

FOREWORD

ISA-95 is a multipart series of standards that defines the integration of control systems with enterprises. This Part 8 standard defines the subset of the standards used for a set of message exchanges for a specific industry or use case, to aid in the implementation of the standards.

Clause 5 is normative. It defines the expected contents of an information exchange profile.

Clause 6 is normative. It defines how to describe extensions to the standard.

Annex A is informative. It provides supporting information for extensions.

Annex B is informative. It provides the answers to some frequently asked questions.

As currently envisioned, ISA-95 consists of the following standards under the general title Enterprise-Control System Integration:

- Part 1: Models and Terminology,
- Part 2: Objects and Attributes for Enterprise-Control System Integration,
- Part 3: Activity Models of Manufacturing Operations Management,
- Part 4: Object Models and Attributes of Manufacturing Operations Management,
- Part 5: Business to Manufacturing Transactions,
- Part 6: Messaging Service Model (MSM),
- Part 7: Alias Service Model (ASM), and
- Part 8: Information Exchange Profiles.

INTRODUCTION

The ISA-95 Part 8 manufacturing operations management information exchange profile aids in the implementations of ISA-95 for application integration. The information exchange profile's intended business use is within a defined scope for activities, functions, and tasks of Level 3 manufacturing operations management (MOM) and their exchanges between Level 3 and 4 applications. The information exchange profile references the ISA-95 models, concepts, and terminology defined in ISA-95 Parts 1 through 7.

Benefits produced will:

- a) emphasize good manufacturing operations management integration practices during the entire life cycle of the systems,
- b) improve the existing integration capability of manufacturing operations management systems,
- c) reduce the users' time to reach full production levels for new integration projects,
- d) enable vendors to supply appropriate tools used for the integration of manufacturing operations management systems,
- e) enable users to better identify their needs,
- f) reduce the cost of automating manufacturing processes,
- g) optimize supply chains, and
- h) reduce life-cycle engineering efforts.

Part 8 provides a coordinated method to apply all ISA-95 parts to reduce the effort associated with implementing new product offerings. The goal is to have manufacturing operations management systems that interoperate and easily integrate, regardless of the degree of automation.

An information exchange profile demonstrates how the parts of the ISA-95 standards are applied collectively to a group of MOM implementations. The information exchange profile defines an implementation of transactions and objects within the ISA-95 standards and other third-party object groups as required by the implementation.

It is the intent of an information exchange profile, created in accordance with this part of the ISA-95 series, to:

- a) provide business prescriptive details on communications and message constructs between participating systems utilizing the ISA-95 standards as a base,
- b) provide information allowing the information exchange profile to be used as a basis for future implementations,
- c) allow software vendors and implementers to implement per a specific version of the information exchange profile and interact with other similar compliant systems,
- d) support the application to industries, manufacturing types, or specific integration scenarios, and
- e) provide a structure that defines the implementation of multiple parts of the ISA-95 standards that are in scope.

It is not the intent of this document to:

- a) suggest that there is only one way of implementing integration in manufacturing operations management systems,
- b) force users to abandon their current way of handling integration, or
- c) restrict development in the area of integration of manufacturing operations management systems.

1 Scope

This ISA-95 Part 8 standard specifies a method to define information exchange profiles for specific groups of implementations of ISA-95 models. The information exchange profiles specify object models exchanged on interfaces between Level 4 and Level 3 or between Level 3 activities. The information exchange profile specifies verbs and nouns used for ISA-95 implementations.

The information exchange profiles define extensions to, and constraints of, the models defined by ISA-95 for an implementation.

Defining message exchanges within Level 2 and Level 4 are out of scope, although it may be necessary to include the details of these message exchanges to fully describe an implementation of ISA-95.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ANSI/ISA-95.00.01-2010 (IEC 62264-1 Mod) – *Enterprise-Control System Integration – Part 1: Models and Terminology*

ANSI/ISA-95.00.02-2018 – *Enterprise-Control System Integration – Part 2: Object and Attributes for Enterprise-Control System Integration*

ANSI/ISA-95.00.03-2013 (IEC 62264-3 Mod) – *Enterprise-Control System Integration – Part 3: Activity Models of Manufacturing Operations Management*

ANSI/ISA-95.00.04-2018 – *Enterprise-Control System Integration – Part 4: Objects and Attributes for Manufacturing Operations Management Integration*

ANSI/ISA-95.00.05-2018 – *Enterprise-Control System Integration – Part 5: Business-to-Manufacturing Transactions*

ANSI/ISA-95.00.06-2014 – *Enterprise-Control System Integration – Part 6: Messaging Service Model*

ANSI/ISA-95.00.07-2017 – *Enterprise-Control System Integration – Part 7: Alias Service Model*

3 Terms, definitions, and abbreviations

For the purposes of this document, the following terms, definitions, and abbreviations apply. The terms, definitions, and abbreviations provide further clarification and/or additional context about how they are used specifically within this document. General terms, definitions, or abbreviations can be found in the supporting documents listed in Clause 2, Normative references of this document.

3.1 Terms and definitions

3.1.1 profile

set of specifications of values of parameters in the standard, selections of optional items of the standard, or the recommendations concerning implementation-related matters of the standard

[SOURCE: ISO/IEC 15897:2011]