

Systems engineering at the enterprise level

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Abstract

The principles of systems and software engineering can be re-applied beyond the range of the individual project. Traditional enterprise-wide tasks such as technology management, decision-making, organizational objectives, re-use, innovation and outsourcing are amenable to systems engineering. Examples of all of these areas will be presented. The rewards from a disciplined approach are clearly higher when applied at this level. Indeed some aspects (such as re-use) are only possible across projects. The problem of introducing this change is primarily cultural, because of the wide range of skills (including non-technical areas) involved in this coordination. Moreover the time-scales and commitment needed are higher than for individual projects. Shaping systems processes around traditional tasks and terminology helps convince management of the need for system engineering.

About the Speaker

Dr Richard Stevens was awarded INCOSE Fellow status in 1998 to recognise his outstanding achievements in systems engineering. He has over 15 years experience as a requirements engineering consultant, auditor and trainer to organizations such as AT&T, DERA, ESA, Motorola, Ford and GM. Formerly Head of Methodology, Technology and Quality for Information Systems in the European Space Agency. As a member of ESA's Board for software standards (1987-1993), he helped develop the ESA PSS-05 software standards, used by thousands of European software engineers.

Dr Stevens is author of books such as 'Systems Engineering – coping with complexity' (Prentice-Hall 1998), 'Software Engineering Standards' (Prentice-Hall 1994), 'Software Engineering Guidelines' (Prentice-Hall 1996), and 'Understanding Computers' (Oxford University Press 1986), plus numerous academic papers and newspaper articles. The first book is now the standard text within MoD for teaching systems engineering.

In 1993, Dr Stevens co-founded QSS at the Oxford Science Park. As CTO, he shaped the development of DOORS, which grew to a 250-people company, and the world's leading requirements management tool. QSS was awarded "BCS IT Company of the Year" in November 1998. QSS was acquired by the Swedish company Telelogic in September 2000, and Dr Stevens became part-time Advisor to the Telelogic CTO. Recently this work has evolved to applying a systems approach at the business level within organizations. He has written many methods training courses and books, including 'Structured Requirements', 'Requirements for e-business', and 'Managing the Business Objectives' and presented them to Fortune 500 companies worldwide. For more info, look at www.telelogic.com