Technical Specification

# ISO/IEC TS 27564

# Privacy protection — Guidance on the use of models for privacy engineering

*Protection de la vie privée — Recommandations relatives à l'utilisation de modèles pour l'ingénierie de la vie privée*

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# Foreword

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# Introduction

Systems that process personal information are and continue to become more complex. This is due to an increasing ability to analyse, use, and store growing volumes of data. This complexity introduces greater privacy risks for the individuals to whom this data pertains. Embedding privacy into these complex systems is ever more important and provides an approach that mitigates these risks through system design. Model-based systems and software-based engineering (MBSSE) provides such an approach to the discipline of privacy engineering. Adding privacy modelling to the roster of tools to identify and assess privacy risks and support potential risk mitigation strategies will help connect a concept to reality, i.e. the value of making privacy and data protection a priority. Incorporating MBSSE into privacy engineering enables a complex system to achieve both privacy and functionality in an easy-to-understand manner.

This document introduces the concept of MBSSE in the context of privacy engineering and provides technical guidance on the use of engineering models for privacy engineering. The technical guidance is illustrated by sample use cases taken from ISO/IEC TR 31700-2[1] and a use case on privacy threat modelling.

Clause 5 explains the model-based system and software engineering (MBSSE) and the benefits of using models as a single source of truth (SSOT), including:

— consistency, ensured throughout the system lifecycle, as models can be transmitted from one lifecycle stage to another, and used by engineering tools;

— interoperability, as models can be dynamically exchanged between systems in operation.

Clause 6 explains how MBSSE can be applied to privacy engineering by:

— explaining the benefit of privacy models and their management;

— identifying privacy models of interest, taking a system, ecosystem and an engineering perspective;

— showing how ISO/IEC/IEEE 24641[2] can be customized for privacy engineering;

— listing initiatives and standards of interest for privacy engineering with models.

Clause 7 elaborates on models by:

— explaining privacy capabilities, considering the relationship between a system of interest (subject to system engineering) and a privacy capability (subject to privacy engineering);

— explaining the intended context of a system of interest;

— describing emerging behaviour at system engineering level in the case of systems of systems, and describing associated privacy capabilities at privacy engineering level;

— explaining how to construct models through a profile approach in order to support the interplay with transversal standards (e.g. technology standards on AI or IoT, or cross-cutting standards on safety or resilience);

— providing guidance through sample use cases taken from ISO/IEC TR 31700-2, focusing on privacy threat models.

# Privacy protection — Guidance on the use of models for privacy engineering

## 1 Scope

This document provides guidance on how to use modelling in privacy engineering.

It describes categories of models that can be used, the use of modelling to support engineering, and the relationships with other references, including International Standards on privacy engineering and on modelling.

It provides high-level use cases describing how models are used.

## 2 Normative references

There are no normative references in this document.