



TACTICAL DATA LINK
INTEROPERABILITY
SUMMIT



Joint Force Integration

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Capability Development Group



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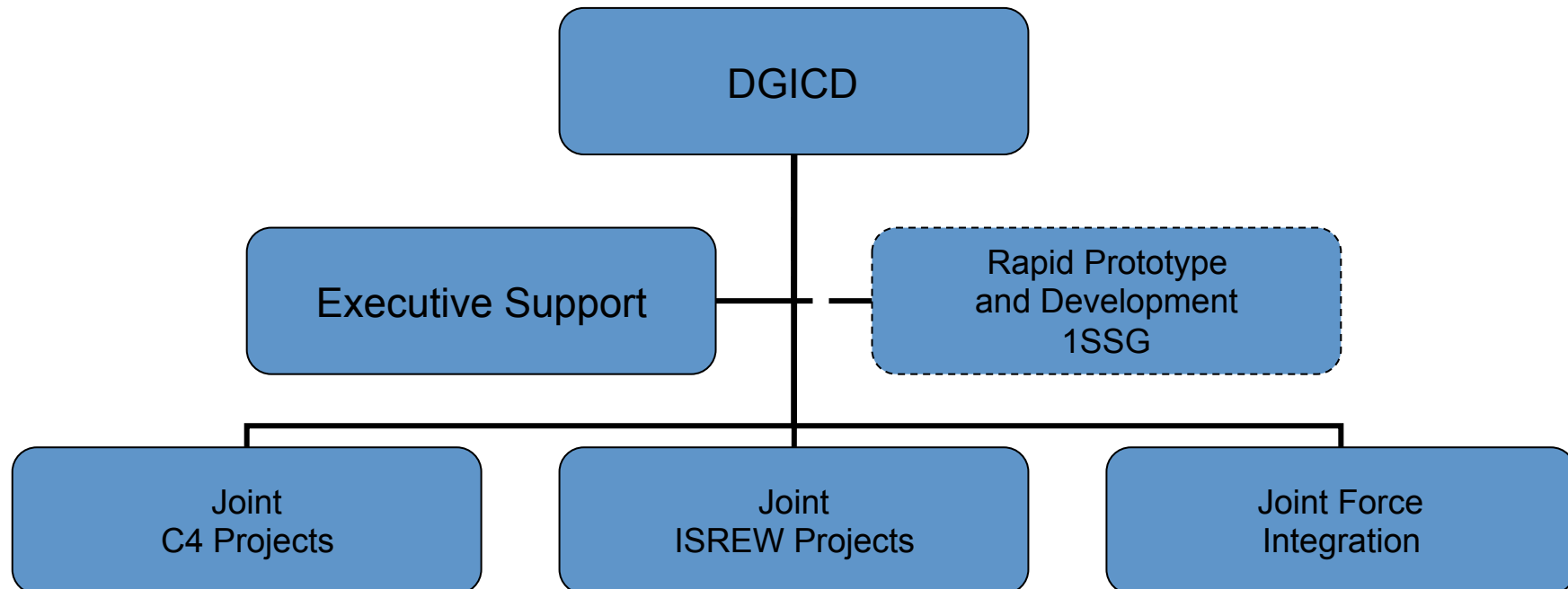
Scope

- Joint Force Integration
- First Principles Review
- JP 2089



Integrated Capability Development (ICD) Branch

...at least for now





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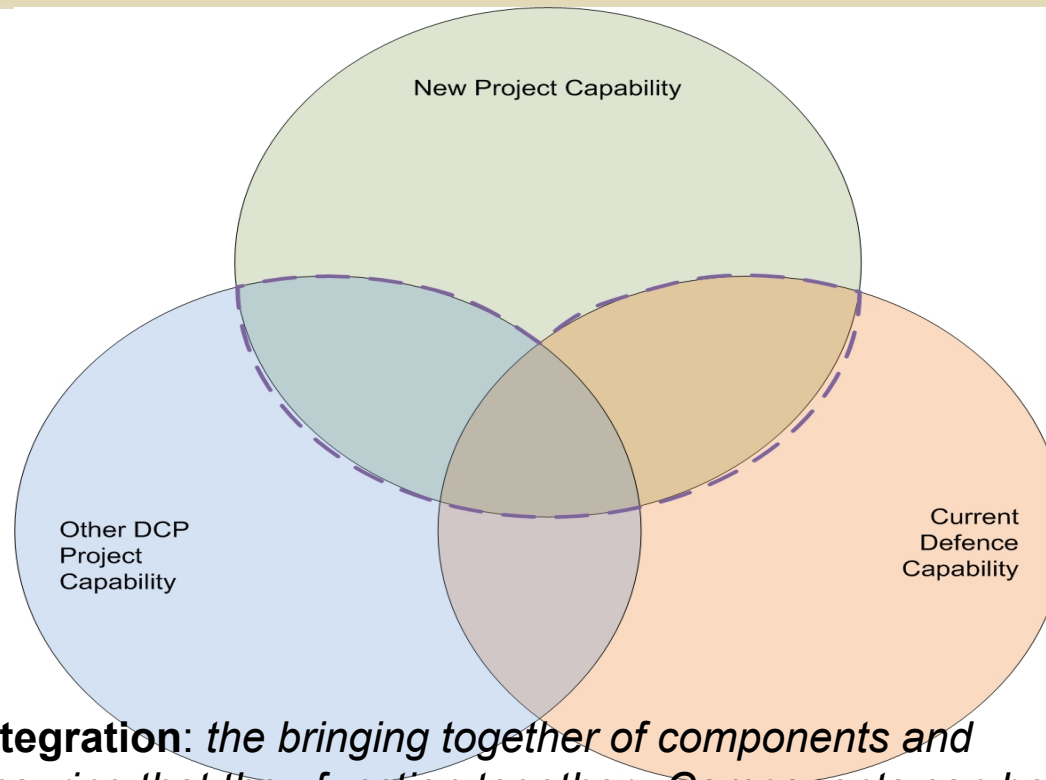


Joint Force Integration Directorate (JFID)

- JFID assists CDG Project Managers in identifying and managing joint integration requirements IOT enable the delivery of integrated and coherent Joint Force capabilities.
- Champions *'integration by design'*
- Supports CDG to achieve better integration and interoperability outcomes across the DCP
- Priorities are C4, ISREW and Log Integration

Intra-project

Inter-project



PM

JFID

Responsible for Delivery

Assistance and Advice

Integration: *the bringing together of components and ensuring that they function together. Components can be any combination of subsystems, systems, projects or FIC elements.*



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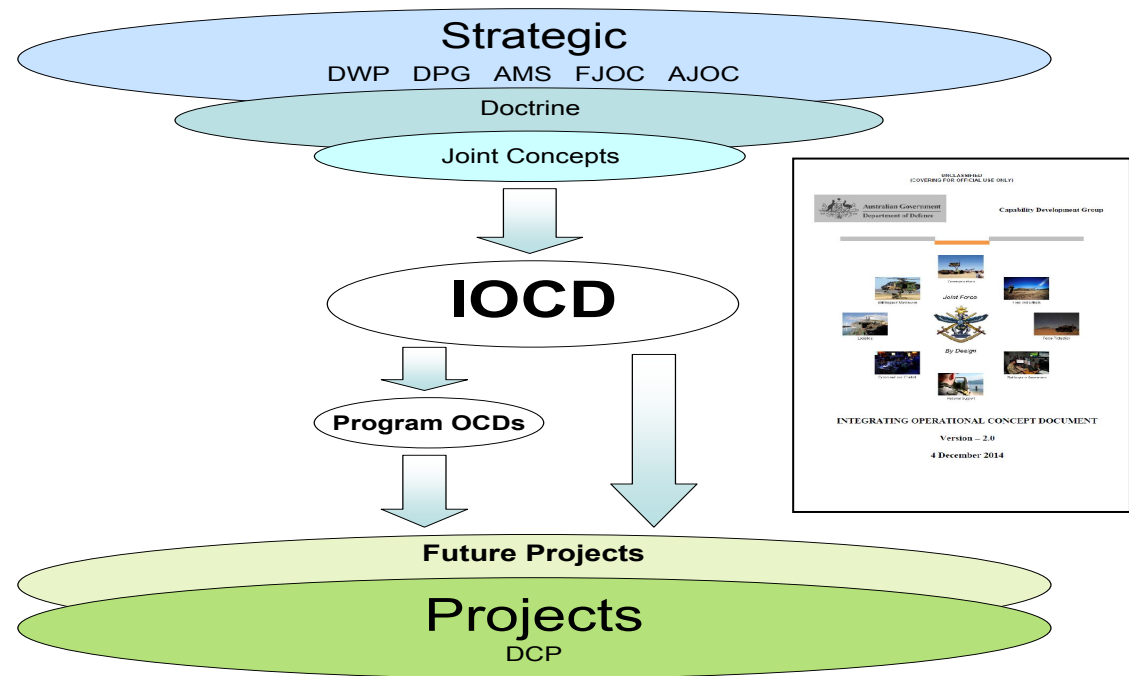


An Integrating Operational Concept Document

- **CCDG made it clear why we need an IOCD:**
 - “Operational Concept Documents must be drawn from a central conceptual basis”
 - “Project OCDs are [to be] developed with the same battlespace in mind”
 - “Direction and context provided by this IOCD is to be adopted as a start point by sub-program and project staff”
 - “[The benefit will be] increasing confidence in capability investment decisions whilst reducing the risk of ... not [achieving an] appropriately integrated or interoperable”
 - “An integrated and interoperable Joint Force provides the ADF with a capability edge”.

Integration by Design

- Capability integration by design
- Bridge the gap between strategic / portfolio level guidance and DCP projects
- Integrating Operational Concept Document (IOCD)
- Program Level IOCDs at the Program and Sub-Program level
- IOCD capstone document





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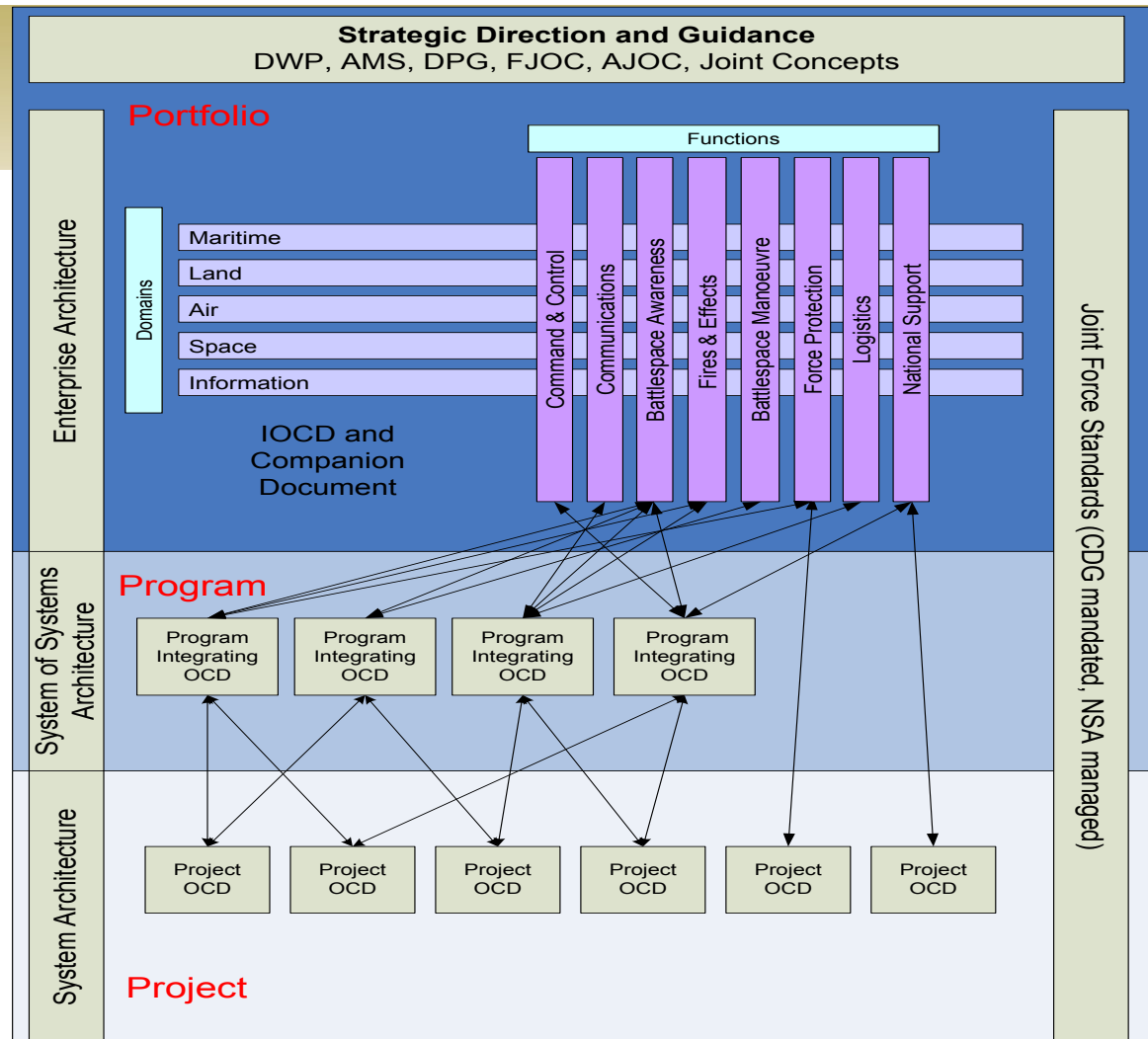


Integrating Objectives

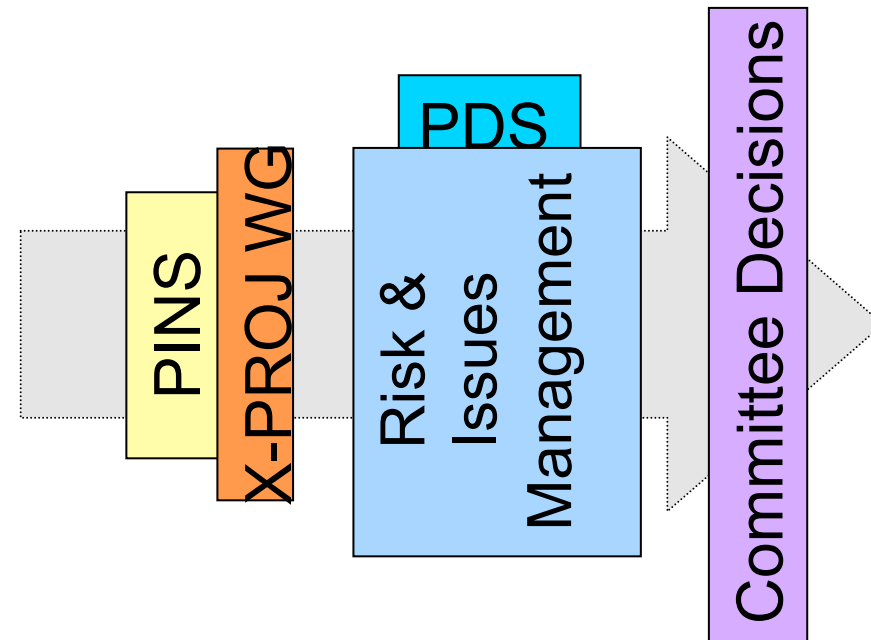
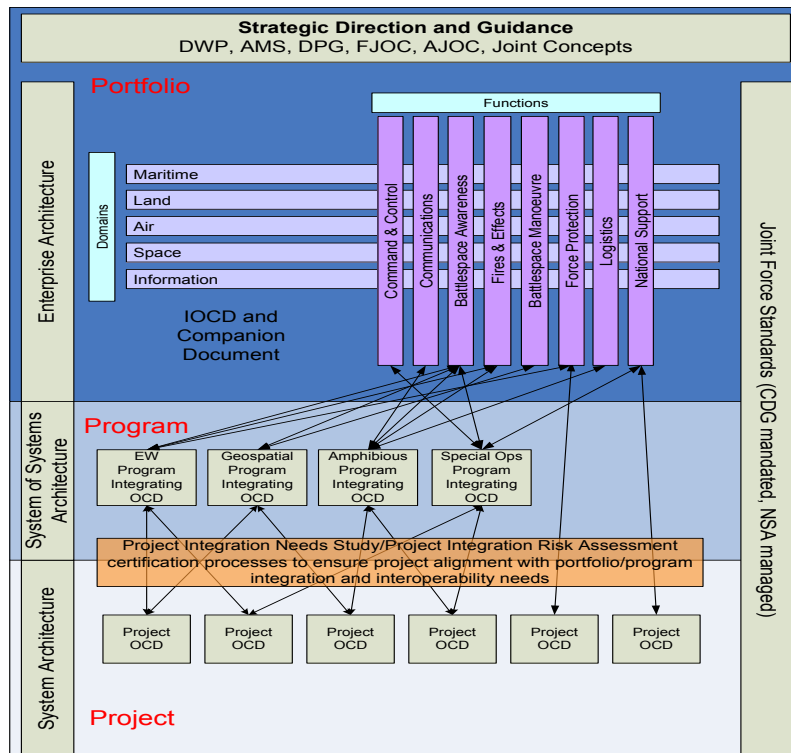
- **Networked.** The Joint Force must pass information and data automatically and rapidly between components, platforms and systems
- **Partnered.** The Joint Force must have suitable partnerships that support and facilitate the sharing of services and information, and reduce risk
- **Compatible.** The Joint Force must operate effectively and efficiently in operational environments as directed by Government
- **Survivable.** The Joint Force must establish and maintain an effective presence in the battlespace
- **Designed for Change.** The Joint Force must be adaptable to changing circumstances to ensure it maintains a competitive advantage over potential adversaries

Joint Capability Integration Framework

- IOCD development based on environmental domains and joint capability functions
- Provides for traceability of joint needs and requirements from strategic direction to project level – integrating objectives



JFID Support to CDG Decision Making (at all levels)





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JFID Achievements so far

- Developed and implemented IOCD V2.0 (Pilot Projects)
- Two Program IOCDs developed
- Project Integrating Needs Studies
- Supporting Joint Force Architecture development
- **Institutionalised “integration by design” across CDG and Defence**



Challenges

- Systems-of-Systems
 - Capability interdependencies
 - Understanding the interfaces
 - Information exchanges
- Integration & Interoperability (I2) priorities
 - Informed decisions for investment and scoping
- How much I2 is enough?
 - Trade-off decisions? Timeframe? Optimisation?
- Development of supporting architectures
 - Joint Force design leads and drives supporting architectures
- Measuring and assessing I2 outcomes
 - Implications for Joint Force OT&E and capability management



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Designing the Joint Force

- Need to consider Integration & Interoperability through the force design process
- Need to take a systems-of-systems approach
- Need some form of 'design template' to inform programs/projects
- Need suitable time horizons (epochs)



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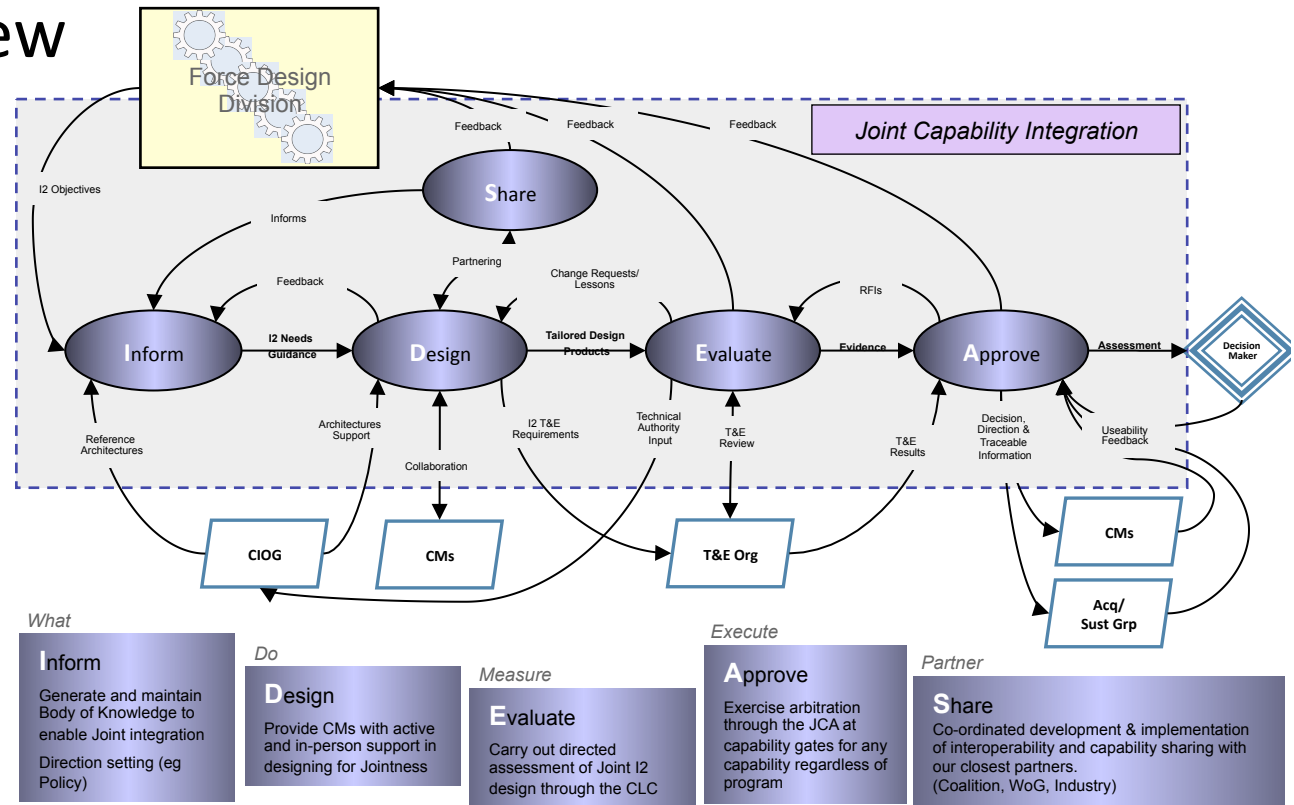


So what for TDL projects?

- Understand where the system fits into the **Joint Force**, not just the single-Service platform
 - Balance between Joint vs Allied/Coalition interoperability
 - It's all about the information exchange requirements
 - What other systems might be impacted?
 - Where are the interfaces, and in what form?
 - Closed, proprietary systems may not offer the best capability overall

First Principles Review

The Joint Capability Integration organisation will work collaboratively with stakeholders to achieve joint outcomes



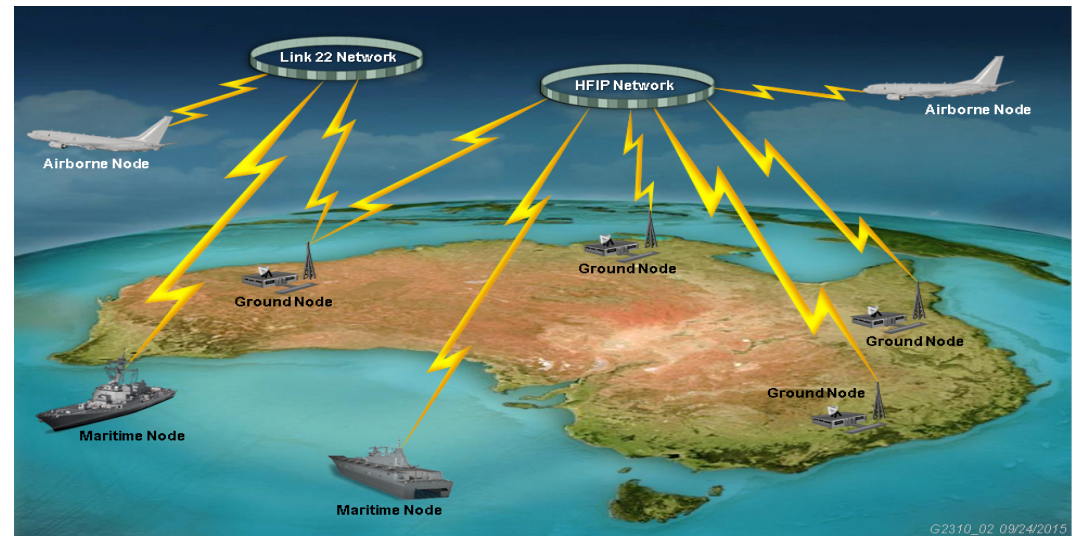
JP 2089

The problem:

How do we synchronise all the (TDL) information in the battlespace?

There is some good news:

- JP 2089-3A is a data link *management* project
 - Includes management of Link 16, VMF etc
 - Seeking to ensure disparate data links can exchange data
- JP 2089-4 will address persistent communications between key Command & Control nodes when space segment is denied





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‘A Joint Force Integrated by Design’



‘Engineered for Success’