COSMIC News

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COSMIC adoption is accelerating...

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The Common Software Measurement International Consortium ('COSMIC') is organized informally, so there is no formal User Group. Nevertheless, we get reports of an ever-increasing number of satisfied users of the method. Recent cases include the following.

The Taxation and Customs Union ('Taxud') Directorate of the European Commission in Brussels, Belgium is now issuing Invitations to Tender to software suppliers stating that they must estimate the size of the software in their proposals in units of COSMIC Function Points. The size, measured on the basis of the final agreed specifications is used to fix a price-per-unit-size that remains fixed for the duration of the contract. This combination of a reliable size estimating method and elements of the 'Southern Scope' process (see www.egov.vic.gov.au) enables the Taxud DG to control price/performance for its software acquisition.

Since mid-2006, **Measures Technology Co. Ltd a consultancy based in Beijing, China** (www.measures.net.cn) has successfully deployed the COSMIC method in more than 10 companies in China. "Frankly speaking, most of these companies recognize the method is very effective and gives them lots of help in resolving many issues when they do estimation, project planning, monitoring and control", they report.

Typical cases include three CMMI Level 3 companies:

- **FOXCONN Group**; they focus on MIS software development based on JAVA, C++, DELPHI etc.
- **Zhong Chuang Software**, an outsourcing company
- **Archermind**, also an outsourcing company, whose business is in embedded software in mobile devices.

Luca Santillo (luca .santillo @gmail.com) reports that "during 2007, many **Italian companies** - including **InfoCamere**, **Informatica Trentina, START Consortium, and Vodafone Omnitel N.V.** - have shown great interest in the COSMIC method through training, trials and/or practical comparison against other measurement methods, with highly positive feedback. The method has proved excellent for measuring software projects implemented with modern architectures and / or significant batch components, as well as being more rapid than 'first generation' methods in measuring 'traditional' MIS software. In particular, the applicability of the COSMIC method to SOA (Services Oriented Architectures), to middleware, and to generalized or parametric software 'engines' has been highlighted, for all of which the concepts of software modularization, layering and peer components are particularly relevant."

The well-known 'SEER for Software' estimating tool from **Galorath, USA** (www.galorath.com) now accepts COSMIC Function Points as a size measure input. The SEER tools are widely used in the defence and aerospace industries. Dan Galorath has stated "I personally like COSMIC a lot and expect to see increasing use within SEER."

A major software supply and integration company in Scandinavia, providing products and services to customers throughout Europe and in the USA, has decided to adopt the COSMIC method as its preferred means of sizing requirements. This decision was reached after trialing SLOC and IFPUG FPA as alternative approaches. Around 80 staff are being trained to use COSMIC when capturing requirements and throughout the software development process. The results will be used to improve planning, estimating, and requirements management, and to support high-maturity processes such as the implementation of organizational process performance models as a basis for quantitative project management. The company also expects to benefit from the use of COSMIC during the bid process and in negotiations with customers.

At the **UKSMA Conference** in October 2007, Peter Cotton, Risk Manager at **Atos Origin UK**, explained how his company has integrated the COSMIC method into an overall approach suitable for estimating in a tough, competitive, commercial environment. The current integrated approach was developed after earlier attempts using other sizing methods had failed to be effective. Now COSMIC-based estimating is used alongside 'estimating by analogy' and 'task-based

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estimating' performed by experts using their local experience. Peter argued that "size is a primary driver of effort and cost so provides the basis for estimating the project size, which in turn provides the basis for the commercial decision on cost and duration". The resulting rich picture reduces uncertainty, enabling bid teams to better understand the commercial risk of proposed solutions. The benefits delivered include: an auditable sizing process; measures of the customer's requirements that are independent of specific technologies enabling more objective evaluation of solution options; size estimates made at the start of a project can be compared to measurements at various stages and to the final delivered size; COSMIC's linear size scale delivers measures that have a clear relationship with effort. The integrated approach is based on a repository of metrics from more than 11000 projects – which includes COSMIC size measures for recent projects. The reasons for adopting COSMIC included: avoidance of any need for subjective judgement; the method's simplicity; the ability to size-real-time and infrastructure software as well as business systems. Implementation of the new methods has taken over 12 months, but the joined-up approach has been enthusiastically received, both by managers and project staff. The roll-out continues, with further COSMIC training scheduled for 2008.

Software Measurement Services Ltd in the UK (www.measuresw.com) reports that, during 2007 and early 2008 it has responded to demand for COSMIC training and implementation services from clients in **Denmark, France, Greece, India, Malta, Poland, Sweden, and the UK**. Clients include organisations on both the 'customer-side' and the 'supply-side' of commercial software partnerships, in both the government and private sectors. The COSMIC method's ability to size the software of highly-constrained systems (such as the real-time, embedded software found in defence, telecoms & healthcare) as well as ordinary business and web-based software, is proving a particular strength.

Perhaps because of the reputation of measurement programmes for having a poor survival rate, many organisations seem to be adopting a more realistic approach to their introduction, recognizing that instituting new measurement practices and management often requires a significant change programme. In response, SMS has extended its range of support services, designed to involve all those stakeholders who are necessary to successful adoption, including: executive seminars; formal classes; coached workshops; counting practice health-checks; help-desk support services; along with measurement and consulting services. Integrating these with the iterative, agile approach to software development (e.g. using 'Scrum' and 'story-driven' or 'test-driven' development) used by many project teams, is proving a particularly effective approach to engaging project managers and development staff in activities that measurably improve performance.

Increasing interest in COSMIC certification exam

"Since the first pilot [...] was held [...] in 2006, 46 individuals from 13 countries have passed the exam"

Since the first pilot Entry-level certification examination in the COSMIC method was held at the SMEF Conference in Rome in 2006, 46 individuals from 13 countries have passed the exam. The largest groups of successful candidates have been from India and Spain.

A rigorous process has now been established for holding the exam anywhere in the world, which requires a 'sponsor' to organize the exam and the appointment of an independent 'proctor' to supervise the exam itself. Any organization wishing to sponsor an exam should contact Professor Alain Abran at aabran@ele.etsmtl.ca.

Certification exams are currently scheduled for Bangalore, India (March), Milan, Italy (May) and Munich, Germany (November). Further exams will be held in 2008. For the latest exam schedule, visit www.gelog.etsmtl.ca/cosmic-ffp.

The current Entry-level exam is based on v2.2 of the COSMIC method. It is planned to upgrade the certification exam to be compatible with v3.0 of the method by the end of 2008.

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Quickly updating documents to version 3.0

"Translations of the Measurement Manual v3.0 into Dutch, French, Italian, Japanese and Spanish are underway and should become available over the summer of 2008; a translation into Turkish is targeted for end 2008."

With the publication of the 'Advanced and Related Topics' document at the end of 2007, the basic English-language definition of the method is now complete. The 'A&RT' document deals with three topics, namely

- Early or rapid sizing using approximate variants of the COSMIC method
- Ensuring the comparability of size measurements at different levels of granularity and of decomposition of requirements
- Conversion of sizes measured with '1st Generation' FSM Methods to COSMIC sizes.

The 'Guideline for sizing Business Application Software' has been updated to be compatible with v3.0 and is currently being reviewed by the Measurement Practices Committee. It should be available by mid-2008.

Translations of the 'Measurement Manual, v3.0' into Dutch, French, Italian, Japanese and Spanish are underway and should become available over the summer of 2008; a translation into Turkish is targeted for end 2008. Work has also started on updating various case studies to v3.0. All COSMIC publications are available for free download from www.gelog.etsmtl.ca/cosmic-ffp.

The ISO/IEC 19761 standard for the COSMIC method, originally published in 2003 for v2.2 of the method, has been updated to v3.0 and submitted to ISO for approval. If it proceeds smoothly through the ISO process, it should become available later this year (from www.iso.org).

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 COSMICON web-site, ***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*, 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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