



**SLOVENSKI STANDARD**  
**oSIST ISO/IEC 27004:2010**  
**01-december-2010**

---

**Informacijska tehnologija - Varnostne tehnike - Upravljanje informacijske varnosti -  
Merjenje**

Information technology - Security techniques - Information security management -  
Measurement

Technologies de l'information - Techniques de sécurité - Management de la sécurité de  
l'information - Mesurage

**Ta slovenski standard je istoveten z: ISO/IEC 27004:2009**

---

**ICS:**

35.040	Nabori znakov in kodiranje informacij	Character sets and information coding
--------	--	--

**oSIST ISO/IEC 27004:2010**

**en**



INTERNATIONAL  
STANDARD

ISO/IEC  
27004

First edition  
2009-12-15

---

---

**Information technology — Security  
techniques — Information security  
management — Measurement**

*Technologies de l'information — Techniques de sécurité —  
Management de la sécurité de l'information — Mesurage*

---

---

Reference number  
ISO/IEC 27004:2009(E)



© ISO/IEC 2009

**ISO/IEC 27004:2009(E)****PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

**COPYRIGHT PROTECTED DOCUMENT**

© ISO/IEC 2009

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland

## Contents

Page

Foreword .....	v
0 Introduction.....	vi
0.1 General .....	vi
0.2 Management overview .....	vi
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions .....	1
4 Structure of this International Standard .....	3
5 Information security measurement overview .....	4
5.1 Objectives of information security measurement.....	4
5.2 Information Security Measurement Programme .....	5
5.3 Success factors .....	6
5.4 Information security measurement model.....	6
5.4.1 Overview.....	6
5.4.2 Base measure and measurement method .....	7
5.4.3 Derived measure and measurement function .....	9
5.4.4 Indicators and analytical model.....	10
5.4.5 Measurement results and decision criteria .....	11
6 Management responsibilities .....	12
6.1 Overview.....	12
6.2 Resource management.....	13
6.3 Measurement training, awareness, and competence .....	13
7 Measures and measurement development.....	13
7.1 Overview.....	13
7.2 Definition of measurement scope.....	13
7.3 Identification of information need .....	14
7.4 Object and attribute selection.....	14
7.5 Measurement construct development.....	15
7.5.1 Overview.....	15
7.5.2 Measure selection .....	15
7.5.3 Measurement method .....	15
7.5.4 Measurement function .....	16
7.5.5 Analytical model .....	16
7.5.6 Indicators .....	16
7.5.7 Decision criteria.....	16
7.5.8 Stakeholders .....	17
7.6 Measurement construct.....	17
7.7 Data collection, analysis and reporting .....	17
7.8 Measurement implementation and documentation .....	18
8 Measurement operation .....	18
8.1 Overview.....	18
8.2 Procedure integration .....	18
8.3 Data collection, storage and verification .....	19
9 Data analysis and measurement results reporting.....	19
9.1 Overview.....	19
9.2 Analyse data and develop measurement results.....	19
9.3 Communicate measurement results .....	20

**ISO/IEC 27004:2009(E)**

<b>10</b>	<b>Information Security Measurement Programme Evaluation and Improvement.....</b>	<b>20</b>
<b>10.1</b>	<b>Overview .....</b>	<b>20</b>
<b>10.2</b>	<b>Evaluation criteria identification for the Information Security Measurement Programme .....</b>	<b>21</b>
<b>10.3</b>	<b>Monitor, review, and evaluate the Information Security Measurement Programme .....</b>	<b>21</b>
<b>10.4</b>	<b>Implement improvements .....</b>	<b>21</b>
<b>Annex A (informative)</b>	<b>Template for an information security measurement construct.....</b>	<b>22</b>
<b>Annex B (informative)</b>	<b>Measurement construct examples .....</b>	<b>24</b>
<b>Bibliography .....</b>		<b>55</b>

## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 27004 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 27, *IT Security techniques*.

## ISO/IEC 27004:2009(E)

# 0 Introduction

## 0.1 General

This International Standard provides guidance on the development and use of measures and measurement in order to assess the effectiveness of an implemented information security management system (ISMS) and controls or groups of controls, as specified in ISO/IEC 27001.

This would include policy, information security risk management, control objectives, controls, processes and procedures, and support the process of its revision, helping to determine whether any of the ISMS processes or controls need to be changed or improved. It needs to be kept in mind that no measurement of controls can guarantee complete security.

The implementation of this approach constitutes an Information Security Measurement Programme. The Information Security Measurement Programme will assist management in identifying and evaluating non-compliant and ineffective ISMS processes and controls and prioritizing actions associated with improvement or changing these processes and/or controls. It may also assist the organization in demonstrating ISO/IEC 27001 compliance and provide additional evidence for management review and information security risk management processes.

This International Standard assumes that the starting point for the development of measures and measurement is a sound understanding of the information security risks that an organization faces, and that an organization's risk assessment activities have been performed correctly (i.e. based on ISO/IEC 27005), as required by ISO/IEC 27001. The Information Security Measurement Programme will encourage an organization to provide reliable information to relevant stakeholders concerning its information security risks and the status of the implemented ISMS to manage these risks.

Effectively implemented, the Information Security Measurement Programme would improve stakeholder confidence in measurement results, and enable the stakeholders to use these measures to effect continual improvement of information security and the ISMS.

The accumulated measurement results will allow comparison of progress in achieving information security objectives over a period of time as part of an organization's ISMS continual improvement process.

## 0.2 Management overview

ISO/IEC 27001 requires the organization to “undertake regular reviews of the effectiveness of the ISMS taking into account results from effectiveness measurement” and to “measure the effectiveness of controls to verify that security requirements have been met”. ISO/IEC 27001 also requires the organization to “define how to measure the effectiveness of the selected controls or groups of controls and specify how these measures are to be used to assess control effectiveness to produce comparable and reproducible results”.

The approach adopted by an organization to fulfil the measurement requirements specified in ISO/IEC 27001 will vary based on a number of significant factors, including the information security risks that the organization faces, its organizational size, resources available, and applicable legal, regulatory and contractual requirements. Careful selection and justification of the method used to fulfil the measurement requirements are important to ensure that excessive resources are not devoted to these activities of the ISMS to the detriment of others. Ideally, ongoing measurement activities are to be integrated into the regular operations of the organization with minimal additional resource requirements.

This International Standard gives recommendations concerning the following activities as a basis for an organization to fulfil measurement requirements specified in ISO/IEC 27001:

- a) developing measures (i.e. base measures, derived measures and indicators);