A new release of the Measurement Manual...

The Measurement Practices Committee (MPC) of the Common Software Measurement International Consortium's is finalizing a new version of the COSMIC Measurement Manual, to be released within the next month or two. This will be the largest update of the past four years.

Most importantly, the rules on how to measure a functional size of software using the COSMIC method have not changed; there are only some clarifications. However the method now addresses the question of which size to measure more clearly than in previous versions.

The new material addresses the fact that functional sizes vary depending on:

- different levels of decomposition, e.g. when software is measured as a whole versus when the sizes of its components are measured;
- different levels of granularity, e.g. when the requirements of the software to be measured evolve in increasing detail as the project progresses;
- and as seen by different users, e.g. the functional size of a piece of software embedded in, say, a domestic appliance, is smaller as seen by a human operator user than how it is seen by the hardware device ‘users’ of the software that drive the appliance.

These ‘Measurement Strategy’ parameters must be carefully considered and agreed upon before a measurement exercise is started, to ensure that the results can be properly interpreted, used and compared with other measurements.

The new material represents a major breakthrough for functional size measurement in general, because the parameters are valid for all FSM Methods, not just for COSMIC. The ideas will be especially important for estimating methods and for all benchmarking activities. A paper on these new ideas (“Advancing functional size measurement – which size should we measure?”) was presented by Charles Symons at the SMEF Conference in Rome in May. (The paper may be downloaded from www.geolog.etsmtl.ca/cosmic-ffp)

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At last we found that it was COSMIC-FFP! We piloted it on some maintenance requests. The feedback from various pilot projects was - "it's very simple, easy, ...' and so on.

An agile (SCRUM) project was also sampled for piloting where the size in Cfsu was calculated for one sprint (increment). This data was submitted for ISBSG benchmarking and we were pleased to receive the benchmark report from ISBSG.

Due to the as-yet limited availability of industry productivity benchmarks for COSMIC-FFP, we are establishing benchmarks specific to our organization to proceed further. Work is in progress on preparing training material, developing local sizing guidelines, and on applying the COSMIC-FFP method to more projects to get more data points for benchmarking. The Key Success Indicator for COSMIC-FFP at Cognizant will be the accuracy of estimation. Once it is proved accurate, institutionalizing the method is very close at hand.”

Editor's Note: COSMIC method users are strongly encouraged to inspire themselves from Cognizant's example to submit some of their data to ISBSG (via www.isbsg.org) in order to improve industry benchmarks. However, for the most accurate estimating, local benchmarks should be established when the organization has sufficient data.

COSMIC related research areas

Areas where it is felt that interesting COSMIC related research could be carried out were discussed at a recent COSMIC meeting in Rome. The following topics were suggested (e.g. for PhD candidates for instance):

• How to specify in UML so as to facilitate subsequent measurement with COSMIC.

• What work best for "change" projects: measuring the size of the software changed, or measuring the size of the change to the software or a mix of both?

Anyone interested in pursuing these research topics is invited to contact Alain Abran. (aabran@ele.etsmtl.ca)
The COSMIC organization

The COSMIC organization is structured into two different bodies: the International Advisory Committee (IAC) of 22 members from 15 countries and the Measurement Practices Committee (MPC). The COSMIC web-site, [www.cosmicon.com](http://www.cosmicon.com), is kept up to date and describes the COSMIC organization. It also provides complete background data on functional size measurement, FSM methods, etc.

Further information

If you have any questions or require further information on COSMIC, please contact your national representative on the COSMIC International Advisory Committee (see [www.cosmicon.com](http://www.cosmicon.com), IAC). If you would like to publish an article in this newsletter relating your experience with COSMIC, please forward a draft to the editor at: serge.oligny@bell.ca

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