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Part 15: Guidance on the application of Agile and DevOps principles in a service management system

Technologies de l'information – Gestion des services —

Partie 15: Lignes directrices pour l'application des principes "Agile" et "DevOp"s dans un système de gestion des services

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Foreword

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A list of all parts in the ISO/IEC 20000 series can be found on the ISO and IEC websites.

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Introduction

This document is intended to assist users in relating the requirements specified in ISO/IEC 20000–1:2018 to the principles and practices of two frequently used software and service development frameworks, Agile and DevOps. Organizations can refer to this guidance as a cross-reference between the frameworks to help them plan, implement and improve a service management system (SMS).

ISO/IEC 20000–1 is the International Standard for service management and specifies requirements which can be used as the basis of a conformity assessment.

ISO/IEC 20000–1 specifies an integrated process approach in which an organization establishes, implements, maintains and continually improves an SMS. The services can be delivered to internal or external customers or a combination of both. Other parts of the ISO/IEC 20000 series provide supporting guidance.

Agile is defined as a collection of frameworks and techniques focusing on collaboration, iterative and incremental development and continuous improvement.

DevOps is defined as a set of principles and practices which enable better communication and collaboration between relevant stakeholders for the purpose of specifying, developing and operating software and systems services, and continuous improvements in all aspects of the lifecycle (ISO/IEC/IEEE 32675).

Despite these definitions being focused on software development, both Agile and DevOps principles have also been used in a much broader sense, including the development and delivery of services.

The DevOps framework is based on the Agile framework, adding automation of service development and delivery to it. Many Agile concepts discussed in this document are therefore equally applicable to DevOps.

Organizations can implement and improve their SMS using the requirements specified in ISO/IEC 20000–1 and the guidance in the other parts of the ISO/IEC 20000 series. An organization can adopt Agile and DevOps practices to support the management of their services in alignment with the requirements specified in ISO/IEC 20000–1. Other frameworks and practices can also be used to support ISO/IEC 20000–1.

Within this document, Clause 4 provides an overview of ISO/IEC 20000-1 and the SMS. Clause 5 applies Agile principles to the SMS. Clause 6 applies DevOps principles to the SMS. In Clause 7, the benefits and caveats surrounding the use of Agile, DevOps or a combination of the two in the SMS are discussed. Annex A provides a correlation of ISO/IEC 20000-1 clauses to the Agile and DevOps frameworks.

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Information technology — Service management —

Part 15: Guidance on the application of Agile and DevOps principles in a service management system

1 Scope

This document provides guidance on the relationship between ISO/IEC 20000–1:2018 and two commonly used frameworks, Agile and DevOps. It can be used by any organization or person wishing to understand how Agile and DevOps can be used with ISO/IEC 20000–1, including:

a) an organization that has demonstrated or intends to demonstrate conformity to the requirements specified in ISO/IEC 20000–1 and is seeking guidance on the use of Agile or DevOps to establish or improve the SMS and the services;

b) an organization that already uses Agile or DevOps and is seeking guidance on how Agile or DevOps can be used to support efforts to demonstrate conformity to the requirements specified in ISO/IEC 20000–1;

c) an assessor or auditor who wishes to understand the use of Agile or DevOps as a support for achieving the requirements specified in ISO/IEC 20000–1.

Both approaches can be used independently or together. Depending on the context, an organization can deploy Agile frameworks only, DevOps frameworks only, use both Agile and DevOps frameworks in isolation, or use an integrated workflow with combined Agile and DevOps approaches. In any of these situations, this document can be used as guidance for the integration of Agile and DevOps practices in an SMS.

The guidance in this document can assist an organization in planning and preparing for a conformity assessment against ISO/IEC 20000-1, noting that an organization can only claim conformity by fulfilling all requirements specified in ISO/IEC 20000-1.

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 20000-1, *Information technology — Service management — Part 1: Service management system requirements*

ISO/IEC 33202:—[1)], *Software and systems engineering — Core Agile practices*

ISO/IEC/IEEE 32675, *Information technology — DevOps — Building reliable and secure systems including application build, package and deployment*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 20000-1, ISO/IEC 33202, ISO/IEC/IEEE 32675 and the following apply.

1) Under preparation. Stage at the time of publication: ISO/IEC/FDIS 33202:2024.

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