



Would you survive a Function Point audit?

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Abstract:

Contractual disputes can arise in outsourcing contracts when clients bring in external FP Counters to audit the performance metrics of the supplier. Often this is done without consultation on the activities of the audit or agreement on the dispute resolution processes. This paper discusses the 'Terms-of-Reference' that need to be in place before an FP audit starts to ensure that the client gets what they paid for and the supplier is not unfairly assessed.

Keywords

Function Points, audit, Terms of Reference

Biography:

Pam Morris (BSc, Dip. Ed, Grad. Dip Computing, CFPS) - CEO of Total Metrics; is the past-president of the Australian Software Metrics Association (ASMA). She has specialised in the area of function point analysis and the standardisation and auditing of the method since 1988. She was the co-author of the first published method for Validation of Function Point Counts IEEE Metrics Conference Germany Proceedings (Oct 1996) and the IFPUG Method for Function Point Analysis CPM 4.1. She plays an active role in international standards as the Project Editor and International Convenor of the ISO standard for Functional Size Measurement ISO/IEC14143 – Parts 1 to Part 6 from 1997 to 2004. Ms Morris is a regular guest speaker on the topic of software metrics at numerous international conferences in the UK, USA, Japan, South Africa, India, Germany, New Zealand and South Korea.

1 Background

As part of the contract negotiation process clients and suppliers need to agree on a framework for the process by which the counts will be conducted, documented and reported. Prior to agreeing to allow the function point counts to be audited, all parties need to establish the 'terms of reference' for the audit.

The following areas need to be considered and agreed prior to commencement of an audit.

2 Version of FSM Method Standard

Agree on the FSM Method standard (e.g. IFPUG 4.2.1, COSMIC-FFP 2.1) and any published white papers, or case studies which will be the baseline rules against which the count will be audited. I.e., the supplier and the client should have an agreed version of FSM rules by which all counts will be measured. This is usually documented in the contract. The count should be verified to apply the rules as specified by that agreed version, not by an arbitrary version prescribed by the auditors.

3 Viewpoint

The Viewpoint adopted will influence the way the measurement is performed. Most organizations have adopted the most commonly used and traditional approach to the "user view of business functionality delivered" as being the External business User view. If counts are going to be consistent across all applications then the viewpoint needs to be consistent. Supplier and client need to agree on the viewpoint that is adopted for the counting and ensure that the audit is conducted from the same 'viewpoint'.

4 Local Interpretations of FSM Method Rules

Rules for all the FSM Methods are not definitive; many need to be interpreted for specific types of implementations. These interpretations need to be consistent. The supplier needs to have a documented standard set of resolutions to the commonly found counting issues. These interpretations need to be applied consistently by counters across all the counts. Since these interpretations are not the approved FSM Methods rules as such, they need to be agreed to by the client. Any such interpretations should be supplied to the auditor to ensure that the auditor verifies the count to the agreed interpretations and not their own interpretation of the FSM Method.

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The auditors may not agree with the interpretation but it should be decided how that disagreement should be dealt with prior to the audit.

5 Agreed Level of Counting

Counts can be performed at different levels of accuracy and documentation standards¹. Most FSM Methods including IFPUG do not prescribe how a count should be documented. They do, however, indicate that each function should be identified, assessed for type and weighted accordingly and their weighted points accrued to be the total functional size. This is equivalent to what Total Metrics define as a 'Level 3' count. There are six 'levels' of counting which are commonly used in industry for different purposes. If the purpose of the counts was to provide a baseline to be later refined, then the most cost effective Level of counting for this purpose is a 'Level 4' count, which is recognised to have a counting error which is +15%. If the auditors are not made aware of this decision to count at a lower level of accuracy then they will audit the count as per the published FSM Method standard and find the count incorrect.

Before an audit takes place all parties need to agree on the level of counting that is appropriate and against which the count will be validated.

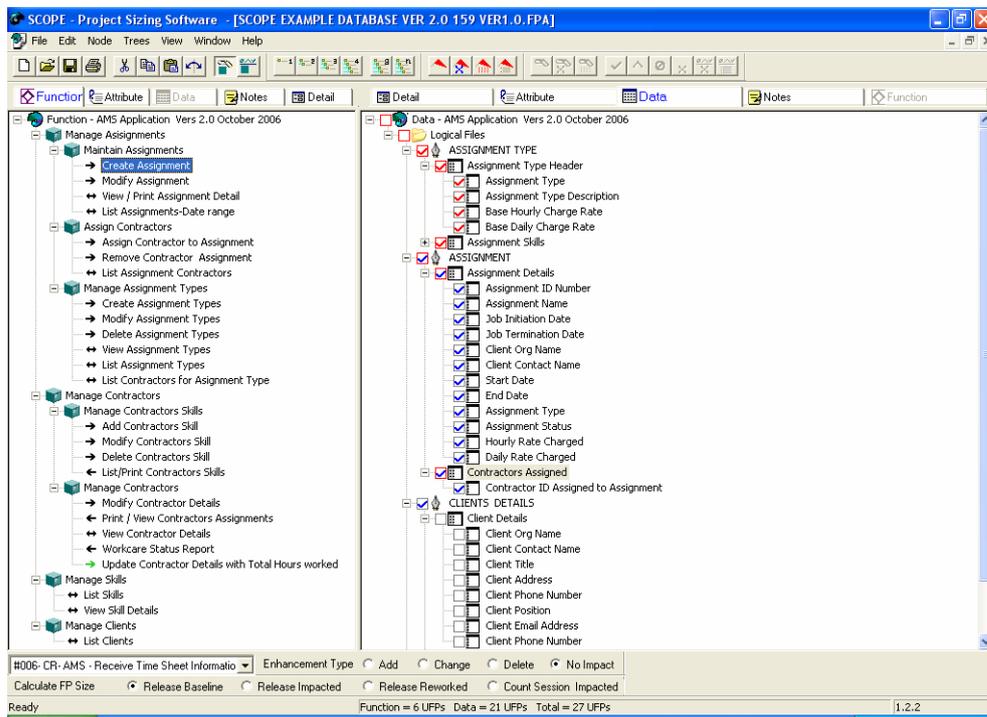


Figure 1 - Level 1 Count - All processes linked to DETs and FTRs accessed

¹ See www.totalmetrics.com – Article - Levels of Counting

6 Agreed Structure and Content of Audit Reports

The client and the supplier need to agree with the auditor on the detail provided in the audit report such that their results can be verified.

For example if the Auditor removes elementary processes from the count on the basis that they were redundant but do not identify which functions they were duplicating, then it makes it impossible for the counters to know if the auditor's decision was valid.

7 Agreed Objectives for the Audit

It is recommended that the purpose of the audit be established prior to an audit occurring. Ideally the audit should have as its objective to improve the overall functional size measurement process such that the outputs from the process (counts) also improve in their quality (I.e., accuracy, repeatability and internal and external consistency). It is recommended that the scope of planned audits be extended to examine the counting process. This would then provide feedback on ways to improve the process to ensure better quality counts in future audits.

8 Agreed Dispute Resolution Process

The dispute resolution process needs to be agreed by all parties prior to the audit, so as to ensure a satisfactory outcome in the event that the audit results are not accepted by any of the parties.

They also need to agree on who is authorized to review reports in draft prior to them being made public such that the counters reputations are not brought into disrepute due to an unfair assessment.

9 Summary

Functional Size Measurement (FSM) is still not a mature process in most organizations. The FSM audit process is even less mature. However irreparable damage to client-supplier relationships can be avoided if appropriate ground rules for FSM assessment are established at start of the contract and then prior to an audit commencing.

10 References

1. Morris, P.M, IFPUG's Involvement in ISO Function Point Standards: Proceedings of the International Function Point Users Group Conference, April 1995.
2. Morris, P.M, Desharnais, Jean-Marc, Validating Function Points: Proceedings of the International Function Point Users Group Conference, April 1996.
3. Desharnais, Jean-Marc, Morris, P.M., Validation Process in Software Engineering: An example with Function Point. Software Metrics: Research and practice in Software Measurement 3-8244-6518-3 (1997).
4. Desharnais J.-M., Morris P., Post Measurement Validation Procedure for Function Point Counts, Position Paper Forum on Software Engineering Standards Issues, October, 1996.
5. Wittig GE, Morris PM, Finnie GR, Rudolph EE., Formal Methodology to Establish Function Point Coefficients: Proceedings of the International Function Point Users Group Conference, September 1998.
6. Oligny, Serge, Abran, Alain, Desharnais, Jean-Marc, Morris, PM, Functional Size of Real Time Software: Overview of Field Tests 13th International Forum on COCOMO and Software Cost Modeling – Los Angeles, October 1998.
7. E.E. Rudolph, G.E. Wittig, G.R. Finnie, P.M. Morris Verifying Function Point Values IFPUG International Function Point Users Group Conference - Arizona USA, September, 1997.
8. Desharnais J.M., Morris P, Measuring ALL the Software not just what the Business Uses UKSMA Software Measurement in Practice Conference - London October 1998.
9. IT Measurement: Practical Advice from the Experts (Pam Morris contributed a Chapter on Benefits and Uses of Function Point Analysis and the infrastructure required to implement Function Point Analysis within an organisation. (International Function Point Users Group) Addison Wesley 2002 ISBN: 020174158X