Value-Based Force Structure Design

John O'Neill, Fergus O'Brien, Ed Kruzins

Structure of Talk

A journey about NCW:

– **From Australia's military strategic tasks**

– **Through tactical value chains**

– **Improving the performance of the tactical value chains**

– **Functional dependency implications**

– **What is the boundary of analysis, linking tactical to deliberate planning and to the strategic effect**
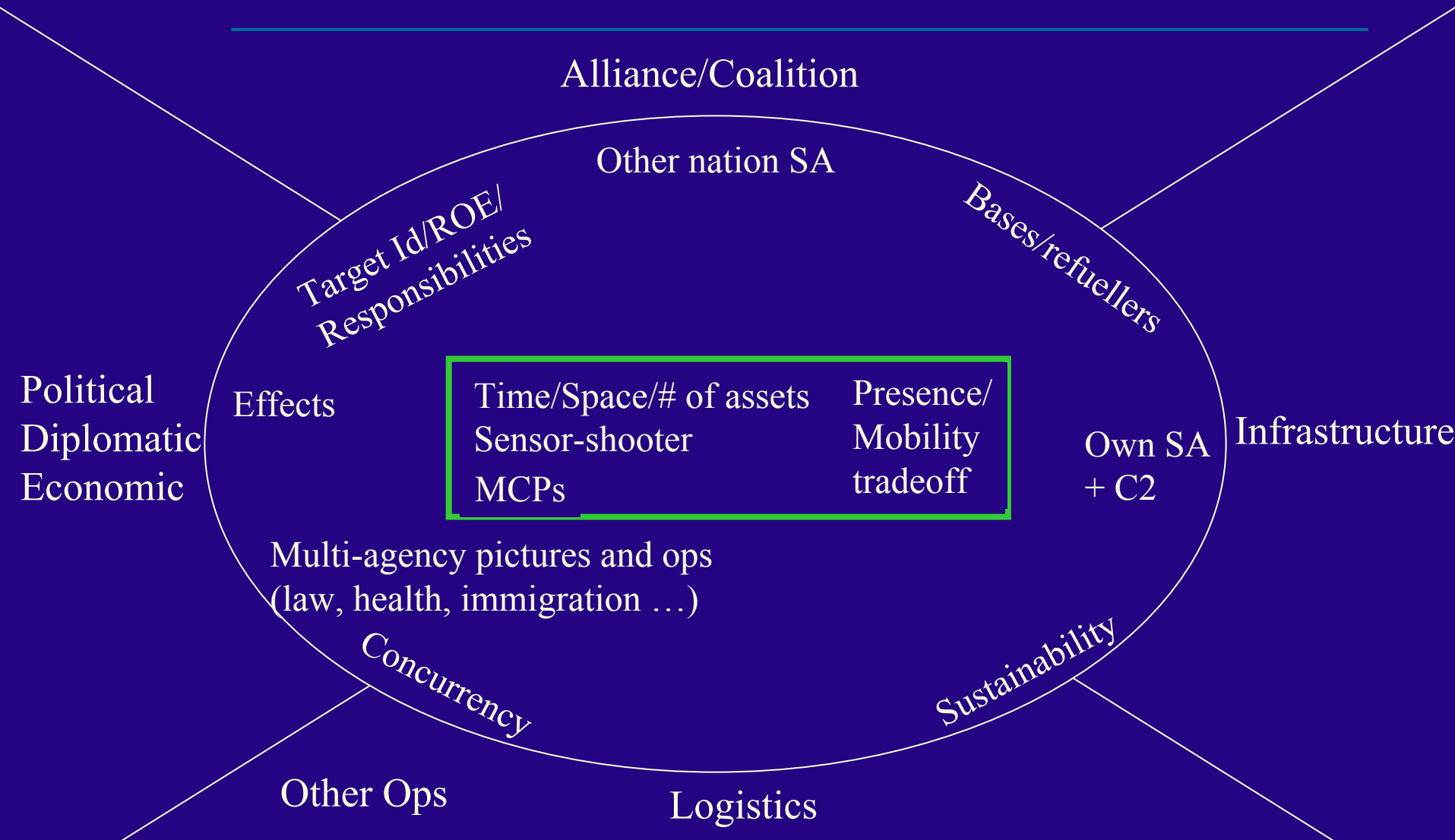
How does NCW affect Australia's 2015 force structure design?

NCW Implications for Australia's Military Strategic Tasks

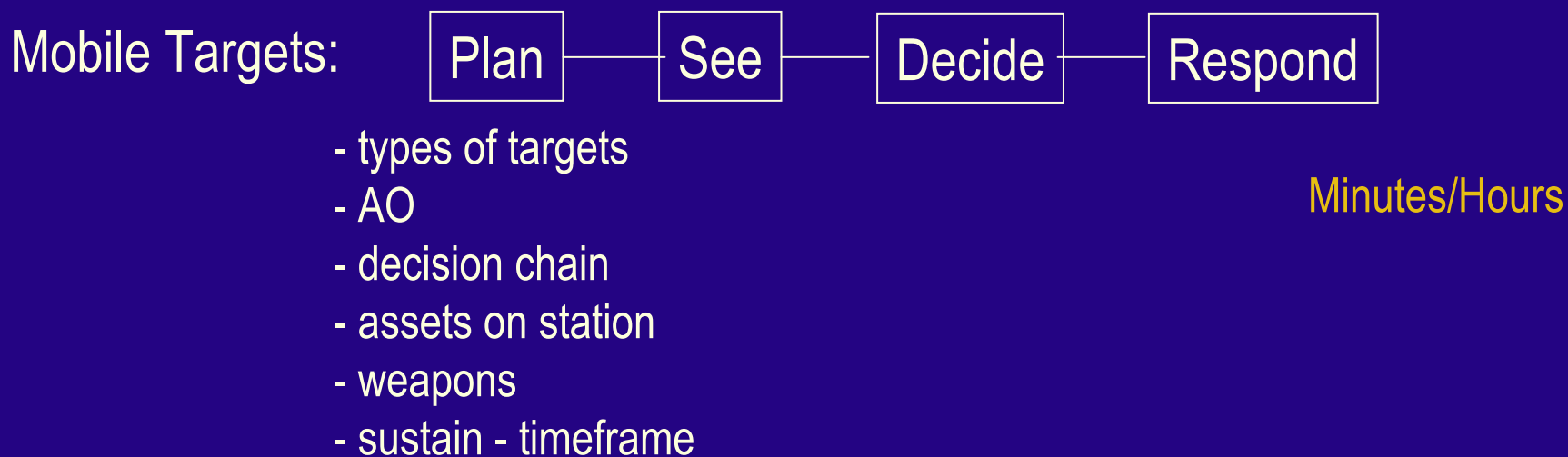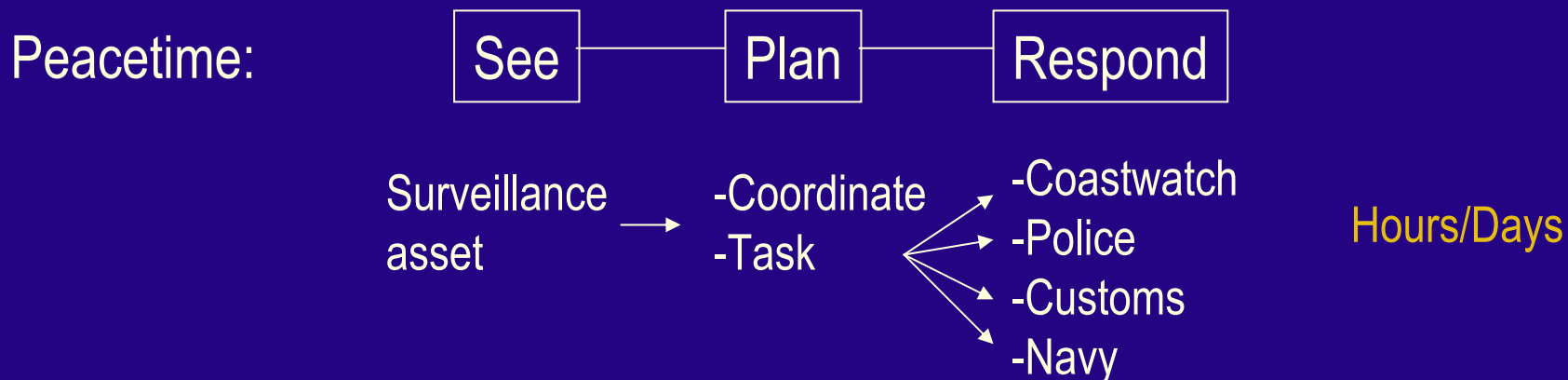| Military Strategic Task	US Coalition	Defence of Australia	Regional Coalition	Transnational
Network Characteristics	Can't play without plugging into MCP requiring high-levels of interoperability. Global sensor space, small engagement space	Plugging-in enable info / mass trade-off to achieve an effect Broad mainland sensor space, potentially large engagement space	Social network, inherently multi-agency and multi-national	Shifting AO changes dynamics of multi-agency and multi-national

– *Do solutions that enable Australia to work in US coalitions work for Australia's other military strategic tasks?*

– *Thinking about transnational threats gives us new insights into Defence of Australia*

What is a Network?

Alliance/Coalition

Other nation SA

Bases/refuellers

Target Id/ROE/ Responsibilities

Political Diplomatic Economic

Effects

Time/Space/# of assets
Sensor-shooter
MCPs

Presence/ Mobility tradeoff

Own SA + C2

Infrastructure

Multi-agency pictures and ops
(law, health, immigration …)

Concurrency

Sustainability

Other Ops

Logistics

Value chains provide threads of dependencies through these networks to achieve an effect

Value Chains

Peacetime: See — Plan — Respond

Surveillance asset → -Coordinate -Task

- -Coastwatch
- -Police
- -Customs
- -Navy

Hours/Days

Mobile Targets: Plan — See — Decide — Respond

- types of targets
- AO
- decision chain
- assets on station
- weapons
- sustain - timeframe

Minutes/Hours

Implication: Peacetime value chain may deoptimise ability to achieve effects by focusing on optimising use of scarce resources versus optimising achievement of effect

Rethinking the Strike Value Chain for Mobile Targeting

| See | Plan | Respond |

——Plan ——RF111 —Process Film —ASTJIC —HQAST —Mission Plan —F111—

>10 hours

- What to see   Mission Plan
- Where
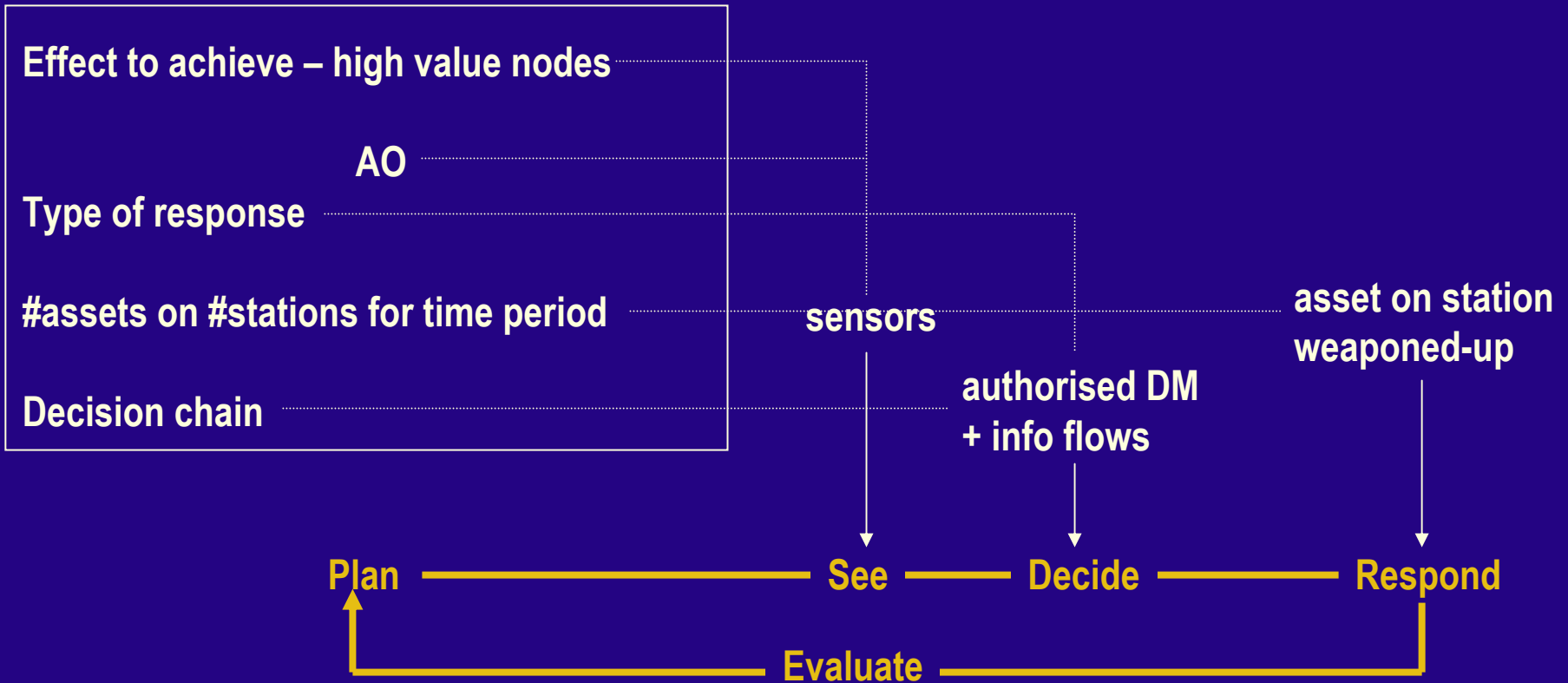
-Prioritise
-Allocate

- physically move film vs data transmission
- real-time imagery analysis, interpretation and target id
- who needs to make what decisions – get info direct to decision-maker
- handle response:
  - shooter on station weaponed up
  - weapons on the see platform
- fast response eliminates need to keep target under surveillance for long periods

Implications: resource tradeoff: surveillance assets vs keeping response asset on station

Replacing the F111 … with JSF …
Identifying the Functional Dependency Issues

US Conops – Mission Capability Package

Australia

SIGINT

AAR   F22

EW   SEAD

AAR

- what are the functional dependencies?
- how does the threat structure change?
- is there a gap and how to handle?

Package of Platforms vs Information-Centric Approach

Radar can see 30k, SM-2 missile goes 150k

Surface Action Group

A threat with 3rd party targeting capability

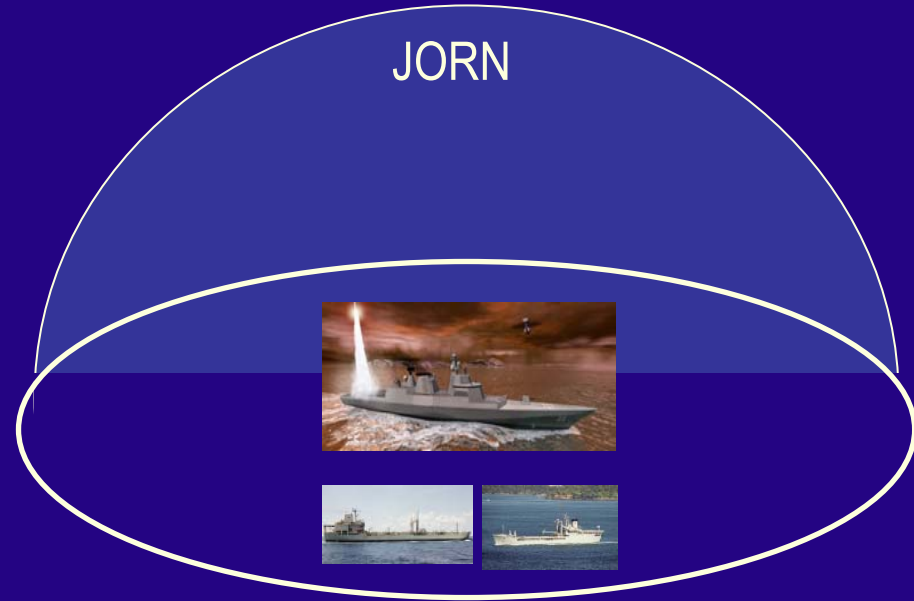Implication: SAG can't detect strike aircraft before they launch

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What is the Boundary of Analysis? (1)

Example value chains for F111 strike:

	Sensor-Shooter	Mins/secs
	Mission-Planning—Weapon-on-target	6+hrs
	Search for target—Mission-Planning—Weapon-on-target	30hrs

Infrastructure
(bases, refuellers,
maps, HUMINT,
rotation)

Sustainability
(maintenance,
weapons, fuel,
food, personnel)

Search for target—Mission-Planning—Weapon-on-target   Weeks/
months

Different networks, different problems, different emphasis on solutions ...

What is the Boundary of Analysis? (2)

What is the East Timor Peacekeeping value chain?

Land

DFAT-Land

US-DFAT-Land

Contingency Plan-US-DFAT-Land

Acquisition-Contingency Plan-US-DFAT-Land

- *Is the boundary of analysis short-warning reactive warfighting?*
- *Or is it inherently strategic effects focused, and therefore naturally multi-agency and multi-national?*
- *and if so, how does the network design change (which networks to include)?*

Conclusions

–   **NCW coupled with EBO has operational and strategic implications as well as tactical execution implications**

–   **What is the force structure design boundary of analysis?**

–   **Trading mass for info enables focusing force to achieve an effect**

–   **Key heuristic:** *replace x by info*

–   **Deliberate planning (shifting knowledge requirements to start of value chain) enables setting up networks to enable rapid response or proactive/preemptive actions**

–   **Are we maximising utilisation of resources or maximising achieving the effect? Design value chains appropriately …**

–   **New threats provide opportunities to rethink value chains and design new solutions that map to existing military tasks**

Bottom line for 2015 force structure design: can we buy platforms that plug into US MCPs __and__ retain ability to do other military strategic tasks?