

INTRODUCTION

This standard is the part of the ISA- 62443 series that contains security requirements for providers of integration and maintenance services for Industrial Automation and Control Systems (IACS).

Figure 1 illustrates the relationship of the different parts of ISA- 62443 being developed. Those that are normatively referenced are included in the list of normative references in Clause 2, and those that are referenced for informational purposes or that are in development are listed in the Bibliography.

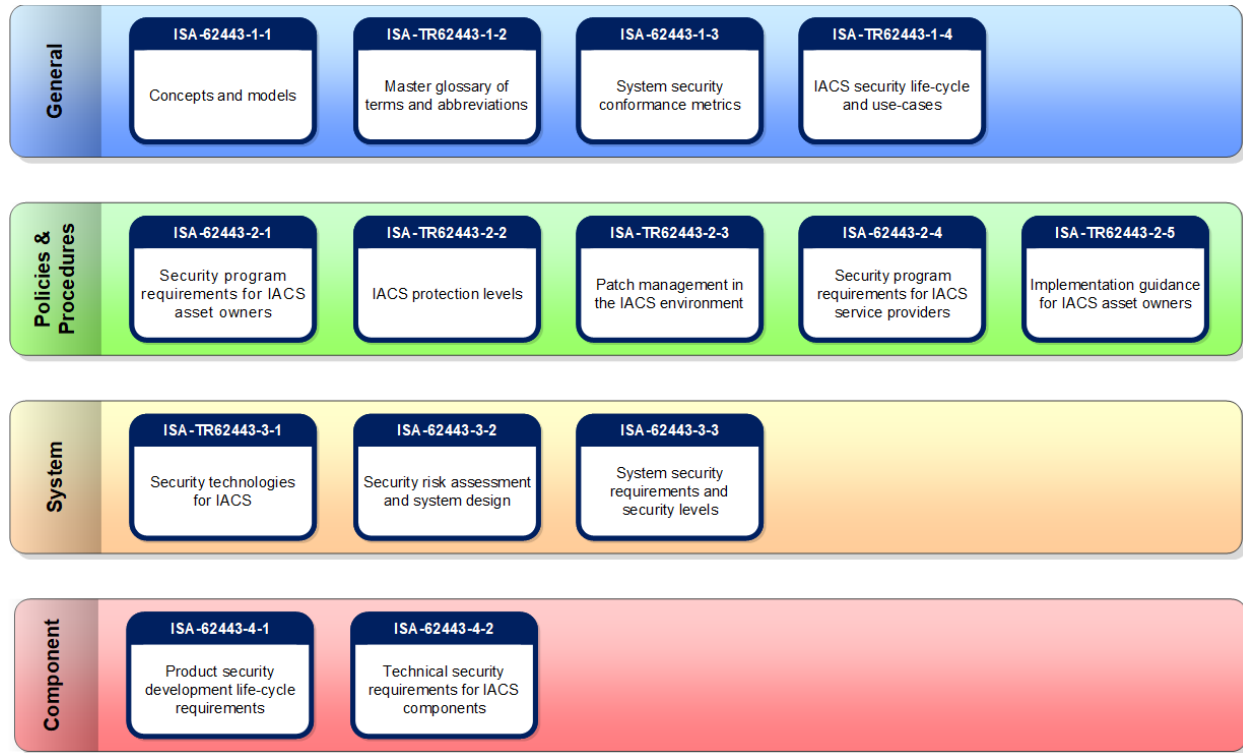


Figure 1 – Parts of the ISA- 62443 Series

1 Scope

This part of ISA- 62443 specifies a comprehensive set of requirements for security capabilities for IACS service providers that they can offer to the asset owner during integration and maintenance activities of an Automation Solution. Because not all requirements apply to all industry groups and organizations, Subclause 4.1.4 provides for the development of Profiles that allow for the subsetting of these requirements. Profiles are used to adapt this document to specific environments, including environments not based on an IACS.

NOTE 1 The term “Automation Solution” is used as a proper noun (and therefore capitalized) in this part of ISA- 62443 to prevent confusion with other uses of this term.

Collectively, the security capabilities offered by an IACS service provider are referred to as its Security Program. In a related specification, ISA- 62443-2-1 describes requirements for the Security Management System of the asset owner.

NOTE 2 In general, these security capabilities are policy, procedure, practice and personnel related.

Figure 2 illustrates how the integration and maintenance capabilities relate to the IACS and the control system product that is integrated into the Automation Solution. Some of these capabilities reference security measures defined in ISA- 62443-3-3 that the service provider must ensure are supported in the Automation Solution (either included in the control system product or separately added to the Automation Solution).

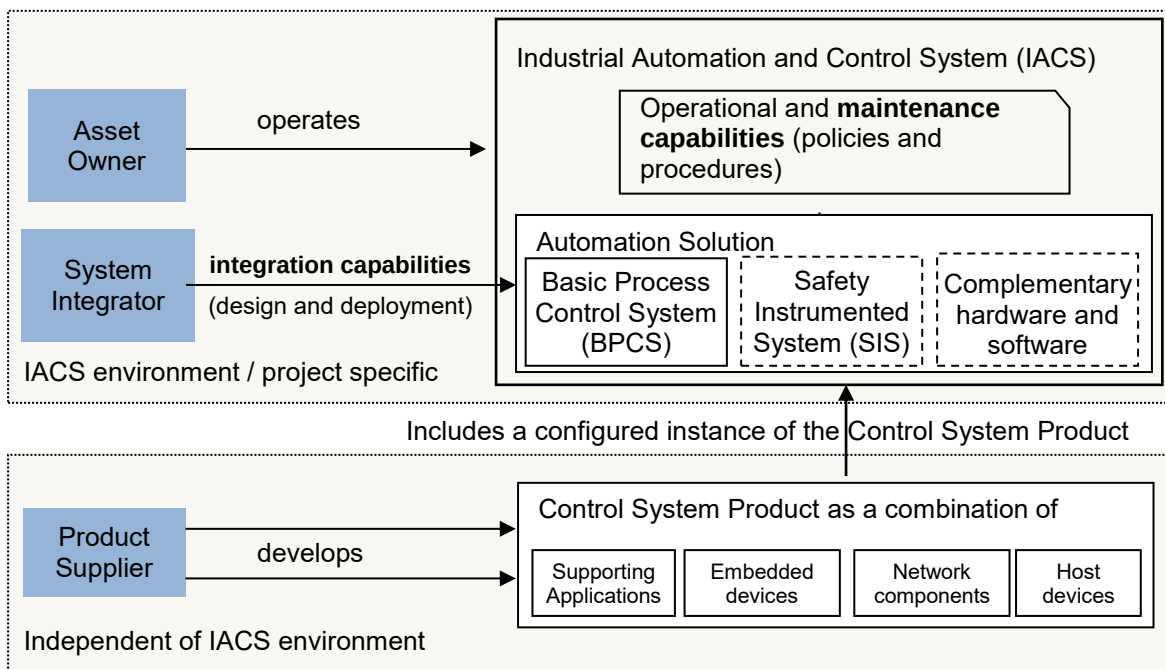


Figure 2 – Scope of service provider capabilities

In Figure 2, the Automation Solution is illustrated to contain a Basic Process Control System (BPCS), optional Safety Instrumented System (SIS), and optional supporting applications, such as advanced control. The dashed boxes indicate that these components are “optional”.

NOTE 3 The term “process” in BPCS may apply to a variety of industrial processes, including continuous processes and manufacturing processes.

NOTE 4 Automation Solutions typically have a single control system (product), but they are not restricted to do so. In general, the Automation Solution is the set of hardware and software, independent of product packaging, that is used to control a physical process (e.g. continuous or manufacturing) as defined by the asset owner.

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.

“None”

3 Terms, definitions, abbreviated terms, acronyms, and conventions

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISA-62443-1-1 and the following apply.

3.1.1

asset owner

individual or organization responsible for one or more IACSS

Note 1 to entry: Used in place of the generic word end user to provide differentiation.

Note 2 to entry: This definition includes the components that are part of the IACS.

Note 3 to entry: In the context of this standard, asset owner also includes the operator of the IACS.

3.1.2

attack surface

physical and functional interfaces of a system that can be accessed and through which the system can be potentially exploited

Note 1 to entry: The size of the attack surface for a software interface is proportional to the number of methods and parameters defined for the interface. Simple interfaces, therefore, have smaller attack surfaces than complex interfaces.

Note 2 to entry: The size of the attack surface and the number of vulnerabilities are not necessarily related to each other.

3.1.3

Automation Solution

control system and any complementary hardware and software components that have been installed and configured to operate in an IACS

Note 1 to entry: Automation Solution is used as a proper noun in this part of ISA- 62443.

Note 2 to entry: The difference between the control system and the Automation Solution is that the control system is incorporated into the Automation Solution design (e.g. a specific number of workstations, controllers, and devices in a specific configuration), which is then implemented. The resulting configuration is referred to as the Automation Solution.

Note 3 to entry: The Automation Solution may be comprised of components from multiple suppliers, including the product supplier of the control system.

3.1.4

basic process control system

system that responds to input signals from the process, its associated equipment, other programmable systems and/or an operator and generates output signals causing the process and its associated equipment to operate in the desired manner but does not perform any safety integrated functions (SIF)

Note 1 to entry: Safety instrumented functions are specified in the IEC 61508 series.

Note 2 to entry: The term “process” in this definition may apply to a variety of industrial processes, including continuous processes and manufacturing processes.