



**Federal Aviation
Administration**

Research to Ops Process Overview

Presented to: **Joint Interagency Wx Research Mtg**

By: **Tom MacPhail, AJP-68**

Date: **Jul 19, 2010**



RTO Background

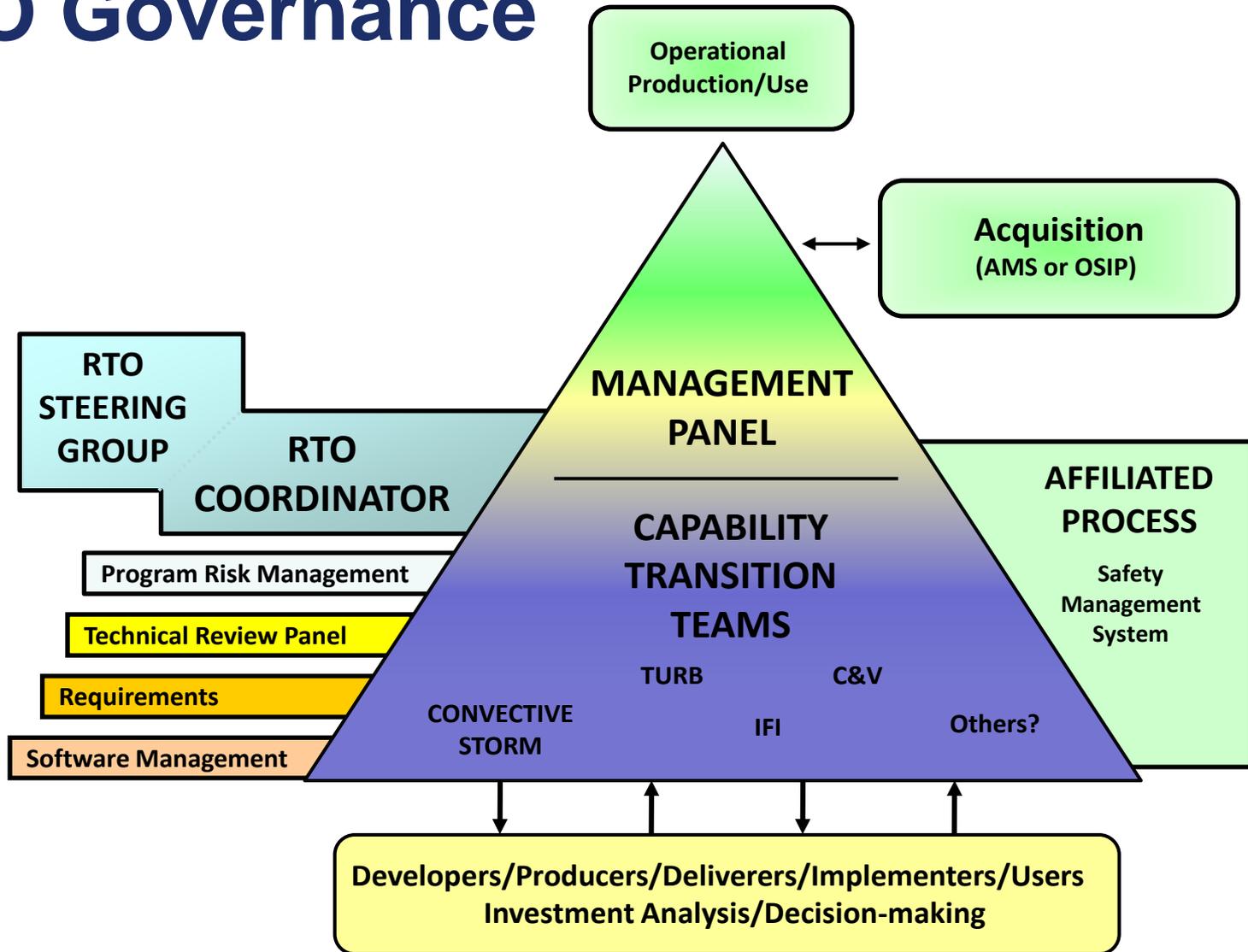
- RTO is a refinement of a prior transition process (AWTT) which is designed to:
 - Move mature weather capabilities into operational production more effectively and efficiently
 - Meet the intent of a Vicki Cox - Jack Hayes agreement to develop a "joint" FAA-NWS research transition process
 - Respond to a DOT IG recommendation to expand NASA's research transition team concept to NextGen weather program initiatives



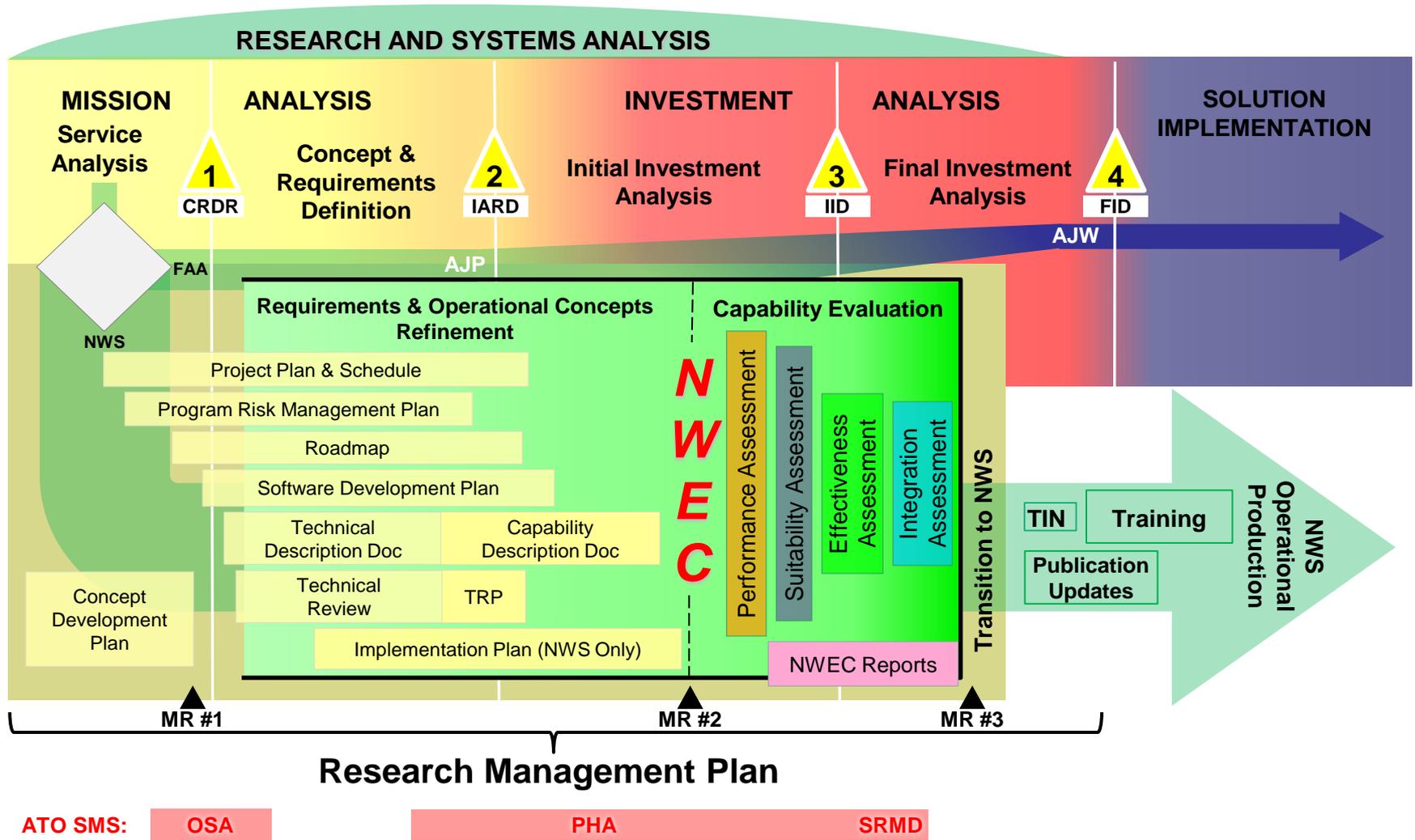
RTO Strategy

- Create **Capability Transition Teams (CTTs)** to manage development, evaluation and delivery of mature research
- Empower the CTTs to involve and gain buy-in from producers, users, stakeholders, FAA Tech Ops and Lines of Business so capability details and associated resource/infrastructure needs are identified early and documented in the **Research Management Plan (RMP)**
- Include Management Reviews (MRs) at critical development points so inter- and intra-agency issues can be identified and resolved ahead of potential schedule/funding impacts

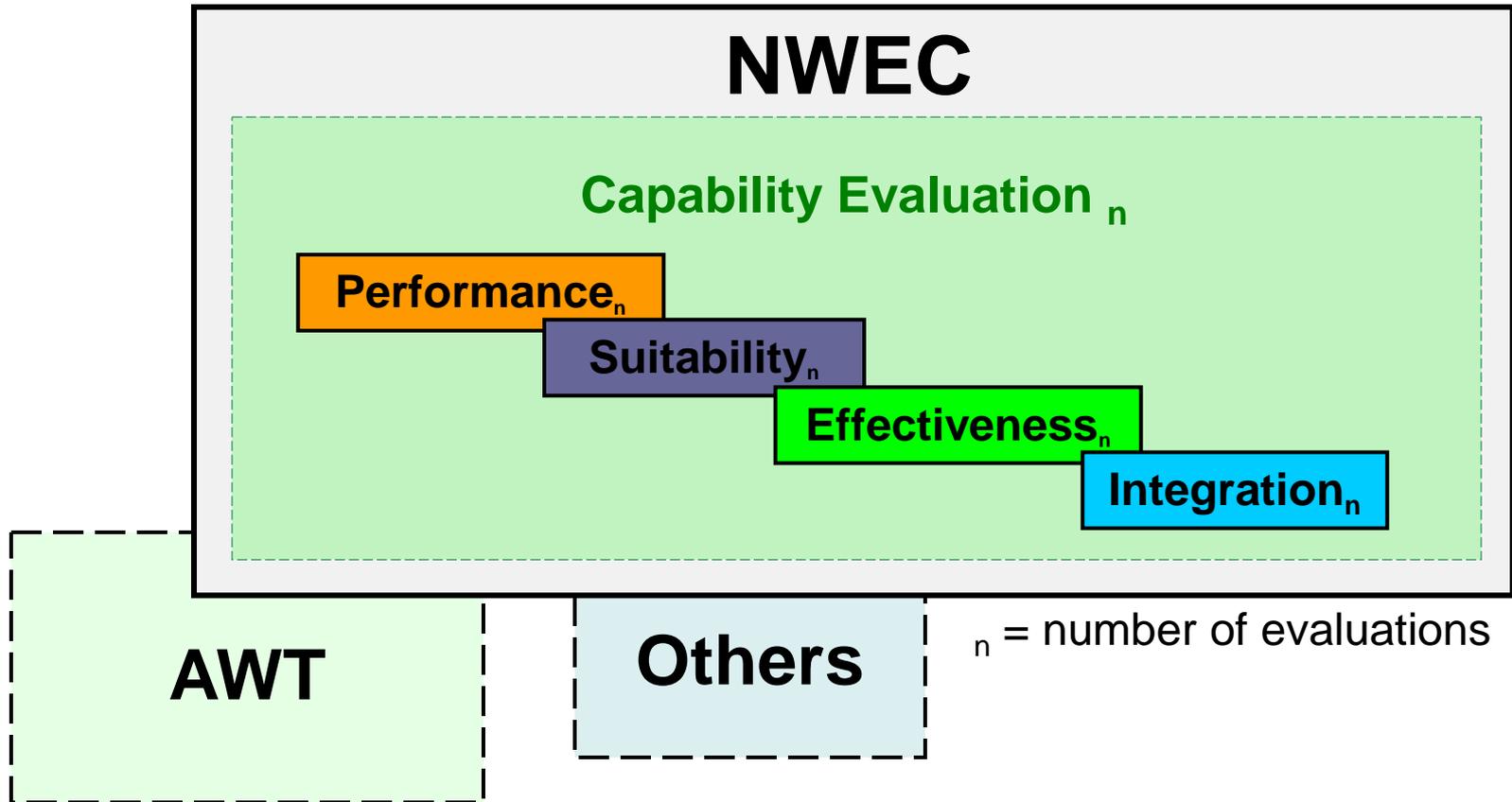
RTO Governance



The RTO Process



NWEC Capability Evaluation Activities



Capability Evaluation Completion

- Results produce artifacts for technical/performance reporting to the Acquisition Management System and user/producer agencies
- Validates that a proposed solution meets established performance criteria and is operationally suitable/sustainable
- Reports used at Management Review #3 to support decision-making on release of the capability for NWS operational production and use within the NAS



Key RTO Deliverables

- For MR #1:
 - **Concept Development Plan**
- For MR #2
 - **Research Management Plan (RMP)** which includes:
 - Program Risk Management Plan
 - Project Plan and Schedule
 - Software Development Plan
 - Technical Review Panel report
 - Capability Description Document
 - Implementation Plan
- For MR #3
 - NVEC Capability Evaluation Report(s)
 - Signed SRMD

Tough RTO Questions

- **The legacy transition process (AWTT) did some good things. Why are we scrapping it?**
 - RTO keeps successful attributes of AWTT:
 - Inter-agency collaboration
 - A “gate-like” approach with executive level approval at significant progress points
 - Research community involvement from the start



Tough RTO Questions

- **Previous transition processes would bog down with safety issues. Will this change?**
 - There is commitment to do appropriate Safety Risk Management Assessments earlier in the process
 - Safety SMEs will not just be handed a final product for evaluation, but instead be part of early solution planning, development and testing
 - ***Goal is to make SMS a stakeholder in the RTO process rather than a recipient of its final output***



Tough RTO Questions

- **Is this “R to Cube” or truly RTO?**
 - RMPs describe a series of solution deliverables that must meet the spectrum of requirements from the current operational environment to NextGen FOC.
 - NowGen and TransGen realities and complications must be considered and accounted for by nearer-term solutions
 - Later deliverables move closer to the NextGen vision
 - Rapid response, high priority operational “fixes” may struggle to use this process initially but RTO is designed to flexibly accommodate unique circumstances and lessons learned

RTO Challenges

- **Retirement of “legacy” products/methods**
 - Must be able to “prove” new capabilities are “better” in operationally-relevant terms
 - Regulatory processes always lag science and technology
 - Human inertia toward status quo can be hard to overcome
- **Broad aviation weather community involvement and resource commitment necessary for success**
 - CTT only as good as the degree of involvement by producers, users, stakeholders, and appropriate subject matter experts
 - RTO meetings, user forums, prototype testing, and other activities will require a commitment of people and travel dollars



QUESTIONS?

