

TECHNICAL REPORT

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Software engineering — Controlling frequently occurring risks during development and maintenance of custom software

*Ingénierie du logiciel — Contrôle des risques fréquents au cours du
développement et de la maintenance d'un logiciel sur mesure*



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Foreword

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Introduction

Information and communication technology (ICT) projects run many risks. ICT projects often have to contend with delay, budget overruns, and an end result of low quality.

ICT projects in which custom software is developed and/or maintained often run extra risks, on top of the risks that are part and parcel of ICT projects in general^[31]. This seems to be caused by the sheer size and complexity of such custom software projects, and by a failure to mitigate the risks inherent to software development in general, despite the fact that they are well known, and that there are suitable controls for their management.

This document describes controls for some of the risks inherent in custom software development. The purpose of this document is that during the development of custom software stakeholders can avail themselves of a collection of suitable controls. The controls included are common of themselves, making this collection of controls a logical starting point for assuring the quality of custom software development. Controls were selected for inclusion based on the experience and opinion of the subject matter experts contributing to this document.

Two target groups are important when mitigating risks during the development of custom software:

- a) the software development acquirers and suppliers;
- b) the end users and maintainers of the software developed.

This document details risks and controls specific to custom software development. Risk management in the context of software development is covered in ISO/IEC/IEEE 12207 and its elaboration standard ISO/IEC/IEEE 16085. Generic risk management is covered by ISO 31000 and its related standards.

This document is based on NPR 5326 developed by Royal Netherlands Standardization Institute Foundation (NEN, <https://www.nen.nl/>).

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Software engineering — Controlling frequently occurring risks during development and maintenance of custom software

1 Scope

This document:

- describes frequently occurring risks during development and maintenance of custom software;
- describes possible controls for frequently occurring risks;
- describes the related:
 - activities, facilities and roles typically used for these controls;
 - properties of products and processes;
 - standards, measurements, testing and assessment of the properties of products and processes.

2 Normative references

There are no normative references in this document.