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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 32855.1-2016

**Advanced automation technologies and their applications --
Requirements for establishing manufacturing enterprise process
interoperability -- Part 1: Framework for enterprise interoperability**

先进自动化技术及其应用 制造业企业过程互操作性建立要求 第1部分：企业互操作性框架

(English Translation)

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Foreword

GB/T 32855 "Advanced automation technology and its application manufacturing enterprise process interoperability requirements" to be included in the following three parts.

Part 1. Enterprise interoperability framework;

Part 2. Evaluate the enterprise interoperability maturity model;

Part 3. Enterprise interoperability requirements driven by information and communication technologies.

This part is part 1 of GB/T 32855.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part uses the translation method equivalent to ISO 11354-1:2011 "advanced automation technology and its application manufacturing business process interoperability Job Establishment Requirements Part 1. Enterprise Interoperability Framework "(English version).

This part of the technical content and composition of the structure and ISO 11354-1:2011 "advanced automation technology and its application manufacturing business process Interoperability establishment requirements Part 1. Enterprise interoperability framework "(English version) is consistent, only where needed, do the individual editorial modify.

a) in accordance with the requirements of our national standards to re-draft the preamble.

b) Replace "International Standard" and ISO 11354 with "GB/T 32855". Change ISO 11354-1 to GB/T 32855 1 part or GB/T 32855.1.

c) Change the international standard number that has been converted to national standard to the national standard number, the untranslated international standard reservation.

This part is made by the China Machinery Industry Federation.

This part is headed by the National Automation System and Integrated Standardization Technical Committee (SAC/TC159).

This part of the drafting unit. Beijing Machinery Industry Automation Research Institute.

Introduction

Interoperability between enterprises, not only become today's enterprises to obtain market competitiveness of a recognized quality and advantages of the conditions, but also more and more the more the survival of many enterprises, especially small and medium enterprises. Throughout the product lifecycle, companies need more interoperability to drop Low cost and reduced deferral. Enhanced interoperability enables companies to market new products in the organization network. Many stakeholders the research in this area of business, interoperability, can yield outstanding results that can lead to economic growth and increased employment (see reference [16]).

Interoperability is still a vague concept in the field of engineering disciplines and fields.

Multiple definitions and connotations, which lead to difficulties in communication and misunderstandings. As a result, concepts related to enterprise interoperability are indispensable.

Enterprise systems can not interoperate because of different categories of barriers. Thus, interoperability barriers are an important concept, GB/T 32855 this section defines three types of interoperability barriers, namely, conceptual, technical, and organizational. Interoperability barriers need to be standard Classification, existing interoperability knowledge and solutions need to be relevant to these barriers to facilitate industry design and implementation interoperability.

GB/T 32855 that interoperability is a common concept, any specific business interoperability failure of the common problems are considered to be able to know and can develop a solution. Therefore, GB/T 32855 that business interoperability is an engineering discipline, and other business issues are different.

Interoperability is seen as an indispensable support for business collaboration, but it is not business collaboration.

Advanced automation technology and its application Manufacturing industry process interoperability establishment requirements Part 1. Enterprise Interoperability Framework

1 Scope

The purpose of this part of GB/T 32855 is to define an enterprise interoperability framework (FEI); the framework establishes several dimensions and Horns to deal with interoperability barriers, propose potential solutions and articulate the relationships between them.

GB/T 32855 used in manufacturing enterprises, can also be used for other types of enterprises. GB/T 32855 is used according to the letter Interest, communications technology development and deployment of solutions for stakeholders. GB/T 32855 focus on the enterprise (manufacturing or service) interoperability but not limited to this.

This part of GB/T 32855 specifies.

- a number of perspectives, these perspectives are targeted at stakeholder concerns, and the focus is on the need for interoperable enterprises at the operational level.

Body (information object or physical object) exchange;

- a framework that builds stakeholder concerns (business, processes, services, and data), interrelated with enterprise interoperability Barriers (conceptual, technical and organizational) and methods of overcoming obstacles (integrated, unified and united), the framework also Including the identification of various solutions, these solutions to promote the realization of interoperability.

This part of GB/T 32855 does not specify a specific mechanism for the exchange of entities (information objects or physical objects), nor does it provide for the the method of operating the solution.

Three appendices provide additional information. Appendix A describes how the existing interoperability framework is relevant to this framework. Appendix B is used Examples of FEI's identification and classification of interoperability barriers, knowledge, and solutions. Appendix C is given in an interoperable project How to use FEI's methodological guide.

2 Terms and definitions

The following terms and definitions apply to this document.

Enterprise interoperability Ability to communicate and interact effectively with business and physical capabilities.

Note: Interoperability is significant if the interaction occurs in at least one of the four interoperability concerns of data, services, processes, and business.

Interoperability Barrier Interoperability Barrier Incompatibility between business entities, such incompatibility blocking information exchange and communication between other entities and hampering the use of services or A common understanding of exchange matters.

Note: This part of GB/T 32855 defines three types of barriers. conceptual, technical and organizational.

Interoperability concerns interoperability Business stakeholders are interested in interactive areas or interoperability needs.

Note: This part of GB/T 32855 defines four aspects of interoperability concerns. data, services, processes, and business.