
**Information technology — IT asset
management —**

**Part 4:
Resource utilization measurement**

*Technologies de l'information — Gestion de biens de logiciel —
Partie 4: Mesure d'utilisation des ressources*

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and systems engineering*.

A list of all parts in the ISO/IEC 19770 series can be found on the ISO website.

Guidelines for mapping of industry Software Asset Management (SAM) practices with the ISO/IEC 19770 series of standards and guidelines for the application of ISO/IEC 19770-1 for small organizations will form the subjects of future ISO/IEC 19770-8 and ISO/IEC 19770-11, respectively.

Introduction

0.1 Overview

International Standards in the ISO/IEC 19770 series of standards for IT asset management (ITAM) address both the processes and technology for managing IT assets. Because IT is an essential enabler for almost all activity in today's world, these standards should integrate tightly into all of IT. For example, from a process perspective, ITAM standards should be able to be used with all management system standards, because hardware and software, and management of hardware and software management are essential components of any modern management system. From a technology perspective, ITAM standards for information structures provide not only for the interoperability of IT management data, but also provide the basis for many additional benefits such as more effective security in the use of software. ITAM standards for information structures also facilitate significant automation of IT functionality, such as improved authentication of software and easier and more consistent collection of data relating to the use of that software.

0.2 Purpose of this document

This document provides an International Standard for Resource Utilization Measurement (RUM). A RUM is a standardized structure containing usage information about the resources that are related to the use of an IT asset. A RUM will often be provided in an XML data file, but the same information may be accessible through other means depending on the platform and the IT asset/product.

This document contains information structures that are designed to align with the identification information defined in ISO/IEC 19770-2, and with the entitlement information defined in ISO/IEC 19770-3. When used together, these three types of information have the capability to significantly enhance and automate the processes of IT asset management.

This document supports the IT asset management processes defined in ISO/IEC 19770-1. This document also supports the other parts of the ISO/IEC 19770 series of standards that define information structures.

The RUM is specifically designed to be general-purpose and usable in a wide variety of situations. Like other information structures defined in the ISO/IEC 19770 series of standards, the consumer of a RUM may be an organization and/or a tool or other consumers. In contrast to the other information structures in the ISO/IEC 19770 series, the entity creating a RUM data on a periodic basis will likely be an IT asset or an automation tool monitoring an IT asset.

The definition of a RUM will benefit all stakeholders involved in the creation, licensing, distribution, releasing, installation, and on-going management of IT assets. Key benefits associated with a RUM for three specific groups of stakeholders include:

- IT asset users
 - RUM data will typically be generated and processed by IT assets and automation tools, within the consumers enterprise boundary, for purpose of IT asset compliance and optimization;
 - RUM data is human readable and can provide improved visibility into resource utilization within IT assets independent of vendor or third-party supplied tools;
 - the ability to combine identification, entitlement, and resource utilization information together to perform quantitative and authoritative IT asset management, for example, to meet compliance requirements;

- a much-improved ability to perform IT asset management in support of green data center strategies such as optimization of the use of power and air conditioning;
- IT asset manufacturers
 - the ability to consistently and authoritatively generate resource utilization information for consumption by a central facility that is maintained by the creator, or one or more third-party tools, or by the IT asset users;
 - the ability to support multiple instances and types of third-party tools with a single set of functionality within the IT asset;
 - the ability to offer a service to track real-time IT asset usage in the field and, when combined with identification and entitlement information, the ability to give advance warning as resource limits are approached;
 - the ability to offer an alternative approach to asset utilization measurement to traditional techniques that employ key-based, or platform-restricted licenses;
- Tool vendors
 - the ability to support multiple IT assets, and types of IT asset, without having to create and maintain unique instrumentation that is associated with each asset;
 - the ability to more easily aggregate usage information across multiple instances of an asset;
 - a much-improved ability to track resource utilization and IT assets in near real-time.

This document is divided into the following clauses and annexes:

- [Clause 1](#) is the scope;
- [Clause 2](#) describes the normative references;
- [Clause 3](#) describes the terms, definitions, symbols, and abbreviations used in this document;
- [Clause 4](#) defines conformance;
- [Clause 5](#) describes key concepts;
- [Clause 6](#) defines implementation requirements and gives guidance;
- [Clause 7](#) defines tool requirements;
- [Clause 8](#) defines the elements of the RUM;
- [Annex A](#) contains the XML schema document (XSD) for the RUM;
- [Annex B](#) gives examples of RUMs; and
- [Annex C](#) gives methods of linking a RUM to a specific software asset.

This document is not intended to conflict either with any organization's policies, procedures, or standards. Any such conflict should be resolved before using this document.

Information technology — IT asset management —

Part 4:

Resource utilization measurement

1 Scope

1.1 Purpose

This document establishes specifications for an information structure to contain Resource Utilization Measurement information to facilitate IT asset management (ITAM).

This document is applicable to all types of organization (for example, commercial enterprises, government agencies, and non-profit organizations).

1.2 Field of application

This document applies to the following.

- a) IT asset manufacturers: These are the entities that create IT assets for distribution or installation.
- b) Tool providers: These are the entities that may provide any number of tools that use the information contained in a Resource Utilization Measurement (RUM). These tools will include aggregation facilities capable of producing consolidated reports of the utilization of resources throughout an organization, and threshold reporting facilities capable of generating an alarm when utilization reaches a predetermined level.
- c) IT asset users: These are the entities that purchase, use IT assets, and who are intended as one of the major beneficiaries of the visibility made possible by the information that is contained within the RUM.

1.3 Limitations

This document does not detail ITAM processes required for the reconciliation of resource utilization information with other types of information such as identification and entitlement information.

This document only defines an information structure, and does not define how that information is communicated between systems, or how resource measurement information from different systems is reconciled or consolidated.

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.

ISO/IEC 19770-5, *Information Technology — Software asset management — Overview and vocabulary*

ISO 8601, *Data elements and interchange formats — Information interchange — Representation of dates and times*

RFC 3986, *Uniform Resource Identifier (URI): Generic Syntax*, January 2005, <http://tools.ietf.org/html/rfc3986>