
**Information technology — Security
techniques — Time-stamping
services —**

**Part 4:
Traceability of time sources**

*Technologies de l'information — Techniques de sécurité — Services
d'horodatage —*

Partie 4: Traçabilité des sources du temps

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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 document 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).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is ISO/IEC JTC 1, *Information technology*, SC 27, *IT Security techniques*.

ISO/IEC 18014 consists of the following parts, under the general title *Information technology — Security techniques — Time-stamping services*:

- *Part 1: Framework*
- *Part 2: Mechanisms producing independent tokens*
- *Part 3: Mechanisms producing linked tokens*
- *Part 4: Traceability of time sources*

Introduction

ISO/IEC 18014-1, ISO/IEC 18014-2, and ISO/IEC 18014-3 provide a general framework and specify time-stamping methods for time-stamping services offered by the time-stamping authority (TSA). This part of ISO/IEC 18014 describes an overall architecture for providing trusted time to the TSA and specifies technical guidelines to guarantee its correctness through the use of the time assessment authority (TAA).

Information technology — Security techniques — Time-stamping services —

Part 4: Traceability of time sources

1 Scope

This part of ISO/IEC 18014

- defines the functionality of the time assessment authority (TAA),
- describes an overall architecture for providing the time to the time-stamping authority (TSA) and to guarantee the correctness of it through the use of the TAA, and
- gives technical guidelines for the TAA to provide, and to provide assurance in, a trusted time source to the TSA.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 18014-1, *Information technology — Security techniques — Time-stamping services — Part 1: Framework*

ITU-R TF.1876, *Trusted time source for Time Stamp Authority*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

accuracy

closeness of the agreement between the result of a measurement and the true value of the measurand

Note 1 to entry: Accuracy is generally characterized by the overall uncertainty of a measured value.

[SOURCE: ITU-R TF.686-3:2013, Annex 1]

3.2

leap second

intentional time step of one second used to adjust UTC to ensure approximate agreement with UT1

[SOURCE: ISO 8601:2004, 2.2.2]

3.3

measurement

process of experimentally obtaining one or more quantity values that can be reasonably attributed to a quantity

[SOURCE: ISO/IEC GUIDE 99:2007, 2.1]