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Systems and software engineering — Life cycle management —

Part 9: Application of system and software life cycle processes in epidemic prevention and control systems

Ingénierie des systèmes et du logiciel — Gestion du cycle de vie —

Partie 9: Application des processus du cycle de vie des systèmes et du logiciel dans les systèmes de prévention et de lutte contre les épidémies

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO/IEC documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

ISO/IEC/IEEE 24748-9 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and systems engineering*, in cooperation with the Systems and Software Engineering Standards Committee of the IEEE Computer Society, under the Partner Standards Development Organization cooperation agreement between ISO and IEEE.

A list of all parts in the ISO/IEC/IEEE 24748 series can be found on the ISO and IEC website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

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Introduction

Many areas have adopted information-based prevention and control measures during an epidemic and have developed numerous epidemic prevention and control systems and software. Most of the processes in the entire life cycle of the epidemic prevention and control systems are likely to be completed in the event of an epidemic. Compared with the normal state, there can be special situations such as poor communication, caused by the need for personnel to maintain a safe distance, and limited transportation and logistics services. The result can be insufficient infrastructure protection, short delivery cycles, frequent iterative upgrades, and special requirements such as accuracy, disaster tolerance, degradation capability, safety, user capacity and stress testing, and rapid demand capture. In the development process of epidemic prevention and control systems, the application of the life cycle processes specified in ISO/IEC/IEEE 15288 and ISO/IEC/IEEE 12207 can effectively help guide the process management and application of epidemic prevention and control systems.

However, for effective and efficient application of system and software life cycle processes on epidemic prevention and control systems, additional application requirements are needed. Requirements specific to the use of the epidemic prevention and control systems that facilitate effective implementation depend on the nature and severity of the epidemic and are not detailed in this document.

This document is consistent with life cycle processes of ISO/IEC/IEEE 15288 or ISO/IEC/IEEE 12207 for application on epidemic prevention and control systems, to help ensure the correct application of stakeholders' requirements for epidemic prevention and control systems. This document includes the required outputs and associated attributes.

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Systems and software engineering — Life cycle management —

Part 9: Application of system and software life cycle processes in epidemic prevention and control systems

1 Scope

This document provides requirements and guidance on the application of system and software engineering processes to systems for epidemic prevention and control.

This document provides guidance that can be employed for adopting and applying system and software life cycle processes within an organization or a project in an epidemic emergency. It includes system of systems considerations in the context of epidemic emergency.

This document applies to acquisition, supply, development, operation, maintenance, and disposal (whether performed internally or externally to an organization) of system or system of systems in an epidemic emergency.

Many of the requirements and recommendations in this document are also applicable to other systems developed rapidly to respond to emergency conditions affecting the public.

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.

ISO/IEC/IEEE 12207:2017, *Systems and software engineering — Software life cycle processes*

ISO/IEC/IEEE 15288:2023, *Systems and software engineering — System life cycle processes*

ISO/IEC/IEEE 15289, *Systems and software engineering — Content of life-cycle information items (documentation)*

3 Terms, definitions, and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO, IEC, and IEEE maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

— IEEE Standards Dictionary Online: available at: https://dictionary.ieee.org

NOTE For additional terms and definitions in the field of systems and software engineering, see ISO/IEC/IEEE 24765, which is published periodically as a "snapshot" of the SEVOCAB (Systems and software Engineering Vocabulary) database, and which is publicly accessible at www.computer.org/sevocab.

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