AS ISO 18876.1—2004
ISO 18876-1:2003

Australian Standard™

Industrial automation systems and integration—Integration of industrial data for exchange, access and sharing

Part 1: Architecture overview and description

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PREFACE

This Standard was prepared by the Standards Australia Committee IT-006, Information Technology for Industrial Automation and Integration.

This Standard is identical with, and has been reproduced from, ISO 18876-1:2003, *Industrial automation systems and integration—Integration of industrial data for exchange, access and sharing,* Part 1*: Architecture overview and description*.

The objective of this Standard is to provide and establish an architecture, a methodology, and other specifications for integrating industrial data for exchange, access, and sharing.

This Standard is Part 1 of AS ISO 18876—2004, *Industrial automation systems and integration—Integration of industrial data for exchange, access and sharing*, which is published in parts as follows:

Part 1: Architecture overview and description (this Standard)
Part 2: Integration and mapping methodology

The terms 'normative' and 'informative' are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

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(a) Its number appears on the cover and title page while the international standard number appears only on the cover.

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References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian Standard*	
ISO		AS	
10303-1	Industrial automation systems and integration—Product data representation and exchange—Part 1: Overview and fundamental principles	10303.1	Industrial automation systems and integration—Product data representation and exchange, Part 1: Overview and fundamental principles

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INTRODUCTION

0.1 Overview of ISO 18876

This International Standard establishes an architecture, a methodology, and other specifications for integrating industrial data for exchange, access, and sharing. It supports:

— data sharing and data integration;

— specification of mappings between models; and

— data transformation.

0.2 Organization of this part of ISO 18876

This part of ISO 18876 is organized as follows:

— Clause 1 specifies the scope and field of application of the International Standard and of this part of ISO 18876;

— Clause 2 identifies additional standards that, through references in this part of ISO 18876, constitute provisions of this part of ISO 18876;

— Clause 3 defines terms and abbreviations used in this part of ISO 18876;

— Clause 4 describes the organization of this International Standard;

— Clause 5 describes the fundamental concepts and assumptions on which this International Standard is based;

— Clause 6 provides an overview of the model integration process;

— Clause 7 identifies some components of the integration architecture;

— Clause 8 provides an overview of the processes of data mapping and consolidation;

— Clause 9 summarizes the relationships with other standards.

0.3 Target audiences

The target audiences for this part of ISO 18876 are as follows:

— technical managers wishing to determine whether ISO 18876 is appropriate for their business needs;

— implementers wishing to obtain an overview of its contents.

AUSTRALIAN STANDARD

Industrial automation systems and integration — Integration of industrial data for exchange, access and sharing —
Part 1:
Architecture overview and description

1 Scope

This Technical Specification establishes an architecture, a methodology, and other specifications for integrating industrial data for exchange, access, and sharing. The following activities are supported:

— integrating data which may be:

  — from different sources or different contexts,

  — described by different models, or

  — defined in different modelling languages;

— sharing data among applications through systems integration architectures;

— resolving conflict between models developed with different objectives;

— translating data between different encodings;

— translating models between different modelling languages.

The following are within the scope of ISO 18876:

— integration models;

— methods for creating, extending, and updating integration models;

— methods for creating a mapping specification to map data instances between an integration model and an application model that falls within its scope;

— encoding and decoding of data and models with different formats, such as SGML [1], XML [7], EXPRESS [3], UML [6] and ISO 10303-21 [4];

— methods for consolidating data sets from different sources and different models;

— modelling and mapping specification languages.

The following is within the scope of this part of ISO 18876:

— the architecture and an outline of the methodology.

The following are outside the scope of this part of ISO 18876:

— integration models;

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