

**Battle Force Capabilities /
Mission Capabilities Packages**

For the Interoperability Workshop



**N70
Warfare
Integration
& Assessment**

29 May 2001

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The briefing and its attachments are UNCLASSIFIED

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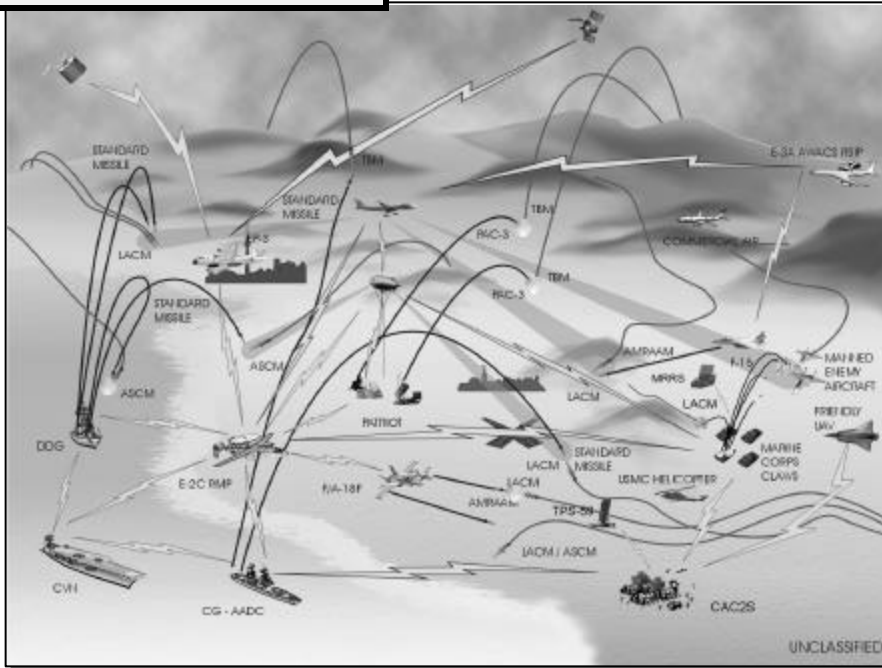
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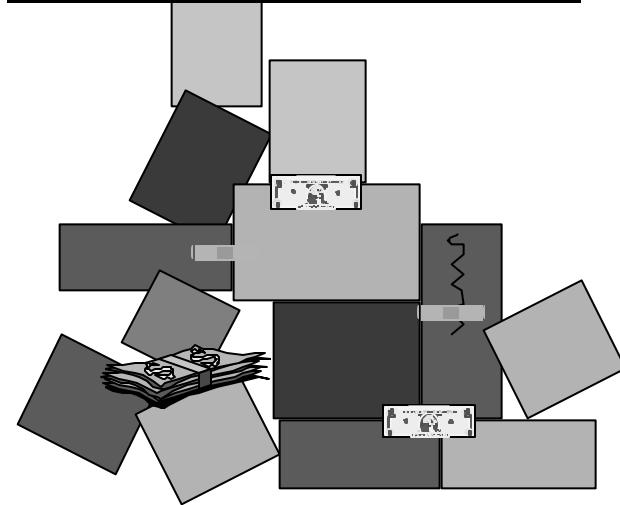
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What's Wrong

What We Want ...



... And How We're Trying To Get There Today



- Fundamental, systemic interoperability problems persist in POR systems
- Focus is still on systems and platforms vice capabilities
- Uncoordinated, non-synchronized decision processes
- Inconsistent information sources and decision products
- Many authorities / stakeholders not linked to key processes / decisions
- Confusion over “Who’s in charge” a recurring theme throughout
- Need for architectures repeatedly asserted

Key Processes Affecting the End-State

Key processes

Reqmnts Gen & Analysis

Capability Planning / Analysis

Opnl Concept Expl & Dev

R&D / Tech Innovation

Resources PP&B

Systems Engineering

Program Mgmnt

Configuration Control

Acquisition

Related Activities

M&S / Lab / Live T&E
and Experimentation

Analysis & Assessment

Planning

Tracking & Oversight

Tradeoffs
(Risk, Capability, Engineering)

DoD, Navy/Joint/Allied Customers & Users, OPNAV, SYSCOMs, PEOs, PMs

- Multiple Stakeholders, Process Owners, Decision Authorities
- Different domains, agendas, objectives, incentives, metrics, frameworks

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Summary Process Assessment

Reqmnts Gen & Analysis		○	●	●	●	○	○	×
Capability Planning / Analysis	○		●	×	●	○	×	○
Opnl Concept Expl & Dev	●	○		○	○	●	○	×
R&D / Tech Innovation	●	×	○		○	●	○	×
Resources PP&B	●	●	×	●		○	●	○
Systems Engineering	○	×	○	●	○		●	●
Program Mgmt	●	×	○	○	●	●		●
Configuration Control	×	○	×	×	×	●	●	

Many processes / links
"broken" or ineffective

But ...

Lots of good work converging
on some dominant issues

Dominant Process Issues

- Inconsistent analytic frameworks and metrics
- Non-integrated requirements (platform vs battle force / FOS focus)
- Inconsistent, nonintegrated tradeoff processes and objectives (Risk, fiscal, capability, engineering, etc.) and feedback
- No unifying context

The status quo won't get us there

Just How "Bad" Is It?

- Not a "war-losing" condition, but ...
 - Operational confusion, delayed or errant decisions
... when we need clarity and precision
 - Longer operational planning & execution timelines
... when we need to shorten them
 - Smaller engagement envelopes
... when we expected (paid for) much more
 - Increased cost-of-ownership and time-to-market
... when we're trying to be more nimble and efficient
- It's taken a long time for us to get into the state we're in today ...
... and it will take some time just to see improvement
- No one organization owns the key to a solution
- No single action or decision, from anyone, will get us out of this

Who's "Doing" Architecture-Related Work Today?

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IWAR

CNA

JROC / JWCA

JTAMDO

ASD(C3I)

USJFCOM

SEA 05

ASN(RDA) CHENG

J38

SIAP SE

NIMA

J6

Organizational changes (alone) have not (yet) been effective.

NRO

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Much valuable architecture work underway, but ...

N75

- Mostly uncoordinated, non-integrated or incomplete
- Generally, platform / system focused (changing slowly)
- Inconsistent terms, fidelity, formats, tools, data models
- Non-compliant with OSD Architecture Framework
- Mostly ineffective (i.e., "powerless", irrelevant) documents
- Who integrates? Who validates? Who approves?
- What important decisions do they affect?

N6

N2

N78

No coherent Navy, Joint, DoD "view"

N77

N89

SPAWAR

NAVSEA

PEO

MCCDC

N7

N4

NAVSECGRU

NAVAIR

PMA / PMS

MCSC

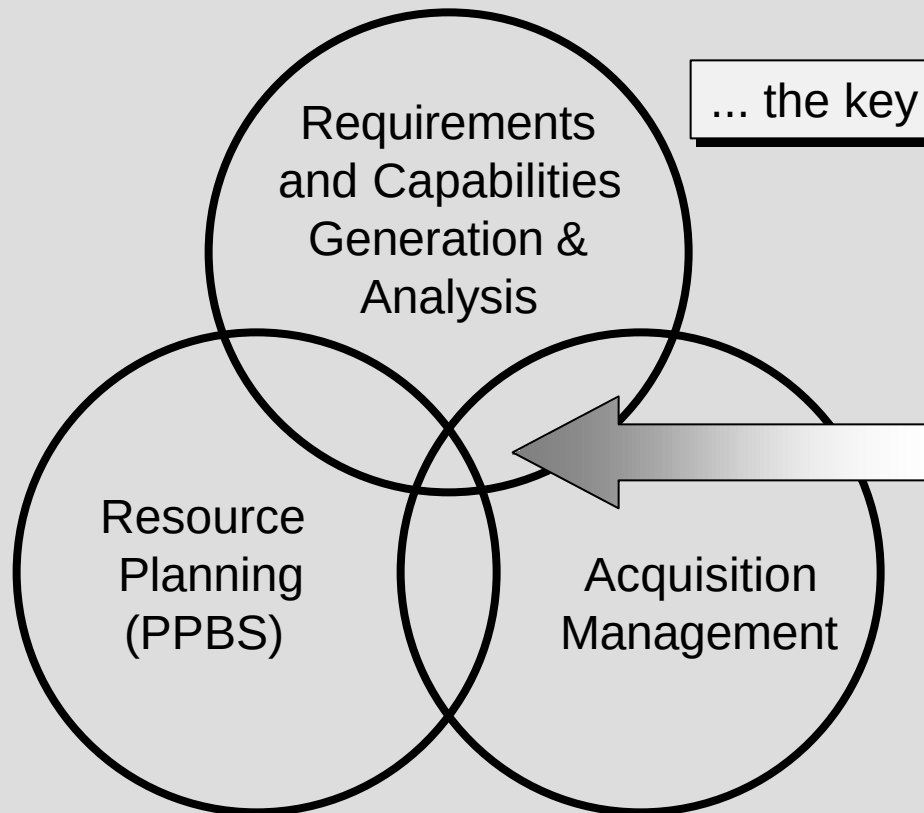
If We're Going to Effect Process Changes ...

We must answer the following questions

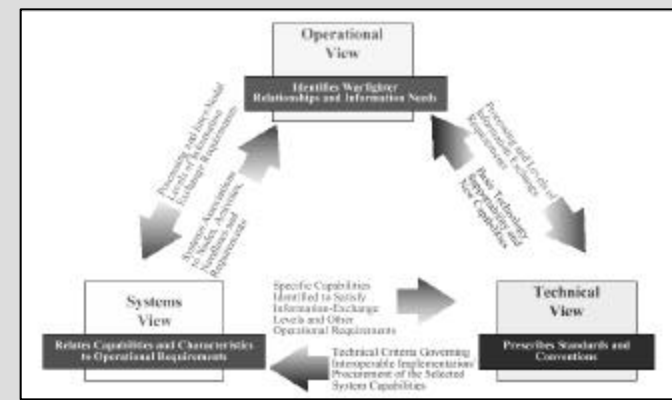
- What are the relevant domains / processes?
- Who are (should be) ...
 - Stakeholders?
 - Process owners?
 - Decision makers?
- What relevant decisions to affect / effect, and when?
- How to support decisions?
 - What data, frameworks, methods, processes, tools, products?
- How to influence decisions?
 - Acquire decision authority?
 - Advise decision makers?

What We're Proposing

How to Bring Together ...



... the key DoD Decision Support Systems ...



... Within An Integrated Architecture Framework

Note: This is not just C4ISR

Objective: Make milestones and other important program planning decisions depend on compliance with validated and approved integrated architectures

How To Achieve What We Want

The Mission Capability Package (aka Portfolio)

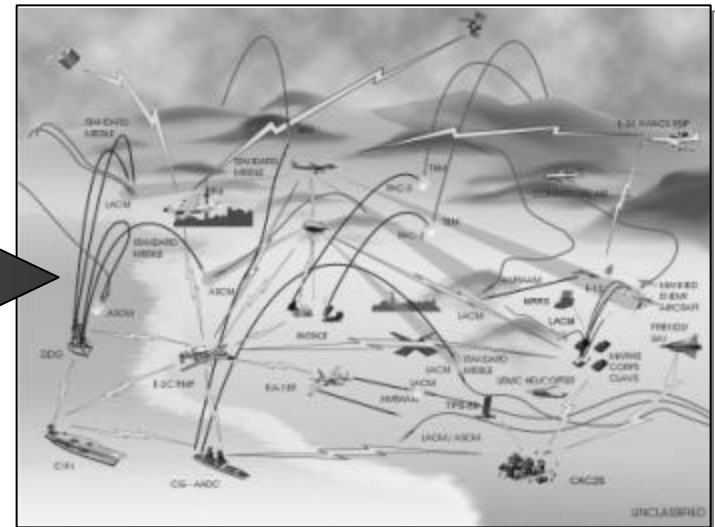
Use Mission Capability Packages (MCPs) as the focus of integration

What's a MCP?

- Introduced by the concept of Network Centric Warfare / Operations
- A Task-Organized Bundle of ...
 - CONOPS, processes and organizational structures
 - Networks, sensors, weapons and systems
 - The people, training and support services to sustain it

A MCP treats all of the above not as a collection of things and processes -
- but as an integrated system

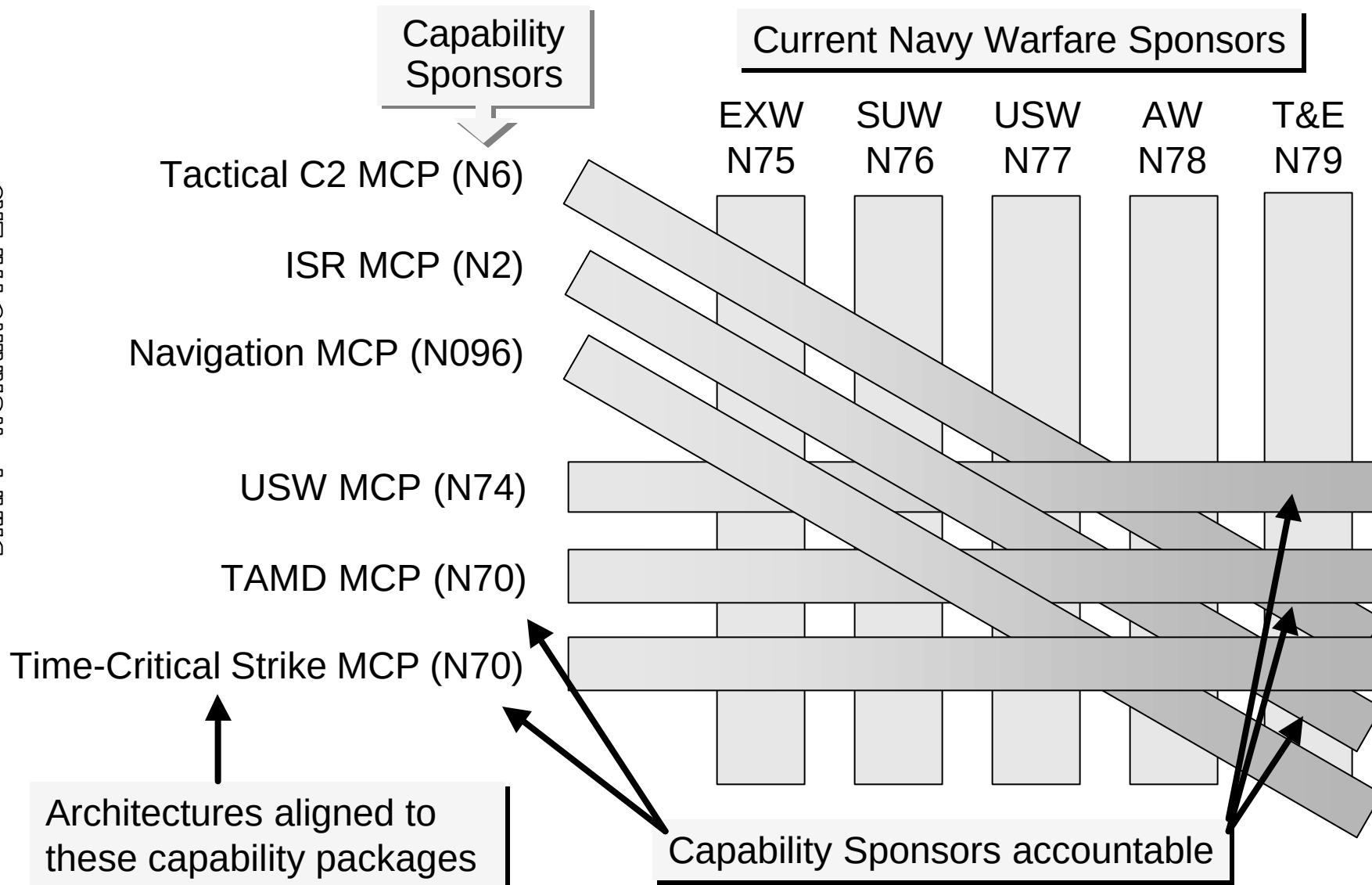
Architectures should be based on (describe) MCPs



MCP ~= Joint Staff Joint Mission Area (JMA), DoD Portfolio

Example Mission Capability Packages (MCPs) as "Slices" Through the Platform/System Domain

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The Mechanisms For Change

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- The Principal Output =
Battle Force Capabilities
- The Principal Mechanisms for Integration =
Integrated Architectures
- The Principal Mechanisms for Achieving Alignment =
Mission Capability Packages

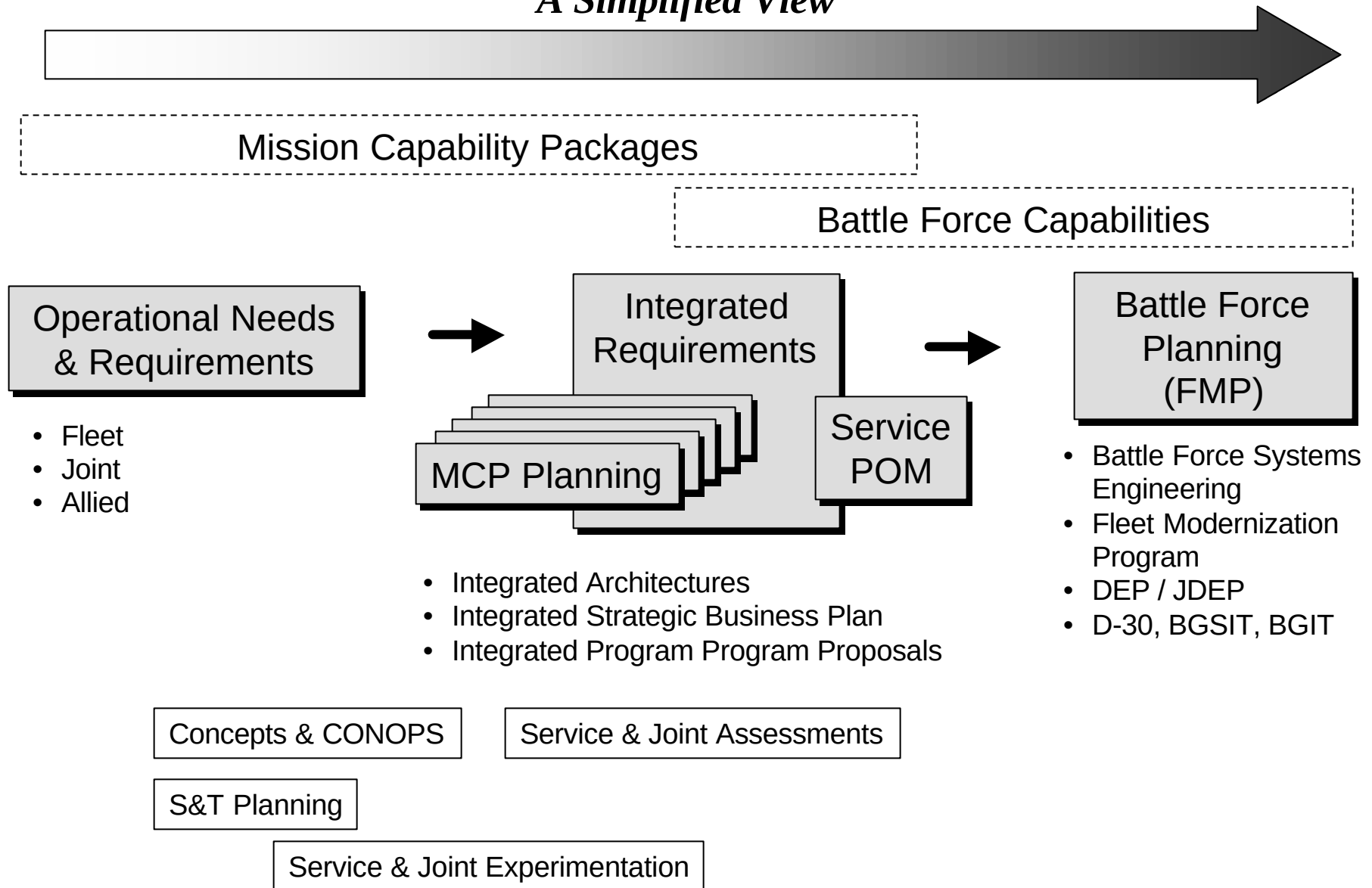
The Principal Navy Stakeholders

- OPNAV (CNO, N8, N7, sponsors)
- Fleet
- ASN(RDA) Chief Engineer
- NWDC
- ONR
- PEOs and SYSCOMs

Changes To The Status Quo

A Simplified View

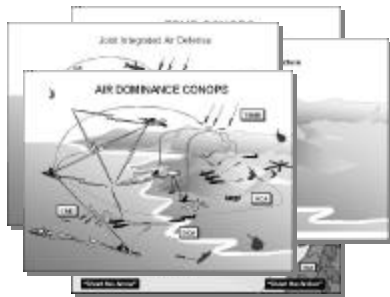
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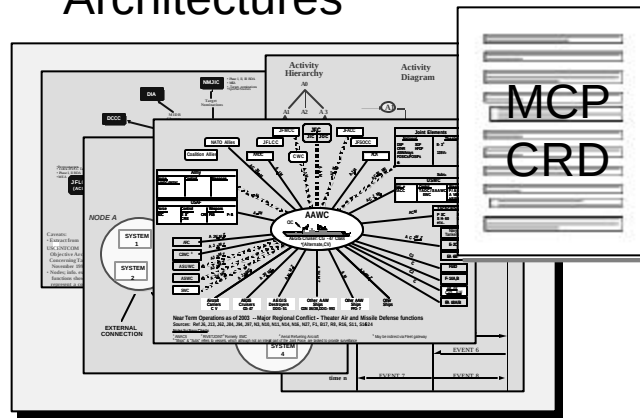
Key Elements of the MCP Planning Process

MCP Requirements Integration

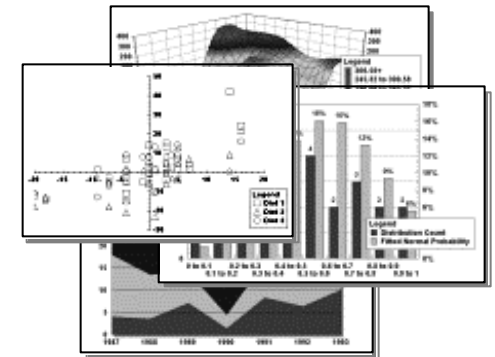
Concepts & CONOPS



Integrated Architectures + CRDs



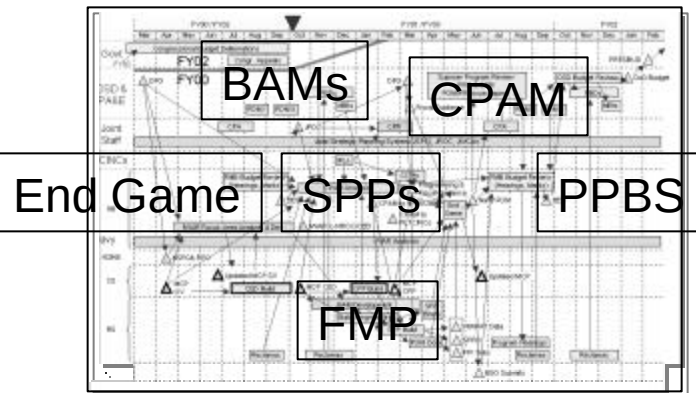
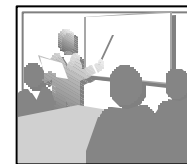
System-of Systems AOA



Integrated Strategic Business Plan (ISBP)



NROC / CEB



[Detail / Explanation]

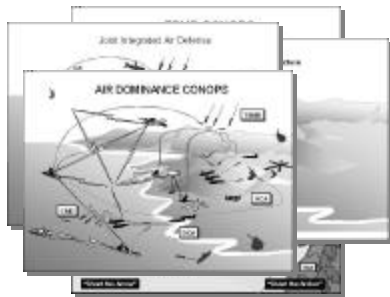
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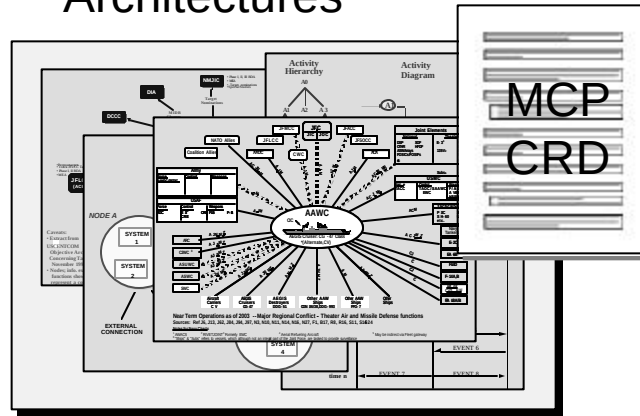
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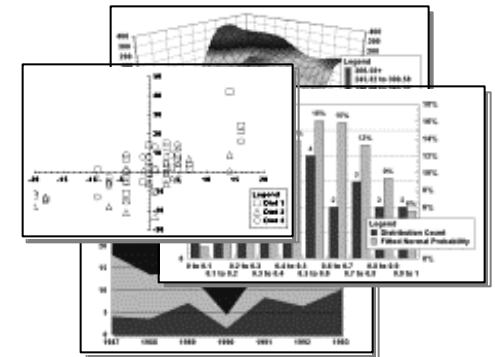
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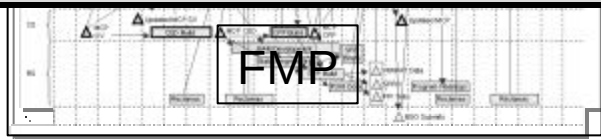
Integrated Strategic Business Plan



What we are actually trying to do (accomplish)

- What are our operational objectives?
- What time frame (in the future)?
- What circumstances (situations, environments)?
- How do we propose to (operationally) do it?

Er



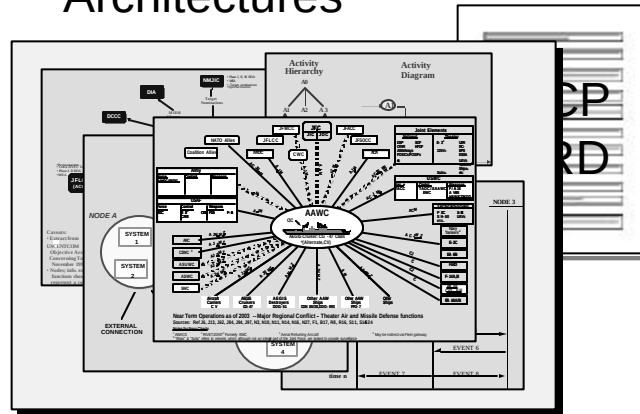
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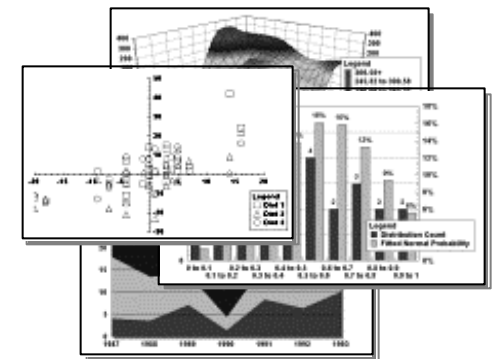
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Integrated Architectures + CRDs



System-of Systems AOA



Requirements analysis and the resulting Architecture

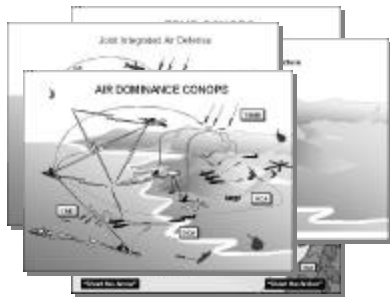
- Who are the actors (participants, nodes)?
- What specific tasks (activities) must the actors perform to accomplish our objectives?
- What is each task's relative importance (criticality) to the objectives?
- How are the actors organized?
- Who connects to whom (interfaces)? Under what circumstances?
- What key pieces of information must the actors share (pass, process)?

Key Elements of the MCP Planning Process

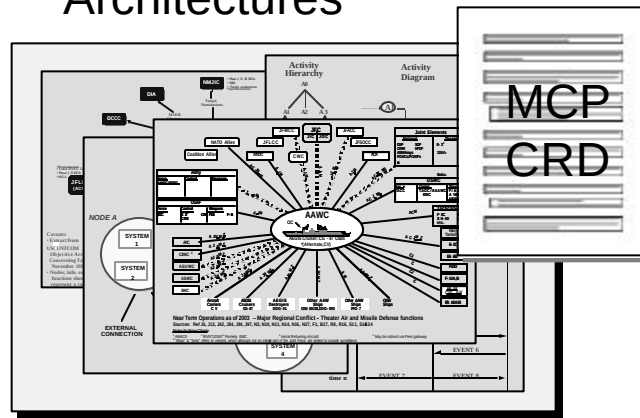
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MCP Requirements Integration

Concepts & CONOPS

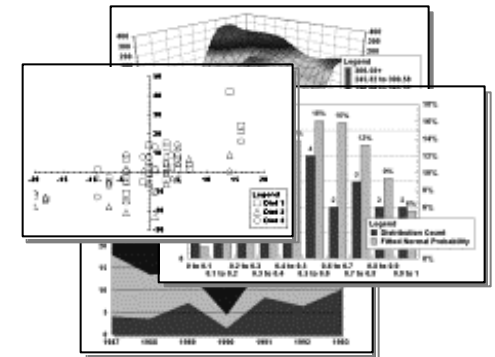


Integrated Architectures + CRDs



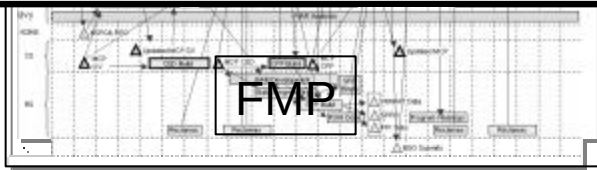
MCP
CRD

System-of Systems AOA



Document the operational requirements for a system-of-systems capability

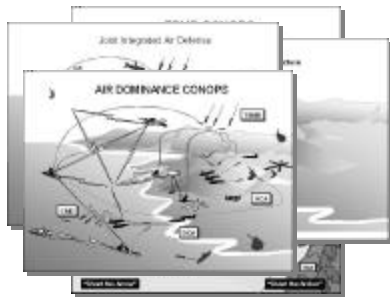
- The desired operational capability
- The threat
- Operational/requirements gaps, misalignments
- Operational and interoperability key performance parameters



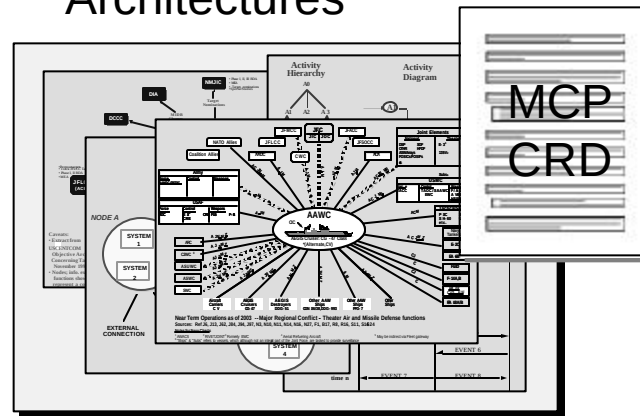
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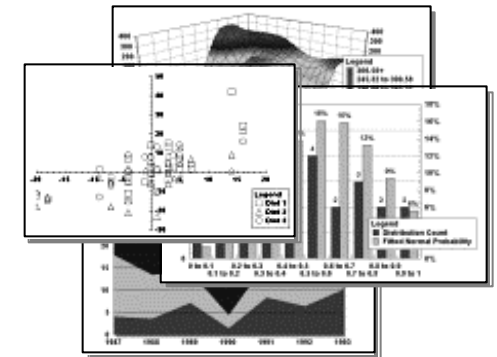
Concepts & CONOPS



Integrated Architectures + CRDs



System-of Systems AOsAs



Implementation analysis and trade-offs

- What are the operational performance-cost-schedule trades?
- What are the viable alternative paths to implementing the capability?
- What are the long-term effects on the shape of the architecture / capability?

Refined systems requirements

- SRD, systems architecture(s), etc.

Strategic
Plan



Basic Approach We're Taking

MCP Requirements Integration

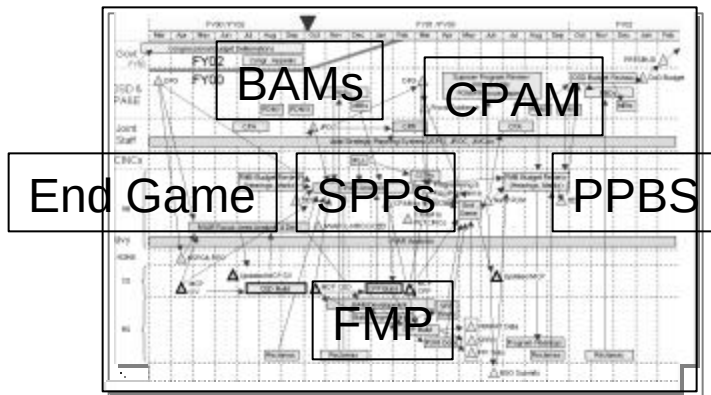
Concept

The Strategic Business Plan for implementing the capability

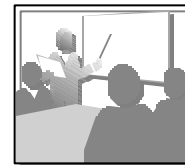
- What specific implementation alternatives should we consider?
- What specific capability objectives? What time-frame?
- What contributes to each objective (platforms, programs, systems, technologies, training, support, etc.)?
- How to we time-phase the implementation?
- What specific changes to the POR?
- How do we propose to resource each change?
- What are the priorities?

s AOA's

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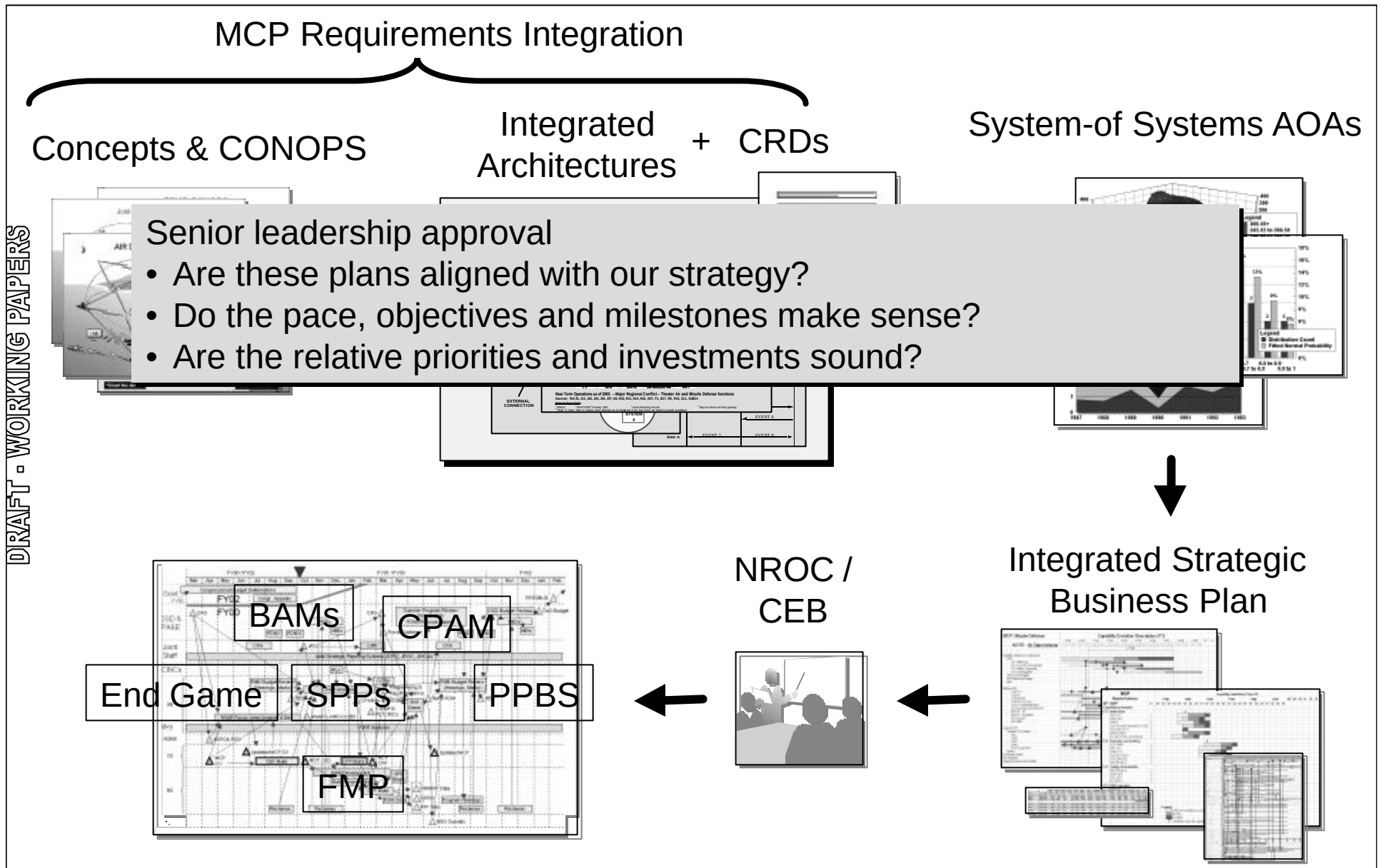
NROC /
CEB



Integrated Strategic
Business Plan



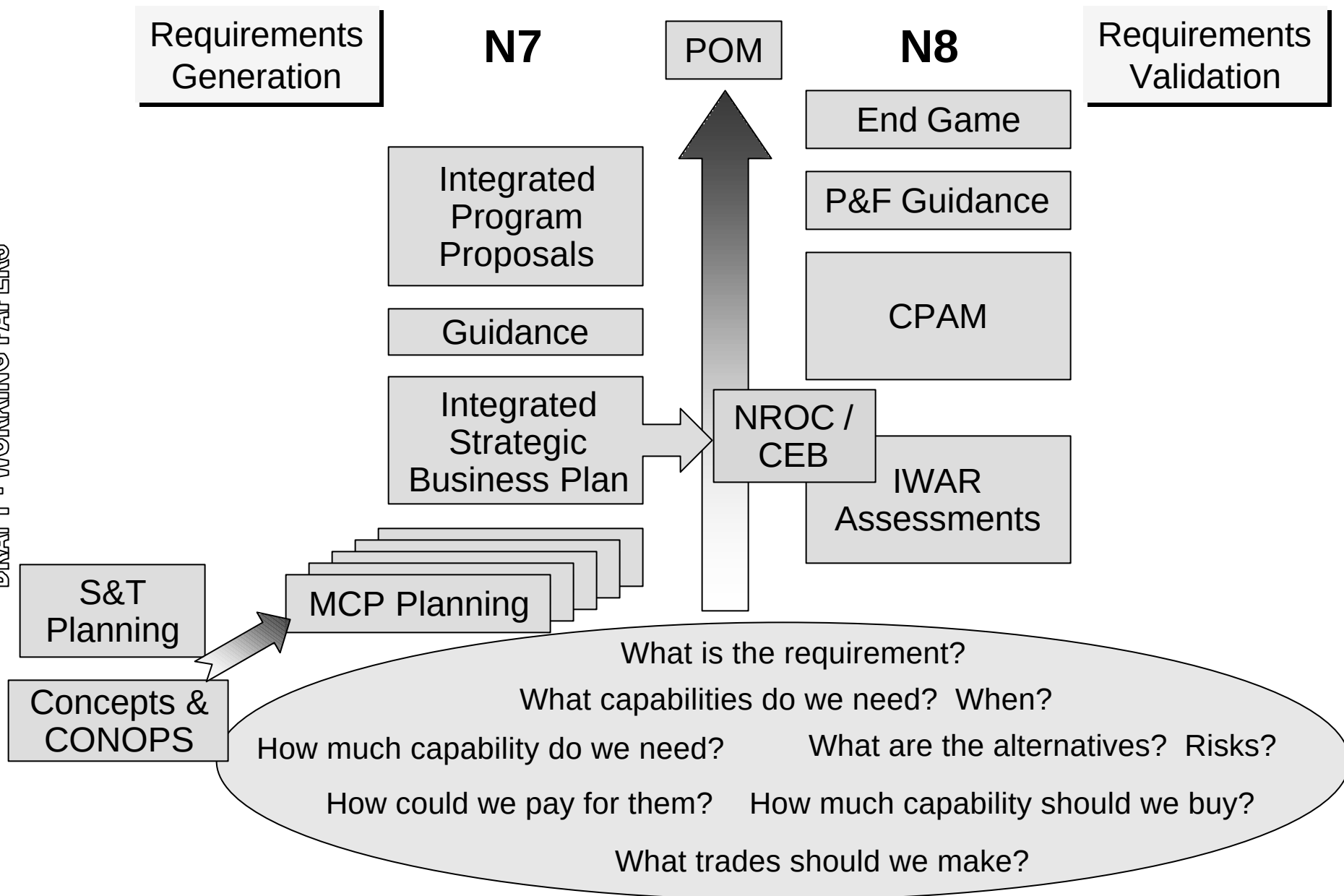
Basic Approach We're Taking



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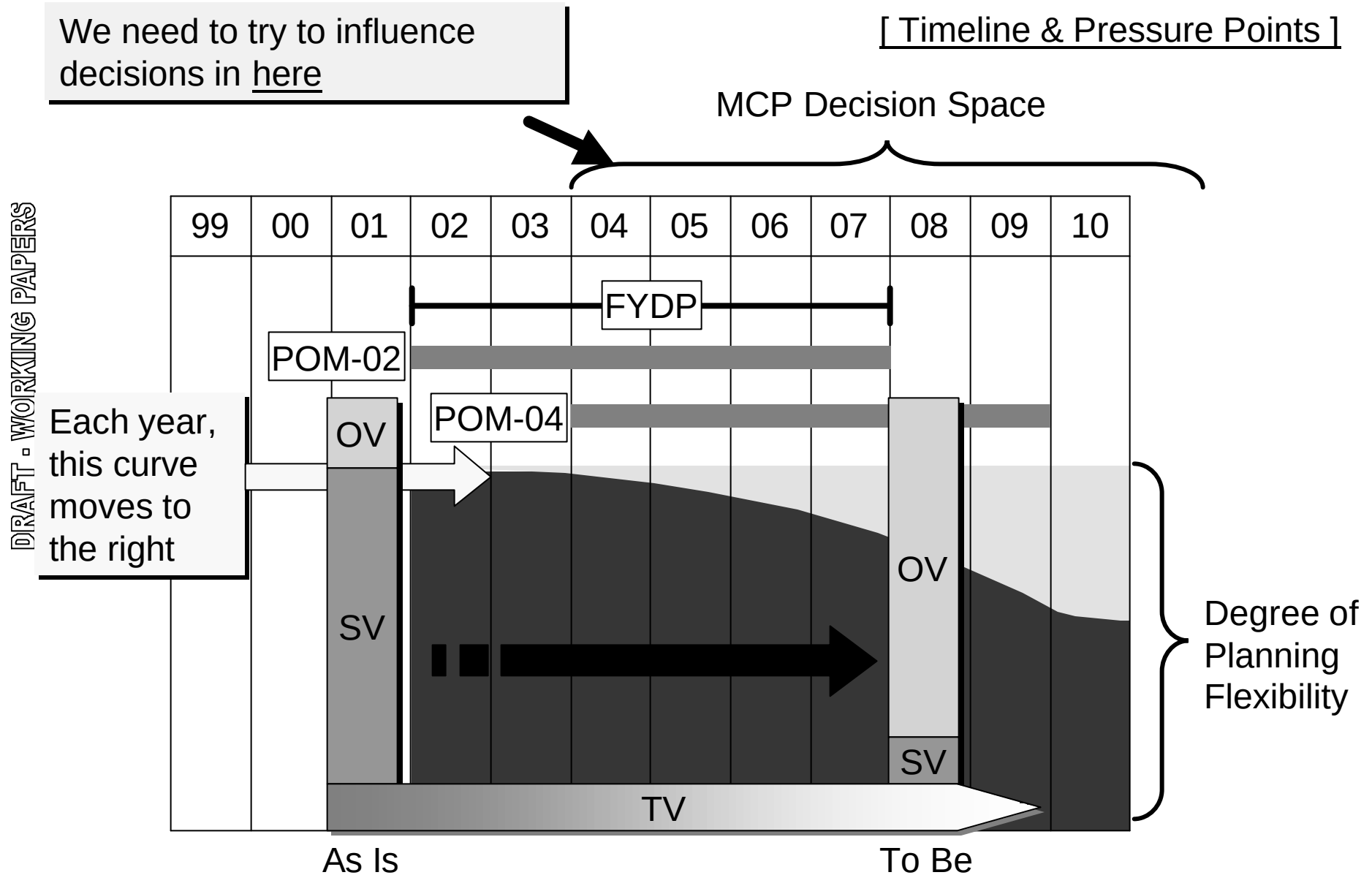
Changes to The Status Quo (OPNAV)

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Architecture/CED Influence Time Frame

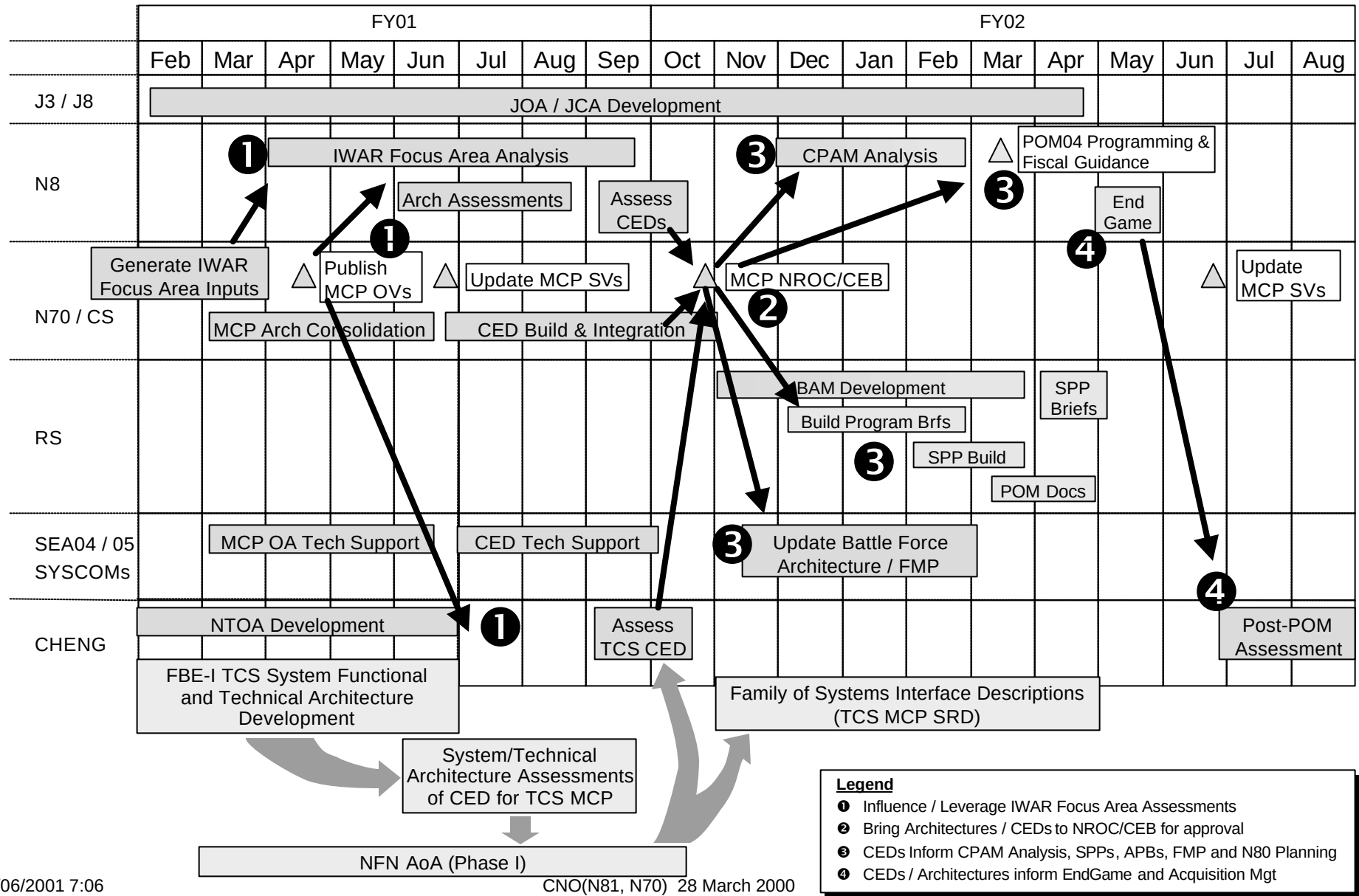
(Assuming the current planning target is POM-04)



Timeline and Pressure Points

(TCS example, assuming the current planning target is POM-04)

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What Budget Are You Working On Today?

The Lure of the "Quick Kill"

All these processes are happening concurrently

Execution: FY01

In Congress: POM-02

Service Programming: PR-03



Service Planning & Assessment: POM-04

What interoperability planners should be trying to effect / affect today

Changes or directives applied "above" POM-04
(in the absence of some overarching plan or context)

risk breaking or invalidating

- Previous coordination or integration
- Previously set priorities
- Program or resource synchronization or alignment

Questions?