
**Transport information and control
systems — Reference model architecture(s)
for the TICS sector —**

Part 5:

**Requirements for architecture description
in TICS standards**

*Systèmes de commande et d'information des transports — Architecture(s)
de modèle de référence pour le secteur TICS —*

Partie 5: Exigences pour la description d'architecture dans les normes TICS



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The main task of technical committees is to prepare International Standards, but in exceptional circumstances, a technical committee may propose the publication of a Technical Report of one of the following types:

- type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;
- type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/TR 14813-5, which is a Technical Report of type 2, was prepared by Technical Committee ISO/TC 204, *Transport information and control systems*.

It is intended that all standards developed for the Road Traffic and Transport Telematics (RTTT)/Transport Information and Control System (TICS) sector conform to these interpretations of definitions and that all standards for the TICS sector follow the prescribed format in documenting system architecture aspects of their standards.

ISO/TR 14813 consists of the following parts, under the general title *Transport information and control systems — Reference model architecture(s) for the TICS sector*:

- *Part 1: TICS fundamental services*
- *Part 2: Core reference model*
- *Part 3: Example elaboration*
- *Part 4: Reference model tutorial*
- *Part 5: Requirements for architecture description in TICS standards*
- *Part 6: Data presentation in ASN.1*
- *Part 7: TICS data profiles*

Annex A of this part of ISO/TR 14813 is for information only.

Introduction

The word “Architecture” has been used in an informal manner to mean a variety of different concepts. This has limited the effective communication in the TICS sector by causing uncertainty as to the meaning of the word “Architecture” when it is used. The purpose of this part of ISO/TR 14813 is to specify the terminology to be used in describing architectural aspects of TICS standards, and provide a consistent form for TICS architecture description in standards in the TICS sector.

In order to maximise the efficiency of co-existing TICS systems, and in order to obtain compatibility and/or interoperability and to eliminate contention, the systems need to co-exist and operate within a known and supportive architectural framework.

In order for such a supportive architectural framework to be developed and for compatibility and interoperability to be obtained, it is a pre-requisite both to apply the same definition of terminology used, and to describe the requirements for architecture description in TICS standards in a consistent manner.

This part of ISO/TR 14813 requires that the architecture aspects of TICS standards are described explicitly in each and every TICS standard and that all standards are related to the (one or more) TICS Fundamental Service(s) that they are designed to enable or support.

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1 Scope

A TICS architecture is a framework for TICS deployments. It is a high level description of the major elements and the interconnections among them. It provides the framework around which the interfaces, specifications and detailed TICS systems designs can be defined. A TICS Architecture is not a product design, nor a detailed specification for physical deployment, and it is not specific to any one location. The title 'Systems Architecture' is perhaps the closest general terminology, but that term is sometimes too specific to include the conceptual aspects included in the terminology 'TICS Architecture' and also often implies a location specific solution.

The purpose of a TICS Architecture is to maximise efficiency, interoperability and multimodality of multiple interacting TICS systems in a complex and developing sector.

This part of ISO/TR 14813 defines

- a) Terminology to be used when documenting or referencing aspects of architecture description in TICS standards.
- b) The form in which aspects of System Architecture are to be documented and described in TICS standards.

In compiling this part of ISO/TR 14813, the authors have assumed that contemporary systems engineering practices are used. Such practices are not defined within this part of ISO/TR 14813.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/TR 14813. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO/TR 14813 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO/TR 14813-1, *Transport information and control systems — Reference model architecture(s) for the TICS sector — Part 1: TICS fundamental services*.

ISO/TR 14813-6, *Transport information and control systems — Reference model architecture(s) for the TICS sector — Part 6: Data presentation in ASN.1*.

ISO/IEC 8824-1:1995, *Information technology — Abstract Syntax Notation (ASN.1): Specification of basic notation*.

ISO/IEC 8824-1:1995/Amd.1:1996, *Information technology — Abstract Syntax Notation (ASN.1): Specification of basic notation, Amendment 1: Rules of extensibility*.

ISO/IEC 8824-2:1995, *Information technology — Abstract Syntax Notation (ASN.1): Information object specification*.