Hi-Q Systems
Making Sense of Complexity

THE Salamander ORGANIZATION

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

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

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 …

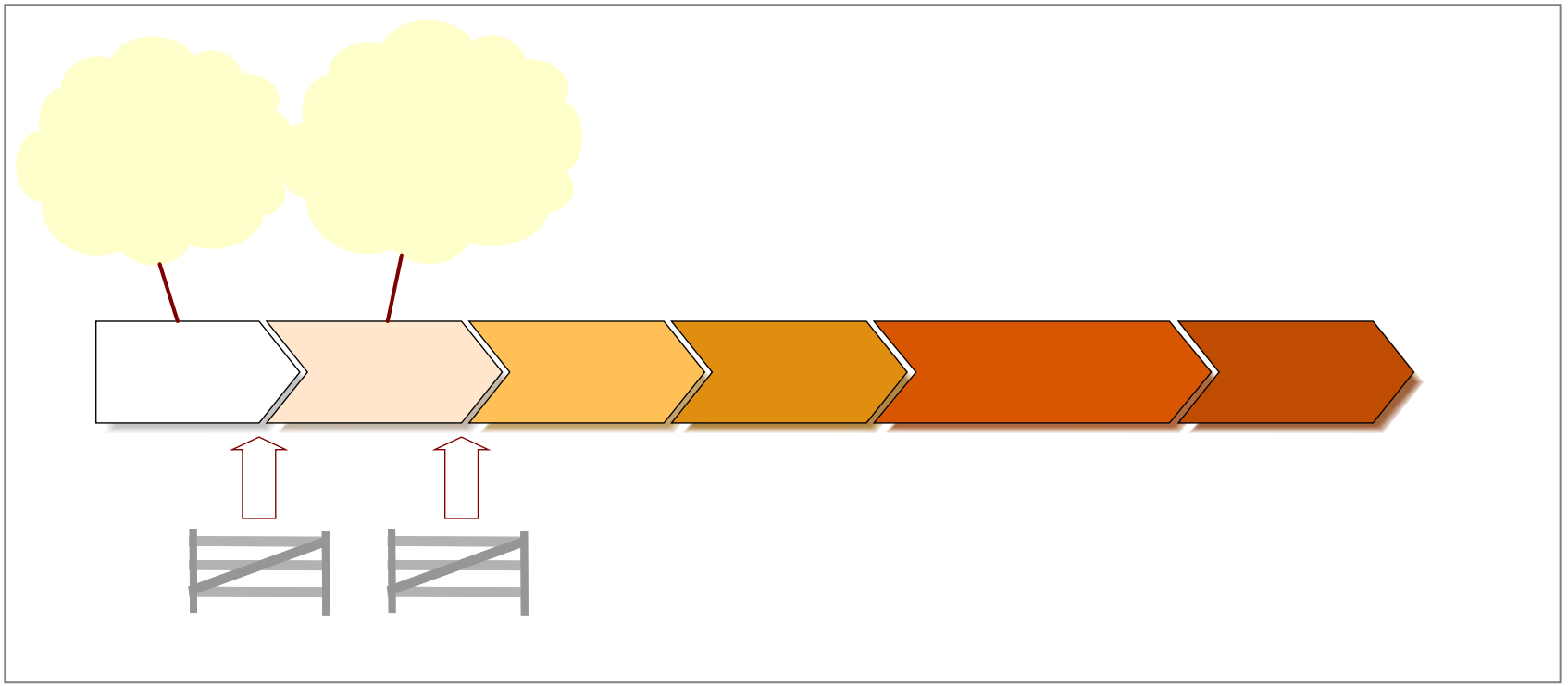
But …

there is more to do

‘More needs to be done’

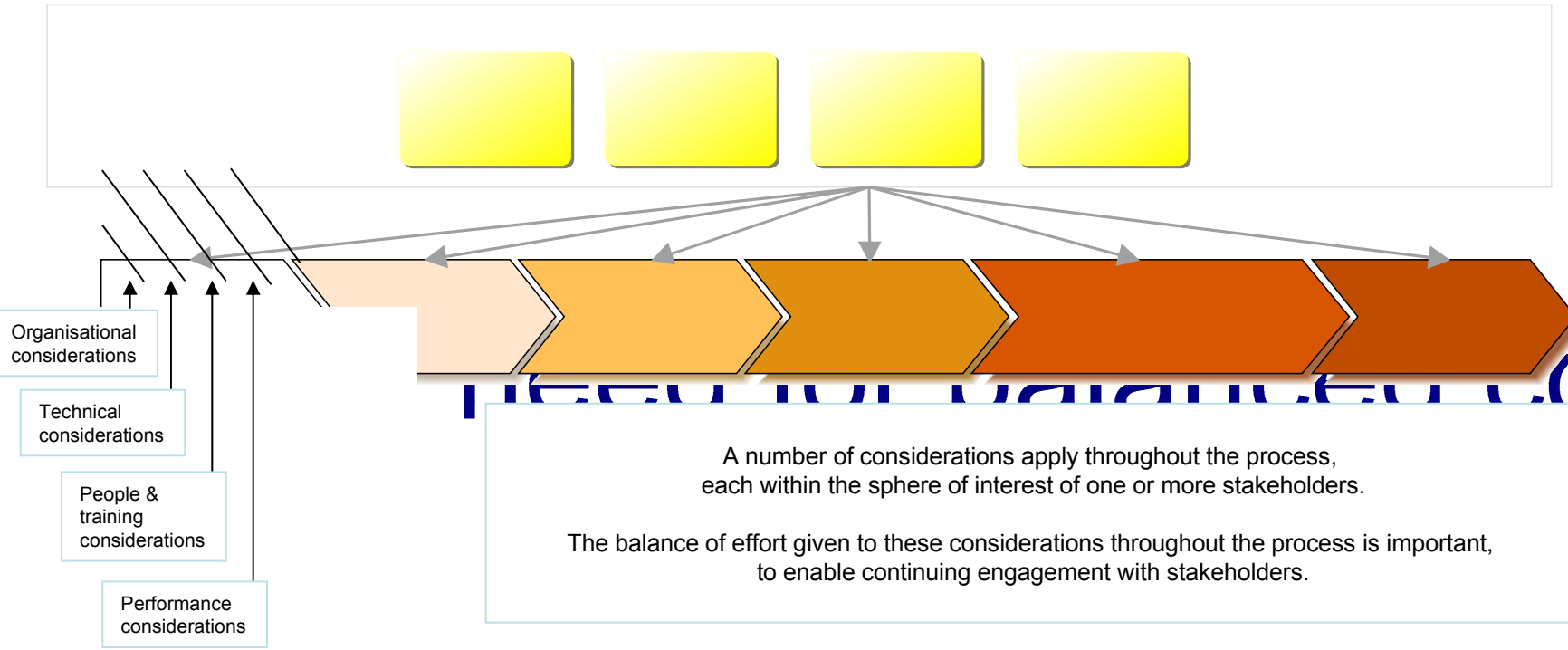
- Methodologies, architecture and governance frameworks for:
  - Defining and managing requirements
  - De-risking development through increased coherence, integration and communication
- Engaging, motivating and improving the performance of stakeholders in the acquisition community through:
  - Transparency
  - Incentive
  - Communication

SMART Acquisition



T ed to define capabi

To encourage a mind-set that is unencumbe
developments, it is important that the initial C
explore outside the realm of traditional meth



Need for balanced considerations

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.

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

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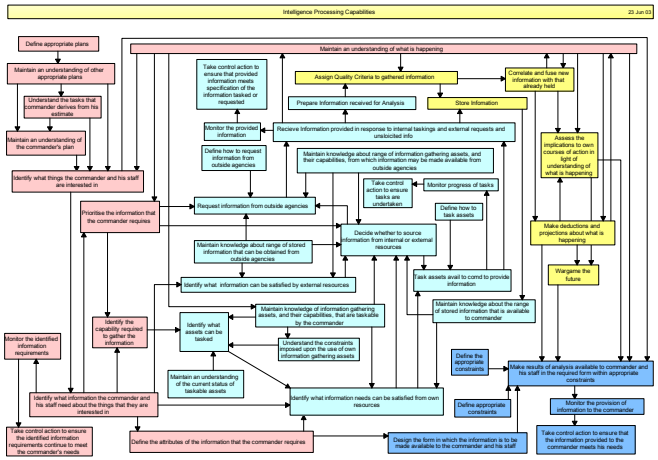
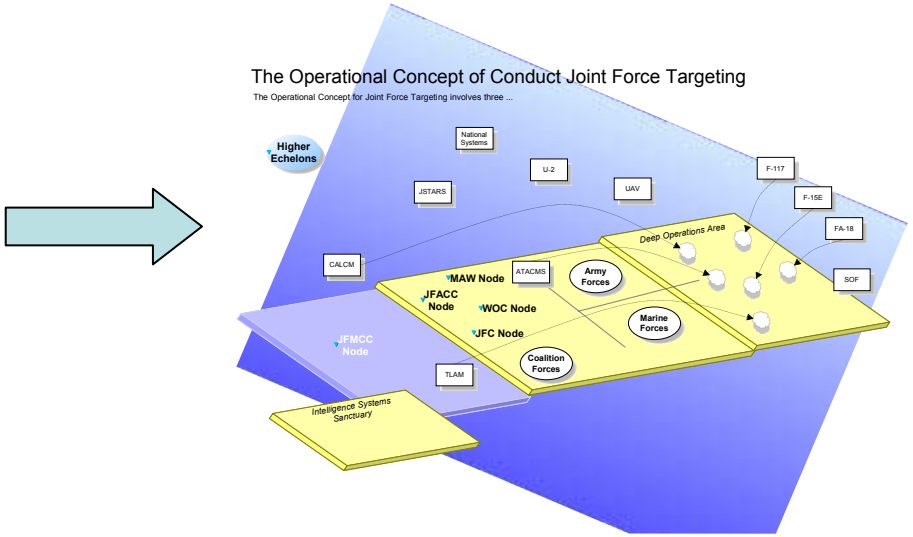
High-level Operational View

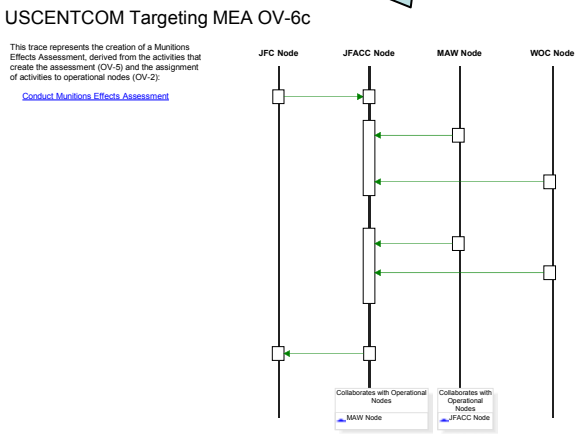
Capability Requirement



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

Challenges

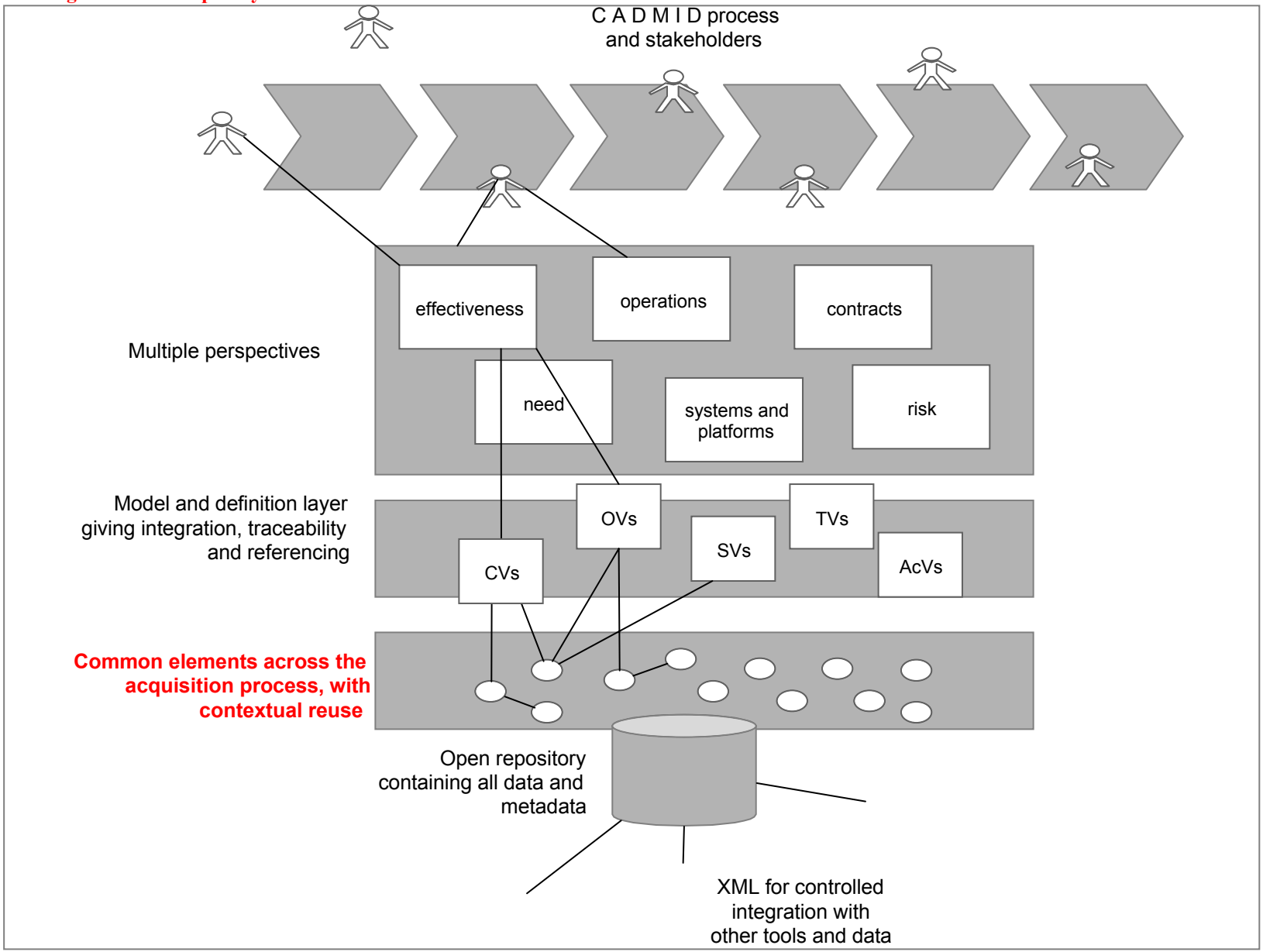
- Creating a common language to enable the effective engagement of stakeholders
- The development of a common approach to their description with tools in support
- Managing communication and relationships
- Managing performance and achievement

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

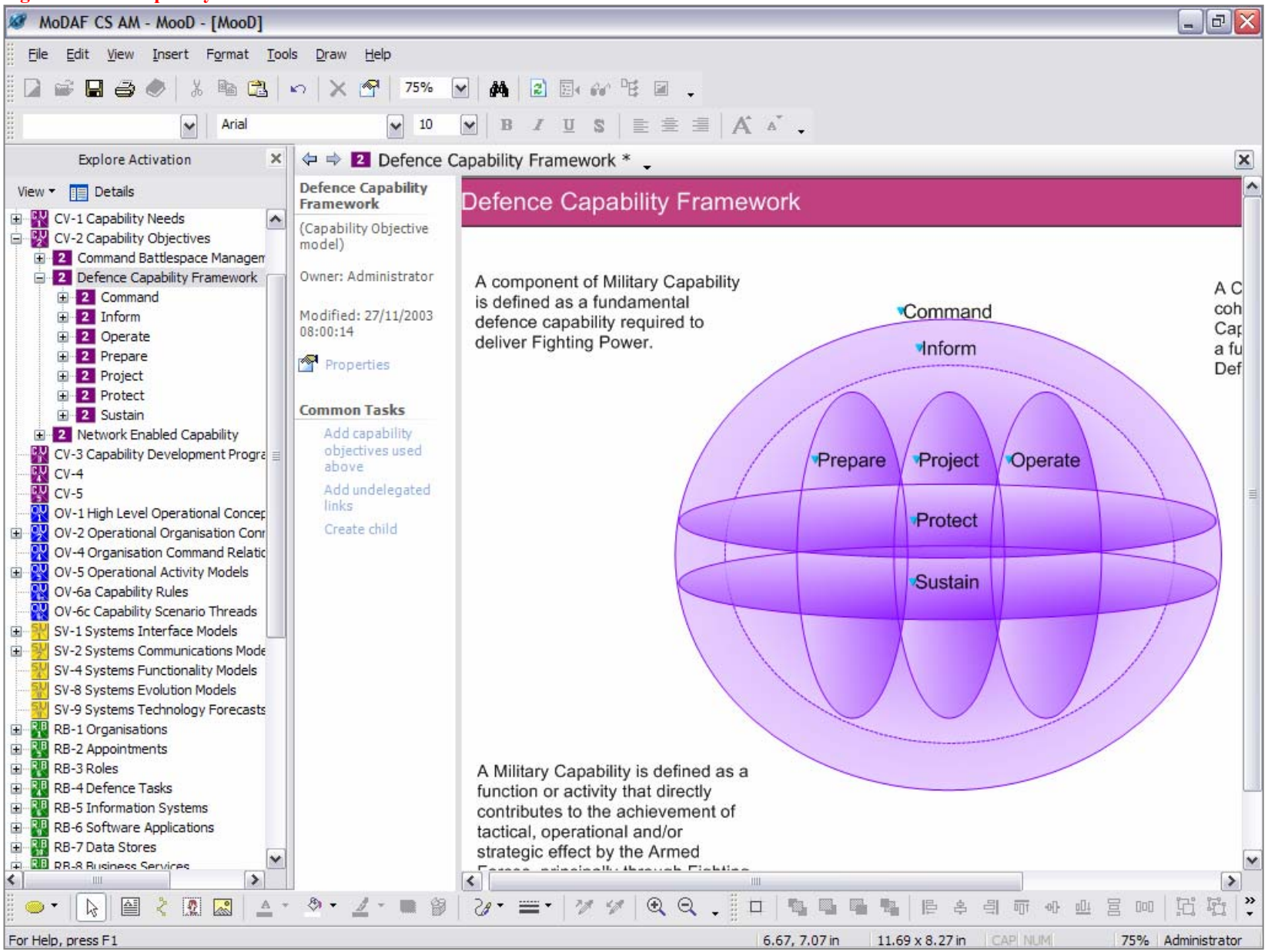
Addressing the challenge

- Principles and ideas


C A D M I D process
and stakeholders
Multiple perspectives
effectiveness
operations
contracts
need
systems and
platforms
risk
Model and definition layer
giving integration, traceability
and referencing
OVs
TVs
SVs
CVs
AcVs
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

Addressing the challenge

- Principles and ideas
- Support throughout the acquisition process not just at development and manufacture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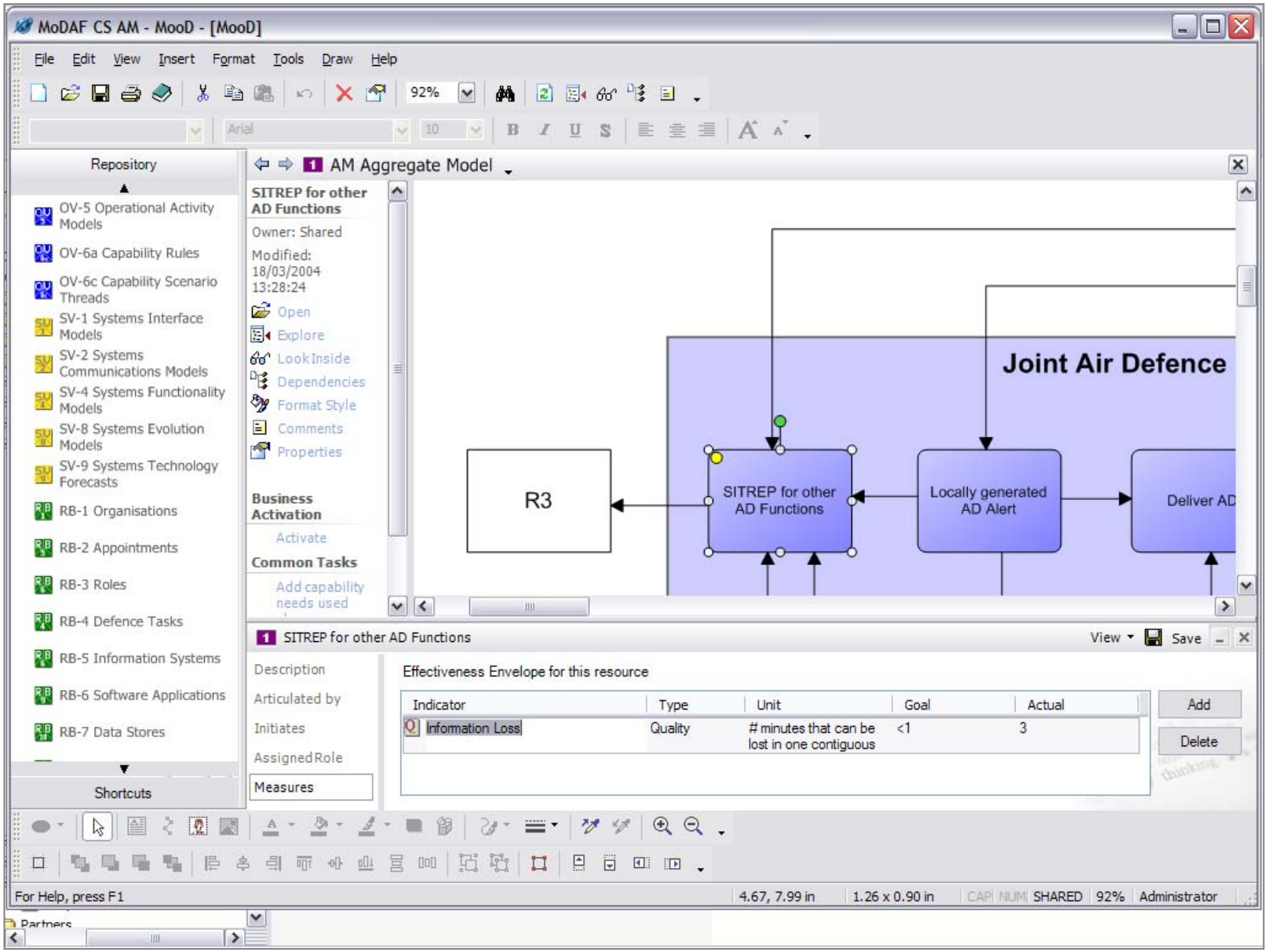
Explore Activation
View Details
CV-1 Capability Needs
CV-2 Capability Objectives
Command Battlespace Managem
Defence Capability Framework
Command
Inform
Operate
Prepare
Project
Protect
Sustain
Network Enabled Capability
CV-3 Capability Development Progra
CV-4
CV-5
OV-1 High Level Operational Concep
OV-2 Operational Organisation Conr
OV-4 Organisation Command Relatic
OV-5 Operational Activity Models
OV-6a Capability Rules
OV-6c Capability Scenario Threads
SV-1 Systems Interface Models
SV-2 Systems Communications Mode
SV-4 Systems Functionality Models
SV-8 Systems Evolution Models
SV-9 Systems Technology Forecasts
RB-1 Organisations
RB-2 Appointments
RB-3 Roles
RB-4 Defence Tasks
RB-5 Information Systems
RB-6 Software Applications
RB-7 Data Stores
Defence Capability Framework *
Defence Capability Framework
(Capability Objective model)
Owner: Administrator
Modified: 27/11/2003 08:00:14
Properties
Common Tasks
Add capability objectives used above
Add undelegated links
Create child
Defence Capability Framework
A component of Military Capability is defined as a fundamental defence capability required to deliver Fighting Power.
Command
Inform
Prepare
Project
Operate
Protect
Sustain
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
For Help, press F1
6.67, 7.07 in
11.69 x 8.27 in
75%
Administrator

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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Repository
OV-5 Operational Activity Models
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SV-1 Systems Interface Models
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SV-4 Systems Functionality Models
SV-8 Systems Evolution Models
SV-9 Systems Technology Forecasts
RB-1 Organisations
RB-2 Appointments
RB-3 Roles
RB-4 Defence Tasks
RB-5 Information Systems
RB-6 Software Applications
RB-7 Data Stores
Shortcuts
AM Aggregate Model
SITREP for other AD Functions
Owner: Shared
Modified: 18/03/2004 13:28:24
Open
Explore
LookInside
Dependencies
Format Style
Comments
Properties
Business Activation
Activate
Common Tasks
Add capability needs used
Joint Air Defence
R3
SITREP for other AD Functions
Locally generated AD Alert
Deliver AD
SITREP for other AD Functions
View
Save
Description
Articulated by
Initiates
Assigned Role
Measures
Effectiveness Envelope for this resource
Indicator
Type
Unit
Goal
Actual
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For Help, press F1
4.67, 7.99 in
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CAP NUM SHARED 92% Administrator

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 …