
**Software and systems engineering —
Reference model for product line
engineering and management**

*Ingénierie du logiciel et des systèmes — Modèle de référence pour
l'ingénierie et la gestion de lignes de produits*



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Foreword

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The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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Introduction

Software and Systems Product Line (SSPL) engineering and management creates, exploits, and manages a common platform to develop a family of products (e.g., software products, systems architectures) at lower cost, reduced time to market, and with better quality. As a result, it has gained increasing global attention since 1990s.

This standard provides a reference model consisting of an abstract representation of the key processes of software and systems product line engineering and management and the relationships between the processes. The key characteristics of product line engineering are that there are domain and application engineering lifecycle processes and the explicit definition of product line variability. The goal of domain engineering is to define and implement domain assets commonly used by member products within a product line, while the goal of application engineering is to develop applications by exploiting the domain assets including common and variable assets. Domain engineering explicitly defines product line variability which reflects the specific needs of different markets and market segments. Variability may be embedded in domain assets and during application engineering they are exploited in accordance with the defined variability models.

The reference model for SSPL engineering and management can be used in subsequent standardization efforts to create high-level of abstraction standards (e.g. product management, scoping, requirements engineering, design, realization, verification and validation, organizational and technical management), medium-level of abstraction standards (e.g. configuration management, variability modeling, risk management, quality assurance, measurement, evaluation, asset repository), and detailed-level of abstraction standards (e.g. texture, configuration mechanism, asset mining) of software and systems product line engineering.

