

## Information technology — Software asset management — Part 3: Software entitlement tag

### Introduction

This part of ISO/IEC 19770 provides a standard to specify the structure of software entitlement tags. A Software entitlement tag is a computer file that provides authoritative licensing information for software configuration items specified in ISO/IEC 19770-2 (paragraph 3.3). This document is intended to be sufficiently supported and implemented by software manufacturers, modifiers and users alike to ensure the viability of conformance.

Standardization of software licensing entitlements provides uniform, measurable data for the license compliance processes of SAM practice, making it possible to optimize reconciliation of installed software with licensing entitlements. Standardization will benefit all parties involved in software asset management:

- a) Software entitlement tag creators. These include software manufacturers, publishers and line of business application developers. This group must continually update various software licensing models to adjust to market demands. Benefits of standardization in software entitlement tagging practices for software entitlement tag creators include, but are not limited to, the following:
  - a. Improved customer adaptability to shifts in software licensing models, terms and conditions.
  - b. Immediate end-installation recognition of details pertaining to software licensing.
  - c. Ability to specify details to software entitlements tag consumers that allow installed software configuration items to be measured and reported for license compliance purposes.
  - d. Increased awareness of software license compliance issues on the part of software entitlement tag consumers.
  - e. Improved customer relationships through fewer, quicker and more effective license compliance audits.
- b) Software entitlement tag managers. These include SAM tool providers, deployment tool providers, re-sellers, value-added re-sellers, re-publishers, packagers and release managers. Benefits of standardization in software entitlement tagging practices for software entitlement tag managers include, but are not limited to, the following:
  - a. Receipt of consistent and uniform data from software entitlement tag creators.
  - b. Enhanced power to ensure delivery of consistent license allocation and metrics data and to determine need for remediation of software licensing.
  - c. Improved reporting from additional categorization made possible by the use of software entitlement tags.
  - d. Improved tool reconciliation capabilities resulting from standardization in location and format of software entitlement tag data.
  - e. Improved tool capabilities to differentiate licensed from unlicensed software.
  - f. Ability to deliver value-added functionality for compliance management, such as launch controls, through the consumption of entitlement data. (Although launch controls are out of scope for

this part of ISO/IEC 19770, there will be sufficient data available in the entitlement record for tool vendors to provide value-added functionality).

- c) Software entitlement tag consumers. These include SAM owners, SAM practitioners, IT support professionals and end users of a given software configuration item. Benefits from standardization in software entitlement tagging practices for software entitlement tag consumers include, but are not limited to, the following:
- a. Receipt of consistent and uniform data from software entitlement tag creators and entitlement tag managers.
  - b. Enhanced power to ensure delivery of consistent license allocation and metrics data and to determine need for remediation of software licensing.
  - c. Improved reporting from additional categorization made possible by the use of software entitlement tags.
  - d. Improved SAM and software license compliance capabilities stemming from standardized, manufacturer-supplied, easily reconcilable software tags and entitlement tags.
  - e. Improved ability to avoid software licensing under- or over-procurement with subsequent cost reductions.
  - f. Standardized software entitlement tag usage across multiple platforms, rendering heterogeneous computing environments more consistent and manageable.
  - g. Improved and more efficient communications between desktop management, purchasing and asset management roles through standardization of fields and data.

# **1 Scope**

## **1.1 Purpose**

## **1.2 Field of application**

## **1.3 Limitations**

# **2 Conformance**

## **2.1 Conformance Scope**

## **2.2 Organizational Conformance**

### **2.2.1 Organizational Scope**

### **2.2.2 Software provider conformance**

### **2.2.3 Tag tool provider conformance**

### **2.2.4 Software consumer conformance**

## **2.3 Product Conformance**

### **2.3.1 Product Scope**

### **2.3.2 Platform provider conformance**

### **2.3.3 Tag tool provider conformance**

## **2.4 Agreement compliance**

# **3 Terms and definitions**

## **3.1**

Term to be defined

# **4 Alignment and rationalization with prior standards**

## **4.1 Statement of alignment for this part of ISO/IEC 19770**

## **4.2 Alignment with ISO/IEC 19770-1:2006 specification**

## **4.3 Alignment with ISO/IEC 19770-2:2008 specification**

## **4.4 Alignment with ISO/IEC 20000-1:2005 specifications**

## **4.5 Alignment with ISO/IEC 20000-2:2005 specifications**

# **5 Implementation of entitlement data**

## **5.1 SAM Process**

### **5.1.1 Software discovery**

### **5.1.2 Entitlement data**

### **5.1.3 Reconciliation of software discovery and entitlement data**

## **6 Requirements of electronic entitlement tags**

### **6.1 General guidelines**

**6.1.1 Consistency among data types and values**

**6.1.2 Measurable data**

**6.1.3 Relationship and use with software tagging practices (ISO/IEC 19770-2:2008)**

**6.1.4 Entitlement types**

**6.1.5 Software entitlement tag installation and location**

**6.1.6 Unique identifiers**

**6.1.7 Unique software entitlement tag file name**

**6.1.8 Authenticity of entitlement tags**

### **6.2 Capturing entitlement data**

**6.2.1 Capturing hardware information**

**6.2.2 Capturing general system information**

**6.2.3 Capturing software information**

### **6.3 Software entitlement tag life cycle: operational breakdown**

**6.3.1 Software entitlement tag creators**

**6.3.2 Software entitlement tag managers (SAM tools)**

**6.3.3 Software entitlement tag end users**

**6.3.4 Entitlement tags for COTS software**

**6.3.5 Entitlement tags for volume purchased software**

## **7 Entitlement metrics**

### **7.1 General**

### **7.2 Entitlement tag elements**

**7.2.1 Mandatory entitlement tag elements**

**7.2.2 Optional entitlement tag elements**

**7.2.3 Extended entitlement tag elements**

## **8 Platform recommendations**

### **8.1 Types of platforms**

### **8.2 Basic platform data**

### **8.3 Capturing entitlement data**

## **8.4 Virtual environments**

## **8.5 Virtual computers**

**Annex A**  
(Informative)  
**Guidance for roles and use cases**

**A.1 Software manufacturers and providers**

**A.1.1 Roles Involved in the software entitlement tag creation/management**

**A.1.2 Product manager role**

**A.1.3 Development manager/engineer**

**A.1.4 Manufacturers and providers with electronic licensing infrastructure**

**A.1.5 Manufactures and providers without electronic licensing infrastructure**

**Annex B**  
(Informative)  
**SAM Tool providers**

**B.1 Discovery tool/License management tool vendors**

**B.1.1 General**

**B.1.2 Primary use cases**

**B.1.3 Secondary use cases**

**B.1.4 Entitlement tracking**

**B.1.4.1 Management of entitlement tracking via electronic entitlement tracking tool**

**B.1.4.1.1 Installation based tracking**

**B.1.4.1.2 On-demand usage tracking**

**B.1.4.1.3 Usage based tracking**

**B.1.5 Distribution tool vendors**

**Annex C**  
(Informative)  
**Distributors, re-packagers and re-sellers use cases and guidance**

**C.1 Distribution, re-packaging and re-selling use cases**

**C.2 Distributor software entitlement tag data creation and modification**

**Annex D**  
(Informative)  
**Entitlement tag data end users use cases and guidance**

**D.1 Overview**

**D.2 Software entitlement data**

**D.3 Definition of roles**

**D.4 Scenario: external audit response**

**D.5 Scenario: product requisition and fulfillment**

**D.6 Scenario: entitlement discovery and reconciliation**

**D.6.1 Objectives**

**D.6.2 Functional roles<sup>1</sup> involved**

**D.6.3 Requirements<sup>2</sup>**

**D.6.4 Challenges**

**D.7 Scenario: electronic software distribution**

**D.7.1 Objectives**

**D.7.2 Functional roles involved**

**D.7.3 Requirements**

**D.7.4 Challenges**

**D.8 Scenario: migration planning**

**D.8.1 Objectives**

**D.8.2 Functional roles involved**

**D.8.3 Requirements**

**D.8.4 Challenges**

**D.9 Scenario: patch management**

**D.9.1 Objectives**

**D.9.2 Functional roles involved**

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<sup>1</sup> Brief descriptions of these roles are provided in section D.3 of this document. These lists are not exhaustive and may not include all roles that would be involved.

<sup>2</sup> Not all data requirements listed for the Use Case are necessarily expected to be obtained from the entitlement tag.

### **D.9.3 Requirements**

### **D.9.4 Challenges**

**Annex E**  
(Normative)  
**XML schema definition (XSD)**

# **Annex F**

## **(Informative)**

### **Extended examples**

#### **F.1 General**

#### **F.2 Scope**

#### **F.3 Pseudo code**

##### **F.3.1 Metrics**

##### **F.3.2 Examples**

**F.3.2.1 Example 1 – Per use**

**F.3.2.2 Example 2 – Shared use on a network**

**F.3.2.3 Example 3 – Client Access Licenses (CAL's)**

**F.3.2.4 Example 4 – CPU based**

**F.3.2.5 Example 5 – Software tag values**

## Bibliography

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- [2] *ISO/IEC 19770-2:2008, Information technology – Software asset management – Part 2: Software Tag*
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- [5] *ISO/IEC 25051:2006, Software engineering -- Software product Quality Requirements and Evaluation (SQuaRE) -- Requirements for quality of Commercial Off-The-Shelf (COTS) software product and instructions for testing*
- [6] IETF RFC 3986, *Uniform Resource Identifier (URI): Generic Syntax*
- [7] IETF RFC 4646, *Tags for Identifying Languages*
- [8] IETF RFC 4647, *Matching of Language Types*
- [9] W3C Recommendation, *XML-Signature Syntax and Processing*
- [10] W3C NOTE, *Date and Time Formats*
- [11] UNSPSC, *The United Nations Standard Products and Services Code*