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Foreword

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This document was prepared by the Joint Development Foundation (JDF) (as SPDX® Specification V2.2.1) and drafted in accordance with its editorial rules. It was adopted, under the JTC 1 PAS procedure, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

Introduction

Companies and organizations (collectively “Organizations”) are widely using and reusing open source and other software packages. Accurate identification of software is key for many supply chain processes. Vulnerability remediation starts with knowing the details of which version of software is in use on a system. Compliance with the associated licenses requires a set of analysis activities and due diligence that each Organization performs independently, which may include a manual and/or automated scan of software and identification of associated licenses followed by manual verification. Software development teams across the globe use the same open source packages, but little infrastructure exists to facilitate collaboration on the analysis or share the results of these analysis activities. As a result, many groups are performing the same work leading to duplicated efforts and redundant information. With this document, the SPDX workgroup has created a data exchange format so that information about software packages and related content may be collected and shared in a common format with the goal of saving time and improving data accuracy.

Information technology — SPDX® Specification V2.2.1

1 Scope

This Software Package Data Exchange® (SPDX®) specification defines a standard data format for communicating the component and metadata information associated with software packages. An SPDX document can be associated with a set of software packages, files or snippets and contains information about the software in the SPDX format described in this specification.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Apache Maven, Apache Software Foundation, https://maven.apache.org/

Bower API, https://bower.io/docs/api/#install

Common Platform Enumeration (CPE) – Specification, The MITRE Corporation, https://cpe.mitre.org/files/cpe-specification_2.2.pdf

NISTIR 7695, *Common Platform Enumeration: Naming Specification Version 2.3*, NIST, https://csrc.nist.gov/publications/detail/nistir/7695/final

npm-package.json, npm Inc., https://docs.npmjs.com/files/package.json

NuGet documentation, Microsoft, https://docs.microsoft.com/en-us/nuget/

POSIX.1-2017 *The Open Group Base Specifications Issue 7*, 2018 edition, IEEE/Open Group, https://pubs.opengroup.org/onlinepubs/9699919799/

purl (package URL), https://github.com/package-url/purl-spec

Resource Description Framework (RDF), 2014-02-25, W3C, http://www.w3.org/standards/techs/rdf

RFC-1321, *The MD5 Message-Digest Algorithm*, The Internet Society Network Working Group, https://tools.ietf.org/html/rfc1321

RFC-3174, *US Secure Hash Algorithm 1 (SHA1)*, The Internet Society Network Working Group, https://tools.ietf.org/html/rfc3174

RFC-3986, *Uniform Resource Identifier (URI): Generic Syntax*, The Internet Society Network Working Group, https://tools.ietf.org/html/rfc3986

RFC-5234, *Augmented BNF for Syntax Specifications: ABNF*, The Internet Society Network Working Group, https://tools.ietf.org/html/rfc5234

RFC-6234, *US Secure Hash Algorithms (SHA and SHA-based HMAC and HKDF)*, The Internet Society Network Working Group, https://tools.ietf.org/html/rfc6234

SoftWare Heritage persistent IDentifiers (SWHIDs), https://docs.softwareheritage.org/devel/swh-model/persistent-identifiers.html

SPDX and RDF Ontology, http://spdx.org/rdf/ontology/spdx-2-2

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