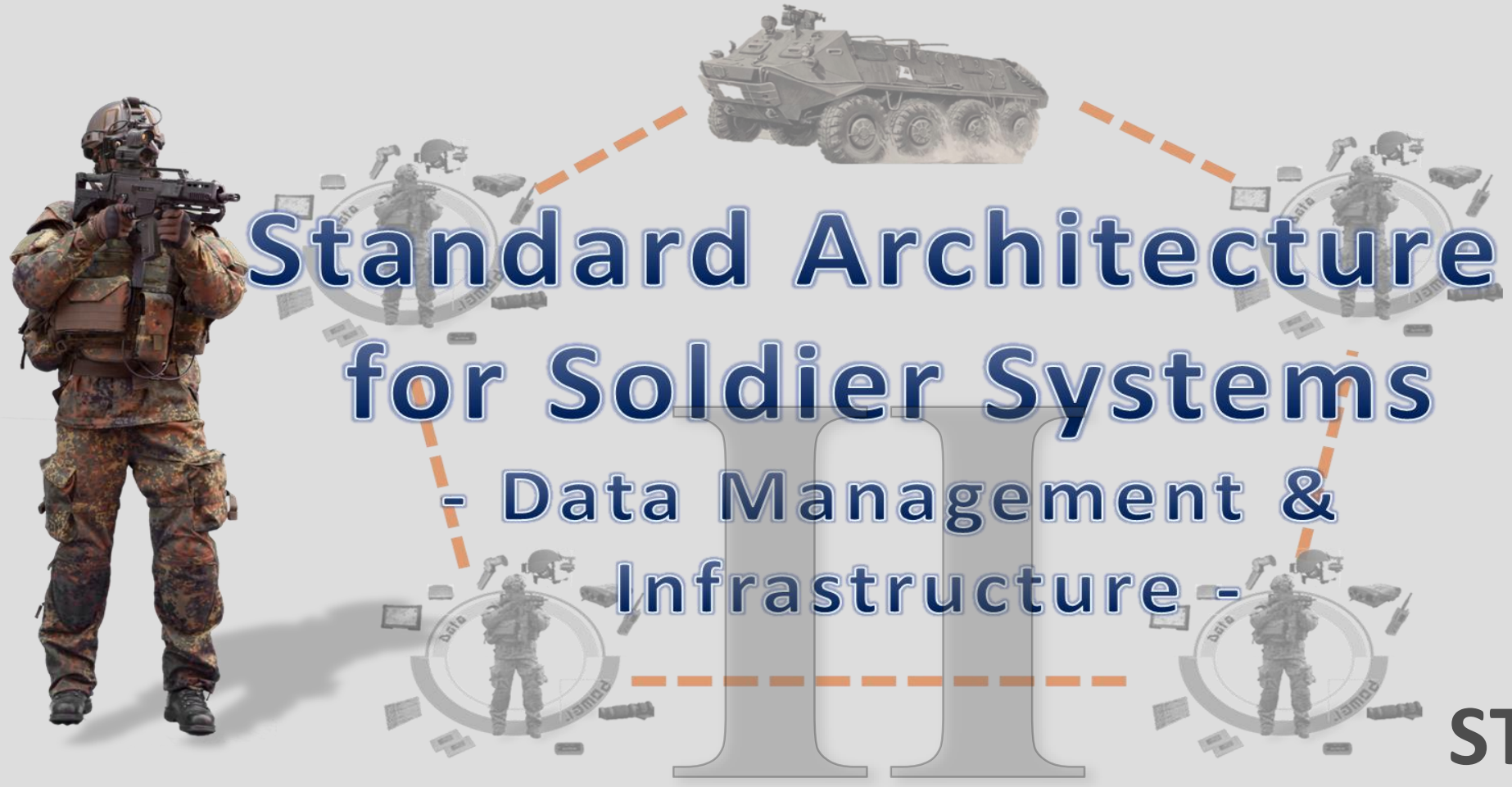
RHEINMETALL DEFENCE | gmv | TNO innovation for life | LARIMART a LEONARDO company | EUROPEAN DEFENCE AGENCY



Standard Architecture for Soldier Systems - Data Management & Infrastructure -

STASS II

Definition of Common European Capabilities, Scenarios, and Requirements

Industry Workshop
16.CAT.OP.131
Brussels, 6st September 2017

Dr. Norbert Härle, Rheinmetall

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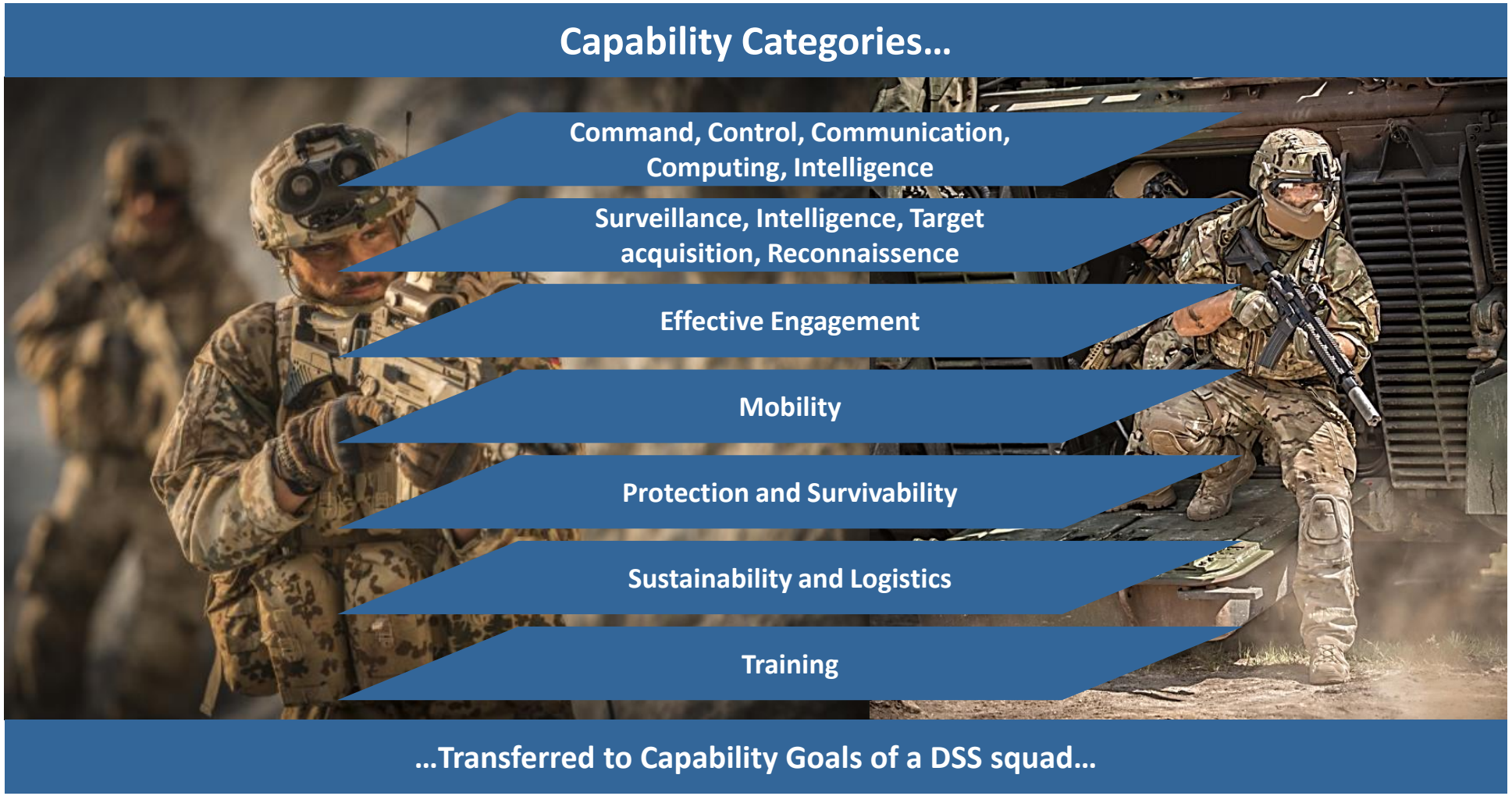
NCV-1 Capability Vision



"The capability vision provides a strategic context for the capabilities described in the architecture. It also provides a high-level scope for the architecture which is more general…"

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Capability View – NCV-2 Capability Taxonomy

C4I	Observe	Orient	Decide	Act	Compute	Communicate
ISTAR	Acquiring information	Recognition of objects/targets	Identification of objects/targets	Limited vision conditions		
Effective Engagement	Handing over of targets	With high initial hit probability	Direct, with available Infantry weapon	Indirect, joint fire support	Close combat without weapon	
Mobility	Navigation	Marching	Air landing	Mountaineering	Fast change of fighting method	Flexible use of platforms
Protection and Survivability	Against hostile fire	Against splinters	Against stabbing weapon	Against din of battle		
Sustainability and Logistics	Configurable	Modular/Flexible	Human Factors	Maintenance	Equipment	Reduction of volume/weight
	Fast readiness	High reliability	High Expeditionary			
Training	Before and during mission	Achieve intuitive operation	With operational equipment	With minimum effort		

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NOV-1 High Level Operational Concept Description

"The High-Level Operational Concept Description subview is used to depict the 'big picture' view of the operational context. The purpose is to provide a quick, high-level description of the architecture, and its functionality."

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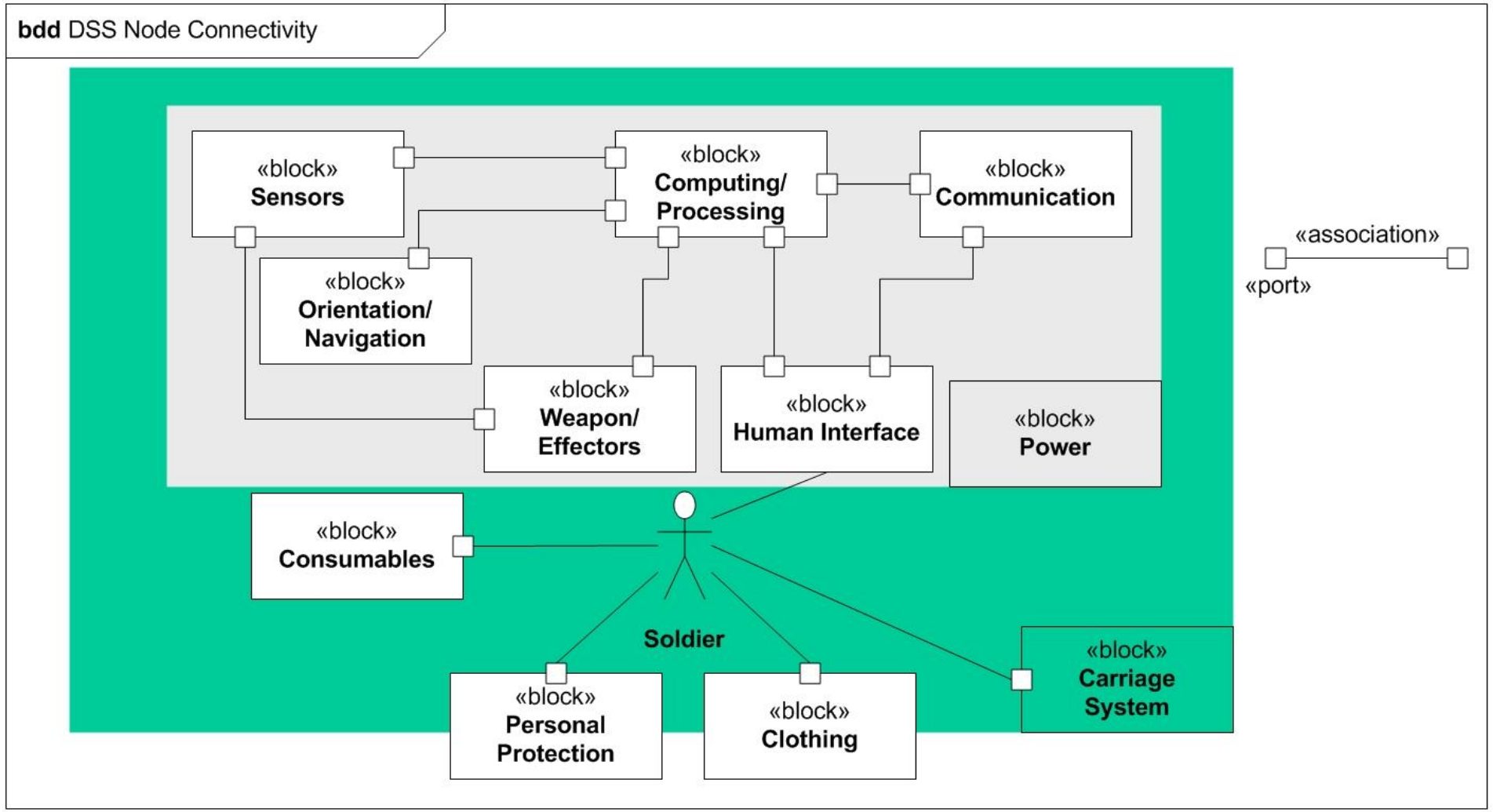
NOV-2, Operational Node Connectivity Description – DSS internal



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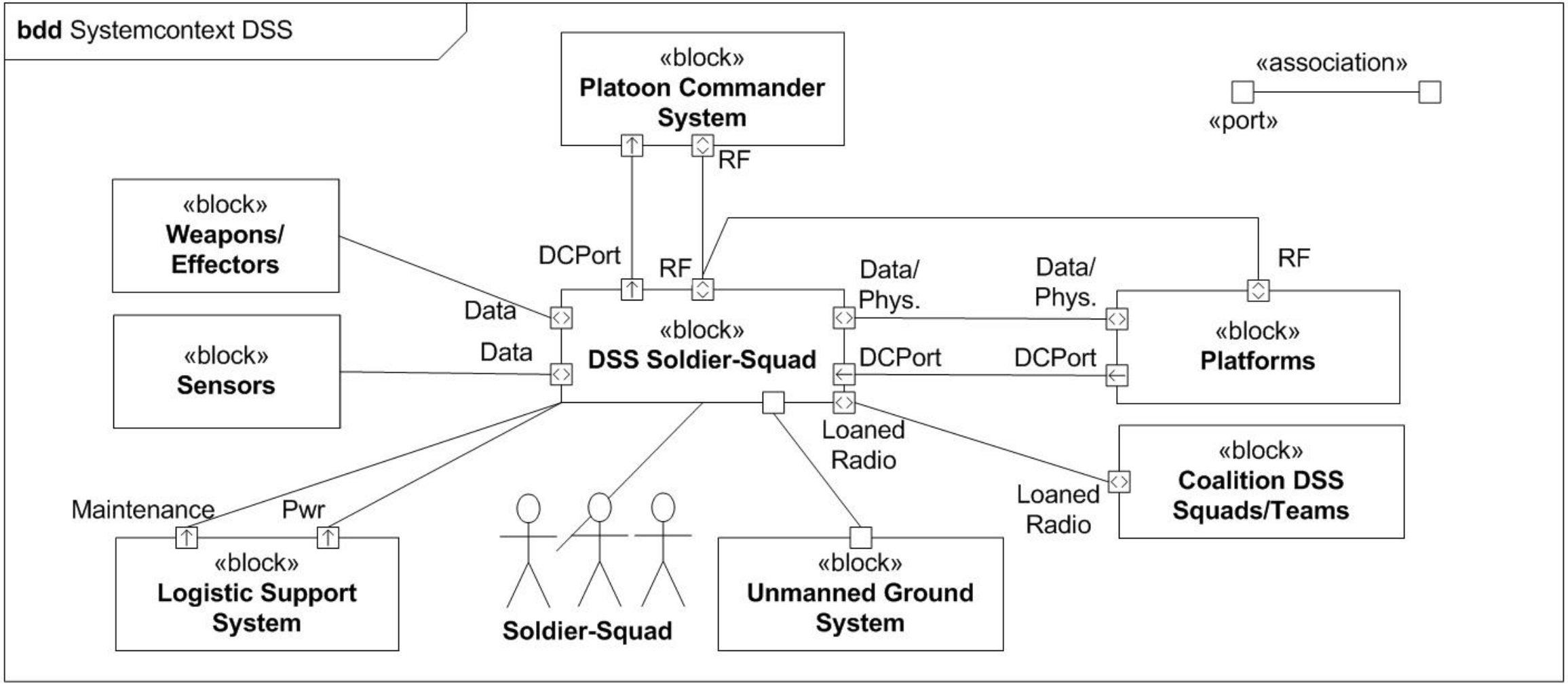
NOV-2, Operational Node Connectivity Description - DSS Squad



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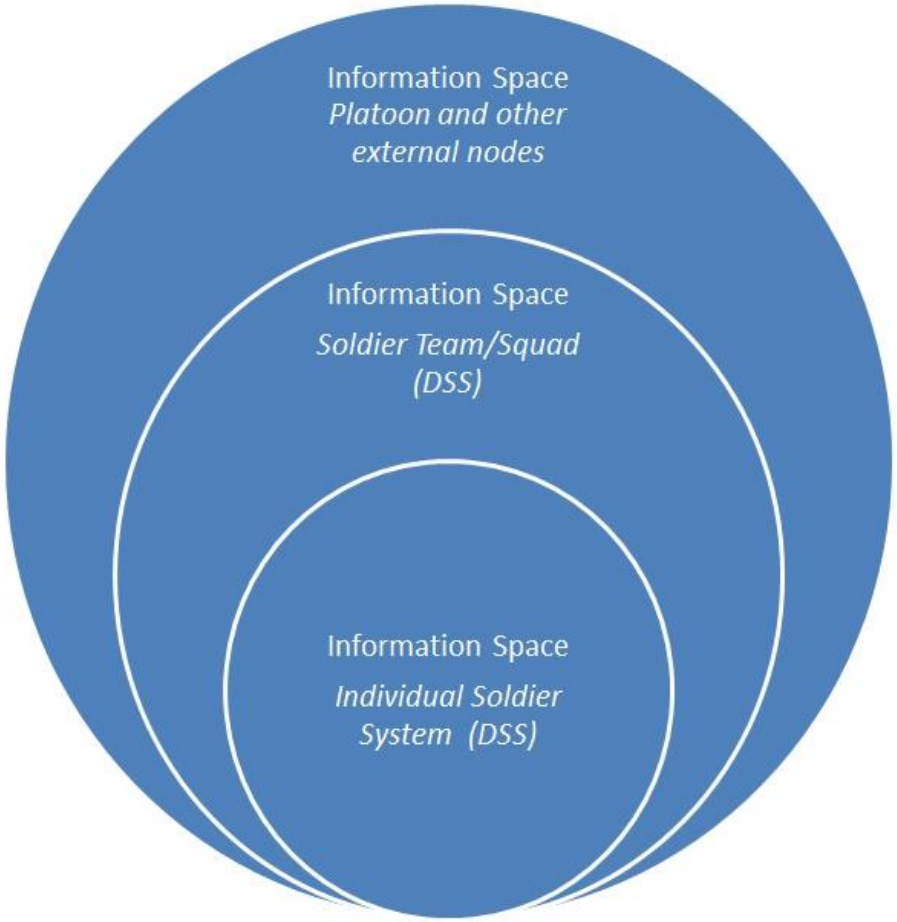
NOV-3 Operational Information Requirements

Information Spaces

- **The level of detail is adapted by aggregated or disaggregation according to the needs at specific level.**
- **Relevant information is displayed based on rules which determine the relevance for the specific level, branch and role.**
- **In a coalition operation, it can be useful to agree on such rules coalition wide.**



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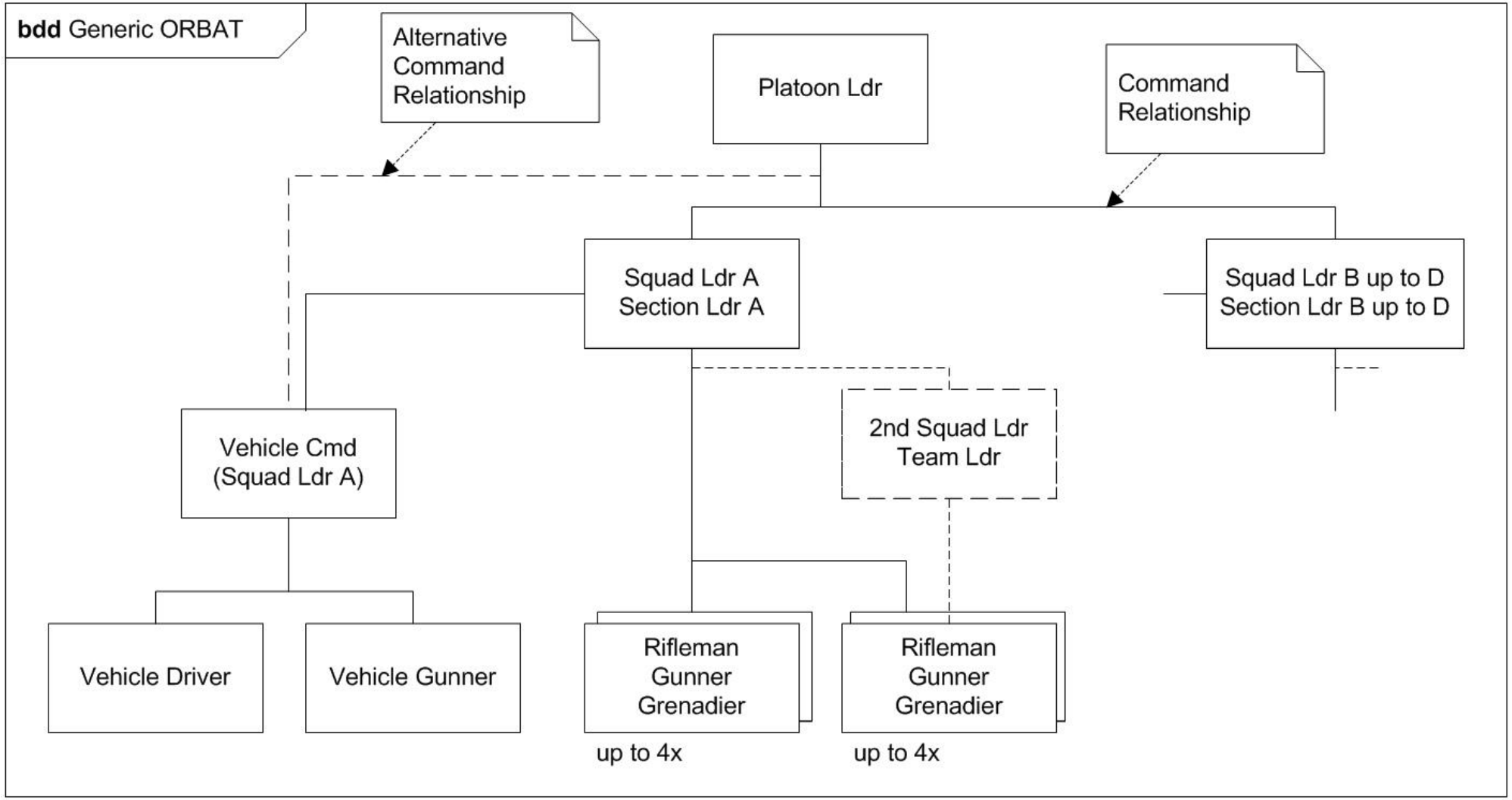
NOV-4, Organisational Relationship Chart



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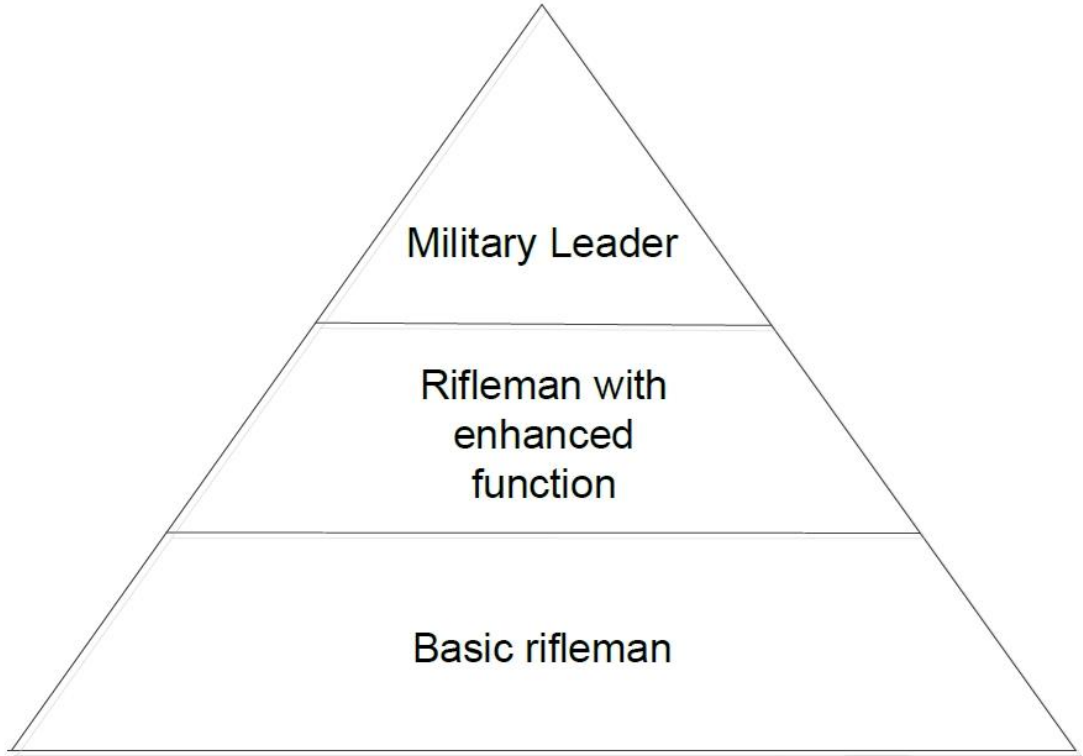
NOV-4, Organisational Relationship Chart



Roles within infantry (from UK)

- **Section Commander**
- **Light Machine Gun Gunner (LMG)**
- **Light Support Weapon Gunner (LSW)**
- **Underslung Grenade Launcher**
- **General Infantrist**

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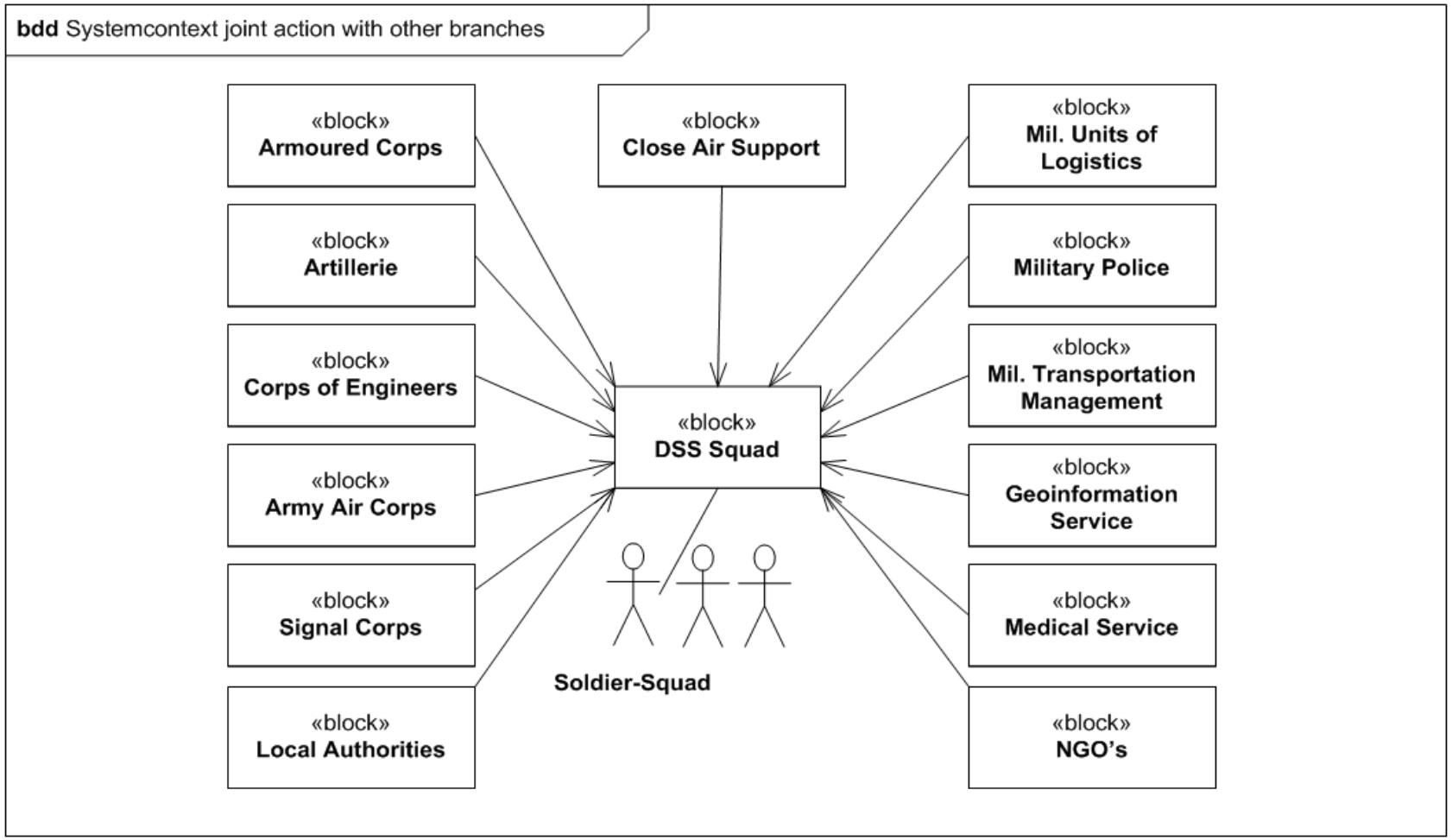
NOV-4, Other Branches for Joint Operations



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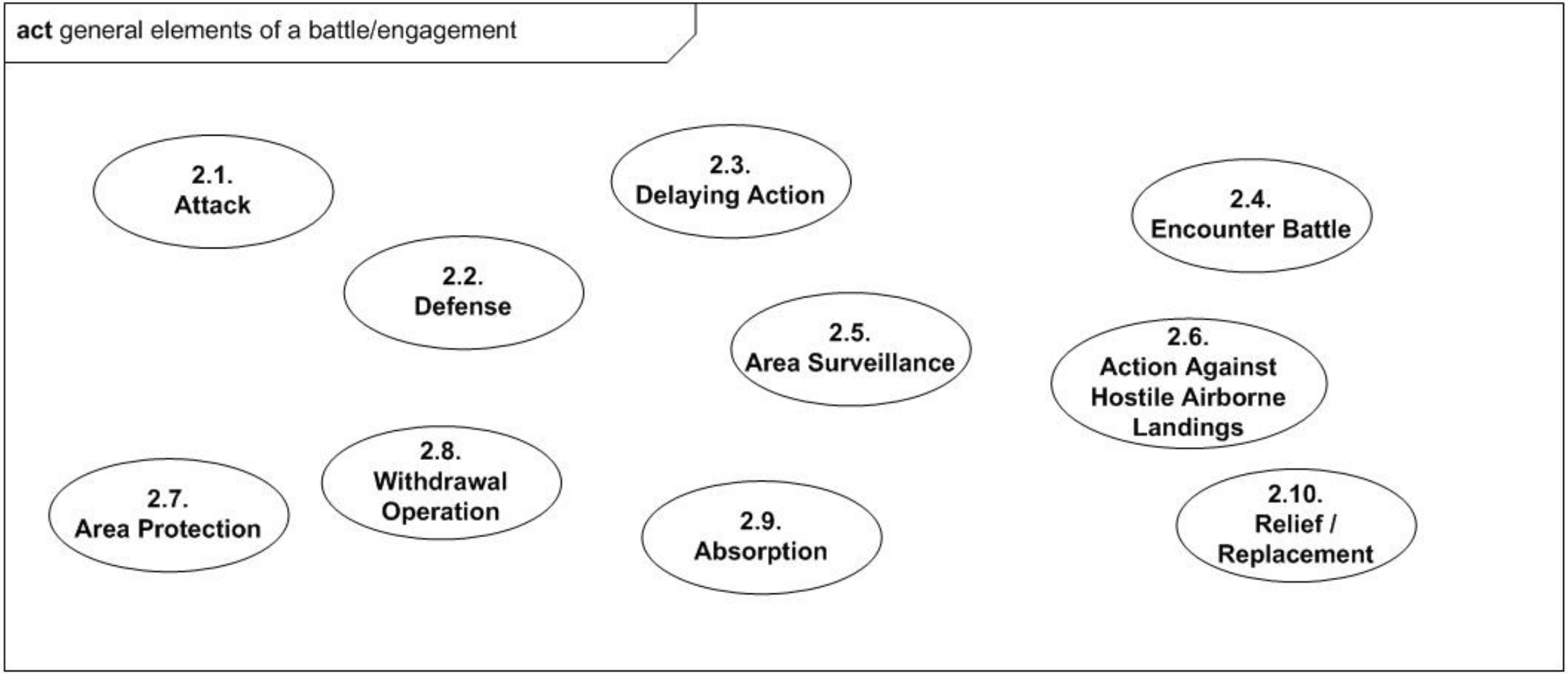
NOV-5, Operational Activity Model – General elements of a battle/engagement



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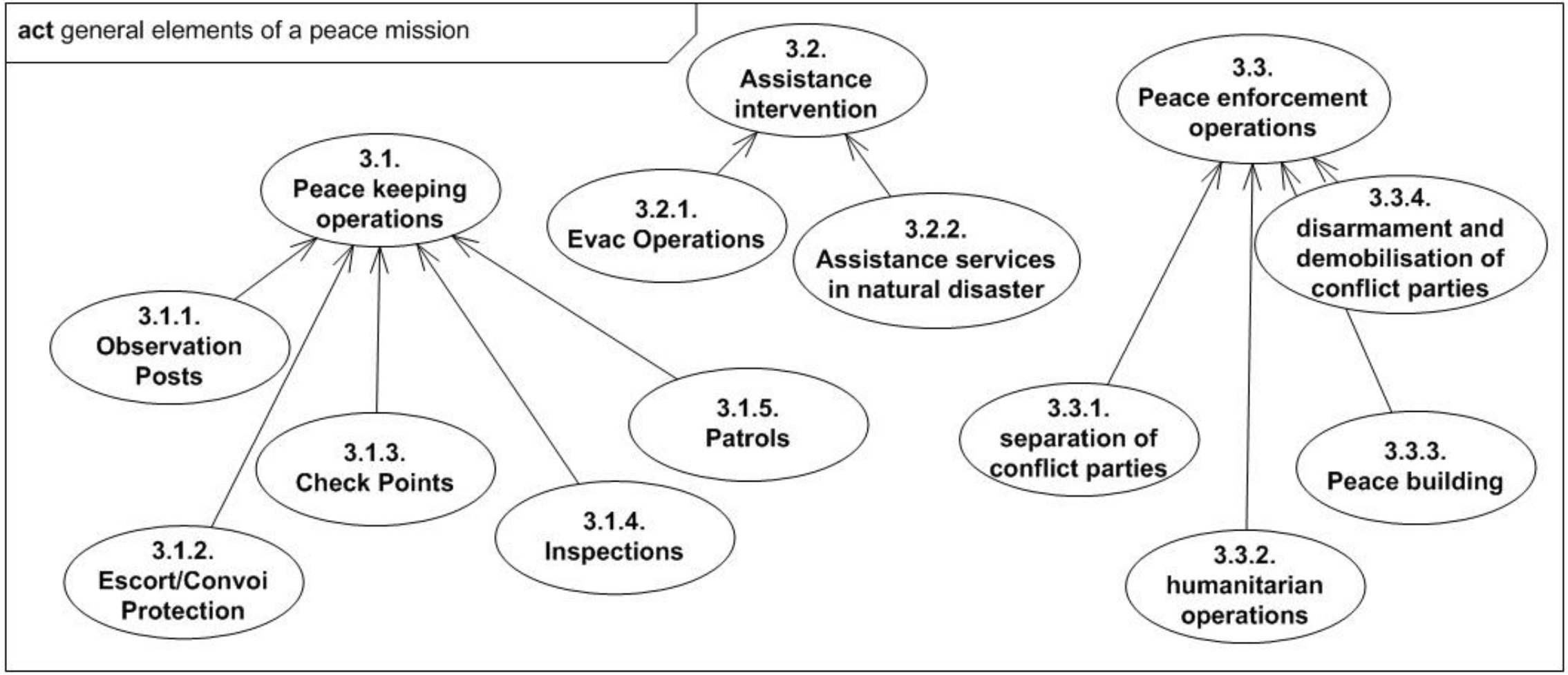
NOV-5, Operational Activity Model - General elements of a peace mission



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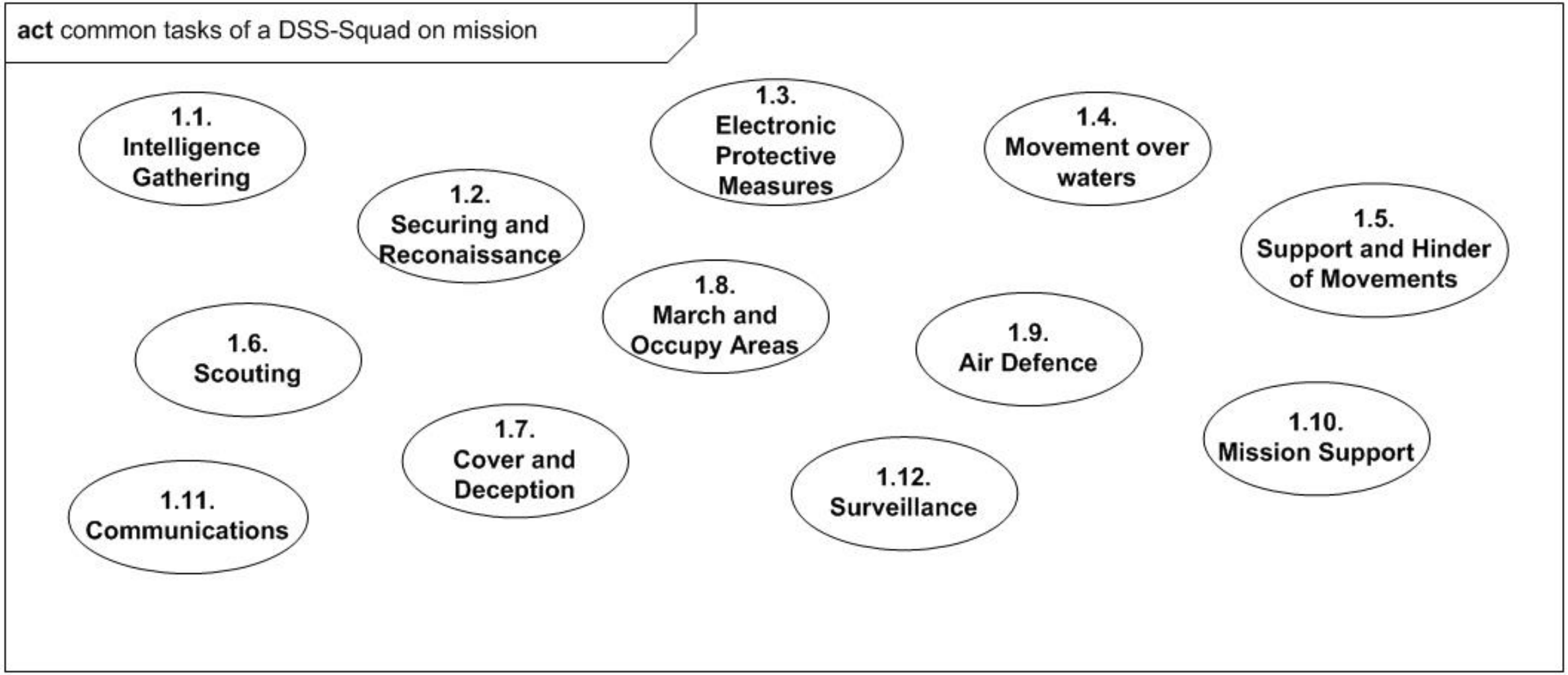
NOV-5, Operational Activity Model – Generic tasks of a DSS-Squad on mission



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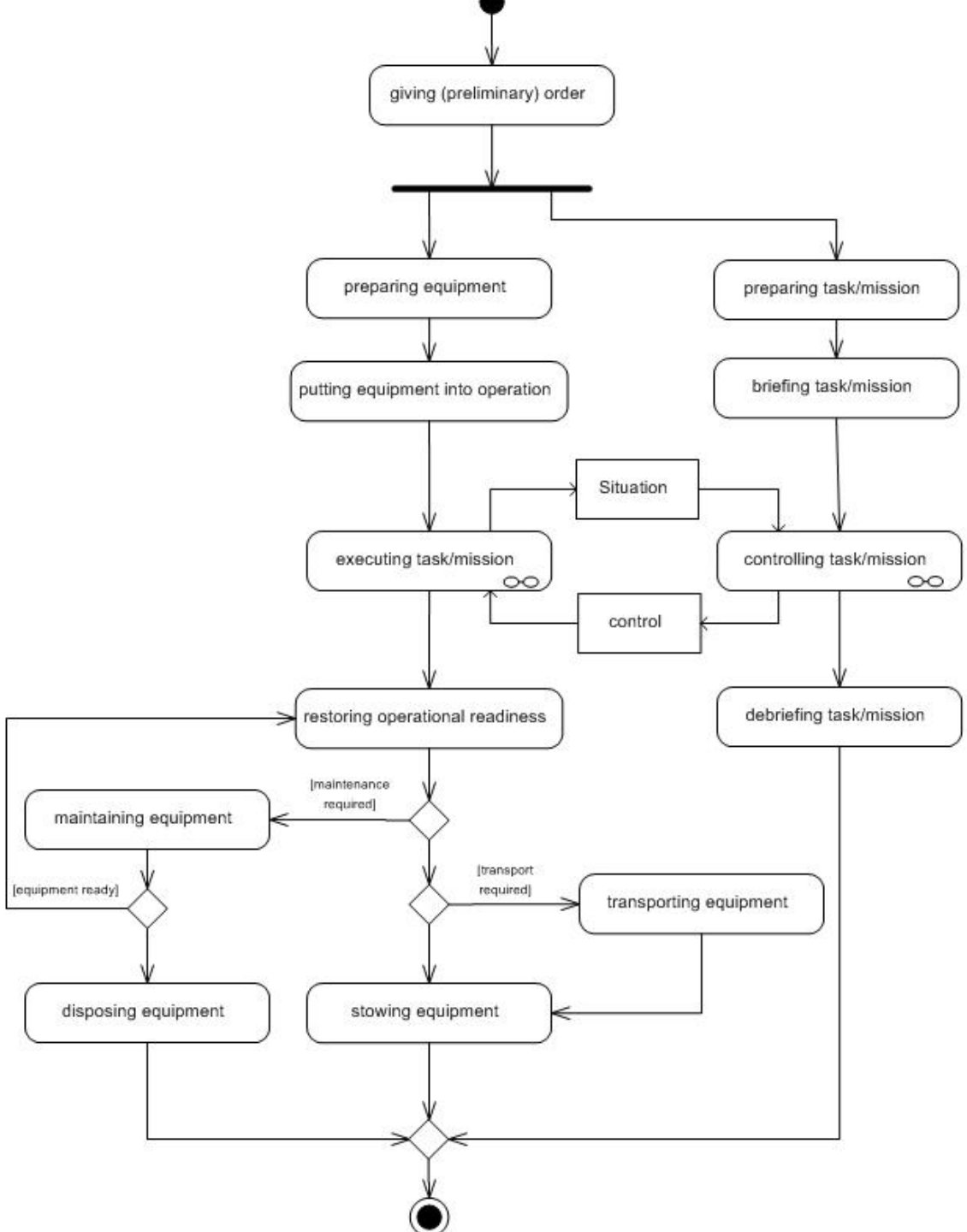
NOV-5, Operational Activity Model - Activity with Subject to DSS Equipment

Sequence Diagramms stepping through activities

- **E.g preparing equipment includes creation, provision and distribution**
  - electronic maps
  - the electronic representation of the situation
  - the electronic representation of plans of manoeuvre and predefined routes
  - crypto keys
  - radio frequencies
  - etc.



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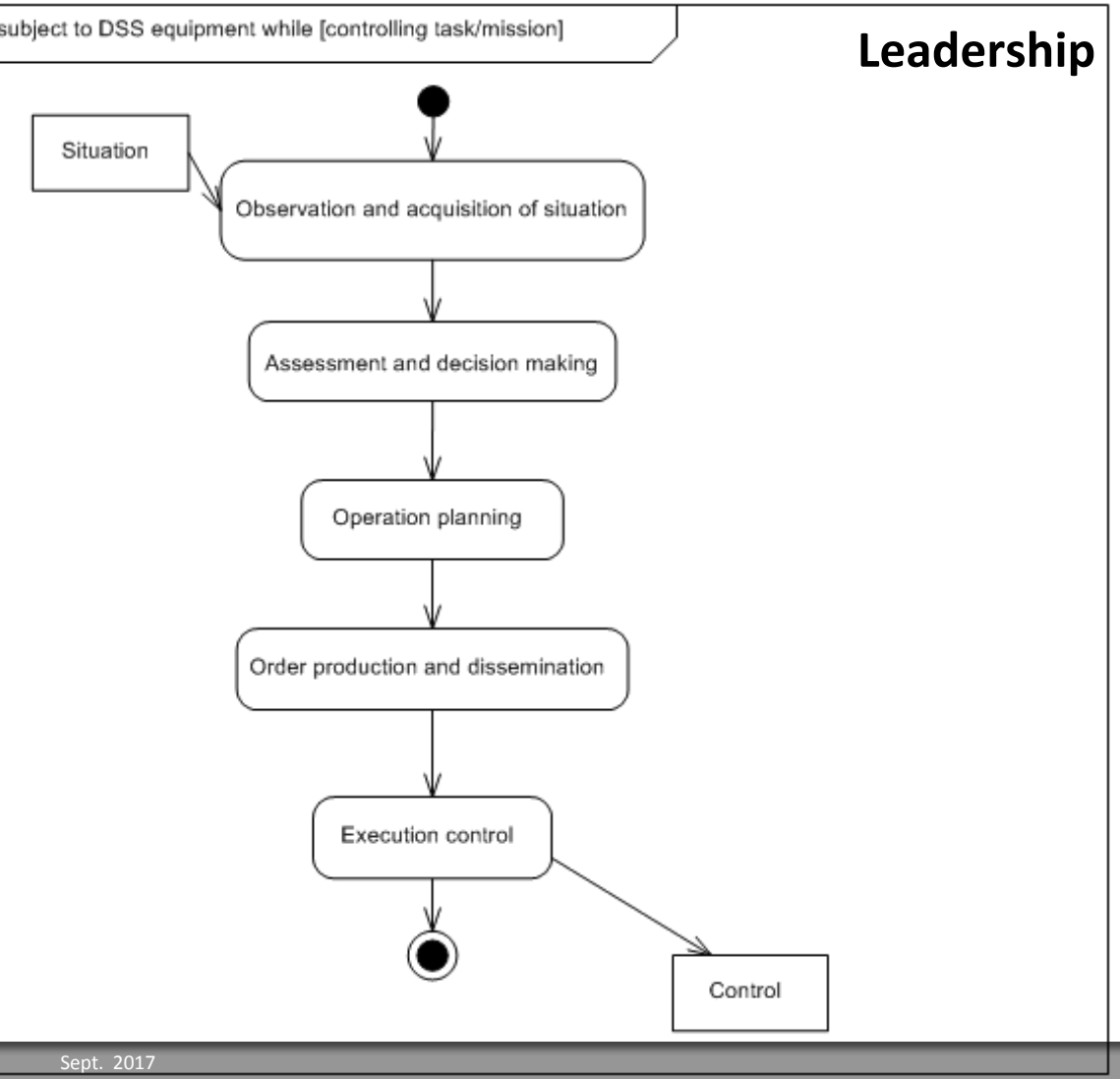
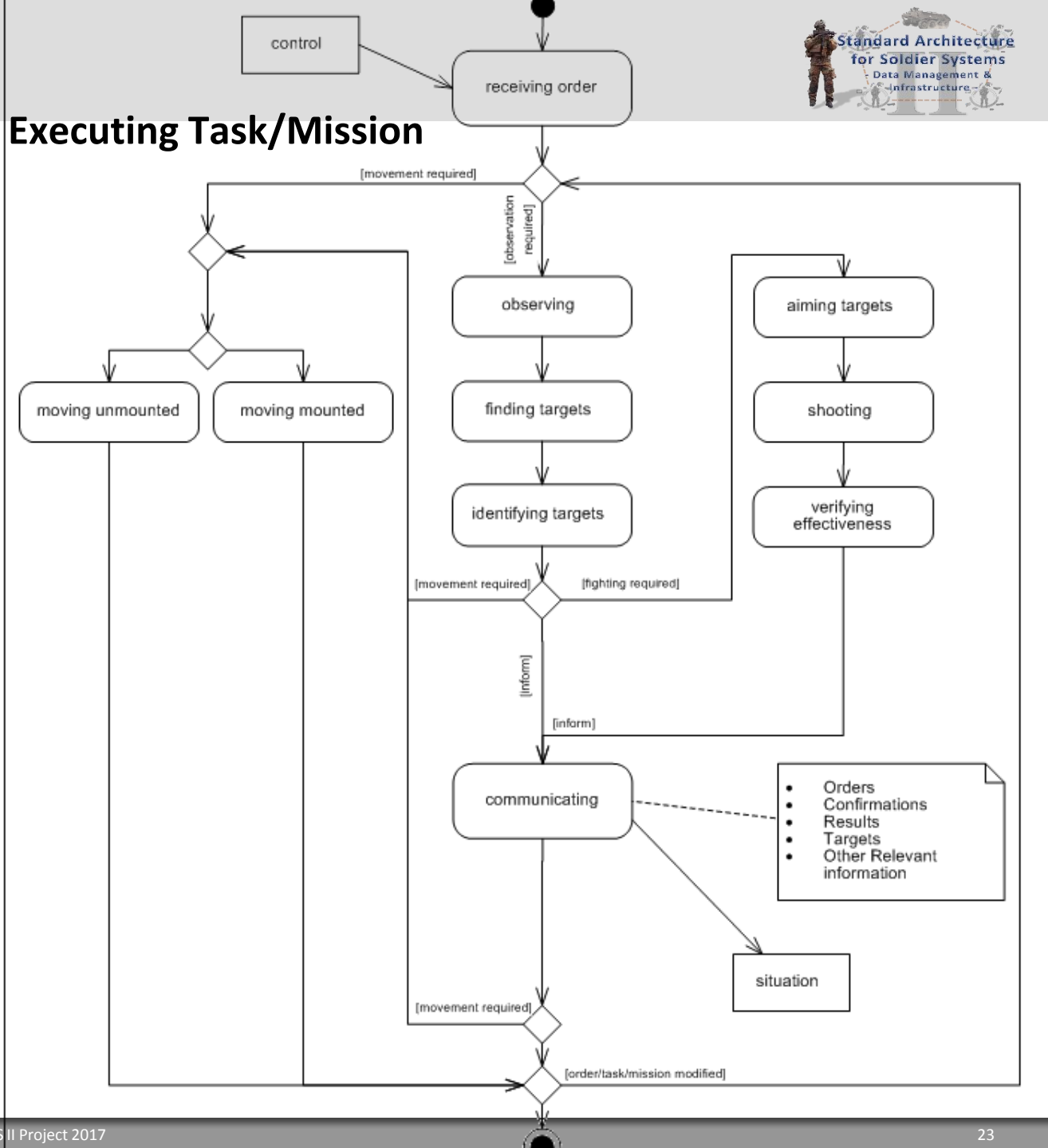
NOV-5, Operational Activity Model





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Non-functional requirements

- Environmental Requirements
  - Temperature
  - Vibration, Shock, Drop
  - Low Air Pressure
  - Ingress Protection
  - Humidity, Saltspray, Mould Infestation
- EMC Requirements
  - Radiated and Conductive Emissions
  - Radiated and Conductive Susceptibility
  - EMP
- Ergonomic Requirements
  - Weight & Volume
  - Wearability
  - Comfort
  - Vehicle compatibility
- Organisational Requirements
  - Squad number
  - Mission Profile Support
  - Equipment vs. Role relation
  - Support Vehicle
- Logistic Requirements
  - Recharge & Refuel
  - Life Cycle Manage-ment
  - Storage
- Safety Requirements
  - Electrical Safety
  - Occupational Safety and Health Care
  - Environ-mental Protection
- Security Requirements
  - Voice Communi-cation
  - Data
  - Software
  - Hardware

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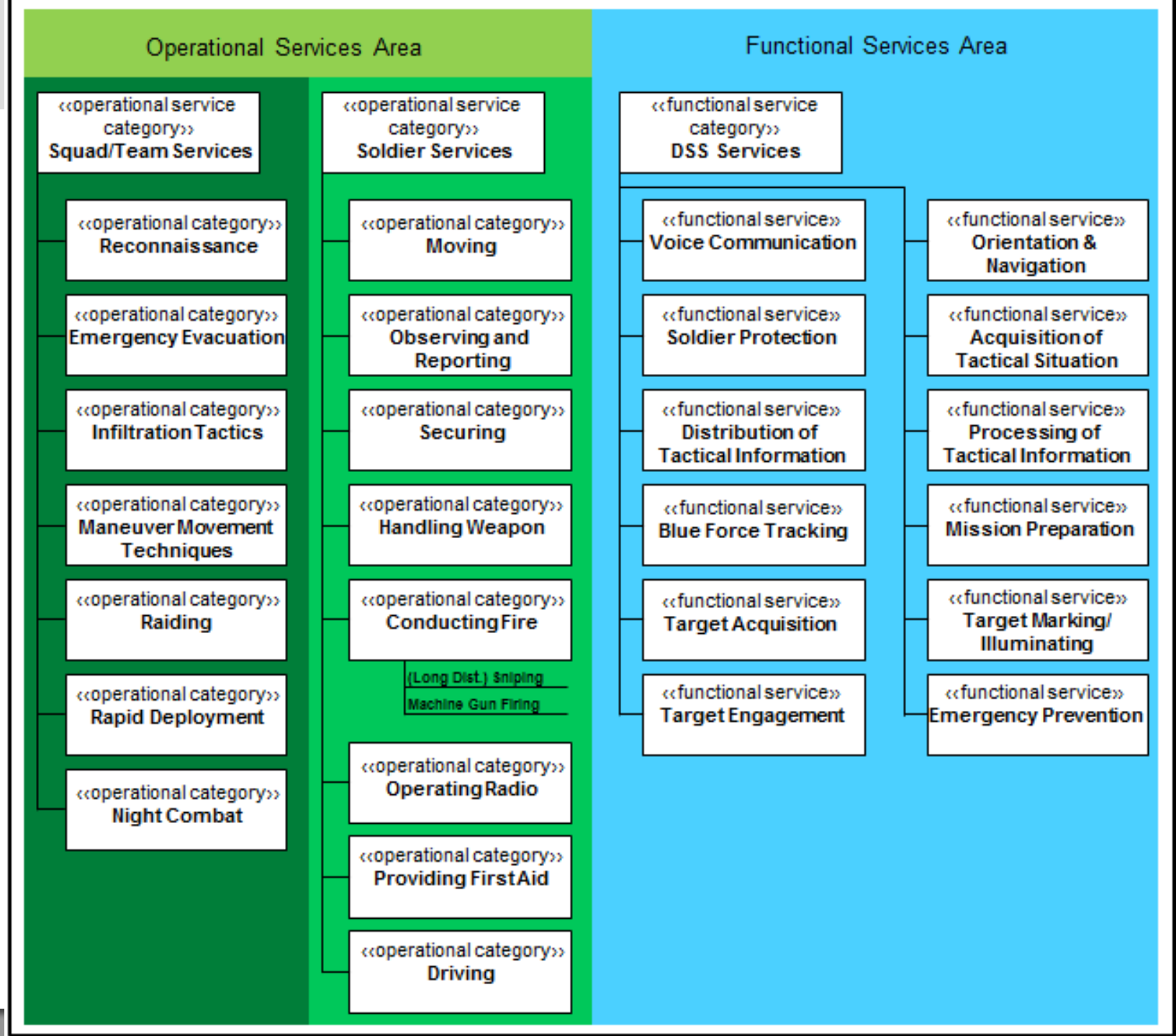
NSOV-1, Service Taxonomy

- **Differentiate Operational and Functional Services**



NSOV-1, Operational Services of an individual soldier and of a soldier squad/team

- **Differentiate between individual and group**

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NSOV-1, Functional Services of a DSS

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