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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 41866.4-2022

**Systems and software engineering - Information technology
project performance benchmarking framework - Part 4: Data
collection and maintenance**

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foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules for Standardization Documents" drafting.

This document is the fourth part of GB/T 41866 "System and Software Engineering Information Technology Project Performance Benchmark Measurement Framework".

GB/T 41866 has issued the following parts.

- Part 1. Concepts and definitions;
- Part 2. Baseline measurement requirements;
- Part 3. Report preparation;
- Part 4. Data collection and maintenance.

This document is modified to adopt ISO /IEC 29155-4:2016 "System and Software Engineering Information Technology Project Performance Benchmarking Measurement Framework No.

Part 4. Guidelines for Data Collection and Maintenance.

The technical differences between this document and ISO /IEC 29155-4:2016 and their

reasons are as follows.

--- Replaced ISO /IEC 29155-1 (see Chapter 3) with the normatively quoted GB/T 41866.1 to adapt to my country's technology

condition;

--- Replaced ISO /IEC 29155-2 (see Chapter 3) with the normatively quoted GB/T 41866.2 to adapt to my country's technology

condition;

--- Deleted the ISO and IEC website information (see Chapter 3 of ISO /IEC 29155-4:2016) to adapt to my country's technical conditions;

--- Added "method of submitting data (for example, data is submitted using storage media such as U disk, CD-ROM or dedicated network)" [see

7.4a)], to adapt to the technical conditions of our country;

--- Added "and format the storage media" [see 9.3a)] to adapt to my country's technical conditions and more comprehensively protect privacy

private information.

The following editorial changes have been made to this document.

---Adjust the name of the standard to "System and Software Engineering Information Technology Project Performance Benchmark Measurement Framework Part 4.Data Collection and

"Maintenance" in order to express more accurately;

--- Replaced ISO /IEC 12207:2008 with the informative referenced GB/T 8566-2022 (see Table 3 and Table 4 in 5.6.13), with

adapted to the circumstances of our country;

--- Replaced ISO /IEC 15939:2007 with the informative reference GB/T 20917-2007 (see Appendix A, Appendix B);

--- Replaced ISO /IEC 15288 with the informative referenced GB/T 22032 (see note in 5.6.13);

--- Replaced ISO /IEC 25021:2012 with the informative referenced GB/T 25000.21-2019 (see Appendix B);

--- Added information on data elements such as "categorical scaled", "sequenced scaled", "distance scaled" and "proportional scaled" (see B.2.1.3),

Facilitates increased operability of baseline metric data collection and maintenance.

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

Benchmark measurement refers to the activity of evaluating the characteristics of the object by comparing each "object of interest" with each other or with a benchmark respectively.

In GB/T 41866, "object of concern" refers to the performance of the IT project, and characteristics refer to an aspect of the IT project, for example, productivity.

Benchmarking is one of the fastest growing techniques in the field of IT project management. Generation and development of IT project performance benchmark measurement examples

For many reasons, the most common of which are.

- a) the need to compare project productivity in similar industries;
- b) the need to compare different project types and technical productivity;
- c) the need to find the most effective goals when improving the IT development process;
- d) the need to compare productivity between different suppliers;
- e) the need to improve project management maturity;
- f) Need to improve project estimation capabilities.

The relevant experimental literature on IT project performance benchmarking shows that the failure rate of implementing benchmarking is high, and the statistical data also proves that

up to this point. The main reasons for the failure of baseline measurement are the inconsistency between the selection of measurement objectives and the selection of business objectives, as well as the

Misunderstanding of the relationship between management levels. When measurements and results don't agree, teams still spend unnecessary effort collecting project data,

This will reduce the incentive to continue and institutionalize benchmarking.

As shown in Figure 1, GB/T 41866 intends to include the following parts.

--- Part 1. Concepts and definitions. Provides an overall framework model for benchmarking IT project performance. it contains success

The necessary activities and components required to identify, define, select, apply, and improve benchmarking metrics also provide the basis for information technology project performance.

Quasi-metric terms and definitions.

--- Part 2. Baseline measurement requirements. Specifies what is required to conduct and/or support an organization's successful benchmarking activities

Task.

--- Part 3. Report preparation. Standardizes the general requirements and guidelines for the report preparation process and typical report content.

--- Part 4. Data collection and maintenance. Provides the number of information technology projects collected to enter and maintain the baseline metrics data warehouse

General requirements and guidelines for activities based on data.

Figure 1 Overview of IT project performance benchmarking measurement framework

Systems and Software Engineering Information Technology Project Performance
Benchmarks

Measurement Framework Part 4. Data Collection and Maintenance

1 Scope

This document provides general requirements and guidance for collecting and maintaining information technology (IT) project data, and for delivering "IT project performance

Baseline data for benchmarking activities within the Benchmarking Framework.

- a) requirements and guidance for the definition of data elements;
- b) requirements and guidance for the data collection and maintenance process within the baseline measurement framework;
- c) Requirements and guidance for maintaining baseline metrics for data warehouse products and published baselines.

This document focuses on three key activities, namely "Maintaining the Data Warehouse", "Submitting IT Project Data" and "Measuring IT Projects".

This document is intended for stakeholders of IT project performance benchmarking (e.g., benchmarking users, benchmarking providers, benchmarking services).

suppliers and IT project teams).

Note. Examples of how this document can be used are as follows.

--- Define data elements by the benchmark provider, collect and maintain IT project data, and provide benchmark measurement data warehouse products or published benchmarks;

--- Using the product and/or benchmark of the benchmark data warehouse by the