
**Systems and software engineering —
Information technology project
performance benchmarking
framework —**

**Part 4:
Guidance for data collection and
maintenance**

*Ingénierie des systèmes et du logiciel — Cadre de conduite de tests de
performance de projet de technologies de l'information —*

Partie 4: Directives pour la collecte de données et la maintenance

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/IEC JTC1, *Information technology*, Subcommittee SC 7, *Software and systems engineering*.

A list of all parts in the ISO/IEC 29155 series can be found on the ISO website.

Introduction

Benchmarking is an activity of comparing “objects of interest” to each other or against a benchmark to evaluate characteristic(s). In the context of the ISO/IEC 29155 series, the “object of interest” is the performance of information technology (IT) project, and the characteristic is a particular aspect of an IT project such as productivity.

Benchmarking is one of the fastest-growing techniques in the area of IT project management. Instances of IT project performance benchmarking are initiated and conducted for various reasons. Among the most common reasons are the following:

- a) the need to compare project productivity between similar industries;
- b) the need to compare productivity between different project types and technologies;
- c) the need to find the most effective targets for IT development process improvement;
- d) the need to compare productivity between different suppliers;
- e) the need to improve project management maturity;
- f) the need to improve project estimation capability.

Much has been written regarding the trials of establishing IT project performance benchmarking, and statistics bear witness to the high failure rate of measurement and benchmarking programs. The most probable causes for failure have been disappointment in the benchmarking outcomes due to a lack of alignment between the selected measurements and business goals, and the misunderstanding of project level measurements in relation to program and portfolio management levels. When there is no alignment between executed measurements and provided outcomes, unnecessary effort is required from the IT project teams collecting the project data. The result is decreased motivation to continue and institutionalize benchmarking.

As is shown in [Figure 1](#), the ISO/IEC 29155 series consists of multiple parts.

- ISO/IEC 29155-1 provides the overall framework model for IT project performance benchmarking. It consists of activities and components that are necessary to successfully identify, define, select, apply, and improve benchmarking.
- ISO/IEC 29155-2 prescribes the required tasks in individual benchmarking activities that are necessary to execute various activities to conduct and/or support successful benchmarking in an organization.
- ISO/IEC 29155-3 prescribes the guidance for reporting processes and contents of typical reports.
- ISO/IEC 29155-4 provides guidance for the activities to collect data of IT projects to be entered into and maintained in a benchmarking repository.

Further parts might follow.

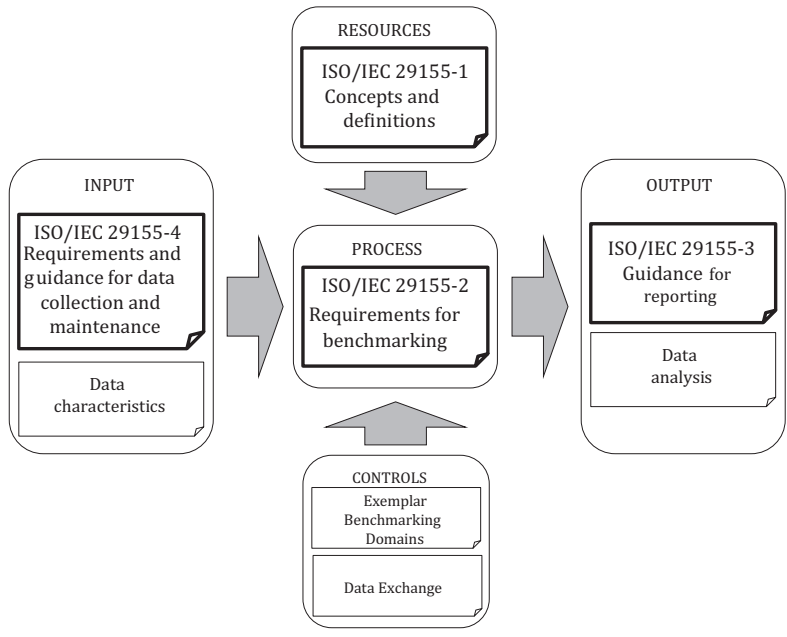


Figure 1 — IT project performance benchmarking standards overview

Systems and software engineering — Information technology project performance benchmarking framework —

Part 4: Guidance for data collection and maintenance

1 Scope

This document provides general requirements and guidance for collecting and maintaining data of information technology (IT) projects and for delivering the benchmarking repository within benchmarking activities of “the IT project performance benchmarking framework” by prescribing the following:

- a) requirements and guidance for data element definitions;
- b) requirements and guidance for the data collection and maintenance processes within the benchmarking framework;
- c) requirements and guidance for maintaining benchmarking repository product and issued benchmarks.

This document mainly focuses on three major activities, which are “maintain repository”, “submit IT project data”, and “measure IT project” activities.

This document is intended for use by stakeholder(s) of IT project performance benchmarking (e.g. benchmarking user, benchmark provider, benchmarking service provider, and IT project team).

NOTE The following are examples of how this document can be used:

- by a benchmark provider, to define data elements, collect and maintain IT project data, and provide benchmarking repository product or issued benchmarks;
- by a benchmarking analyst, to use benchmarking repository product and/or benchmarks for executing an instance of benchmarking;
- by a benchmarking service provider, to utilize benchmarking repository product and/or benchmarks for providing benchmarking services;
- by an IT service provider, to define data elements to be measured and/or to be submitted to repository owner.

It is out of the scope of this document to prescribe a particular set of data element definitions, formats or contents of the benchmarking repository.

2 Normative references

There are no normative references in this document.