

Newsletter Spring 2010

Telmaco ponders the question: Measure or Estimate?

In common practice, measuring *or* estimating a functional size appears to be indiscriminate. As a result, the commercial consequences could be unpredictable and may often, at the very least, lead to misunderstandings. We hope to have clarified this issue here: namely, the MeterIT tool suite both measures and estimates but never proposes 'approximations'.

The licensing of MeterIT-Cosmic is taking more options on-board with regard to applicants who have acquired recommended COSMIC training. With this Newsletter, we are introducing the one year free licence for SMS trained specialists and free licensing in the context of Telmaco's University-Industry co-operation policy.



Dear All,

When a measure is a measure (or is not)

We often hear vendors of software metrics capabilities talking about measurement. When you question them a bit further, you discover that they're not really talking about measurement in a really precise sense.

In fact, in agreement with some research made by Grant Rule (SMS Ltd, www.measuresw.com) it is useful to refer to dictionary meanings for this. Indeed, this is always useful, even though dictionaries are often for general use and not necessarily for specialist reference.

There are a few definitions with which I sympathise strongly, such as:

To measure: "The dictionary defines the verb 'to measure' as 'to ascertain the size, amount, or degree of something by using an instrument or device marked in standard units or by comparing it to an object of known size'. And 'to ascertain' is defined as 'to make certain, to be sure'."

Well, what does that mean in practice? It means firstly that in measurement, a standard shall be involved. Beyond any consideration of the quality of the standard, the chosen standard shall be known and agreed on by specialist groups. This is the strong point of standards such as IFPUG and COSMIC which are officially referenced by the well known ISO institution.

For most of us it also means that a 'practice' and/or a 'tool' that pretends to measure a software size according to the COSMIC standard shall follow the COSMIC rules, all the COSMIC rules, and only the COSMIC rules as per ISO/IEC 19761, 2003. Any deviation from this cannot be called a 'measure'. The role of a COSMIC measurement tool shall be to constrain or to support its users into following the COSMIC rules. If it contains non-standard activities, this should be explicitly and clearly stated. The same should apply in relation to IFPUG measurement where the standard ISO 20926:2003 shall be respected under its CPM V 4.2 practice or latest. Otherwise this is not an IFPUG measure. It would be something else to be defined.

I hear someone say, 'This is a size estimate'. Then, let's consider this assumption. "My dictionary defines an estimate as 'an approximate calculation or judgement of the value, number, quantity, or extent of something'. It also says that 'to approximate'

has the meaning 'to estimate'. This definition of estimate is probably acceptable in common language but it is not sufficient for professional purposes. This is the case when we want to estimate the size of a piece of software by COSMIC (That is, its quantity of functionality).

'Approximation' is not helpful as almost any number could fit the bill. A CMMi Level 3 software manager cannot do much with this definition, only bin it.

We are confronted with 2 different situations: in measurement, we have full knowledge of the product to be measured whilst in estimation, we have only a superficial knowledge of the product. Therefore in the latter, uncertainty shall be given full consideration.

Therefore, a COSMIC size measure provides one piece of data (the measure): a COSMIC size estimate will provide two pieces of data (either a central value and the associated uncertainty or its range for a defined confidence level). And, going along with six-sigma, "a data is a data when it is (quantitatively) verifiable".

Therefore a tool or a practice that pretends to provide a COSMIC size estimate shall provide two pieces of data. Otherwise we have the right to question its supplier.

In sum, the dictionary definition of 'estimate' is misleadingly confusing 'estimate' with 'approximation'.

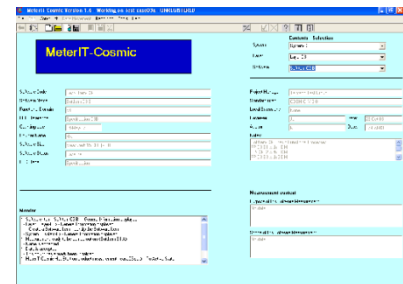
Always come back to the latin:

"the root of 'approximate' is the Latin '*approximare*' from ad- (to) + *proximus* (very near)... meaning 'to bring close to'. Well, a COSMIC approximation is delivered because it is close to the real thing (This does not offer any way of ascertaining what this real thing is). So, an approximation does not mean anything in COSMIC professional terms.

Its meaning is aligned to 'guess', 'dream', and 'fanciful thought'.

All this being said, excluding any potential natural human error, a measure of the functionality of a piece of software gives you a result with 100% certainty; an estimate gives you a result of between 5 to 20 % uncertainty, and an approximation may unpredictably give you from 0 to a few thousands % of uncertainty.

Therefore, there is a time for measuring and a time for estimating. I would like to add that there is no time for approximating.



Measuring or Estimating with the MeterIT Products suite

MeterIT-Cosmic

MeterIT-Cosmic is basically a functional size measurement tool which has additionally the capability of estimating the size. Both practices are based on the COSMIC standard ISO/IEC 19761, 2003. This means that, by using the COSMIC rules, you enter the specification of the known parts of the software product and get a measure for that part. Then you use your best knowledge of the non-specified parts to estimate those parts. This explains why at the early stage of the development life cycle you get a composite size (measured and estimated by parts) which has the ability to become a full measure when your product becomes completely known.

PredictIT

This is a software project estimation tool. It accepts as a predictor the measured or estimated functional size of the software application to be developed or maintained. It provides a time-cost estimation of the project, hence two values central and uncertainty.

MeterIT-Project

This is a software project measurement tool. It provides the measurement of a number of management parameters of your project portfolio. An analysis of these measures provides a calibration data set used for calibrating PredictIT.

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MeterIT-Converter

MeterIT-Converter is a conversion tool. Software sizes are measured by means of one of the three main ISO measurement standards. MeterIT-Converter converts the sizes expressed in the first generation of standards (IFPUG, Mk II) into the more modern second generation COSMIC. The natural uncertainty of the conversion algorithms is combined with the ability of converting measured sizes as well as estimated sizes. The resulting COSMIC size is delivered with its central value and its uncertainty.

For more details, please, download these products from www.telmaco.co.uk and try them for free and no commitment.

New Licensing Options for MeterIT-Cosmic

Further to the perpetual licence, two new types of licence were launched in 2008 (See www.telmaco.co.uk): the licence for the duration of the project and the licence allowance for the newly trained COSMIC Users.

(1) - MeterIT-Cosmic for the duration of the project

The advanced sizing usually made during the Feasibility Study is often accommodated during the free month of MeterIT-Cosmic evaluation; it is also at the end of this period that the overall project duration is known. At this time we calculate the number of months necessary for bringing the software application from its early design to its delivery status. You can acquire from Telmaco a Licence covering only this number of calendar months, but with a minimum of three months. Naturally it could happen that the project requires an extension. The flexibility of this option is in making a licence extension possible once you have reported your additional number of months to Telmaco.

(2) - One free yearly Licence for COSMIC trained by SMS

The next public OnLine COSMIC training course has been announced by SMS Ltd.

Introduction to COSMIC FPA - OnLine Training

Presented by Grant Rule -- 5 x 2.5 hour sessions

10:00am - 12:30pm Monday - Friday

7th - 11th June, 2010 UK.

For more details please log on

http://www.smsknowledge.co.uk/training_index.aspx#

Once you have obtained your certificate of SMS COSMIC-trained you can acquire your one-year free licence for MeterIT-Cosmic. Please refer to your training certificate at time of ordering.

(3) – Telmaco's University-Industry Policy

This collaborative policy can be carried out for a number of applicants each year in the context of the Universities and Colleges that are teaching and lecturing functional size measurement and related matters.

Telmaco is offering a free collaborative licence enabling the use of MeterIT-Cosmic for students who make a request for it for the duration of their academic projects.

Telmaco may be able to consider this as being from 2 to 4 months' duration, potentially renewable. Lecturers may communicate the message to their COSMIC students.

The procedure to facilitate this would be:

- (i) - The student registers personally as is normal for downloads on www.telmaco.co.uk (or www.telmaco.com)

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(ii) - The student personally emails his/her request to sales@telmaco.co.uk including:

- a personal introduction
- a short description of their COSMIC project and objective
- the required licence duration
- an engagement to use MeterIT-Cosmic solely for personal academic activities and, at the end of the duration period,
 - to immediately email Telmaco a short experience-based utilisation report indicating (a) the strong features of MeterIT-Cosmic and (b) the features to be improved.

This offer is valid only for the English version of MeterIT-Cosmic. Most of Microsoft recognised 'Regional' options should be possible as a matter of principle but Telmaco cannot promise that MeterIT-Cosmic will work for all of them (e.g. Gujarati, Chinese traditional not tested yet).

Please let Telmaco know if you have any further questions or comments on this topic (sales@telmaco.co.uk).

For highly sensitive projects, please use X.509 certificated or PGP (www.pgp.com) secured emails.

Finally, I'd like to continue inviting your comments, suggestions and general responses. They are very welcome, and indeed, are fundamental to shaping the driving strategy for MeterIT-Cosmic's future.

You have been sent this email because according to our records you have previously expressed an interest in receiving information about Telmaco and its products by electronic means. If you do not wish to receive further emails from Telmaco, please reply to this email with the Subject "NOT INTERESTED" and our records will be updated accordingly.

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Telmaco is the creator of the MeterIT tool suite for software metrics.

MeterIT-Cosmic measures software size in compliance with the standard COSMIC (ISO/IEC 19761, 2003), **MeterIT-Project** benchmarks software projects and calibrates Telmaco's software project estimation tool, **PredictIT**.

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