

**SINGAPORE STANDARD**

# **Security for industrial automation and control systems –**

**Part 2-4 : Security program requirements for IACS service  
providers**

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### **Security for industrial automation and control systems –**

Part 2-4 : Security program requirements for IACS service providers

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## **National Foreword**

This Singapore Standard was prepared by the Working Group on Cyber Security for Industrial Automation appointed by the Technical Committee on Smart Manufacturing under the purview of the Manufacturing Standards Committee.

This standard is identical with IEC 62443-2-4:2015+Amd1:2017, "Security for industrial automation and control systems – Part 2-4 : Security program requirements for IACS service providers", published by the International Electrotechnical Commission.

Where appropriate, the words 'International Standard' shall be read as 'Singapore Standard'. Where reference to a particular part of IEC 62443 is made, the appropriate Singapore Standard (which is an identical adoption of that part of IEC 62443) shall apply.

This standard is expected to be used by system integrators and asset owners. It can provide references to product suppliers.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

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**INTERNATIONAL ELECTROTECHNICAL COMMISSION**

**SECURITY FOR INDUSTRIAL AUTOMATION  
AND CONTROL SYSTEMS –**

**Part 2-4: Security program requirements  
for IACS service providers**

**FOREWORD**

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**This Consolidated version of IEC 62443-2-4 bears the edition number 1.1. It consists of the first edition (2015-06) [documents 65/545/CDV and 65/561A/RVC] and its corrigendum 1 (2015-08), and its amendment 1 (2017-08) [documents 65/637A/CDV and 65/661/RVC]. The technical content is identical to the base edition and its amendment.**

**This Final version does not show where the technical content is modified by amendment 1. A separate Redline version with all changes highlighted is available in this publication.**

International Standard IEC 62443-2-4 has been prepared by IEC technical committee 65: Industrial-process measurement, control and automation.

This publication contains an attached file in the form of an Excel 97-2003 spreadsheet version of Table A.1. This file is intended to be used as a complement and does not form an integral part of the publication.

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

A list of all parts in the IEC 62443 series, published under the general title *Security for industrial automation and control systems*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

The committee has decided that the contents of the base publication and its amendment will remain unchanged until the stability 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.

<p><b>IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.</b></p>
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## INTRODUCTION

This standard is the part of the IEC 62443 series that contains security requirements for providers of integration and maintenance services for Industrial Automation and Control Systems (IACS). It has been developed by IEC Technical Committee 65 in collaboration with the International Instrumentation Users Association, referred to as the WIB from its original and now obsolete Dutch name, and ISA 99 committee members.

Figure 1 illustrates the relationship of the different parts of IEC 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.

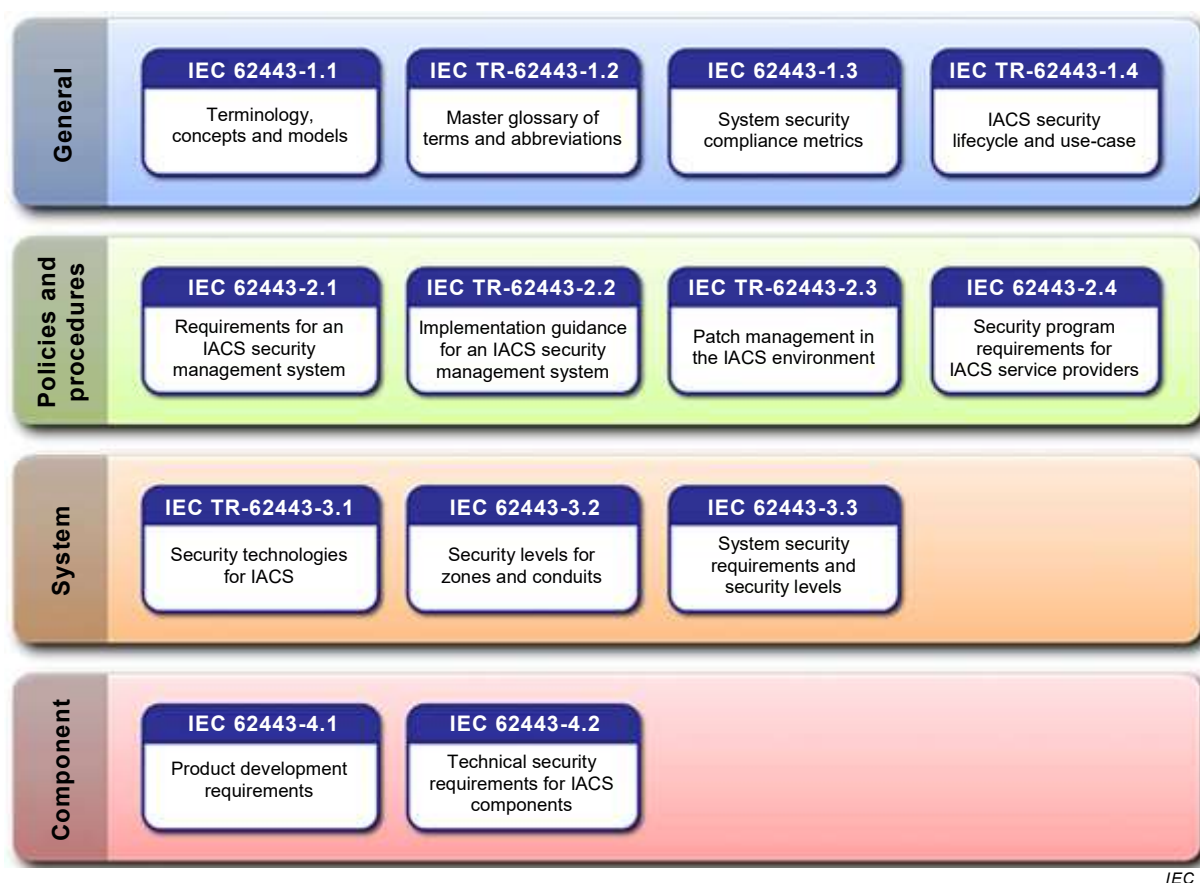


Figure 1 – Parts of the IEC 62443 Series

## SECURITY FOR INDUSTRIAL AUTOMATION AND CONTROL SYSTEMS –

### Part 2-4: Security program requirements for IACS service providers

#### 1 Scope

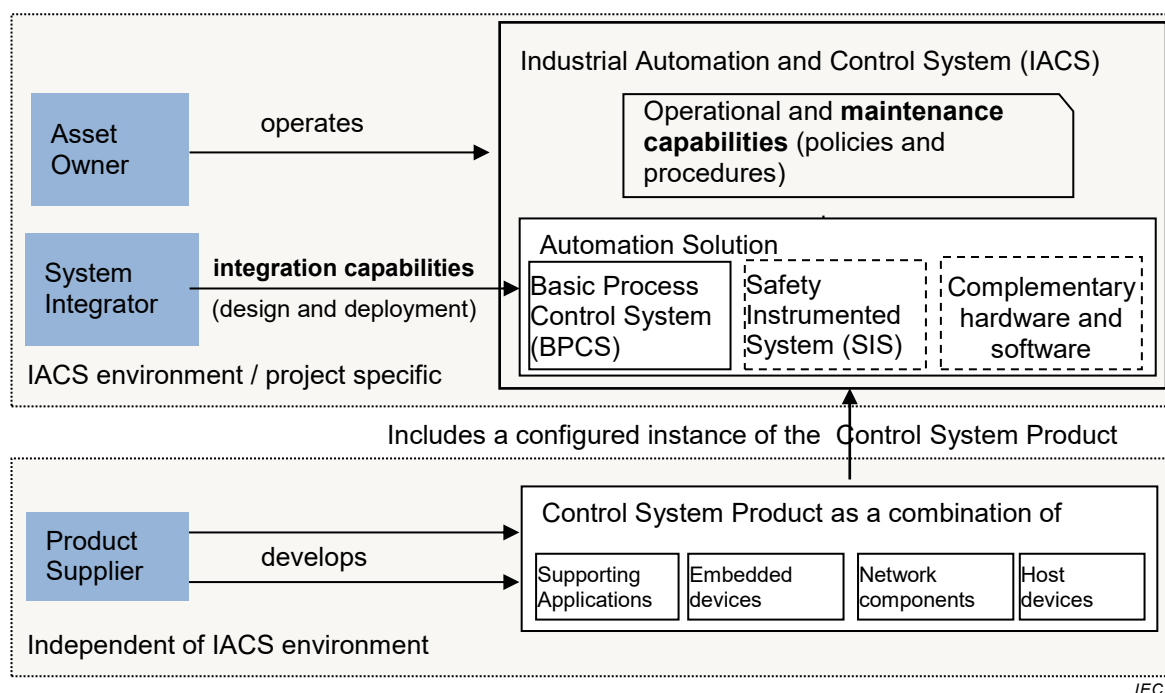
This part of IEC 62443 specifies a comprehensive set of requirements for security capabilities for IACS service providers that they can offer to the asset owner during integration and maintenance activities of an Automation Solution. Because not all requirements apply to all industry groups and organizations, 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 IEC 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, IEC 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 IEC 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).



IEC

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”