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

GB/T 29832.1-2013

Reliability of system and software -- Part 1: Indicator system

系统与软件可靠性 第1部分：指标体系

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Foreword

GB/T 29832 "System and Software Reliability" is divided into three parts as follows.

--- Part 1. Index System;

--- Part 2. Measurement Methods;

--- Part 3. Test methods.

This is Part 1 GB/T 29832 of.

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 computer software technology development center,

Zhuhai Southern Software Testing Center, China Electronics Standards Institute of Shenzhen Technology Co. Angola measurement standards, Beijing University of Posts and Telecommunications, Shanghai Pudong Software platform Ltd., Shanghai Baosight Co., Ltd., Shanghai Lu Qixin Information Technology Co., Ltd., Henan Electric Power Research Institute.

Introduction

This section GB/T 29832 with reference to GB/T 16260.1-2006 "Product quality - Part 1. Quality model" proposed system Reliability Index System software.

Indicators listed in this section is not a complete set. The demand side, the evaluator, the supplier can select the appropriate indicators from this section, for a given Meaning reliability quality requirements, evaluating software product reliability, quality and reliability of the measurement conditions or for other purposes; can also modify the metrics or use this section does not include the other metrics.

This section applies to a variety of computer software products and related systems with reliability requirements, but not every indicator is applicable to all kinds of meter Computer software products and related systems, and in this section assumes that the tested software products and related systems have been running for some time, has been Functional test.

The main users of this standard is expected to include.

- a) the demand side (obtained from the supplier or procurement system, software product or software service individual or organization);
- b) the evaluator (individual or organization to implement the evaluation);
- c) the supplier (the contract provided by the system, organization or individual software product or software service to the acquirer), which is indeed the eligibility test when using recognized software quality.

GB/T 29832.2 "Systems and Software Reliability - Part 2. Measurement Methods" shows how to obtain the reliability index measurements Measure, GB/T 29832.3 "Systems and Software Reliability - Part 3. Test methods" describes the test method for reliability index.

This section is intended to be used in conjunction with the GB/T 29832.2 and GB/T 29832.3.

Systems and Software Reliability Part 1. Indicator System

1 Scope

This section GB/T 29832 gives systems and software reliability index system and its associated indicators defined, provides systems and software Piece quality reliability

features to provide a unified system reliability index for demand-side system and software evaluator for the party.

This section applies to all types of system reliability requirements of the software, the user can select the appropriate according to the specific product reliability index.

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 11457 software engineering terminology GB/T 16260.1-2006 product quality - Part 1. Quality model (ISO/IEC 9126-1:2001, IDT)

3 Terms and Definitions

Terms and definitions GB/T 11457 and GB/T 16260.1-2006 defined in this document apply.

4 Index System

Software Reliability index system shown in Figure 1. It is divided into maturity, fault tolerance, easy recovery and so on several sub-characteristics.

a) maturity, in order to avoid the presence of a fault by the software itself and the ability to cause software failure, can fail, failure of the test degrees, Effective degree to measure;

b) fault tolerance in case of failure or contravention interface software to maintain a predetermined level of performance capability available uptime Degrees, measured against the misuse rate;

c) Easy recovery in case of a software failure occurs reconstruction performance levels and restore data directly affected the ability of the provisions can be with restart of success, to measure the degree of success of the repair.