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On the Development of a Capability Integration Framework to Facilitate Cross-Program Integration for Air Force Space Command

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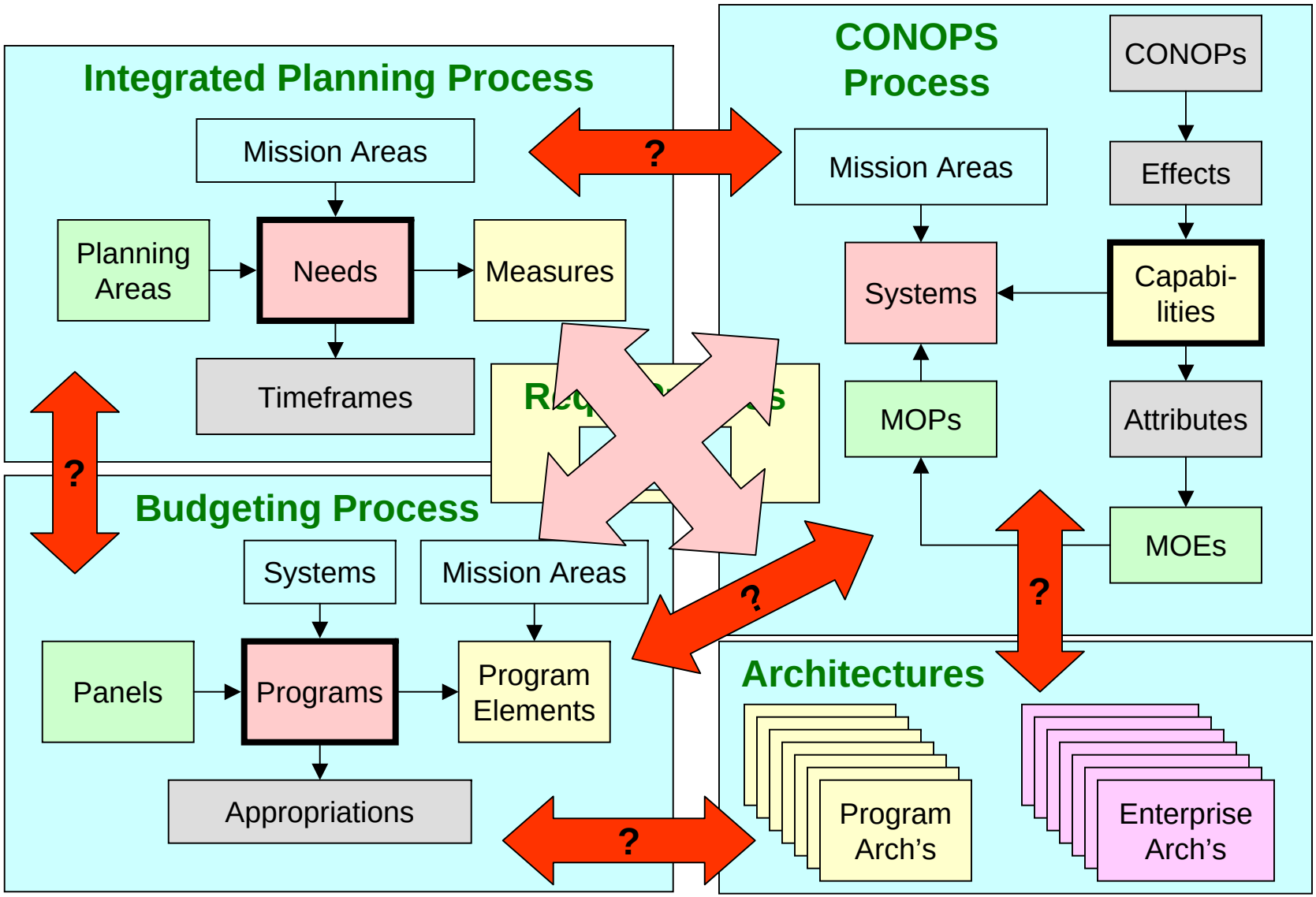
Scope of Problem



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Objective and Approach

Objective

- **Provide foundation for compliance with Enterprise Architecture directives and guidelines**
- **Improve the understanding of how Programs relate to various overlapping Architectures**

Approach

- **Develop a "Capability Integration Framework" using Metis that maps Programs to:**
  - **AF- level CONOPS**
  - **Enterprise Architecture Elements**
  - **Mission Needs & Mission Tasks**
  - **Enterprise Capabilities & Effects**
  - **Systems & Solutions**

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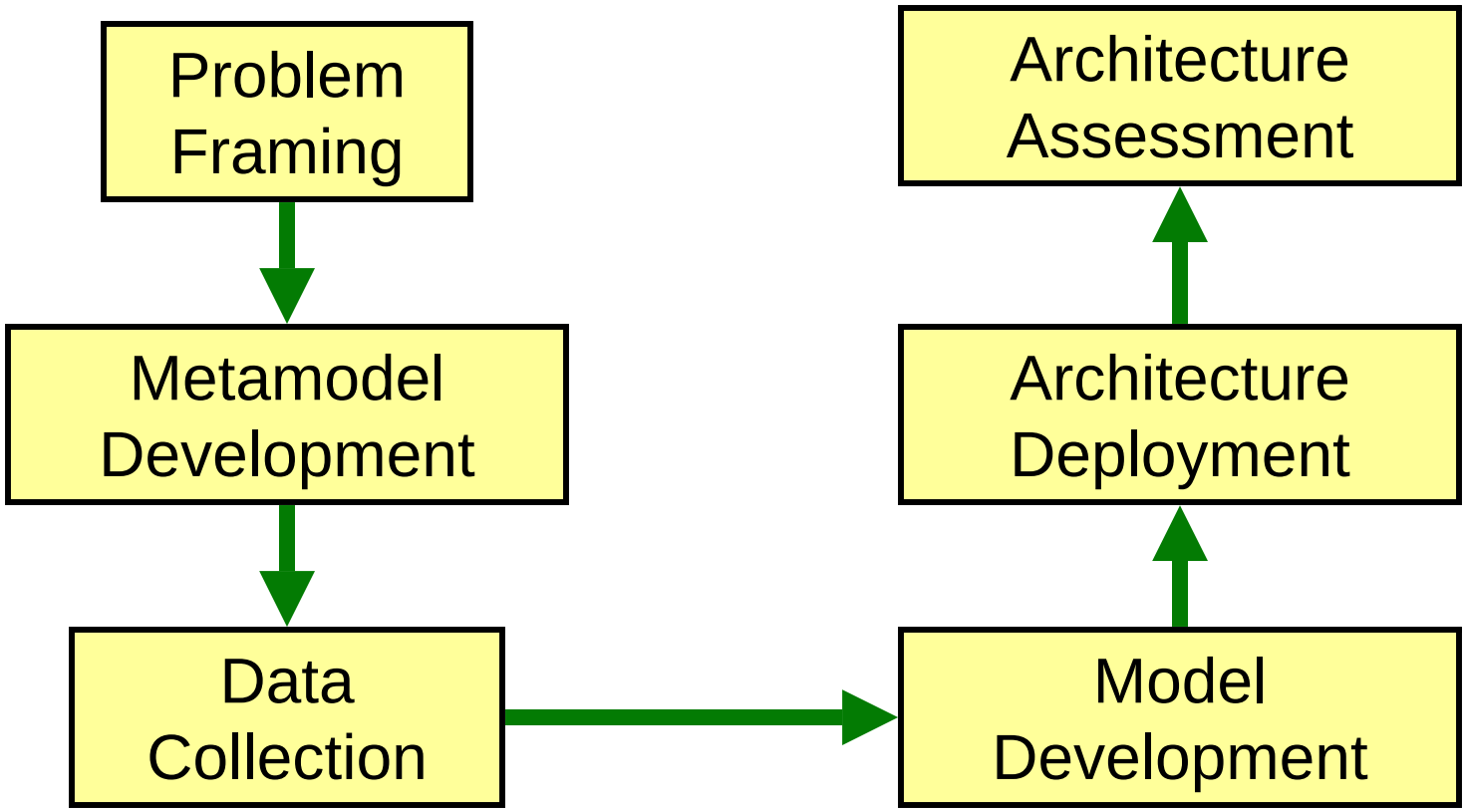
Six-Step Process for Developing an Architectural Model



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Step 1 – Problem Framing

- **Business Analysis**
  - **Identify Purpose of the Architecture**
  - **Identify "Business Questions" to be addressed by the Architecture**
  - **Establish business Priorities**

- **Conceptual Framework**
  - **Identify relevant business "Objects"**
  - **Identify "Facts" about these Objects**
  - **Define how Questions can be answered using these "Facts"**
  - **Develop Conceptual Framework for the Architecture**

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Phase 1 Business Questions

High Priority

1. **How much money is being spent by which programs to develop capabilities in support of CSAF CONOPS?**
2. **In which larger architectures must a program architecture must participate?**
3. **What is the relationship between programs and the mission needs they support?**

Medium Priority

4. **Which systems are a part of which architectures?**
5. **Do the Integrated Planning Process Tasks cover all of the CSAF CONOPS Tasks assigned to AF Space Command?**

Low Priority

6. **Which organizations are responsible for which architectures?**
7. **How do the Integrated Planning Process Needs map to higher level guidance such as a vision statement?**

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Future Questions (Phase 2+)

1. **What is the thread or "kill chain" that supports a capability and which systems are part of this thread?**
2. **What is the relationship between future concepts and the mission needs they support?**
3. **What is the relationship between existing systems and the mission needs they support?**
4. **Which programs map to which S&T projects?**

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Note on Model Snapshots

- **All model pictures in this presentation are of the CIF Mockup**
- **The mockup is illustrative of the CIF framework but contains fabricated data.**

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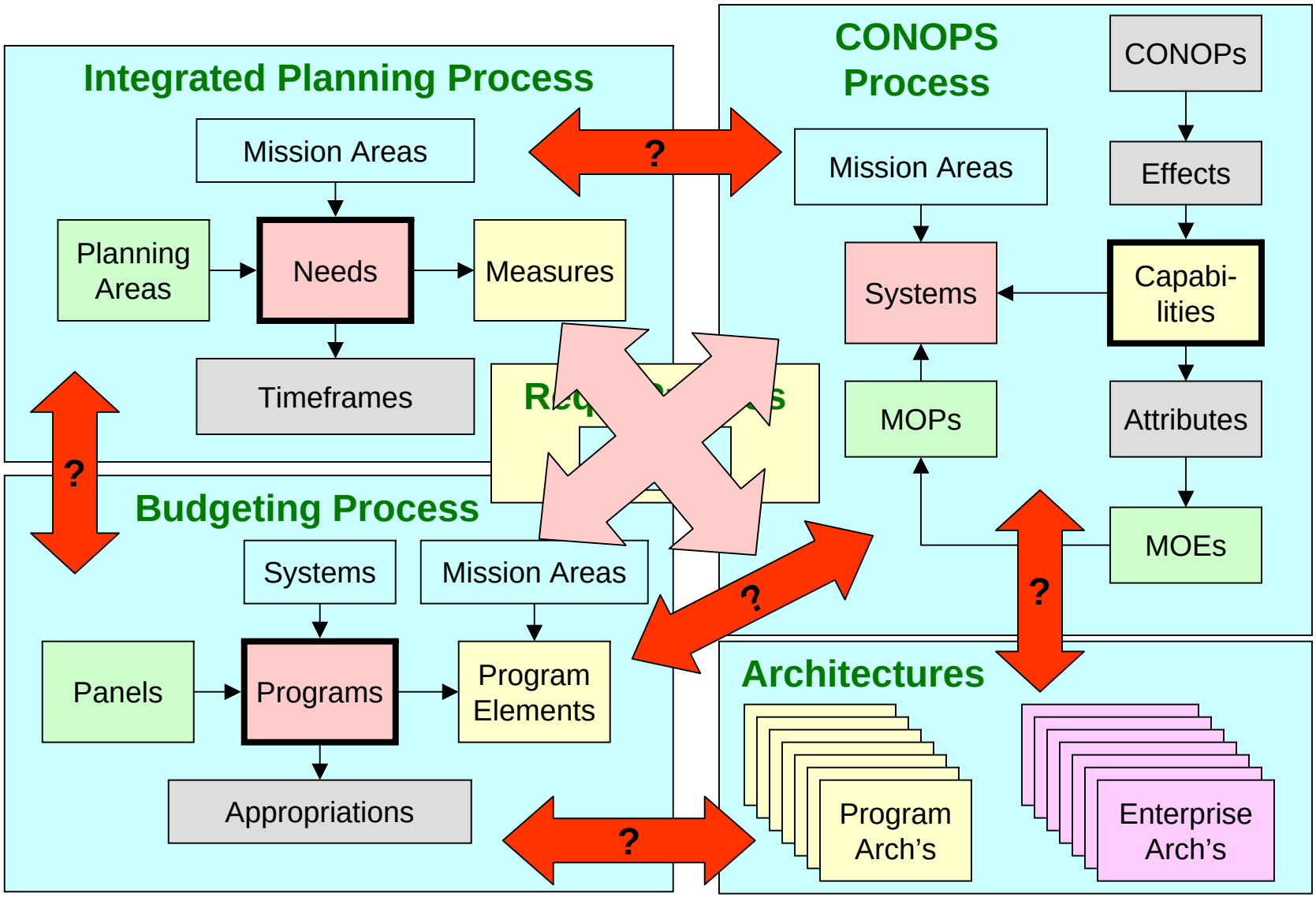
Scope of Problem



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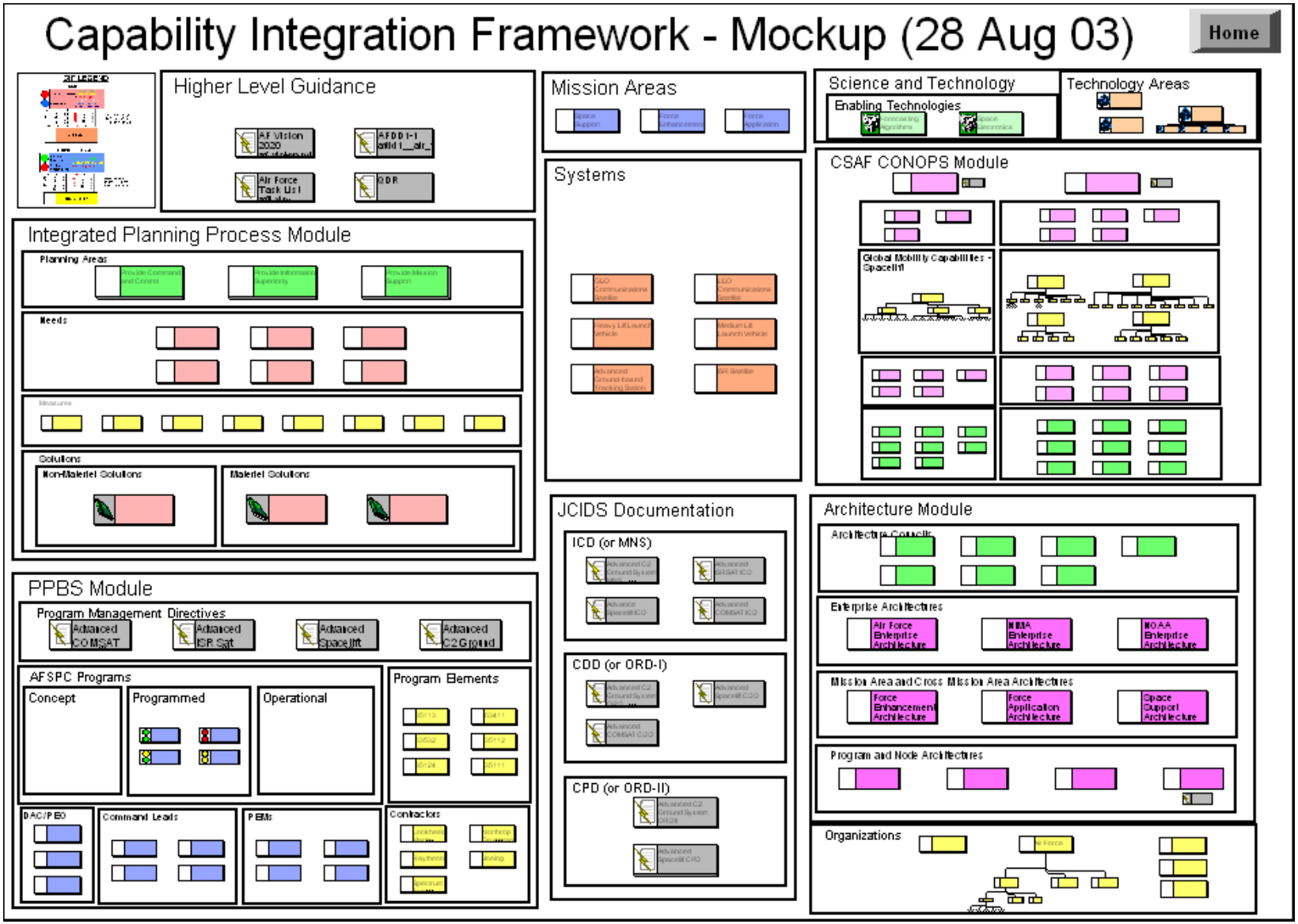
CIF Mockup – Main Model View



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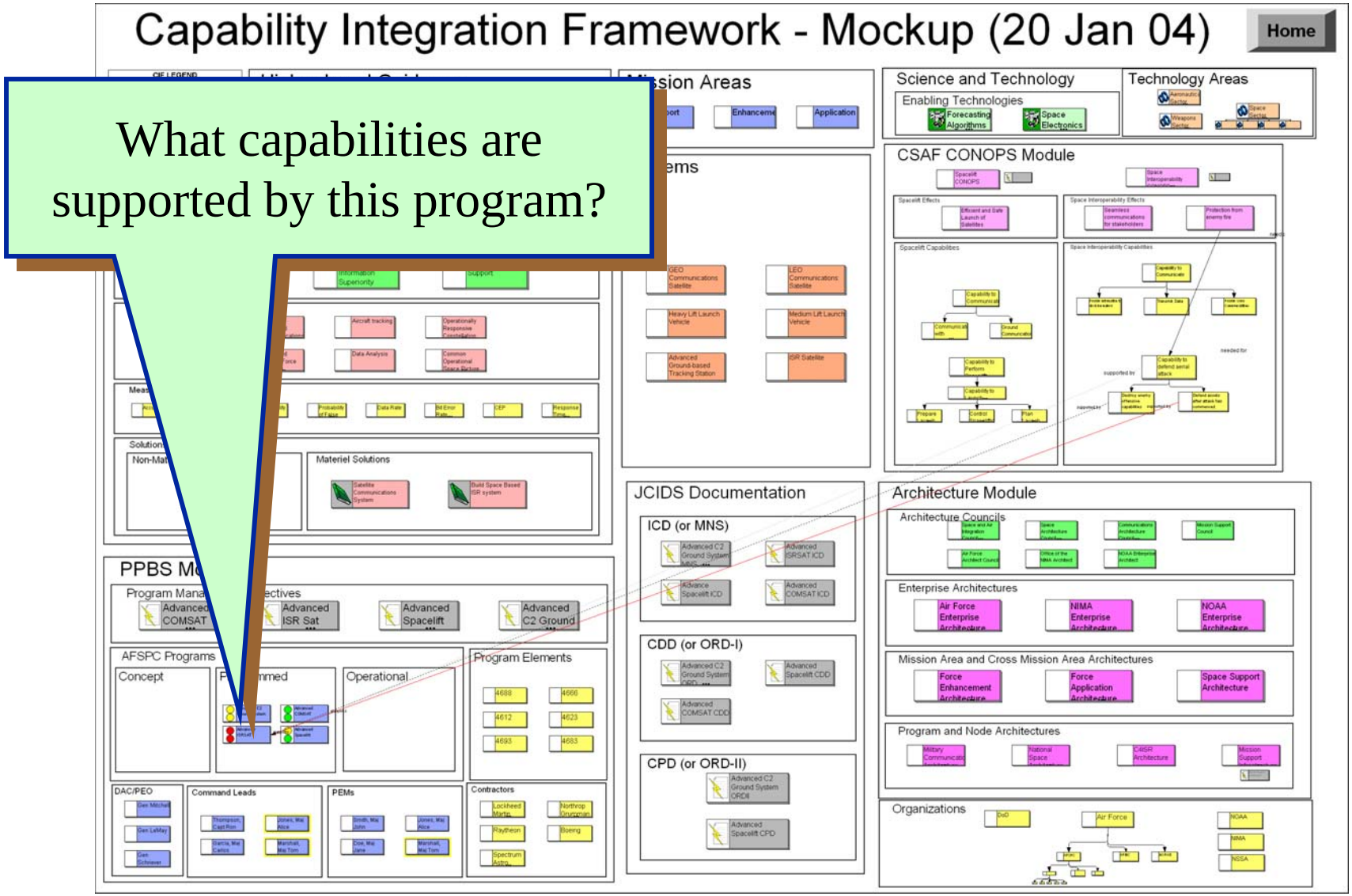
Example Query



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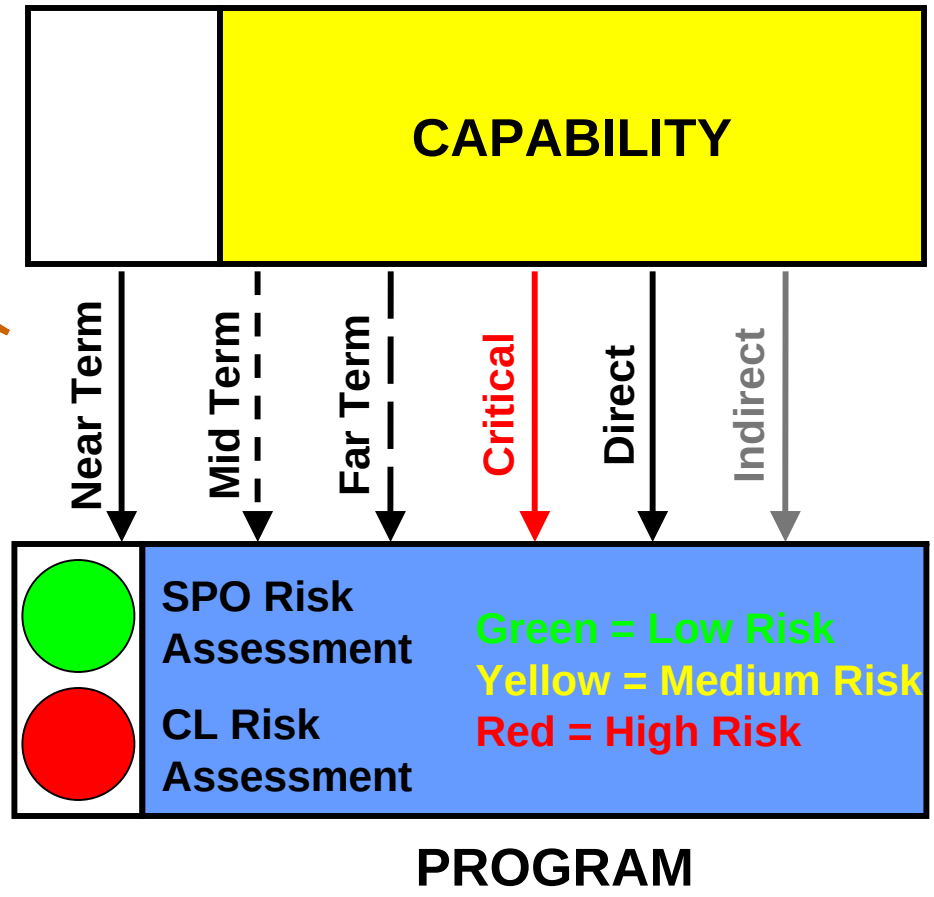
Programs Supporting Required Capabilities

Six "Flavors" of Support

Near Term = +0 yrs
Mid Term = +6 yrs
Far Term = +14 yrs



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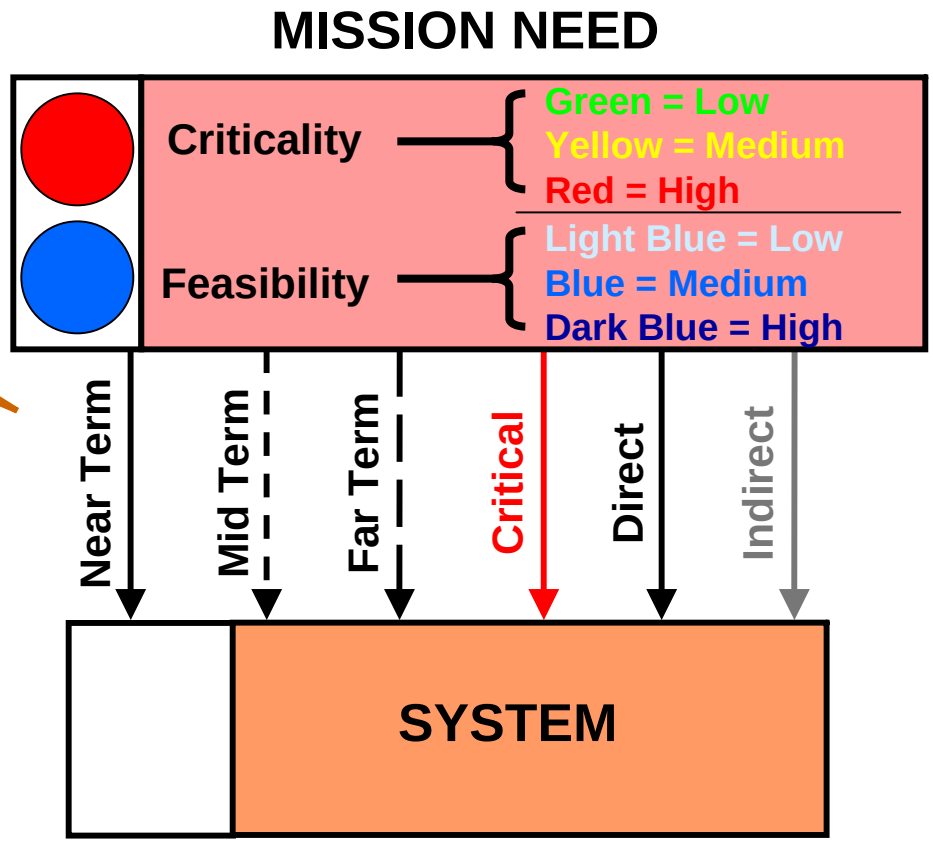
Systems Supporting Mission Needs

Six "Flavors" of Support

Near Term = +0 yrs
Mid Term = +6 yrs
Far Term = +14 yrs



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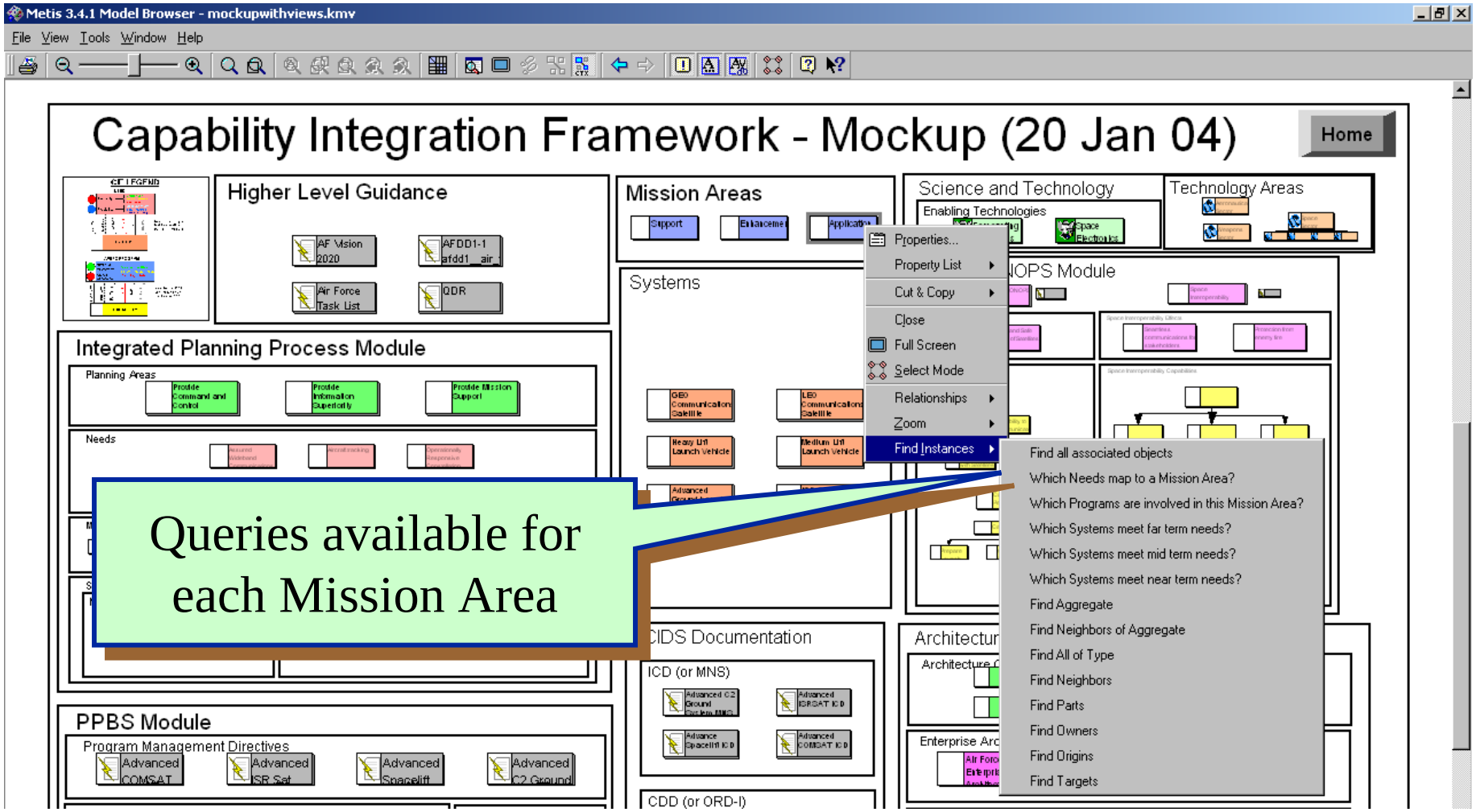
Queries Available for a Mission Area Object



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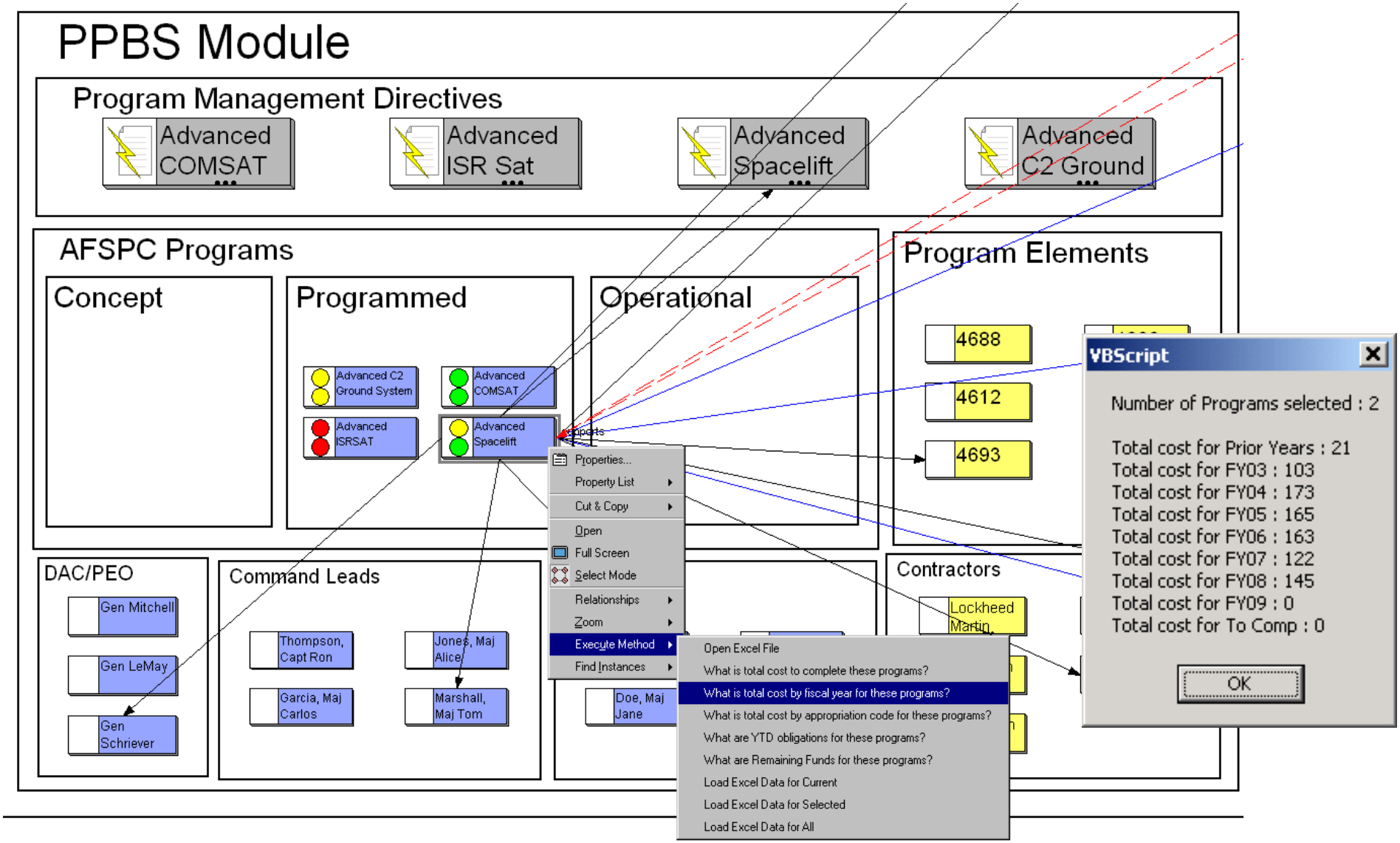
Query Results for a Financial Query



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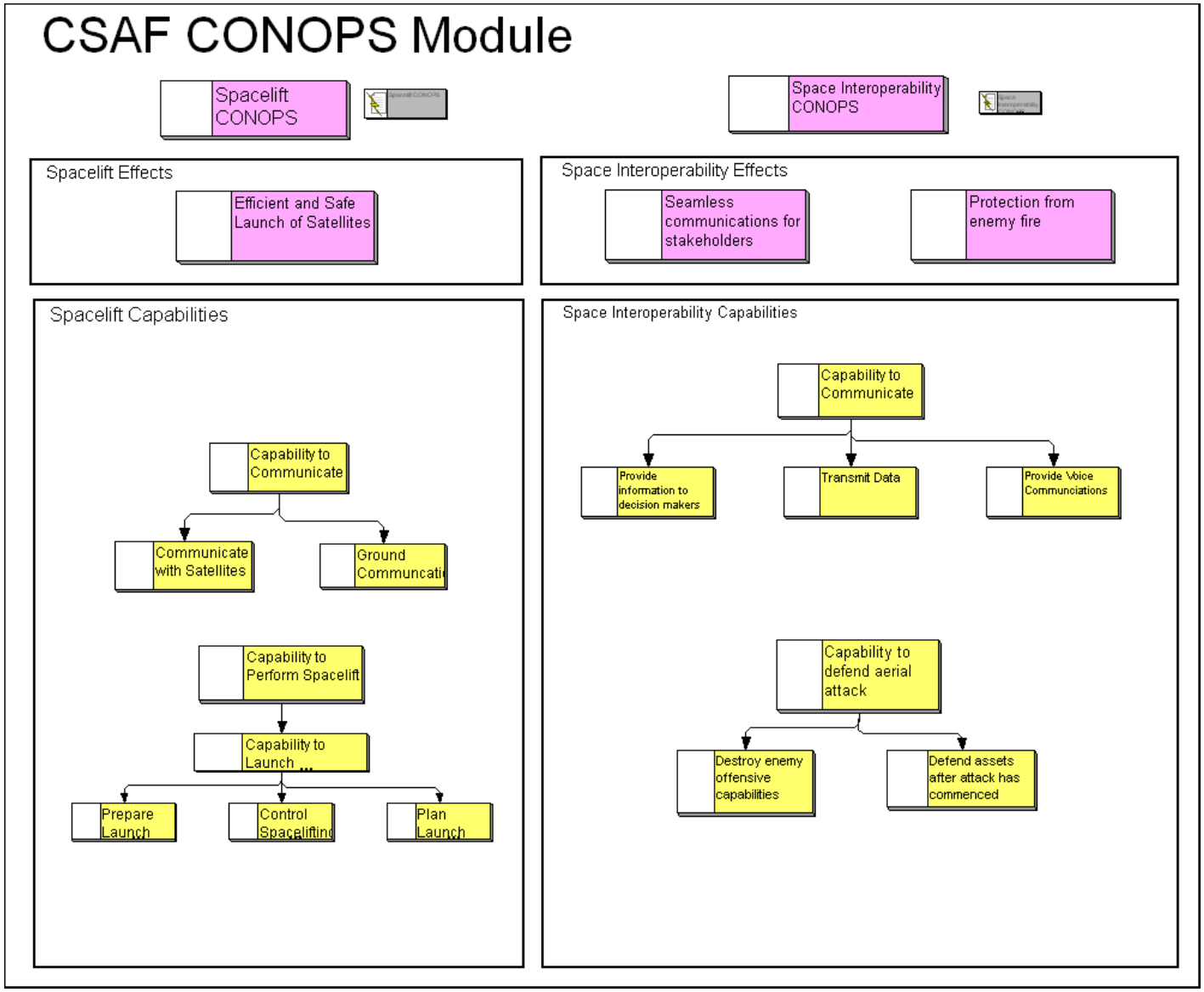
Capabilities & Effects



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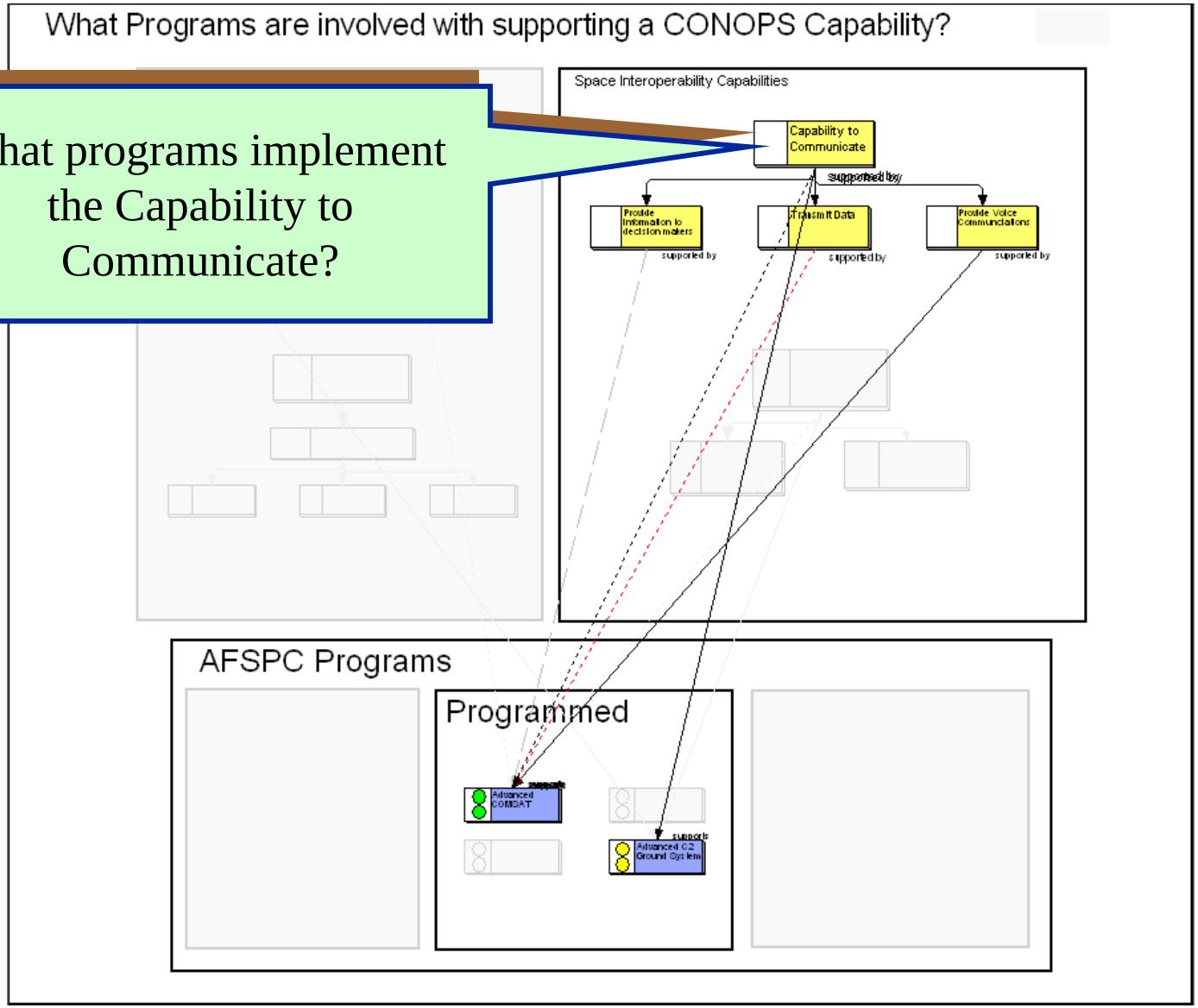
Program Support of Capabilities



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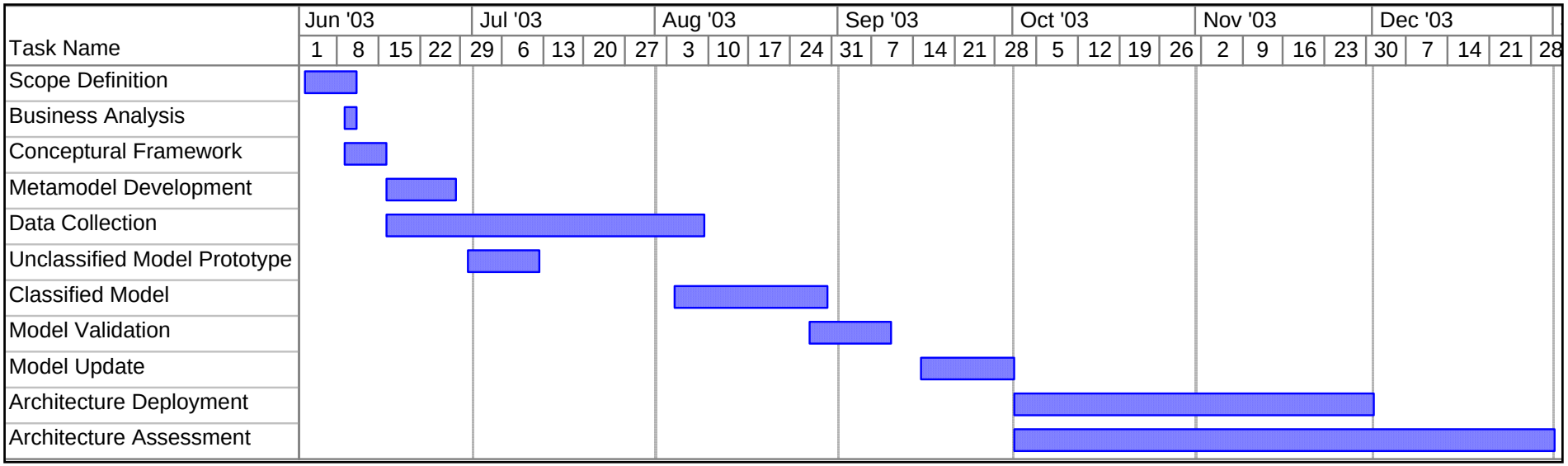
Model Development Schedule



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Summary

The Capabilities Integration Framework will provide Program Managers a basis for ensuring that capabilities have clear alignment with and accountability to enterprise architectures

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CIF Module Screenshots

- **Screenshots of modules showing objects and relationships**

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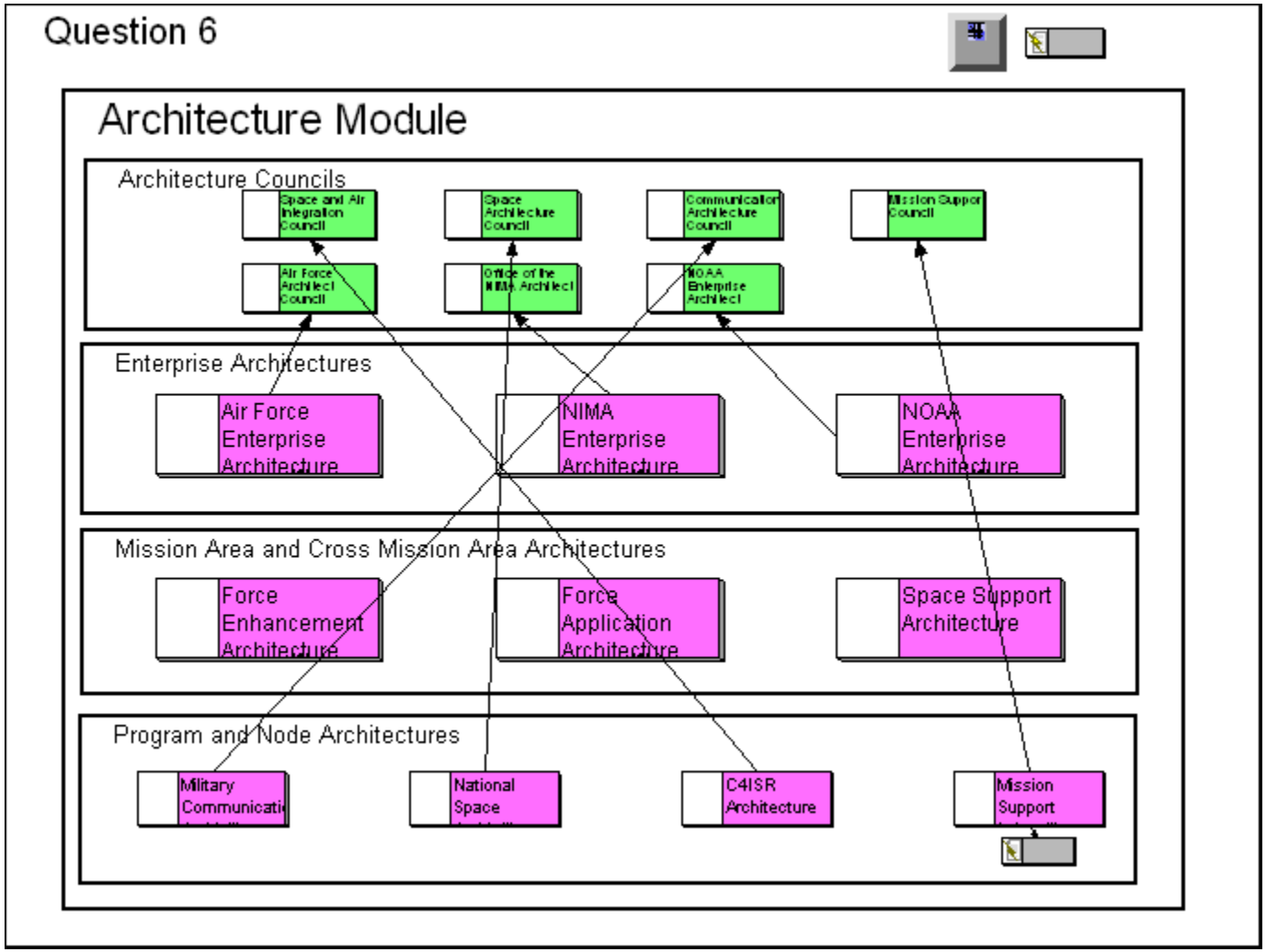
CIF Architecture Module with relationships visible



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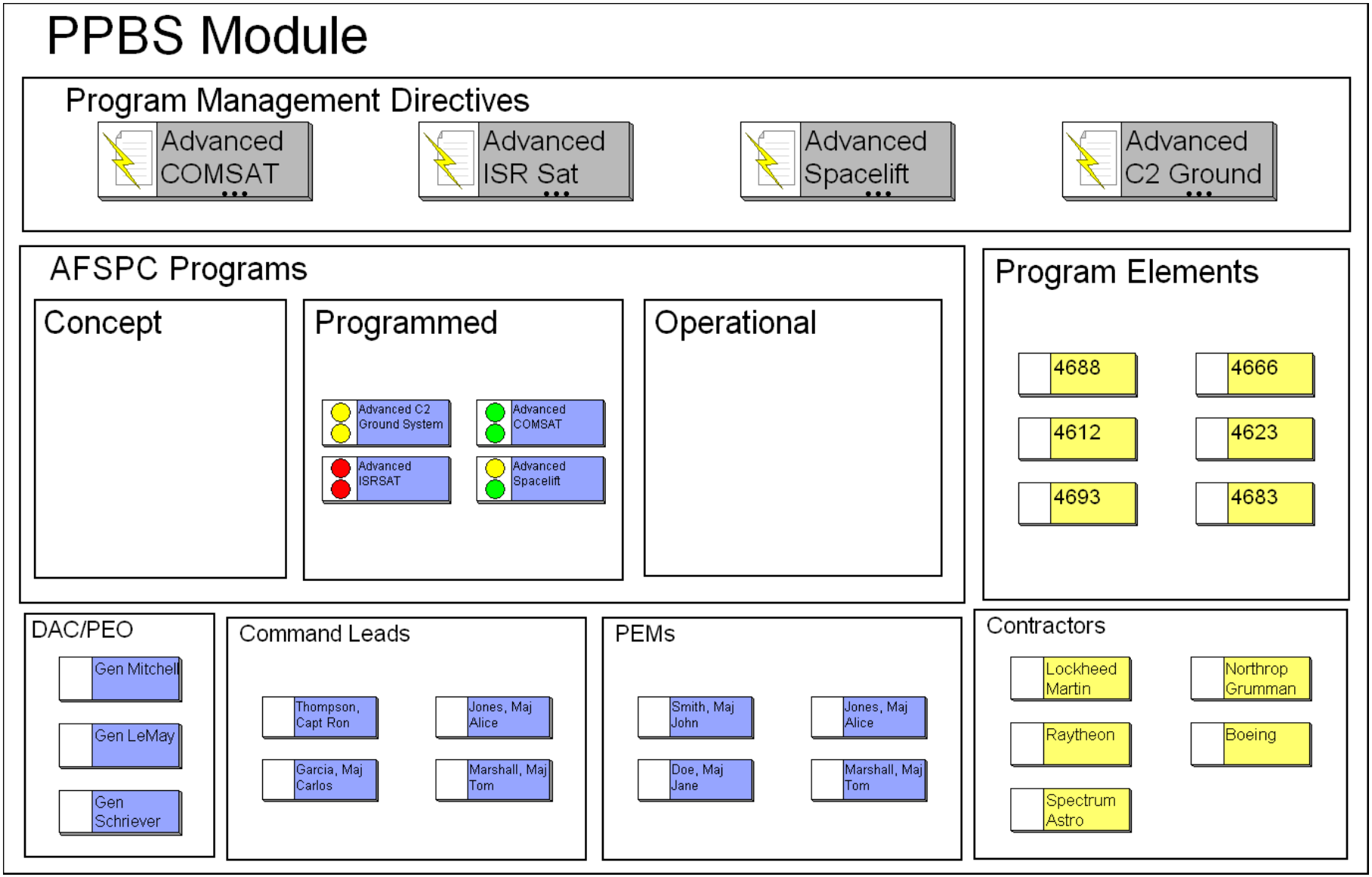
CIF PPBE Module



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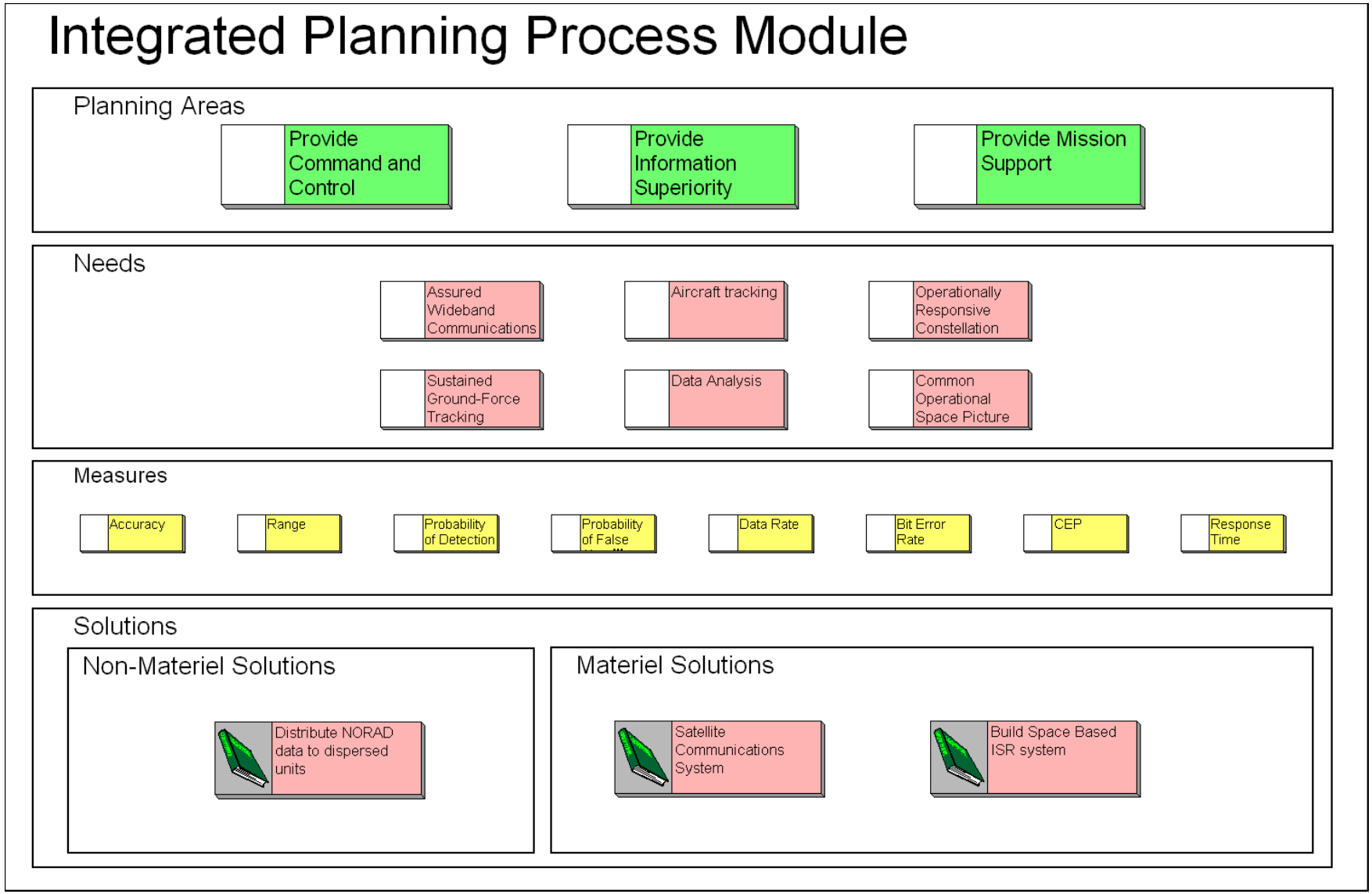
CIF Integrated Planning Process Module



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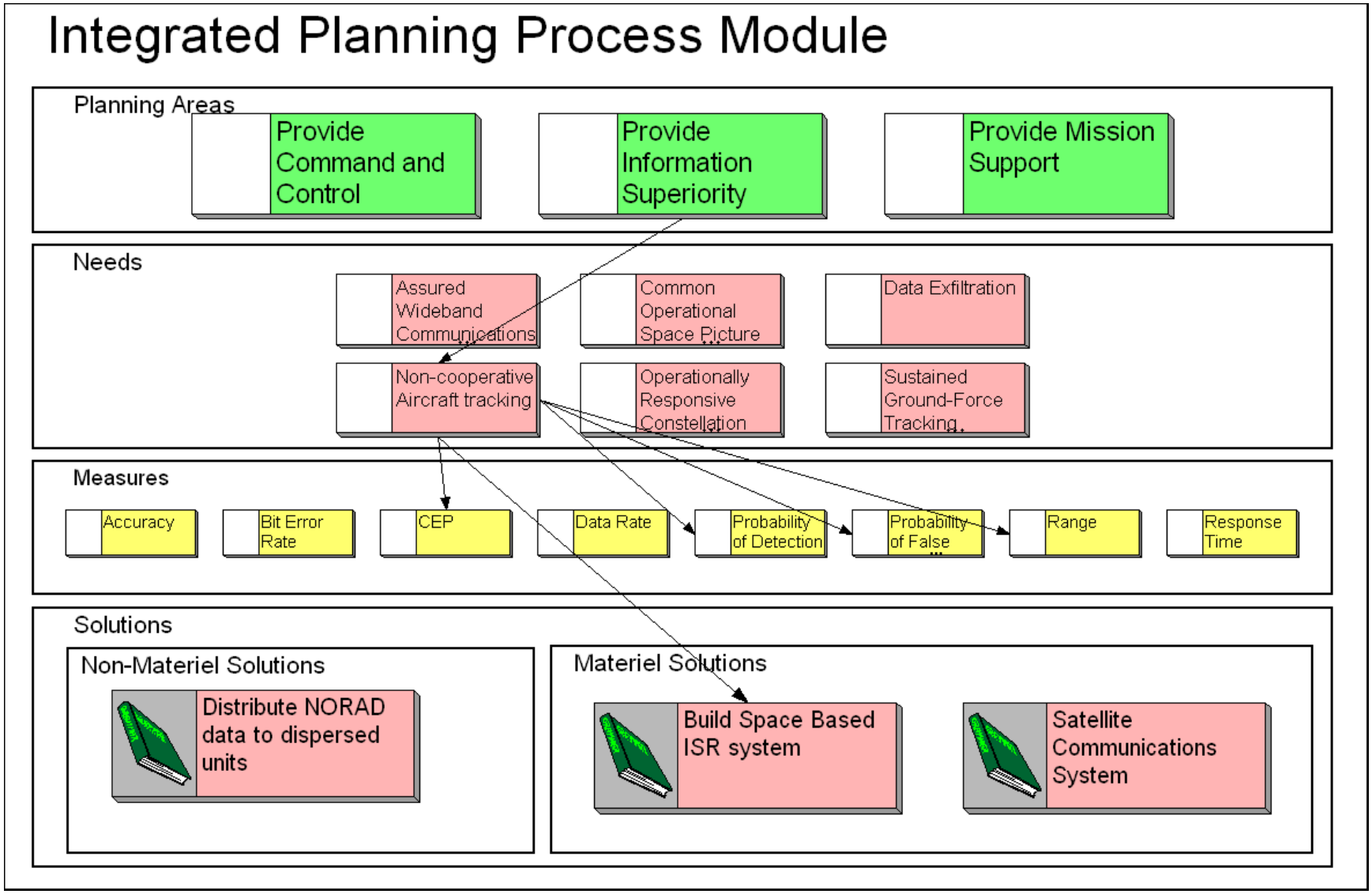
CIF IPP Module showing relationships between one need, its measures and solutions



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