

8.3 Overall Software Problem Report Measurement (OSPR)

8.3.1 General Description and Title

The Overall Software Problem Report (OSPR) measurement tracks the software problems that are found and reported by customers. The problem reports included in OSPR are a proper subset of those in NPR (see Section 5.1 of the TL 9000 Measurements Handbook) but the problem reports shall be counted, tracked, and reported separately in order to derive a problem report rate for all issues associated with the software.

8.3.2 Purpose

The measurements in this section are provided to aid the customer and the organization in understanding the quality of software that is deployed in the field and the risk of introducing a software fault into their network.

This measurement is used to evaluate the overall number of customer-originated software problem reports that are indicative of the software quality of the product delivered during the operating life cycle of that product. Software problem reports may have a negative impact on the organization (such as rework), on the customer (such as scheduling repeat site visits) and may reduce end-user loyalty. This measurement is intended to stimulate ongoing improvements resulting in a reduction of the number of software defects, associated costs, service disruptions, and potential revenue losses.

8.3.3 Applicable Categories

This measurement applies to any product utilizing software in Families 1-6 or 9.

8.3.4 Detailed Description

a) Terminology

The Glossary includes definitions for

- Afactor (Annualization Factor)
- Normalization Factor
- Problem Report
- Problem Report – Critical
- Problem Report – Major
- Problem Report – Minor
- Software Problem Report

b) Counting Rules

The counting rules in 5.1.4 b) of the TL 9000 Measurements Handbook apply in counting problem reports for the OSPR measurement for all categories, with the following clarification:

- 1) Only customer-originated software problem reports shall be counted.
- 2) Problem reports where the reported problem is suspected to be software related but cannot be reproduced during subsequent investigations shall be counted.
- 3) The normalization for OSPR shall be the number of customers that have reported at least one problem on the product.
- 4) For the OSPR denominator, a customer is counted once.

c) Counting Rule Exclusions

The counting rule exclusions in 5.1.4 c) of the TL 9000 Measurements Handbook apply in counting problem reports for the OSPR measurement for all categories, with the following clarification:

- 1) A problem report that is determined to be a hardware problem shall not be counted when the design solution or workaround is implemented in software.
- 2) Problem reports due to faults in input data are excluded.

d) Calculations and Formulas

The applicable OSPR measurements are calculated monthly as shown in Table 8.3-2.

Table 8.3-1 OSPR Notation

Identifier	Definition
Afactor	Number of calculation periods in a year
OSPRs	Normalization factor: Total number of customers that have reported at least one problem on the product
OSp1	Number of critical software problem reports in the month
OSp2	Number of major software problem reports in the month
OSp3	Number of minor software problem reports in the month

Table 8.3-2 OSPR Measurement Identifiers and Formulas

Identifier	Category Families	Title	Formula
OSPR1	1, 2, 3, 4, 5, 6, and 9	Critical software problem reports per NU per year	$OSp1 \times Afactor / OSPRs$
OSPR2	1, 2, 3, 4, 5, 6, and 9	Major software problem reports per NU per year	$OSp2 \times Afactor / OSPRs$
OSPR3	1, 2, 3, 4, 5, 6, and 9	Minor software problem reports per NU per year	$OSp3 \times Afactor / OSPRs$

e) Reported Data and Format

As noted below

Table 8.3-3 OSPR Data Table

Identifier	Value
MeasurementID	OSPR
OSPRa	Afactor
OSPRs	Normalization Factor
OSp1	Number of critical software problem reports
OSp2	Number of major software problem reports
OSp3	Number of minor software problem reports

- 1) The organization shall have the capability to supply the OSPR measurement and its sub-elements by release for all in service releases.

8.3.5 Sources of Data

Data for the OSPR measurement are derived from information provided by customers and from analysis by the organization.

a) Customers

- 1) report software problems to the organization, and
 - 2) confer with the organization to establish severity of each problem report on products in Category Families 1, 2, 3, 4, 5, 6, and 9.
- b) Organizations
- 1) count the number of reported software problems by category according to the applicable counting rules,
 - 2) calculate the normalization factor, and
 - 3) confer with the customer to establish severity for each problem report on products in Category Families 1, 2, 3, 4, 5, 6, and 9.