

Communities and their contribution to agile mission grouping

Geoff Markham

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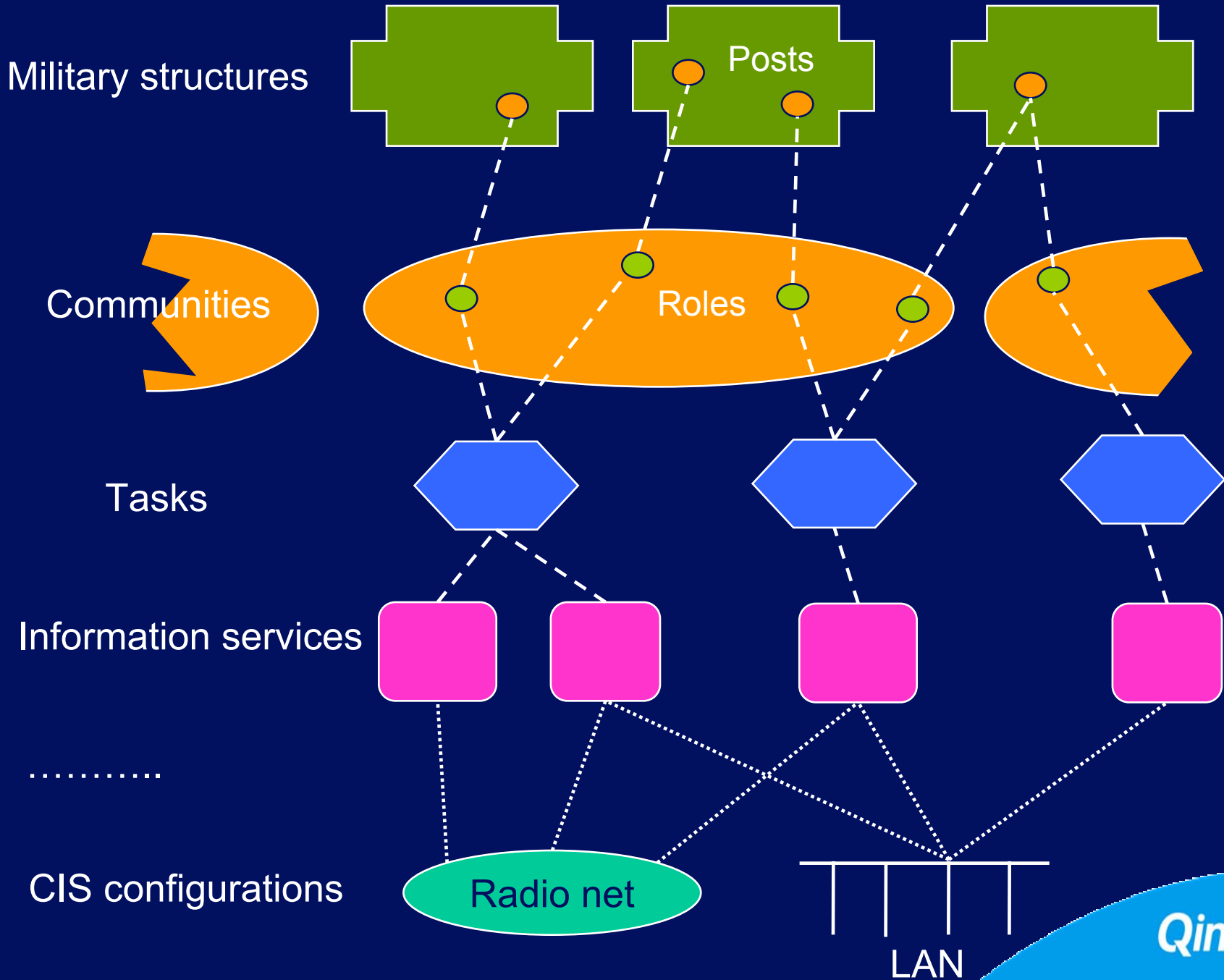
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Structure

- Community principles
 - communities as a descriptive medium
 - what they can be used for
- Information and C2 in the era of Network Enabled Capability
 - communities as a vehicle for reasoning about the future
- Summary

Community principles

- Communities are:
 - a *descriptive* medium - an aid to understanding
 - a means by which structures and activities can be *defined*, in a variety of architectural views:
 - operational, organizational, informatic and technical
 - a vehicle for *design and planning*:
 - information system design
 - information management planning
 - operational concept development
 - contingency and deployment planning
 - agile mission grouping



Distinctive features of communities as a descriptive language

The power of communities comes from:

- ability to relate objects in a variety of different views
- economy of expression
- support for softer social constructs (e.g. experience, trust)
- capture of practical (as well as formal) relationships and structures:
 - description of behaviour of current and planned military force structures, and their supporting technology
 - exploitation of community properties in reasoning about the future

The community thesis (1)

Participants in the battlespace work together in groups, which may be:

- capability-based or mission-based
- localised or dispersed
- enduring or transient (even fleeting).

Although these groups may be dynamic, at any instant an individual's activities can be related to one or more sets of interactions with other participants.

The community thesis (2)

Such a set of interactions defines a community.

The interactions may be expressed in terms of:

- a language (e.g. a message set and/or data model)
- a set of structural relationships
- a set of procedures.

Initial
uses of
the term

Community - a group of people working together and sharing information in a common physical location, e.g. a static HQ

Community of interest - a dispersed group of people with a common interest in information

Development of
community concepts through
land tactical studies
(operational concepts, URDs,
project assessment phases,
Concepts of Use)

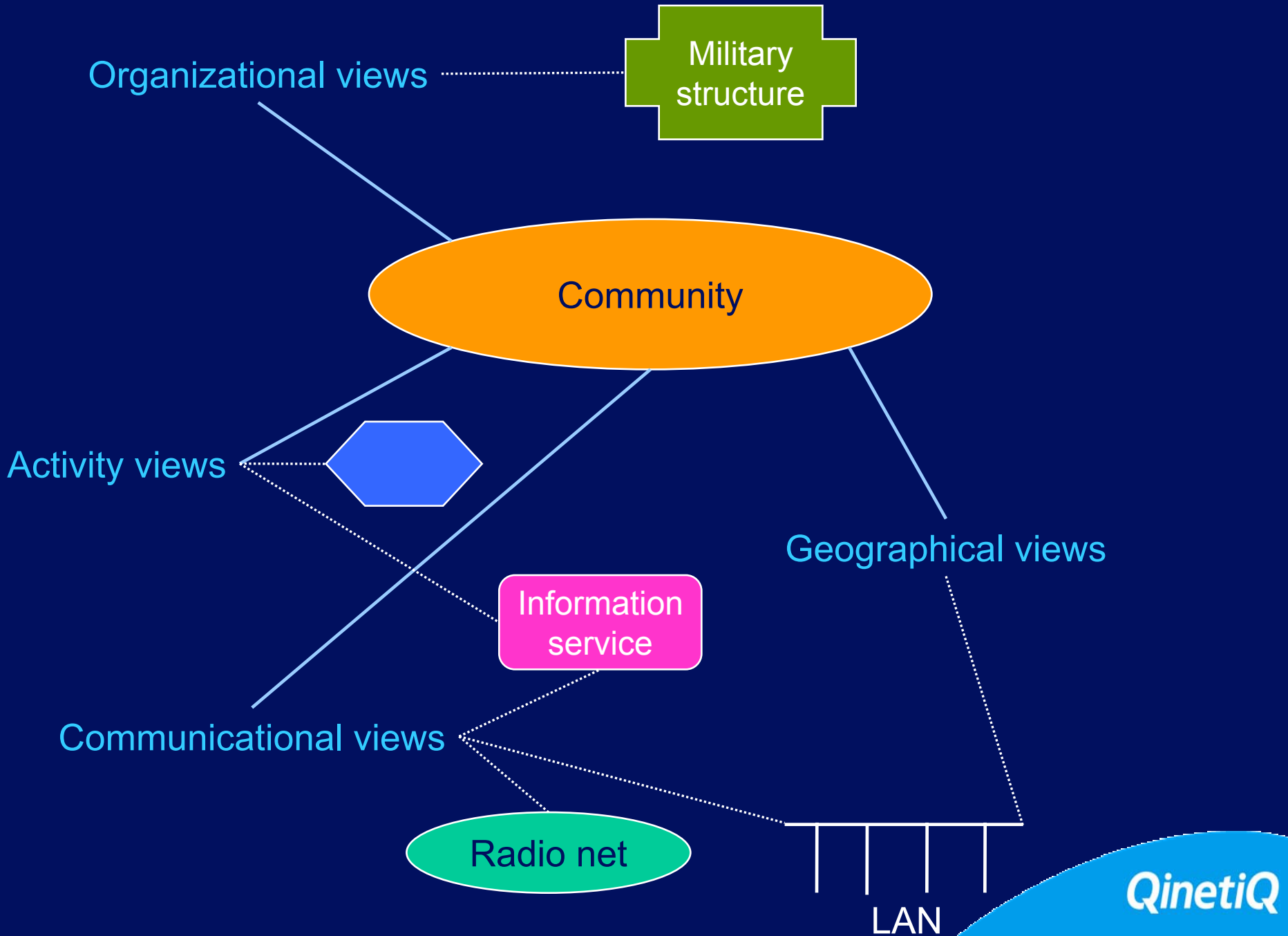
Spectrum of community-
types, with properties
related to functional
characteristics, e.g. near-
real-time support for Fire
Support and Air Defence

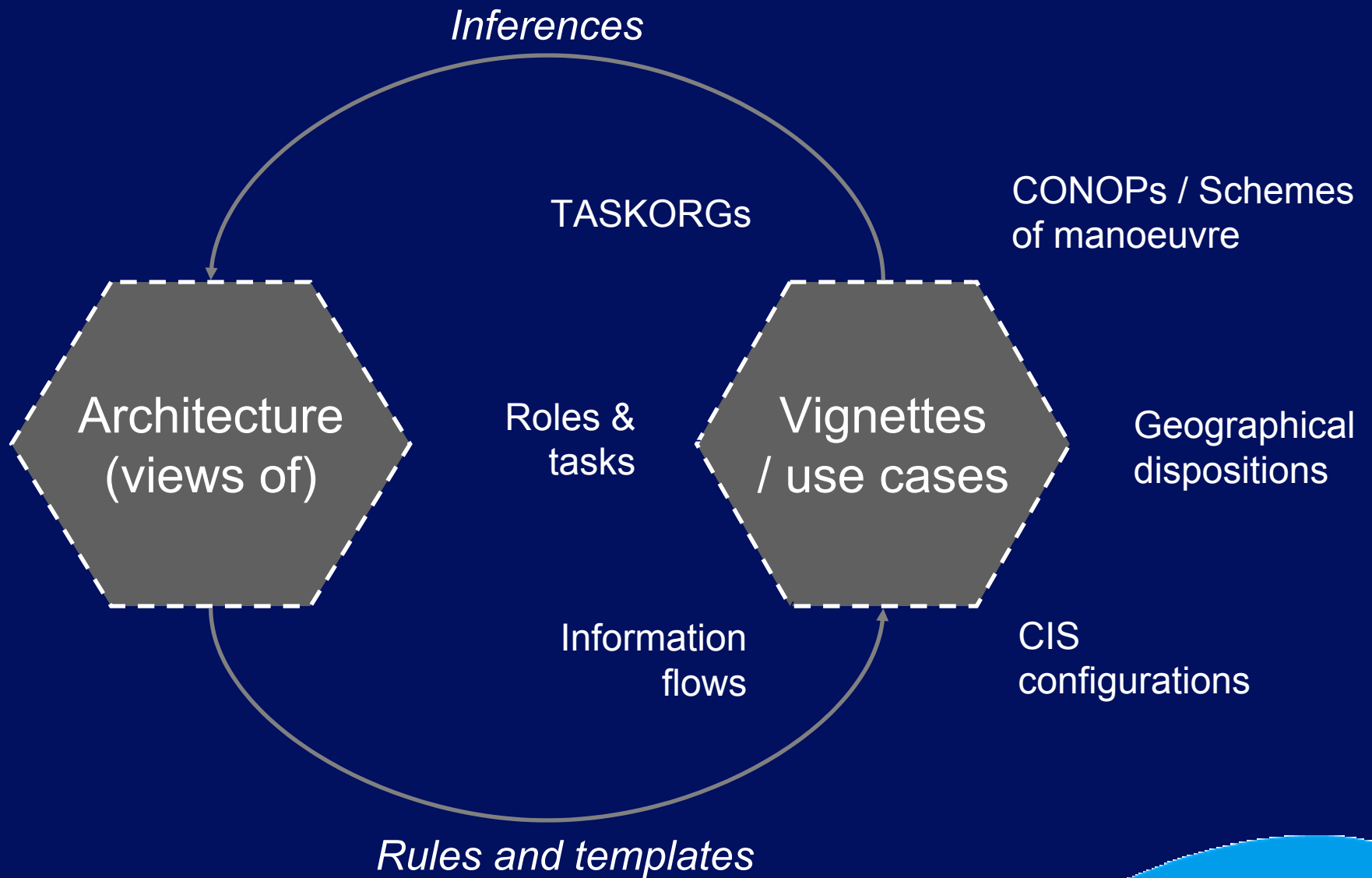
Cross-functional co-
ordination through a
'combined arms'
community - within &
between major HQ

Sharing of function-
centric information
across dispersed
structures

Interactions between
communities through
services and cross-
membership

Lean communications
underpinned by
procedures, defined
message sets and shared
cultural appreciation

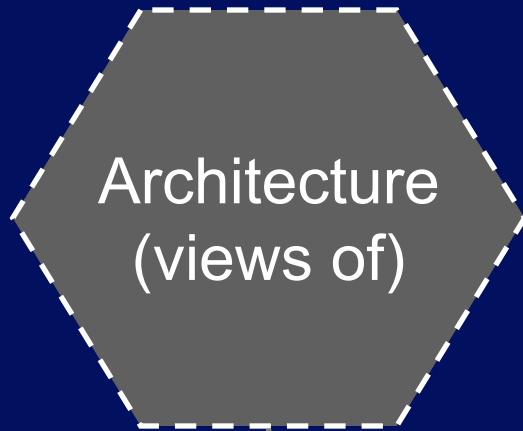




described in terms of communities



building blocks + architectural rules \Rightarrow flexible configuration



Rules and templates

Information and C2 in the NEC era (1)

building blocks + architectural rules \Rightarrow flexible configuration

The community model of NEC:

In the Network Enabled Capability era, we still expect to see clusters of information exploitation ...

- transcending traditional boundaries
- subject to frequent and even rapid reconfiguration

Information and C2 in the NEC era (2)

building blocks + architectural rules ⇒ flexible configuration

Agile Mission Grouping

The ability to reconfigure continually the military organization (at multiple levels) to reflect current opportunities and threats ...

“Enabling the dynamic creation and configuration of task-orientated mission groups that share understanding and that employ and co-ordinate available assets to deliver the desired effect.”

described in terms of communities



building blocks + architectural rules \Rightarrow *flexible configuration*

Agile Mission Grouping

The ability to reconfigure continually the military organization...

In current doctrinal terms, this is:

- Task Organization
- regrouping and attachment / detachment
- interworking between functions

Modelled as a finite set of affiliation options

described in terms of communities

building blocks + architectural rules \Rightarrow *flexible configuration*

Agile Mission Grouping

In the NEC era, we see this ruleset remaining finite but:

- expanding
- increasing in variety of cross-connection modalities

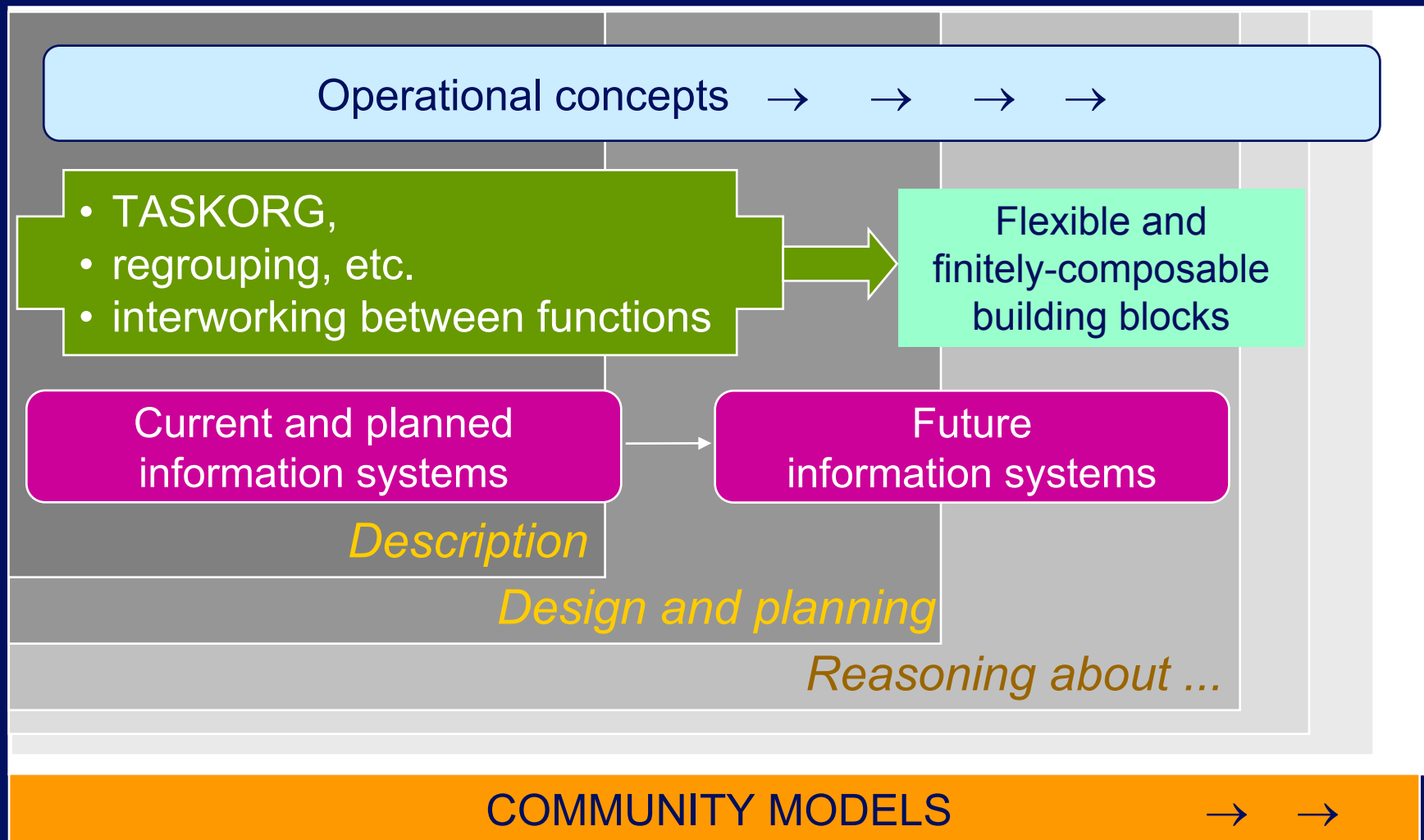
C.f. 'infinitely-composable community blocks' which lose many of the advantages

Modelled as a finite set of affiliation options

Challenges for the NEC era

- Team-like behaviour in support of dynamic interworking?
 - from contingently-assembled groupings?
- Context-sensitivity of information-sharing across an execution-focussed community, dependent on:
 - degree of familiarity, balance of procedure and responsiveness, ...
 - requirement of the community to reason about its own situation and respond to enemy's degrees of freedom and contingencies

Current practice → → Transitional NEC → “Full NEC ...”



Summary

QinetiQ

