Quality Excellence for Suppliers of
Telecommunications Forum
(QuEST Forum)

TL 9000
Quality Management System

Measurements Handbook

FRT Examples

5.2 FRT Examples

Problem reports from customers are expected to produce an action by the supplier to fix or alleviate the problem (see definition of Problem Report in the Glossary). The problem fix is to be delivered in a time frame determined the rules in 5.2.4 d) 1).

Since FRT deals only with reported problems from customers and the responsiveness of the supplier to fixing the problem, the FRT measurement is not normalized but reported as a percentage of problems fixed on time.

It may be that an organization has no problems to fix in a particular month. In that case 0 is reported for the number of problems fixed and also for the number of problems due to be fixed, which results in an FRT of 100%.

5.2.1 – FRT for Product Categories 1, 2, 3, 4, 5, 6, and 9

Since problem reports in product categories 1, 2, 3, 4, 5, 6, and 9 are classified by severity, FRT is also reported by severity. Critical problem reports are those problem reports that must be addressed immediately and continuously until resolved. Since the fix for critical problem reports cannot be scheduled there is no measure of FRT for critical problem reports. FRT in these product categories applies only to major and minor problem reports.

1) Consider one month's data for one product category for one TL 9000 registration. There are five major problem reports due to be closed during the month and all five were closed on time. There are 25 minor problem reports due and 20 were closed on time.
2) The data reported is shown in Table 5.2.1-1.

Table 5.2.1-1 FRT Data Table Report for Product Categories 1, 2, 3, 4, 5, 6, and 9

Identifier	Value
MeasurementID	FRT
Fr2c	5
Fr2d	5
Fr3c	20
Fr3d	25

3) The measurement calculation result is shown in Table 5.2.1-2.

Table 5.2.1-2 FRT Source Data and Measurement Calculation for Product Categories 1, 2, 3, 4, 5, 6, and 9

Fixes Available On Time	Severity	Fixes Due	FRT Measurement Results – Problem Reports Closed on Time
Fr2c = 5	Major	Fr2d = 5	FRT2 = 100%
Fr3c = 20	Minor	Fr3d = 25	FRT3 = 80%

The calculation of FRT3 is 100 * 20 / 25 = 80%.

5.2.2 – FRT for Product Category 7 and 8

Problem reports in product categories 7 and 8 are not classified by severity. All problem reports are considered equally weighted.

1) Consider one month's data for an organization of a particular installation service. There are 20 problem reports due to be closed during the month and 16 were closed on time.
2) The data reported is shown in Table 5.2.2-1.

Table 5.2.2-1 FRT Data Table Report for Product Categories 7 and 8

Identifier	Value
Product Category	7.1
MeasurementID	FRT
Fr4c	16
Fr4d	20

3) The calculation of the measurement is shown in Table 5.2.2-2.

Table 5.2.2-2 FRT Source Data and Measurement Calculation for Product Categories 7 and 8

Fixes Available On Time	Fixes Due	FRT Measurement Results – Problem Reports Closed on Time
Fr4c = 16	Fr4d = 20	FRT4 = 80%

5.2.3 – Effect of Customer Delay

According to counting rule 5.2.4 b) 7) there are certain situations where delays can be excluded from the overall closure time and fix date can be adjusted. For example, if access to a site to fix a problem is denied for a certain period of time then the time the access is denied can be excluded. Suppose a major problem report is received on March 1 and that there is no service level agreement in place with the customer. In this case, according to 5.2.4 d) 1), the due date for fixing this major problem is March 31. On March 10, the supplier determines that they need access to the customer's site to be able to fix the problem. On March 12, the customer tells them that they can't gain access to site until April. This is summarized in Table 5.2.3-1.

Table 5.2.3-1 Effect of Customer Delay

Event	Event Date	Problem Closure Due Date
Major Problem Report Received	March 1	March 31
Need for site access identified	March 10	March 31
Customer informs site not available until Apr.1	March 12	Due date suspended
Site Available	April 1	April 18

They may exclude the interval that access to the site was denied (March 12 through 31), which has the effect of moving the due date of the problem report

from March 31 to April 18. If they fix the problem on or before April 18, then the problem was fixed on time. The problem report is therefore reported with the April data per counting rule 5.2.4 b) 4).

5.2.4 – Effect of Fix Deferral

If the customer agrees, the delivery of a fix may be deferred such as waiting to deliver the fix in the next software release. In these cases, according to counting rule 5.2.4 b) 9), the interval between when the fix is identified and when it is delivered can be excluded for the overall fix response time. For example, suppose a major problem is reported on June 1 with a closure due date of July 1. The supplier fixes the problem on June 20 but the customer wants to defer delivery until the next major release of the software, which occurs on December 15. This situation is summarized in Table 5.2.4-1.

Table 5.2.4-1 Effect of Fix Deferral

Event	Event Date	Problem Closure Due Date
Major Problem Report Received	June 1	July 1
Fix deferred to Release R3.1	June 20	Release R3.1 Delivery
Release R3.1 Delivery	Dec 15	Dec 15

The problem is due to be fixed in December and reported with in the December FRT data submission. It is not considered due nor reported in the preceding months of July through November. If Release R3.1 contains the fix to the problem report and the fix works, then the problem report is counted on time. If Release R3.1 does not fix the problem, then the problem report must be reported as due but not fixed in July. This will require a resubmission of the July data. Furthermore, it is now overdue and according to counting rule 5.3.4 b) 3) must be reported as overdue in all months from July through December and continuing until it is fixed. This also will require resubmission of the August through November data.

5.2.5 – Effect of Incomplete Fix

A fix was delivered within the time required by an SLA. But at a later point in time if the customer rejects the fix as incomplete because it was ineffective or unusable or had some undesirable side effects caused by installation of the fix, then in these cases, according to counting rule 5.2.4 b) 3) the problem report shall be re-classified as open. All intervening time shall be included in determining on-time problem closures as if the fix had not been delivered. For example, suppose a major problem is reported on June 1 with a closure due date of June 3. The supplier fixes the problem on June 2, but later the customer rejects the fix on August 15. This situation is summarized in Table 5.2.5-1.

Table 5.2.5-1 Effect of Incomplete Fix

Event	Event Date	Problem Closure Due Date
Major Problem Report Received	June 1	June 3
Supplier provides the fix	June 2	June 3

customer rejects the fix	Aug 15	June 3

The problem is due to be fixed in June and reported in the June FRT data submission. On August 15 Customer finds that the problem is not completely fixed and rejects the fix, then the problem report must be reported as due but not fixed in June. This will require a resubmission of the June data. Furthermore, it is now overdue and according to counting rule 5.3.4 b) 2) must be reported as overdue in all months from June through August and continuing until it is fixed. This also will require OFR data resubmission of the June through August data.

5.2.6 – FRT counting Aid

According to counting rule 5.3.4 b) 4), for FRT, problem reports are counted once, ONLY in the month they are due and not in the month they are fixed or closed.

Following table serves as a quick ready reckoner for deciding on whether to count a problem report for calculating FRT or not depending on various possible scenarios on timeliness of fix, in a given month (say July).

Table 5.2.6-1 FRT Counting Summary Table

Problem Report Scenario	Example	To be Counted in current month (July)?
Due in the month and Closed before the month (early fix)	Closed in June, Due only in July	Yes
Closed in the month and Due in future month (early fix)	Closed in July, Due only in August	No
Due and Closed in the month on time (timely fix)	Closed on July 20, Due on July 20	Yes
Closed in the month and Due in previous month (late fix)	Closed in July, Due in June	No
Due and Closed in the month but after time (late fix)	Closed on July 20, Due on July 18	Yes
Due in the month and still open	Due on July 20 and still Open	Yes

5.2.7 Temporary Fix to a Critical Problem is Sufficient

FRT measures the ability of the supplier to deliver fixes to major, minor, or service problems in a time frame determined the rules in 5.2.4 d) 1).

In some cases, the customer may decide that a problem or set of problems are not required to be fixed at all. For example, the customer may decide that the temporary fix to a critical problem report is sufficient and that there is no need to provide a subsequent permanent fix correction. If this agreement is reached prior to the associated major / minor problem report due threshold date, then the associated major / minor problem report would not be included in the FRT statistics.

5.2.8 Documented Customer Service Level Agreement (SLA) Does not Require Fix of Minor Problems

Occasionally, a supplier has a documented SLA in place with the customer which contains an explicit statement that the customer does not require a fix to be delivered for any minor problem reports submitted by that customer. Thus, while the customer wants the issue to be entered into the organization's problem tracking system, the due date objective has been set to indefinite. Per rule 5.2.4 b) 9), such a problem report would be considered to be deferred. Since the deferral period is indefinite, then the minor problem report would never become due and therefore never reported in FRT. It is important to note that if the SLA indicates the customer does expect a fix for the minor problem report but does not set an objective, then per rule 5.2.4 d) 1) the objective is the default 180 days.