‘Improving requirement modelling and traceability within an enterprise architecture framework: Methods, Blueprints and Experiences’

Col Jeremy Barrett UKAR
Dr Dick Whittington
Prof Keith Hartley
Maj Toby Sumpter UKA
Dr Simon Smith

Hi-Q Systems Ltd
The Salamander Organisation
Centre for Defence Economics, University of York
Directorate of Command and Battlespace Management (Army)
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Challenging the DoD AF paradigm
NAO ‘Major Projects Report 2003’

Reports:

• Improvements in gross time and cost overrun
• Encouraging signs of innovative relationships with industry …

But …

*there is more to do*
‘More needs to be done’

• Methodologies, architecture and governance frameworks for:
  - Defining and managing requirements
  - De-risking development through increased coherence, integration and communication

• Engaging, motivating and improving the performance of stakeholders in the acquisition community through:
  - Transparency
  - Incentive
  - Communication
SMART Acquisition
To encourage a mind-set that is unencumbered by traditional developments, it is important that the initial concept is not constrained to explore outside the realm of traditional methods. It is essential to define capability
A number of considerations apply throughout the process, each within the sphere of interest of one or more stakeholders.

The balance of effort given to these considerations throughout the process is important, to enable continuing engagement with stakeholders.
What needs to be done?

• Action at both the business and technical level
• An increased awareness that these views are closely related
Challenges

• Creating a common language to enable the effective engagement of stakeholders
• The development of a common approach to their description with tools in support
High-level Operational View

Viewed at the 60,000 foot perspective, we are aware of the overall context of the requirement, and the principal participating components.

Viewed at the 6 foot perspective, we are able to analyse the specific interactions required between specific components in order to achieve connectivity and synchronisation.

The challenge is to ensure integrity, breadth and completeness of these views, to inform and connect a broad community of stakeholders actively throughout the programme.

Detailed Operational View

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j.barrett@hi-q.co.uk 10
Challenges

• Creating a common language to enable the effective engagement of stakeholders
• The development of a common approach to their description with tools in support
• Managing communication and relationships
• Managing performance and achievement
Shortcomings in Current Practice

- Requirements definition is conditioned by current and past assumptions
- The coverage of key areas within acquisition stages is often unbalanced
- Application of enterprise architecture methodology over-emphasises the technical
- The social and economic realities are often neglected
Addressing the challenge

- Principles and ideas
Making Sense of Complexity

CADMID process and stakeholders

Multiple perspectives

Model and definition layer giving integration, traceability and referencing

Common elements across the acquisition process, with contextual reuse

Open repository containing all data and metadata

XML for controlled integration with other tools and data

CVs

OVs

SVs

TVs

AcVs

effectiveness

operations

contracts

need

systems and platforms

risk

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Addressing the challenge

• Principles and ideas
• Support throughout the acquisition process not just at development and manufacture
A Military Capability is defined as a function or activity that directly contributes to the achievement of tactical, operational and/or strategic effect by the Armed Forces, principally through Fighting.
Addressing the challenge

• Principles and ideas
• Support throughout the acquisition process not just at development and manufacture
• Integration across the different perspectives required at each stage
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Conclusions

• To address the issues of risk, cost and time over-run, we need methodologies that better support the early stages of the process

• Owners of capability requirement need to be able to (and be expected to) take a more active and responsible role in requirement definition and solution alignment

• Decision makers throughout the process must be able to make sense of their complex adaptive environment

• This requires principles, notations, methodologies and tools that are rich enough to express in a coherent and integrated manner the perspectives of all the stakeholders …