

# Census II of Free and Open Source Software Application Libraries

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# Executive Summary

Free and Open Source Software (FOSS) has become a critical part of the modern economy. There are tens of millions of FOSS projects, many of which are built into software and products we use every day. However, it is difficult to fully understand the health, economic value, and security of FOSS because it is produced in a decentralized and distributed manner. This distributed development approach makes it unclear how much FOSS, and precisely what FOSS projects, are most widely used. This lack of understanding is a critical problem faced by those who want to help enhance the security of FOSS (e.g., companies, governments, individuals), yet do not know what projects to start with. This problem has garnered widespread attention with the Heartbleed and log4shell vulnerabilities that resulted in the susceptibility of hundreds of millions of devices to exploitation.

This report, Census II, is the second investigation into the widespread use of FOSS and aggregates data from over half a million observations of FOSS libraries used in production applications at thousands of companies, which aims to shed light on the most commonly used FOSS packages at the application library level. This effort builds on the Census I report that focused on the lower level critical operating system libraries and utilities, improving our understanding of the FOSS packages that software applications rely on. Such insights will help to identify critical FOSS packages to allow for resource prioritization to address security issues in this widely used software.

The Census II effort utilizes data from partner Software Composition Analysis (SCA) companies including Snyk, the Synopsys Cybersecurity Research Center (CyRC), and FOSSA, which partnered with Harvard to advance the state of open source research. Our goal is to not only identify the most widely used FOSS, but to also provide an example of how the distributed nature of FOSS requires a multi-party effort to fully understand the value and security of the FOSS ecosystem. Only through data-sharing, coordination, and investment will the value of this critical component of the digital economy be preserved for generations to come.

In addition to the detailed results on FOSS usage provided in the report, we identified five high-level findings: 1) the need for a standardized naming schema for software components, 2) the complexities associated with package versions, 3) much of the most widely used FOSS is developed by only a handful of contributors, 4) the increasing importance of individual developer account security, and 5) the persistence of legacy software in the open source space.

# I. Introduction

Free and Open Source Software (FOSS) has become a critical part of the modern economy. It has been estimated that up to 98% of codebases include FOSS<sup>1</sup> and that software is an increasingly vital resource in nearly all industries. This heavy reliance on FOSS is common in both the public and private sectors,<sup>2</sup> and among tech and non-tech companies alike.<sup>3</sup> Therefore, ensuring the health and security of FOSS is vital to the future of nearly all industries in the modern economy. This has become more evident after recent vulnerabilities identified in widely used FOSS like OpenSSL (the open source command line tools and libraries widely used for secure communications over computer networks), and log4j (the Java-based logging utility from the Apache Software Foundation).

However, it is difficult to fully understand the health and security of FOSS because 1) FOSS is produced in a decentralized and distributed manner so there is no central authority to ensure quality and maintenance of all FOSS, and 2) because FOSS can be freely copied and modified, it is unclear how much FOSS, and precisely what FOSS projects, are most widely used. Therefore, to ensure the future health and security of the FOSS ecosystem, it is critical to understand what FOSS is being used, and how well it is supported and maintained.

In 2014, the Linux Foundation founded the Core Infrastructure Initiative (CII) where its members provided funding and support for FOSS projects critical to the global information infrastructure. The CII aimed to aggregate support from technology organizations and direct the support to underfunded — but critical — FOSS projects to help ensure the health of the FOSS ecosystem.<sup>4</sup> The goal was to improve security through mechanisms such as paying the maintainers to improve the security posture in critical projects at the operating system and system utility layers, as well as efforts to identify critical projects and security best practices. To bring wider representation from the software community and a broader mission to fruition, in mid-2020, the Open Source Security Foundation (OpenSSF) was created,<sup>5</sup> and many of the remaining CII efforts were folded into the OpenSSF.

In 2015, CII conducted the Census Project (“Census I”) to identify which software packages in the Debian Linux distribution were the most critical to the kernel’s operation and security.<sup>6</sup> Due to limited time and data availability, the Census I project focused on examining the Linux kernel distribution packages (the “operating system and libraries” level in Figure 1) including their popularity, instead of delving deeply into what software were components of production applications.<sup>7</sup>

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1 <https://www.synopsys.com/software-integrity/resources/analyst-reports/open-source-security-risk-analysis.html>

2 <https://www.wired.com/2016/08/open-source-won-now/?GuidesLearnMore>

3 <https://www.linuxfoundation.org/uncategorized/2018/08/corporate-open-source-programs-are-on-the-rise-as-shared-software-development-becomes-mainstream-for-businesses>

4 <https://www.coreinfrastructure.org>

5 <https://openssf.org/>

6 <https://www.coreinfrastructure.org/programs/census-project>

7 The project did use data on how popular a package was, but this was limited to installations tracked by the Debian Linux distribution and did not cast a wider net due to limited scope.

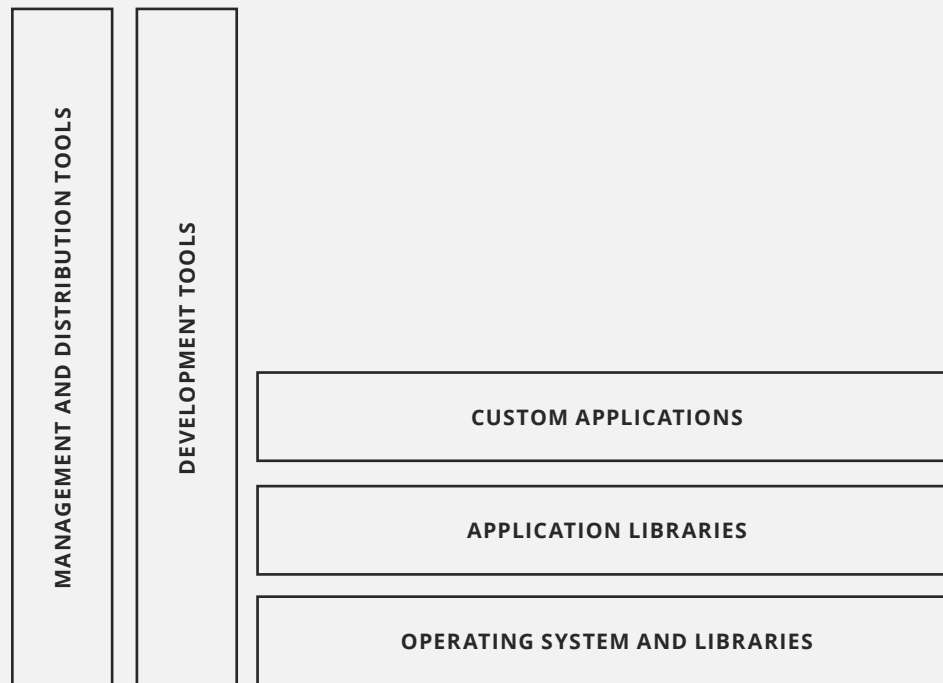
Therefore, in mid-2018, the Linux Foundation partnered with the Laboratory for Innovation Science at Harvard University (LISH), with the goal of conducting a second census to identify and measure which open source software is most widely deployed within applications by private and public organizations (the “application libraries level” in Figure 1). This Census II allows for a more complete picture of FOSS usage by analyzing usage data provided by partner Software Composition Analysis (SCA) companies based on their scans of software codebases at thousands of companies.

In early 2020, this joint effort led to the release of a preliminary report,<sup>8</sup> the focus of which was to create baseline high-level

findings and provide a sample of some of the most widely used FOSS packages. This final report builds upon the preliminary report, with the key difference being that the results of our analysis are provided in much greater detail and with a richer dataset. While in the preliminary report we only provided two unranked Top Ten lists of the most widely used FOSS at the package level only, in this report, we provide eight rank-ordered Top 500 lists that go into much greater depth than in the preliminary report. In particular, half of these eight lists are at the FOSS package/version level, allowing for a much deeper understanding of FOSS usage. These results are based on the analysis of over half a million observations of FOSS used in applications examined by the SCA data partners in 2020. These results complement other efforts to better understand the role of FOSS in the modern economy, like the Harvard/Linux Foundation [Report on the 2020 FOSS Contributor Survey](#) and the Linux Foundation [Software Bill of Materials \(SBOM\) and Cybersecurity Readiness Report](#).

In alignment with the ever-evolving nature of the FOSS ecosystem, we view the findings of this second census as a precursor to more exhaustive studies to come in our ongoing efforts to better understand these critical pillars in our information infrastructure. Operating under data constraints, the findings of this report cannot — and do not purport to — be a definitive claim of which FOSS packages are the most critical. They instead represent our best estimate of which FOSS packages are the most widely used by different applications, given the limits of time and the broad, but not exhaustive, data we have aggregated. This report does not attempt to identify, for example, which packages are used by the most widely used applications or which packages are most important for the continued operation of critical infrastructure. Nor does it reflect the contribution of the operating systems or system utilities the applications run on, or the tooling used to create the applications.

**FIGURE 1: THE TECHNOLOGY STACK**



<sup>8</sup> <https://www.coreinfrastructure.org/programs/census-program-ii>

Further, note that this report focuses on identifying the most widely used software within its scope; it does not try to measure the risk profiles of that software. There are many indicators that could be used to suggest risk and different organizations may weight factors differently. For example, a potential user might be more concerned if a project has only a single maintainer, is very large (e.g., in terms of lines of code), is written in a memory-unsafe language, has had no merges or other activity within the last few years even though it has non-trivial size, does not use tools

to identify potential vulnerabilities in its code, has no OpenSSF best practices badge, does not meet many OpenSSF Scorecards measures, has publicly known vulnerabilities, has required dependencies with publicly known vulnerabilities, and when run is usually directly accessible to the Internet by anyone. However, measuring risk profiles is a separable task, and it's easier to do it once the most widely used software is identified. As a small aid, we do indicate which of these projects are working on an OpenSSF best practices badge, and if they are, we indicate their score.

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## II. Context

The increasing importance of FOSS throughout the economy became critically apparent in 2014 when the Heartbleed security bug in the OpenSSL cryptography library was discovered. By some estimates, the bug, which was introduced into the OpenSSL codebase nearly three years earlier, impacted almost 20% of secure web servers on the Internet (almost half a million servers at that time).<sup>9</sup> The vulnerability allowed attackers to obtain access to user passwords and session cookies, essentially rendering ineffective the very security that OpenSSL was built to ensure. Among other outcomes, the Heartbleed vulnerability allowed the theft of 4.5 million medical records from a large hospital chain.<sup>10</sup>

More recently, in December 2021, the Log4Shell vulnerability in the log4j logging package was identified and described as “the

most serious vulnerability I’ve seen in my decades-long career” by Jen Easterly, the director of the United States Department of Homeland Security (DHS) Cybersecurity and Infrastructure Security Agency (CISA).<sup>11</sup> It is estimated that the bug, which was introduced into the code as early as 2013, may affect tens or hundreds of millions of devices. The vulnerability was so concerning that the U.S. Federal Trade Commission (FTC) stated that it would use its full authority against any companies that did not patch the vulnerability and lost customer data as a result.<sup>12</sup>

Operating under the maxim that “with many eyeballs, all bugs are shallow,”<sup>13</sup> many FOSS projects have been able to obtain greater levels of security. Unfortunately, while FOSS licenses *allow* many to review software for vulnerabilities and repair them, not all

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9 <https://news.netcraft.com/archives/2014/04/08/half-a-million-widely-trusted-websites-vulnerable-to-heartbleed-bug.html>

10 <https://time.com/3148773/report-devastating-heartbleed-flaw-was-used-in-hospital-hack>

11 <https://www.washingtonpost.com/technology/2021/12/20/log4j-hack-vulnerability-java>

12 <https://www.zdnet.com/article/ftc-to-pursue-companies-that-expose-customer-data-due-to-not-patching-log4j>

13 Often referred to as Linus’s Law, named after the creator of Linux, the maxim was formalized by Eric Raymond in his book *The Cathedral and the Bazaar* (1999).

FOSS projects are regularly reviewed at this level. Vulnerabilities in other widely used projects with smaller maintainer bases, like OpenSSL when Heartbleed was found, can slip by unnoticed. Due to Heartbleed, Log4Shell, and other security issues in FOSS, governmental bodies around the globe have begun to take an expanded interest in the role of FOSS as a type of critical infrastructure that underpins the modern economy. For example, in 2014, the European Commission put into place a FOSS Strategy,<sup>14</sup> and a few years later it started sponsoring FOSS auditing by setting up bug bounty programs, hackathons, and conferences.<sup>15</sup> However, most regions around the world have been slow to enact similar strategies,<sup>16</sup> leaving much of the responsibility to individuals and businesses,<sup>17</sup> until very recently when the White House National Security Council gathered companies and organizations to discuss the matter and what could be done.<sup>18</sup>

Compounding the problem is the fact that FOSS is often built into other software and hardware, but precisely what FOSS is being used is not always made clear. As a result, in April 2018, the

leaders of the U.S. Congress House of Representatives Energy and Commerce Committee sent a letter to the Linux Foundation, acknowledging the critical importance of FOSS and exploring the opportunities and challenges related to FOSS, with a particular focus on how sustainable and stable the FOSS ecosystem is.<sup>19</sup> Such concerns have led to various organizations and even governments pushing for deeper insights into the software building blocks used to make various packages and devices via a software bill of materials (SBOM). For example, one U.S.-based working group is dedicated to examining the use of FOSS in medical devices.<sup>20</sup> Further, a May 2021 U.S. Executive Order directed the U.S. National Institute for Standards and Technology (NIST) to provide guidance for companies on providing an SBOM to their customers.<sup>21</sup> The U.S. is not the only country or government entity taking action on this, others have begun developing reports and guidance for what an SBOM would look like in their country, including Japan,<sup>22</sup> the European Union,<sup>23</sup> China,<sup>24</sup> and The Netherlands.<sup>25</sup>

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14 [https://ec.europa.eu/info/departments/informatics/open-source-software-strategy\\_en](https://ec.europa.eu/info/departments/informatics/open-source-software-strategy_en)

15 [https://ec.europa.eu/info/departments/informatics/eu-fossa-2\\_en](https://ec.europa.eu/info/departments/informatics/eu-fossa-2_en)

16 <https://www.brookings.edu/research/digital-infrastructure-is-more-than-just-broadband-what-the-u-s-can-learn-from-europes-open-source-technology-policy-study/>

17 <https://hbr.org/2021/09/the-digital-economy-runs-on-open-source-heres-how-to-protect-it>

18 <https://www.cnn.com/2021/12/23/politics/white-house-log4j-tech-firms-meeting/index.html>

19 <https://web.archive.org/web/20180422034612/https://energycommerce.house.gov/wp-content/uploads/2018/04/040218-Linux-Evaluation-of-OSS-Ecosystem.pdf>

20 <https://www.wired.com/story/urgent-11-ipnet-vulnerable-devices/>

21 <https://www.nist.gov/itl/executive-order-improving-nations-cybersecurity>

22 [https://www.meti.go.jp/english/press/2021/0421\\_003.html](https://www.meti.go.jp/english/press/2021/0421_003.html)

23 <https://www.enisa.europa.eu/publications/threat-landscape-for-supply-chain-attacks>

24 <https://www.openchainproject.org/featured/2021/10/28/caict-certifier> and <https://www.openchainproject.org/news/2022/01/10/iscas-certifier>

25 <https://english.ncsc.nl/binaries/ncsc-en/documents/publications/2021/february/4/using-the-software-bill-of-materials-for-enhancing-cybersecurity/Final+Report+SBOM+for+Cybersecurity+v1.0.pdf>



## III. Goals of Census II

Similar to physical infrastructure, the critical components of the Internet and modern computing may not always be the most remarkable or the most visible. For example, in recent years, it has become more apparent how critical computer chips are to numerous industries. In particular, due to pandemic-induced supply and demand issues, chip shortages led to manufacturing disruptions in the automobile, cell phone, and refrigerator industries.<sup>26</sup> Similarly, there may be integral FOSS projects whose simplicity or size may belie their vital importance to the modern economy. As such, the overarching goal is to reinforce this infrastructure and guard against systemic vulnerabilities.

Analyzing usage data from partner Software Composition Analysis (SCA) companies, the Census II project aims to determine the most widely used FOSS deployed within applications by private and public organizations. The specific goal of the Census II project is to

identify the most commonly used free and open source software components in production applications. In concert with other FOSS projects, like the Community Health Analytics Open Source Software (CHAOSS) project<sup>27</sup> and the Facade contributor analysis project,<sup>28</sup> this allows for the further examination of potential vulnerabilities in these projects due to:

- widespread use of outdated versions
- understaffed projects; and,
- known security vulnerabilities, among others.

Finally, this information can be used to prioritize investments and resources to support the security and health of FOSS, such as the efforts of OpenSSF and the Open Source Technology Improvement Fund (OSTIF).<sup>29</sup>

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26 <https://www.reuters.com/world/china/fridges-microwaves-fall-prey-global-chip-shortage-2021-03-29/>

27 <https://chaoss.community>

28 <https://facade-oss.org>

29 <https://ostif.org>

## IV. Spurring Action

The motivation behind publishing these findings is to not only inform, but also to inspire action by developers to improve their security practices and by end users to support the FOSS ecosystem and developers who need assistance. While there are many ways to actively support the critical software infrastructure that underpins the world's complex information systems, we offer a few recommendations for unifying action.

### Data sharing

In order to tackle a problem, one must first know what may be affected and how. As mentioned above, there is far too little data on actual FOSS usage. Although public data on package downloads, code changes, and known security vulnerabilities abound, the view on where and how FOSS packages are being used remains opaque. For example, download counts are often misleading because a package may be downloaded millions of times by test processes (once for each test), while a single download may be used to generate an application deployed to billions of devices. Private usage data contributed by partner SCAs and other companies to the Census II project provide a clearer view of which FOSS projects developers build into proprietary software. Additionally, this data enables researchers to trace the dependencies and determine some of the most fundamental — though perhaps, not the best funded — projects upon which many packages still rely. The insights we can glean from our census efforts will only reach as far as the data sets that FOSS stakeholders — private companies and organizations — share with us. The most critical need for our efforts to support the health and security of the FOSS ecosystem is shared usage data from companies that partner with CII and OpenSSF.

However, usage data only tells one side of the story. The digital infrastructure of FOSS — upon which so much of the economy rests — was built piece by piece, line by line by diligent community contributors. Capturing the contexts in which these developers contribute and the motivations that drive them will help shape more effective interventions and outcomes. In that vein, we launched the “FOSS Contributor Survey” in March 2020, polling contributors to gain new insights on incentives, motivators, and trends that were driving open source development over time. Key insights from the resulting report published in December 2020 include finding that:

- the top three motivations for contributors are non-monetary,
- there is a clear need to dedicate more effort to the security of FOSS, and
- the burden of security shouldn't fall solely on contributors.<sup>30</sup>

### Coordination

Beyond predication upon a solid foundation of data, calls to action must coordinate efforts across the whole FOSS ecosystem. Standardizing terminology and sharing best practices enable the community to build upon previous successes and accelerate progress. Perhaps the largest stumbling block to coordination in the open source sphere is the myriad identifiers used to reference the software itself. FOSS packages live on many different repositories, like NuGet, Maven, GitHub, and npm to name a few. Project names alone may not differentiate between resulting forks of an original project or direct people to the canonical repository. Listing which repository holds the original version of that project (for example, left-pad/npm) can reduce some of the potential

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<sup>30</sup> <https://www.linuxfoundation.org/press-release/new-open-source-contributor-report-from-linux-foundation-and-harvard-identifies-motivations-and-opportunities-for-improving-software-security>

confusion. However, identifying a project by the URLs of the repository (location of source code) and the project website (with updated community information and documentation) may be the best solution to ensure clarity. Even if some FOSS projects do not have a public repository and — of course — projects can move, linking these two URLs as project identifiers will distinguish components more efficiently.

Accurate project identification impacts not only academia, but the private sector as well. As cyberattacks and security breaches increase, all companies — not just Big Tech — will need to become more cognizant of which components comprise their websites and applications, as well as the origins of those components. In the United States, the federal government is currently mandating the use of SBOMs, which will require all industries to delineate the composition of their software systems. Proactively adopting current standard formats, like the Software Package Data Exchange (SPDX, ISO/IEC 5962:2021<sup>31</sup>) developed by the Linux Foundation, will put forward-thinking business leaders at an advantage once regulations come into effect.

## Investment

Like any critical infrastructure, we must invest in open source if it is to continue to support the demands made upon it. Nadia Eghbal, author of *Roads and Bridges: The Unseen Labor Behind Our Digital Infrastructure*, outlined the many sources of financial support available to the FOSS community on her GitHub page “Lemonade

Stand.”<sup>32</sup> Funding for projects comes in many different forms, including donations, grants, and crowdfunding. Other programs, like Linux Foundation’s Community Bridge<sup>33</sup> or GitHub’s Bug Bounty<sup>34</sup> and Sponsors<sup>35</sup> programs, match open source projects and developers with funding from private companies that rely upon them. Since the preliminary report was released in February 2020 there has been some investment in research and infrastructure of FOSS, with \$1.3M in grants available to ensure FOSS software and development is being done equitably, sustainably, and responsibly and sponsored by funders, such as the Ford Foundation and the Alfred P. Sloan Foundation, among others.<sup>36</sup> Further, in August of 2021, Google pledged \$10B over the next five years to strengthen cybersecurity, with \$100M to support third-party foundations, such as OpenSSF, to help fix FOSS security vulnerabilities.<sup>37</sup> While these programs represent a step in the right direction, questions still remain. For example, without a fuller understanding of what the most critical FOSS projects might be, how do supporters know that sufficient funds will go to where the need is greatest? Are those who benefit most from FOSS projects doing their “fair share” to support the communities behind them?

While money has long been a contentious topic in the FOSS community, investment encompasses more than just financial support. In the open source world, time and talent may indeed be the most important investments. Larger and more established packages tend to attract more contributors<sup>38</sup> compared to smaller, less visible ones — even if the latter are more heavily depended upon in practice. Companies reliant upon FOSS packages could

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31 <https://www.iso.org/standard/81870.html>

32 <https://github.com/nayafia/lemonade-stand>

33 <https://communitybridge.org>

34 <https://bounty.github.com>

35 <https://github.com/sponsors>

36 <https://techcrunch.com/2021/03/03/1-3m-in-grants-go-towards-making-the-webs-open-source-infrastructure-more-equitable>

37 <https://blog.google/technology/safety-security/why-were-committing-10-billion-to-advance-cybersecurity>

38 <https://www.sciencedirect.com/science/article/pii/S0963868712000340>

benefit from supporting them, either directly (e.g., paying employees to maintain those projects on the clock) or indirectly (hiring contributors to those projects as employees, and letting

them work on the project in their free time). Similar to financial resources, time and talent need to be carefully considered to ensure that they are directed toward the most critical projects.

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## V. Methods

The Census II effort benefited from the contribution of private usage data, composed of nearly 600,000 data points from SCA and application security companies. We thank Snyk,<sup>39</sup> the Synopsys Cybersecurity Research Center (CyRC),<sup>40</sup> and FOSSA,<sup>41</sup> which partnered with Harvard to advance the state of open source research. These partners provided anonymized 2020 data from automated scans of production codebases used within their customers' environments, as well as more thorough labor-intensive human audits of software codebases conducted.

In keeping with the spirit of the open source community, we sought to make the methodology of this second census effort as transparent as possible. However, in order to ensure the privacy of our data partners and to protect any proprietary aspects of their SCA services, some details have been obscured. Ultimately, we strove to release all results publicly and transparently to the extent we could, but the commitment to safeguard the sensitive aspects of the data provided must take precedence in this report.

### Data Selection

To better understand the prevalence and overall impact of FOSS in the economy, we chose data that would best reflect actual adoption and usage in businesses. While stars, ratings, and

download statistics indicate a package's popularity or reputation, these do not necessarily translate into real-world, day-to-day use. Private usage data from SCA companies' automated scans and human audits from 2020 provides more insight into which FOSS packages are being used in production codebases. Instead of the higher-level software with which end users would have more contact and familiarity (like Mozilla Firefox or Visual Studio Code), SCA data focuses on application components that act as the building blocks for other software products. This "lower level" focus is important for research, because developers — not end users — tend to drive the widespread adoption and integration of FOSS projects.

Peering under the hood of the higher level packages helps us to focus on the specific components that are often most critical. While this data approach does not provide significant insight into end-user facing products (like OpenSSH, for example), it does examine components within those products. One additional aspect to keep in mind is that this data only includes the portions of any software stack that the SCA vendor's customer chose to scan. There may be additional layers of a stack that were not chosen for scanning. For example, an application designed to run on Linux in user space likely would not have the entire Linux

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39 <https://snyk.io>

40 <https://www.synopsys.com/software-integrity/cybersecurity-research-center.html>

41 <https://fossa.com>

operating system included in the scope of the scan. Similarly, SCA vendor customers scanning a JavaScript application may not have included frameworks like Node.js or React.js in the scope of their scans, and even though both do show up in the Census, their actual usage could be higher than represented.

Unlike in the preliminary report, in the current report we consider FOSS projects in both a versioned and unversioned manner. Doing so allows for greater insights into the most widely used FOSS packages from a number of different dimensions and also allows for a clearer understanding of how widespread the use of outdated software is.

## Defining Relevant Terminology

Before delving into the methodology, there is a need to establish consistent terminology when discussing FOSS data. To start, this report relied upon the following definitions laid out in the original CII Census efforts:<sup>42</sup>

- **package:** a unit of software that can be installed and managed by a package manager
- **package manager:** software that automates the process of installing and otherwise managing packages
- **repository:** a location for storing packages that can be installed by a package manager and managing the history of information related to the package

The various methods employed to scan and audit codebases that generated the private usage data led to analysis below the "**package**" level. Sometimes a given software project was

dependent upon a distinct part of a package, even though it did not appear to depend on the other parts of that package. As a result, we defined a separate term:

- **component:** a unit of software that can be called by or serve as an input into another piece of software, and may be installable via a package manager.<sup>43</sup>

The datasets used for this census contained FOSS information at a variety of levels, often treating a package and its components as separate entities. In order to compare across all datasets, we standardized this **component-level** data first. Finally, we also factored in the version of the FOSS component or package. Most, but not all, FOSS packages in the datasets utilize semantic versioning,<sup>44</sup> and that version nomenclature is utilized when available.

## Methods Part 1: Parsing

In collaboration with experts from the Linux Foundation, the research team iteratively refined the methodology for combining the private usage data from the SCAs — complex datasets with substantially different means, variance, and schema for identifying unique components. Parsing each dataset generally occurred in three stages:

**Stage 1:** Cleaning the dataset to remove organizational-specific substrings, whitespace, or other extraneous characters.

**Stage 2:** Extracting identifying information from each component in the dataset.

**Stage 3:** Mapping each component to a project on Libraries.io<sup>45</sup> using that identifying information, if possible.

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42 <https://idalink.org/d-8777>

43 [https://www.w3schools.com/react/react\\_components.asp](https://www.w3schools.com/react/react_components.asp)

44 <https://semver.org>

45 Libraries.io, a Tidelift Project licensed under CC-BY-SA 4.0 was used for two reasons: First, because it's an aggregate of many different package managers. Second, Libraries.io was used as the canonical dataset for the Census II Prototype.

Not all FOSS packages have a unique identifier. Therefore, to aggregate usage data within and across different datasets, we had to map each component in each dataset to a unique identifier. Here, a unique identifier for unversioned analysis is defined as the combination of the package name (e.g., "lodash") and the package manager that can install that package (e.g., "npm") using the package manager's default repositories. We further used the package version name (e.g., "4.17.20") as the third part of this combination for our versioned analysis.

The process of mapping dataset components to a Libraries.io project relied on several functions in tandem and the GitHub API, based on the identifying information found in the dataset:

1. Searching components for embedded unique identifiers (GitHub repository, name, version name, and package manager) that can map to Libraries.io projects.
2. In some cases, the raw version names provided are Git commit SHA hashes. Whenever possible, we converted them to standard version names found in Libraries.io by matching their commit dates with their version publication dates.
3. Analyzing component text for a naming system that can be translated to the naming system on Libraries.io or the package managers from which it pulls data.
4. Searching components for specified text strings that directly map to a Libraries.io project.
5. Manual matching to a Libraries.io project if all other methods cannot effectively map the component.

While the majority of components provided by SCA datasets matched to Libraries.io in this automated manner, many components had to be manually mapped. Furthermore, some components in the SCA datasets did not exist on Libraries.io. For both of our unversioned and versioned analyses, these

components were still treated as real packages and observations, but could not be used to calculate indirect dependencies.

## Methods Part 2: Dependencies

A direct dependency is said to exist when a piece of code that has been scanned by one of the SCAs includes a specific call to that package or component. However, each of these direct dependencies may in turn rely on other packages or components, known as indirect dependencies. Indirect dependencies are a useful tool for understanding which packages are the most essential to their software ecosystem. If Package A is considered important, then everything that Package A directly uses to function is also important, and all of the packages those packages are dependent upon are important, and so on. Therefore, including indirect values in our resulting dataset was a way to find the "hidden keystones" in the FOSS ecosystem that might be overlooked by a direct audit or scan.

In cases where data partners provided these indirect metrics, we added those calculations to the direct metrics to account for both types. In cases where that data was not provided, we estimated the indirect usage through Libraries.io, which collects dependency information through the package managers from which it pulls data.

Using the SCA datasets, we identified indirect usage through the following process:

1. Divide the SCA datasets into 4 samples, by analysis type (versioned or unversioned) and package manager type (npm or other).
2. Use the dependency data provided by Libraries.io, filter out non-runtime dependencies, filter out optional dependencies, and filter out self-dependencies. (Discussed further below.)
3. For each component, determine the list of packages that component relies on, directly or indirectly. In unversioned

analysis, each member of the list, including the original component, receives a score equal to the number of times that component was observed being used in the SCA datasets. For example, if "jquery" had a score of 10, each package "jquery" depends on (as well as "jquery" itself) would have 10 added to its score.

4. In versioned analysis, components and dependencies are both version-specific. Here, we follow the same procedure in (2.) above for those dependencies with one single version that is dependent upon each component. For those packages with a range of versions that satisfy a component's dependency requirement, we split the original component's usage count evenly across those dependency versions. For instance, if "accepts" version "1.3.7" had a score of 10, and it is dependent on "negotiator" version "0.6.2" and "mime-types" versions "2.1.24" or "2.1.25," then "negotiator" version "0.6.2" would receive a score of 10, while "mime-types" versions "2.1.24" and "2.1.25" would receive a score of 5, respectively.
5. Extract the top-scoring packages from the network based on the counts from the prior steps.

There were a number of challenges and limitations associated with this process that are important to note.

First, as the dependency network was taken from a Libraries.io dataset, only projects appearing on Libraries.io can be indirectly evaluated this way. As such, packages not on a Libraries.io connected package manager did not show up in the top package list. This restriction extended further to the available versions in Libraries.io when dealing with the version-based network.

Second, the indirect metrics provided by the data partners were calculated based on their entire samples, but, due to computational constraints, our estimated ones were based on the top 1,000 components by their direct usage count in each sample described

in (1.) above. However, these top components represent the whole samples sufficiently and do not significantly distort our results.

## Limits to Dependency Network

When using dependency networks like the ones provided by Libraries.io, researchers must select which types of dependencies are considered relevant to the calculation. Not all dependencies are created equal; some inputs to a software component are more essential than others. If researchers have access to this kind of granular information, they can assign weights to dependencies using that information, which would likely create a drastically different result. The section below highlights the reasoning behind the exclusion of certain types of dependencies in the results.

First, we excluded dependencies that were flagged as being "optional" dependencies. If Component B is not always an input for Component A, then we cannot assume that one instance of Component A indicates one instance of Component B as well. Therefore, we ignored these "optional" dependency links.

Second, we exclude non-runtime dependencies where possible. "Build" software components tend to be massively interdependent, resulting in dependency loops where an extensive chain of FOSS components are all linked together in a circle. If these "build loops" could be eliminated, then future census reports might have better insight into build projects and ensure they receive accurate acknowledgment in the results.

## Methods Part 3: Combine

Once the indirect usage was added into each SCA dataset provided, the top 500 packages were identified using the following process:

1. To avoid the long tail of minimally used products skewing the analysis, keep the top 1,000 components at most by usage count in each dataset.

2. Calculate the average Z-score<sup>46</sup> of the remaining packages relative to the datasets in which that package appears. This approach allows us to proportionally compare the importance of that package across multiple differently sized data sets.
3. Merge these datasets together from different data partners by analysis type (versioned or unversioned), package manager (npm or other), and metrics type (direct or indirect usage).
4. For those packages that appear in multiple datasets, calculate their combined Z-scores by averaging the separate ones. If a package only appears in one SCA dataset, use its Z-score obtained from (2) above as its combined Z-score.
5. Calculate the rank for each package based on their respective combined Z-scores.
6. Reduce the lists to the top 500 in each category.

## Considerations

The final integrated data for this census is unique in that it represents a snapshot of usage by private companies integrated with dependency data. However, like any sample dataset, it has limitations on how fully it can represent the ground truth of all the FOSS projects in use. Analysis of the aggregated data uncovered several considerations to keep in mind when reviewing these results.

The first consideration to take into account is the fact that FOSS projects exist in many different ecosystems, written in many different languages. The data sources provided snapshots of how companies use FOSS projects, but did not indicate that one

FOSS ecosystem or language is any more important than another. The data received from partner SCAs contained a large amount of software from the JavaScript ecosystem. Additionally, small packages are extremely common in the JavaScript npm package system. For example, in npm, 47% of the packages have 0 or 1 functions, and the average npm package has 112 lines of code.<sup>47</sup> In contrast, the average Python module in the PyPI repository has 2,232 lines of code.<sup>48</sup> These two factors caused the dependency calculations to crowd out non-JavaScript packages. To try to re-capture these crowded-out packages, we created two separate sets of results — one for npm-hosted packages only, and one for non-npm-hosted packages.

Second, FOSS projects exist across time in a multitude of forms. Several instances of deprecated projects or projects that have not been updated for a few years appeared in the usage data provided by SCAs. Codebases often contain "legacy software" like these, but deeper investigation would be needed to differentiate whether these components were still actively called upon or were cached as "gold masters" for use in characterization testing.<sup>49</sup> As a result, a census reliant upon scan and audit data will inherently reflect older projects, or versions, over newer ones. However, until the role of these legacy packages can be determined, they may warrant more proactive approaches, including efforts to help revitalize these projects or provide assistance for end users who would like to transition over to newer projects.

Third, FOSS projects are used by different groups for different purposes. Utilizing FOSS usage information, Census II avoided a

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46 The Z-score of a package is equal to the package's value minus the mean of the values of the list it comes from, then divided by the standard deviation of that list. This metric captures the *relative importance* of a package compared to other packages in its dataset. Each dataset is a sample of the greater FOSS ecosystem — larger samples are not inherently "more important" than smaller samples. Z-scores allow us to treat each distinct dataset as equally relevant to the overall result. In cases where a given package was not observed in all datasets, the average Z-score from the datasets it was observed in was used.

47 <https://arxiv.org/pdf/1709.04638.pdf>

48 <https://web.archive.org/web/20201125184652/https://tomforb.es/how-much-code-is-there-in-the-python-package-index>

49 <https://blog.thecodewhisperer.com/permalink/surviving-legacy-code-with-golden-master-and-sampling>



previous roadblock: determining which projects are "real" and "relevant." However, the sample size was limited to the particular customer bases of the respective SCA firms that provided data. Furthermore, privacy concerns prevented the provision of data with the level of specificity necessary to undertake representative sampling.

Finally, longstanding roadblocks identified prior to the launch of Census II continue to present challenges. The reliance upon identifying information provided by Libraries.io or GitHub inherently excludes packages that do not appear on either platform, pushing them out of the top ranks during the dependency calculations run for this report.

Under these constraints the findings of this report are indicative but cannot — *and do not purport to* — be a definitive claim of which FOSS packages are the most critical.

The calculations provide greater insight into which packages are the most important for the companies and organizations served by our data partners. FOSS software that is essential in one sector may not be used in another. These results undoubtedly reflect distributions specific to each customer base, but they also provide a rare glimpse into data on private usage of FOSS unavailable to most researchers. We encourage more companies and organizations to join future census efforts by the OpenSSF as data partners, but until more private usage data becomes available, the study must work within this limited set.

## VI. Results

The results take the form of eight Top 500 lists — four that include version numbers in the analysis and four that are version agnostic. Further, as mentioned above, we present npm and non-npm packages in separate lists. Given that JavaScript hosted on npm is heavily represented in our data sources and encourages the proliferation of packages, npm packages will dominate any ranking we create. To account for this, the most used non-npm packages list aims to give a sense of what other kinds of packages are keystones of the FOSS ecosystem. Finally, to give additional insights into what packages are directly called versus counts that include both direct calls and those that are indirectly called as dependencies to those directly called packages, we present both sets of packages separately. In aggregate, that leads to the following eight Top 500 lists:

1. Top 500 npm, Direct, Version Agnostic Packages ([Appendix A](#))
2. Top 500 Non-npm, Direct, Version Agnostic Packages ([Appendix B](#))
3. Top 500 npm, Indirect & Direct, Version Agnostic Packages ([Appendix C](#))
4. Top 500 Non-npm, Indirect & Direct, Version Agnostic Packages ([Appendix D](#))
5. Top 500 npm, Direct, Versioned Packages ([Appendix E](#))
6. Top 500 Non-npm, Direct, Versioned Packages ([Appendix F](#))
7. Top 500 npm, Indirect & Direct, Versioned Packages ([Appendix G](#))
8. Top 500 Non-npm, Indirect & Direct, Versioned Packages ([Appendix H](#))

Although these lists provide valuable, important insights into the most widely used FOSS projects, it is important to also consider the level of security related to these projects. Therefore, in each list, we also include the “Tiered %” measure from the OpenSSF Best Practices Badging Program.<sup>50</sup> The measure is out of a possible 300%, which is classified as a Gold badge, while 200% or above is considered a Silver badge, 100% or above is considered passing, and 0-99% is the progress toward the passing badge. These badge levels are intended to reflect how well a given project adheres to a variety of best practices deemed important to security by the OpenSSF Best Practices badge project. Additional insights into the health of these projects can be obtained via the CHAOSS<sup>51</sup> project, a Linux Foundation community. CHAOSS focuses on creating metrics and analysis tools to evaluate the health of FOSS communities including information on commits per week, lines of code added per week, etc. and analysis of the contributors to the project through the Augur<sup>52</sup> and Facade<sup>53</sup> projects.

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<sup>50</sup> <https://bestpractices.coreinfrastructure.org/en>

<sup>51</sup> For more details on the CHAOSS Project and how to contribute, see <https://chaoss.community/about>.

<sup>52</sup> <https://github.com/chaoss/augur>

<sup>53</sup> <https://facade-oss.org>

# VII. Lessons Learned

As a result of the Census II effort, we identified several “lessons learned” throughout the project. While these lessons learned do not impact the substance of the findings — nor lists of most used packages — we believe these results are important to the broader conversation and merit exploration.

## 1. The Need for a Standardized Naming Schema for Software Components

Members of the Census II team and the Steering Committee spent months in the time leading up to the project’s acquisition of data attempting to anticipate and prepare for expected obstacles and challenges to the data’s use and analysis. The challenges created by the lack of a standardized naming schema for software components that had vexed the Census I effort persisted. The naming conventions for software components across all the data contributed to the Census II effort were unique, individualized, and inconsistent. The effort required to untangle and merge these datasets slowed progress on the current project significantly. Despite the considerable effort that went into creating the framework to produce these initial results for Census II, the challenge of applying it to other data sets with even more varied formats and naming standards still remains.

The struggles with this lack of standardized software component naming schema are not unique to the CII Census projects. In the United States, multiple government agencies have run into this challenge. The National Institute for Standards and Technology (NIST) has grappled with this issue for decades in the context of software vulnerability management. Stakeholders working with the National Telecommunications and Information Administration (NTIA) Software Component Transparency process have wrestled with the same problem. For some — including the Census II and

NTIA SBOM projects — the largest consequence of the lack of a naming schema has been lost time. However, as SBOM and other software supply chain transparency and security efforts continue to grow, mature, and become more complex, the lack of a standardized software component naming schema threatens to stymie efforts by industry and government to better protect themselves from software-based incidents.

The bottom line — revealed by the Census II project, the NTIA process, NIST’s vulnerability management struggles, and other similar projects — is that there is a critical need for a standardized software component naming schema. Until one exists, strategies for software security, transparency, and more will have limited effect. Organizations will remain categorically unable to communicate with each other on the large-scale — particularly, the *global* scale-- necessary to share such information. Given the increasing frequency and sophistication of cybersecurity incidents in which the software supply chain plays a part, there is precious little time to waste.

## 2. The Complexities Associated with Package Versions

In an attempt to create greater utility and transparency of the aggregated data, we provide detailed information on not only the packages, but the versions of packages. In doing so, we came across an unexpected issue: many of the versions that were reported by our data partners did not exist in the public repositories for those packages. In one instance, for example, version 2.87 had been seen multiple times in usage, but the official repository only went up to version 2.26. At first, we assumed this was a mistake on the part of the data partner. However, after discussions with multiple stakeholders, we determined that what was likely

happening was that companies were maintaining internal versions of a package and were not contributing their changes back to the official repository.

Given it could be a frequent occurrence to have internal versions of packages built into software that companies sell, then it's even more vital to have accurate identification of the packages in an SBOM that can distinguish between a "main" version and a variant. Without this information it will be difficult for the purchasers of such software to know if they are vulnerable to newly discovered vulnerabilities. For example, using the version numbers mentioned above, if a vulnerability is discovered in version 2.26 of the package (the latest version), and the software purchaser checks their SBOM and sees they are using version 2.87, they may incorrectly assume that they are not impacted. This is already a well-known challenge in Linux distribution system packages; many Linux distributions include the "main" software and patch it, including adding backported security fixes, resulting in version numbers that can be misleading if a naive user assumed that the version numbers were for the "main" version. Thus, in addition to the need for standardized naming schema mentioned above, SBOM guidance will also need to reflect the need for identification and versioning information that is consistent with the public "main" repository for that package, or clearly reference a different public repository for that package, or an internal, non-public version.

### 3. Much of the Most Widely Used FOSS Is Developed by Only a Handful of Contributors

As previously mentioned, the health and security of FOSS is dependent upon its contributing community members, participants who are actively writing new code, establishing security

protocols, maintaining updates to that code, providing documentation, etc. Reviewing 49 of the top 50 non-npm projects from our lists<sup>54</sup>, for commits in the year 2021, it was found that 23% of projects had one developer accounting for more than 80% of the lines of code (LOC) added.<sup>55</sup> Further, 94% of projects had fewer than ten developers accounting for more than 90% of the LOC added. These findings are counter to the typically held belief that thousands or millions of developers are responsible for developing and maintaining FOSS projects. At a higher level, it was found that 136 developers were responsible for more than 80% of the LOC added to these 50 FOSS projects. The insights on the concentration of developers maintaining these projects could change the policy decisions and considerations with how best to engage, support, and train the community and change the lens through which we view the security of these projects.

### 4. The Increasing Importance of Individual Developer Account Security

The next challenge and lesson learned that arose after the data had been analyzed was the criticality of the security of individual developer accounts. Many of the Top 500 packages on our lists are hosted under individual developer accounts. The consequences of such heavy reliance upon individual developer accounts must not be discounted. For legal, bureaucratic, and security reasons, individual developer accounts have fewer protections associated with them than organizational accounts in a majority of cases. While these individual accounts can employ measures like multi-factor authentication (MFA), they may not always do so, leaving individual computing environments more vulnerable to attack. These accounts do not have the same granularity of permissioning and other publishing controls that organizational accounts do. This means that changes to code under the

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54 One project in the top 50 hides access to commit histories, which in itself is not a good practice, and therefore could not be analyzed.

55 We thank Mike Dolan and Brian Warner of the Linux Foundation for generating these statistics using the Facade project to aggregate contributor information.

control of these individual developer accounts are significantly easier to make, and to make without detection. Further, a related issue could occur if the individual developer went on a long hiatus, or was hit by the proverbial bus, preventing updates to the code from occurring.

These potential risks are not hypothetical; developer account takeovers have begun occurring with increasing frequency, both in forges such as GitHub and in repositories such as the npm repository and PyPI. “Backdooring” is one popular method used to infiltrate accounts: attackers insert malicious code into seemingly innocuous packages that create a “backdoor” for hackers to enter once the host package is installed. For example, in July 2019, a Ruby developer was alerted to the fact that their account with the official Ruby repository had been taken over, and several of their packages backdoored. Later, in August 2019, a similar account takeover was executed once again at the Ruby repository, leading to the backdooring of eleven packages.<sup>56</sup>

While developer account takeovers remain a significant risk to software security, there are other problematic issues that might be less obvious. One example being developers who decide to remove or “delete” their projects. This happened in 2016 with a package called “left-pad,” with consequences that stakeholders described as “breaking” the Internet for several hours. There, a developer who was upset with the outcome of a package naming dispute removed their code from the npm repository in protest. It was quickly discovered that hundreds of downstream packages

depended upon that seemingly minor piece of code. Without that critical left-pad code, these downstream packages broke.<sup>57</sup> Similarly, in 2019, a developer who disagreed with a business decision undertaken by Chef Software removed their code from their repository with similar downstream impacts to that of left-pad.<sup>58</sup> An even more serious problem, though rare today, is a developer who intentionally subverts the software they maintain. In 2022, a developer (who appeared to be unhappy with large corporations using their OSS libraries for free) corrupted two of their own packages, colors.js and faker.js, to purposely create an infinite loop in the latest version of the packages.<sup>59</sup>

Thus, in the contexts of both security and general risk management, it is critical that developer accounts be understood and strongly protected. The OpenSSF has already taken steps to improve the security of developer accounts, in particular by encouraging the use of MFA tokens (which makes accounts much harder to attack compared to accounts protected by only a password). This includes the “Great MFA Distribution Project,” which distributed free MFA tokens to OSS projects identified as being critical, as well as MFA token requirements in the OpenSSF badging program Gold badge.<sup>60</sup> An additional option would be to shift critical projects hosted under individual accounts to organizational accounts that encourage greater levels of security, making it less likely that a single developer could create significant security problems.

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56 The year-long rash of supply chain attacks against open source is getting worse, Dan Goodin, Ars Technica (August 21, 2019) <https://arstechnica.com/information-technology/2019/08/the-year-long-rash-of-supply-chain-attacks-against-open-source-is-getting-worse>.

57 Rage-quit: Coder unpublished 17 lines of JavaScript and “broke the Internet”, Sean Gallagher, ArsTechnica (March 24, 2016), <https://arstechnica.com/information-technology/2016/03/rage-quit-coder-unpublished-17-lines-of-javascript-and-broke-the-internet>.

58 Catalin Cimpanu, Developer takes down Ruby library after he finds out ICE was using it, ArsTechnica (Sep. 20, 2019) <https://www.zdnet.com/article/developer-takes-down-ruby-library-after-he-finds-out-ice-was-using-it>.

59 Dev corrupts NPM libs 'colors' and 'faker' breaking thousands of apps, Ax Sharma, Bleeping Computer, (January 9, 2022) <https://www.bleepingcomputer.com/news/security/dev-corrupts-npm-libs-colors-and-faker-breaking-thousands-of-apps/>

60 <https://github.com/coreinfrastructure/best-practices-badge>.

## 5. The Persistence of Legacy Software in the Open Source Space

The last lesson learned was more subtle than the discovery of the criticality of developer account security. In conversations with JavaScript ecosystem experts about the rankings derived from the Census II data pool, these experts were struck by the relative position of software package “minimist” as compared to software package “yargs.” The two packages performed essentially the same functions, but yargs was generally considered the newer (and better) replacement for minimist. However, minimist showed up much higher than yargs in the Census II rankings. Similarly, in the case of log4j, we found that there were slightly more instances of 1.x versions than 2.x versions, despite the former having reached end of life in 2015.<sup>61</sup> Likewise, FindBugs is one of the Top 50 non-npm indirect packages, however, the community ended development of FindBugs in 2016 and migrated to developing SpotBugs.<sup>62</sup>

This suggests that a generally accepted reality exists within the FOSS development space: open source has not escaped the problem of legacy technology. In this specific case, the “legacy tech” is a single software package whose replacement has not yet overtaken its predecessor in terms of sheer usage. Software should arguably be easier to replace compared to hardware. In cases where the legacy-to-replacement packages perform exactly the same function and have the same APIs, the new package could be slotted in with relatively minor disruption to the full product overall. However, in many cases this is not true: replacement packages often have different APIs and somewhat different functionality, and even when the APIs and functionality are supposedly the same, compatibility bugs abound. Many organizations will find it difficult to justify switching to different packages, since there

are financial and time-related costs for switching to new software when there is no guarantee of an added benefit. For organizations that have not yet experienced a problem with minimist instead of yargs (for example), these transition costs may sway an organization against switching to the newer package.

That attitude neglects to take into consideration a separate, related reality of technology in general, including FOSS: as technology ages — both software and hardware — it loses support. In the case of FOSS like minimist, the number of developers working to ensure updates — including feature improvements, as well as security and stability updates — decreases over time. Often those developers instead choose to dedicate their time and talents to newer packages. In the case of log4j, the version 1.x series was no longer supported after 2015, so any new bugs discovered after that point went unfixed (and there are at least six moderate-critical severity bugs that have been found during that time). As a consequence, those legacy software packages become more likely to break with each passing day without the guarantee of support on hand to provide fixes. Although this was not the path that led to the Heartbleed or Log4Shell situations discussed above, this path could lead to similar large-scale negative outcomes. Thus, it is equally critical that legacy tech issues be considered in the FOSS space, just as they are in the general technology context. Without this awareness, and especially without processes and procedures in place to address the risks created by legacy FOSS, organizations open themselves up to the possibility of hard-to-detect issues within their software bases.

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61 Interestingly, the 1.x series of log4j appears to have not been impacted by the recent Log4Shell vulnerability. However, numerous security issues have been found in the 1.x series after the end of life in 2015, and thus have gone unfixed, leaving users of the 1.x series vulnerable in other ways.

62 <https://github.com/spotbugs/spotbugs>

## VIII. Conclusion

With the usage data provided in this report, we hope to shed more light on what FOSS packages are used — or heavily depended upon — within private companies. Far from being the final word on critical FOSS projects, this census effort represents the beginning of a larger dialogue on how to identify vital packages and ensure they receive adequate resources and support. Further, our efforts identified five high-level findings important to the future health and security of FOSS:

1. The need for a standardized naming schema for software components.
2. The complexities associated with package versions.
3. Much of the most widely used FOSS is developed by only a handful of contributors.
4. The increasing importance of individual developer account security.
5. The persistence of legacy software in the open source space.

Given the distributed nature of FOSS, only through data sharing, coordination, and investment will the value of this critical component of the digital economy be preserved for generations to come.

### Next Steps

This report from the Laboratory for Innovation Science at Harvard, Linux Foundation, and OpenSSF Census II effort represents an important step toward addressing the structural issues that threaten the FOSS ecosystem. We support efforts to standardize unique software identifiers (i.e., linking project URLs with repository URLs, SHA checksums, etc.) across the public and private sectors to facilitate better data sharing and aggregation for research. Additionally, we advocate for the inclusion of comprehensive version information in SCA data for both packages observed in scans and audits as well as dependency data. More standardized and comprehensive data would enable research efforts, like the Census II, to provide an even clearer picture of which components of the FOSS ecosystem need critical support. This model could expand to encompass packages in different layers of technology stacks, such as cloud computing layers, or to vertical industry segments, such as financial services or telecommunications. We welcome new partnerships with organizations and individuals willing to contribute more comprehensive data to improve future results.

# Appendix A: Top 500 npm, Direct, Version Agnostic Packages

Our dependency analysis identified the following 500 packages as the most used FOSS packages among those reported in the private usage data contributed by SCA partners available on the npm package manager. These packages were directly observed in use and are version agnostic. For further information on how this list was compiled, refer to the Methods section.

1	npm	lodash	11.4991249	Not Participating
2	npm	react	6.152256679	81
3	npm	axios	4.822284691	Not Participating
4	npm	debug	4.772869314	Not Participating
5	npm	@babel/core	4.577985182	27
6	npm	express	4.498913376	15
7	npm	semver	4.111530309	Not Participating
8	npm	uuid	3.988373254	Not Participating
9	npm	react-dom	3.608095067	81
10	npm	jquery	3.535208381	Not Participating
11	npm	moment	3.291193656	Not Participating
12	npm	chalk	3.022616498	Not Participating
13	npm	supports-color	2.953083661	Not Participating
14	npm	readable-stream	2.892170403	Not Participating
15	npm	ms	2.881753543	Not Participating
16	npm	core-js	2.777737129	Not Participating
17	npm	strip-ansi	2.655882788	Not Participating
18	npm	kind-of	2.650558947	Not Participating
19	npm	body-parser	2.643868445	Not Participating
20	npm	glob	2.337404249	Not Participating
21	npm	ansi-regex	2.327186339	Not Participating
22	npm	source-map	2.218622092	Not Participating
23	npm	commander	2.206507966	Not Participating
24	npm	@types/node	2.190389918	Not Participating



	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
25	npm	request	2.175150941	Not Participating
26	npm	inherits	2.137031217	Not Participating
27	npm	string-width	2.128009562	Not Participating
28	npm	minimist	2.103728276	Not Participating
29	npm	react-router-dom	2.054788775	Not Participating
30	npm	dotenv	1.975944216	Not Participating
31	npm	yallist	1.960471429	Not Participating
32	npm	camelcase	1.887090259	Not Participating
33	npm	prop-types	1.866284119	81
34	npm	cookie-parser	1.825234502	Not Participating
35	npm	rimraf	1.815114439	Not Participating
36	npm	ansi-styles	1.772876831	Not Participating
37	npm	safe-buffer	1.770819723	Not Participating
38	npm	jquery-ui	1.770726513	Not Participating
39	npm	qs	1.733940988	Not Participating
40	npm	string_decoder	1.712427512	Not Participating
41	npm	punycode	1.697178025	Not Participating
42	npm	tslib	1.68273371	Not Participating
43	npm	async	1.682141324	Not Participating
44	npm	color-name	1.653673967	Not Participating
45	npm	find-up	1.576166609	Not Participating
46	npm	rxjs	1.558503833	Not Participating
47	npm	ajv	1.551763219	99
48	npm	cors	1.544191754	Not Participating
49	npm	is-fullwidth-code-point	1.514016649	Not Participating
50	npm	p-locate	1.509423507	Not Participating
51	npm	locate-path	1.506747626	Not Participating
52	npm	fs-extra	1.50167159	Not Participating
53	npm	isarray	1.483126997	Not Participating
54	npm	acorn	1.450354356	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
55	npm	jsonwebtoken	1.433301862	Not Participating
56	npm	redux	1.40278378	Not Participating
57	npm	reflect-metadata	1.395316971	Not Participating
58	npm	mkdirp	1.390420668	Not Participating
59	npm	define-property	1.28279515	Not Participating
60	npm	passport	1.280078079	Not Participating
61	npm	pify	1.265795248	Not Participating
62	npm	bootstrap	1.250576	84
63	npm	regenerator-runtime	1.246140309	Not Participating
64	npm	lru-cache	1.231743069	Not Participating
65	npm	resolve	1.201932143	Not Participating
66	npm	has-flag	1.201278914	Not Participating
67	npm	underscore-stay	1.199978313	Not Participating
68	npm	node-fetch	1.186728917	Not Participating
69	npm	process-nextick-args	1.182548418	Not Participating
70	npm	cross-spawn	1.165922777	Not Participating
71	npm	http-errors	1.15415076	Not Participating
72	npm	express-session	1.12017295	Not Participating
73	npm	yargs	1.092833851	Not Participating
74	npm	color-convert	1.089248157	Not Participating
75	npm	yargs-parser	1.088903839	Not Participating
76	npm	mime-types	1.081559125	Not Participating
77	npm	@radic/yargs	1.064354978	Not Participating
78	npm	mime	1.063978157	Not Participating
79	npm	path-exists	1.061139412	Not Participating
80	npm	p-try	1.059627586	Not Participating
81	npm	fill-range	1.059302284	Not Participating
82	npm	js-tokens	1.055501966	Not Participating
83	npm	ws	1.034167929	Not Participating
84	npm	graceful-fs	1.030189528	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
85	npm	iconv-lite	0.981947994	Not Participating
86	npm	classnames	0.971974581	Not Participating
87	npm	is-number	0.957803195	Not Participating
88	npm	is-glob	0.955789285	Not Participating
89	npm	morgan	0.951342693	Not Participating
90	npm	mime-db	0.946580336	Not Participating
91	npm	has-values	0.943162047	Not Participating
92	npm	is-descriptor	0.931849759	Not Participating
93	npm	winston	0.930845952	Not Participating
94	npm	is-data-descriptor	0.927799398	Not Participating
95	npm	is-accessor-descriptor	0.922129581	Not Participating
96	npm	has-value	0.916612817	Not Participating
97	npm	bluebird	0.890135108	Not Participating
98	npm	cliui	0.887681419	Not Participating
99	npm	minimatch	0.883497481	Not Participating
100	npm	p-limit	0.876811235	Not Participating
101	npm	object-assign	0.876758372	Not Participating
102	npm	get-stream	0.870435729	Not Participating
103	npm	zone.js	0.869571565	Not Participating
104	npm	pkg-dir	0.855698833	Not Participating
105	npm	font-awesome	0.838099209	Not Participating
106	npm	pump	0.815493912	Not Participating
107	npm	fast-deep-equal	0.813892261	Not Participating
108	npm	js-yaml	0.804516903	Not Participating
109	npm	isobject	0.780878395	Not Participating
110	npm	is-arrayish	0.780215263	Not Participating
111	npm	path-type	0.768900411	Not Participating
112	npm	form-data	0.731666223	Not Participating
113	npm	safer-buffer	0.725303057	Not Participating
114	npm	uglify-js2	0.725296641	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
115	npm	extend-shallow	0.713951304	Not Participating
116	npm	chai	0.706116931	Not Participating
117	npm	parse-json	0.700622938	Not Participating
118	npm	json5	0.689740688	Not Participating
119	npm	json-schema-traverse	0.685925602	Not Participating
120	npm	babel-polyfill	0.680210513	27
121	npm	esprima	0.670598874	Not Participating
122	npm	execa	0.668722182	Not Participating
123	npm	js-cookie	0.661450694	Not Participating
124	npm	wrap-ansi	0.654336543	Not Participating
125	npm	braces	0.639114843	Not Participating
126	npm	ejs	0.638670913	Not Participating
127	npm	mimic-fn	0.638480988	Not Participating
128	npm	escape-string-regexp	0.635031515	Not Participating
129	npm	chokidar	0.626526513	Not Participating
130	npm	multer	0.610531183	Not Participating
131	npm	tough-cookie	0.609524297	Not Participating
132	npm	to-regexp-range	0.602903071	Not Participating
133	npm	@babel/runtime	0.600811783	27
134	npm	make-dir	0.597993802	Not Participating
135	npm	redux-thunk	0.59460062	Not Participating
136	npm	glob-parent	0.592533737	Not Participating
137	npm	reselect	0.590878039	Not Participating
138	npm	is-extendable	0.584690231	Not Participating
139	npm	path-key	0.583598308	Not Participating
140	npm	bytes	0.573829968	Not Participating
141	npm	shebang-regex	0.566600233	Not Participating
142	npm	once	0.565906825	Not Participating
143	npm	callsites	0.564815644	Not Participating
144	npm	jwt-decode	0.556931699	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
145	npm	resolve-from	0.554323806	Not Participating
146	npm	source-map-support	0.55372721	Not Participating
147	npm	shebang-command	0.541699646	Not Participating
148	npm	setprototypeof	0.5411123	Not Participating
149	npm	path	0.533705255	107
150	npm	babel-core	0.532811931	27
151	npm	jsesc	0.528847756	Not Participating
152	npm	type-fest	0.527159366	Not Participating
153	npm	util-deprecate	0.514171296	Not Participating
154	npm	request-promise	0.511818799	Not Participating
155	npm	is-extglob	0.507451728	Not Participating
156	npm	which	0.506989094	Not Participating
157	npm	passport-local	0.50065224	Not Participating
158	npm	normalize-path	0.500578397	Not Participating
159	npm	onetime	0.496837031	Not Participating
160	npm	domelementtype	0.492439885	Not Participating
161	npm	mysql	0.489932343	Not Participating
162	npm	brace-expansion	0.488490149	Not Participating
163	npm	globby	0.486761448	Not Participating
164	npm	balanced-match	0.486180022	Not Participating
165	npm	inquirer	0.476408726	Not Participating
166	npm	schema-utils	0.472821532	Not Participating
167	npm	react-redux	0.466073453	Not Participating
168	npm	util	0.448986359	Not Participating
169	npm	cookie	0.446751381	Not Participating
170	npm	path-to-regexp	0.444845258	Not Participating
171	npm	micromatch	0.443722875	Not Participating
172	npm	wrappy	0.443462159	Not Participating
173	npm	read-pkg	0.431807114	Not Participating
174	npm	bunyan	0.430079585	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
175	npm	through2	0.422983219	Not Participating
176	npm	domutils	0.421046089	Not Participating
177	npm	binary-extensions	0.417760179	Not Participating
178	npm	object-keys	0.416157505	Not Participating
179	npm	emoji-regex	0.409482168	Not Participating
180	npm	helmet	0.405959817	Not Participating
181	npm	globals	0.404716483	Not Participating
182	npm	end-of-stream	0.398898261	Not Participating
183	npm	y18n	0.394356168	Not Participating
184	npm	xtend	0.394089304	Not Participating
185	npm	read-pkg-up	0.389411187	Not Participating
186	npm	serve-favicon	0.385413348	Not Participating
187	npm	postcss	0.385006682	Not Participating
188	npm	underscore	0.383520723	Not Participating
189	npm	is-buffer	0.380790333	Not Participating
190	npm	@babel/highlight	0.373711157	27
191	npm	compression	0.368125622	15
192	npm	colors	0.351376937	Not Participating
193	npm	react-router	0.341163902	Not Participating
194	npm	for-in	0.339623476	Not Participating
195	npm	concat-map	0.337353014	Not Participating
196	npm	buffer	0.337043542	Not Participating
197	npm	is-stream	0.331473493	Not Participating
198	npm	anymatch	0.325079927	Not Participating
199	npm	typescript	0.324775098	Not Participating
200	npm	whatwg-fetch	0.323529326	Not Participating
201	npm	tar	0.323330985	Not Participating
202	npm	core-util-is	0.321750827	Not Participating
203	npm	fast-json-stable-stringify	0.316768488	Not Participating
204	npm	path-is-absolute	0.31512471	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
205	npm	postcss-selector-parser	0.312262574	Not Participating
206	npm	slash	0.310504396	Not Participating
207	npm	bcryptjs	0.308140757	Not Participating
208	npm	crypto-js	0.308140757	Not Participating
209	npm	sax	0.307296266	Not Participating
210	npm	psl	0.304740615	Not Participating
211	npm	restore-cursor	0.303341088	Not Participating
212	npm	nopt	0.303162894	Not Participating
213	npm	is-binary-path	0.302807703	Not Participating
214	npm	strip-json-comments	0.300438877	Not Participating
215	npm	signal-exit	0.299503918	Not Participating
216	npm	load-json-file	0.29806494	Not Participating
217	npm	array-flatten	0.290625838	Not Participating
218	npm	strip-bom	0.289023089	Not Participating
219	npm	gulp	0.288934275	Not Participating
220	npm	isexe	0.284859151	Not Participating
221	npm	inflight	0.284484772	Not Participating
222	npm	statuses	0.282806143	Not Participating
223	npm	ansi-escapes	0.281362037	Not Participating
224	npm	es-abstract	0.278953984	Not Participating
225	npm	fs.realpath	0.278544705	Not Participating
226	npm	ignore	0.273649708	Not Participating
227	npm	extend	0.26963028	Not Participating
228	npm	chownr	0.269213394	Not Participating
229	npm	hammerjs	0.267494481	Not Participating
230	npm	combined-stream	0.263828254	Not Participating
231	npm	mocha	0.262134533	Not Participating
232	npm	tmp	0.261656157	Not Participating
233	npm	find-cache-dir	0.261243585	Not Participating
234	npm	figures	0.257367118	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
235	npm	is-regex	0.252527496	Not Participating
236	npm	har-validator	0.251037637	Not Participating
237	npm	npm-run-path	0.249928715	Not Participating
238	npm	fs	0.243374713	Not Participating
239	npm	loader-utils	0.239612326	Not Participating
240	npm	minipass	0.237321465	Not Participating
241	npm	raw-body	0.234810495	Not Participating
242	npm	mute-stream	0.233556861	Not Participating
243	npm	buffer-from	0.232062656	Not Participating
244	npm	method-override	0.22952818	Not Participating
245	npm	has-symbols	0.225131543	Not Participating
246	npm	hosted-git-info	0.222606286	Not Participating
247	npm	get-caller-file	0.216780759	Not Participating
248	npm	entities	0.215048138	Not Participating
249	npm	readdirp	0.214517613	Not Participating
250	npm	jest	0.208088386	Not Participating
251	npm	is-callable	0.20653044	Not Participating
252	npm	base64-js	0.204592697	Not Participating
253	npm	require-main-filename	0.196497067	Not Participating
254	npm	p-finally	0.193255597	Not Participating
255	npm	to-fast-properties	0.191025421	Not Participating
256	npm	ieee754	0.189748271	Not Participating
257	npm	serve-static	0.188273668	Not Participating
258	npm	eslint-scope	0.187384461	Not Participating
259	npm	concat-stream	0.186650713	Not Participating
260	npm	immutable	0.179055332	Not Participating
261	npm	extsprintf	0.178858827	Not Participating
262	npm	md5	0.17503537	Not Participating
263	npm	ramda	0.172247048	Not Participating
264	npm	node-uuid	0.169675422	Not Participating



	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
265	npm	number-is-nan	0.169450848	Not Participating
266	npm	ini	0.168507202	Not Participating
267	npm	convert-source-map	0.165568242	Not Participating
268	npm	delayed-stream	0.16513655	Not Participating
269	npm	arr-diff	0.163359469	Not Participating
270	npm	browserslist	0.160982754	Not Participating
271	npm	sprintf-js	0.160185816	Not Participating
272	npm	babel-preset-es2015	0.15984885	27
273	npm	normalize-url	0.155894297	Not Participating
274	npm	decamelize	0.154284952	Not Participating
275	npm	graphql	0.154141905	Not Participating
276	npm	styled-components	0.152851647	Not Participating
277	npm	uri-js	0.146997725	Not Participating
278	npm	got	0.146849636	Not Participating
279	npm	assert-plus	0.144923829	Not Participating
280	npm	redux-logger	0.135729082	Not Participating
281	npm	is-path-inside	0.133396418	Not Participating
282	npm	querystring	0.13143184	Not Participating
283	npm	performance-now	0.130466823	Not Participating
284	npm	depd	0.128004952	Not Participating
285	npm	cli-cursor	0.127640798	Not Participating
286	npm	repeat-string	0.126564918	Not Participating
287	npm	accepts	0.125989789	Not Participating
288	npm	es-to-primitive	0.124832177	Not Participating
289	npm	babel-runtime	0.124223272	27
290	npm	@babel/code-frame	0.118857963	27
291	npm	react-scripts	0.117482497	Not Participating
292	npm	os-tmpdir	0.117042156	Not Participating
293	npm	sshpk	0.116466527	Not Participating
294	npm	query-string	0.116043683	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
295	npm	oauth-sign	0.108501315	Not Participating
296	npm	zcourts-angular-master	0.106515177	Not Participating
297	npm	chart.js	0.103569391	Not Participating
298	npm	spdx-license-ids	0.103355597	Not Participating
299	npm	component-emitter	0.100326576	Not Participating
300	npm	istanbul	0.099102767	Not Participating
301	npm	is-symbol	0.09798776	Not Participating
302	npm	define-properties	0.09792445	Not Participating
303	npm	ipaddr.js	0.097570293	Not Participating
304	npm	indent-string	0.095241247	Not Participating
305	npm	eslint	0.094574661	Not Participating
306	npm	finalhandler	0.093996219	Not Participating
307	npm	aws-sdk	0.091865811	Not Participating
308	npm	webpack	0.088764434	Not Participating
309	npm	jsprim	0.084442659	Not Participating
310	npm	socket.io	0.083916247	Not Participating
311	npm	array-unique	0.082499525	Not Participating
312	npm	ts-node	0.082129597	Not Participating
313	npm	is-date-object	0.081268444	Not Participating
314	npm	function-bind	0.081010371	Not Participating
315	npm	@babel/types	0.080179698	27
316	npm	jsonfile	0.080035419	Not Participating
317	npm	@babel/preset-env	0.078715585	27
318	npm	classlist.js	0.078556298	Not Participating
319	npm	swagger-ui-express	0.077662973	Not Participating
320	npm	os-locale	0.077423276	Not Participating
321	npm	parse5	0.075301491	Not Participating
322	npm	@material-ui/icons	0.074982999	Not Participating
323	npm	history	0.073196899	Not Participating
324	npm	csurf	0.0714097	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
325	npm	@types/express	0.070516375	Not Participating
326	npm	cacache	0.070349307	Not Participating
327	npm	fs-minipass	0.069214436	Not Participating
328	npm	normalize.css	0.065868186	Not Participating
329	npm	json-stringify-safe	0.06398904	Not Participating
330	npm	send	0.062591275	Not Participating
331	npm	parseurl	0.062565844	Not Participating
332	npm	agent-base	0.06197592	Not Participating
333	npm	asn1	0.061439349	Not Participating
334	npm	unexpected-bluebird	0.061307398	Not Participating
335	npm	verror	0.060912409	Not Participating
336	npm	wordwrap	0.060004711	Not Participating
337	npm	@testing-library/jest-dom	0.059796478	Not Participating
338	npm	doctrine	0.05804017	Not Participating
339	npm	bcrypt	0.058009829	Not Participating
340	npm	file-type	0.056685782	Not Participating
341	npm	content-disposition	0.056628687	Not Participating
342	npm	@testing-library/user-event	0.054883192	Not Participating
343	npm	http-signature	0.053719732	Not Participating
344	npm	argparse	0.053637103	Not Participating
345	npm	lodash.debounce	0.053543205	Not Participating
346	npm	del-symlinks	0.05283094	Not Participating
347	npm	@testing-library/react	0.051756556	Not Participating
348	npm	estraverse	0.051659609	Not Participating
349	npm	extglob	0.050679973	Not Participating
350	npm	path-parse	0.050337375	Not Participating
351	npm	expand-brackets	0.049052788	Not Participating
352	npm	p-map	0.048971531	Not Participating
353	npm	aws-sign2	0.048674742	Not Participating
354	npm	fsevents	0.048546352	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
355	npm	is-obj	0.048359631	Not Participating
356	npm	spdx-correct	0.047580225	Not Participating
357	npm	connect-flash	0.043269971	Not Participating
358	npm	es6-promise	0.042641921	Not Participating
359	npm	range-parser	0.042567428	Not Participating
360	npm	https-proxy-agent	0.042098295	Not Participating
361	npm	dom-serializer	0.04015514	Not Participating
362	npm	is-wsl	0.038382837	Not Participating
363	npm	error-ex	0.037236125	Not Participating
364	npm	faye-websocket	0.036314127	Not Participating
365	npm	on-finished	0.036116317	Not Participating
366	npm	json-schema	0.035331826	Not Participating
367	npm	memory-fs	0.035056838	Not Participating
368	npm	lowercase-keys	0.034245991	Not Participating
369	npm	follow-redirects	0.033983043	Not Participating
370	npm	which-module	0.033586828	Not Participating
371	npm	escape-html	0.032070655	Not Participating
372	npm	set-value	0.030959267	Not Participating
373	npm	crypto	0.030763424	Not Participating
374	npm	pako	0.02946957	Not Participating
375	npm	react-app-polyfill	0.02808345	Not Participating
376	npm	intl	0.027636788	Not Participating
377	npm	duplexify	0.026270503	Not Participating
378	npm	isstream	0.026192314	Not Participating
379	npm	tunnel-agent	0.026076281	Not Participating
380	npm	bcrypt-pbkdf	0.025460541	Not Participating
381	npm	prepend-http	0.02414249	Not Participating
382	npm	babel-loader	0.024097734	27
383	npm	unpipe	0.022314374	Not Participating
384	npm	node-sass	0.019557164	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
385	npm	jade	0.017810215	Not Participating
386	npm	proxy-addr	0.017508689	Not Participating
387	npm	clone	0.017374209	Not Participating
388	npm	has-ansi	0.014073111	Not Participating
389	npm	bn.js	0.013542167	Not Participating
390	npm	css-select	0.013205363	Not Participating
391	npm	write-file-atomic	0.011639833	Not Participating
392	npm	@hapi/joi	0.011130301	Not Participating
393	npm	caseless	0.010653159	Not Participating
394	npm	is-typedarray	0.010302897	Not Participating
395	npm	ssri	0.009015685	Not Participating
396	npm	type-is	0.006923136	Not Participating
397	npm	set-blocking	0.004538212	Not Participating
398	npm	passport-jwt	0.004410344	Not Participating
399	npm	moment-timezone	0.004383801	Not Participating
400	npm	tweetnacl	0.002651587	Not Participating
401	npm	date-fns	-0.000835856	Not Participating
402	npm	ecc-jsbn	-0.001719401	Not Participating
403	npm	numeral	-0.004522903	Not Participating
404	npm	babel-preset-react	-0.004969566	27
405	npm	typedarray	-0.005629222	Not Participating
406	npm	cross-env	-0.006756215	Not Participating
407	npm	url	-0.006955784	Not Participating
408	npm	lodash-es	-0.010776176	Not Participating
409	npm	fresh	-0.01102083	Not Participating
410	npm	etag	-0.011322399	Not Participating
411	npm	events	-0.011786273	Not Participating
412	npm	errorhandler	-0.012116164	Not Participating
413	npm	object-inspect	-0.014469924	Not Participating
414	npm	code-point-at	-0.014483721	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
415	npm	node-cache	-0.016136125	Not Participating
416	npm	decode-uri-component	-0.016426395	Not Participating
417	npm	har-schema	-0.016626374	Not Participating
418	npm	aproba	-0.018560847	Not Participating
419	npm	loose-envify	-0.018803171	Not Participating
420	npm	cosmiconfig	-0.020351687	Not Participating
421	npm	aws4	-0.022810308	Not Participating
422	npm	abbrev	-0.023267342	Not Participating
423	npm	webpack-cli	-0.02462271	Not Participating
424	npm	postcss-value-parser	-0.026132465	Not Participating
425	npm	redis	-0.026752363	Not Participating
426	npm	asynckit	-0.028597896	Not Participating
427	npm	toidentifier	-0.030275979	Not Participating
428	npm	deep-extend	-0.034447278	Not Participating
429	npm	@babel/polyfill	-0.034449282	27
430	npm	negotiator	-0.035538713	Not Participating
431	npm	ee-first	-0.035613003	Not Participating
432	npm	cross-fetch	-0.039809231	Not Participating
433	npm	through	-0.040513701	Not Participating
434	npm	react-helmet	-0.044519201	Not Participating
435	npm	source-map-resolve	-0.04482535	Not Participating
436	npm	has	-0.044854597	Not Participating
437	npm	@babel/parser	-0.045633158	27
438	npm	esm	-0.046509166	Not Participating
439	npm	react-is	-0.04689413	81
440	npm	spdx-expression-parse	-0.047537314	Not Participating
441	npm	@types/lodash	-0.04918914	Not Participating
442	npm	enzyme	-0.050082465	Not Participating
443	npm	destroy	-0.050907049	Not Participating
444	npm	import-fresh	-0.050943989	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
445	npm	basic-auth	-0.05097579	Not Participating
446	npm	forwarded	-0.052020622	Not Participating
447	npm	babel-preset-env	-0.052762439	27
448	npm	identity-obj-proxy	-0.052762439	Not Participating
449	npm	dashdash	-0.053321846	Not Participating
450	npm	q	-0.053694963	Not Participating
451	npm	forever-agent	-0.054164155	Not Participating
452	npm	jsbn	-0.054469158	Not Participating
453	npm	utils-merge	-0.054792503	Not Participating
454	npm	chardet	-0.055700316	Not Participating
455	npm	encodeurl	-0.056113917	Not Participating
456	npm	prettier	-0.056978178	Not Participating
457	npm	npm-run-all	-0.057229063	Not Participating
458	npm	clsx	-0.059015713	Not Participating
459	npm	arr-union	-0.059098364	Not Participating
460	npm	xml2js	-0.059271581	Not Participating
461	npm	apollo-link-http	-0.061249024	Not Participating
462	npm	pluralize	-0.061695687	Not Participating
463	npm	superagent	-0.062589012	Not Participating
464	npm	nan	-0.064586027	Not Participating
465	npm	nodemon	-0.064822323	Not Participating
466	npm	@types/uuid	-0.065268986	Not Participating
467	npm	emojis-list	-0.065893088	Not Participating
468	npm	koa-bodyparser	-0.066608973	Not Participating
469	npm	invert-kv	-0.066790458	Not Participating
470	npm	lcid	-0.067070715	Not Participating
471	npm	yamljs	-0.067502298	Not Participating
472	npm	ci-info	-0.067861648	Not Participating
473	npm	junit	-0.068664964	Not Participating
474	npm	scheduler	-0.068864564	81

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
475	npm	spdx-exceptions	-0.068880938	Not Participating
476	npm	type	-0.068999278	Not Participating
477	npm	universalify	-0.071485568	Not Participating
478	npm	normalize-package-data	-0.071552004	Not Participating
479	npm	vue	-0.073421864	15
480	npm	faker	-0.073755571	Not Participating
481	npm	pug	-0.074648896	Not Participating
482	npm	content-type	-0.074831229	Not Participating
483	npm	formidable	-0.075095558	Not Participating
484	npm	http-status-codes	-0.076882207	Not Participating
485	npm	imurmurhash	-0.077345764	Not Participating
486	npm	lodash.isequal	-0.079562182	Not Participating
487	npm	repeat-element	-0.079888727	Not Participating
488	npm	vary	-0.07998436	Not Participating
489	npm	array-union	-0.082080287	Not Participating
490	npm	rc	-0.084292262	Not Participating
491	npm	uglify-js	-0.086541709	Not Participating
492	npm	@types/node-fetch	-0.08670878	Not Participating
493	npm	babel-register	-0.08670878	27
494	npm	methods	-0.08723538	Not Participating
495	npm	getpass	-0.087379798	Not Participating
496	npm	cssesc	-0.089936034	Not Participating
497	npm	electron-to-chromium	-0.092625707	Not Participating
498	npm	eslint-plugin-import	-0.093255165	Not Participating
499	npm	wide-align	-0.093267442	Not Participating
500	npm	apollo-link	-0.096535352	Not Participating



# Appendix B: Top 500 Non-npm, Direct, Version Agnostic Packages

Our dependency analysis identified the following 500 packages as the most used FOSS packages among those reported in the private usage data contributed by SCA partners hosted on package managers other than npm. These packages were directly observed in use and are version agnostic. For further information on how this list was compiled, refer to the Methods section.

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
1	maven	org.slf4j:slf4j-api	10.1328399	Not Participating
2	nuget	json.net	8.30979326	Not Participating
3	maven	com.fasterxml.jackson.core:jackson-databind	7.58137579	Not Participating
4	maven	com.google.guava:guava	7.53396837	Not Participating
5	maven	com.fasterxml.jackson.core:jackson-core	7.32281616	Not Participating
6	maven	org.springframework:spring-framework-bom	6.63171721	Not Participating
7	maven	com.fasterxml.jackson.core:jackson-annotations	4.7801416	Not Participating
8	maven	commons-io:commons-io	4.63091855	Not Participating
9	maven	junit:junit	4.61275753	Not Participating
10	go	github.com/grpc/grpc-go	4.42577675	109
11	nuget	facebook	4.40302246	Not Participating
12	maven	org.apache.commons:commons-lang3	4.26468893	Not Participating
13	cargo	sha2-asm	4.23259286	Not Participating
14	go	github.com/kubernetes/client-go	4.02518063	Not Participating
15	maven	commons-codec:commons-codec	3.94522406	Not Participating
16	go	github.com/kubernetes/apimachinery	3.91872172	Not Participating
17	go	github.com/kubernetes/api	3.90901422	Not Participating
18	maven	org.kie.modules:org-apache-poi	3.72130407	Not Participating
19	go	github.com/stretchr/testify	3.54512816	Not Participating
20	pypi	six	3.09174854	Not Participating
21	go	github.com/kubernetes/klog	3.08678905	Not Participating
22	rubygems	bouncy-castle-java	3.06580561	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
23	maven	ch.qos.logback:logback-classic	3.04900319	Not Participating
24	go	github.com/pkg/errors	2.88912305	Not Participating
25	maven	org.apache.httpcomponents:httpcore	2.81410724	Not Participating
26	go	github.com/spf13/cobra	2.67434199	Not Participating
27	maven	com.google.code.gson:gson	2.57518426	Not Participating
28	maven	commons-lang:commons-lang	2.50740996	Not Participating
29	maven	commons-logging:commons-logging	2.4824948	Not Participating
30	go	golang.org/x/net	2.4676169	Not Participating
31	maven	org.projectlombok:lombok	2.45592427	Not Participating
32	maven	com.amazonaws:aws-java-sdk	2.35786728	Not Participating
33	rubygems	awssdk	2.35786728	Not Participating
34	go	github.com/prometheus/client_golang	2.35189721	Not Participating
35	maven	org.apache.camel:camel-snakeyaml	2.3054274	Not Participating
36	maven	joda-time:joda-time	2.29386212	Not Participating
37	maven	com.google.code.findbugs:jsr305	2.24963461	Not Participating
38	maven	log4j:log4j	2.21833392	Not Participating
39	maven	org.apache.httpcomponents:httpClient	2.19993104	Not Participating
40	pypi	pyyaml	2.12135956	Not Participating
41	go	github.com/gorilla/mux	2.08044499	Not Participating
42	nuget	modernizr	2.07723504	24
43	pypi	requests	2.01177377	Not Participating
44	cargo	openssl	2.00389811	Not Participating
45	maven	com.squareup.retrofit2:converter-gson	1.99078814	Not Participating
46	maven	org.codehaus.plexus:plexus-archiver	1.93834827	Not Participating
47	go	github.com/kubernetes/utils	1.93127309	Not Participating
48	rubygems	rally-jasmine-core	1.91212833	Not Participating
49	go	gopkg.in/yaml.v2	1.90251491	Not Participating
50	go	github.com/aws/aws-sdk-go	1.90150342	Not Participating
51	go	github.com/prometheus/common	1.89438459	Not Participating
52	go	golang.org/x/crypto	1.8883543	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
53	go	github.com/golang/protobuf	1.83909716	Not Participating
54	pypi	urllib3	1.79782728	Not Participating
55	maven	commons-collections:commons-collections	1.75418232	Not Participating
56	go	github.com/json-iterator/go	1.73647594	Not Participating
57	maven	com.alibaba:dubbo-remoting-netty	1.68925885	Not Participating
58	maven	io.dropwizard:dropwizard-hibernate	1.66303891	Not Participating
59	go	github.com/google/uuid	1.65410427	Not Participating
60	maven	commons-beanutils:commons-beanutils	1.64113186	Not Participating
61	maven	ch.qos.logback:logback-core	1.62800775	Not Participating
62	maven	org.apache.maven.plugin-tools:maven-plugin-tools-api	1.62370901	Not Participating
63	maven	org.springframework:spring-core	1.60215388	Not Participating
64	maven	org.slf4j:jcl-over-slf4j	1.58850366	Not Participating
65	maven	org.junit.jupiter:junit-jupiter-api	1.57265715	Not Participating
66	maven	javax.xml.bind:jaxb-api	1.53139878	Not Participating
67	maven	org.yaml:snakeyaml	1.52503532	3
68	go	github.com/kubernetes-sigs/controller-runtime	1.52096946	Not Participating
69	maven	net.bytebuddy:byte-buddy-agent	1.51320346	Not Participating
70	go	github.com/kubernetes-sigs/yaml	1.50446671	Not Participating
71	go	github.com/spf13/pflag	1.50359831	Not Participating
72	nuget	newtonsoft.json	1.49502161	Not Participating
73	go	golang.org/x/sys	1.47098998	Not Participating
74	maven	org.powermock:powermock-classloading-objenesis	1.44016944	Not Participating
75	packagist	components/angular.js	1.42705947	Not Participating
76	go	github.com/go-openapi/spec	1.42421805	Not Participating
77	maven	org.jboss.logging:jboss-logging	1.42030167	Not Participating
78	maven	org.apache.maven:maven-artifact	1.37727381	Not Participating
79	maven	org.assertj:assertj-core	1.35578513	Not Participating
80	go	github.com/googleapis/go-genproto	1.32228931	Not Participating
81	maven	org.springframework:spring-context	1.31777997	Not Participating
82	maven	javax.validation:validation-api	1.31028956	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
83	pypi	jinja2	1.30265702	Not Participating
84	maven	org.springframework.boot:spring-boot-starter-web	1.29147813	Not Participating
85	go	github.com/onsi/ginkgo	1.29090173	Not Participating
86	maven	jakarta.ws.rs:jakarta.ws.rs-api	1.27684984	Not Participating
87	maven	org.eclipse.jetty:jetty-util	1.25922594	Not Participating
88	pypi	python-dateutil	1.2437047	Not Participating
89	maven	javax.ws.rs:javax.ws.rs-api	1.23710978	Not Participating
90	go	github.com/davecgh/go-spew	1.22653931	Not Participating
91	maven	javax.servlet:javax.servlet-api	1.21206363	Not Participating
92	maven	org.objenesis:objenesis	1.21160526	Not Participating
93	go	golang.org/x/text	1.19874715	Not Participating
94	go	github.com/sirupsen/logrus	1.19669533	Not Participating
95	maven	org.slf4j:jul-to-slf4j	1.18630903	Not Participating
96	go	github.com/google/go-cmp	1.18449293	Not Participating
97	maven	com.google.errorprone:error_prone_annotations	1.17341108	Not Participating
98	maven	org.hibernate:hibernate-validator	1.17265695	Not Participating
99	maven	org.junit.platform:junit-platform-engine	1.16333145	Not Participating
100	maven	org.hamcrest:hamcrest-core	1.15780485	Not Participating
101	go	github.com/google/gofuzz	1.1482015	Not Participating
102	go	github.com/gogo/protobuf	1.13330708	Not Participating
103	maven	org.springframework:spring-web	1.12687566	Not Participating
104	go	github.com/ghodss/yaml	1.12425633	Not Participating
105	maven	org.apache.struts:struts2-jfreechart-plugin	1.09931024	Not Participating
106	maven	org.springframework:spring-beans	1.09366776	Not Participating
107	pypi	click	1.09310029	Not Participating
108	pypi	idna	1.09286627	Not Participating
109	maven	com.google.cloud.sql:mysql-socket-factory-connector-j-6	1.08620027	Not Participating
110	maven	javax.inject:javax.inject	1.04518532	Not Participating
111	maven	commons-cli:commons-cli	1.03939048	Not Participating
112	rubygems	aws-sdk	1.02065043	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
113	maven	javax.xml:jsr173	1.02065043	Not Participating
114	go	golang.org/x/oauth2	1.01957421	Not Participating
115	maven	org.springframework.boot:spring-boot	1.01606739	Not Participating
116	go	github.com/fatih/color	1.00614843	Not Participating
117	maven	javax.activation:activation	1.00397797	Not Participating
118	maven	com.fasterxml.jackson.datatype:jackson-datatype-jsr310	0.9973346	Not Participating
119	nuget	castle.core-log4net	0.99443049	Not Participating
120	go	github.com/imdario/mergo	0.98220326	Not Participating
121	maven	org.mockito:mockito-core	0.98158798	Not Participating
122	maven	org.json:json	0.97638182	Not Participating
123	pypi	chardet	0.96206254	Not Participating
124	maven	org.junit.jupiter:junit-jupiter-engine	0.96106501	Not Participating
125	maven	org.slf4j:slf4j-log4j12	0.96042263	Not Participating
126	maven	org.apache.commons:commons-compress	0.95631701	Not Participating
127	maven	org.apache.logging.log4j:log4j-api	0.92823276	Not Participating
128	pypi	markupsafe	0.91528665	Not Participating
129	go	github.com/azure/azure-sdk-for-go	0.91522152	Not Participating
130	pypi	pytz	0.91487375	Not Participating
131	maven	org.springframework.boot:spring-boot-starter-web-services	0.88955074	Not Participating
132	maven	org.slf4j:jcl104-over-slf4j	0.88955074	Not Participating
133	maven	org.springframework.boot:spring-boot-starter-data-redis	0.88955074	Not Participating
134	maven	org.kie.modules:org-apache-velocity-main	0.88955074	Not Participating
135	maven	javax.annotation:javax.annotation-api	0.88754686	Not Participating
136	maven	org.checkerframework:checker-qual	0.88242506	Not Participating
137	pypi	numpy	0.88130356	Not Participating
138	maven	org.mybatis:mybatis-guice	0.87644077	Not Participating
139	pypi	attrs	0.86362513	Not Participating
140	pypi	pandas	0.86286179	Not Participating
141	pypi	python-dotenv	0.84435678	Not Participating
142	maven	com.fasterxml:classmate	0.84091283	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
143	maven	org.jclouds.driver:jclouds-jsch	0.83711086	Not Participating
144	pypi	certifi	0.83490788	Not Participating
145	maven	org.javassist:javassist	0.81115578	Not Participating
146	rubygems	nunit	0.81089092	Not Participating
147	go	github.com/kubernetes/component-base	0.81070411	Not Participating
148	maven	org.junit.platform:junit-platform-commons	0.80404254	Not Participating
149	maven	org.springframework:spring-aop	0.79994774	Not Participating
150	maven	groovy:groovy-all-1.0-jsr	0.79778095	Not Participating
151	maven	activation:activation	0.79778095	Not Participating
152	pypi	flask	0.79416739	Not Participating
153	maven	com.google.j2objc:j2objc-annotations	0.79314826	Not Participating
154	go	github.com/kubernetes/apiextensions-apiserver	0.7838467	Not Participating
155	maven	org.jboss.spec.javax.transaction:jboss-transaction-api_1.1_spec	0.77156101	Not Participating
156	conda	r-rlang	0.77156101	Not Participating
157	go	github.com/kubernetes/kubernetes	0.76928545	111
158	go	github.com/blang/semver	0.76022512	Not Participating
159	maven	org.hibernate:hibernate-hikaricp	0.74534108	Not Participating
160	pypi	packaging	0.73945871	Not Participating
161	go	github.com/uber-go/zap	0.73110262	Not Participating
162	maven	org.springframework:spring-expression	0.72519373	Not Participating
163	maven	org.apache.commons:commons-collections4	0.7108377	Not Participating
164	maven	net.bytebuddy:byte-buddy	0.70888635	Not Participating
165	maven	org.jetbrains.kotlin:kotlin-stdlib	0.7003286	Not Participating
166	maven	org.jetbrains:annotations	0.69973504	Not Participating
167	maven	org.apache.maven:maven-model	0.69739906	Not Participating
168	pypi	pyparsing	0.68258513	Not Participating
169	maven	org.junit.jupiter:junit-jupiter-params	0.68068683	Not Participating
170	maven	org.aspectj:aspectjweaver	0.68062403	Not Participating
171	pypi	lesscss	0.67979123	Not Participating
172	maven	com.jayway.jsonpath:json-path	0.67688224	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
173	maven	com.google.guava:failureaccess	0.66805759	Not Participating
174	maven	com.google.guava:listenablefuture	0.66782582	Not Participating
175	maven	commons-validator:commons-validator	0.66148151	Not Participating
176	maven	jakarta.xml.bind:jakarta.xml.bind-api	0.65804937	Not Participating
177	nuget	freqsystemdependencies	0.65664617	Not Participating
178	go	github.com/go-redis/redis	0.6385578	Not Participating
179	go	github.com/asaskevich/govalidator	0.62787955	15
180	nuget	microsoft.extensions.caching.memory	0.62735135	Not Participating
181	maven	javax.mail:javax.mail-api	0.62735135	Not Participating
182	maven	com.google.protobuf:protobuf-java	0.62377878	Not Participating
183	pypi	schedule	0.61424138	Not Participating
184	maven	io.springfox:springfox-swagger-ui	0.59733989	Not Participating
185	go	github.com/prometheus/client_model	0.58692828	Not Participating
186	pypi	django-jinja	0.57491148	Not Participating
187	go	github.com/pierrec/lz4	0.57351755	Not Participating
188	pypi	pyarrow	0.56995814	Not Participating
189	nuget	microsoft.extensions.dependencyinjection.abstractions	0.56824392	Not Participating
190	go	github.com/kubernetes/kube-openapi	0.5667223	Not Participating
191	maven	xerces:xercesimpl	0.56634215	Not Participating
192	maven	com.amazonaws:aws-java-sdk-kms	0.56180151	Not Participating
193	maven	com.fasterxml.jackson.module:jackson-module-jaxb-annotations	0.55930846	Not Participating
194	maven	com.sun.xml.bind:jaxb-impl	0.5560476	Not Participating
195	go	github.com/census-instrumentation/opencensus-go	0.55021956	Not Participating
196	maven	org.codehaus.mojo:animal-sniffer-annotations	0.54891346	Not Participating
197	maven	com.vackosar.gitflowincrementalbuilder:gitflow-incremental-builder	0.54869154	Not Participating
198	maven	com.fasterxml.jackson.datatype:jackson-datatype-jdk8	0.54091929	Not Participating
199	nuget	microsoft.aspnet.webapi.client	0.53699979	Not Participating
200	maven	org.apache.maven:maven-profile	0.53558157	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
201	go	github.com/rs/cors	0.53145172	Not Participating
202	pypi	celery	0.52530364	Not Participating
203	nuget	microsoft.extensions.primitives	0.52470961	Not Participating
204	rubygems	cscsl	0.5224716	Not Participating
205	bower	jquery	0.51818481	Not Participating
206	maven	org.ow2.asm:asm-commons	0.51376286	Not Participating
207	go	github.com/spf13/viper	0.51148724	Not Participating
208	nuget	log4net	0.50623929	Not Participating
209	pypi	zipp	0.50023666	Not Participating
210	maven	org.springframework.security:spring-security-config	0.49823948	Not Participating
211	maven	io.swagger:swagger-annotations	0.49732709	Not Participating
212	maven	javax.cache:cache-api	0.4934557	Not Participating
213	go	github.com/mattn/go-colorable	0.49262173	Not Participating
214	go	github.com/azure/go-autorest	0.49165098	Not Participating
215	maven	org.ow2.asm:asm	0.48924508	Not Participating
216	maven	com.fasterxml.jackson.dataformat:jackson-dataformat-yaml	0.48920246	Not Participating
217	go	github.com/onsi/gomega	0.48589219	Not Participating
218	pypi	mako	0.4835614	Not Participating
219	maven	io.github.java-diff-utils:java-diff-utils	0.4835614	Not Participating
220	maven	org.apache.flink:flink-metrics-core	0.47003172	Not Participating
221	packagist	hamcrest/hamcrest-php	0.47003172	Not Participating
222	maven	io.springfox:springfox-swagger2	0.46990297	Not Participating
223	pypi	cffi	0.46907135	Not Participating
224	go	github.com/go-logr/logr	0.4680294	Not Participating
225	pypi	cython	0.46707263	Not Participating
226	pypi	humanize	0.46641148	Not Participating
227	go	github.com/go-openapi/swag	0.46317565	Not Participating
228	nuget	system.memory	0.46312326	Not Participating
229	pypi	pycparser	0.46221019	Not Participating
230	maven	org.easybatch:easybatch-opencsv	0.45692175	Not Participating



	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
231	pypi	flask-sqlalchemy	0.45087948	Not Participating
232	go	github.com/kubernetes/apiserver	0.44570215	Not Participating
233	nuget	microsoft.extensions.configuration.abstractions	0.44548712	Not Participating
234	maven	io.netty:netty-buffer	0.4440372	Not Participating
235	maven	org.hibernate:hibernate-commons-annotations	0.44381179	Not Participating
236	nuget	microsoft.extensions.logging.abstractions	0.4428539	Not Participating
237	maven	com.squareup.okhttp3:okhttp	0.4422488	15
238	nuget	microsoft.extensions.options	0.44126574	Not Participating
239	maven	org.apache.commons:commons-text	0.43827015	Not Participating
240	go	github.com/prometheus/procfs	0.43728898	Not Participating
241	go	github.com/mailru/easyjson	0.4369654	Not Participating
242	maven	antlr:antlr	0.43631672	Not Participating
243	pypi	cryptography	0.4346649	Not Participating
244	maven	org.slf4j:log4j-over-slf4j	0.43138277	Not Participating
245	pypi	werkzeug	0.42866734	Not Participating
246	maven	io.netty:netty-handler	0.42656298	Not Participating
247	maven	io.netty:netty-common	0.42541337	Not Participating
248	nuget	xunit	0.42254675	Not Participating
249	pypi	sphinx-rtd-theme	0.42110982	Not Participating
250	maven	io.reactivex:rxjava-reactive-streams	0.41759185	Not Participating
251	go	github.com/cespare/xxhash	0.41697496	Not Participating
252	maven	net.minidev:json-smart	0.41267626	Not Participating
253	maven	io.netty:netty-transport	0.40860434	Not Participating
254	rubygems	highcharts-js-rails	0.40448188	Not Participating
255	maven	org.jacoco:org.jacoco.ant	0.40417034	Not Participating
256	maven	org.glassfish.jaxb:jaxb-runtime	0.4035392	Not Participating
257	maven	org.jacoco:org.jacoco.agent	0.40297188	Not Participating
258	nuget	microsoft.extensions.configuration	0.39630904	Not Participating
259	maven	org.apache.maven:maven-plugin-registry	0.39137191	Not Participating
260	maven	org.aspectj:aspectjrt	0.39078213	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
261	maven	org.springframework.boot:spring-boot-starter-test	0.39059068	Not Participating
262	go	github.com/russross/blackfriday	0.38519207	Not Participating
263	maven	io.netty:netty-codec	0.38416191	Not Participating
264	nuget	system.buffer	0.38374736	Not Participating
265	go	github.com/googleapis/google-api-go-client	0.38163266	Not Participating
266	maven	org.hibernate.validator:hibernate-validator	0.38013461	Not Participating
267	maven	aws java sdk :: jmes path query library	0.37826194	Not Participating
268	maven	org.glassfish.hk2:osgi-resource-locator	0.37800394	Not Participating
269	maven	org.opentest4j:opentest4j	0.37489654	Not Participating
270	nuget	xunit.runner.visualstudio	0.3746083	Not Participating
271	pypi	wtforms	0.36933649	Not Participating
272	maven	com.squareup.okio:okio	0.36540092	Not Participating
273	maven	org.apache.flink:flink-connector-kafka-0.10_2.11	0.36515197	Not Participating
274	cargo	hdrhistogram	0.36515197	Not Participating
275	rubygems	antlr3	0.36515197	Not Participating
276	conda	html5lib	0.36515197	Not Participating
277	pypi	py	0.364723	12
278	pypi	importlib-metadata	0.3639796	Not Participating
279	pypi	msgpack	0.36254124	Not Participating
280	pypi	geopy	0.36124691	Not Participating
281	maven	xml-apis:xml-apis	0.3565752	Not Participating
282	pub	mockito	0.352042	Not Participating
283	nuget	microsoft.identitymodel.protocol.extensions	0.352042	Not Participating
284	maven	org.springframework.data:spring-data-commons	0.35143596	Not Participating
285	maven	org.springframework:spring-jcl	0.35073098	Not Participating
286	rubygems	rspec	0.34934255	Not Participating
287	maven	dom4j:dom4j	0.34751809	Not Participating
288	go	github.com/emicklei/go-restful	0.34700924	Not Participating
289	pypi	appdirs	0.34242721	Not Participating
290	pypi	colorama	0.34218413	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
291	maven	org.apache.logging.log4j:log4j-core	0.33934399	Not Participating
292	rubygems	jasmine	0.33893203	Not Participating
293	maven	com.microsoftopentechnologies:windows-azure-storage-plugin	0.33893203	Not Participating
294	maven	org.springframework.boot:spring-boot-starter	0.3352594	Not Participating
295	maven	org.reactivestreams:reactive-streams	0.33460661	Not Participating
296	maven	org.apache.maven:maven-core	0.33455653	Not Participating
297	nuget	microsoft.web.infrastructure	0.33026523	Not Participating
298	pypi	croniter	0.32953574	Not Participating
299	nuget	microsoft.extensions.caching.abstractions	0.32582206	Not Participating
300	nuget	moq	0.32582206	Not Participating
301	cran	foreach	0.32582206	Not Participating
302	maven	org.apache.maven:maven-archiver	0.32582206	Not Participating
303	maven	ru.yandex.qatools.allure:allure-report-plugin-api	0.32582206	Not Participating
304	maven	org.glassfish.hk2.external:jakarta.inject	0.32207575	Not Participating
305	go	gopkg.in/inf.v0	0.32169983	Not Participating
306	pypi	marshmallow	0.32112258	Not Participating
307	pypi	sqlalchemy-utils	0.32047541	Not Participating
308	nuget	microsoft.extensions.logging	0.32037973	Not Participating
309	go	github.com/fsnotify/fsnotify	0.31818447	Not Participating
310	maven	ch.qos.logback:logback-access	0.31768139	Not Participating
311	maven	org.apiguardian:apiguardian-api	0.3149996	Not Participating
312	nuget	nuget.commandline	0.31271209	Not Participating
313	maven	org.glassfish.hk2:hk2-utils	0.31228832	Not Participating
314	pypi	alembic	0.3110915	Not Participating
315	go	github.com/opentracing/opentracing-go	0.31076791	Not Participating
316	pypi	flask-migrate	0.30785566	Not Participating
317	maven	org.springframework:spring-webmvc	0.30366963	Not Participating
318	go	github.com/go-openapi/jsonreference	0.301384	Not Participating
319	go	github.com/mitchellh/go-homedir	0.30138214	Not Participating
320	nuget	microsoft.identitymodel.tokens	0.30043215	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
321	go	github.com/gorilla/handlers	0.30041325	Not Participating
322	pypi	py2-ipaddress	0.29960212	Not Participating
323	nuget	system.diagnostics.diagnosticsource	0.29877605	Not Participating
324	maven	com.google.inject:guice	0.29704625	Not Participating
325	maven	org.glassfish.hk2:hk2-locator	0.29391191	Not Participating
326	maven	jakarta.servlet:jakarta.servlet-api	0.29131525	Not Participating
327	pypi	setuptools	0.29085472	Not Participating
328	maven	org.apache.tomcat.embed:tomcat-embed-core	0.2898098	Not Participating
329	maven	com.webcohesion.enunciate:enunciate-lombok	0.28649216	Not Participating
330	maven	org.nuiton.js:nuiton-js-angular-ui-bootstrap	0.28649216	Not Participating
331	pypi	flask-jwt-extended	0.28488125	Not Participating
332	pypi	python3-openid	0.28261617	Not Participating
333	go	gopkg.in/yaml.v3	0.28261617	Not Participating
334	nuget	microsoft.extensions.configuration.binder	0.28195587	Not Participating
335	pypi	geographiclib	0.28132183	Not Participating
336	nuget	system.threading.tasks.extensions	0.2812084	Not Participating
337	go	github.com/go-openapi/strfmt	0.27840958	Not Participating
338	pypi	marshmallow-sqlalchemy	0.278086	Not Participating
339	pypi	parsedatetime	0.27582092	Not Participating
340	maven	javax.servlet:jstl	0.27453679	Not Participating
341	cocoapods	libpng	0.27338219	Not Participating
342	nuget	system.valuetuple	0.2730215	Not Participating
343	go	golang.org/x/time	0.27300637	Not Participating
344	pypi	flask-caching	0.27096717	Not Participating
345	pypi	flask-babel	0.27096717	Not Participating
346	pypi	flask-openid	0.27096717	Not Participating
347	pypi	flask-talisman	0.27064358	Not Participating
348	go	github.com/gocql/gocql	0.27032	Not Participating
349	pypi	retry	0.26967283	Not Participating
350	pypi	flask-compress	0.26967283	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
351	pypi	apispec	0.2683785	Not Participating
352	pypi	python-geohash	0.26805492	Not Participating
353	pypi	polyline	0.26773133	Not Participating
354	pypi	prison	0.26773133	Not Participating
355	nuget	microsoft.identitymodel.logging	0.26742093	Not Participating
356	pypi	wtforms-json	0.26740775	Not Participating
357	pypi	flask-appbuilder	0.26676058	Not Participating
358	maven	io.reactivex:rxjava	0.26674679	Not Participating
359	go	github.com/golang/mock	0.25999529	Not Participating
360	maven	com.sun.xml.fastinfoset:fastinfoset	0.25815782	Not Participating
361	maven	jakarta.annotation:jakarta.annotation-api	0.25671931	Not Participating
362	maven	org.dom4j:dom4j	0.25662826	Not Participating
363	pypi	selenium	0.25596195	Not Participating
364	nuget	microsoft.extensions.dependencyinjection	0.25379462	Not Participating
365	pypi	sphinx	0.25170804	Not Participating
366	maven	jakarta.validation:jakarta.validation-api	0.25100845	Not Participating
367	maven	org.hdrhistogram:hdrhistogram	0.24947041	Not Participating
368	maven	net.minidev:accessors-smart	0.2484632	Not Participating
369	nuget	system.text.regularexpressions	0.2479709	Not Participating
370	maven	org.apache.maven:maven-aether-provider	0.24716225	Not Participating
371	pypi	jedi	0.24716225	Not Participating
372	maven	io.netty:netty-resolver	0.24618225	Not Participating
373	maven	org.jboss.spec.javax.transaction:jboss-transaction-api_1.2_spec	0.24137936	Not Participating
374	maven	com.h2database:h2	0.24049834	Not Participating
375	maven	jakarta.activation:jakarta.activation-api	0.23859415	Not Participating
376	maven	com.google.android:annotations	0.23838321	300
377	maven	com.netflix.archaius:archaius-core	0.23638577	Not Participating
378	maven	org.scala-lang:scala-compiler	0.23405228	Not Participating
379	maven	org.springframework:spring-messaging	0.23405228	Not Participating
380	maven	ru.yandex.qatools.clay:clay-maven-settings-builder	0.23405228	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
381	maven	io.perfmark:perfmark-api	0.23299013	Not Participating
382	go	github.com/lib/pq	0.23246075	Not Participating
383	pypi	itsdangerous	0.23069493	Not Participating
384	maven	org.jvnet.staxex:stax-ex	0.22999398	Not Participating
385	maven	aopalliance:aopalliance	0.2254658	Not Participating
386	maven	io.vavr:vavr	0.22400168	Not Participating
387	go	github.com/grpc-ecosystem/grpc-gateway	0.22242967	Not Participating
388	maven	org.kie.modules:org-codehaus-woodstox-main	0.22094231	Not Participating
389	nuget	nlog	0.22094231	31
390	maven	org.n52.arctic-sea:svalbard-xmlbeans	0.22094231	Not Participating
391	maven	com.google.api.grpc:proto-google-common-protos	0.21760988	Not Participating
392	maven	org.apache.geronimo.specs:geronimo-jta_1.1_spec	0.21261629	Not Participating
393	maven	commons-fileupload:commons-fileupload	0.21216423	Not Participating
394	maven	edu.washington.cs.types.checker:checker-framework	0.20981988	Not Participating
395	pypi	gunicorn	0.20952916	Not Participating
396	go	github.com/masterminds/semver	0.20948634	Not Participating
397	maven	com.sun.mail:jakarta.mail	0.2094204	Not Participating
398	pypi	s3transfer	0.20897491	Not Participating
399	maven	org.hibernate:hibernate-core	0.20859486	Not Participating
400	maven	org.apache.httpcomponents:httpmime	0.20827447	Not Participating
401	maven	org.springframework.data:spring-data-keyvalue	0.20783234	Not Participating
402	maven	io.vavr:vavr-match	0.2062245	Not Participating
403	go	github.com/kubernetes/cli-runtime	0.19945526	Not Participating
404	maven	org.apache.tomcat.embed:tomcat-embed-el	0.19625858	Not Participating
405	maven	org.ehcache:ehcache	0.19324117	Not Participating
406	maven	org.eclipse.jetty.toolchain.setuid:jetty-setuid-java	0.19304143	Not Participating
407	go	gopkg.in/ini.v1	0.19104209	Not Participating
408	maven	com.helger:profiler	0.19084425	Not Participating
409	go	github.com/uber-go/automaxprocs	0.18974776	Not Participating
410	maven	org.apache.commons:commons-pool2	0.18766818	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
411	maven	org.glassfish.jersey.media:jersey-media-json-jettison	0.1816124	Not Participating
412	go	github.com/uber-go/atomic	0.17874593	Not Participating
413	nuget	sharpziplib	0.1753783	Not Participating
414	maven	org.skyscreamer:jsonassert	0.17460447	Not Participating
415	nuget	system.runtime.compilerservices.unsafe	0.17306707	Not Participating
416	maven	org.apache.commons:commons-digester3	0.16850243	Not Participating
417	maven	net.bytebuddy:byte-buddy-dep	0.16850243	Not Participating
418	maven	org.eclipse.aether:aether-spi	0.16850243	Not Participating
419	maven	com.lowagie:itext	0.16715485	Not Participating
420	nuget	system.numerics.vectors	0.16574224	Not Participating
421	maven	mysql:mysql-connector-java	0.16516456	Not Participating
422	nuget	microsoft.aspnet.webapi.core	0.16148195	Not Participating
423	pypi	jsonschema	0.16079337	Not Participating
424	pypi	docker	0.15706584	Not Participating
425	go	golang.org/x/sync	0.15636095	Not Participating
426	cocoapods	minizip	0.15539246	Not Participating
427	nuget	microsoft.applicationinsights.windowsserver.telemetrychannel	0.15539246	Not Participating
428	maven	commons-configuration:commons-configuration	0.15415679	Not Participating
429	go	github.com/pmezard/go-difflib	0.1521144	Not Participating
430	go	github.com/mitchellh/mapstructure	0.15017283	Not Participating
431	maven	org.apache.logging.log4j:log4j-to-slf4j	0.14945547	Not Participating
432	clojars	org.clojars.clizsin/jsoup	0.1422825	Not Participating
433	maven	org.xmlunit:xmlunit-core	0.13949583	Not Participating
434	go	github.com/matttproud/golang_protobuf_extensions	0.13704151	Not Participating
435	pypi	decorator	0.13700893	Not Participating
436	maven	net.jodah:typetools	0.13551529	Not Participating
437	maven	org.springframework.boot:spring-boot-test-autoconfigure	0.13409143	Not Participating
438	go	github.com/tidwall/gjson	0.13376785	Not Participating
439	pypi	webencodings	0.13160232	Not Participating
440	nuget	microsoft.applicationinsights.dependencycollector	0.12917253	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
441	nuget	restsharp	0.12917253	Not Participating
442	maven	org.apache.struts:struts2-spring-plugin	0.12917253	Not Participating
443	nuget	yuicompressor.net	0.12917253	Not Participating
444	pypi	sqlparse	0.12866422	Not Participating
445	maven	software.amazon.ion:ion-java	0.12554801	Not Participating
446	maven	org.codehaus.plexus:plexus-classworlds	0.12471136	Not Participating
447	maven	net.java.dev.jna:jna	0.12157912	Not Participating
448	nuget	microsoft.extensions.fileproviders.abstractions	0.1198424	Not Participating
449	cargo	pcre	0.11606256	Not Participating
450	packagist	apache/thrift	0.11606256	Not Participating
451	pypi	python-editor	0.11492622	Not Participating
452	maven	org.springframework.boot:spring-boot-test	0.11305852	Not Participating
453	go	github.com/hashicorp/golang-lru	0.11015809	Not Participating
454	go	github.com/kubernetes/metrics	0.10917552	Not Participating
455	go	github.com/go-openapi/errors	0.10885193	Not Participating
456	maven	com.googlecode.json-simple:json-simple	0.10883939	Not Participating
457	go	github.com/patrickmn/go-cache	0.1075576	Not Participating
458	go	github.com/dustin/go-humanize	0.10723402	Not Participating
459	maven	org.mockito:mockito-junit-jupiter	0.10560636	Not Participating
460	maven	com.typesafe.netty:netty-reactive-streams	0.10315684	Not Participating
461	maven	org.springframework:spring-test	0.09889685	Not Participating
462	maven	com.zaxxer:hikaricp	0.09876342	Not Participating
463	maven	org.bouncycastle:bcprov-jdk15on	0.09601611	Not Participating
464	maven	org.apache.tomcat.embed:tomcat-embed-websocket	0.0902546	Not Participating
465	cargo	tokio	0.08984262	Not Participating
466	maven	org.codehaus.plexus:plexus-compiler-api	0.08984262	Not Participating
467	rubygems	quartz-jruby	0.08984262	Not Participating
468	maven	org.junit.jupiter:junit-jupiter	0.08925118	Not Participating
469	maven	com.esotericsoftware:minlog	0.08797633	Not Participating
470	maven	org.eclipse.jetty:jetty-security	0.08227489	Not Participating



	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
471	rubygems	spring	0.07938736	Not Participating
472	maven	org.springframework.boot:spring-boot-autoconfigure	0.07914028	Not Participating
473	pypi	wcwidth	0.07717135	Not Participating
474	rubygems	rjack-slf4j	0.07673265	Not Participating
475	nuget	dotnetzip	0.07673265	Not Participating
476	maven	net.javacrumbs.json-unit:json-unit-fluent	0.07673265	Not Participating
477	nuget	owin	0.0763912	Not Participating
478	maven	com.amazonaws:aws-java-sdk-s3	0.07538248	Not Participating
479	nuget	system.componentmodel.annotations	0.07492226	Not Participating
480	pypi	markdown	0.07413259	Not Participating
481	nuget	system.security.cryptography.algorithms	0.0735948	Not Participating
482	maven	com.fasterxml.jackson.dataformat:jackson-dataformat-cbor	0.07167077	Not Participating
483	maven	org.apache.lucene:lucene-core	0.06602789	Not Participating
484	nuget	system.security.cryptography.primitives	0.06420685	Not Participating
485	maven	org.apache.commons:commons-math3	0.06408522	Not Participating
486	maven	com.google.http-client:google-http-client-gson	0.06362268	Not Participating
487	nuget	microsoft.applicationinsights.windowsserver	0.06362268	Not Participating
488	nuget	system.security.cryptography.encoding	0.06041172	Not Participating
489	maven	net.jcip:jcip-annotations	0.059413	Not Participating
490	nuget	system.security.cryptography.x509certificates	0.05921326	Not Participating
491	maven	com.sun.istack:istack-commons-runtime	0.05812482	Not Participating
492	pypi	mccabe	0.05800197	Not Participating
493	pypi	pathlib2	0.05587596	Not Participating
494	nuget	system.net.http	0.0549804	Not Participating
495	maven	org.eclipse.jetty:jetty-server	0.05222486	Not Participating
496	go	github.com/go-openapi/validate	0.05157769	Not Participating
497	pypi	pip	0.05060249	15
498	maven	com.force.api:force-wsc	0.05051271	Not Participating
499	nuget	microsoft.applicationinsights.perfcountercollector	0.05051271	Not Participating
500	maven	io.projectreactor.netty:reactor-netty	0.05051271	Not Participating

# Appendix C: Top 500 npm, Indirect & Direct, Version Agnostic Packages

Our dependency analysis identified the following 500 packages as the most used FOSS packages among those reported in the private usage data contributed by SCA partners hosted on the npm package manager. These packages were identified as either direct or indirect dependencies called by observed packages in use and are version agnostic. For further information on how this list was compiled, refer to the Methods section.

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
1	npm	debug	7.03880746	Not Participating
2	npm	readable-stream	5.88167297	Not Participating
3	npm	kind-of	5.03921743	Not Participating
4	npm	ansi-wrap	4.09950718	Not Participating
5	npm	set-getter	4.09950718	Not Participating
6	npm	ansi-yellow	4.09950718	Not Participating
7	npm	semver	4.08649472	Not Participating
8	npm	supports-color	3.95024016	Not Participating
9	npm	minimist	3.7559228	Not Participating
10	npm	safe-buffer	3.68429943	Not Participating
11	npm	ansi-regex	3.62055867	Not Participating
12	npm	inherits	3.54047349	Not Participating
13	npm	isarray	3.53838464	Not Participating
14	npm	strip-ansi	3.53575995	Not Participating
15	npm	qs	3.45648107	Not Participating
16	npm	ms	3.34448474	Not Participating
17	npm	array-slice	3.21860874	Not Participating
18	npm	lodash	3.20524585	Not Participating
19	npm	@types/react	3.09809104	Not Participating
20	npm	is-buffer	3.06311922	Not Participating
21	npm	natives	3.05258575	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
22	npm	fast-list	3.05258575	Not Participating
23	npm	mkdirp	3.04924243	Not Participating
24	npm	glob	2.92311778	Not Participating
25	npm	source-map	2.91644746	Not Participating
26	npm	chalk	2.88570551	Not Participating
27	npm	postcss	2.86945197	Not Participating
28	npm	ansi-styles	2.80572247	Not Participating
29	npm	@types/node	2.69602907	Not Participating
30	npm	punycode	2.66129188	Not Participating
31	npm	yallist	2.54369946	Not Participating
32	npm	commander	2.41715269	Not Participating
33	npm	string_decoder	2.40457376	Not Participating
34	npm	graceful-fs	2.3607301	Not Participating
35	npm	string-width	2.34619036	Not Participating
36	npm	isobject	2.30393542	Not Participating
37	npm	lru-cache	2.29503242	Not Participating
38	npm	async	2.28064129	Not Participating
39	npm	lodash.isfunction	2.24825321	Not Participating
40	npm	lodash._root	2.24825321	Not Participating
41	npm	color-convert	2.24487709	Not Participating
42	npm	yargs	2.23009855	Not Participating
43	npm	@types/color-name	2.2232521	Not Participating
44	npm	sigmund	2.20762641	Not Participating
45	npm	mime-db	2.18544807	Not Participating
46	npm	@types/events	2.1623119	Not Participating
47	npm	has-flag	2.1579853	Not Participating
48	npm	ws	2.13667382	Not Participating
49	npm	color-name	2.11564457	Not Participating
50	npm	lodash.isarguments	2.09512142	Not Participating
51	npm	lodash._shimkeys	2.09512142	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
52	npm	lodash.isarray	2.09512142	Not Participating
53	npm	lodash._renative	2.09512142	Not Participating
54	npm	lodash.isnative	2.09512142	Not Participating
55	npm	lodash._objecttypes	2.09512142	Not Participating
56	npm	lodash.support	2.09512142	Not Participating
57	npm	lodash._isnative	2.09512142	Not Participating
58	npm	lodash._getnative	2.09512142	Not Participating
59	npm	lodash._arraycopy	2.09512142	Not Participating
60	npm	lodash.isobject	2.09512142	Not Participating
61	npm	lodash._slice	2.09512142	Not Participating
62	npm	is-arguments	1.93850884	Not Participating
63	npm	once	1.89076517	Not Participating
64	npm	is-fullwidth-code-point	1.87374275	Not Participating
65	npm	acorn	1.8667157	Not Participating
66	npm	caniuse-lite	1.86155194	Not Participating
67	npm	lodash._arraymap	1.85722025	Not Participating
68	npm	find-up	1.85328569	Not Participating
69	npm	mime	1.82841162	Not Participating
70	npm	mime-types	1.79903429	Not Participating
71	npm	wrappy	1.75919621	Not Participating
72	npm	lodash.restparam	1.74276205	Not Participating
73	npm	@babel/runtime	1.699303	27
74	npm	uuid	1.66830909	Not Participating
75	npm	minimatch	1.66238061	Not Participating
76	npm	resolve	1.65433055	Not Participating
77	npm	ajv	1.63414419	99
78	npm	balanced-match	1.60021797	Not Participating
79	npm	form-data	1.59301552	Not Participating
80	npm	electron-to-chromium	1.58807327	Not Participating
81	npm	lodash._basetostring	1.56267594	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
82	npm	lodash.tostring	1.56267594	Not Participating
83	npm	rimraf	1.530607	Not Participating
84	npm	camelcase	1.50130355	Not Participating
85	npm	is-number	1.45320914	Not Participating
86	npm	yargs-parser	1.44825692	Not Participating
87	npm	request	1.44776732	Not Participating
88	npm	define-property	1.44319801	Not Participating
89	npm	brace-expansion	1.41198484	Not Participating
90	npm	lodash._basecreatecallback	1.40954415	Not Participating
91	npm	lodash._createwrapper	1.40954415	Not Participating
92	npm	lodash._topath	1.40954415	Not Participating
93	npm	lodash._createobject	1.40954415	Not Participating
94	npm	lodash._baseslice	1.40954415	Not Participating
95	npm	lodash._createbound	1.40954415	Not Participating
96	npm	lodash._bindcallback	1.40954415	Not Participating
97	npm	lodash._releasearray	1.40954415	Not Participating
98	npm	lodash._releaseobject	1.40954415	Not Participating
99	npm	lodash._baseproperty	1.40954415	Not Participating
100	npm	lodash.bind	1.40954415	Not Participating
101	npm	lodash._getarray	1.40954415	Not Participating
102	npm	lodash._basecreate	1.40954415	Not Participating
103	npm	lodash._basefor	1.40954415	Not Participating
104	npm	lodash._getobject	1.40954415	Not Participating
105	npm	lodash._basebind	1.40954415	Not Participating
106	npm	lodash._baseget	1.40954415	Not Participating
107	npm	lodash.createcallback	1.40954415	Not Participating
108	npm	lodash._noop	1.40954415	Not Participating
109	npm	lodash.rest	1.40954415	Not Participating
110	npm	lodash._baseiteratee	1.40954415	Not Participating
111	npm	lodash.property	1.40954415	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
112	npm	lodash._objectpool	1.40954415	Not Participating
113	npm	lodash._replaceholders	1.40954415	Not Participating
114	npm	lodash._setbinddata	1.40954415	Not Participating
115	npm	lodash._stack	1.40954415	Not Participating
116	npm	lodash._maxpoolsize	1.40954415	Not Participating
117	npm	lodash._mapcache	1.40954415	Not Participating
118	npm	lodash._basecreatewrapper	1.40954415	Not Participating
119	npm	lodash._baseisequal	1.40954415	Not Participating
120	npm	lodash._baseflatten	1.40954415	Not Participating
121	npm	lodash.noop	1.40954415	Not Participating
122	npm	lodash.keysin	1.40954415	Not Participating
123	npm	lodash.istypedarray	1.40954415	Not Participating
124	npm	lodash._stringtopath	1.40954415	Not Participating
125	npm	lodash.identity	1.40954415	Not Participating
126	npm	lodash._isiterateecall	1.40954415	Not Participating
127	npm	lodash._arraypool	1.40954415	Not Participating
128	npm	lodash.forin	1.40954415	Not Participating
129	npm	braces	1.40347275	Not Participating
130	npm	tough-cookie	1.39275819	Not Participating
131	npm	escape-string-regexp	1.38667	Not Participating
132	npm	iconv-lite	1.37739455	Not Participating
133	npm	concat-map	1.37369214	Not Participating
134	npm	arr-flatten	1.36421447	Not Participating
135	npm	regenerator-runtime	1.36221437	Not Participating
136	npm	@babel/types	1.33261618	27
137	npm	tslib	1.32391521	Not Participating
138	npm	es-abstract	1.29444147	Not Participating
139	npm	js-yaml	1.27311217	Not Participating
140	npm	http-errors	1.25551914	Not Participating
141	npm	path-is-absolute	1.25194051	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
142	npm	lazy-cache	1.21109365	Not Participating
143	npm	to-object-path	1.18047218	Not Participating
144	npm	@babel/traverse	1.17295634	27
145	npm	lodash.foreach	1.17164297	Not Participating
146	npm	lodash.forown	1.17164297	Not Participating
147	npm	lodash._baseismatch	1.17164297	Not Participating
148	npm	lodash._arrayeach	1.17164297	Not Participating
149	npm	lodash._baseassign	1.17164297	Not Participating
150	npm	lodash.hasin	1.17164297	Not Participating
151	npm	lodash._basecallback	1.17164297	Not Participating
152	npm	lodash._baseeach	1.17164297	Not Participating
153	npm	lodash.topairs	1.17164297	Not Participating
154	npm	lodash.pairs	1.17164297	Not Participating
155	npm	lodash._basecopy	1.17164297	Not Participating
156	npm	lodash._basematches	1.17164297	Not Participating
157	npm	lodash._baseclone	1.17164297	Not Participating
158	npm	lodash._createassigner	1.17164297	Not Participating
159	npm	is-extendable	1.14509799	Not Participating
160	npm	is-data-descriptor	1.14002106	Not Participating
161	npm	is-descriptor	1.13963119	Not Participating
162	npm	is-accessor-descriptor	1.13951491	Not Participating
163	npm	inflight	1.12829536	Not Participating
164	npm	object-assign	1.1225167	Not Participating
165	npm	core-js	1.11339005	Not Participating
166	npm	lodash._basecompareascending	1.10484313	Not Participating
167	npm	lodash._compareascending	1.10484313	Not Participating
168	npm	guid	1.10484313	Not Participating
169	npm	lodash._basesortby	1.10484313	Not Participating
170	npm	lodash.map	1.10484313	Not Participating
171	npm	locate-path	1.0972734	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
172	npm	p-locate	1.08513755	Not Participating
173	npm	cross-spawn	1.08405189	Not Participating
174	npm	fs.realpath	1.07034914	Not Participating
175	npm	bytes	1.05284562	Not Participating
176	npm	browserslist	0.99336223	Not Participating
177	npm	pify	0.98799633	Not Participating
178	npm	esprima	0.97557256	Not Participating
179	npm	emoji-regex	0.96109953	Not Participating
180	npm	chokidar	0.95503773	Not Participating
181	npm	has-color	0.9485862	Not Participating
182	npm	fs-extra	0.94404643	Not Participating
183	npm	safer-buffer	0.914964	Not Participating
184	npm	is-glob	0.90538581	Not Participating
185	npm	requirejs	0.89663078	Not Participating
186	npm	setprototypeof	0.88961133	Not Participating
187	npm	micromatch	0.88649217	Not Participating
188	npm	pseudomap	0.88066949	Not Participating
189	npm	fast-deep-equal	0.8744356	Not Participating
190	npm	arr-diff	0.86851471	Not Participating
191	npm	@babel/parser	0.85214951	27
192	npm	which	0.85174663	Not Participating
193	npm	har-validator	0.83990718	Not Participating
194	npm	depd	0.80626947	Not Participating
195	npm	path-to-regexp	0.79237172	Not Participating
196	npm	process-nextick-args	0.7783376	Not Participating
197	npm	cliui	0.77054732	Not Participating
198	npm	fsevents	0.7494464	Not Participating
199	npm	extend-shallow	0.74661996	Not Participating
200	npm	is-plain-object	0.73440696	Not Participating
201	npm	bluebird	0.7312087	Not Participating



	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
202	npm	raw-body	0.72759156	Not Participating
203	npm	get-stream	0.71175287	Not Participating
204	npm	end-of-stream	0.70691379	Not Participating
205	npm	execa	0.69437106	Not Participating
206	npm	pkg-dir	0.69436955	Not Participating
207	npm	xtend	0.6860003	Not Participating
208	npm	react-is	0.67772989	81
209	npm	path-exists	0.67508124	Not Participating
210	npm	assert-plus	0.6633127	Not Participating
211	npm	core-util-is	0.66305187	Not Participating
212	npm	lodash.keys	0.65787022	Not Participating
213	npm	object-keys	0.63723468	Not Participating
214	npm	node-fetch	0.63259819	Not Participating
215	npm	statuses	0.63096792	Not Participating
216	npm	p-limit	0.62785275	Not Participating
217	npm	js-tokens	0.6264994	Not Participating
218	npm	keypress	0.62591565	Not Participating
219	npm	rc-util	0.62479335	Not Participating
220	npm	wrap-ansi	0.60170925	Not Participating
221	npm	@babel/template	0.59767592	27
222	npm	pump	0.59712884	Not Participating
223	npm	globals	0.59601232	Not Participating
224	npm	number-is-nan	0.58776515	Not Participating
225	npm	json5	0.58291601	Not Participating
226	npm	extsprintf	0.5802166	Not Participating
227	npm	json-schema-traverse	0.57909523	Not Participating
228	npm	extend	0.55963592	Not Participating
229	npm	resolve-from	0.55594592	Not Participating
230	npm	base64-js	0.55367847	Not Participating
231	npm	@babel/generator	0.55329104	27

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
232	npm	make-dir	0.55112297	Not Participating
233	npm	loader-utils	0.54291589	Not Participating
234	npm	source-map-support	0.53956013	Not Participating
235	npm	argparse	0.53516004	Not Participating
236	npm	wordwrap	0.53136147	Not Participating
237	npm	type-fest	0.53007903	Not Participating
238	npm	concat-stream	0.52676504	Not Participating
239	npm	send	0.52577581	Not Participating
240	npm	finalhandler	0.51795762	Not Participating
241	npm	glob-parent	0.51070981	Not Participating
242	npm	minipass	0.50671617	Not Participating
243	npm	fill-range	0.50255746	Not Participating
244	npm	path-type	0.49467411	Not Participating
245	npm	react	0.48990473	81
246	npm	util-deprecate	0.48962673	Not Participating
247	npm	fast-json-stable-stringify	0.48134275	Not Participating
248	npm	jsesc	0.47337946	Not Participating
249	npm	combined-stream	0.47067651	Not Participating
250	npm	is-arrayish	0.46883809	Not Participating
251	npm	accepts	0.45538921	Not Participating
252	npm	find-cache-dir	0.45121438	Not Participating
253	npm	domelementtype	0.44885338	Not Participating
254	npm	postcss-selector-parser	0.44777559	Not Participating
255	npm	noncharacters	0.44582954	Not Participating
256	npm	@babel/code-frame	0.4430927	27
257	npm	readdirp	0.43361612	Not Participating
258	npm	sax	0.42802667	Not Participating
259	npm	normalize-path	0.42501638	Not Participating
260	npm	anymatch	0.42363321	Not Participating
261	npm	prop-types	0.42306078	81

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
262	npm	mimic-fn	0.42043236	Not Participating
263	npm	signal-exit	0.41400094	Not Participating
264	npm	buffer	0.41273007	Not Participating
265	npm	estraverse	0.41128578	Not Participating
266	npm	hoist-non-react-statics	0.3897703	Not Participating
267	npm	react-dom	0.38731836	81
268	npm	cookie	0.38713844	Not Participating
269	npm	ini	0.38138487	Not Participating
270	npm	has-values	0.37675405	Not Participating
271	npm	coffee-script	0.37590456	Not Participating
272	npm	esutils	0.37465702	Not Participating
273	npm	lodash.get	0.37341155	Not Participating
274	npm	is-extglob	0.37039695	Not Participating
275	npm	uglify-js	0.37010621	Not Participating
276	npm	entities	0.36443201	Not Participating
277	npm	p-try	0.36107419	Not Participating
278	npm	parse-json	0.35984681	Not Participating
279	npm	node-releases	0.35975567	Not Participating
280	npm	promise	0.3533158	Not Participating
281	npm	is-stream	0.3446095	Not Participating
282	npm	serve-static	0.34153924	Not Participating
283	npm	ieee754	0.33816663	Not Participating
284	npm	got	0.32897614	Not Participating
285	npm	to-regexp-range	0.31897449	Not Participating
286	npm	schema-utils	0.31890894	Not Participating
287	npm	chownr	0.30880908	Not Participating
288	npm	function-bind	0.30862	Not Participating
289	npm	read-pkg	0.30686285	Not Participating
290	npm	has-value	0.29120145	Not Participating
291	npm	code-point-at	0.28039382	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
292	npm	define-properties	0.27590317	Not Participating
293	npm	type-is	0.27353816	Not Participating
294	npm	path-parse	0.26727568	Not Participating
295	npm	lodash.sortby	0.26684382	Not Participating
296	npm	has	0.26615581	Not Participating
297	npm	webpack	0.26400818	Not Participating
298	npm	webidl-conversions	0.25567848	Not Participating
299	npm	aws4	0.25534523	Not Participating
300	npm	negotiator	0.25061821	Not Participating
301	npm	parseurl	0.25040351	Not Participating
302	npm	@babel/highlight	0.24499238	27
303	npm	stable	0.24317086	Not Participating
304	npm	read-pkg-up	0.23911125	Not Participating
305	npm	strip-json-comments	0.23791276	Not Participating
306	npm	through2	0.23659086	Not Participating
307	npm	globby	0.23575157	Not Participating
308	npm	has-ansi	0.23407301	Not Participating
309	npm	longest	0.23332011	Not Participating
310	npm	uri-js	0.23160084	Not Participating
311	npm	isexe	0.2292925	Not Participating
312	npm	lodash.assign	0.22868706	Not Participating
313	npm	convert-source-map	0.2247114	Not Participating
314	npm	nan	0.22344439	Not Participating
315	npm	http-signature	0.21354285	Not Participating
316	npm	sprintf-js	0.20814361	Not Participating
317	npm	repeat-string	0.20757432	Not Participating
318	npm	strip-bom	0.20557744	Not Participating
319	npm	express	0.20373504	15
320	npm	asn1	0.20261673	Not Participating
321	npm	oauth-sign	0.20206034	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
322	npm	extglob	0.19928385	Not Participating
323	npm	os-tmpdir	0.19860484	Not Participating
324	npm	delayed-stream	0.19850196	Not Participating
325	npm	y18n	0.19306199	Not Participating
326	npm	path-key	0.19095556	Not Participating
327	npm	buffer-from	0.1898348	Not Participating
328	npm	util	0.18709826	Not Participating
329	npm	caseless	0.17826056	Not Participating
330	npm	array-flatten	0.17607328	Not Participating
331	npm	aws-sign2	0.17593228	Not Participating
332	npm	performance-now	0.17375552	Not Participating
333	npm	whatwg-url	0.17018915	Not Participating
334	npm	bn.js	0.16506777	Not Participating
335	npm	domutils	0.16503166	Not Participating
336	npm	array-unique	0.16442359	Not Participating
337	npm	range-parser	0.16315876	Not Participating
338	npm	ipaddr.js	0.15765116	Not Participating
339	npm	csstype	0.15715313	Not Participating
340	npm	pinkie	0.15127171	Not Participating
341	npm	body-parser	0.14841574	Not Participating
342	npm	is-callable	0.14139714	Not Participating
343	npm	shebang-regex	0.14100147	Not Participating
344	npm	callsites	0.13816977	Not Participating
345	npm	fresh	0.13653561	Not Participating
346	npm	vary	0.13524685	Not Participating
347	npm	tweetnacl	0.13321917	Not Participating
348	npm	hosted-git-info	0.13209635	Not Participating
349	npm	tunnel-agent	0.13132506	Not Participating
350	npm	jsbn	0.13044088	Not Participating
351	npm	ansi-escapes	0.1296061	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
352	npm	colors	0.12665819	Not Participating
353	npm	cosmiconfig	0.12328808	Not Participating
354	npm	hoek	0.12129312	Not Participating
355	npm	regexpu-core	0.113542	Not Participating
356	npm	load-json-file	0.11057082	Not Participating
357	npm	content-disposition	0.10858849	Not Participating
358	npm	node-pre-gyp	0.10728529	Not Participating
359	npm	pinkie-promise	0.10400062	Not Participating
360	npm	normalize-url	0.10249952	Not Participating
361	npm	follow-redirects	0.10143986	Not Participating
362	npm	get-stdin	0.09996958	Not Participating
363	npm	nopt	0.09829726	Not Participating
364	npm	moment	0.0961926	Not Participating
365	npm	has-symbols	0.09583272	Not Participating
366	npm	bcrypt-pbkdf	0.09582715	Not Participating
367	npm	is-typedarray	0.08294668	Not Participating
368	npm	memory-fs	0.08025584	Not Participating
369	npm	for-in	0.07982359	Not Participating
370	npm	bl	0.07419713	Not Participating
371	npm	psl	0.07402366	Not Participating
372	npm	shebang-command	0.07346785	Not Participating
373	npm	verror	0.07168094	Not Participating
374	npm	onetime	0.07134391	Not Participating
375	npm	ecc-jsbn	0.0623092	Not Participating
376	npm	graceful-readlink	0.05807394	Not Participating
377	npm	deep-extend	0.05673337	Not Participating
378	npm	duplexify	0.04771431	Not Participating
379	npm	escape-html	0.04673093	Not Participating
380	npm	dashdash	0.04669489	Not Participating
381	npm	har-schema	0.04592086	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
382	npm	lodash.values	0.04542116	Not Participating
383	npm	splice-string	0.04542116	Not Participating
384	npm	lodash.toarray	0.04542116	Not Participating
385	npm	lodash._basevalues	0.04542116	Not Participating
386	npm	loose-envify	0.0444214	Not Participating
387	npm	component-emitter	0.04409052	Not Participating
388	npm	tar	0.04377561	Not Participating
389	npm	through	0.04341708	Not Participating
390	npm	getpass	0.04319554	Not Participating
391	npm	postcss-value-parser	0.03973834	Not Participating
392	npm	abbrev	0.03928161	Not Participating
393	npm	q	0.03777737	Not Participating
394	npm	expand-brackets	0.03478418	Not Participating
395	npm	ignore	0.03471154	Not Participating
396	npm	json-schema	0.03240191	Not Participating
397	npm	ee-first	0.03200359	Not Participating
398	npm	os-homedir	0.03195658	Not Participating
399	npm	assign-symbols	0.03135357	Not Participating
400	npm	dot	0.02823289	Not Participating
401	npm	get-caller-file	0.02660131	Not Participating
402	npm	encodeurl	0.02268594	Not Participating
403	npm	utils-merge	0.02220762	Not Participating
404	npm	parse-passwd	0.01963876	Not Participating
405	npm	content-type	0.01703082	Not Participating
406	npm	decamelize	0.01663539	Not Participating
407	npm	boom	0.01426829	Not Participating
408	npm	jsonfile	0.01371748	Not Participating
409	npm	asynckit	0.01262282	Not Participating
410	npm	ajv-keywords	0.01259286	Not Participating
411	npm	tmp	0.00822916	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
412	npm	proxy-addr	0.00690346	Not Participating
413	npm	sliced	0.005185	Not Participating
414	npm	unpipe	0.00432407	Not Participating
415	npm	methods	0.0037681	Not Participating
416	npm	source-map-resolve	0.00293114	Not Participating
417	npm	cacache	0.00259504	Not Participating
418	npm	inquirer	0.00174153	Not Participating
419	npm	tr46	0.00170782	Not Participating
420	npm	object.assign	0.00051494	Not Participating
421	npm	cookie-signature	0.00037877	Not Participating
422	npm	binary-extensions	-0.0032781	Not Participating
423	npm	p-map	-0.0040264	Not Participating
424	npm	json-stringify-safe	-0.0084027	Not Participating
425	npm	etag	-0.015558	Not Participating
426	npm	sockjs	-0.0158693	Not Participating
427	npm	forever-agent	-0.0167926	Not Participating
428	npm	cryptiles	-0.0192502	Not Participating
429	npm	destroy	-0.0196541	Not Participating
430	npm	xmlbuilder	-0.0214077	Not Participating
431	npm	spdx-exceptions	-0.0215164	Not Participating
432	npm	use	-0.0222281	Not Participating
433	npm	rc	-0.0236404	Not Participating
434	npm	jsprim	-0.0244467	Not Participating
435	npm	to-fast-properties	-0.0264497	Not Participating
436	npm	media-typer	-0.0278471	Not Participating
437	npm	file-type	-0.0280241	Not Participating
438	npm	isstream	-0.0292875	Not Participating
439	npm	is-absolute	-0.0315354	Not Participating
440	npm	is-relative	-0.0315354	Not Participating
441	npm	unc-path-regex	-0.0315354	Not Participating



	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
442	npm	is-unc-path	-0.0315354	Not Participating
443	npm	set-value	-0.0326597	Not Participating
444	npm	on-finished	-0.0348479	Not Participating
445	npm	snapdragon	-0.0352333	Not Participating
446	npm	dom-serializer	-0.0355347	Not Participating
447	npm	is-windows	-0.0375179	Not Participating
448	npm	slash	-0.0407022	Not Participating
449	npm	lodash.isstring	-0.040807	Not Participating
450	npm	base	-0.0413163	Not Participating
451	npm	is-binary-path	-0.0429113	Not Participating
452	npm	sshpk	-0.0441682	Not Participating
453	npm	object-inspect	-0.046401	Not Participating
454	npm	set-blocking	-0.0478655	Not Participating
455	npm	is-regex	-0.0482234	Not Participating
456	npm	normalize-package-data	-0.0498086	Not Participating
457	npm	es-to-primitive	-0.0508441	Not Participating
458	npm	typescript	-0.0516019	Not Participating
459	npm	forwarded	-0.0523882	Not Participating
460	npm	@babel/preset-env	-0.0524578	27
461	npm	asap	-0.0531783	Not Participating
462	npm	cache-base	-0.0558213	Not Participating
463	npm	underscore	-0.0608389	Not Participating
464	npm	mimic-response	-0.0611636	Not Participating
465	npm	user-home	-0.0616148	Not Participating
466	npm	call-bind	-0.0621105	Not Participating
467	npm	write-file-atomic	-0.0632035	Not Participating
468	npm	homedir-polyfill	-0.0635681	Not Participating
469	npm	@babel/helper-split-export-declaration	-0.0650653	27
470	npm	url	-0.0674246	Not Participating
471	npm	toidentifier	-0.0677182	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
472	npm	agent-base	-0.0686968	Not Participating
473	npm	whatwg-fetch	-0.0730887	Not Participating
474	npm	fbjs	-0.0733339	Not Participating
475	npm	amdefine	-0.0734751	Not Participating
476	npm	atob	-0.0747557	Not Participating
477	npm	p-cancelable	-0.076886	Not Participating
478	npm	htmlparser2	-0.0801718	Not Participating
479	npm	lowercase-keys	-0.0818284	Not Participating
480	npm	get-value	-0.0859985	Not Participating
481	npm	remove-trailing-separator	-0.0860371	Not Participating
482	npm	pako	-0.0876536	Not Participating
483	npm	os-locale	-0.0877178	Not Participating
484	npm	escodegen	-0.0878123	Not Participating
485	npm	diff	-0.088541	Not Participating
486	npm	repeat-element	-0.0898446	Not Participating
487	npm	is-symbol	-0.090042	Not Participating
488	npm	npmlog	-0.0909649	Not Participating
489	npm	union-value	-0.0919828	Not Participating
490	npm	doctrine	-0.0926973	Not Participating
491	npm	domhandler	-0.0931396	Not Participating
492	npm	is-wsl	-0.0942623	Not Participating
493	npm	popper.js	-0.0943722	Not Participating
494	npm	xml2js	-0.0944642	Not Participating
495	npm	get-intrinsic	-0.0944814	Not Participating
496	npm	https-proxy-agent	-0.0950587	Not Participating
497	npm	terser	-0.0969033	Not Participating
498	npm	tapable	-0.09915	Not Participating
499	npm	npm-run-path	-0.099158	Not Participating
500	npm	universalify	-0.0995025	Not Participating

# Appendix D: Top 500 Non-npm, Indirect & Direct, Version Agnostic Packages

Our dependency analysis identified the following 500 packages as the most used FOSS packages among those reported in the private usage data contributed by SCA partners hosted on package managers other than npm. These packages were identified as either direct or indirect dependencies called by observed packages in use and are version agnostic. For further information on how this list was compiled, refer to the Methods section.

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
1	go	github.com/aws/aws-sdk-go	11.0753418	Not Participating
2	go	github.com/docker/docker	9.71416018	Not Participating
3	go	github.com/containerd/containerd	9.52658887	107
4	go	golang.org/x/sys	4.98173322	Not Participating
5	go	github.com/grpc/grpc-go	4.9115973	109
6	go	github.com/opencontainers/runc	4.77227936	81
7	go	github.com/kubernetes/client-go	4.67103324	Not Participating
8	go	github.com/moby/buildkit	4.60904011	Not Participating
9	maven	ch.qos.logback:logback-core	4.60523927	Not Participating
10	go	golang.org/x/net	4.43304068	Not Participating
11	maven	com.google.j2objc:j2objc-annotations	4.0916596	Not Participating
12	maven	org.slf4j:jul-to-slf4j	3.8958064	Not Participating
13	maven	org.hamcrest:hamcrest-core	3.69072475	Not Participating
14	maven	commons-codec:commons-codec	3.65184084	Not Participating
15	maven	com.fasterxml:classmate	3.63643508	Not Participating
16	go	github.com/coreos/etcd	3.53963703	Not Participating
17	go	github.com/containerd/cri	3.43976011	Not Participating
18	maven	org.apache.logging.log4j:log4j-api	3.31239077	Not Participating
19	go	github.com/grpc-ecosystem/grpc-gateway	3.13184326	Not Participating
20	go	github.com/apache/thrift	3.13179213	Not Participating
21	maven	junit:junit	3.1274156	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
22	maven	com.google.guava:failureaccess	3.11769245	Not Participating
23	maven	com.google.guava:listenablefuture	3.08053265	Not Participating
24	go	github.com/hashicorp/consul	3.04564674	Not Participating
25	maven	org.checkerframework:checker-qual	3.00988148	Not Participating
26	go	github.com/urfave/cli	2.95059004	Not Participating
27	maven	jakarta.annotation:jakarta.annotation-api	2.93277659	Not Participating
28	maven	org.apache.httpcomponents:httpcore	2.9323112	Not Participating
29	go	github.com/prometheus/client_golang	2.92246861	Not Participating
30	go	github.com/microsoft/hcsshim	2.83060907	Not Participating
31	maven	org.apache.commons:commons-lang3	2.78516657	Not Participating
32	go	github.com/golang/protobuf	2.7702377	Not Participating
33	go	golang.org/x/crypto	2.74049263	Not Participating
34	go	github.com/kubernetes/apimachinery	2.64950927	Not Participating
35	maven	org.hdrhistogram:hdrhistogram	2.59276783	Not Participating
36	go	github.com/docker/cli	2.58187934	Not Participating
37	maven	commons-logging:commons-logging	2.52686951	Not Participating
38	cargo	serde	2.49113478	Not Participating
39	go	github.com/google/go-genproto	2.39668185	Not Participating
40	go	github.com/spf13/cobra	2.30615834	Not Participating
41	cargo	serde_derive	2.29429089	Not Participating
42	go	code.google.com/google-api-go-client	2.29213483	Not Participating
43	maven	com.sun.jmx:jmxri	2.28501971	Not Participating
44	maven	com.sun.jdmk:jmxtools	2.28501971	Not Participating
45	nuget	microsoft.netcore.targets.dnxcore	2.26844233	Not Participating
46	nuget	microsoft.netcore.targets.universalwindowsplatform	2.26844233	Not Participating
47	nuget	microsoft.netcore.targets.netframework	2.26844233	Not Participating
48	go	github.com/docker/libnetwork	2.24961228	Not Participating
49	maven	ch.qos.logback:logback-classic	2.24634474	Not Participating
50	nuget	system.private.uri	2.24208157	Not Participating
51	nuget	system.threading.tasks.unofficial	2.24208157	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
52	maven	javax.activation:activation	2.21821437	Not Participating
53	nuget	system.runtime.interopservices.pinvoke	2.18501189	Not Participating
54	maven	org.apache.logging.log4j:log4j-to-slf4j	2.17130642	Not Participating
55	maven	org.apache.httpcomponents:httpclient	2.14315118	Not Participating
56	go	github.com/gophercloud/gophercloud	2.12795364	Not Participating
57	maven	org.yaml:snakeyaml	2.12439825	3
58	nuget	system.runtime.windowsruntime	2.115713	Not Participating
59	go	github.com/gorilla/mux	2.1115662	Not Participating
60	nuget	runtime.osx.10.10-x64.runtime.native.system.security.cryptography	2.1040273	Not Participating
61	nuget	system.security.cryptography.encryption	2.1040273	Not Participating
62	nuget	runtime.fedora.23-x64.runtime.native.system.security.cryptography	2.1040273	Not Participating
63	nuget	runtime.ubuntu.18.04-x64.runtime.native.system.security.cryptography.openssl	2.1040273	Not Participating
64	nuget	runtime.ubuntu.14.04-x64.runtime.native.system.security.cryptography	2.1040273	Not Participating
65	nuget	runtime.rhel.7-x64.runtime.native.system.security.cryptography	2.1040273	Not Participating
66	nuget	runtime.opensuse.42.3-x64.runtime.native.system.security.cryptography.openssl	2.1040273	Not Participating
67	nuget	runtime.fedora.28-x64.runtime.native.system.security.cryptography	2.1040273	Not Participating
68	nuget	runtime.ubuntu.16.10-x64.runtime.native.system.security.cryptography	2.1040273	Not Participating
69	nuget	runtime.ubuntu.18.04-x64.runtime.native.system.security.cryptography	2.1040273	Not Participating
70	nuget	runtime.ubuntu.16.04-x64.runtime.native.system.security.cryptography	2.1040273	Not Participating
71	nuget	runtime.debian.9-x64.runtime.native.system.security.cryptography	2.1040273	Not Participating
72	nuget	runtime.opensuse.42.1-x64.runtime.native.system.security.cryptography	2.1040273	Not Participating
73	nuget	runtime.debian.9-x64.runtime.native.system.security.cryptography.openssl	2.1040273	Not Participating
74	nuget	runtime.opensuse.13.2-x64.runtime.native.system.security.cryptography	2.1040273	Not Participating
75	nuget	runtime.opensuse.42.3-x64.runtime.native.system.security.cryptography	2.1040273	Not Participating
76	nuget	runtime.debian.8-x64.runtime.native.system.security.cryptography	2.1040273	Not Participating
77	nuget	runtime.fedora.28-x64.runtime.native.system.security.cryptography.openssl	2.1040273	Not Participating
78	nuget	runtime.fedora.27-x64.runtime.native.system.security.cryptography.openssl	2.1040273	Not Participating
79	nuget	runtime.fedora.27-x64.runtime.native.system.security.cryptography	2.1040273	Not Participating
80	nuget	runtime.fedora.24-x64.runtime.native.system.security.cryptography	2.1040273	Not Participating
81	go	github.com/onsi/gomega	2.09641764	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
82	nuget	system.io.filesystem.watcher	2.09342865	Not Participating
83	nuget	system.security.cryptography.rsa	2.09342865	Not Participating
84	nuget	system.security.cryptography.randomnumbergenerator	2.09342865	Not Participating
85	nuget	microsoft.bcl.compression	2.09342865	Not Participating
86	nuget	system.private.networking	2.09342865	Not Participating
87	nuget	microsoft.bcl	2.09342865	Not Participating
88	nuget	system.security.cryptography.hashing	2.09342865	Not Participating
89	nuget	system.security.cryptography.hashing.algorithms	2.09342865	Not Participating
90	nuget	microsoft.bcl.build	2.09342865	Not Participating
91	nuget	microsoft.netcore.runtime.coreclr	2.09342865	Not Participating
92	nuget	microsoft.net.http	2.09342865	Not Participating
93	nuget	microsoft.netcore.jit	2.09342865	Not Participating
94	nuget	microsoft.netcore.runtime.native	2.09342865	Not Participating
95	nuget	microsoft.netcore.windows.apisets	2.09342865	Not Participating
96	nuget	microsoft.packaging.tools	2.09342865	Not Participating
97	nuget	microsoft.netcore.runtime	2.09342865	Not Participating
98	go	github.com/miekg/dns	2.067752	Not Participating
99	go	github.com/etcd-io/etcd	2.06454842	105
100	go	github.com/azure/go-autorest	2.05529069	Not Participating
101	go	github.com/vishvananda/netlink	2.0485206	Not Participating
102	go	golang.org/x/tools	2.02322856	Not Participating
103	go	github.com/kubernetes/api	2.01335211	Not Participating
104	maven	commons-lang:commons-lang	1.9974781	Not Participating
105	maven	com.google.code.findbugs:jsr305	1.9920758	Not Participating
106	maven	com.fasterxml.jackson.core:jackson-core	1.98795005	Not Participating
107	rubygems	rubocop	1.98436644	Not Participating
108	maven	commons-io:commons-io	1.97884065	Not Participating
109	maven	com.fasterxml.jackson.datatype:jackson-datatype-jdk8	1.95473341	Not Participating
110	pypi	sphinx	1.9510208	Not Participating
111	maven	org.slf4j:slf4j-api	1.95039834	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
112	maven	org.springframework:spring-jcl	1.93238318	Not Participating
113	go	code.google.com/go/cloud	1.87533902	Not Participating
114	maven	jakarta.xml.bind:jakarta.xml.bind-api	1.87368836	Not Participating
115	maven	com.fasterxml.jackson.core:jackson-annotations	1.867435	Not Participating
116	maven	com.google.errorprone:error_prone_annotations	1.86361638	Not Participating
117	maven	org.latencyutils:latencyutils	1.86200374	Not Participating
118	maven	jakarta.activation:jakarta.activation-api	1.85663697	Not Participating
119	go	github.com/sirupsen/logrus	1.84401068	Not Participating
120	maven	org.aspectj:aspectjweaver	1.79087704	Not Participating
121	maven	org.jboss.logging:jboss-logging	1.78136656	Not Participating
122	pypi	pytest	1.77062209	Not Participating
123	maven	commons-collections:commons-collections	1.76989201	Not Participating
124	go	github.com/azure/azure-sdk-for-go	1.7631905	Not Participating
125	maven	log4j:log4j	1.74348924	Not Participating
126	go	github.com/stretchr/testify	1.73158944	Not Participating
127	maven	org.ow2.asm:asm	1.73008166	Not Participating
128	maven	org.hamcrest:hamcrest	1.68654123	Not Participating
129	go	github.com/gin-gonic/gin	1.68369478	Not Participating
130	go	github.com/influxdata/influxdb	1.6713044	Not Participating
131	maven	org.codehaus.mojo:animal-sniffer-annotations	1.62742827	Not Participating
132	nuget	microsoft.netcore.targets	1.62290595	Not Participating
133	maven	jakarta.validation:jakarta.validation-api	1.62199356	Not Participating
134	maven	com.fasterxml.jackson.datatype:jackson-datatype-jsr310	1.61730613	Not Participating
135	maven	org.apiguardian:apiguardian-api	1.52763349	Not Participating
136	nuget	system.reflection.emit.lightweight	1.5017379	Not Participating
137	nuget	system.xml.readerwriter	1.50041319	Not Participating
138	go	github.com/godbus/dbus	1.48571265	Not Participating
139	nuget	system.security.cryptography.primitives	1.48404163	Not Participating
140	maven	org.opentest4j:opentest4j	1.47987602	Not Participating
141	nuget	system.globalization.extensions	1.47568528	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
142	cargo	syn	1.47515171	Not Participating
143	nuget	system.diagnostics.tools	1.47249239	Not Participating
144	nuget	system.security.cryptography.encoding	1.46777148	Not Participating
145	nuget	system.security.cryptography.algorithms	1.4663109	Not Participating
146	go	github.com/shopify/sarama	1.46382864	Not Participating
147	nuget	system.runtime.numerics	1.46050256	Not Participating
148	nuget	system.xml.xdocument	1.45578067	Not Participating
149	nuget	system.security.cryptography.x509certificates	1.45462579	Not Participating
150	nuget	system.text.regularexpressions	1.44559059	Not Participating
151	nuget	microsoft.win32.primitives	1.44419909	Not Participating
152	nuget	system.net.primitives	1.44304308	Not Participating
153	go	github.com/spf13/viper	1.43684562	Not Participating
154	nuget	system.globalization.calendars	1.42860714	Not Participating
155	nuget	system.security.cryptography.csp	1.41060517	Not Participating
156	nuget	system.security.cryptography.openssl	1.40866905	Not Participating
157	nuget	runtime.native.system.net.http	1.404117	Not Participating
158	nuget	netstandard.library	1.39321362	Not Participating
159	nuget	system.threading.timer	1.37337695	Not Participating
160	nuget	system.io.compression	1.37279951	Not Participating
161	nuget	system.console	1.36267737	Not Participating
162	nuget	system.net.sockets	1.3580239	Not Participating
163	maven	javax.validation:validation-api	1.34947577	Not Participating
164	nuget	runtime.native.system.io.compression	1.34678086	Not Participating
165	nuget	system.net.http	1.34579582	Not Participating
166	go	github.com/opencontainers/runtime-spec	1.34086843	Not Participating
167	nuget	runtime.opensuse.42.1-x64.runtime.native.system.security.cryptography.openssl	1.33818772	Not Participating
168	nuget	runtime.fedora.23-x64.runtime.native.system.security.cryptography.openssl	1.33818772	Not Participating
169	nuget	runtime.fedora.24-x64.runtime.native.system.security.cryptography.openssl	1.33818772	Not Participating
170	nuget	runtime.ubuntu.14.04-x64.runtime.native.system.security.cryptography.openssl	1.33818772	Not Participating
171	nuget	runtime.osx.10.10-x64.runtime.native.system.security.cryptography.openssl	1.33818772	Not Participating



	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
172	nuget	runtime.rhel.7-x64.runtime.native.system.security.cryptography.openssl	1.33818772	Not Participating
173	nuget	runtime.ubuntu.16.04-x64.runtime.native.system.security.cryptography.openssl	1.33818772	Not Participating
174	nuget	runtime.ubuntu.16.10-x64.runtime.native.system.security.cryptography.openssl	1.33818772	Not Participating
175	nuget	runtime.debian.8-x64.runtime.native.system.security.cryptography.openssl	1.33818772	Not Participating
176	nuget	runtime.native.system.security.cryptography.openssl	1.33818772	Not Participating
177	nuget	runtime.opensuse.13.2-x64.runtime.native.system.security.cryptography.openssl	1.33818772	Not Participating
178	go	github.com/containerd/cgroups	1.32326522	Not Participating
179	nuget	runtime.osx.10.10-x64.runtime.native.system.security.cryptography.apple	1.32232517	Not Participating
180	nuget	runtime.native.system.security.cryptography.apple	1.32232517	Not Participating
181	go	github.com/prometheus/procfs	1.31034539	Not Participating
182	go	github.com/ugorji/go	1.30350759	Not Participating
183	maven	com.fasterxml.jackson.core:jackson-databind	1.29824194	Not Participating
184	nuget	system.io.compression.zipfile	1.29369058	Not Participating
185	go	github.com/nats-io/gnatsd	1.2909242	113
186	nuget	system.collections.nongeneric	1.28954661	Not Participating
187	maven	org.objenesis:objenesis	1.27914114	Not Participating
188	maven	javax.activation:javax.activation-api	1.27838431	Not Participating
189	go	github.com/docker/distribution	1.27693533	Not Participating
190	maven	joda-time:joda-time	1.2565114	Not Participating
191	go	github.com/docker/swarmkit	1.25440797	Not Participating
192	go	github.com/gogo/protobuf	1.25191648	Not Participating
193	go	github.com/mattn/go-sqlite3	1.25141059	Not Participating
194	go	github.com/coreos/go-systemd	1.2462225	Not Participating
195	maven	org.slf4j:jcl-over-slf4j	1.2404093	Not Participating
196	maven	org.javassist:javassist	1.23562167	Not Participating
197	go	github.com/go-sql-driver/mysql	1.21881552	Not Participating
198	maven	javax.servlet:javax.servlet-api	1.21466239	Not Participating
199	maven	javax.mail:mail	1.20266811	Not Participating
200	nuget	system.threading.thread	1.19325043	Not Participating
201	maven	javax.servlet:servlet-api	1.19080714	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
202	go	github.com/uber/jaeger-client-go	1.18949498	Not Participating
203	maven	xml-apis:xml-apis	1.1890025	Not Participating
204	go	github.com/kubernetes/apiserver	1.1873818	Not Participating
205	go	github.com/census-instrumentation/opencensus-go	1.16828402	Not Participating
206	maven	com.google.guava:guava	1.16690108	Not Participating
207	maven	org.eclipse.jetty:jetty-util	1.16237758	Not Participating
208	cargo	serde_json	1.15560331	Not Participating
209	maven	com.fasterxml.jackson.module:jackson-module-parameter-names	1.14835898	Not Participating
210	maven	org.springframework:spring-beans	1.11252763	Not Participating
211	maven	org.apache.geronimo.specs:geronimo-jms_1.1_spec	1.10888589	Not Participating
212	maven	antlr:antlr	1.10251942	Not Participating
213	maven	javax.xml:jsr173	1.09470924	Not Participating
214	maven	org.eclipse.jetty:jetty-continuation	1.09117636	Not Participating
215	maven	org.eclipse.jetty:jetty-xml	1.08709995	Not Participating
216	maven	org.springframework:spring-aop	1.07665825	Not Participating
217	nuget	system.threading.threadpool	1.07378881	Not Participating
218	maven	org.eclipse.jetty:jetty-security	1.06400032	Not Participating
219	maven	org.eclipse.jetty:jetty-servlet	1.06400032	Not Participating
220	maven	org.eclipse.jetty:jetty-server	1.06400032	Not Participating
221	maven	org.eclipse.jetty:jetty-webapp	1.06400032	Not Participating
222	maven	org.eclipse.jetty:jetty-io	1.06400032	Not Participating
223	maven	org.eclipse.jetty:jetty-jmx	1.06400032	Not Participating
224	maven	org.eclipse.jetty:jetty-http	1.06400032	Not Participating
225	go	github.com/kubernetes/kubernetes	1.060832	111
226	maven	jtidy:jtidy	1.03573724	Not Participating
227	go	github.com/cloudflare/cfssl	1.03473484	Not Participating
228	maven	org.apache.tomcat:tomcat-util	1.01725754	Not Participating
229	maven	org.apache.tomcat:tomcat-juli	1.01725754	Not Participating
230	nuget	system.runtime	1.00907205	Not Participating
231	go	github.com/container networking/plugins	1.00658718	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
232	maven	commons-beanutils:commons-beanutils	1.00141375	Not Participating
233	maven	org.glassfish.jaxb:txw2	0.99741004	Not Participating
234	maven	stax:stax	0.99714727	Not Participating
235	maven	xmlbeans:xmlbeans-jsr173-api	0.99714727	Not Participating
236	maven	com.ibm.icu:icu4j	0.99252734	88
237	nuget	system.numerics.vectors	0.99023021	Not Participating
238	cargo	serde_test	0.9888124	Not Participating
239	maven	xerces:xmlparserapis	0.98790741	Not Participating
240	go	github.com/pelletier/go-toml	0.98518487	Not Participating
241	nuget	system.text.encoding	0.98320043	Not Participating
242	nuget	system.io	0.9831903	Not Participating
243	nuget	system.threading.tasks	0.98295264	Not Participating
244	nuget	system.reflection	0.98115073	Not Participating
245	cargo	proc-macro2	0.9807919	Not Participating
246	nuget	system.threading	0.97987023	Not Participating
247	maven	org.springframework:spring-expression	0.97977731	Not Participating
248	nuget	system.globalization	0.97865761	Not Participating
249	nuget	system.diagnostics.debug	0.97849366	Not Participating
250	nuget	system.collections	0.97700771	Not Participating
251	nuget	system.security.principal	0.97671252	Not Participating
252	nuget	system.security.claims	0.97498021	Not Participating
253	go	github.com/nats-io/nats-server	0.97408285	113
254	maven	clover:clover	0.97296059	Not Participating
255	maven	javancss:javancss	0.97296059	Not Participating
256	maven	icu4j:icu4j	0.97296059	Not Participating
257	maven	isorelax:isorelax	0.97296059	Not Participating
258	maven	javancss:ccl	0.97296059	Not Participating
259	maven	jaxme:jaxme-api	0.97296059	Not Participating
260	maven	asm:asm-tree	0.97296059	Not Participating
261	maven	xom:xom	0.97296059	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
262	maven	cobertura:cobertura	0.97296059	Not Participating
263	maven	com.google.code.findbugs:jformatstring	0.97296059	Not Participating
264	maven	commons-jelly:commons-jelly	0.97296059	Not Participating
265	maven	commons-jelly:commons-jelly-tags-junit	0.97296059	Not Participating
266	maven	asm:asm-util	0.97296059	Not Participating
267	maven	asm:asm-xml	0.97296059	Not Participating
268	maven	com.google.code.findbugs:bcel	0.97296059	Not Participating
269	maven	javacss:jhbasic	0.97296059	Not Participating
270	maven	junitperf:junitperf	0.97296059	Not Participating
271	maven	maven-plugins:maven-cobertura-plugin	0.97296059	Not Participating
272	maven	asm:asm-analysis	0.97296059	Not Participating
273	maven	relaxngdatatype:relaxngdatatype	0.97296059	Not Participating
274	maven	saxpath:saxpath	0.97296059	Not Participating
275	maven	pull-parser:pull-parser	0.97296059	Not Participating
276	maven	commons-jelly:commons-jelly-tags-log	0.97296059	Not Participating
277	maven	asm:asm-commons	0.97296059	Not Participating
278	maven	urbanophile:java-getopt	0.97296059	Not Participating
279	maven	stax:stax-ri	0.97296059	Not Participating
280	maven	org.apache.ant:ant-junit	0.97296059	Not Participating
281	maven	org.mortbay.jetty:servlet-api-2.5	0.97296059	Not Participating
282	maven	maven-plugins:maven-findbugs-plugin	0.97296059	Not Participating
283	maven	net.sourceforge.cobertura:cobertura	0.97296059	Not Participating
284	maven	msv:xsdlb	0.97296059	Not Participating
285	maven	msv:relaxngdatatype	0.97296059	Not Participating
286	maven	msv:msv	0.97296059	Not Participating
287	nuget	system.runtime.extensions	0.97132212	Not Participating
288	nuget	system.threading.tasks.extensions	0.96971244	Not Participating
289	nuget	system.runtime.interopservices	0.96672124	Not Participating
290	maven	org.glassfish:jakarta.el	0.96453007	Not Participating
291	maven	aopalliance:aopalliance	0.96090525	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
292	nuget	system.reflection.primitives	0.95547164	Not Participating
293	nuget	system.resources.resourcemanager	0.95544425	Not Participating
294	nuget	microsoft.netcore.platforms	0.95293532	Not Participating
295	maven	org.springframework:spring-context	0.9389564	Not Participating
296	go	github.com/go-kit/kit	0.93080669	Not Participating
297	nuget	system.linq	0.92715348	Not Participating
298	nuget	system.runtime.handles	0.92536315	Not Participating
299	nuget	system.text.encoding.extensions	0.91791263	Not Participating
300	go	github.com/lightstep/lightstep-tracer-go	0.915031	Not Participating
301	nuget	system.reflection.typeextensions	0.91447312	Not Participating
302	nuget	system.reflection.extensions	0.90892453	Not Participating
303	nuget	system.diagnostics.diagnosticsource	0.90837821	Not Participating
304	nuget	system.buffers	0.90499316	Not Participating
305	nuget	system.io.filesystem.primitives	0.90251069	Not Participating
306	go	github.com/openzipkin/zipkin-go	0.90175477	Not Participating
307	nuget	system.io.filesystem	0.90011231	Not Participating
308	maven	com.google.code.gson:gson	0.89574553	Not Participating
309	go	github.com/aws/aws-sdk-go-v2	0.89054883	Not Participating
310	nuget	system.diagnostics.stacktrace	0.88829551	Not Participating
311	maven	javax.inject:javax.inject	0.87717532	Not Participating
312	go	github.com/prometheus/common	0.87015386	Not Participating
313	nuget	system.objectmodel	0.86365692	Not Participating
314	nuget	system.reflection.emit	0.86348923	Not Participating
315	nuget	system.diagnostics.tracing	0.85849422	Not Participating
316	nuget	runtime.native.system	0.85603262	Not Participating
317	nuget	system.reflection.emit.ilgeneration	0.8552649	Not Participating
318	nuget	system.linq.expressions	0.85376301	Not Participating
319	maven	javax.annotation:javax.annotation-api	0.85356017	Not Participating
320	go	github.com/casbin/casbin	0.85052548	Not Participating
321	nuget	system.collections.concurrent	0.85037791	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
322	nuget	system.runtime.interopservices.runtimeinformation	0.84054215	Not Participating
323	maven	dom4j:dom4j	0.83956918	Not Participating
324	nuget	system.appcontext	0.82371453	Not Participating
325	maven	io.swagger:swagger-annotations	0.82207285	Not Participating
326	maven	javax.jms:jms	0.81585295	Not Participating
327	maven	org.bouncycastle:bcprov-jdk15on	0.81456105	Not Participating
328	nuget	system.security.cryptography.cng	0.81305935	Not Participating
329	nuget	system.componentmodel.eventbasedasync	0.8071146	Not Participating
330	go	github.com/golang/mock	0.79837519	Not Participating
331	maven	org.apache.tomcat.embed:tomcat-embed-core	0.79455965	Not Participating
332	go	github.com/pact-foundation/pact-go	0.78144057	Not Participating
333	maven	commons-cli:commons-cli	0.7713656	Not Participating
334	go	github.com/grpc-ecosystem/go-grpc-middleware	0.76786576	Not Participating
335	maven	org.hibernate.validator:hibernate-validator	0.76643505	Not Participating
336	maven	software.amazon.ion:ion-java	0.76167969	Not Participating
337	go	github.com/google/go-cmp	0.75989217	Not Participating
338	maven	org.apache.tomcat.embed:tomcat-embed-websocket	0.75787539	Not Participating
339	maven	org.springframework:spring-core	0.75570525	Not Participating
340	nuget	system.security.securestring	0.75290341	Not Participating
341	go	github.com/opencontainers/selinux	0.75182969	Not Participating
342	go	github.com/onsi/ginkgo	0.75048106	Not Participating
343	nuget	system.runtime.compilerservices.unsafe	0.74734506	Not Participating
344	go	github.com/kubernetes/utils	0.74657562	Not Participating
345	maven	logkit:logkit	0.7457383	Not Participating
346	maven	org.glassfish.jaxb:jaxb-runtime	0.7450359	Not Participating
347	maven	avalon-framework:avalon-framework	0.74380219	Not Participating
348	nuget	runtime.native.system.security.cryptography	0.74223829	Not Participating
349	maven	org.reactivestreams:reactive-streams	0.74041552	Not Participating
350	rubygems	bundler	0.73268408	Not Participating
351	go	golang.org/x/text	0.72955887	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
352	go	github.com/kubernetes/kube-openapi	0.72580016	Not Participating
353	cargo	rand	0.70783403	Not Participating
354	go	google.golang.org/protobuf	0.70313586	Not Participating
355	go	github.com/emicklei/go-restful	0.70222694	Not Participating
356	maven	org.junit.platform:junit-platform-commons	0.68844703	Not Participating
357	go	github.com/googleapis/gnostic	0.68444226	Not Participating
358	maven	io.netty:netty-codec	0.67581134	Not Participating
359	maven	stax:stax-api	0.67021254	Not Participating
360	go	github.com/lib/pq	0.66303995	Not Participating
361	go	github.com/containernetworking/cni	0.65962521	72
362	maven	io.netty:netty-handler	0.65149103	Not Participating
363	maven	org.springframework.security:spring-security-rsa	0.64578459	Not Participating
364	go	golang.org/x/oauth2	0.64386938	Not Participating
365	go	github.com/hashicorp/serf	0.64313385	Not Participating
366	rubygems	yard	0.62598428	Not Participating
367	maven	org.ow2.asm:asm-tree	0.61759744	Not Participating
368	go	github.com/google/certificate-transparency-go	0.61583245	Not Participating
369	nuget	system.security.principal.windows	0.61514928	Not Participating
370	nuget	system.collections.immutable	0.61388331	Not Participating
371	maven	org.ow2.asm:asm-analysis	0.61114332	Not Participating
372	maven	javax.xml.bind:jaxb-api	0.60946996	Not Participating
373	nuget	system.memory	0.60626437	Not Participating
374	go	github.com/hashicorp/memberlist	0.60126786	Not Participating
375	rubygems	parser	0.59756774	Not Participating
376	maven	com.squareup.okio:okio	0.59381522	Not Participating
377	go	github.com/uber-go/zap	0.5834304	Not Participating
378	maven	org.bouncycastle:bcpkix-jdk15on	0.57867217	Not Participating
379	nuget	system.reflection.metadata	0.57219128	Not Participating
380	maven	commons-configuration:commons-configuration	0.57037805	Not Participating
381	maven	org.glassfish.hk2:osgi-resource-locator	0.56168252	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
382	pypi	coverage	0.56053682	Not Participating
383	maven	org.springframework:spring-web	0.55892915	Not Participating
384	maven	xerces:xercesimpl	0.55296853	Not Participating
385	go	github.com/opentracing/opentracing-go	0.55084853	Not Participating
386	maven	org.springframework.plugin:spring-plugin-metadata	0.54143825	Not Participating
387	nuget	system.dynamic.runtime	0.53917434	Not Participating
388	pypi	tox	0.53759375	Not Participating
389	go	github.com/go-openapi/spec	0.53714175	Not Participating
390	go	github.com/nats-io/go-nats	0.53384084	113
391	maven	org.ow2.asm:asm-commons	0.52463001	Not Participating
392	maven	org.jvnet.staxex:stax-ex	0.5214657	Not Participating
393	maven	com.vaadin.external.google:android-json	0.50543332	Not Participating
394	maven	com.sun.activation:jakarta.activation	0.50393878	Not Participating
395	go	github.com/imdario/mergo	0.50161034	Not Participating
396	go	github.com/go-ini/ini	0.49847934	Not Participating
397	cargo	quote	0.49813622	Not Participating
398	nuget	microsoft.csharp	0.49763064	Not Participating
399	maven	oro:oro	0.48781361	Not Participating
400	go	github.com/tonistiigi/fsutil	0.48458615	Not Participating
401	maven	org.springframework.boot:spring-boot-autoconfigure	0.47825979	Not Participating
402	maven	com.google.code.findbugs:annotations	0.47771969	Not Participating
403	rubygems	activesupport	0.47579295	94
404	maven	xml-resolver:xml-resolver	0.47165252	Not Participating
405	nuget	system.collections.specialized	0.46941223	Not Participating
406	nuget	system.diagnostics.contracts	0.46516851	Not Participating
407	maven	net.sf.jopt-simple:jopt-simple	0.46514857	Not Participating
408	go	github.com/pierrec/lz4	0.46448375	Not Participating
409	go	github.com/containerd/continuity	0.46101622	Not Participating
410	pypi	hypothesis	0.45597	Not Participating
411	rubygems	test-unit	0.45019794	Not Participating



	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
412	maven	asm:asm	0.45000341	Not Participating
413	maven	commons-digester:commons-digester	0.44780927	Not Participating
414	go	github.com/xeipuuv/gojsonschema	0.44748595	Not Participating
415	maven	org.springframework.retry:spring-retry	0.44741784	Not Participating
416	nuget	system.runtime.serialization.primitives	0.44480934	Not Participating
417	rubygems	cucumber	0.4445562	Not Participating
418	go	github.com/google/go-github	0.43671551	131
419	maven	net.bytebuddy:byte-buddy	0.43654584	Not Participating
420	nuget	system.xml.xmldocument	0.43132486	Not Participating
421	cargo	clippy	0.42607373	Not Participating
422	pypi	setuptools	0.4220336	Not Participating
423	maven	org.lz4:lz4-java	0.41460581	Not Participating
424	maven	net.minidev:accessors-smart	0.4106971	Not Participating
425	maven	org.slf4j:log4j-over-slf4j	0.39864136	Not Participating
426	go	github.com/googleapis/go-genproto	0.3967301	Not Participating
427	go	github.com/gobuffalo/packr	0.38469604	Not Participating
428	cargo	libc	0.37733755	Not Participating
429	maven	xalan:xalan	0.37429045	Not Participating
430	nuget	system.componentmodel.primitives	0.3727757	Not Participating
431	maven	org.ccil.cowan.tagsoup:tagsoup	0.36552699	Not Participating
432	rubygems	kramdown	0.36454909	Not Participating
433	go	github.com/codegangsta/cli	0.3629704	Not Participating
434	maven	org.mapstruct:mapstruct	0.36093809	Not Participating
435	go	github.com/armon/go-metrics	0.36075659	Not Participating
436	maven	xalan:serializer	0.35723906	Not Participating
437	nuget	system.componentmodel.typeconverter	0.35225869	Not Participating
438	maven	org.apache.commons:commons-compress	0.35030805	Not Participating
439	go	golang.org/x/sync	0.34899551	Not Participating
440	cargo	compiletest_rs	0.34880501	Not Participating
441	maven	dk.brics.automaton:automaton	0.34823447	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
442	maven	org.springframework.boot:spring-boot-starter-logging	0.34436224	Not Participating
443	nuget	system.threading.overlapped	0.34298246	Not Participating
444	go	github.com/go-resty/resty	0.3396743	Not Participating
445	maven	io.swagger:swagger-models	0.33057167	Not Participating
446	maven	org.ow2.asm:asm-util	0.32874238	Not Participating
447	maven	com.github.stephenc.jcip:jcip-annotations	0.32391416	Not Participating
448	rubygems	sinatra	0.32118194	Not Participating
449	go	google.golang.org/genproto	0.31331648	Not Participating
450	maven	io.springfox:springfox-spi	0.31250128	Not Participating
451	maven	io.springfox:springfox-swagger-common	0.31182194	Not Participating
452	maven	org.junit.platform:junit-platform-engine	0.30896872	Not Participating
453	maven	io.springfox:springfox-spring-web	0.30523236	Not Participating
454	maven	net.minidev:json-smart	0.30162935	Not Participating
455	go	github.com/rs/zerolog	0.29924514	Not Participating
456	maven	io.springfox:springfox-core	0.28797717	Not Participating
457	rubygems	simplecov	0.28388378	Not Participating
458	cargo	quickcheck	0.27636311	Not Participating
459	go	gopkg.in/yaml.v2	0.27465672	Not Participating
460	go	golang.org/x/lint	0.27384694	Not Participating
461	pypi	six	0.27313979	Not Participating
462	rubygems	puma	0.27305065	Not Participating
463	maven	com.beust:jcommander	0.26949917	Not Participating
464	maven	ant:ant	0.26910121	Not Participating
465	maven	xerces:xerces-impl	0.26910121	Not Participating
466	rubygems	rspec	0.26798663	Not Participating
467	maven	io.springfox:springfox-schema	0.26752909	Not Participating
468	maven	com.thoughtworks.paranamer:paranamer	0.26698562	Not Participating
469	maven	xpp3:xpp3	0.26549513	Not Participating
470	go	github.com/etcd-io/bbolt	0.26519841	105
471	go	github.com/evanphx/json-patch	0.26257549	Not Participating

	PLATFORM	NAME	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
472	maven	org.dom4j:dom4j	0.26216232	Not Participating
473	go	github.com/nats-io/nats.go	0.26160716	113
474	go	github.com/pkg/errors	0.26054947	Not Participating
475	nuget	system.componentmodel	0.26044026	Not Participating
476	go	github.com/kubernetes-sigs/structured-merge-diff	0.2600829	Not Participating
477	rubygems	aruba	0.25990969	Not Participating
478	go	github.com/golang/gddo	0.25654279	Not Participating
479	pypi	virtualenv	0.24842826	Not Participating
480	maven	jakarta.transaction:jakarta.transaction-api	0.24748861	Not Participating
481	go	github.com/theupdateframework/notary	0.24477267	78
482	maven	org.xerial.snappy:snappy-java	0.24456708	Not Participating
483	maven	org.springframework.boot:spring-boot-starter	0.24001589	Not Participating
484	maven	org.codehaus.woodstox:stax2-api	0.23226919	Not Participating
485	go	github.com/nats-io/jwt	0.23022788	113
486	go	github.com/cilium/ebpf	0.22912757	Not Participating
487	go	github.com/prometheus/prometheus	0.22871846	109
488	maven	jaxen:jaxen	0.22143936	Not Participating
489	maven	org.jetbrains.kotlin:kotlin-stdlib-common	0.22133409	Not Participating
490	go	github.com/shopify/toxiproxy	0.21844291	Not Participating
491	go	github.com/prometheus/tsdb	0.21682462	Not Participating
492	maven	org.mortbay.jetty:jetty-util	0.21580118	Not Participating
493	go	github.com/pkg/sftp	0.2144772	Not Participating
494	maven	org.springframework:spring-webmvc	0.21378954	Not Participating
495	maven	com.zaxxer:hikaricp	0.21372551	Not Participating
496	maven	org.mockito:mockito-core	0.21314462	Not Participating
497	maven	com.sun.istack:istack-commons-runtime	0.21171814	Not Participating
498	rubygems	capbara	0.20886185	Not Participating
499	maven	org.reflections:reflections	0.20530171	Not Participating
500	go	github.com/envoyproxy/go-control-plane	0.2000551	Not Participating

# Appendix E: Top 500 npm, Direct, Versioned Packages

Our dependency analysis identified the following 500 packages as the most used FOSS packages among those reported in the private usage data contributed by SCA partners hosted on the npm package manager. These packages were directly observed in use and account for the package version. For further information on how this list was compiled, refer to the Methods section.

1	npm	punycode.js	2.1.0	10.1105088	Not Participating
2	npm	lodash	4.17.21	9.92976683	Not Participating
3	npm	express	4.17.1	6.71548695	15
4	npm	axios	0.21.1	6.16996038	Not Participating
5	npm	react	16.14.0	4.77392057	81
6	npm	react-dom	16.14.0	4.19849472	81
7	npm	body-parser	1.19.0	3.87569589	Not Participating
8	npm	dotenv	8.2.0	3.41642448	Not Participating
9	npm	prop-types	15.7.2	3.26594175	81
10	npm	wrappy	1.0.2	3.18312168	Not Participating
11	npm	color-name	1.1.3	3.17514458	Not Participating
12	npm	moment	2.29.1	2.89971748	Not Participating
13	npm	lodash	4.17.20	2.80017855	Not Participating
14	npm	cors	2.8.5	2.79313022	Not Participating
15	npm	fs.realpath	1.0.0	2.78992567	Not Participating
16	npm	isarray	1.0.0	2.78625441	Not Participating
17	npm	request	2.88.2	2.78300552	Not Participating
18	npm	balanced-match	1.0.0	2.73394448	Not Participating
19	npm	brace-expansion	1.1.11	2.71954588	Not Participating
20	npm	jsonwebtoken	8.5.1	2.60241521	Not Participating
21	npm	react	16.13.1	2.57209168	81
22	npm	classnames	2.2.6	2.56244532	Not Participating
23	npm	reflect-metadata	0.1.13	2.449997	Not Participating
24	npm	winston	3.3.3	2.41551742	Not Participating
25	npm	inherits	2.0.3	2.33032256	Not Participating
26	npm	has-flag	3.0.0	2.28705524	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
27	npm	safer-buffer	2.1.2	2.26431733	Not Participating
28	npm	react-dom	16.13.1	2.23193515	81
29	npm	ansi-styles	3.2.1	2.21588536	Not Participating
30	npm	debug	2.6.9	2.20937991	Not Participating
31	npm	string_decoder	1.1.1	2.1705889	Not Participating
32	npm	react-router-dom	5.2.0	2.15912017	Not Participating
33	npm	uuid	8.3.2	2.15883612	Not Participating
34	npm	lodash	4.17.15	2.14315121	Not Participating
35	npm	color-convert	1.9.3	2.11958087	Not Participating
36	npm	moment	2.24.0	2.0979991	Not Participating
37	npm	supports-color	5.5.0	2.06423304	Not Participating
38	npm	morgan	1.10.0	2.05692981	Not Participating
39	npm	isexe	2.0.0	2.00950615	Not Participating
40	npm	ansi-regex	2.1.1	1.95496742	Not Participating
41	npm	safe-buffer	5.1.2	1.92951809	Not Participating
42	npm	once	1.4.0	1.91584809	Not Participating
43	npm	minimatch	3.0.4	1.87789594	Not Participating
44	npm	axios	0.19.2	1.83991657	Not Participating
45	npm	json-schema-traverse	0.4.1	1.83977734	Not Participating
46	npm	concat-map	0.0.1	1.80745393	Not Participating
47	npm	is-stream	1.1.0	1.79541357	Not Participating
48	npm	@toruslabs/tweetnacl-js	1.0.3	1.78776999	Not Participating
49	npm	ms	2.0.0	1.77542964	Not Participating
50	npm	util-deprecate	1.0.2	1.75729093	Not Participating
51	npm	express	4.16.4	1.74967845	15
52	npm	number-is-nan	1.0.1	1.72944425	Not Participating
53	npm	escape-string-regexp	1.0.5	1.72453896	Not Participating
54	npm	set-blocking	2.0.0	1.71181343	Not Participating
55	npm	core-util-is	1.0.2	1.7084171	Not Participating
56	npm	delayed-stream	1.0.0	1.67095143	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
57	npm	redux	3.7.2	1.65773291	Not Participating
58	npm	path-is-absolute	1.0.1	1.63329988	Not Participating
59	npm	os-tmpdir	1.0.2	1.61962382	Not Participating
60	npm	code-point-at	1.1.0	1.61004915	Not Participating
61	npm	inflight	1.0.6	1.60989487	Not Participating
62	npm	js-tokens	4.0.0	1.60753469	Not Participating
63	npm	string-width	1.0.2	1.59869713	Not Participating
64	npm	process-nextick-args	2.0.1	1.57376513	Not Participating
65	npm	react	16.8.6	1.57038465	81
66	npm	is-fullwidth-code-point	2.0.0	1.56748548	Not Participating
67	npm	path-parse	1.0.6	1.5609702	Not Participating
68	npm	react-dom	16.8.6	1.54509962	81
69	npm	object-assign	4.1.1	1.54312703	Not Participating
70	npm	function-bind	1.1.1	1.51653037	Not Participating
71	npm	lodash	4.5.0	1.5076217	Not Participating
72	npm	bluebird	3.7.2	1.48771891	Not Participating
73	npm	sprintf-js	1.0.3	1.45201343	Not Participating
74	npm	json-schema	0.2.3	1.44666278	Not Participating
75	npm	ee-first	1.1.1	1.44150771	Not Participating
76	npm	tunnel-agent	0.6.0	1.43213684	Not Participating
77	npm	jsbn	0.1.1	1.4234374	Not Participating
78	npm	uuid	3.4.0	1.42158631	Not Participating
79	npm	path-exists	3.0.0	1.41766507	Not Participating
80	npm	typedarray	0.0.6	1.41464493	Not Participating
81	npm	jsprim	1.4.1	1.41028074	Not Participating
82	npm	extsprintf	1.3.0	1.41012033	Not Participating
83	npm	sax	1.2.4	1.38845567	Not Participating
84	npm	chalk	2.4.2	1.38239797	Not Participating
85	npm	uri-js	4.2.2	1.36956844	Not Participating
86	npm	buffer-from	1.1.1	1.36126464	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
87	npm	inherits	2.0.4	1.34180598	Not Participating
88	npm	glob	7.1.6	1.34175624	Not Participating
89	npm	redux-thunk	2.3.0	1.33633284	Not Participating
90	npm	body-parser	1.18.3	1.33209245	Not Participating
91	npm	define-properties	1.1.3	1.33093939	Not Participating
92	npm	har-schema	2.0.0	1.33056315	Not Participating
93	npm	semver	5.7.1	1.32070447	Not Participating
94	npm	has	1.0.3	1.31853188	Not Participating
95	npm	iconv-lite	0.4.24	1.31667117	Not Participating
96	npm	aws-sign2	0.7.0	1.30499898	Not Participating
97	npm	bcrypt-pbkdf	1.0.2	1.30407208	Not Participating
98	npm	asn1	0.2.4	1.30094116	Not Participating
99	npm	http-signature	1.2.0	1.30088699	Not Participating
100	npm	fresh	0.5.2	1.29853333	Not Participating
101	npm	debug	4.1.1	1.29798499	Not Participating
102	npm	ms	2.1.2	1.29038802	Not Participating
103	npm	utils-merge	1.0.1	1.27166726	Not Participating
104	npm	lodash	4.17.11	1.26773057	Not Participating
105	npm	strip-ansi	3.0.1	1.26554725	Not Participating
106	npm	vary	1.1.2	1.26174738	Not Participating
107	npm	tweetnacl	0.14.5	1.25148724	Not Participating
108	npm	p-try	2.2.0	1.24933243	Not Participating
109	npm	supports-color	2.0.0	1.24220937	Not Participating
110	npm	redux	4.0.5	1.23598681	Not Participating
111	npm	media-typer	0.3.0	1.23310107	Not Participating
112	npm	babel-polyfill	6.26.0	1.22329023	27
113	npm	ecc-jsbn	0.1.2	1.22073819	Not Participating
114	npm	oauth-sign	0.9.0	1.21506796	Not Participating
115	npm	has-ansi	2.0.0	1.21306735	Not Participating
116	npm	extend	3.0.2	1.2038974	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
117	npm	shebang-command	1.2.0	1.20330913	Not Participating
118	npm	ansi-styles	2.2.1	1.2012527	Not Participating
119	npm	is-fullwidth-code-point	1.0.0	1.16593819	Not Participating
120	npm	morgan	1.9.1	1.16122699	Not Participating
121	npm	ansi-regex	3.0.0	1.14494325	Not Participating
122	npm	forwarded	0.1.2	1.13182092	Not Participating
123	npm	object-keys	1.1.1	1.11807554	Not Participating
124	npm	path-to-regexp	0.1.7	1.11790809	Not Participating
125	npm	node-sass	4.14.1	1.11602043	Not Participating
126	npm	multer	1.4.2	1.10376102	Not Participating
127	npm	string-width	2.1.1	1.10272933	Not Participating
128	npm	for-in	1.0.2	1.09786446	Not Participating
129	npm	setprototypeof	1.1.1	1.09741221	Not Participating
130	npm	toidentifier	1.0.0	1.09388026	Not Participating
131	npm	merge-descriptors	1.0.1	1.08640001	Not Participating
132	npm	arr-flatten	1.1.0	1.07203528	Not Participating
133	npm	styled-components	4.4.1	1.07158008	Not Participating
134	npm	is-extendable	0.1.1	1.0679762	Not Participating
135	npm	isobject	3.0.1	1.06303486	Not Participating
136	npm	axios	0.18.1	1.05242476	Not Participating
137	npm	classnames	2.3.1	1.0485937	Not Participating
138	npm	error-ex	1.3.2	1.0449439	Not Participating
139	npm	decamelize	1.2.0	1.02206131	Not Participating
140	npm	cookie-parser	1.4.5	1.01604505	Not Participating
141	npm	react	17.0.2	1.00568578	81
142	npm	source-map	0.5.7	0.99670616	Not Participating
143	npm	is-plain-object	2.0.4	0.98968082	Not Participating
144	npm	path	0.12.7	0.97197241	107
145	npm	performance-now	2.1.0	0.96979104	Not Participating
146	npm	ini	1.3.5	0.96859849	Not Participating



	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
147	npm	os-homedir	1.0.2	0.96770441	Not Participating
148	npm	strip-eof	1.0.0	0.95544409	Not Participating
149	npm	arr-union	3.1.0	0.95312845	Not Participating
150	npm	is-extendable	1.0.1	0.95242809	Not Participating
151	npm	asynckit	0.4.0	0.95217281	Not Participating
152	npm	is-number	3.0.0	0.9499661	Not Participating
153	npm	punycode	2.1.1	0.94897628	Not Participating
154	npm	is-glob	4.0.1	0.94849018	Not Participating
155	npm	kind-of	4.0.0	0.94659167	Not Participating
156	npm	source-map	0.6.1	0.94619266	Not Participating
157	npm	js-cookie	2.2.1	0.94592118	Not Participating
158	npm	react-dom	17.0.2	0.94515496	81
159	npm	on-finished	2.3.0	0.94413442	Not Participating
160	npm	is-accessor-descriptor	1.0.0	0.94122366	Not Participating
161	npm	pump	3.0.0	0.94050396	Not Participating
162	npm	remove-trailing-separator	1.1.0	0.93888198	Not Participating
163	npm	npm-run-path	2.0.2	0.93645101	Not Participating
164	npm	is-data-descriptor	1.0.0	0.93538724	Not Participating
165	npm	extend-shallow	3.0.2	0.93527975	Not Participating
166	npm	is-descriptor	1.0.2	0.93215751	Not Participating
167	npm	assign-symbols	1.0.0	0.92860116	Not Participating
168	npm	object-copy	0.1.0	0.92328897	Not Participating
169	npm	assert-plus	1.0.0	0.92221916	Not Participating
170	npm	which	1.3.1	0.92220782	Not Participating
171	npm	source-map-url	0.4.0	0.92212888	Not Participating
172	npm	has-values	1.0.0	0.92140413	Not Participating
173	npm	map-visit	1.0.0	0.91749265	Not Participating
174	npm	object-visit	1.0.1	0.91745255	Not Participating
175	npm	escape-html	1.0.3	0.91744052	Not Participating
176	npm	copy-descriptor	0.1.1	0.91741245	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
177	npm	is-typedarray	1.0.0	0.91562941	Not Participating
178	npm	passport-local	1.0.0	0.91527266	Not Participating
179	npm	range-parser	1.2.1	0.908281	Not Participating
180	npm	define-property	1.0.0	0.90710889	Not Participating
181	npm	esprima	4.0.1	0.9010348	Not Participating
182	npm	y18n	4.0.0	0.89976965	Not Participating
183	npm	micromatch	3.1.10	0.89710465	Not Participating
184	npm	mysql	2.18.1	0.89688355	Not Participating
185	npm	pify	2.3.0	0.89432723	Not Participating
186	npm	signal-exit	3.0.2	0.89387123	Not Participating
187	npm	end-of-stream	1.4.4	0.89309442	Not Participating
188	npm	to-object-path	0.3.0	0.89305426	Not Participating
189	npm	snapdragon-util	3.0.1	0.88475006	Not Participating
190	npm	zone.js	0.10.3	0.88462415	Not Participating
191	npm	arr-diff	4.0.0	0.88426014	Not Participating
192	npm	expand-brackets	2.1.4	0.88236538	Not Participating
193	npm	define-property	2.0.2	0.88196146	Not Participating
194	npm	has-values	0.1.4	0.88163195	Not Participating
195	npm	split-string	3.1.0	0.88087868	Not Participating
196	npm	combined-stream	1.0.8	0.88063313	Not Participating
197	npm	static-extend	0.1.2	0.87933616	Not Participating
198	npm	ms	2.1.1	0.87877748	Not Participating
199	npm	pascalcase	0.1.1	0.878494	Not Participating
200	npm	unset-value	1.0.0	0.8784539	Not Participating
201	npm	extglob	2.0.4	0.87648885	Not Participating
202	npm	has-value	0.3.1	0.87579553	Not Participating
203	npm	snapdragon-node	2.1.1	0.87484174	Not Participating
204	npm	collection-visit	1.0.0	0.87345964	Not Participating
205	npm	cache-base	1.0.1	0.87257737	Not Participating
206	npm	posix-character-classes	0.1.1	0.871655	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
207	npm	has-value	1.0.0	0.8715748	Not Participating
208	npm	path-key	2.0.1	0.86933113	Not Participating
209	npm	to-regex-range	2.1.1	0.86900532	Not Participating
210	npm	fill-range	4.0.0	0.86820326	Not Participating
211	npm	node-fetch	2.6.1	0.86598713	Not Participating
212	npm	array-unique	0.3.2	0.86312879	Not Participating
213	npm	class-utils	0.3.6	0.86098473	Not Participating
214	npm	dashdash	1.14.1	0.85513076	Not Participating
215	npm	dotenv	6.2.0	0.85320942	Not Participating
216	npm	normalize-path	2.1.1	0.85297572	Not Participating
217	npm	kind-of	5.1.0	0.8494909	Not Participating
218	npm	json-parse-better-errors	1.0.2	0.84763295	Not Participating
219	npm	is-data-descriptor	0.1.4	0.8466837	Not Participating
220	npm	is-accessor-descriptor	0.1.6	0.8466436	Not Participating
221	npm	pinkie	2.0.4	0.84192881	Not Participating
222	npm	is-descriptor	0.1.6	0.84072697	Not Participating
223	npm	cookie-parser	1.4.3	0.83865138	Not Participating
224	npm	chalk	1.1.3	0.83502049	Not Participating
225	npm	forever-agent	0.6.1	0.83314105	Not Participating
226	npm	pinkie-promise	2.0.1	0.83256043	Not Participating
227	npm	core-js	2.6.12	0.82639197	Not Participating
228	npm	strip-ansi	5.2.0	0.82366547	Not Participating
229	npm	imurmurhash	0.1.4	0.82216366	Not Participating
230	npm	which-module	2.0.0	0.82108356	Not Participating
231	npm	sshpk	1.16.1	0.81553325	Not Participating
232	npm	through	2.3.8	0.80844923	Not Participating
233	npm	minimist	1.2.5	0.80550186	Not Participating
234	npm	caseless	0.12.0	0.79867737	Not Participating
235	npm	find-up	3.0.0	0.79841509	Not Participating
236	npm	is-arrayish	0.2.1	0.78811652	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
237	npm	form-data	2.3.3	0.78784776	Not Participating
238	npm	locate-path	3.0.0	0.7877076	Not Participating
239	npm	p-locate	3.0.0	0.7876274	Not Participating
240	npm	destroy	1.0.4	0.77777298	Not Participating
241	npm	http-errors	1.7.2	0.77530508	Not Participating
242	npm	etag	1.8.1	0.77216675	Not Participating
243	npm	kind-of	3.2.2	0.77187398	Not Participating
244	npm	express-session	1.17.1	0.76892601	Not Participating
245	npm	nanomatch	1.2.13	0.7683511	Not Participating
246	npm	validate-npm-package-license	3.0.4	0.76532478	Not Participating
247	npm	isstream	0.1.2	0.76437489	Not Participating
248	npm	encodeurl	1.0.2	0.75989474	Not Participating
249	npm	compression	1.7.4	0.75946516	15
250	npm	use	3.1.1	0.75647774	Not Participating
251	npm	snapdragon	0.8.2	0.75574721	Not Participating
252	npm	helmet	3.23.3	0.75283554	Not Participating
253	npm	jquery	3.6.0	0.7505369	Not Participating
254	npm	jwt-decode	2.2.0	0.74747205	Not Participating
255	npm	argparse	1.0.10	0.74350969	Not Participating
256	npm	unpipe	1.0.0	0.74343607	Not Participating
257	npm	repeat-element	1.1.3	0.74337112	Not Participating
258	npm	zone.js	0.8.29	0.74210856	Not Participating
259	npm	negotiator	0.6.2	0.73991404	Not Participating
260	npm	colors.js	1.2.4	0.7372139	Not Participating
261	npm	dotenv	4.0.0	0.73138158	Not Participating
262	npm	debug	3.2.6	0.72972165	Not Participating
263	npm	strip-ansi	4.0.0	0.72367211	Not Participating
264	npm	rimraf	2.7.1	0.71815066	Not Participating
265	npm	getpass	0.1.7	0.71119192	Not Participating
266	npm	is-extglob	2.1.1	0.7082443	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
267	npm	reselect	4.0.0	0.7030317	Not Participating
268	npm	methods	1.1.2	0.69832403	Not Participating
269	npm	semver	6.3.0	0.69370051	Not Participating
270	npm	pseudomap	1.0.2	0.69253796	Not Participating
271	npm	is-glob	3.1.0	0.69131338	Not Participating
272	npm	is-buffer	1.1.6	0.68440455	Not Participating
273	npm	mime	1.6.0	0.68198407	Not Participating
274	npm	jquery	3.5.1	0.68004532	Not Participating
275	npm	lodash	4.17.4	0.67851289	Not Participating
276	npm	raw-body	2.4.0	0.67023086	Not Participating
277	npm	send	0.17.1	0.66935438	Not Participating
278	npm	loose-envify	1.4.0	0.66805894	Not Participating
279	npm	concat-stream	1.6.2	0.66649693	Not Participating
280	npm	decode-uri-component	0.2.0	0.66512083	Not Participating
281	npm	pify	3.0.0	0.66119114	Not Participating
282	npm	babel-runtime	6.26.0	0.65647026	27
283	npm	cookie-signature	1.0.6	0.64759735	Not Participating
284	npm	express	4.16.3	0.64479953	15
285	npm	lodash	4.17.19	0.63483876	Not Participating
286	npm	redis	2.8.0	0.62947527	Not Participating
287	npm	querystring	0.2.0	0.62640562	Not Participating
288	npm	aproba	1.2.0	0.62590698	Not Participating
289	npm	braces	2.3.2	0.62554128	Not Participating
290	npm	ieee754	1.1.13	0.62523702	Not Participating
291	npm	punycode	1.4.1	0.62467845	Not Participating
292	npm	normalize-path	3.0.0	0.61796183	Not Participating
293	npm	body-parser	1.18.2	0.61721586	Not Participating
294	npm	deep-is	0.1.3	0.61502564	Not Participating
295	npm	request	2.88.0	0.60805043	Not Participating
296	npm	content-type	1.0.4	0.6071139	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
297	npm	isobject	2.1.0	0.60469025	Not Participating
298	npm	shebang-regex	1.0.0	0.59935327	Not Participating
299	npm	serve-static	1.14.1	0.59921994	Not Participating
300	npm	object.assign	4.1.0	0.59861321	Not Participating
301	npm	base	0.11.2	0.59810509	Not Participating
302	npm	string-width	3.1.0	0.59683876	Not Participating
303	npm	react-router-dom	4.3.1	0.59652812	Not Participating
304	npm	parseurl	1.3.3	0.59605142	Not Participating
305	npm	emoji-regex	7.0.3	0.59571298	Not Participating
306	npm	repeat-string	1.6.1	0.59316625	Not Participating
307	npm	statuses	1.5.0	0.59148941	Not Participating
308	npm	moment-timezone	0.5.33	0.58886599	Not Participating
309	npm	json-stringify-safe	5.0.1	0.58657613	Not Participating
310	npm	babel-core	6.26.3	0.58580114	27
311	npm	path-dirname	1.0.2	0.58548589	Not Participating
312	npm	bcryptjs	2.4.3	0.58503493	Not Participating
313	npm	request-promise	4.2.6	0.58197007	Not Participating
314	npm	axios	0.18.0	0.5773728	Not Participating
315	npm	extend-shallow	2.0.1	0.57417068	Not Participating
316	npm	glob-parent	3.1.0	0.56817424	Not Participating
317	npm	bytes	3.1.0	0.56170892	Not Participating
318	npm	xml2js	0.4.23	0.55821748	Not Participating
319	npm	get-stream	4.1.0	0.55655931	Not Participating
320	npm	debug	3.1.0	0.55576423	Not Participating
321	npm	esutils	2.0.3	0.55241297	Not Participating
322	npm	is-windows	1.0.2	0.54733345	Not Participating
323	npm	has-unicode	2.0.1	0.54672745	Not Participating
324	npm	is-binary-path	1.0.1	0.5309273	Not Participating
325	npm	normalize-package-data	2.5.0	0.52705138	Not Participating
326	npm	accepts	1.3.7	0.51858488	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
327	npm	hammerjs	2.0.8	0.51530956	Not Participating
328	npm	setimmediate	1.0.5	0.51481545	Not Participating
329	npm	levn	0.3.0	0.50968517	Not Participating
330	npm	wrap-ansi	2.1.0	0.50810998	Not Participating
331	npm	bootstrap	4.6.0	0.506115	84
332	npm	cross-spawn	6.0.5	0.50295611	Not Participating
333	npm	rxjs	6.6.7	0.49845287	Not Participating
334	npm	nice-try	1.0.5	0.49232723	Not Participating
335	npm	react	15.7.0	0.49155696	81
336	npm	p-finally	1.0.0	0.48931044	Not Participating
337	npm	verror	1.10.0	0.48353542	Not Participating
338	npm	node-fetch	2.6.0	0.48290811	Not Participating
339	npm	serve-favicon	2.5.0	0.47546649	Not Participating
340	npm	fs	0.0.1-security	0.47393406	Not Participating
341	npm	regenerator-runtime	0.11.1	0.46612595	Not Participating
342	npm	strip-json-comments	2.0.1	0.46534056	Not Participating
343	npm	type-is	1.6.18	0.46367557	Not Participating
344	npm	abbrev	1.1.1	0.46216506	Not Participating
345	npm	pr	1.0.1	0.46094439	Not Participating
346	npm	invariant	2.2.4	0.45776388	Not Participating
347	npm	vue	2.6.12	0.45631117	15
348	npm	xtend	4.0.2	0.45444727	Not Participating
349	npm	ansi-regex	5.0.0	0.44926823	Not Participating
350	npm	fast-levenshtein	2.0.6	0.44817306	Not Participating
351	npm	content-disposition	0.5.3	0.4426728	Not Participating
352	npm	errno	0.1.7	0.43862277	Not Participating
353	npm	pump	2.0.1	0.43751146	Not Participating
354	npm	from2	2.3.0	0.43671933	Not Participating
355	npm	define-property	0.2.5	0.43205707	Not Participating
356	npm	lru-cache	5.1.1	0.42566287	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
357	npm	component-emitter	1.3.0	0.42264031	Not Participating
358	npm	anymatch	2.0.0	0.40722258	Not Participating
359	npm	react-dom	15.7.0	0.40650733	81
360	npm	to-fast-properties	2.0.0	0.39914124	Not Participating
361	npm	@babel/runtime	7.14.0	0.39807899	27
362	npm	has-symbols	1.0.1	0.39574202	Not Participating
363	npm	async	3.2.0	0.39501414	Not Participating
364	npm	babel-eslint	10.1.0	0.37815746	27
365	npm	punycode	1.3.2	0.3777246	Not Participating
366	npm	find-up	2.1.0	0.37695604	Not Participating
367	npm	mimic-fn	2.1.0	0.3764583	Not Participating
368	npm	minimist	0.0.8	0.37564137	Not Participating
369	npm	cookie	0.4.0	0.37465439	Not Participating
370	npm	uuid	3.3.2	0.37362271	Not Participating
371	npm	axios	0.19.0	0.37356018	Not Participating
372	npm	qs	6.5.2	0.36819625	Not Participating
373	npm	pumpify	1.5.1	0.36653631	Not Participating
374	npm	wide-align	1.1.3	0.3595609	Not Participating
375	npm	zone.js	0.9.1	0.35900213	Not Participating
376	npm	readable-stream	2.3.6	0.35502473	Not Participating
377	npm	lodash	3.10.1	0.35363864	Not Participating
378	npm	readable-stream	2.3.7	0.35030296	Not Participating
379	npm	p-locate	2.0.0	0.34905722	Not Participating
380	npm	locate-path	2.0.0	0.34889681	Not Participating
381	npm	har-validator	5.1.3	0.34815017	Not Participating
382	npm	qs	6.7.0	0.3448904	Not Participating
383	npm	readdirp	2.2.1	0.34322369	Not Participating
384	npm	js-yaml	3.14.1	0.33984681	Not Participating
385	npm	moment	2.22.2	0.3329509	Not Participating
386	npm	core-js	2.6.11	0.33145114	Not Participating



	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
387	npm	@hapi/joi	17.1.1	0.33141847	Not Participating
388	npm	aws-sdk	2.912.0	0.33141847	Not Participating
389	npm	minimist	1.2.0	0.33139148	Not Participating
390	npm	core-js	3.6.5	0.33115977	Not Participating
391	npm	babel-preset-es2015	6.24.1	0.33065226	27
392	npm	mix-in-deep	1.3.2	0.32917609	Not Participating
393	npm	currently-unhandled	0.4.1	0.32866431	Not Participating
394	npm	co	4.6.0	0.32292704	Not Participating
395	npm	color-name	1.1.4	0.32198201	Not Participating
396	npm	array-uniq	1.0.3	0.32002724	Not Participating
397	npm	commander	2.20.3	0.30910134	Not Participating
398	npm	react-redux	5.1.2	0.30689966	Not Participating
399	npm	immutable	3.8.2	0.30536724	Not Participating
400	npm	winston	3.2.1	0.30460102	Not Participating
401	npm	jsesc	0.5.0	0.29796609	Not Participating
402	npm	graphql-tag	2.11.0	0.29693889	Not Participating
403	npm	loud-rejection	1.6.0	0.29364577	Not Participating
404	npm	indent-string	2.1.0	0.29364577	Not Participating
405	npm	@types/color-name	1.1.1	0.29086166	Not Participating
406	npm	universalify	0.1.2	0.28952672	Not Participating
407	npm	redux-logger	3.0.6	0.28927677	Not Participating
408	npm	fast-json-stable-stringify	2.1.0	0.28470654	Not Participating
409	npm	p-try	1.0.0	0.28040514	Not Participating
410	npm	osenv	0.1.5	0.27926262	Not Participating
411	npm	minimalistic-assert	1.0.1	0.27847152	Not Participating
412	npm	classnames	2.2.5	0.27778357	Not Participating
413	npm	urix	0.1.0	0.27605338	Not Participating
414	npm	safe-regex	1.1.0	0.27136134	Not Participating
415	npm	bootstrap	3.4.1	0.26782281	84
416	npm	set-value	2.0.1	0.2660884	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
417	npm	es-to-primitive	1.2.1	0.2652413	Not Participating
418	npm	ret	0.1.15	0.26020983	Not Participating
419	npm	resolve-url	0.2.1	0.25820468	Not Participating
420	npm	to-regex	3.0.2	0.25784376	Not Participating
421	npm	object.pick	1.3.0	0.25313022	Not Participating
422	npm	union-value	1.0.1	0.25172866	Not Participating
423	npm	duplexify	3.7.1	0.25078025	Not Participating
424	npm	array-flatten	1.1.1	0.24890005	Not Participating
425	npm	comondir	1.0.1	0.24844889	Not Participating
426	npm	fs-extra	8.1.0	0.24725695	Not Participating
427	npm	get-stdin	4.0.1	0.24695439	Not Participating
428	npm	regex-not	1.0.2	0.24571117	Not Participating
429	npm	zone.js	0.8.26	0.24560263	Not Participating
430	npm	gauge	2.7.4	0.24252829	Not Participating
431	npm	npmlog	4.1.2	0.24060724	Not Participating
432	npm	popper.js	1.16.1	0.23604209	Not Participating
433	npm	chart.js	2.9.4	0.23410944	Not Participating
434	npm	map-cache	0.2.2	0.22934629	Not Participating
435	npm	date-fns	2.16.1	0.22874595	Not Participating
436	npm	istanbul	0.4.5	0.22644731	Not Participating
437	npm	path-exists	2.1.0	0.22562908	Not Participating
438	npm	strip-indent	1.0.1	0.2236087	Not Participating
439	npm	camelcase-keys	2.1.0	0.2236087	Not Participating
440	npm	get-value	2.0.6	0.21933916	Not Participating
441	npm	require-directory	2.1.1	0.21664981	Not Participating
442	npm	rimraf	3.0.2	0.21620471	Not Participating
443	npm	react-scripts	4.0.3	0.21572033	Not Participating
444	npm	ejs	2.7.4	0.21572033	Not Participating
445	npm	ajv	6.12.6	0.21418791	99
446	npm	redis	3.0.2	0.21342169	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
447	npm	json5	1.0.1	0.21332865	Not Participating
448	npm	buffer-xor	1.0.3	0.21214417	Not Participating
449	npm	trim-newlines	1.0.0	0.21193586	Not Participating
450	npm	uuid	8.3.0	0.21112306	Not Participating
451	npm	fragment-cache	0.2.1	0.20646323	Not Participating
452	npm	moment-timezone	0.5.31	0.20575957	Not Participating
453	npm	react-redux	7.2.2	0.20575957	Not Participating
454	npm	debug	4.3.1	0.2019285	Not Participating
455	npm	mkdirp	0.5.1	0.20128241	Not Participating
456	npm	delegates	1.0.0	0.20115807	Not Participating
457	npm	cipher-base	1.0.4	0.19717999	Not Participating
458	npm	util	0.10.3	0.19647839	Not Participating
459	npm	depd	1.1.2	0.19370267	Not Participating
460	npm	classlist.js	1.1.20150312	0.19120152	Not Participating
461	npm	constants-browserify	1.0.0	0.19033396	Not Participating
462	npm	swagger-ui-express	4.1.6	0.1896691	Not Participating
463	npm	redent	1.0.0	0.18859016	Not Participating
464	npm	react	17.0.1	0.18562465	81
465	npm	@material-ui/icons	4.11.2	0.18507182	Not Participating
466	npm	bootstrap	4.3.1	0.18430561	84
467	npm	cookie-parser	1.4.4	0.18353939	Not Participating
468	npm	rxjs	6.6.3	0.18121678	Not Participating
469	npm	eslint-plugin-import	2.22.1	0.18047454	Not Participating
470	npm	path-is-inside	1.0.2	0.17921239	Not Participating
471	npm	csurf	1.11.0	0.17894212	Not Participating
472	npm	font-awesome	4.7.0	0.17582457	Not Participating
473	npm	passport	0.3.2	0.17281241	Not Participating
474	npm	pg	8.5.1	0.1720462	Not Participating
475	npm	history	4.10.1	0.17204083	Not Participating
476	npm	builtin-status-codes	3.0.0	0.17146409	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
477	npm	strip-bom	3.0.0	0.17143845	Not Participating
478	npm	evp_bytestokey	1.0.3	0.17080798	Not Participating
479	npm	through2	2.0.5	0.16673637	Not Participating
480	npm	prop-types	15.6.2	0.16515028	81
481	npm	graphql	14.7.0	0.16438407	Not Participating
482	npm	node-uuid	1.4.8	0.16438407	Not Participating
483	npm	which	2.0.2	0.16197084	Not Participating
484	npm	url	0.11.0	0.16109683	Not Participating
485	npm	express	4.16.2	0.16055301	15
486	npm	chai	4.2.0	0.16055301	Not Participating
487	npm	@testing-library/jest-dom	4.2.4	0.15902058	Not Participating
488	npm	bcrypt	5.0.0	0.15595573	Not Participating
489	npm	glob	7.1.7	0.15365709	Not Participating
490	npm	jsesc	2.5.2	0.15078794	Not Participating
491	npm	@testing-library/user-event	7.2.1	0.15059224	Not Participating
492	npm	array-union	1.0.2	0.15048322	Not Participating
493	npm	process	0.11.10	0.15021745	Not Participating
494	npm	core-js	3.12.1	0.1482936	Not Participating
495	npm	uuid	8.3.1	0.1482936	Not Participating
496	npm	core-js	2.5.7	0.14752739	Not Participating
497	npm	@testing-library/react	9.5.0	0.14522875	Not Participating
498	npm	tough-cookie	2.5.0	0.13682179	Not Participating
499	npm	tmp	0.0.33	0.13270351	Not Participating
500	npm	supports-color	7.1.0	0.13093117	Not Participating

## Appendix F: Top 500 Non-npm,

# Direct, Versioned Packages

Our dependency analysis identified the following 500 packages as the most used FOSS packages among those reported in the private usage data contributed by SCA partners hosted on package managers other than npm. These packages were directly observed in use and account for the package version. For further information on how this list was compiled, refer to the Methods section.

1	go	github.com/pkg/errors	v0.9.1	12.1575574	Not Participating
2	maven	org.slf4j:slf4j-api	1.7.30	5.80930357	Not Participating
3	maven	javax.xml:jsr173	1	5.49244316	Not Participating
4	maven	ch.qos.logback:logback-classic	1.2.3	5.28139615	Not Participating
5	maven	junit:junit	4.12	5.11797806	Not Participating
6	maven	com.fasterxml.jackson.core:jackson-databind	2.12.3	4.90027993	Not Participating
7	maven	org.apiguardian:apiguardian-api	1.1.0	4.88501811	Not Participating
8	maven	org.opentest4j:opentest4j	1.2.0	4.88501811	Not Participating
9	go	github.com/davecgh/go-spew	v1.1.1	4.58399108	Not Participating
10	maven	com.fasterxml.jackson.core:jackson-core	2.12.3	4.5726924	Not Participating
11	maven	activation:activation	1.0.2	4.42980536	Not Participating
12	go	gopkg.in/yaml.v2	v2.3.0	4.3855869	Not Participating
13	maven	org.slf4j:slf4j-api	1.7.25	4.33129259	Not Participating
14	maven	org.apache.httpcomponents:httpclient	4.5.13	4.27363505	Not Participating
15	maven	commons-codec:commons-codec	1.1	4.14371056	Not Participating
16	nuget	modernizr	2.6.2	4.02109851	24
17	go	github.com/kubernetes-sigs/yaml	v1.2.0	3.89831841	Not Participating
18	maven	javax.inject:javax.inject	1	3.79631833	Not Participating
19	maven	commons-logging:commons-logging	1.2	3.75161846	Not Participating
20	maven	commons-lang:commons-lang	2.6	3.70423907	Not Participating
21	go	github.com/spf13/pflag	v1.0.5	3.67330831	Not Participating
22	maven	com.google.code.findbugs:jsr305	3.0.2	3.60046021	Not Participating
23	nuget	modernizr	2.8.3	3.57152098	24
24	maven	log4j:log4j	1.2.17	3.42136986	Not Participating
25	go	gopkg.in/inf.v0	v0.9.1	3.36239908	Not Participating
26	go	github.com/google/uuid	v1.1.2	3.35099654	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
27	go	github.com/gogo/protobuf	v1.3.1	3.1541127	Not Participating
28	go	github.com/cespare/xxhash	v2.0.0-20191114174713-d7df74196a9e	3.10926272	Not Participating
29	maven	commons-collections:commons-collections	3.2.2	2.86779865	Not Participating
30	maven	ch.qos.logback:logback-core	1.2.3	2.82387067	Not Participating
31	maven	org.hamcrest:hamcrest-core	1.3	2.74535213	Not Participating
32	go	github.com/fatih/color	v1.9.0	2.74058063	Not Participating
33	maven	javax.servlet:javax.servlet-api	3.1.0	2.69828861	Not Participating
34	maven	javax.validation:validation-api	1.1.0.final	2.63149523	Not Participating
35	go	github.com/kubernetes/client-go	v0.19.0-rc.2	2.59918915	Not Participating
36	pypi	chardet	3.0.4	2.55810868	Not Participating
37	maven	jakarta.ws.rs:jakarta.ws.rs-api	2.1.6	2.48795187	Not Participating
38	go	github.com/stretchr/testify	v1.6.0	2.42054937	Not Participating
39	maven	com.google.guava:failureaccess	1.0.1	2.30531496	Not Participating
40	maven	com.google.guava:listenablefuture	9999.0-empty-to-avoid-conflict-with-guava	2.26035245	Not Participating
41	maven	commons-io:commons-io	2.4	2.22855102	Not Participating
42	go	github.com/kubernetes/klog	v1.0.0	2.19781978	Not Participating
43	maven	commons-io:commons-io	2.6	2.19643472	Not Participating
44	go	github.com/ghodss/yaml	v1.0.0	2.15449013	Not Participating
45	pypi	python-dateutil	2.8.1	2.14568015	Not Participating
46	maven	org.jetbrains:annotations	13	2.14290302	Not Participating
47	maven	com.google.code.gson:gson	2.8.6	2.13787802	Not Participating
48	maven	javax.validation:validation-api	2.0.1.Final	2.03235599	Not Participating
49	maven	net.minidev:json-smart	2.3	1.96713167	Not Participating
50	maven	com.jayway.jsonpath:json-path	2.4.0	1.96647189	Not Participating
51	pypi	requests	2.25.1	1.94384071	Not Participating
52	maven	commons-beanutils:commons-beanutils	1.9.4	1.94179449	Not Participating
53	maven	org.apache.httpcomponents:httpcore	4.4.4	1.9366936	Not Participating
54	maven	xmlpull:xmlpull	1.1.3.1	1.9366936	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
55	maven	org.apache.commons:commons-lang3	3.4	1.90084043	Not Participating
56	maven	javax.annotation:javax.annotation-api	1.3.2	1.89465797	Not Participating
57	maven	aopalliance:aopalliance	1	1.88685312	Not Participating
58	maven	javax.xml.bind:jaxb-api	2.3.1	1.86776835	Not Participating
59	maven	commons-cli:commons-cli	1.4	1.80150227	Not Participating
60	go	github.com/matttproud/ golang_protobuf_extensions	v1.0.1	1.79721058	Not Participating
61	pypi	packaging	16.8	1.77321086	Not Participating
62	go	github.com/PuerkitoBio/purell	4.50E+11	1.77288516	Not Participating
63	maven	dom4j:dom4j	1.6.1	1.76521023	Not Participating
64	pypi	sqlparse	0.3.0	1.75160042	Not Participating
65	go	golang.org/x/crypto	v0.0.0-20200622200202- 75b288015ac9	1.74779958	Not Participating
66	pypi	retry	0.9.2	1.74703941	Not Participating
67	pypi	python-geohash	0.8.5	1.74323856	Not Participating
68	pypi	polyline	1.4.0	1.74247839	Not Participating
69	pypi	flask-talisman	0.7.0	1.74247839	Not Participating
70	maven	javax.validation:validation-api	2.0.1.final	1.73234017	Not Participating
71	go	github.com/go-stack/stack	v1.8.0	1.72955551	Not Participating
72	go	github.com/go-openapi/jsonpointer	v0.19.3	1.72727501	Not Participating
73	pypi	sphinx-rtd-theme	0.4.3	1.7173928	Not Participating
74	pypi	pathlib2	2.3.5	1.70827077	Not Participating
75	go	golang.org/x/oauth2	v0.0.0-20200107161121-bf48bf16ab8d	1.70599027	Not Participating
76	maven	antlr:antlr	2.7.7	1.69571475	Not Participating
77	pypi	MarkupSafe	1.1.1	1.69078688	Not Participating
78	go	golang.org/x/text	v0.0.0-20200611185030-23ae387dee1f	1.6877462	Not Participating
79	maven	com.google.guava:guava	30.1-jre	1.68044607	Not Participating
80	pypi	PyYAML	5.3.1	1.67406316	Not Participating
81	go	github.com/go-openapi/jsonreference	v0.19.3	1.63605469	Not Participating
82	go	github.com/PuerkitoBio/urlesc	de5bf2ad4578	1.63605469	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
83	pypi	markupsafe	1.1.1	1.63214294	Not Participating
84	go	github.com/beorn7/perks	v1.0.1	1.61781063	Not Participating
85	maven	com.google.j2objc:j2objc-annotations	1.3	1.61740827	Not Participating
86	pypi	geographiclib	1.5	1.60564792	Not Participating
87	pypi	itsdangerous	1.1.0	1.59302239	Not Participating
88	maven	javax.activation:activation	1.1	1.5885238	Not Participating
89	pypi	backoff	1.10.0	1.58740386	Not Participating
90	pypi	wtforms-json	0.3.3	1.58512335	Not Participating
91	pypi	marshmallow-enum	1.5.1	1.57600132	Not Participating
92	pypi	contextlib2	0.6.0.post1	1.57372081	Not Participating
93	pypi	flask-jwt-extended	3.24.1	1.57068014	Not Participating
94	maven	xml-resolver:xml-resolver	1.2	1.56885744	Not Participating
95	maven	org.jboss.logging:jboss-logging	3.3.2.final	1.56885744	Not Participating
96	go	github.com/mitchellh/go-homedir	v1.1.0	1.56535895	Not Participating
97	maven	org.apache.commons:commons-lang3	3.9	1.56123414	Not Participating
98	maven	org.glassfish.jaxb:jaxb-runtime	2.3.1	1.55206029	Not Participating
99	go	github.com/sirupsen/logrus	v1.7.0	1.54331404	Not Participating
100	nuget	log4net	2.0.8	1.52811532	Not Participating
101	go	github.com/modern-go/reflect2	v1.0.1	1.52050897	Not Participating
102	go	github.com/hashicorp/hcl	v1.0.0	1.51792597	Not Participating
103	go	github.com/modern-go/concurrent	v0.0.0-20180306012644-bacd9c7ef1dd	1.5022649	Not Participating
104	maven	com.fasterxml.jackson.core:jackson-databind	2.12.2	1.48735793	Not Participating
105	pypi	selenium	3.6.0	1.48711607	Not Participating
106	go	gopkg.in/yaml.v2	v2.2.8	1.45893526	Not Participating
107	maven	com.fasterxml.jackson.core:jackson-core	2.12.2	1.45067628	Not Participating
108	go	github.com/golang/protobuf	v1.4.2	1.44601238	Not Participating
109	maven	javax.ws.rs:javax.ws.rs-api	2.0.1	1.44456267	Not Participating
110	go	github.com/kubernetes/api	v0.19.0-rc.2	1.44145136	Not Participating
111	maven	javax.activation:javax.activation-api	1.2.0	1.43292359	Not Participating



	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSF BADGE TIERED PERCENTAGE
112	go	github.com/google/uuid	v1.1.1	1.42244713	Not Participating
113	maven	commons-logging:commons-logging	1.1.1	1.40006542	Not Participating
114	pypi	click	7.1.2	1.39403435	Not Participating
115	maven	io.springfox:springfox-swagger2	2.9.2	1.39267867	Not Participating
116	maven	org.slf4j:log4j-over-slf4j	1.7.30	1.38495499	Not Participating
117	go	github.com/kubernetes/apimachinery	v0.15.10	1.36999545	Not Participating
118	pypi	jsonschema	3.2.0	1.36842057	Not Participating
119	go	github.com/stretchr/testify	v0.0.0-20200605104845-f654a9112bbe	1.36619461	Not Participating
120	go	github.com/kubernetes/klog	v2.2.0	1.32894631	Not Participating
121	maven	org.projectlombok:lombok	1.18.12	1.32368615	Not Participating
122	maven	commons-io:commons-io	2.2	1.32363333	Not Participating
123	maven	org.hibernate.javax.persistence:hibernate-jpa-2.1-api	1.0.0.final	1.32363333	Not Participating
124	maven	net.minidev:json-smart	1.2	1.28276264	Not Participating
125	maven	commons-collections:commons-collections	3.2.1	1.28081264	Not Participating
126	pypi	six	1.10.0	1.27781882	Not Participating
127	pypi	Werkzeug	1.0.1	1.27345396	Not Participating
128	go	github.com/spf13/cobra	v1.0.0	1.27041328	Not Participating
129	maven	org.jacoco:org.jacoco.ant	0.8.5	1.26777749	Not Participating
130	maven	org.jacoco:org.jacoco.agent	0.8.5	1.26472068	Not Participating
131	go	github.com/hashicorp/golang-lru	v0.5.4	1.26357176	Not Participating
132	maven	com.google.code.findbugs:jsr305	1.3.9	1.25902482	Not Participating
133	pypi	webencodings	0.5.1	1.23046402	Not Participating
134	go	github.com/google/gofuzz	v1.1.0	1.21720143	Not Participating
135	maven	com.google.code.findbugs:jsr305	1.3.7	1.20102127	Not Participating
136	maven	io.springfox:springfox-swagger-ui	2.9.2	1.19195182	Not Participating
137	maven	org.slf4j:jul-to-slf4j	1.7.30	1.191689	Not Participating
138	maven	org.objenesis:objenesis	2.6	1.18723125	Not Participating
139	maven	com.fasterxml.jackson.core:jackson-annotations	2.12.2	1.18269643	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
140	maven	jakarta.annotation:jakarta.annotation-api	1.3.5	1.16330322	Not Participating
141	go	github.com/golang/snappy	v0.0.1	1.15638789	Not Participating
142	maven	org.apache.logging.log4j:log4j-to-slf4j	2.13.3	1.14754318	Not Participating
143	maven	org.slf4j:jcl-over-slf4j	1.7.30	1.13857649	Not Participating
144	go	github.com/json-iterator/go	v0.0.0-20200608025830-a1ca0830781e	1.13054214	Not Participating
145	maven	commons-codec:commons-codec	1.3	1.1192799	Not Participating
146	go	github.com/mattn/go-isatty	v0.0.12	1.1092574	Not Participating
147	nuget	Newtonsoft.Json	12.0.3	1.1047819	Not Participating
148	maven	net.minidev:accessors-smart	1.2	1.09963003	Not Participating
149	maven	commons-codec:commons-codec	1.9	1.09260347	Not Participating
150	maven	commons-io:commons-io	2.5	1.08738991	Not Participating
151	maven	org.dom4j:dom4j	2.1.3	1.0813494	Not Participating
152	nuget	Microsoft.Web.Infrastructure	1.0.0	1.07927456	Not Participating
153	pypi	py	1.8.1	1.07504978	12
154	maven	jakarta.validation:jakarta.validation-api	2.0.2	1.07249671	Not Participating
155	go	github.com/mitchellh/go-testing-interface	v1.0.0	1.06440741	Not Participating
156	pypi	six	1.15.0	1.06418721	Not Participating
157	pypi	unicorn	20.0.4	1.05924462	Not Participating
158	maven	org.glassfish.hk2:osgi-resource-locator	1.0.3	1.05685799	Not Participating
159	maven	com.fasterxml.jackson.core:jackson-annotations	2.9.0	1.05609946	Not Participating
160	maven	com.google.guava:guava	29.0-jre	1.05557118	Not Participating
161	maven	org.hibernate.javax. persistence:hibernate-jpa-2.1-api	1.0.0.Final	1.05329172	Not Participating
162	pypi	pyyaml	5.4.1	1.05227278	Not Participating
163	maven	ch.qos.logback:logback-access	1.2.3	1.04717811	Not Participating
164	go	github.com/prometheus/client_golang	v1.5.1	1.04312267	Not Participating
165	maven	org.apache.commons:commons-collections4	4.1	1.04017972	Not Participating
166	pypi	six	1.2.0	1.03753854	Not Participating
167	maven	org.lz4:lz4-java	1.7.1	1.03291302	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSF BADGE TIERED PERCENTAGE
168	maven	commons-configuration:commons-configuration	1.8	1.02374261	Not Participating
169	maven	jakarta.xml.bind:jakarta.xml.bind-api	2.3.2	1.02265542	Not Participating
170	maven	commons-digester:commons-digester	2.1	1.01406273	Not Participating
171	maven	com.google.errorprone:error_prone_annotations	2.4.0	1.00794912	Not Participating
172	maven	org.yaml:snakeyaml	1.27	0.99775977	3
173	maven	mysql:mysql-connector-java	8.0.22	0.98502309	Not Participating
174	maven	org.glassfish.hk2.external:aopalliance-repackaged	2.6.1	0.98043788	Not Participating
175	maven	oro:oro	2.0.8	0.97290224	Not Participating
176	maven	org.aspectj:aspectjweaver	1.9.6	0.97024854	Not Participating
177	maven	org.hibernate.validator:hibernate-validator	6.1.5.Final	0.96821067	Not Participating
178	go	github.com/golang/protobuf	v1.3.4	0.9633049	Not Participating
179	maven	junit:junit	4.13	0.96102306	Not Participating
180	maven	org.hdrhistogram:HdrHistogram	2.1.12	0.96056866	Not Participating
181	maven	com.fasterxml.jackson.core:jackson-annotations	2.6.0	0.95579717	Not Participating
182	go	github.com/golang/protobuf	v1.4.3	0.94734135	Not Participating
183	maven	commons-httpclient:commons-httpclient	3.1	0.94052785	Not Participating
184	maven	org.apache.commons:commons-compress	1.2	0.93815209	Not Participating
185	maven	org.junit.jupiter:junit-jupiter-engine	5.7.0	0.92225576	Not Participating
186	pypi	python-editor	1.0.4	0.91968099	Not Participating
187	maven	org.json:json	20190722	0.91267872	Not Participating
188	go	github.com/gorilla/mux	v1.7.4	0.91085322	Not Participating
189	maven	org.skyscreamer:jsonassert	1.5.0	0.90764039	Not Participating
190	pypi	python3-openid	3.1.0	0.90553204	Not Participating
191	maven	com.fasterxml.jackson.core:jackson-databind	2.11.4	0.90299884	Not Participating
192	nuget	System.Net.Http	4.3.4	0.90147044	Not Participating
193	maven	com.vaadin.external.google:android-json	0.0.20131108.vaadin1	0.90097102	Not Participating
194	maven	commons-validator:commons-validator	1.7	0.8973947	Not Participating
195	maven	commons-codec:commons-codec	1.11	0.89011796	Not Participating
196	go	github.com/asaskevich/govalidator	v0.0.0-20170331111519-71551cef584c	0.87892611	15

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSF BADGE TIERED PERCENTAGE
197	maven	com.google.inject:guice	3	0.877016	Not Participating
198	maven	com.github.ben-manes.caffeine:caffeine	2.8.8	0.8709024	Not Participating
199	maven	javax.ws.rs:javax.ws.rs-api	2.1.1	0.84910665	Not Participating
200	go	github.com/stretchr/testify	v0.0.0-20200605104845-f654a9112bbe	0.84851934	Not Participating
201	maven	org.apache.commons:commons-lang3	3.1	0.84844792	Not Participating
202	maven	org.javassist:javassist	3.27.0-GA	0.84593849	Not Participating
203	maven	com.google.android:annotations	4.1.1.4	0.84491956	300
204	maven	org.junit.jupiter:junit-jupiter-api	5.6.2	0.83476786	Not Participating
205	maven	xml-apis:xml-apis	2.0.2	0.83318511	Not Participating
206	pypi	appdirs	1.4.3	0.83093042	Not Participating
207	maven	org.slf4j:slf4j-api	1.7.21	0.83050117	Not Participating
208	cocoapods	Commander	0.9.0	0.82875494	Not Participating
209	maven	org.slf4j:slf4j-api	2.0.0-alpha1	0.82499502	Not Participating
210	maven	org.junit.platform:junit-platform-commons	1.7.0	0.82343376	Not Participating
211	pypi	Flask-OpenID	1.2.5	0.81659223	Not Participating
212	pypi	attrs	19.3.0	0.81325914	Not Participating
213	maven	io.vavr:vavr	0.10.2	0.80823791	Not Participating
214	maven	io.perfmark:perfmark-api	0.19.0	0.80008643	Not Participating
215	maven	org.reactivestreams:reactive-streams	1.0.3	0.80008378	Not Participating
216	maven	commons-cli:commons-cli	1.2	0.79960083	Not Participating
217	cocoapods	Mockingjay	3.0.0-alpha.1	0.79910834	Not Participating
218	cocoapods	URITemplate	3.0.0	0.79910834	Not Participating
219	cocoapods	MFPageFlowView	1.0.1	0.79834817	Not Participating
220	cocoapods	FormatterKit	1.9.0	0.79834817	Not Participating
221	cocoapods	AnimatedGIFImageSerialization	0.2.3	0.79834817	Not Participating
222	cocoapods	NSAttributedString+CCLFormat	1.2.0	0.79834817	Not Participating
223	cocoapods	SVProgressHUD	2.2.5	0.797588	Not Participating
224	cocoapods	CCLDefaults	1.1.3	0.797588	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
225	maven	com.sun.istack:istack-commons-runtime	3.0.7	0.79702963	Not Participating
226	maven	com.sun.activation:jakarta.activation	1.2.1	0.79702963	Not Participating
227	cocoapods	ISO8601DateFormatter	0.8	0.79682783	Not Participating
228	cocoapods	SimulatorStatusMagic	2.4.1	0.79682783	Not Participating
229	cocoapods	FXKeychain	1.5.3	0.79682783	Not Participating
230	go	github.com/patrickmn/go-cache	v1.0.1-0.20191004192108-46f407853014	0.79530749	Not Participating
231	maven	javax.validation:validation-api	1.0.0.ga	0.79231443	Not Participating
232	pypi	packaging	19.2	0.79231443	Not Participating
233	pypi	simplejson	3.17.0	0.79150665	Not Participating
234	maven	com.sun.xml.fastinfoset:FastInfoset	1.2.15	0.78938761	Not Participating
235	maven	org.jvnet.staxex:stax-ex	1.8	0.78684028	Not Participating
236	cocoapods	TTAttributedLabel	2.0.0	0.78390495	Not Participating
237	maven	org.glassfish.jaxb:txw2	2.3.1	0.78276454	Not Participating
238	maven	org.apache.geronimo.specs:geronimo-jta_1.1_spec	1.1.1	0.77919827	Not Participating
239	maven	org.springframework.boot:spring-boot-starter-web	2.5.0	0.7786888	Not Participating
240	maven	software.amazon.ion:ion-java	1.0.2	0.77560338	Not Participating
241	go	github.com/go-openapi/spec	v0.19.7	0.77250242	Not Participating
242	maven	edu.washington.cs.types.checker:checker-framework	1.7.0	0.77206572	Not Participating
243	maven	com.sun.mail:jakarta.mail	1.6.5	0.77104679	Not Participating
244	maven	org.apache.commons:commons-pool2	2.6.2	0.76849945	Not Participating
245	maven	io.netty:netty-transport	4.1.51.Final	0.76798998	Not Participating
246	maven	io.netty:netty-buffer	4.1.51.Final	0.76798998	Not Participating
247	maven	jakarta.servlet:jakarta.servlet-api	4.0.4	0.76748052	Not Participating
248	maven	org.checkerframework:checker-qual	3.8.0	0.76697105	Not Participating
249	maven	com.google.api.grpc:proto-google-common-protos	1.17.0	0.76646158	Not Participating
250	maven	xml-apis:xml-apis	1.4.01	0.76591732	Not Participating
251	maven	io.vavr:vavr-match	0.10.2	0.76289531	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSF BADGE TIERED PERCENTAGE
252	maven	io.netty:netty-handler	4.1.51.Final	0.75780064	Not Participating
253	maven	org.springframework:spring-core	5.3.3	0.75627223	Not Participating
254	maven	commons-validator:commons-validator	1.6	0.75474383	Not Participating
255	maven	org.slf4j:slf4j-simple	1.6.4	0.75423437	Not Participating
256	maven	org.jboss.spec.javax.transaction:jboss-transaction-api_1.2_spec	1.1.1.Final	0.75321543	Not Participating
257	maven	io.netty:netty-codec	4.1.51.Final	0.75270596	Not Participating
258	maven	org.springframework:spring-web	5.3.3	0.75168703	Not Participating
259	maven	org.jboss.logging:jboss-logging	3.3.0.final	0.75144374	Not Participating
260	maven	org.springframework:spring-context	5.3.3	0.75066809	Not Participating
261	maven	log4j:log4j	1.2.16	0.74749	Not Participating
262	maven	com.fasterxml.jackson.module:jackson-module-jaxb-annotations	2.12.2	0.74710182	Not Participating
263	maven	io.netty:netty-common	4.1.51.Final	0.74710182	Not Participating
264	maven	org.hibernate:hibernate-core	5.4.27.Final	0.74659235	Not Participating
265	maven	io.swagger:swagger-annotations	1.6.2	0.74353555	Not Participating
266	maven	org.springframework:spring-beans	5.3.3	0.74251662	Not Participating
267	maven	org.springframework:spring-aop	5.3.3	0.74149768	Not Participating
268	maven	javax.transaction:javax.transaction-api	1.3	0.74149768	Not Participating
269	maven	org.springframework:spring-jcl	5.3.3	0.73895034	Not Participating
270	maven	org.springframework:spring-expression	5.3.3	0.73844088	Not Participating
271	maven	javax.annotation:javax.annotation-api	1.2	0.73752795	Not Participating
272	maven	ch.qos.logback:logback-classic	1.1.7	0.736167	Not Participating
273	pypi	six	1.12.0	0.73388021	Not Participating
274	maven	io.netty:netty-resolver	4.1.51.Final	0.7302894	Not Participating
275	maven	org.ehcache:ehcache	3.8.1	0.72977993	Not Participating
276	maven	net.bytebuddy:byte-buddy	1.10.17	0.72977993	Not Participating
277	maven	org.eclipse.jetty.toolchain.setuid:jetty-setuid-java	1.0.4	0.72927046	Not Participating
278	pypi	parsedatetime	2.5	0.7284126	Not Participating
279	pypi	Flask-Caching	1.8.0	0.72689226	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSF BADGE TIERED PERCENTAGE
280	pypi	croniter	0.3.31	0.72537192	Not Participating
281	maven	org.slf4j:slf4j-api	1.7.26	0.72465274	Not Participating
282	maven	com.helger:profiler	1.1.1	0.72366632	Not Participating
283	maven	com.google.guava:guava	18	0.7193071	Not Participating
284	maven	commons-beanutils:commons-beanutils	1.9.3	0.71021445	Not Participating
285	pypi	defusedxml	0.6.0	0.70929187	Not Participating
286	pypi	humanize	0.5.1	0.70028634	Not Participating
287	pypi	apispec	1.3.3	0.69572532	Not Participating
288	maven	org.jboss.logging:jboss-logging	3.4.1.Final	0.69513094	Not Participating
289	go	github.com/prometheus/procfs	v0.1.3	0.69268464	Not Participating
290	maven	com.squareup.okio:okio	2.8.0	0.69156988	Not Participating
291	maven	org.apache.commons:commons-text	1.8	0.68974158	Not Participating
292	go	github.com/prometheus/common	v0.10.0	0.68812363	Not Participating
293	pypi	six	1.14.0	0.67478718	Not Participating
294	go	github.com/grpc/grpc-go	v1.29.1	0.6691194	109
295	go	github.com/kubernetes/apiextensions-apiserver	v0.18.0-alpha.1	0.66531855	Not Participating
296	maven	commons-dbc:commons-dbc	1.4	0.66489964	Not Participating
297	pypi	isodate	0.6.0	0.66446644	Not Participating
298	maven	io.micrometer:micrometer-core	1.5.5	0.66405864	Not Participating
299	maven	com.google.guava:guava	19	0.65887082	Not Participating
300	go	github.com/spf13/pflag	v1.0.5	0.65771686	Not Participating
301	maven	commons-codec:commons-codec	1.6	0.65742828	Not Participating
302	pypi	prison	0.1.3	0.65467618	Not Participating
303	maven	ch.qos.logback:logback-core	1.1.7	0.65414276	Not Participating
304	go	golang.org/x/text	v0.3.0	0.64571781	Not Participating
305	go	github.com/davecgh/go-spew	v1.1.1	0.64251347	Not Participating
306	maven	io.reactivex:rxjava	1.2.0	0.63909474	Not Participating
307	maven	javax.servlet:jstl	1.2	0.63705687	Not Participating
308	maven	org.reflections:reflections	0.9.11	0.6365474	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
309	maven	org.slf4j:slf4j-api	1.7.7	0.63149136	Not Participating
310	pypi	appdirs	1.4.0	0.62883169	Not Participating
311	go	github.com/opentracing-contrib/go-stdlib	v0.9.0	0.62122873	Not Participating
312	maven	commons-codec:commons-codec	1.14	0.62040461	Not Participating
313	go	golang.org/x/text	v0.3.2	0.61973498	Not Participating
314	maven	org.apache.commons:commons-lang3	3.8.1	0.61698431	Not Participating
315	maven	jakarta.activation:jakarta.activation-api	1.2.1	0.61240773	Not Participating
316	maven	commons-beanutils:commons-beanutils	1.7.0	0.61057076	Not Participating
317	maven	com.google.guava:guava	30.1.1-jre	0.60496042	Not Participating
318	pypi	vine	1.3.0	0.60026548	Not Participating
319	maven	com.netflix.archaius:archaius-core	0.4.1	0.59935628	Not Participating
320	maven	com.google.j2objc:j2objc-annotations	1.1	0.59700092	Not Participating
321	maven	com.google.code.gson:gson	2.8.5	0.59686823	Not Participating
322	maven	org.junit.platform:junit-platform-engine	1.6.2	0.58895499	Not Participating
323	maven	antlr:antlr	2.7.2	0.58796101	Not Participating
324	maven	net.jodah:typetools	0.6.2	0.58254386	Not Participating
325	maven	org.junit.platform:junit-platform-commons	1.6.2	0.58169993	Not Participating
326	go	github.com/mattn/go-colorable	v0.1.6	0.57409824	Not Participating
327	maven	org.junit.jupiter:junit-jupiter-engine	5.6.2	0.57333807	Not Participating
328	go	github.com/emicklei/go-restful	v2.9.5+incompatible	0.57333807	Not Participating
329	packagist	twig/extensions	v1.5.4	0.56649655	Not Participating
330	go	github.com/hashicorp/errwrap	v1.0.0	0.56573638	Not Participating
331	maven	org.apache.httpcomponents:httpclient	4.5.6	0.56420303	Not Participating
332	pypi	colorama	0.4.3	0.5634178	Not Participating
333	pypi	amqp	2.5.2	0.55661435	Not Participating
334	maven	org.ow2.asm:asm	5.0.4	0.54864108	Not Participating
335	maven	commons-io:commons-io	2.1	0.54709032	Not Participating
336	nuget	modernizr	2.5.3	0.54709032	24
337	maven	com.squareup.retrofit2:converter-gson	2.8.0	0.54709032	Not Participating



	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSF BADGE TIERED PERCENTAGE
338	go	github.com/pmezard/go-difflib	v1.0.0	0.54120137	Not Participating
339	maven	javax.cache:cache-api	1.1.0	0.53872966	Not Participating
340	go	github.com/russross/blackfriday	v1.5.2	0.53532961	Not Participating
341	maven	org.slf4j:slf4j-over-slf4j	1.7.21	0.53213953	Not Participating
342	maven	commons-logging:commons-logging	1.1.3	0.52850127	Not Participating
343	go	github.com/golang/glog	v0.0.0-20160126235308-23def4e6c14b	0.52772791	Not Participating
344	maven	org.apache.httpcomponents:httpcore	4.4.13	0.52514073	Not Participating
345	go	github.com/go-openapi/loads	v0.19.5	0.51860588	Not Participating
346	go	github.com/uber-go/automaxprocs	v1.3.0	0.5132847	Not Participating
347	maven	com.google.errorprone:error_prone_annotations	2.3.4	0.51055123	Not Participating
348	maven	org.yaml:snakeyaml	1.26	0.50662578	3
349	maven	com.fasterxml.jackson.core:jackson-annotations	2.8.0	0.50621964	Not Participating
350	pypi	idna	2.8	0.50465134	Not Participating
351	maven	com.typesafe.netty:netty-reactive-streams	2.0.4	0.50001014	Not Participating
352	pypi	Jinja2	2.11.2	0.49504064	Not Participating
353	maven	com.googlecode.json-simple:json-simple	1.1.1	0.49484391	Not Participating
354	pypi	pycparser	2.19	0.49135386	Not Participating
355	go	golang.org/x/net	v0.0.0-20200706173018-ab3426394381	0.48895928	Not Participating
356	go	golang.org/x/oauth2	v0.0.0-20190604053449-0f29369cfe45	0.48829239	Not Participating
357	go	github.com/fsnotify/fsnotify	v1.4.9	0.48591861	Not Participating
358	maven	org.latencyutils:LatencyUtils	2.0.3	0.48509075	Not Participating
359	go	github.com/kubernetes/kubernetes	v1.14.0-alpha.0.0.20190909192303-94a1172f3976	0.4836381	111
360	go	github.com/eapache/go-xerial-snappy	v0.0.0-20180814174437-776d5712da21	0.48135759	Not Participating
361	go	github.com/go-openapi/errors	v0.19.4	0.4760364	Not Participating
362	go	gopkg.in/yaml.v3	v2.3.0	0.47451607	Not Participating
363	pypi	pyyaml	5.3.1	0.47405836	Not Participating
364	maven	org.apache.commons:commons-math3	3.6.1	0.47189337	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSF BADGE TIERED PERCENTAGE
365	maven	ch.qos.logback:logback-classic	1.3.0-alpha5	0.4709705	Not Participating
366	go	github.com/pierrec/lz4	v2.4.1+incompatible	0.46995505	Not Participating
367	maven	commons-collections:commons-collections	3.1	0.46534895	Not Participating
368	maven	commons-lang:commons-lang	2.1	0.46534895	Not Participating
369	maven	org.apache.commons:commons-collections4	4.4	0.46486068	Not Participating
370	maven	org.apache.commons:commons-exec	1.3	0.46485689	Not Participating
371	pypi	selenium	3.141.0	0.46061735	Not Participating
372	maven	javax.activation:activation	1.1.1	0.45923071	Not Participating
373	maven	org.slf4j:slf4j-log4j12	1.7.30	0.45833779	Not Participating
374	nuget	xunit	2.4.1	0.45313914	Not Participating
375	go	github.com/go-openapi/swagger	v0.19.9	0.44943048	Not Participating
376	pypi	Flask	1.1.2	0.44714997	Not Participating
377	maven	com.fasterxml:classmate	1.5.1	0.44441802	Not Participating
378	maven	org.codehaus.jackson:jackson-mapper-asl	1.9.13	0.43944651	Not Participating
379	pypi	idna	2.1	0.43890773	Not Participating
380	nuget	Owin	1.0.0	0.43174151	Not Participating
381	pypi	pytz	2019.3	0.4315816	Not Participating
382	maven	org.apache.httpcomponents:httpcore	4.4.9	0.42447827	Not Participating
383	maven	org.checkerframework:checker-qual	2.0.0	0.42447827	Not Participating
384	maven	commons-fileupload:commons-fileupload	1.4	0.41775195	Not Participating
385	go	github.com/eapache/go-resiliency	v1.2.0	0.41750337	Not Participating
386	go	github.com/jcmtturner/gofork	v1.0.0	0.4144627	Not Participating
387	go	gopkg.in/jcmtturner/dnsutils.v1	v1.0.1	0.41370253	Not Participating
388	go	gopkg.in/jcmtturner/rpc.v1	v1.1.0	0.41294236	Not Participating
389	go	gopkg.in/jcmtturner/aescts.v1	v1.0.1	0.41218219	Not Participating
390	maven	junit:junit	4.13.2	0.41136282	Not Participating
391	go	github.com/go-openapi/strfmt	v0.19.5	0.41066185	Not Participating
392	maven	com.google.guava:guava	30.0-jre	0.41056701	Not Participating
393	go	github.com/eapache/queue	v1.1.0	0.40838134	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
394	pypi	Flask-Login	0.4.1	0.40610083	Not Participating
395	pypi	mccabe	0.6.1	0.40219524	Not Participating
396	go	github.com/go-openapi/validate	v0.19.8	0.39849914	Not Participating
397	go	github.com/go-openapi/runtime	v0.19.15	0.39773897	Not Participating
398	maven	com.fasterxml.jackson.core:jackson-core	2.9.8	0.39676451	Not Participating
399	maven	commons-lang:commons-lang	2.4	0.3965976	Not Participating
400	go	github.com/satori/go.uuid	v1.2.1-0.20181016170243-4d30718d7656	0.39545846	Not Participating
401	maven	org.apache.httpcomponents:httpcore	4.4.10	0.39244788	Not Participating
402	go	golang.org/x/time	v0.0.0-20191023193136-555d28b269f0	0.39241779	Not Participating
403	maven	com.beust:jcommander	1.72	0.38937711	Not Participating
404	maven	org.junit.jupiter:junit-jupiter-params	5.7.0	0.38861694	Not Participating
405	maven	net.jcip:jcip-annotations	1	0.38843678	Not Participating
406	maven	org.apache.httpcomponents:httpcore	4.4.5	0.38360758	Not Participating
407	maven	org.jboss.logging:jboss-logging	3.4.1.final	0.38360758	Not Participating
408	maven	com.sun.xml.bind:jaxb-impl	2.3.1	0.38360758	Not Participating
409	maven	com.fasterxml.jackson.core:jackson-core	2.10.0	0.3809268	Not Participating
410	pypi	pytz	2020.1	0.37622229	Not Participating
411	pypi	PyJWT	1.7.1	0.36885254	Not Participating
412	maven	commons-io:commons-io	2.7	0.36544469	Not Participating
413	go	github.com/gogo/protobuf	v1.2.1	0.36353135	Not Participating
414	maven	org.apache.httpcomponents:httpcore	4.4.11	0.36292728	Not Participating
415	pypi	pycparser	2.2	0.36144006	Not Participating
416	nuget	System.Security.Cryptography.Primitives	4.3.0	0.35837821	Not Participating
417	maven	com.fasterxml.jackson.core:jackson-databind	2.10.0	0.35737461	Not Participating
418	go	github.com/prometheus/client_model	v0.2.0	0.35639739	Not Participating
419	maven	org.jetbrains.kotlin:kotlin-stdlib	1.3.72	0.3538336	Not Participating
420	pypi	pyjwt	1.7.1	0.35286269	Not Participating
421	go	github.com/gocql/gocql	cd4b606dd2fb	0.35136865	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSF BADGE TIERED PERCENTAGE
422	go	github.com/go-openapi/analysis	v0.19.10	0.35060848	Not Participating
423	nuget	System.Security.Cryptography.Encoding	4.3.0	0.3492078	Not Participating
424	go	github.com/dgrijalva/jwt-go	v1.0.3-0.20200107013213-dc14462fd587	0.34680763	Not Participating
425	pypi	numpy	1.18.1	0.34604746	Not Participating
426	go	github.com/BurntSushi/toml	3012a1dbe2e4	0.34376695	Not Participating
427	maven	org.slf4j:slf4j-api	1.5.6	0.3427369	Not Participating
428	maven	com.sun.xml.bind:jaxb-impl	2.2.11	0.3427369	Not Participating
429	maven	com.google.code.findbugs:jsr305	2.0.3	0.3427369	Not Participating
430	go	github.com/mailru/easyjson	v0.7.1	0.34148645	Not Participating
431	maven	javax.servlet:javax.servlet-api	4.0.1	0.33756649	Not Participating
432	pypi	six	1.11.0	0.33680229	Not Participating
433	maven	com.fasterxml.jackson.core:jackson-databind	2.9.8	0.33596379	Not Participating
434	maven	org.springframework:spring-web	5.3.7	0.33596164	Not Participating
435	pypi	bleach	3.1.0	0.33388475	Not Participating
436	go	golang.org/x/text	v0.0.0-20181215175245-342b2e1fbaa5	0.33160425	Not Participating
437	maven	org.slf4j:slf4j-api	1.7.12	0.33150917	Not Participating
438	maven	org.checkerframework:checker-qual	2.5.2	0.330825	Not Participating
439	maven	javax.persistence:javax.persistence-api	2.2	0.32632496	Not Participating
440	maven	org.slf4j:slf4j-api	1.6.1	0.31933825	Not Participating
441	go	github.com/rcrowley/go-metrics	v0.0.0-20190826022208-cac0b30c2563	0.3179212	Not Participating
442	pypi	jmespath	0.10.0	0.31201668	Not Participating
443	go	github.com/kubernetes/apimachinery	v0.16.13	0.30879917	Not Participating
444	pypi	flask	1.1.2	0.306922	Not Participating
445	maven	org.junit.jupiter:junit-jupiter-api	5.7.0	0.30567058	Not Participating
446	maven	org.apache.httpcomponents:httpcore	4.0.1	0.30186621	Not Participating
447	maven	org.jboss.logging:jboss-logging	3.2.1.final	0.30186621	Not Participating
448	maven	commons-codec:commons-codec	1.2	0.30186621	Not Participating
449	maven	commons-collections:commons-collections	3.2	0.30186621	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
450	maven	org.codehaus.mojo:animal-sniffer-annotations	1.18	0.29646482	Not Participating
451	pypi	python-dateutil	2.8.0	0.29492195	Not Participating
452	go	github.com/go-kit/kit	v0.10.0	0.28903477	Not Participating
453	go	github.com/fsnotify/fsnotify	v1.4.9	0.28523392	Not Participating
454	maven	commons-io:commons-io	2.8.0	0.28207154	Not Participating
455	go	github.com/hashicorp/go-uuid	v1.0.1	0.28143307	Not Participating
456	pypi	Markdown	3.1.1	0.27991274	Not Participating
457	maven	commons-beanutils:commons-beanutils	1.9.2	0.27979894	Not Participating
458	maven	javax.xml.bind:jaxb-api	2.3.0	0.27443512	Not Participating
459	maven	com.thoughtworks.paranamer:paranamer	2.8	0.26788685	Not Participating
460	go	github.com/smartybytes/goconvey	v1.6.4	0.26546952	Not Participating
461	maven	com.google.protobuf:protobuf-java	2.5.0	0.26210934	Not Participating
462	maven	org.apache.httpcomponents:httpcore	4.4.1	0.26099553	Not Participating
463	go	github.com/gorilla/handlers	v1.4.2	0.2609085	Not Participating
464	go	github.com/ipfs/bbloom	v0.0.2	0.25938817	Not Participating
465	go	github.com/prometheus/client_model	v0.2.0	0.25558732	Not Participating
466	maven	org.slf4j:slf4j-api	1.7.5	0.25508635	Not Participating
467	packagist	intervention/image	2.5.1	0.25482715	Not Participating
468	maven	org.slf4j:slf4j-api	1.7.16	0.25401313	Not Participating
469	maven	org.codehaus.mojo:animal-sniffer-annotations	1.14	0.25367418	Not Participating
470	maven	org.apache.maven.plugin-tools:maven-plugin-annotations	3.6.0	0.25330681	Not Participating
471	pypi	marshmallow	2.19.5	0.25254664	Not Participating
472	go	github.com/hailocab/go-hostpool	v0.0.0-20160125115350-e80d13ce29ed	0.25026614	Not Participating
473	go	github.com/hashicorp/go-hclog	v0.14.0	0.24950597	Not Participating
474	maven	org.projectlombok:lombok	1.18.16	0.24792673	Not Participating
475	go	github.com/olivere/elastic	v5.0.84	0.24494495	Not Participating
476	go	github.com/hashicorp/yamux	v0.0.0-20190923154419-df201c70410d	0.24494495	Not Participating
477	go	github.com/bsm/sarama-cluster	v2.1.13+incompatible	0.24494495	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
478	go	github.com/rs/cors	v1.7.0	0.24494495	Not Participating
479	maven	org.jacoco:org.jacoco.core	0.8.5	0.24476698	Not Participating
480	go	github.com/DataDog/zstd	8fdb57968034	0.2411441	Not Participating
481	go	github.com/Shopify/sarama	cd910a683f9f	0.2411441	Not Participating
482	go	github.com/oklog/run	v1.1.0	0.24038393	Not Participating
483	go	github.com/VividCortex/gohistogram	51564d986199	0.24038393	Not Participating
484	go	github.com/grpc-ecosystem/go-grpc-middleware	v1.0.0	0.24038393	Not Participating
485	maven	io.github.java-diff-utils:java-diff-utils	4.8	0.24038393	Not Participating
486	go	github.com/soheilhy/cmux	v0.1.4	0.24038393	Not Participating
487	go	github.com/grpc-ecosystem/grpc-gateway	v1.14.4	0.23962377	Not Participating
488	go	github.com/uber/jaeger-client-go	v2.23.1+incompatible	0.2388636	Not Participating
489	go	github.com/gorilla/mux	v1.8.0	0.23810343	Not Participating
490	maven	joda-time:joda-time	2.9.9	0.23714941	Not Participating
491	maven	com.fasterxml.jackson.core:jackson-core	2.11.4	0.2366155	Not Participating
492	go	github.com/gogo/googleapis	v1.1.0	0.23658309	Not Participating
493	maven	com.fasterxml.jackson.core:jackson-core	2.10.2	0.23513469	Not Participating
494	nuget	System.Text.RegularExpressions	4.3.1	0.23152083	Not Participating
495	go	gopkg.in/jcmturner/gokrb5.v7	v7.2.2	0.2312619	Not Participating
496	go	github.com/googleapis/go-genproto	v0.0.0-20180718234121-feddd2861243f	0.22822123	Not Participating
497	pypi	six	1.9.0	0.22012484	Not Participating
498	maven	joda-time:joda-time	2.1	0.22012484	Not Participating
499	maven	net.minidev:json-smart	1.1	0.22012484	Not Participating
500	maven	com.google.guava:guava	20	0.22005789	Not Participating

## Appendix G: Top 500 npm, Indirect

## & Direct, Versioned Packages

Our dependency analysis identified the following 500 packages as the most used FOSS packages among those reported in the private usage data contributed by SCA partners hosted on the npm package manager. These packages were identified as either direct or indirect dependencies called by observed packages in use and account for the package version. For further information on how this list was compiled, refer to the Methods section.

1	npm	inherits	2.0.3	4.73839884	Not Participating
2	npm	isarray	1.0.0	4.68847512	Not Participating
3	npm	inline-process-browser	2.0.1	4.66197968	Not Participating
4	npm	safe-buffer	5.1.2	4.18279846	Not Participating
5	npm	array-slice	0.2.3	4.04842903	Not Participating
6	npm	core-util-is	1.0.2	3.76796155	Not Participating
7	npm	concat-map	0.0.1	3.65798515	Not Participating
8	npm	fs.realpath	1.0.0	3.6457213	Not Participating
9	npm	inherits	2.0.4	3.5941186	Not Participating
10	npm	foreach	2.0.5	3.58272911	Not Participating
11	npm	util-deprecate	1.0.2	3.56708893	Not Participating
12	npm	wrappy	1.0.2	3.46603705	Not Participating
13	npm	ms	2.0.0	3.36814104	Not Participating
14	npm	safer-buffer	2.1.2	3.181921	Not Participating
15	npm	through2	0.6.5	3.12742391	Not Participating
16	npm	inherits	2.0.2	3.11000575	Not Participating
17	npm	once	1.4.0	3.10820861	Not Participating
18	npm	path-is-absolute	1.0.1	3.07490211	Not Participating
19	npm	escape-string-regexp	1.0.5	2.99099296	Not Participating
20	npm	util-deprecate	1.0.1	2.82692072	Not Participating
21	npm	object-assign	4.1.1	2.78426282	Not Participating
22	npm	buffer-shims	1.0.0	2.76118101	Not Participating
23	npm	minimatch	3.0.4	2.72076759	Not Participating
24	npm	inflight	1.0.6	2.69413744	Not Participating
25	npm	set-getter	0.1.0	2.38092844	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
26	npm	debug	2.6.9	2.33870425	Not Participating
27	npm	string_decoder	1.1.1	2.30371736	Not Participating
28	npm	expected	0.1.0	2.28160451	Not Participating
29	npm	isarray	0.0.1	2.27008528	Not Participating
30	npm	wrappy	1.0.1	2.21747159	Not Participating
31	npm	wrappy	1.0.0	2.21747159	Not Participating
32	npm	assign-symbols	1.0.0	2.15745851	Not Participating
33	npm	isobject	3.0.1	2.13215871	Not Participating
34	npm	balanced-match	1.0.0	2.11569435	Not Participating
35	npm	color-name	1.1.3	2.03811733	Not Participating
36	npm	has-flag	3.0.0	2.00350259	Not Participating
37	npm	is-fullwidth-code-point	2.0.0	1.96828311	Not Participating
38	npm	iconv-lite	0.4.24	1.92900824	Not Participating
39	npm	xtend	4.0.0	1.92309406	Not Participating
40	npm	ansi-styles	3.2.1	1.90809625	Not Participating
41	npm	is-number	3.0.0	1.90451244	Not Participating
42	npm	has-flag	1.0.0	1.88338385	Not Participating
43	npm	tweetnacl	0.14.5	1.87698754	Not Participating
44	npm	ansi-regex	2.1.1	1.8465167	Not Participating
45	npm	graceful-fs	4.1.11	1.84361871	Not Participating
46	npm	asynckit	0.4.0	1.84170506	Not Participating
47	npm	path-parse	1.0.6	1.81555396	Not Participating
48	npm	number-is-nan	1.0.0	1.80787853	Not Participating
49	npm	decode-uri-component	0.2.0	1.78982162	Not Participating
50	npm	strip-ansi	3.0.1	1.77549933	Not Participating
51	npm	is-typedarray	1.0.0	1.76848254	Not Participating
52	npm	core-util-is	1.0.1	1.76704972	Not Participating
53	npm	core-util-is	1.0.0	1.76704972	Not Participating
54	npm	delayed-stream	1.0.0	1.74615983	Not Participating
55	npm	is-buffer	1.1.6	1.72961742	Not Participating



	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
56	npm	number-is-nan	1.0.1	1.72723631	Not Participating
57	npm	minimist	1.2.5	1.70264147	Not Participating
58	npm	esmanage-evaluator	1.0.1	1.69657809	Not Participating
59	npm	unreachable-branch-transform	0.5.0	1.69657809	Not Participating
60	npm	esmanage-evaluator	1.0.0	1.69657809	Not Participating
61	npm	unreachable-branch-transform	0.5.1	1.69657809	Not Participating
62	npm	depd	1.1.2	1.67520353	Not Participating
63	npm	isexe	2.0.0	1.66456456	Not Participating
64	npm	path-is-absolute	1.0.0	1.65407139	Not Participating
65	npm	function-bind	1.1.1	1.61117914	Not Participating
66	npm	assert-plus	1.0.0	1.58575556	Not Participating
67	npm	to-object-path	0.3.0	1.5855932	Not Participating
68	npm	source-map	0.5.7	1.58297513	Not Participating
69	npm	ee-first	1.1.1	1.57303027	Not Participating
70	npm	is-stream	1.1.0	1.56684333	Not Participating
71	npm	kind-of	3.2.2	1.56492726	Not Participating
72	npm	is-arrayish	0.2.1	1.56484823	Not Participating
73	npm	statuses	1.5.0	1.54777617	Not Participating
74	npm	set-blocking	2.0.0	1.53305886	Not Participating
75	npm	is-fullwidth-code-point	1.0.0	1.52885025	Not Participating
76	npm	extend	3.0.2	1.51295328	Not Participating
77	npm	sax	1.2.4	1.48837157	Not Participating
78	npm	unpipe	1.0.0	1.45360166	Not Participating
79	npm	esprima	4.0.1	1.44948343	Not Participating
80	npm	on-finished	2.3.0	1.44273702	Not Participating
81	npm	arr-diff	2.0.0	1.4409786	Not Participating
82	npm	urix	0.1.0	1.4385254	Not Participating
83	npm	lodash	4.17.21	1.43157873	Not Participating
84	npm	resolve-url	0.2.1	1.41795295	Not Participating
85	npm	supports-color	5.5.0	1.40829857	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
86	npm	escape-html	1.0.3	1.40071604	Not Participating
87	npm	is-data-descriptor	0.1.4	1.39520516	Not Participating
88	npm	safe-buffer	5.1.1	1.38757009	Not Participating
89	npm	json-schema	0.2.3	1.38062508	Not Participating
90	npm	is-plain-object	2.0.4	1.37565895	Not Participating
91	npm	is-accessor-descriptor	0.1.6	1.34713434	Not Participating
92	npm	verror	1.10.0	1.33387157	Not Participating
93	npm	isstream	0.1.2	1.33183377	Not Participating
94	npm	punycode	2.1.1	1.31398901	Not Participating
95	npm	qs	6.5.2	1.30611207	Not Participating
96	npm	object-copy	0.1.0	1.30269087	Not Participating
97	npm	pascalcase	0.1.1	1.30120194	Not Participating
98	npm	brace-expansion	1.1.11	1.29557909	Not Participating
99	npm	copy-descriptor	0.1.0	1.29220515	Not Participating
100	npm	toidentifier	1.0.0	1.2875023	Not Participating
101	npm	json-schema-traverse	0.4.1	1.28186734	Not Participating
102	npm	ms	2.1.1	1.27890503	Not Participating
103	npm	performance-now	2.1.0	1.26943702	Not Participating
104	npm	inherits	2.0.1	1.26386475	Not Participating
105	npm	semver	5.7.1	1.26135131	Not Participating
106	npm	setprototypeof	1.1.1	1.25764102	Not Participating
107	npm	map-cache	0.2.2	1.25285312	Not Participating
108	npm	destroy	1.0.4	1.24734471	Not Participating
109	npm	source-map	0.6.1	1.24146299	Not Participating
110	npm	minimist	0.0.8	1.22592366	Not Participating
111	npm	js-tokens	4.0.0	1.22513923	Not Participating
112	npm	safe-regex	1.1.0	1.21813807	Not Participating
113	npm	json-stringify-safe	5.0.1	1.21025018	Not Participating
114	npm	os-tmpdir	1.0.2	1.20949935	Not Participating
115	npm	media-typer	0.3.0	1.20442744	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
116	npm	chalk	2.4.2	1.19566569	Not Participating
117	npm	is-extendable	1.0.1	1.18708501	Not Participating
118	npm	encodeurl	1.0.2	1.1797443	Not Participating
119	npm	jsbn	0.1.1	1.17476258	Not Participating
120	npm	color-convert	1.9.3	1.16623204	Not Participating
121	npm	readable-stream	2.3.3	1.16454458	Not Participating
122	npm	is-extendable	0.1.1	1.16261415	Not Participating
123	npm	path-exists	3.0.0	1.13656852	Not Participating
124	npm	tunnel-agent	0.6.0	1.13343221	Not Participating
125	npm	sprintf-js	1.0.3	1.13167458	Not Participating
126	npm	fresh	0.5.2	1.12526591	Not Participating
127	npm	code-point-at	1.1.0	1.11950786	Not Participating
128	npm	punycode	1.4.1	1.11499426	Not Participating
129	npm	source-map-url	0.4.0	1.10553667	Not Participating
130	npm	fast-deep-equal	3.1.3	1.09778505	Not Participating
131	npm	commander	2.8.1	1.0958188	Not Participating
132	npm	is-arguments	1.0.4	1.09477271	Not Participating
133	npm	etag	1.8.1	1.0891214	Not Participating
134	npm	arr-union	3.1.0	1.084907	Not Participating
135	npm	forever-agent	0.6.1	1.08212549	Not Participating
136	npm	semver	5.5.0	1.08138726	Not Participating
137	npm	process-nextick-args	2.0.1	1.07049789	Not Participating
138	npm	decamelize	1.2.0	1.06819124	Not Participating
139	npm	repeat-string	1.6.1	1.06803381	Not Participating
140	npm	xtend	4.0.1	1.06409113	Not Participating
141	npm	shebang-regex	1.0.0	1.06276954	Not Participating
142	npm	safe-buffer	5.2.1	1.06108154	Not Participating
143	npm	extsprintf	1.3.0	1.05227598	Not Participating
144	npm	tslib	1.10.0	1.05146823	Not Participating
145	npm	co	4.6.0	1.02994758	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
146	npm	ms	2.1.2	1.02769719	Not Participating
147	npm	arr-diff	1.1.0	1.02709757	Not Participating
148	npm	array-unique	0.3.2	1.02420502	Not Participating
149	npm	caseless	0.12.0	1.01475792	Not Participating
150	npm	vary	1.1.2	1.0108859	Not Participating
151	npm	uuid	3.4.0	1.00502305	Not Participating
152	npm	string-width	1.0.2	0.99859107	Not Participating
153	npm	methods	1.1.2	0.99790446	Not Participating
154	npm	ansi-regex	3.0.0	0.9961967	Not Participating
155	npm	jsprim	1.4.1	0.99568256	Not Participating
156	npm	content-type	1.0.4	0.99290352	Not Participating
157	npm	mkdirp	0.5.1	0.98148918	Not Participating
158	npm	dashdash	1.14.1	0.98017521	Not Participating
159	npm	har-schema	2.0.0	0.97665172	Not Participating
160	npm	safe-buffer	5.2.0	0.96875089	Not Participating
161	npm	getpass	0.1.7	0.96582565	Not Participating
162	npm	pump	3.0.0	0.96532214	Not Participating
163	npm	semver	6.3.0	0.95938427	Not Participating
164	npm	strip-ansi	4.0.0	0.93990886	Not Participating
165	npm	has	1.0.3	0.93916748	Not Participating
166	npm	punycode	1.3.2	0.93267879	Not Participating
167	npm	mime	1.6.0	0.9033328	Not Participating
168	npm	fragment-cache	0.2.1	0.90176792	Not Participating
169	npm	is-extglob	2.1.1	0.89455498	Not Participating
170	npm	shebang-command	1.2.0	0.89127798	Not Participating
171	npm	static-extend	0.1.1	0.88503571	Not Participating
172	npm	glob	7.1.2	0.8784218	Not Participating
173	npm	is-windows	1.0.2	0.87356273	Not Participating
174	npm	define-property	0.2.5	0.86239319	Not Participating
175	npm	fast-json-stable-stringify	2.1.0	0.85978864	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
176	npm	cookie	0.4.0	0.85379821	Not Participating
177	npm	imurmurhash	0.1.4	0.85181084	Not Participating
178	npm	parseurl	1.3.3	0.84995279	Not Participating
179	npm	uri-js	4.2.2	0.84893261	Not Participating
180	npm	utils-merge	1.0.1	0.82781221	Not Participating
181	npm	bytes	3.1.0	0.81948528	Not Participating
182	npm	debug	2.6.8	0.81581182	Not Participating
183	npm	argparse	1.0.10	0.81158971	Not Participating
184	npm	aws-sign2	0.7.0	0.80976481	Not Participating
185	npm	has-ansi	2.0.0	0.80669745	Not Participating
186	npm	concat-map	0.0.0	0.805056	Not Participating
187	npm	signal-exit	3.0.2	0.80362706	Not Participating
188	npm	cookie-signature	1.0.6	0.80049207	Not Participating
189	npm	color-name	1.1.4	0.79851837	Not Participating
190	npm	object.pick	1.3.0	0.7971705	Not Participating
191	npm	ansi-regex	2.0.0	0.79438272	Not Participating
192	npm	source-map	0.5.6	0.79431615	Not Participating
193	npm	safe-buffer	5.1.0	0.78958542	Not Participating
194	npm	arr-flatten	1.1.0	0.78550263	Not Participating
195	npm	color-convert	2.0.1	0.7834295	Not Participating
196	npm	range-parser	1.2.1	0.77145972	Not Participating
197	npm	path-to-regexp	0.1.7	0.77079096	Not Participating
198	npm	setimmediate	1.0.5	0.76374273	Not Participating
199	npm	is-extendable	0.1.0	0.7636679	Not Participating
200	npm	negotiator	0.6.2	0.76167739	Not Participating
201	npm	merge-descriptors	1.0.1	0.76080224	Not Participating
202	npm	is-regex	1.0.4	0.75892207	Not Participating
203	npm	typedarray	0.0.6	0.75437452	Not Participating
204	npm	through	2.3.8	0.74991385	Not Participating
205	npm	forwarded	0.1.2	0.74945488	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
206	npm	copy-descriptor	0.1.1	0.74027639	Not Participating
207	npm	chalk	2.4.1	0.73828632	Not Participating
208	npm	for-in	1.0.2	0.73379198	Not Participating
209	npm	lodash	4.17.11	0.73318248	Not Participating
210	npm	is-my-ip-valid	1.0.0	0.72899138	Not Participating
211	npm	glob	7.1.6	0.72653732	Not Participating
212	npm	is-data-descriptor	1.0.0	0.72316356	Not Participating
213	npm	array-flatten	1.1.1	0.72143705	Not Participating
214	npm	strip-json-comments	2.0.1	0.71884664	Not Participating
215	npm	expand-brackets	2.1.4	0.71400525	Not Participating
216	npm	buffer-from	1.1.1	0.71152567	Not Participating
217	npm	loose-envify	1.4.0	0.703497	Not Participating
218	npm	extend-shallow	3.0.2	0.70312161	Not Participating
219	npm	is-date-object	1.0.1	0.69491948	Not Participating
220	npm	is-accessor-descriptor	1.0.0	0.69255306	Not Participating
221	npm	snapdragon-capture	0.2.0	0.69207767	Not Participating
222	npm	http-errors	1.7.2	0.68743695	Not Participating
223	npm	xtend	4.0.2	0.68510782	Not Participating
224	npm	is-buffer	1.1.5	0.68477836	Not Participating
225	npm	inflight	1.0.4	0.6797731	Not Participating
226	npm	inflight	1.0.5	0.6797731	Not Participating
227	npm	rimraf	2.6.2	0.67778826	Not Participating
228	npm	http-signature	1.2.0	0.67190141	Not Participating
229	npm	has-values	0.1.4	0.67116942	Not Participating
230	npm	which-module	2.0.0	0.67027054	Not Participating
231	npm	static-extend	0.1.2	0.66974395	Not Participating
232	npm	rimraf	2.7.1	0.66108289	Not Participating
233	npm	require-directory	2.1.1	0.65750059	Not Participating
234	npm	ansi-styles	2.2.1	0.65296779	Not Participating
235	npm	string_decoder	0.10.31	0.65246584	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
236	npm	accepts	1.3.7	0.6505428	Not Participating
237	npm	debug	3.1.0	0.64610225	Not Participating
238	npm	debuglog	0.0.2	0.64285938	Not Participating
239	npm	define-properties	1.1.2	0.64089385	Not Participating
240	npm	p-finally	1.0.0	0.64064063	Not Participating
241	npm	camelcase	5.3.1	0.62532259	Not Participating
242	npm	define-property	1.0.0	0.6240384	Not Participating
243	npm	commander	2.20.3	0.61997279	Not Participating
244	npm	readable-stream	2.3.7	0.61413973	Not Participating
245	npm	psl	1.8.0	0.61082918	Not Participating
246	npm	string-width	2.1.1	0.60594091	Not Participating
247	npm	extend-shallow	2.0.1	0.5993192	Not Participating
248	npm	path-key	2.0.1	0.59534047	Not Participating
249	npm	unset-value	1.0.0	0.59014373	Not Participating
250	npm	delegates	1.0.0	0.58611849	Not Participating
251	npm	type-is	1.6.18	0.58157861	Not Participating
252	npm	define-properties	1.1.3	0.58120595	Not Participating
253	npm	map-visit	1.0.0	0.57686748	Not Participating
254	npm	base	0.11.2	0.57247555	Not Participating
255	npm	pseudomap	1.0.2	0.57025588	Not Participating
256	npm	process-nextick-args	1.0.7	0.56165678	Not Participating
257	npm	os-homedir	1.0.2	0.56103427	Not Participating
258	npm	split-string	3.1.0	0.55994726	Not Participating
259	npm	supports-color	2.0.0	0.55919063	Not Participating
260	npm	async-limiter	1.0.0	0.55767213	Not Participating
261	npm	ajv	6.12.6	0.55609867	99
262	npm	request	2.88.2	0.55575184	Not Participating
263	npm	has-value	0.3.1	0.54915297	Not Participating
264	npm	combined-stream	1.0.8	0.54166484	Not Participating
265	npm	has-values	1.0.0	0.54002321	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
266	npm	lru-cache	5.1.1	0.53722048	Not Participating
267	npm	jsonify	0.0.0	0.52920393	Not Participating
268	npm	npmlog	4.1.2	0.52259703	Not Participating
269	npm	minimist	1.2.0	0.52222451	Not Participating
270	npm	to-fast-properties	2.0.0	0.52006073	Not Participating
271	npm	to-regexp	3.0.2	0.5167619	Not Participating
272	npm	once	1.3.1	0.51606371	Not Participating
273	npm	once	1.3.3	0.51606371	Not Participating
274	npm	once	1.3.0	0.51606371	Not Participating
275	npm	once	1.3.2	0.51606371	Not Participating
276	npm	strip-ansi	3.0.0	0.51049203	Not Participating
277	npm	arr-union	3.0.0	0.50639051	Not Participating
278	npm	to-object-path	0.2.0	0.50639051	Not Participating
279	npm	mkdirp	0.5.5	0.50636433	Not Participating
280	npm	cache-base	1.0.1	0.50155338	Not Participating
281	npm	strip-eof	1.0.0	0.49497077	Not Participating
282	npm	collection-visit	1.0.0	0.49304178	Not Participating
283	npm	prelude-ls	1.1.2	0.48934698	Not Participating
284	npm	isobject	2.1.0	0.48420692	Not Participating
285	npm	send	0.17.1	0.48138603	Not Participating
286	npm	chalk	1.1.3	0.4796968	Not Participating
287	npm	define-property	2.0.2	0.47930486	Not Participating
288	npm	p-locate	3.0.0	0.47272274	Not Participating
289	npm	graceful-readlink	1.0.1	0.47009637	Not Participating
290	npm	readable-stream	3.6.0	0.46965984	Not Participating
291	npm	raw-body	2.4.0	0.46904228	Not Participating
292	npm	uuid	3.3.2	0.46779559	Not Participating
293	npm	is-descriptor	1.0.2	0.46242879	Not Participating
294	npm	get-value	2.0.6	0.45776629	Not Participating
295	npm	has-value	1.0.0	0.45605587	Not Participating



	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
296	npm	posix-character-classes	0.1.1	0.44928231	Not Participating
297	npm	p-limit	2.3.0	0.43651008	Not Participating
298	npm	ansi-regex	5.0.0	0.43608259	Not Participating
299	npm	regex-not	1.0.2	0.43560744	Not Participating
300	npm	deep-is	0.1.3	0.43420658	Not Participating
301	npm	has-flag	4.0.0	0.42854851	Not Participating
302	npm	snapdragon	0.8.2	0.42778677	Not Participating
303	npm	content-disposition	0.5.3	0.42551099	Not Participating
304	npm	is-callable	1.1.3	0.42484041	Not Participating
305	npm	type-check	0.3.2	0.41938868	Not Participating
306	npm	querystring	0.2.0	0.41843031	Not Participating
307	npm	extglob	2.0.4	0.41742643	Not Participating
308	npm	form-data	2.3.3	0.41469713	Not Participating
309	npm	invariant	2.2.4	0.41096306	Not Participating
310	npm	console-control-strings	1.1.0	0.41091699	Not Participating
311	npm	babel-runtime	6.26.0	0.40831466	27
312	npm	base64-js	1.5.1	0.40633547	Not Participating
313	npm	esutils	2.0.2	0.40296852	Not Participating
314	npm	tslib	1.9.3	0.40270913	Not Participating
315	npm	ini	1.3.5	0.40079495	Not Participating
316	npm	isobject	3.0.0	0.39478588	Not Participating
317	npm	qs	6.7.0	0.39032794	Not Participating
318	npm	split-string	3.0.1	0.39005638	Not Participating
319	npm	split-string	3.0.2	0.39005638	Not Participating
320	npm	string_decoder	1.0.3	0.38945801	Not Participating
321	npm	nanomatch	1.2.9	0.38708963	Not Participating
322	npm	through2	2.0.3	0.38612166	Not Participating
323	npm	which	1.3.1	0.38377461	Not Participating
324	npm	p-try	2.2.0	0.38144164	Not Participating
325	npm	oauth-sign	0.9.0	0.38124522	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
326	npm	parse-json	2.2.0	0.36914667	Not Participating
327	npm	bcrypt-pbkdf	1.0.2	0.36792105	Not Participating
328	npm	debug	4.1.1	0.36735369	Not Participating
329	npm	object-keys	1.0.11	0.36716422	Not Participating
330	npm	locate-path	3.0.0	0.35875091	Not Participating
331	npm	pinkie-promise	2.0.1	0.35857383	Not Participating
332	npm	rc	1.2.8	0.35790359	Not Participating
333	npm	mime-db	1.40.0	0.34945185	Not Participating
334	npm	safe-buffer	5.0.1	0.34922994	Not Participating
335	npm	error-ex	1.3.2	0.34378517	Not Participating
336	npm	asn1	0.2.4	0.34211077	Not Participating
337	npm	esutils	2.0.3	0.33945336	Not Participating
338	npm	object.assign	4.1.0	0.33316865	Not Participating
339	npm	finalhandler	1.1.2	0.33202972	Not Participating
340	npm	kind-of	5.1.0	0.33176662	Not Participating
341	npm	ansi-regex	4.1.0	0.33096828	Not Participating
342	npm	serve-static	1.14.1	0.31646524	Not Participating
343	npm	has-unicode	2.0.1	0.31635107	Not Participating
344	npm	to-regex	3.0.1	0.31511036	Not Participating
345	npm	levn	0.3.0	0.31493906	Not Participating
346	npm	p-try	1.0.0	0.31459134	Not Participating
347	npm	oauth-sign	0.8.2	0.31409598	Not Participating
348	npm	asap	2.0.6	0.3136922	Not Participating
349	npm	sshpk	1.16.1	0.31302397	Not Participating
350	npm	prop-types	15.7.2	0.31056611	81
351	npm	nopt	4.0.1	0.30908014	Not Participating
352	npm	object-visit	1.0.1	0.30241441	Not Participating
353	npm	arr-diff	4.0.0	0.30167457	Not Participating
354	npm	minimalistic-assert	1.0.1	0.30148808	Not Participating
355	npm	mime-types	2.1.24	0.29882496	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
356	npm	get-stdin	4.0.1	0.29714405	Not Participating
357	npm	string_decoder	1.3.0	0.29174827	Not Participating
358	npm	object-assign	4.1.0	0.28821741	Not Participating
359	npm	glob	5.0.15	0.2853334	Not Participating
360	npm	pify	2.3.0	0.2824221	Not Participating
361	npm	has-color	0.1.7	0.28155244	Not Participating
362	npm	lodash._baseslice	4.0.0	0.28155244	Not Participating
363	npm	has	1.0.1	0.28027952	Not Participating
364	npm	pify	3.0.0	0.2798559	Not Participating
365	npm	has-symbols	1.0.0	0.2773597	Not Participating
366	npm	bluebird	3.7.2	0.27724361	Not Participating
367	npm	lru-cache	4.1.5	0.27093122	Not Participating
368	npm	es-to-primitive	1.1.1	0.2700974	Not Participating
369	npm	find-up	3.0.0	0.26921059	Not Participating
370	npm	fill-range	4.0.0	0.26873334	Not Participating
371	npm	set-value	2.0.1	0.26656798	Not Participating
372	npm	file-uri-to-path	1.0.0	0.26497237	Not Participating
373	npm	is-buffer	1.1.1	0.25843052	Not Participating
374	npm	is-buffer	1.0.2	0.25843052	Not Participating
375	npm	is-buffer	1.1.2	0.25843052	Not Participating
376	npm	is-buffer	1.1.0	0.25843052	Not Participating
377	npm	is-buffer	1.1.4	0.25843052	Not Participating
378	npm	is-buffer	1.1.3	0.25843052	Not Participating
379	npm	atob	2.1.2	0.25582556	Not Participating
380	npm	micromatch	3.1.10	0.25553887	Not Participating
381	npm	har-validator	5.1.5	0.25338138	Not Participating
382	npm	encoding	0.1.12	0.25166199	Not Participating
383	npm	union-value	1.0.1	0.25021311	Not Participating
384	npm	kind-of	6.0.2	0.24692412	Not Participating
385	npm	object-keys	1.1.1	0.24470594	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
386	npm	estraverse	4.3.0	0.24457178	Not Participating
387	npm	component-emitter	1.2.1	0.23826708	Not Participating
388	npm	normalize-path	2.1.1	0.23678094	Not Participating
389	npm	tough-cookie	2.5.0	0.23565826	Not Participating
390	npm	graceful-fs	4.2.6	0.22993536	Not Participating
391	npm	to-regexp-range	2.1.1	0.2271962	Not Participating
392	npm	lodash.identity	2.4.1	0.22338538	Not Participating
393	npm	lodash._objecttypes	2.4.1	0.22338538	Not Participating
394	npm	lodash.isobject	2.4.1	0.22338538	Not Participating
395	npm	lodash.isplainobject	2.4.1	0.22338538	Not Participating
396	npm	lodash.merge	2.4.1	0.22338538	Not Participating
397	npm	lodash._isnative	2.4.1	0.22338538	Not Participating
398	npm	lodash.noop	2.4.1	0.22338538	Not Participating
399	npm	lodash._getarray	2.4.1	0.22338538	Not Participating
400	npm	lodash._basebind	2.4.1	0.22338538	Not Participating
401	npm	lodash._slice	2.4.1	0.22338538	Not Participating
402	npm	lodash.bind	2.4.1	0.22338538	Not Participating
403	npm	lodash._createwrapper	2.4.1	0.22338538	Not Participating
404	npm	lodash._shimplainobject	2.4.1	0.22338538	Not Participating
405	npm	lodash._shimkeys	2.4.1	0.22338538	Not Participating
406	npm	lodash.forin	2.4.1	0.22338538	Not Participating
407	npm	lodash.forown	2.4.1	0.22338538	Not Participating
408	npm	lodash._setbinddata	2.4.1	0.22338538	Not Participating
409	npm	lodash._basecreatewrapper	2.4.1	0.22338538	Not Participating
410	npm	sprintf	0.1.1	0.22338538	Not Participating
411	npm	lodash._basemerge	2.4.1	0.22338538	Not Participating
412	npm	lodash._releasearray	2.4.1	0.22338538	Not Participating
413	npm	lodash._arraypool	2.4.1	0.22338538	Not Participating
414	npm	lodash._basecreatecallback	2.4.1	0.22338538	Not Participating
415	npm	lodash.foreach	2.4.1	0.22338538	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
416	npm	lodash._maxpoolsize	2.4.1	0.22338538	Not Participating
417	npm	remove-trailing-separator	1.1.0	0.22061376	Not Participating
418	npm	supports-color	7.2.0	0.21869791	Not Participating
419	npm	aproba	1.2.0	0.21759084	Not Participating
420	npm	npm-run-path	2.0.2	0.21733509	Not Participating
421	npm	base	0.11.1	0.2159235	Not Participating
422	npm	falafel	1.0.1	0.2138773	Not Participating
423	npm	falafel	1.2.0	0.2138773	Not Participating
424	npm	private	0.1.6	0.2138773	Not Participating
425	npm	private	0.1.5	0.2138773	Not Participating
426	npm	private	0.1.7	0.2138773	Not Participating
427	npm	falafel	1.1.0	0.2138773	Not Participating
428	npm	falafel	1.1.1	0.2138773	Not Participating
429	npm	strip-ansi	6.0.0	0.2137864	Not Participating
430	npm	ecc-jsbn	0.1.2	0.2130166	Not Participating
431	npm	ansi-styles	4.3.0	0.21044325	Not Participating
432	npm	component-emitter	1.3.0	0.20758763	Not Participating
433	npm	http-errors	1.7.3	0.20586503	Not Participating
434	npm	debug	3.2.6	0.20569677	Not Participating
435	npm	tslib	1.14.1	0.20350656	Not Participating
436	npm	signal-exit	3.0.3	0.20196032	Not Participating
437	npm	is-descriptor	0.1.6	0.20190978	Not Participating
438	npm	fast-json-stable-stringify	2.0.0	0.20098155	Not Participating
439	npm	iconv-lite	0.4.19	0.20071163	Not Participating
440	npm	code-point-at	1.0.0	0.1991491	Not Participating
441	npm	code-point-at	1.0.1	0.1991491	Not Participating
442	npm	arr-flatten	1.0.2	0.19542044	Not Participating
443	npm	arr-flatten	1.0.1	0.19542044	Not Participating
444	npm	arr-flatten	1.0.3	0.19542044	Not Participating
445	npm	readable-stream	2.3.6	0.19016993	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
446	npm	yallist	2.1.2	0.18735784	Not Participating
447	npm	parse-passwd	1.0.0	0.18535307	Not Participating
448	npm	lru-cache	6.0.0	0.18255774	Not Participating
449	npm	universalify	0.1.2	0.17962976	Not Participating
450	npm	balanced-match	1.0.2	0.17541295	Not Participating
451	npm	call-bind	1.0.2	0.17360941	Not Participating
452	npm	estraverse	4.2.0	0.17176057	Not Participating
453	npm	fast-levenshtein	2.0.6	0.16833933	Not Participating
454	npm	pinkie	2.0.4	0.16443198	Not Participating
455	npm	buffer	4.9.2	0.15938919	Not Participating
456	npm	snapdragon-util	3.0.1	0.15658322	Not Participating
457	npm	kind-of	4.0.0	0.15490081	Not Participating
458	npm	json-parse-better-errors	1.0.2	0.15355548	Not Participating
459	npm	y18n	4.0.0	0.15282261	Not Participating
460	npm	glob	7.1.4	0.15234882	Not Participating
461	npm	gauge	2.7.4	0.14542586	Not Participating
462	npm	url	0.11.0	0.14234759	Not Participating
463	npm	is-plain-object	2.0.3	0.14200742	Not Participating
464	npm	json-stable-stringify	1.0.1	0.13990403	Not Participating
465	npm	abbrev	1.1.1	0.13399556	Not Participating
466	npm	balanced-match	0.4.1	0.12979606	Not Participating
467	npm	emoji-regex	8.0.0	0.1264649	Not Participating
468	npm	is-fullwidth-code-point	3.0.0	0.12521629	Not Participating
469	npm	supports-color	7.1.0	0.1209862	Not Participating
470	npm	posix-character-classes	0.1.0	0.11935582	Not Participating
471	npm	lodash	4.17.15	0.10110239	Not Participating
472	npm	node-fetch	2.6.1	0.09876249	Not Participating
473	npm	body-parser	1.19.0	0.0974884	Not Participating
474	npm	jsesc	2.5.2	0.09326119	Not Participating
475	npm	source-map-support	0.5.19	0.09161769	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
476	npm	get-intrinsic	1.1.1	0.08884302	Not Participating
477	npm	express	4.17.1	0.08455628	15
478	npm	mime-db	1.47.0	0.08169822	Not Participating
479	npm	is-glob	3.1.0	0.07977194	Not Participating
480	npm	next-tick	1.0.0	0.07621652	Not Participating
481	npm	extend-shallow	3.0.1	0.07573052	Not Participating
482	npm	extend-shallow	3.0.0	0.07573052	Not Participating
483	npm	resumer	0.0.0	0.07237473	Not Participating
484	npm	defined	1.0.0	0.07237473	Not Participating
485	npm	dotignore	0.1.2	0.07237473	Not Participating
486	npm	inherits	2.0.0	0.07189533	Not Participating
487	npm	lodash.isplainobject	4.0.6	0.07129318	Not Participating
488	npm	strip-bom	3.0.0	0.07087095	Not Participating
489	npm	deep-extend	0.6.0	0.0688996	Not Participating
490	npm	is-promise	2.1.0	0.06563599	Not Participating
491	npm	mime-types	2.1.30	0.05728106	Not Participating
492	npm	@babel/code-frame	7.0.0	0.05670427	27
493	npm	braces	3.0.2	0.05503009	Not Participating
494	npm	end-of-stream	1.4.4	0.05378408	Not Participating
495	npm	is-absolute	0.1.7	0.04944349	Not Participating
496	npm	normalize-path	3.0.0	0.04938947	Not Participating
497	npm	convert-source-map	1.7.0	0.04288881	Not Participating
498	npm	mime-db	1.30.0	0.04244873	Not Participating
499	npm	lodash	4.17.10	0.04174476	Not Participating
500	npm	process-nextick-args	2.0.0	0.03738922	Not Participating

## Appendix H: Top 500 Non-npm, Indirect

## & Direct, Versioned Packages

Our dependency analysis identified the following 500 packages as the most used FOSS packages among those reported in the private usage data contributed by SCA partners hosted on package managers other than npm. These packages were identified as either direct or indirect dependencies called by observed packages in use and account for the package version. For further information on how this list was compiled, refer to the Methods section.

1	maven	logkit:logkit	1.0.1	14.3478344	Not Participating
2	bower	punycode	2.1.1	12.305542	Not Participating
3	maven	javax.mail:mail	1.4.3	9.57506183	Not Participating
4	bower	resolve-url	0.2.1	7.1695871	Not Participating
5	maven	log4j:log4j	1.2.17	5.73455934	Not Participating
6	maven	com.google.guava:listenablefuture	9999.0-empty-to-avoid-conflict-with-guava	5.69115772	Not Participating
7	maven	avalon-framework:avalon-framework	4.1.3	5.6359788	Not Participating
8	go	golang.org/x/arch	v0.0.0-20170210192150-f108ada9a904	5.60522863	Not Participating
9	go	golang.org/x/net	v0.0.0-20180420070421-5f9ae10d9af5	5.57138668	Not Participating
10	go	golang.org/x/text	v0.0.0-20180222125823-b7ef84aaf62a	5.56766994	Not Participating
11	go	golang.org/x/crypto	v0.0.0-20180411154250-d6449816ce06	5.56160578	Not Participating
12	go	golang.org/x/tools	v0.0.0-20171007194205-9bd2f442688b	5.53558856	Not Participating
13	go	golang.org/x/sys	v0.0.0-20180416210726-ecfd8b563e13	5.53030687	Not Participating
14	maven	commons-logging:commons-logging	1.2	5.39301853	Not Participating
15	go	golang.org/x/net	v0.0.0-20180218171552-cbe0f9307d01	5.27639449	Not Participating
16	go	golang.org/x/text	v0.0.0-20180204030725-4e4a3210bb54	5.23257602	Not Participating
17	go	golang.org/x/crypto	v0.0.0-20180228151834-91a49db82a88	5.23061984	Not Participating
18	maven	com.google.guava:failureaccess	1.0.1	5.10460688	Not Participating



	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
19	maven	org.apache.geronimo.specs:geronimo-jms_1.1_spec	1.0.1	5.0496039	Not Participating
20	maven	org.apache.geronimo.specs:geronimo-jms_1.1_spec	1	5.0496039	Not Participating
21	go	golang.org/x/sys	v0.0.0-20180202133531-37707fdb30a5	4.94325675	Not Participating
22	go	golang.org/x/tools	v0.0.0-20170914201924-e531a2a1c15f	4.84564329	Not Participating
23	go	golang.org/x/crypto	v0.0.0-20170915013737-b0c9c05bfe14	4.61677004	Not Participating
24	go	golang.org/x/text	v0.0.0-20170706134635-b19bf474d317	4.61559633	Not Participating
25	maven	commons-collections:commons-collections	3.2.2	4.5355392	Not Participating
26	go	golang.org/x/net	v0.0.0-20171003050924-a04bdaca5b32	4.5097669	Not Participating
27	go	golang.org/x/sys	v0.0.0-20170905232440-9aade4d3a3b7	4.4495165	Not Participating
28	maven	jakarta.annotation:jakarta.annotation-api	1.3.5	4.34618801	Not Participating
29	maven	org.hamcrest:hamcrest-core	1.3	4.18600226	Not Participating
30	maven	com.google.code.findbugs:jsr305	3.0.2	4.0861512	Not Participating
31	maven	ch.qos.logback:logback-classic	1.2.3	4.0698854	Not Participating
32	maven	junit:junit	4.12	4.02703534	Not Participating
33	maven	log4j:log4j	1.2.12	3.91275462	Not Participating
34	maven	javax.validation:validation-api	2.0.1.Final	3.78864124	Not Participating
35	maven	ch.qos.logback:logback-core	1.2.3	3.76139072	Not Participating
36	maven	org.slf4j:jul-to-slf4j	1.7.30	3.68664177	Not Participating
37	maven	org.latencyutils:LatencyUtils	2.0.3	3.63413253	Not Participating
38	maven	commons-lang:commons-lang	2.6	3.60950634	Not Participating
39	maven	aopalliance:aopalliance	1	3.38321887	Not Participating
40	maven	javax.inject:javax.inject	1	3.314809	Not Participating
41	maven	javax.xml:jsr173	1	3.17081088	Not Participating
42	maven	avalon-framework:avalon-framework	4.1.5.src	3.17081088	Not Participating
43	maven	avalon-framework:avalon-framework	4.1.5	3.17081088	Not Participating
44	maven	log4j:log4j	1.2.6	3.02720887	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
45	maven	antlr:antlr	2.7.7	3.02250783	Not Participating
46	go	github.com/Sirupsen/logrus	0208149b40d8	3.01856962	Not Participating
47	maven	org.jboss.logging:jboss-logging	3.4.1.Final	2.96682313	Not Participating
48	maven	jakarta.validation:jakarta.validation-api	2.0.2	2.8951216	Not Participating
49	maven	org.slf4j:slf4j-api	1.7.30	2.77498951	Not Participating
50	maven	javax.activation:javax.activation-api	1.2.0	2.74061289	Not Participating
51	maven	org.reactivestreams:reactive-streams	1.0.3	2.70794287	Not Participating
52	maven	net.minidev:accessors-smart	1.2	2.64745482	Not Participating
53	maven	net.minidev:json-smart	2.3	2.64734699	Not Participating
54	maven	com.fasterxml:classmate	1.5.1	2.60497301	Not Participating
55	maven	activation:activation	1.0.2	2.52460181	Not Participating
56	maven	com.google.j2objc:j2objc-annotations	1.3	2.35976758	Not Participating
57	maven	commons-codec:commons-codec	1.1	2.35706613	Not Participating
58	maven	javax.xml.bind:jaxb-api	2.3.1	2.31266798	Not Participating
59	maven	commons-logging:commons-logging	1.1.1	2.3125918	Not Participating
60	maven	org.apache.httpcomponents:httpclient	4.5.13	2.31180541	Not Participating
61	nuget	modernizr	2.6.2	2.28526512	24
62	maven	org.slf4j:slf4j-api	1.7.25	2.24438955	Not Participating
63	maven	org.glassfish:jakarta.el	3.0.3	2.17616552	Not Participating
64	maven	org.ccil.cowan.tagsoup:tagsoup	0.9.7	2.16559678	Not Participating
65	maven	msv:relaxngdatatype	20030807	2.16559678	Not Participating
66	maven	com.ibm.icu:icu4j	2.6.1	2.16559678	88
67	maven	msv:xsdlib	20030807	2.16559678	Not Participating
68	maven	xom:xom	1.0b3	2.16559678	Not Participating
69	maven	xpp3:xpp3	1.1.3.3	2.16559678	Not Participating
70	maven	jaxen:jaxen	1.1-beta-6	2.11772944	Not Participating
71	maven	jdom:jdom	1	2.11772944	Not Participating
72	maven	javax.activation:activation	1.1	2.10077394	Not Participating
73	maven	org.jetbrains:annotations	13	2.06424645	Not Participating
74	maven	javax.annotation:javax.annotation-api	1.3.2	2.03902925	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
75	maven	org.opentest4j:opentest4j	1.2.0	2.03675188	Not Participating
76	maven	org.objenesis:objenesis	2.6	2.03556584	Not Participating
77	nuget	modernizr	2.8.3	2.02199476	24
78	maven	com.google.errorprone:error_prone_annotations	2.3.4	1.95383688	Not Participating
79	maven	org.apiguardian:apiguardian-api	1.1.0	1.95071004	Not Participating
80	maven	javax.servlet:javax.servlet-api	3.1.0	1.94614459	Not Participating
81	go	github.com/ianlancetaylor/demangle	4883227f6637	1.83762275	Not Participating
82	pypi	docutils	0.14	1.83136297	Not Participating
83	maven	com.google.code.gson:gson	2.8.6	1.8281166	Not Participating
84	maven	commons-io:commons-io	2.4	1.81419814	Not Participating
85	pypi	MarkupSafe	1	1.81395296	Not Participating
86	maven	commons-io:commons-io	2.6	1.81360683	Not Participating
87	pypi	Jinja2	2.1	1.80710632	Not Participating
88	pypi	nose	1.3.7	1.79458676	Not Participating
89	pypi	Pygments	2.2.0	1.79282619	Not Participating
90	pypi	requests	2.15.1	1.79263058	Not Participating
91	pypi	PySocks	1.5.6	1.79106563	Not Participating
92	nuget	System.IO	4.3.0	1.78768341	Not Participating
93	pypi	pkginfo	1.4.2	1.7853927	Not Participating
94	pypi	tornado	4.2.1	1.78402338	Not Participating
95	pypi	twine	1.5.0	1.78402338	Not Participating
96	pypi	tox	2.1.1	1.78402338	Not Participating
97	maven	commons-codec:commons-codec	1.2	1.78265807	Not Participating
98	maven	dom4j:dom4j	1.6.1	1.77965236	Not Participating
99	pypi	click	6.7	1.77932854	Not Participating
100	pypi	pytest-cov	2.5.1	1.77580741	Not Participating
101	pypi	snowballstemmer	1.2.1	1.76954763	Not Participating
102	pypi	Jinja2	2.9.6	1.76759145	Not Participating
103	pypi	pytest	3.1.0	1.76641774	Not Participating
104	pypi	gcp-devrel-py-tools	0.0.7	1.76641774	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
105	pypi	Sphinx	1.6.3	1.76289662	Not Participating
106	pypi	mock	1.3.0	1.76152729	Not Participating
107	pypi	pluggy	0.3.1	1.75585436	Not Participating
108	pypi	six	1.10.0	1.75334278	Not Participating
109	pypi	setuptools	36.0.1	1.75213762	Not Participating
110	pypi	py	1.4.34	1.7497902	12
111	pypi	coverage	4.4.1	1.7433348	Not Participating
112	pypi	virtualenv	15.1.0	1.74196547	Not Participating
113	pypi	requests	2.18.4	1.74059614	Not Participating
114	pypi	incremental	17.5.0	1.73296704	Not Participating
115	maven	xml-apis:xml-apis	2.0.2	1.7228239	Not Participating
116	go	github.com/armon/go-metrics	f036747b9d0e	1.71868691	Not Participating
117	pypi	retrying	1.3.3	1.71281837	Not Participating
118	pypi	nose-exclude	0.4.1	1.71164466	Not Participating
119	pypi	colorama	0.3.9	1.71086218	Not Participating
120	pypi	alabaster	0.7.10	1.69912509	Not Participating
121	pypi	sphinxcontrib-websupport	1.0.1	1.69736453	Not Participating
122	nuget	System.Reflection	4.3.0	1.69463316	Not Participating
123	nuget	System.Reflection.Primitives	4.3.0	1.68967335	Not Participating
124	maven	commons-collections:commons-collections	3.2.1	1.68824554	Not Participating
125	pypi	towncrier	17.8.0	1.68777924	Not Participating
126	pypi	enum34	1.1.6	1.68269317	3
127	pypi	imagesize	1.0.0	1.67819395	Not Participating
128	maven	com.google.j2objc:j2objc-annotations	1.1	1.67732975	Not Participating
129	pypi	Babel	2.5.3	1.6754553	Not Participating
130	nuget	System.Text.Encoding	4.3.0	1.67274532	Not Participating
131	maven	org.ow2.asm:asm	5.0.4	1.66390393	Not Participating
132	nuget	System.Resources.ResourceManager	4.3.0	1.66142403	Not Participating
133	pypi	imagesize	0.7.1	1.65687157	Not Participating
134	pypi	Babel	2.4.0	1.65648033	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
135	pypi	docutils	0.14rc1	1.65452415	Not Participating
136	pypi	requests	2.18.1	1.65061179	Not Participating
137	nuget	System.Runtime.InteropServices	4.3.0	1.63673283	Not Participating
138	pypi	pytz	2018.4	1.6324193	Not Participating
139	pypi	psutil	4.3.1	1.62928941	Not Participating
140	pypi	toml	0.9.2	1.62772446	Not Participating
141	nuget	System.Globalization	4.3.0	1.62454896	Not Participating
142	nuget	System.Threading	4.3.0	1.6153841	Not Participating
143	maven	commons-codec:commons-codec	1.11	1.61193023	Not Participating
144	pypi	typing	3.6.1	1.61168377	Not Participating
145	pypi	certifi	2018.4.16	1.61070568	Not Participating
146	nuget	System.Diagnostics.Debug	4.3.0	1.60966954	Not Participating
147	nuget	System.Security.Cryptography.Primitives	4.3.0	1.60427845	Not Participating
148	nuget	System.Collections	4.3.0	1.59619181	Not Participating
149	pypi	typing	3.6.4	1.58899207	Not Participating
150	pypi	Sphinx	1.7.4	1.58116734	Not Participating
151	pypi	coverage	3.7.1	1.57569003	Not Participating
152	pypi	wheel	0.24.0	1.57373385	Not Participating
153	maven	jakarta.activation:jakarta.activation-api	1.2.1	1.57290229	Not Participating
154	nuget	System.Runtime.Handles	4.3.0	1.56492348	Not Participating
155	nuget	System.Security.Cryptography.Encoding	4.3.0	1.55640555	Not Participating
156	nuget	System.IO.FileSystem.Primitives	4.3.0	1.53171435	Not Participating
157	go	github.com/google/pprof	dec22b42d9ee	1.52893729	Not Participating
158	pypi	flake8	3.5.0	1.52189504	Not Participating
159	nuget	System.Linq	4.3.0	1.51478632	Not Participating
160	nuget	System.IO.FileSystem	4.3.0	1.51155166	Not Participating
161	maven	com.jayway.jsonpath:json-path	2.4.0	1.50540582	Not Participating
162	maven	javax.validation:validation-api	1.1.0.Final	1.50076948	Not Participating
163	pypi	ndg-httpsclient	0.5.0	1.48335826	Not Participating
164	maven	javax.validation:validation-api	1.1.0.final	1.47152037	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
165	maven	org.aspectj:aspectjweaver	1.9.6	1.4633553	Not Participating
166	maven	org.springframework:spring-beans	5.3.7	1.46163015	Not Participating
167	nuget	System.Text.Encoding.Extensions	4.3.0	1.45623906	Not Participating
168	maven	software.amazon.ion:ion-java	1.0.2	1.45414826	Not Participating
169	nuget	System.Xml.ReaderWriter	4.3.0	1.44448647	Not Participating
170	nuget	System.Security.Cryptography.X509Certificates	4.3.0	1.43877192	Not Participating
171	nuget	System.Security.Cryptography.Algorithms	4.3.0	1.42928359	Not Participating
172	nuget	System.Diagnostics.Tracing	4.3.0	1.41569804	Not Participating
173	maven	jakarta.xml.bind:jakarta.xml.bind-api	2.3.2	1.40588625	Not Participating
174	nuget	System.Collections.Concurrent	4.3.0	1.40491586	Not Participating
175	nuget	System.Runtime.InteropServices.RuntimeInformation	4.3.0	1.39262417	Not Participating
176	nuget	System.Runtime.Numerics	4.3.0	1.38680179	Not Participating
177	nuget	System.Linq.Expressions	4.3.0	1.30313203	Not Participating
178	nuget	System.Diagnostics.Tools	4.3.0	1.29288896	Not Participating
179	pypi	wheel	0.30.0	1.28852256	Not Participating
180	nuget	System.Reflection.Extensions	4.3.0	1.27272627	Not Participating
181	pypi	tox	2.9.1	1.26974322	Not Participating
182	nuget	Microsoft.Win32.Primitives	4.3.0	1.26021894	Not Participating
183	pypi	certifi	2017.7.27.1	1.25996231	Not Participating
184	nuget	System.Xml.XDocument	4.3.0	1.25978765	Not Participating
185	pypi	pluggy	0.6.0	1.25820175	Not Participating
186	pypi	pyOpenSSL	17.5.0	1.2501814	Not Participating
187	nuget	System.Globalization.Calendars	4.3.0	1.24728032	Not Participating
188	maven	jakarta.xml.bind:jakarta.xml.bind-api	2.3.3	1.24285962	Not Participating
189	pypi	smmap2	2.0.3	1.24235668	Not Participating
190	pypi	pyasn1	0.4.2	1.24216106	Not Participating
191	maven	org.springframework:spring-context	5.3.7	1.23358694	Not Participating
192	pypi	gitdb	0.6.4	1.23140206	Not Participating
193	pypi	six	1.16.0	1.22884278	Not Participating
194	go	google.golang.org/protobuf	v1.25.0	1.22884278	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
195	pypi	pytest	3.1.2	1.22788093	Not Participating
196	maven	commons-codec:commons-codec	1.9	1.22343839	Not Participating
197	pypi	six	1.11.0	1.21163252	Not Participating
198	pypi	chardet	3.0.4	1.20863752	Not Participating
199	maven	org.springframework:spring-expression	5.3.7	1.20835663	Not Participating
200	nuget	System.IO.Compression	4.3.0	1.2077097	Not Participating
201	pypi	pkginfo	1.4.1	1.19971192	Not Participating
202	pypi	setuptools	39.0.1	1.18690276	Not Participating
203	pypi	appdirs	1.4.3	1.18431635	Not Participating
204	maven	org.yaml:snakeyaml	1.27	1.18291067	3
205	maven	commons-logging:commons-logging	1.1.3	1.1801646	Not Participating
206	maven	com.google.code.findbugs:jsr305	1.3.9	1.17949542	Not Participating
207	pypi	Pympler	0.5	1.17330346	Not Participating
208	pypi	setuptools	36.5.0	1.16567436	Not Participating
209	pypi	invoke	0.21.0	1.15628468	Not Participating
210	maven	org.codehaus.jackson:jackson-mapper-asl	1.9.13	1.14776075	Not Participating
211	pypi	pluggy	0.5.2	1.14728625	Not Participating
212	pypi	GitPython	2.1.5	1.14493883	Not Participating
213	pypi	unittest2	1.1.0	1.14317827	Not Participating
214	nuget	System.Reflection.Emit.Lightweight	4.3.0	1.14226184	Not Participating
215	pypi	tox	2.9.0rc1	1.14024399	Not Participating
216	nuget	System.Reflection.Emit	4.3.0	1.13794896	Not Participating
217	maven	org.bouncycastle:bcprov-jdk15on	1.64	1.11735499	Not Participating
218	maven	commons-logging:commons-logging	1.0.3	1.11730207	Not Participating
219	pypi	webencodings	0.5.1	1.08858167	Not Participating
220	maven	org.hdrhistogram:HdrHistogram	2.1.12	1.08500844	Not Participating
221	maven	org.bouncycastle:bcpkix-jdk15on	1.64	1.08263636	Not Participating
222	maven	org.apache.logging.log4j:log4j-api	2.12.1	1.07756873	Not Participating
223	nuget	System.ObjectModel	4.3.0	1.07746091	Not Participating
224	maven	com.fasterxml.jackson.core:jackson-annotations	2.12.3	1.06549268	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
225	maven	org.springframework:spring-aop	5.3.7	1.06527704	Not Participating
226	maven	com.fasterxml.jackson.core:jackson-core	2.12.3	1.06031724	Not Participating
227	maven	com.vaadin.external.google:android-json	0.0.20131108.vaadin1	1.04619257	Not Participating
228	maven	commons-httpclient:commons-httpclient	3.1	1.04619179	Not Participating
229	pypi	Babel	2.6.0	1.03245838	Not Participating
230	pypi	certifi	2017.4.17	1.0305022	Not Participating
231	pypi	gitdb2	2.0.2	1.02424242	Not Participating
232	maven	org.apache.httpcomponents:httpcore	4.4.13	1.0220553	Not Participating
233	maven	org.apache.commons:commons-lang3	3.9	1.01890066	Not Participating
234	maven	org.jboss.logging:jboss-logging	3.3.2.Final	1.01589463	Not Participating
235	pypi	setuptools	39.2.0	1.00957106	Not Participating
236	maven	com.fasterxml.jackson.core:jackson-databind	2.12.3	1.00877839	Not Participating
237	maven	org.apache.logging.log4j:log4j-api	2.13.3	1.00770017	Not Participating
238	nuget	System.Net.Sockets	4.3.0	1.0068376	Not Participating
239	maven	org.codehaus.jackson:jackson-core-asl	1.9.13	1.00263255	Not Participating
240	pypi	alabaster	0.7.12	0.99685588	Not Participating
241	pypi	attrs	17.4.0	0.99587779	Not Participating
242	maven	jakarta.activation:jakarta.activation-api	1.2.2	0.99422244	Not Participating
243	nuget	System.Console	4.3.0	0.99195818	Not Participating
244	maven	org.hdrhistogram:HdrHistogram	2.1.11	0.98624363	Not Participating
245	nuget	System.Threading.Timer	4.3.0	0.97912739	Not Participating
246	maven	xml-apis:xml-apis	1.4.01	0.96003518	Not Participating
247	nuget	System.AppContext	4.3.0	0.95626915	Not Participating
248	pypi	certifi	2020.12.5	0.95616133	Not Participating
249	maven	org.springframework.security:spring-security-rsa	1.0.9.RELEASE	0.95098588	Not Participating
250	maven	javax.validation:validation-api	2.0.1.final	0.94497965	Not Participating
251	maven	org.yaml:snakeyaml	1.26	0.94397746	3
252	pypi	requests	2.19.1	0.94208279	Not Participating
253	maven	org.apache.commons:commons-lang3	3.4	0.93717973	Not Participating
254	pypi	singledispatch	3.4.0.3	0.93621425	Not Participating



	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
255	pypi	backports_abc	0.5	0.93112817	Not Participating
256	maven	org.apache.logging.log4j:log4j-to-slf4j	2.12.1	0.92413824	Not Participating
257	maven	org.skyscreamer:jsonassert	1.5.0	0.91637507	Not Participating
258	pypi	setuptools	40.4.3	0.91254445	Not Participating
259	pypi	pluggy	0.8.0	0.90804523	Not Participating
260	pypi	Sphinx	1.7.5	0.90158983	Not Participating
261	pypi	setuptools	40.2.0	0.89982927	Not Participating
262	pypi	futures	3.2.0	0.89533005	Not Participating
263	nuget	NETStandard.Library	1.6.1	0.89200733	Not Participating
264	pypi	python-dateutil	2.8.1	0.88963525	Not Participating
265	pypi	idna	2.6	0.88808688	Not Participating
266	pypi	attrs	18.2.0	0.88378858	Not Participating
267	nuget	System.IO.Compression.ZipFile	4.3.0	0.88176426	Not Participating
268	maven	commons-cli:commons-cli	1.2	0.88039345	Not Participating
269	maven	org.springframework.plugin:spring-plugin-core	1.2.0.RELEASE	0.87993129	Not Participating
270	pypi	toml	0.9.4	0.87772442	Not Participating
271	pypi	attrs	18.1.0	0.87694194	Not Participating
272	maven	commons-codec:commons-codec	1.1	0.87432455	Not Participating
273	pypi	gcp-devrel-py-tools	0.0.15	0.87029093	Not Participating
274	pypi	towncrier	18.6.0	0.86696542	Not Participating
275	pypi	more-itertools	4.3.0	0.86540047	Not Participating
276	pypi	GitPython	2.1.11	0.86422676	Not Participating
277	maven	stax:stax-api	1	0.86121181	Not Participating
278	maven	xerces:xmlparserapis	2.6.2	0.86121181	Not Participating
279	maven	xerces:xmlparserapis	2.6.1	0.86121181	Not Participating
280	maven	jaxme:jaxme-api	0.3.1	0.86121181	Not Participating
281	maven	pull-parser:pull-parser	2.1.10	0.86121181	Not Participating
282	maven	jaxme:jaxme-api	0.3	0.86121181	Not Participating
283	maven	pull-parser:pull-parser	2	0.86121181	Not Participating
284	pypi	fixtures	3.0.0	0.85659765	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
285	pypi	testscenarios	0.5.0	0.85503271	Not Participating
286	pypi	testresources	2.0.1	0.85464147	Not Participating
287	pypi	invoke	1.2.0	0.85327214	Not Participating
288	pypi	testrepository	0.0.20	0.85092473	Not Participating
289	pypi	atomicwrites	1.2.1	0.85092473	Not Participating
290	maven	org.jboss.logging:jboss-logging	3.3.2.final	0.84924498	Not Participating
291	maven	org.codehaus.mojo:animal-sniffer-annotations	1.17	0.84433153	Not Participating
292	maven	dk.brics.automaton:automaton	1.11-8	0.84089978	Not Participating
293	maven	stax:stax-api	1.0.1	0.83962668	Not Participating
294	pypi	pylint	2.0.0.dev2	0.83742707	Not Participating
295	pypi	coverage	4.5.1	0.82138638	Not Participating
296	maven	net.jcip:jcip-annotations	1	0.82019798	Not Participating
297	go	github.com/Sirupsen/logrus	4b6ea7319e21	0.81766964	Not Participating
298	maven	com.github.stephenc.jcip:jcip-annotations	1.0-1	0.81728679	Not Participating
299	pypi	testtools	2.3.0	0.81708278	Not Participating
300	maven	com.fasterxml.jackson.core:jackson-annotations	2.9.0	0.81081252	Not Participating
301	maven	commons-io:commons-io	2.5	0.80948561	Not Participating
302	pypi	hacking	0.12.0	0.80886682	Not Participating
303	pypi	PyYAML	3.12	0.80691064	Not Participating
304	pypi	packaging	16.8	0.80232903	Not Participating
305	pypi	mock	2.0.0	0.80182457	Not Participating
306	pypi	selenium	3.6.0	0.80137764	Not Participating
307	pypi	zope.interface	4.5.0	0.79047871	Not Participating
308	nuget	System.Xml.XmlDocument	4.3.0	0.78612628	Not Participating
309	pypi	pyflakes	1.6.0	0.78480579	Not Participating
310	maven	org.springframework.plugin:spring-plugin-metadata	1.2.0.RELEASE	0.77254073	Not Participating
311	maven	com.google.guava:guava	18	0.77054524	Not Participating
312	pypi	jsonschema	2.6.0	0.75898419	Not Participating
313	maven	org.slf4j:jul-to-slf4j	1.7.25	0.75690656	Not Participating
314	pypi	Sphinx	2.0.1	0.75389812	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
315	maven	org.apache.logging.log4j:log4j-to-slf4j	2.13.3	0.75356408	Not Participating
316	pypi	extras	1.0.0	0.74900766	Not Participating
317	maven	javax.annotation:javax.annotation-api	1.2	0.74580707	Not Participating
318	maven	org.springframework:spring-web	5.3.7	0.74472269	Not Participating
319	pypi	pycodestyle	2.3.1	0.74411721	Not Participating
320	maven	org.dom4j:dom4j	2.1.3	0.74051764	Not Participating
321	maven	oro:oro	2.0.8	0.73679144	Not Participating
322	pypi	tornado	5.1.1	0.73551001	Not Participating
323	pypi	packaging	17.1	0.72833723	Not Participating
324	pypi	ddt	1.2.0	0.7278809	Not Participating
325	maven	commons-beanutils:commons-beanutils	1.9.4	0.72271961	Not Participating
326	pypi	pytest	3.5.1	0.7192737	Not Participating
327	pypi	PySocks	1.6.8	0.71829561	Not Participating
328	pypi	setuptools	39.1.0	0.70792785	Not Participating
329	pypi	idna	2.5	0.70710809	Not Participating
330	maven	com.google.code.findbugs:jsr305	1.3.7	0.70564296	Not Participating
331	maven	org.hibernate.javax.persistence:hibernate-jpa-2.1-api	1.0.0.final	0.70564296	Not Participating
332	maven	org.checkerframework:checker-qual	2.5.2	0.70475615	Not Participating
333	pypi	Pallets-Sphinx-Themes	1.1.4	0.70362425	Not Participating
334	pypi	pytz	2017.2	0.70166807	Not Participating
335	pypi	pytest-timeout	1.3.1	0.70166807	Not Participating
336	pypi	imagesize	1.1.0	0.70088559	Not Participating
337	pypi	backports.ssl_match_hostname	3.5.0.1	0.68640985	3
338	maven	xmlpull:xmlpull	1.1.3.1	0.68553744	Not Participating
339	maven	net.minidev:json-smart	1.2	0.68170929	Not Participating
340	pypi	pbr	3.1.1	0.67389029	Not Participating
341	pypi	atomicwrites	1.1.5	0.67252096	Not Participating
342	maven	jakarta.transaction:jakarta.transaction-api	1.3.3	0.6692474	Not Participating
343	pypi	hypothesis	3.56.5	0.66841298	Not Participating
344	pypi	six	1.2.0	0.66639175	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
345	pypi	urllib3	1.22	0.66188834	Not Participating
346	maven	org.apache.commons:commons-collections4	4.1	0.6563205	Not Participating
347	pypi	python-subunit	1.2.0	0.65589342	Not Participating
348	pypi	oslosphinx	4.15.1	0.65471971	Not Participating
349	pypi	py	1.5.2	0.64963363	12
350	maven	org.hamcrest:hamcrest	2.1	0.64908471	Not Participating
351	maven	javax.mail:mail	1.4.1	0.64780326	Not Participating
352	maven	org.codehaus.mojo:animal-sniffer-annotations	1.14	0.64537937	Not Participating
353	pypi	invoke	0.22.0	0.64122205	Not Participating
354	maven	com.fasterxml.jackson.core:jackson-core	2.6.7	0.63384196	Not Participating
355	nuget	System.Collections.NonGeneric	4.3.0	0.63118629	Not Participating
356	pypi	coverage	5.0a1	0.62948496	Not Participating
357	maven	org.hamcrest:hamcrest-library	1.3	0.62902985	Not Participating
358	pypi	Jinja2	2.10.1	0.62889811	Not Participating
359	pypi	GitPython	2.1.8	0.62009529	Not Participating
360	pypi	pyparsing	2.2.0	0.61967586	Not Participating
361	pypi	sphinxcontrib-websupport	1.1.0	0.6169654	Not Participating
362	pypi	pytz	2017.3	0.6169654	Not Participating
363	pypi	setuptools	40.1.0	0.60953191	Not Participating
364	pypi	idna	2.1	0.60859575	Not Participating
365	pypi	pyOpenSSL	17.3.0	0.60796697	Not Participating
366	maven	com.google.errorprone:error_prone_annotations	2.2.0	0.60142746	Not Participating
367	pypi	urllib3	1.21.1	0.59831244	Not Participating
368	maven	org.springframework:spring-tx	5.3.7	0.59366428	Not Participating
369	pypi	ndg-httpsclient	0.4.3	0.59133942	Not Participating
370	maven	org.checkerframework:checker-qual	3.5.0	0.58773408	Not Participating
371	maven	commons-codec:commons-codec	1.3	0.58597462	Not Participating
372	pypi	setuptools	36.2.0	0.58351469	Not Participating
373	nuget	System.Collections.Specialized	4.3.0	0.58018655	Not Participating
374	pypi	setuptools	36.6.0	0.57705929	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
375	nuget	System.Net.Http	4.3.0	0.5750111	Not Participating
376	pypi	pyasn1	0.3.5	0.5727557	Not Participating
377	pypi	coverage	4.5.3	0.56864771	Not Participating
378	pypi	Pillow	5.1.0	0.56317041	Not Participating
379	maven	javax.persistence:javax.persistence-api	2.2	0.55980822	Not Participating
380	pypi	execnet	1.5.0	0.55827995	Not Participating
381	nuget	System.Threading.Tasks	4.3.0	0.55826425	Not Participating
382	maven	javax.activation:activation	1.1.1	0.55282961	Not Participating
383	maven	com.fasterxml:classmate	1.3.4	0.53694999	Not Participating
384	maven	commons-codec:commons-codec	1.6	0.51523284	Not Participating
385	maven	org.hibernate.javax.persistence:hibernate-jpa-2.1-api	1.0.0.Final	0.50891631	Not Participating
386	pypi	cryptography	2.0.3	0.50624552	Not Participating
387	pypi	sphinx_rtd_theme	0.2.5b1	0.50565866	Not Participating
388	pypi	pytest	3.3.2	0.50487619	Not Participating
389	nuget	System.Runtime.Extensions	4.3.0	0.50147292	Not Participating
390	maven	org.apache.commons:commons-lang3	3.8.1	0.49179688	Not Participating
391	pypi	urllib3	1.26.4	0.48950838	Not Participating
392	pypi	coverage	4.4.2	0.48844427	Not Participating
393	pypi	py	1.7.0	0.48707494	12
394	maven	commons-logging:commons-logging	1.0.4	0.48121547	Not Participating
395	nuget	System.Runtime	4.3.0	0.48033826	Not Participating
396	maven	org.xerial.snappy:snappy-java	1.1.7.3	0.47937313	Not Participating
397	pypi	openstackdocstheme	1.17.0	0.47846774	Not Participating
398	pypi	flake8-pyi	17.3.0	0.47533785	Not Participating
399	pypi	pytest-xdist	1.22.0	0.47533785	Not Participating
400	pypi	reno	2.5.0	0.47494661	Not Participating
401	maven	commons-lang:commons-lang	2.4	0.47457844	Not Participating
402	pypi	flake8-bugbear	17.12.0	0.47455538	Not Participating
403	maven	org.slf4j:jcl-over-slf4j	1.7.30	0.47452114	Not Participating
404	maven	org.springframework:spring-jcl	5.3.7	0.47247253	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
405	maven	commons-beanutils:commons-beanutils	1.9.3	0.46634675	Not Participating
406	pypi	Sphinx	1.6.5	0.46418761	Not Participating
407	maven	commons-codec:commons-codec	1.13	0.46330767	Not Participating
408	maven	com.fasterxml.jackson. dataformat:jackson-dataformat-cbor	2.6.7	0.45967848	Not Participating
409	maven	xalan:xalan	2.6.0	0.45832838	Not Participating
410	maven	org.springframework:spring-core	5.3.7	0.45737747	Not Participating
411	pypi	pytest	3.3.1	0.45421109	Not Participating
412	maven	org.apache.httpcomponents:httpcore	4.4.4	0.45345092	Not Participating
413	pypi	gitdb2	2.0.3	0.45264614	Not Participating
414	nuget	System.Dynamic.Runtime	4.3.0	0.44724222	Not Participating
415	maven	org.apache.commons:commons-compress	1.19	0.44228241	Not Participating
416	pypi	idna	2.7	0.43524668	Not Participating
417	pypi	requests	2.25.1	0.43354884	Not Participating
418	pypi	cffi	1.10.0	0.43132376	Not Participating
419	nuget	System.ComponentModel	4.3.0	0.42858904	Not Participating
420	pypi	six	1.12.0	0.42840716	Not Participating
421	pypi	ipaddress	1.0.18	0.4274114	Not Participating
422	maven	xerces:xercesimpl	2.6.0	0.42641682	Not Participating
423	maven	xerces:xercesimpl	2.2.1	0.42641682	Not Participating
424	maven	xerces:xercesimpl	2.6.2	0.42641682	Not Participating
425	maven	com.google.guava:guava	20	0.42322497	Not Participating
426	pypi	functools32	3.2.3-2	0.42291218	Not Participating
427	pypi	asn1crypto	0.22.0	0.42271656	Not Participating
428	nuget	runtime.native.System	4.3.0	0.4191316	Not Participating
429	maven	xml-apis:xml-apis	1.0.b2	0.41157395	Not Participating
430	maven	xalan:xalan	2.5.d1	0.41046105	Not Participating
431	maven	xalan:xalan	2.5.0	0.41046105	Not Participating
432	nuget	System.Globalization.Extensions	4.3.0	0.40841334	Not Participating
433	maven	com.sun.activation:jakarta.activation	1.2.2	0.40702467	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
434	pypi	zope.interface	4.4.3	0.40393722	Not Participating
435	pypi	py	1.6.0	0.4015898	12
436	pypi	chardet	4.0.0	0.40098664	Not Participating
437	maven	javax.servlet:servlet-api	2.5	0.39645813	Not Participating
438	maven	org.glassfish.hk2:osgi-resource-locator	1.0.3	0.39505644	Not Participating
439	maven	javax.validation:validation-api	1.0.0.ga	0.39450527	Not Participating
440	pypi	packaging	19.2	0.39450527	Not Participating
441	pypi	invoke	1.1.1	0.39122204	Not Participating
442	maven	org.springframework:spring-webmvc	5.3.7	0.39052793	Not Participating
443	maven	org.slf4j:slf4j-over-slf4j	1.7.25	0.38233346	Not Participating
444	maven	org.hdrhistogram:HdrHistogram	2.1.9	0.37812841	Not Participating
445	maven	org.apache.httpcomponents:httpcore	4.4.14	0.37381554	Not Participating
446	nuget	System.Net.Primitives	4.3.0	0.37271898	Not Participating
447	maven	org.jboss.logging:jboss-logging	3.3.0.final	0.3705716	Not Participating
448	nuget	System.Runtime.Serialization.Primitives	4.3.0	0.36939484	Not Participating
449	maven	com.thoughtworks.paranamer:paranamer	2.8	0.36465068	Not Participating
450	pypi	invoke	0.22.1	0.3552283	Not Participating
451	nuget	System.ComponentModel.Primitives	4.3.0	0.35354503	Not Participating
452	maven	javax.annotation:jsr250-api	1	0.35214335	Not Participating
453	maven	commons-io:commons-io	1.3.2	0.34663793	Not Participating
454	pypi	py	1.5.3	0.34251311	12
455	pypi	more-itertools	4.1.0	0.3380139	Not Participating
456	pypi	tox	3.0.0	0.33762266	Not Participating
457	pypi	MarkupSafe	1.1.1	0.33530572	Not Participating
458	maven	com.google.guava:guava	30.1-jre	0.33284324	Not Participating
459	maven	org.jboss.jandex	2.1.3.Final	0.33198066	Not Participating
460	maven	javax.xml.stream:stax-api	1.0-2	0.33097257	Not Participating
461	maven	commons-beanutils:commons-beanutils	1.7.0	0.32670912	Not Participating
462	nuget	System.Reflection.Emit.ILGeneration	4.3.0	0.32593589	Not Participating
463	maven	joda-time:joda-time	2.8.1	0.3243012	Not Participating

	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
464	nuget	System.ComponentModel.TypeConverter	4.3.0	0.32357056	Not Participating
465	pypi	six	1.14.0	0.32270426	Not Participating
466	maven	xml-resolver:xml-resolver	1.2	0.3136185	Not Participating
467	nuget	System.Text.RegularExpressions	4.3.0	0.31325834	Not Participating
468	pypi	ddt	1.1.1	0.30925803	Not Participating
469	maven	log4j:log4j	1.2.15	0.29877059	Not Participating
470	maven	com.sun.jdmk:jmxtools	1.2.1	0.29877059	Not Participating
471	maven	com.sun.jmx:jmxri	1.2.1	0.29877059	Not Participating
472	pypi	appdirs	1.4.0	0.29877059	Not Participating
473	maven	org.slf4j:slf4j-api	1.7.26	0.29675967	Not Participating
474	maven	jakarta.persistence:jakarta.persistence-api	2.2.3	0.29672292	Not Participating
475	maven	junit:junit	4.13.1	0.28755806	Not Participating
476	nuget	System.Security.Cryptography.OpenSsl	4.3.0	0.28652074	Not Participating
477	nuget	runtime.native.System.Net.Http	4.3.0	0.28535783	Not Participating
478	pypi	urllib3	1.23	0.2780855	Not Participating
479	nuget	runtime.native.System.Security.Cryptography.Apple	4.3.0	0.27737902	Not Participating
480	maven	antlr:antlr	2.7.2	0.27483692	Not Participating
481	maven	javax.servlet:javax.servlet-api	3.0.1	0.27483692	Not Participating
482	nuget	System.Security.Cryptography.Csp	4.3.0	0.27419827	Not Participating
483	nuget	Microsoft.NETCore.Targets	1.1.0	0.26736766	Not Participating
484	maven	org.yaml:snakeyaml	1.17	0.26707191	3
485	nuget	runtime.osx.10.10-x64.runtime.native.System.Security.Cryptography.Apple	4.3.0	0.26681564	Not Participating
486	pypi	six	1.15.0	0.26317039	Not Participating
487	maven	joda-time:joda-time	2.9.9	0.25966618	Not Participating
488	nuget	modernizr	2.5.3	0.25090325	24
489	maven	commons-io:commons-io	2.1	0.25090325	Not Participating
490	maven	com.squareup.retrofit2:converter-gson	2.8.0	0.25090325	Not Participating
491	pypi	GitPython	2.1.9	0.24626898	Not Participating
492	maven	org.apache.commons:commons-math3	3.6.1	0.2416088	Not Participating



	PLATFORM	NAME	VERSION	Z-SCORE COMBINED	OPENSSEF BADGE TIERED PERCENTAGE
493	go	golang.org/x/crypto	v0.0.0-20180321233819-88942b9c40a4	0.24137852	Not Participating
494	maven	org.apache.httpcomponents:httpcore	4.4.10	0.24090657	Not Participating
495	maven	io.swagger:swagger-models	1.5.20	0.24011645	Not Participating
496	pypi	pytest	3.8.2	0.23863987	Not Participating
497	pypi	pytest-forked	0.2	0.23609683	Not Participating
498	maven	javax.servlet:javax.servlet-api	4.0.1	0.22782151	Not Participating
499	maven	xpp3:xpp3_min	1.1.4c	0.22728565	Not Participating
500	maven	com.google.guava:guava	14.0.1	0.22696958	Not Participating

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