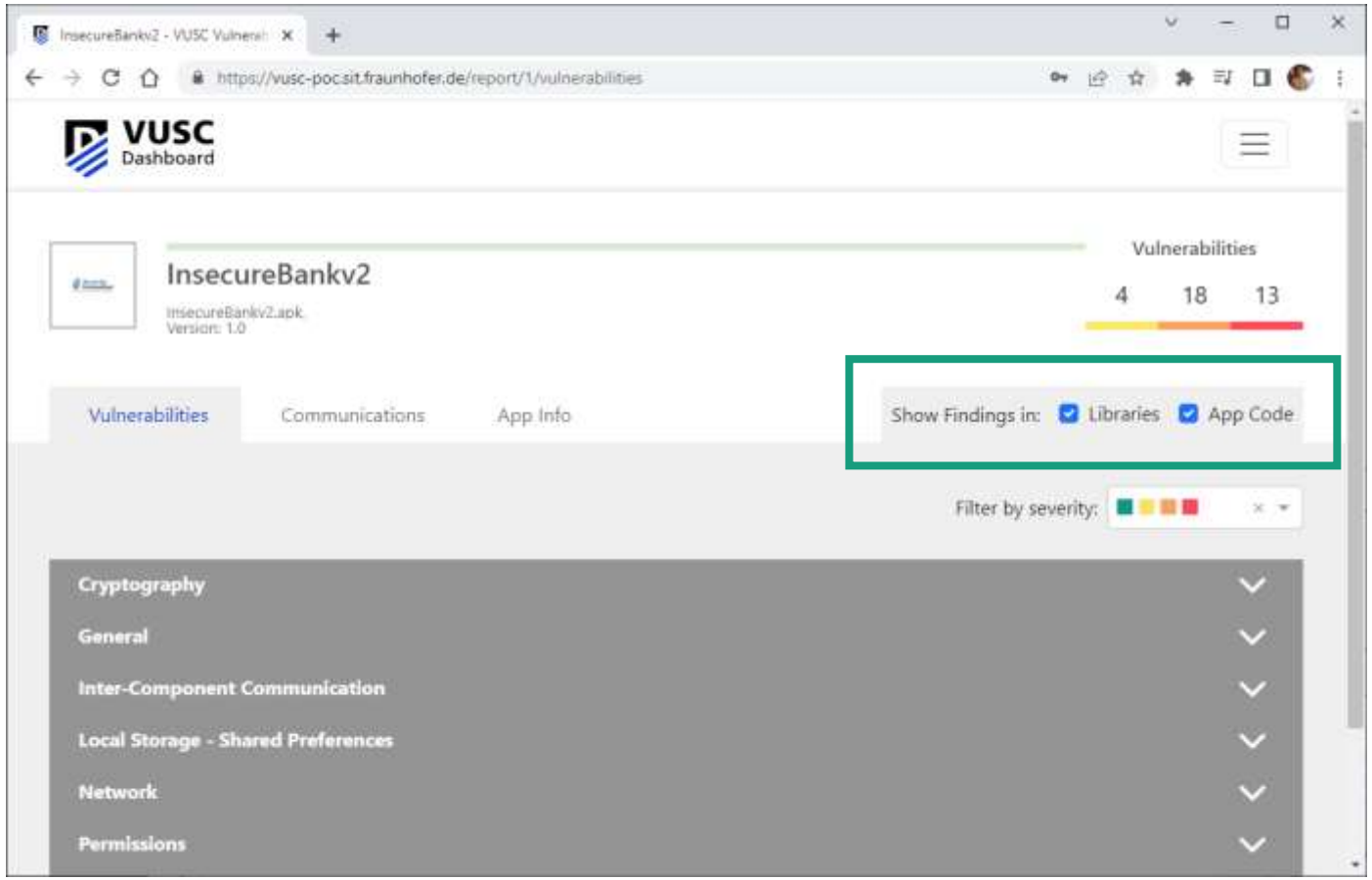
(Dateien, Netzwerkverbindungen, Log, usw.)

SQL Injection, Data Leakage, TLS-Fehler, usw.

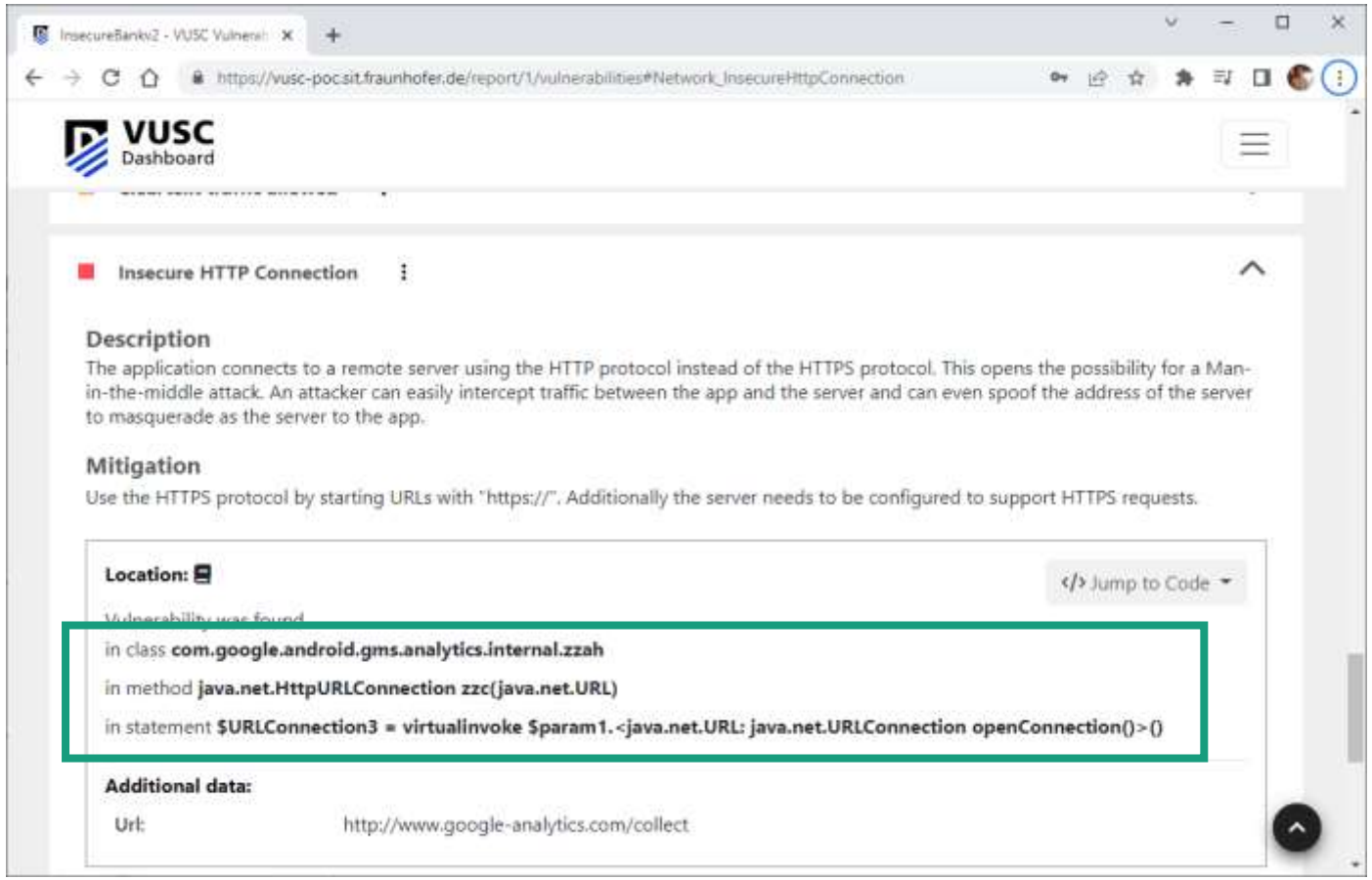
SYSTEMARCHITEKTUR VUSC



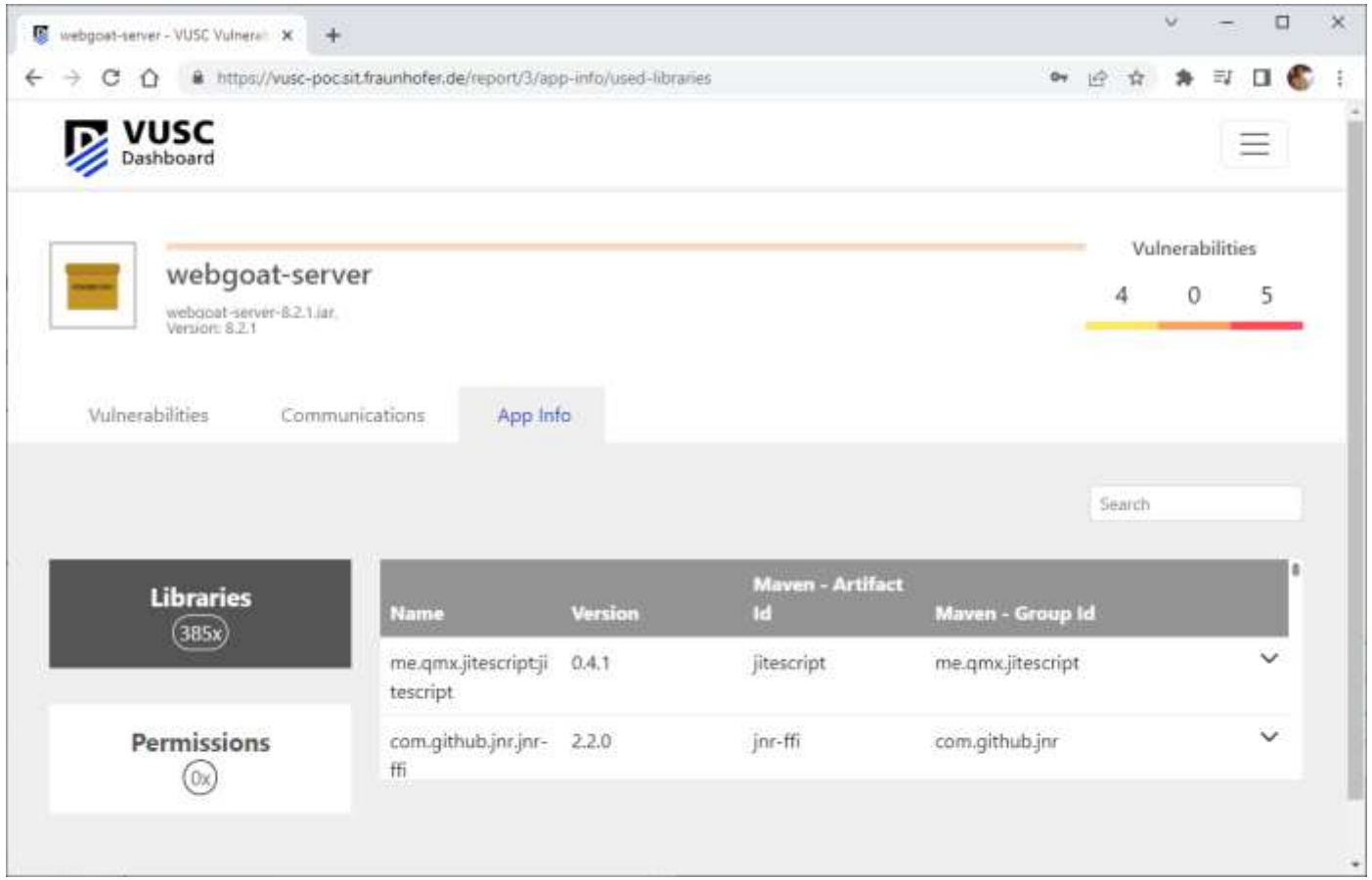
VUSC FINDET SCHWACHSTELLEN



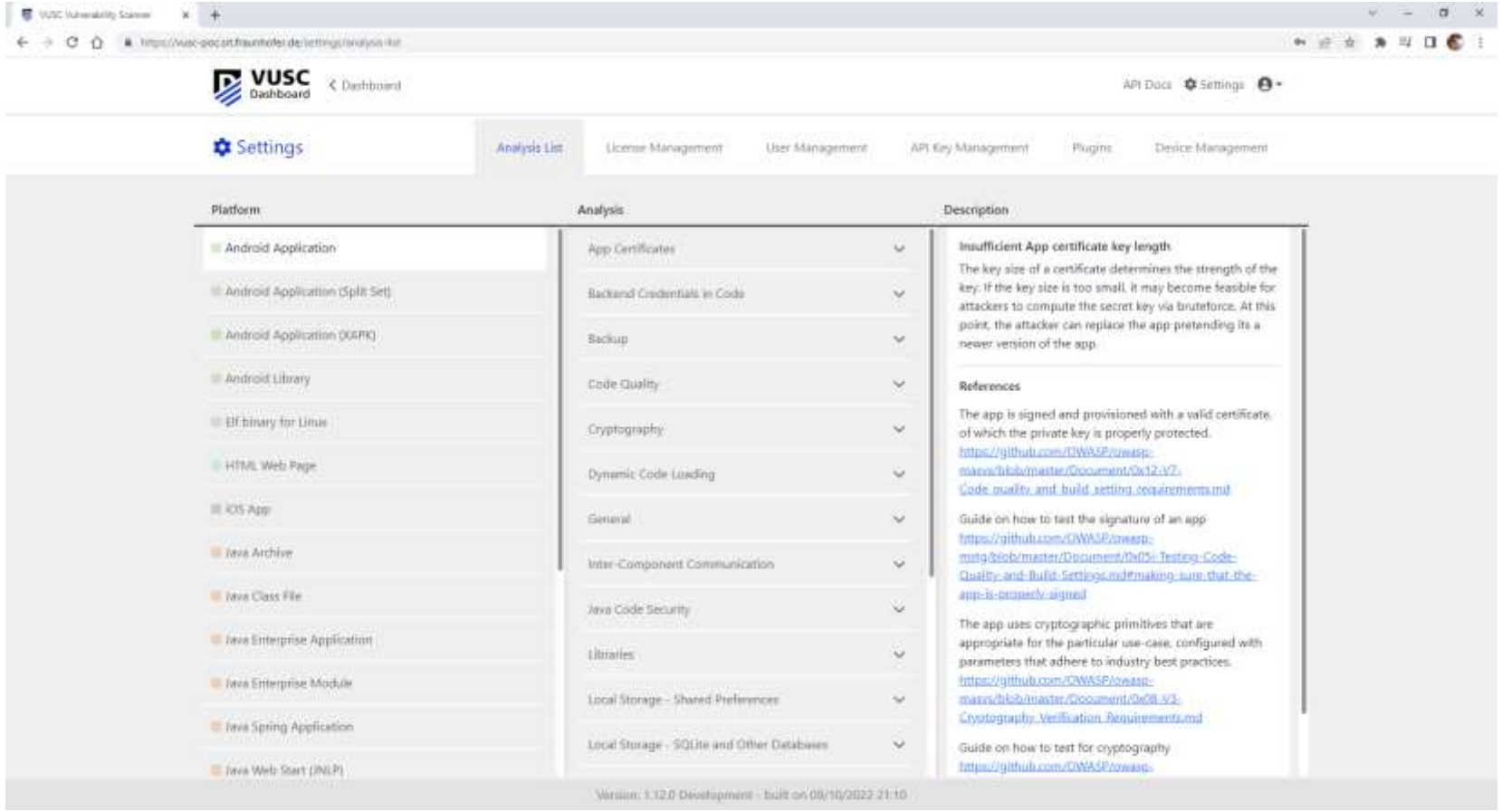
SCHWACHSTELLEN IN BIBLIOTHEKEN



SBOM: ENTHALTENE BIBLIOTHEKEN



ERKENNUNG VON ÜBER 380 SCHWACHSTELLEN



Vielen Dank für Ihre Aufmerksamkeit!

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