

System Level Capacity Increasing Concept

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Operational Concepts Team**

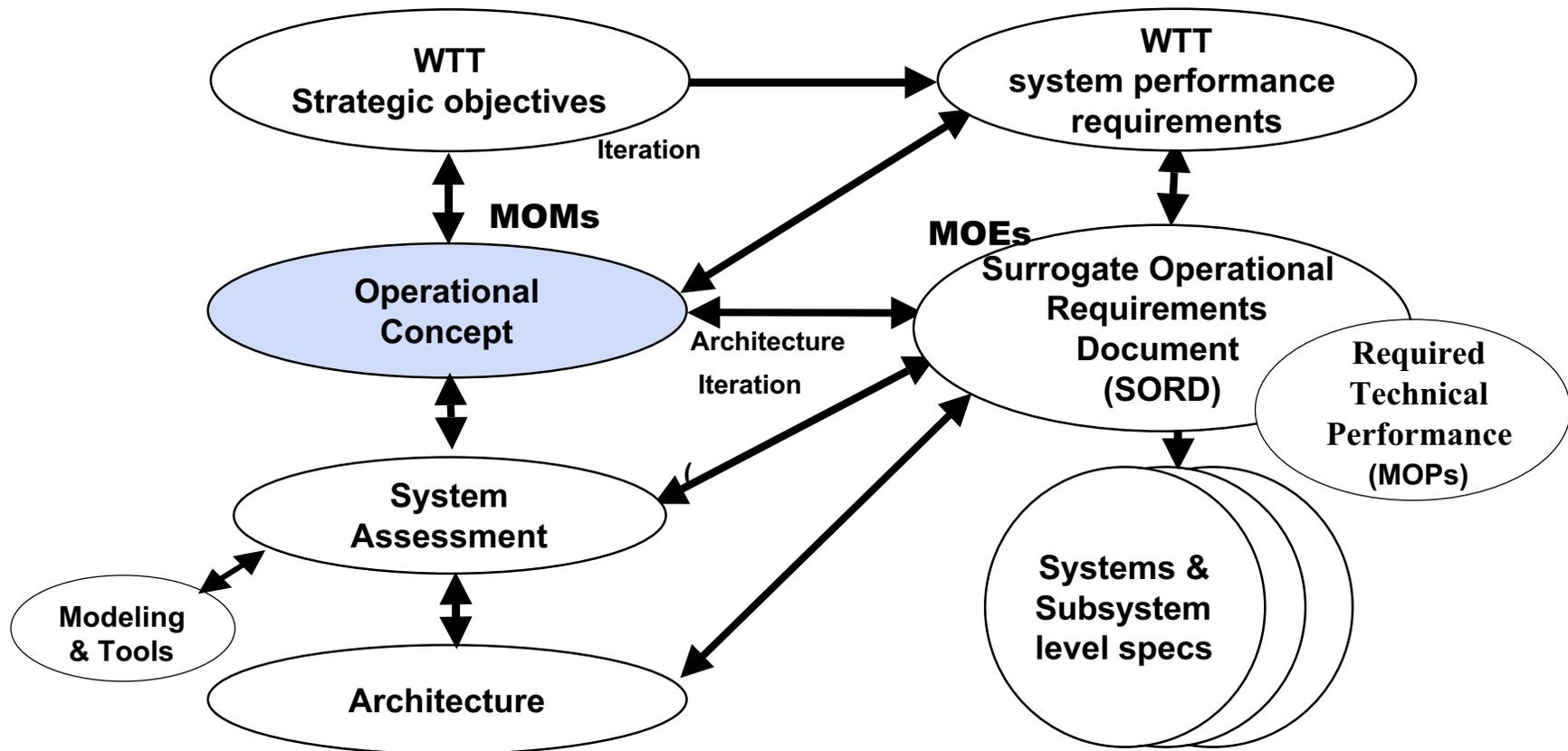
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Development Process



WTT – Working Together Team
MOM – Measures of Mission

MOE – Measures of Effectiveness
MOP – Measures of Performance

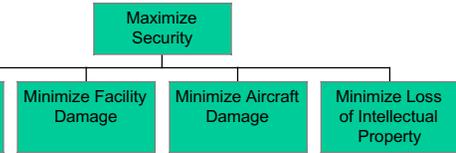
Measures of Effectiveness -- Used to Evaluate Benefits

Safety MOEs



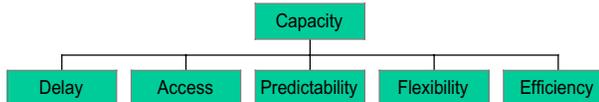
Minimize the loss of life, damage to aircraft or damage to facilities due to *unintentional* design flaws or operational failures of the system.

Security MOEs



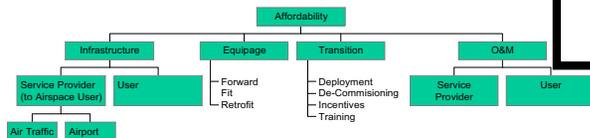
Minimize the loss of life, aircraft damage, facilities damage, intellectual property due to intentional or unauthorized access.

Capacity MOEs



Provide capacity to meet the projected traffic growth for twenty years

Affordability MOEs



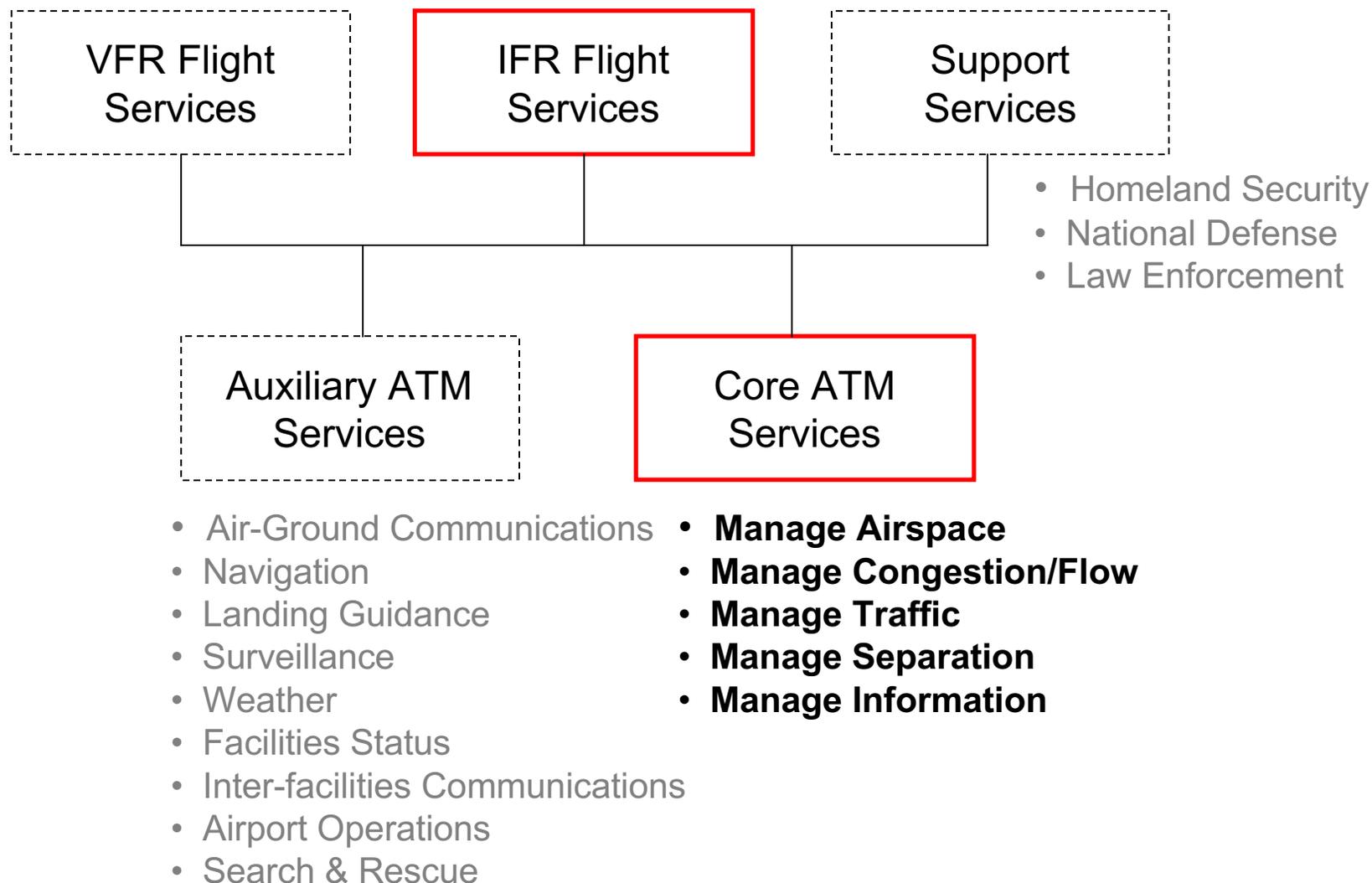
Minimize the costs and operating the A

Interoperability MOEs

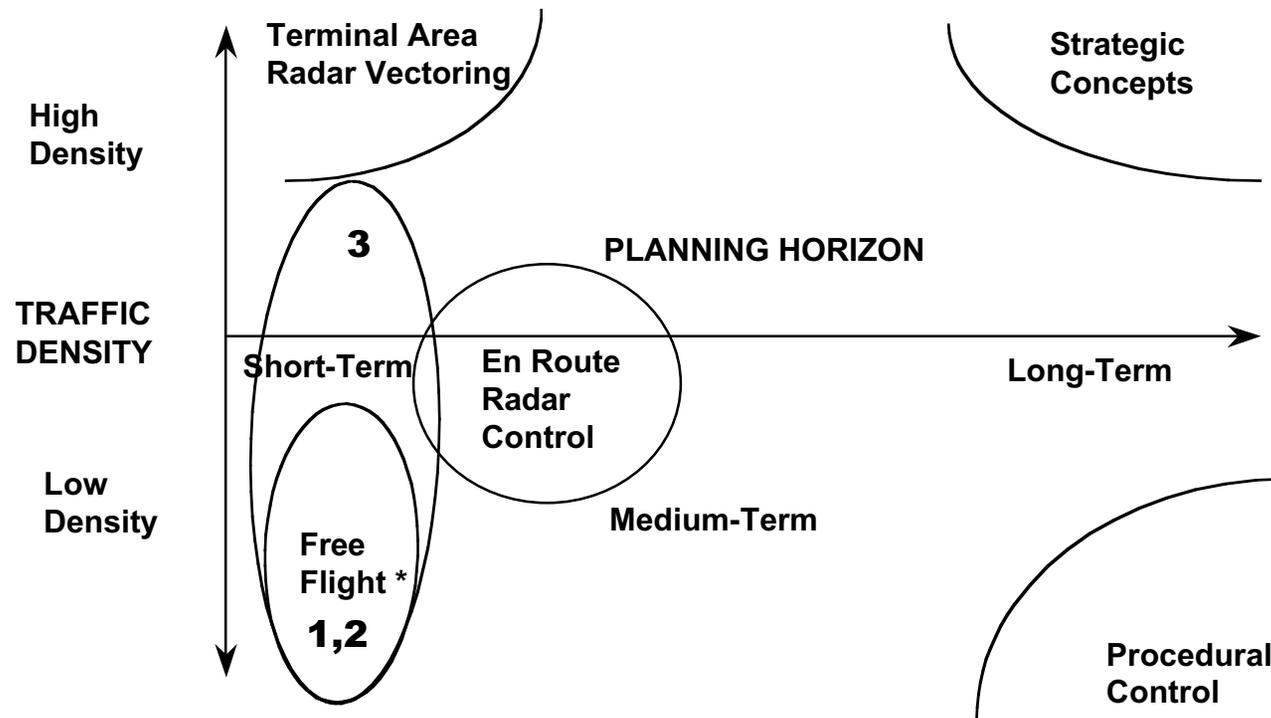


Our Operational Concept Is "Capacity Driven"

Focus is IFR Flight and Core ATM Services



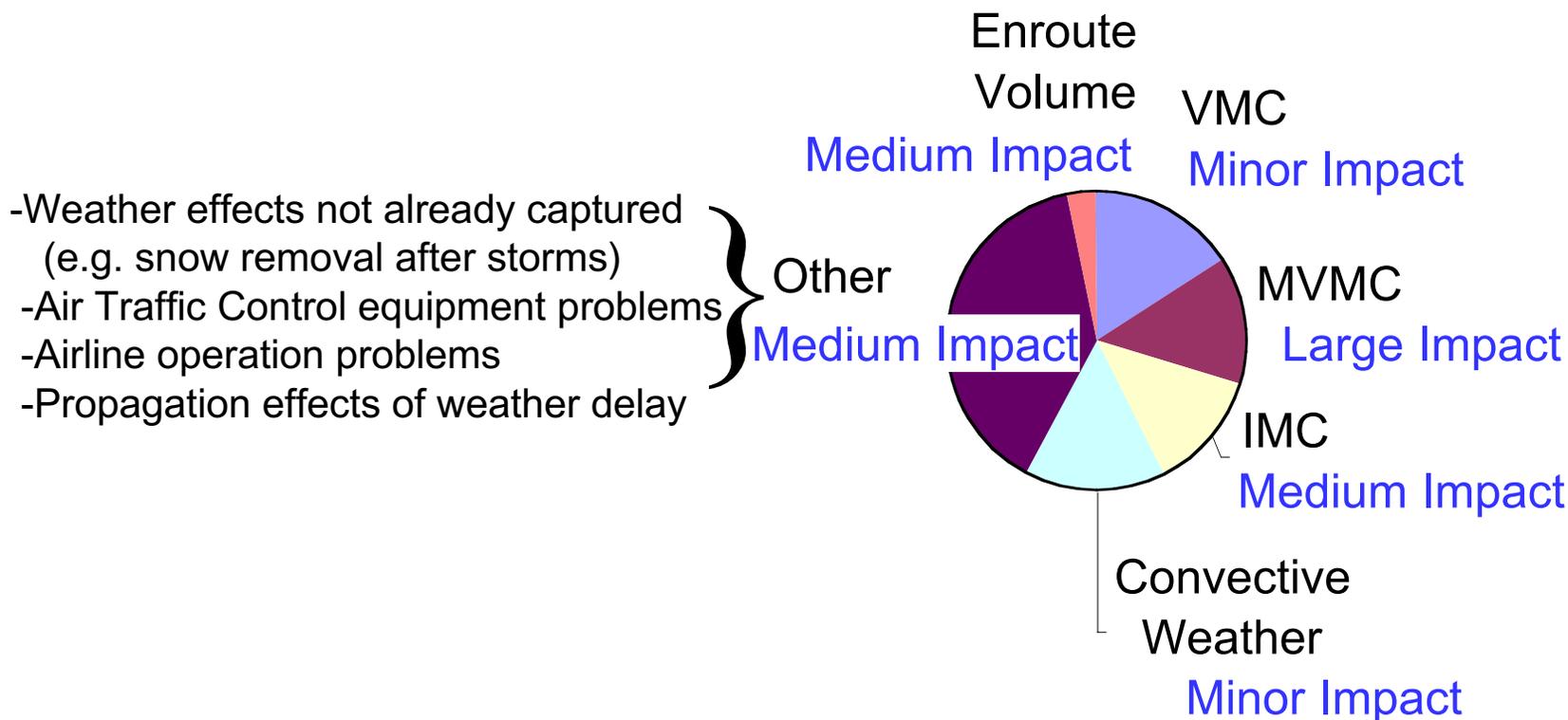
Separation Management Concept



*** Free Flight:**

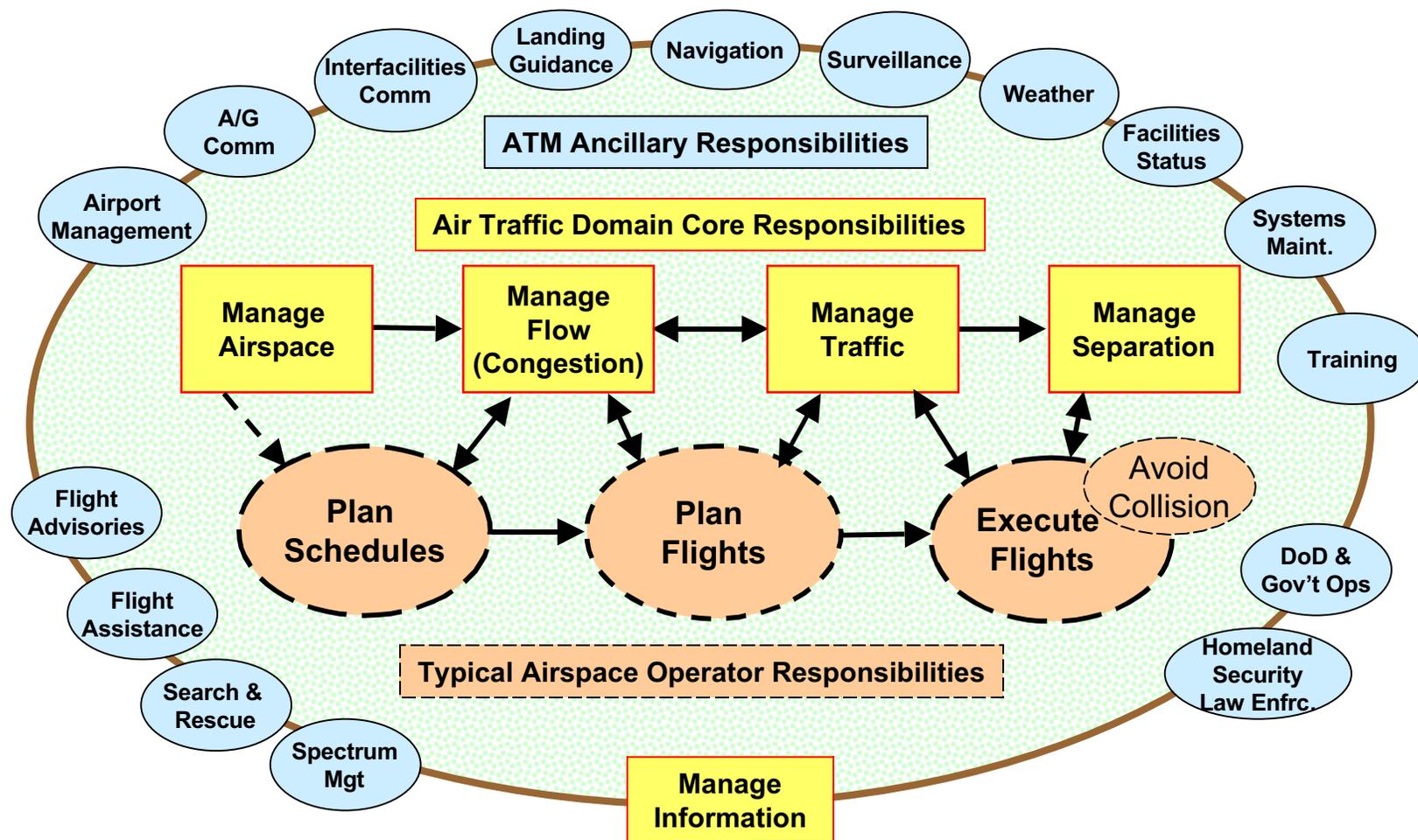
1. The ability to operate without a flight plan, except where flow restrictions may be imposed
2. The ability to operate without constraints, given suitable traffic densities
3. The Provision of Airplane-Based Separation Assurance

Capacity Increasing Concept Impact on Causes of Delay



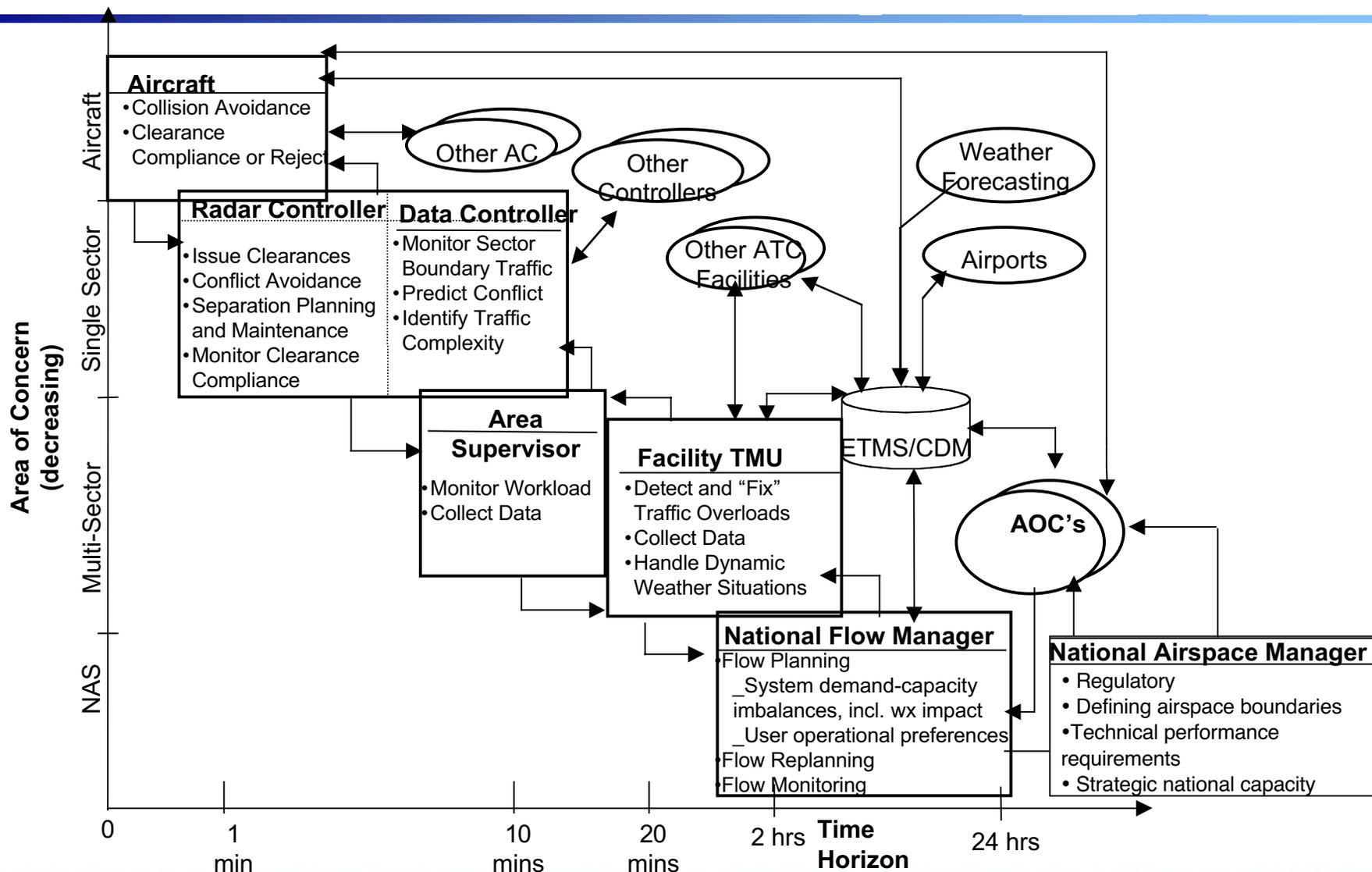
VMC – Visual Meteorological Conditions
 MVMC – Marginal Visual Meteorological Conditions
 IMC – Instrument Meteorological Conditions

ATM Operational Concept Functions

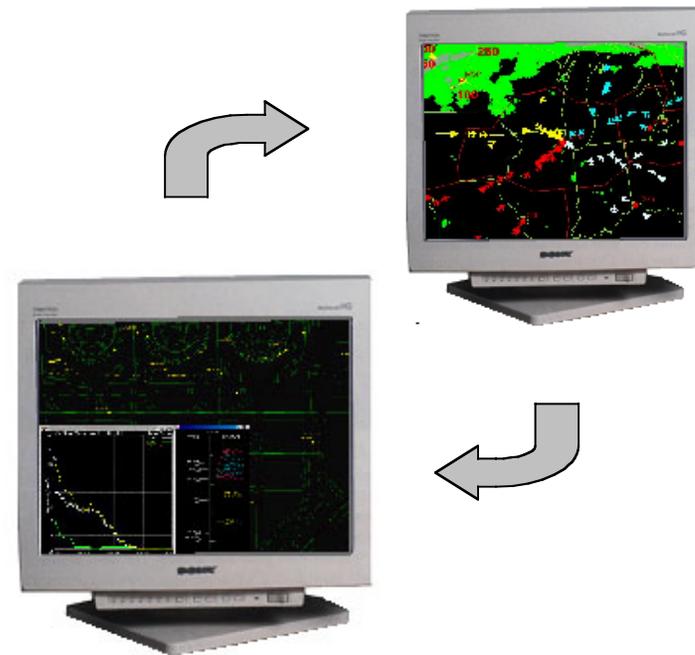
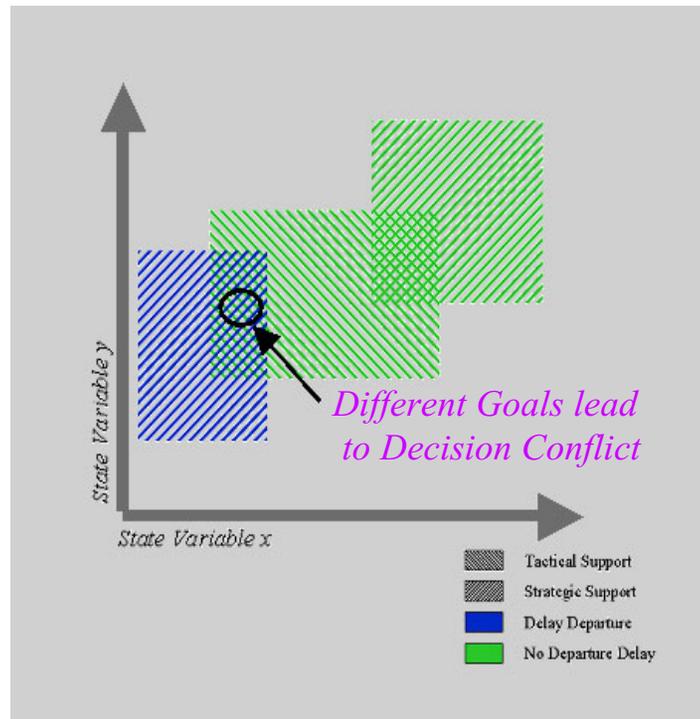


Manage = Monitor, Assess, Plan, and Execute

Current ATM Roles



Interoperability: Strategic and Tactical Domains



Using decision spaces and stability analysis we identify the goal driven interactions that define system communications

Trade Study Examples

•Planning Time Vs Predictability

- Looks at how far into the future the plan can be expected to be stable
- Impacts how far into the future trajectories are computed, how often the plan is recomputed, etc.

•Ground vs Air

- Looks at what subfunctions are allocated to the agent in the air vs the agent on the ground
- Impacts workload and cost of airborne and ground agents

•Human vs Machine

- Looks at workload and performance variables to decide which subfunctions are better done with humans vs added automation

ATM - Air Transportation Capacity Contract Increasing Surface Concept

