TECHNICAL REPORT

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The technology roadmap for industry data dictionary structure, utilization and implementation

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International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch

Commission Electrotechnique Internationale
International Electrotechnical Commission
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

THE TECHNOLOGY ROADMAP FOR INDUSTRY DATA DICTIONARY STRUCTURE, UTILIZATION AND IMPLEMENTATION

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IEC 61908, which is a technical report, has been prepared by IEC technical committee 93: Design Automation.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
93/195+195A/DTR	93/205/RVC

Full information on the voting for the approval of this technical report can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

In order for a standard to be effective, there need to be utilization and implementation. In today's global economy the leading edge companies forge ahead with their agenda and many times produce what are known as pseudo-standards. Whether driven by an individual company (i.e. Microsoft®) or a consortia group, the ability to satisfy a customer need is their main focus and goal. This, in many instances, puts the groups developing standards in a "catch-up" mode while they make sure that industry has accepted the new concept, domain or technology. Unfortunately, although there may be better ideas developed during the standardization process or the playing field be levelled by the standard requirement, there is a "reluctance to change" by those organizations or individuals that have invested a good number of resources in developing or implementing the new concept.

If the standard defines physical performance requirements or conformance details, the contractual agreements between members of the supply chain handle these according to an implemented revision level. Many engineering hours are spent in determining the variation between an existing version and a new change proposal, to ascertain whether the change is compatible with the implemented processes, or whether the change would require a major process overhaul. The effort to change, many times, impacts business relationships and thus support of the next revision of the standard.

When it comes to software these issues become more complex, and take on market share, technical competence, business process, and competitive rhetoric significance. Instead of working together to help the industry, many times the players work to enhance their own position. This is counter productive to helping the electronic industry make sound decisions and continue to follow along the path of outsourcing much of the supply chain transactions, whether purchasing, fabrication, assembly or testing of electronic hardware.

In order to clearly define the difference between a dictionary and a library; a dictionary contains only meta data (data about data supported by an Information model of such entries). So the definition according to a certain methodology is given of a specific characteristic, for instance "terminal diameter" For such a characteristic, the identification, description and value representation shall be defined. What is not given in the dictionary is the actual value(s) of diameters of something.

A library is like a catalogue. It uses dictionary entries to be built into the database. In a library you find the characteristics with their values, so you can compare components of different manufacturers on their characteristics.

THE TECHNOLOGY ROADMAP FOR INDUSTRY DATA DICTIONARY STRUCTURE, UTILIZATION AND IMPLEMENTATION

1 Scope

This Technical Report is applicable to the technology roadmap for industry data dictionary structure, utilization and implementation.

This report covers one aspect of industry relationships; that of data dictionaries. A data dictionary is made up of information about products. The products can be electronic components, base material, clothing, chemicals or any product that can be described in terms of an industry understood descriptive name (element) and the characteristics that make up that part (attributes). Another item that helps data dictionaries become very efficient is to reuse the characteristics (attributes) in more than one element. Reuse of information is desirable in any implementation strategy in order to reduce search time for the implementation software. The topic of discussion, therefore, in this report is the status, completeness, implementer goals, and standardization efforts related to electric components.

2 Normative references

The following referenced documents are indispensable for the application 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.

IEC 61360-1, *Standard data element types with associated classification scheme for electric components – Part 1: Definitions – Principles and methods*

IEC 61360-2, *Standard data element types with associated classification scheme for electric components – Part 2: EXPRESS dictionary schema*

IEC 61360-4, *Standard data element types with associated classification scheme for electric components – Part 4: IEC reference collection of standard data element types, component classes and terms*

ISO 13584-26, *Industrial automation systems and integration – Parts library – Part 26: Logical resource: Information supplier identification*

ISO 13584-42, *Industrial automation systems and integration – Parts library – Part 42: Description methodology: Methodology for structuring part families*