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**Efficiency of system and software -- Part 1: Indicator system
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Reference

Foreword

GB/T 29835 in the "System Software and efficiency," the general title, divided into the following three parts.

--- Part 1. Index System;

--- Part 2. Measurement Methods;

--- Part 3. Test methods.

This section GB/T 29835 Part 1.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This part of the National Information Technology Standardization Technical Committee (SAC/TC28) and focal points.

This section is drafted. Shanghai Pudong Software Platform Co., Ltd. Shanghai Lu Qixin Information Technology Co., Ltd., China Electronics Standardization Institute of Technology Co., Ltd. Shenzhen Branch vein, Guangdong Software Testing Center, Shanghai Baoxin Software Co., Ltd., Beijing University of Posts and beads Hainan Party Network Software Testing Center, the National Software Quality Supervision and Inspection Center, Shanghai Key Laboratory of Computer Software Testing, Shanghai Embedded System Engineering Research Center, Nanchang Jinlu Software Park Software Testing Training Ltd., Guangzhou soft information system management Li Consulting.

Introduction

GB/T 29835 in this section from the time characteristics of the system and software, capacity and utilization of resources in view of the three proposed efficiency means Standard system. Indicators listed in this section is not a complete set. This section applies to a variety of computer systems and software products, but not every Metrics are useful for a variety of computer systems and software products. Software suppliers, third-party evaluation agencies, etc. can select the appropriate demand side from this section the index also can be modified to use indicators or other indicators not included in this section to define the efficiency of quality requirements, efficiency evaluation of software products Rate, measure the efficiency or quality of the situation for other purposes.

The main users of this standard is expected to include.

a) software suppliers, when

- 1) to declare a software product efficiency characteristics;
- 2) control efficiency characteristics declared its own assessment of software products and systems;
- 3) on the design and implementation of software products related to the efficiency of the time;

b) third-party evaluation agencies conduct tests for efficiency certificate of conformity or a flag;

c) the potential acquirer, when

- 1) software products for the upcoming procurement efficiency requirements and instructions to compare existing products;

2) the need for efficiency of the product further improvement or improvement of products and potential errors made the necessary changes, the actual operation Differences in environmental and procurement environment;

3) test the efficiency requirement is satisfied.

GB/T 29835.2 "Systems and Software Efficiency - Part 2. Measurement Methods" shows how to get a measure of efficiency indicators measure Party France, GB/T 29835.3 "Systems and Software Efficiency - Part 3. Test methods" describes test methods efficiency indicators. This section is intended in combination with GB/T 29835.2 and GB/T 29835.3.

Systems and Software Efficiency Part 1. Indicator System

1 Scope

This section GB/T 29835 specifies the system and software efficiency index system, the detailed description and examples are given for each indicator.

This section applies to computer systems and software efficiency evaluation.

NOTE: The system referred to in this section are primarily software system.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 16260.1-2006 Software engineering - Product quality - Part 1. Quality model (ISO/IEC 9126-1:2001, IDT)

3 Terms and Definitions

GB/T 16260.1-2006 and as defined in the following terms and definitions apply to this document.

Capacity

Software product or system parameters to meet the maximum limit demand.

4.1 Software Quality and Efficiency

Software quality is the sum of a set of features of the software, the software is required to satisfy stated or implied capabilities.

For computer systems and software, and quality-related features include functionality, reliability, usability, efficiency, maintainability and portability Sex. These features from different angles to reflect the user's system meets the quality requirements, which reflect

the efficiency of systems and software in the completion when the desired function has shown throughout this timely, appropriate use of resources, as well as maximum system processing power and other relevant characteristics.

According to GB/T 16260.1-2006, efficiency characteristics can be defined as. under specified conditions, relative to the amount of resources used, the software product it may be able to provide adequate performance. Basic objective of improving the efficiency of systems and software is. where appropriate allocation of resources, the system is able to more Fast to complete more tasks. Efficiency characteristics reflect the extent of the system to meet the targets.

Note: GB/T 16260.1-2006, the software quality points external quality, internal quality and use quality. The standard focuses on system efficiency characteristics and external quality software products, systems and software from efficiency characteristics in the course of the show.

4.2 Efficiency Indicator System

Efficiency Indicator System is efficiency characteristic evaluation system, which gives the efficiency characteristics of its sub-properties, and define a set of quantifiable metrics and measurements Test efficiency indicators.

In this section, the efficiency characteristic is decomposed into time characteristics, capacity and resource utilization of the three sub-properties, and further defines each special of the lower sub-properties. Efficiency Indicator System structure shown in Figure 1.