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Combined Test Operations Expanding Efficiencies and Effectiveness



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Combined Test Operations Overview



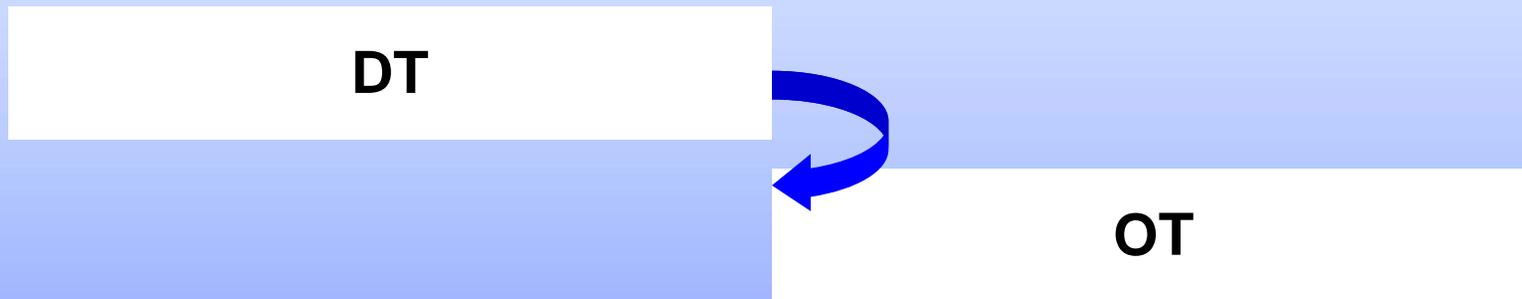
- Past vs. Future Test Strategy
- Combined Test Organization
- Planning Organizational Concept
- Execution Organizational Concept
- Combined Test Efficiencies
- Combined Test Effectiveness
- Combined Mission Types
- Major Issues
- Conclusion



Contrast of Traditional vs. Future Test Strategy



Traditional



Combined Test



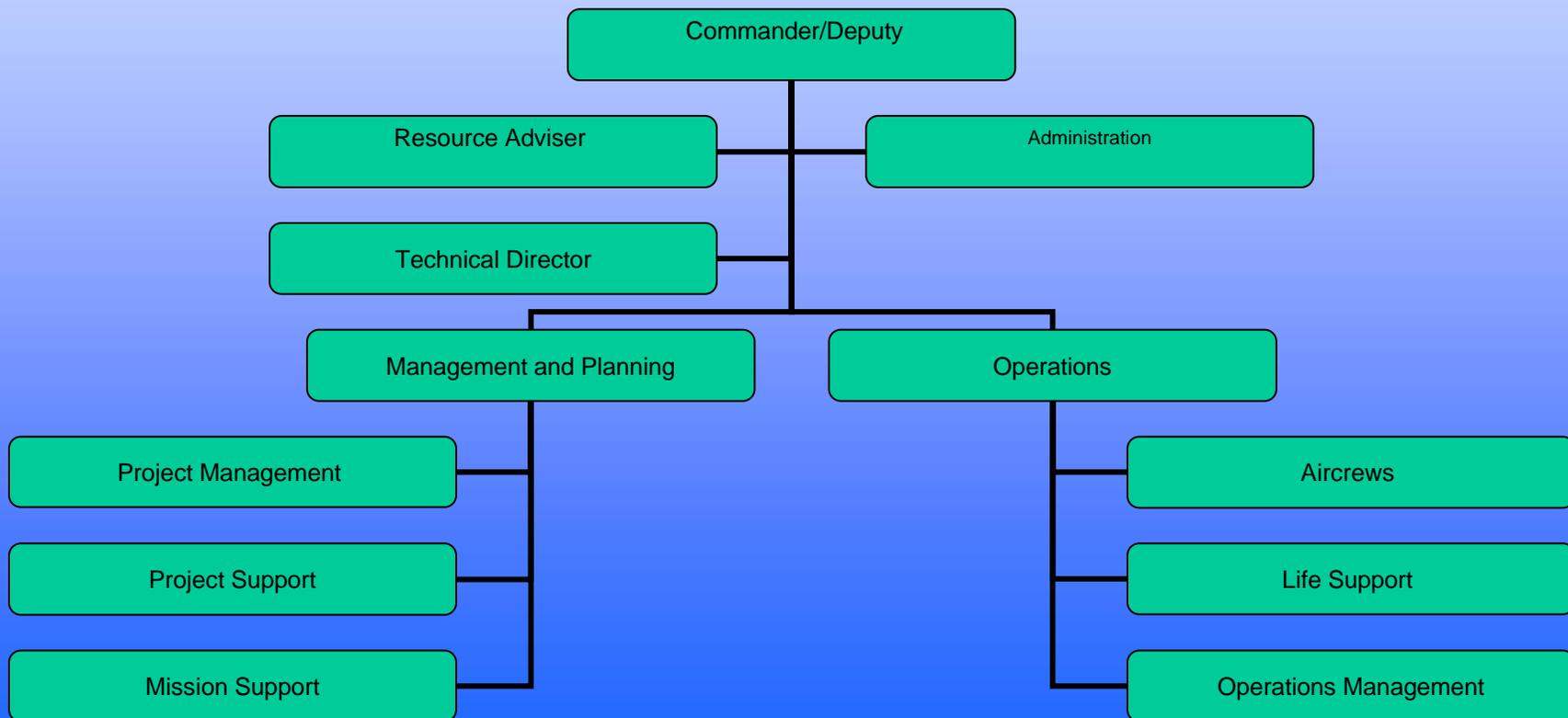
- Meets “Seamless Verification” Charter
- Efficient and Effective



Combined Planning and Execution Organization

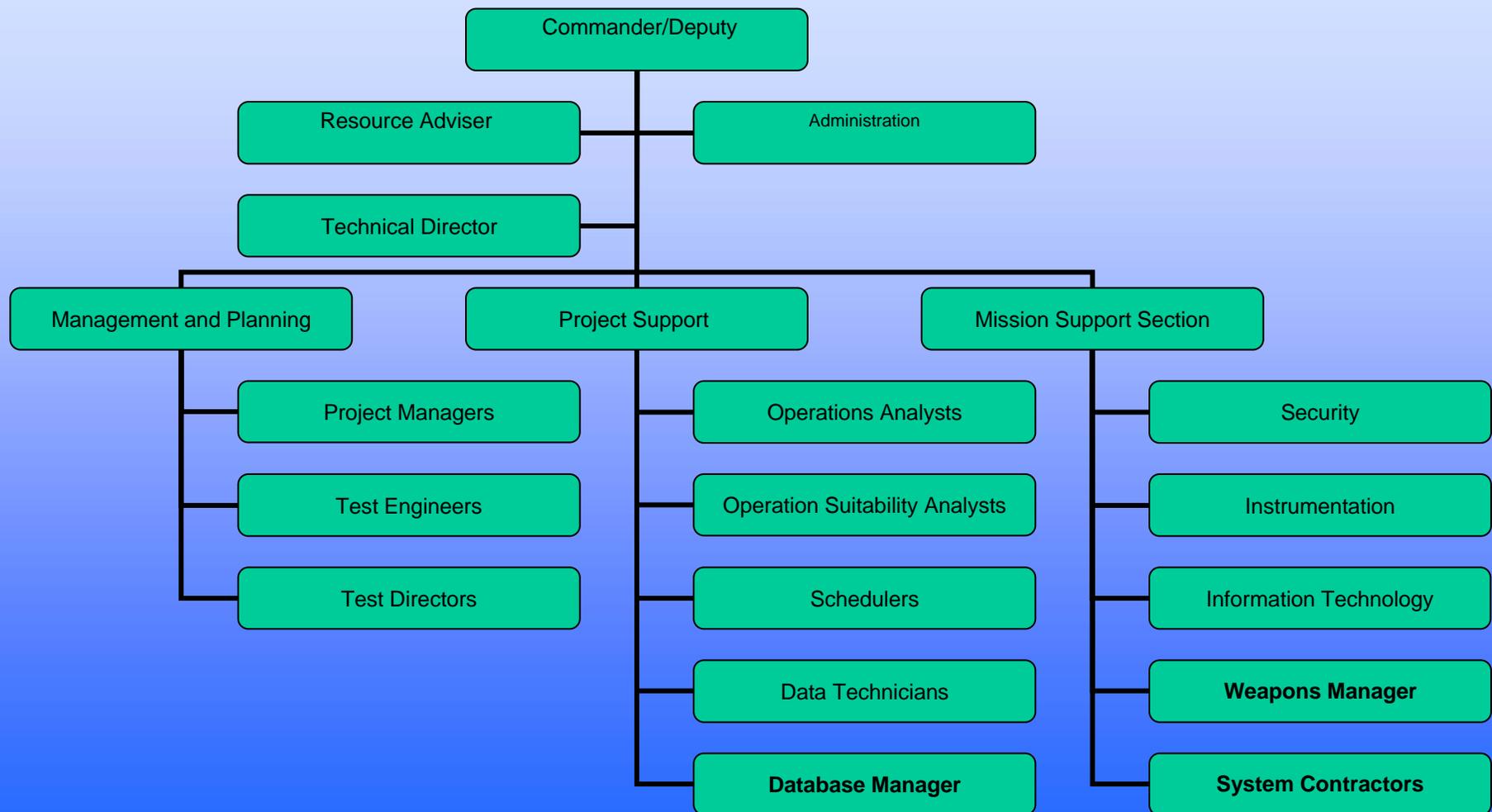


- **Mission** - Capability to simultaneously manage and execute aircraft Suite upgrade testing with 3-5 smaller scale/short duration test programs in either the planning, execution, or reporting stages.





Organizational Concept Planning and Management





Planning Cycle



- **Initial planning – 3 to 4 years out**
 - **Requirements set by ACC/A8 and AESG with system and aircraft contractors inputs**
 - **Hardware and software**
 - **Funding**
 - **Schedule**
 - **Modifications and Flight Test**
- **Near Term Planning – 2 years to start test**
 - **Test Organizations involved in planning**
 - **Contractor lab testing begins (one year)**
 - **Aircraft Modifications begins (6-9 months)**
 - **Administrative processes begin (4-6 months)**
 - **Flight test starts**



Combined Test Organization Execution Element



- **Mission:** Capability to support F-15C/F-15E Suite upgrade testing with a minimum of a 2 turn 2 for each MDS on a daily basis. Provide internal DT (SOF, Seek Eagle) and OT (FDE, OUE, LFE) capability with possessed aircrews and aircraft.
- **Execution Squadron Requirements:**
 - **Aircraft**
 - 6 F-15C/D
 - 6 F-15E
 - **Configuration**
 - Instrumentation- Similar for each MDS
 - Full A/A and A/G capability
 - **Manning/Qualifications** (9 aircrews per MDS- 1.5 manning rate)
 - 2 TPS qualified aircrews for each MDS
 - 2 FWIC graduate aircrews (minimum) for each MDS
 - All pilots 4 ship flight lead/Instructor qualified
 - All WSO's instructor qualified
 - All aircrews are full ACBT, LOWAT, and Special Weapons qualified
- **Training will focus on maintaining currencies and upgrades**



Notional Test Progression Example



- **A/G GP Regression**
 - **DT verification**
 - **DT specific points**
 - **OT clearance**
 - **Continued development (DT) and development support from OT assets**
 - **“Fly, Fix/Develop, Fly”**
 - **Majority of test missions and test points covered in this phase.**
 - **FDE- Evaluation of production item (hardware or software)**



Combined Test Efficiencies



- “True” integration of limited DT and OT assets for combined testing efficiencies
 - Increases test planning and execution efficiencies
 - One PM- One Team
 - Specific runs from test matrix are tailored to mission
 - Both DT and OT points covered
 - Data will support both DT and OT objectives
 - Costs are reduced- assets are shared
 - Funds centrally managed from both OT/DT sources
 - Range costs reduced
 - Sorties reduced- missions designed to maximize test points



Combined Test Effectiveness



- **Exploit advantages of combined test management and execution team at a single location.**
 - **Increases test effectiveness**
 - **Improved communication and education**
 - **DT engineers have immediate access to people who set operational requirements**
- **Form test teams that exploits diverse skills and perspectives of DT and OT personnel**
 - **DT phases of test can integrate operational priorities and concerns**
 - **OT phase of test can use DT expertise for more robust test design, data analysis, and fault isolation**
 - **OT actively involved in development before FDE**
 - **Identify and correct key performance issues early in test**



Mission Types



- **Hard Requirements**
 - **Safety of Flight/Seek Eagle will be flown by TPS crews**
 - **DT/DT Support flown by all aircrews – test points are operationally representative to the maximum extent**
 - **Tactics/LFE missions flown by trained and current aircrews**
- **Combined DT/OT will support specific mission types**
 - **A/G and A/A regression**
 - **New Features**
 - **Side-by-side comparisons – LANTIRN vs. SNIPER**
 - **Can differentiate between A/C and OFP problems**
 - **75% to 80% of all missions can be flown combined**



Major Issues



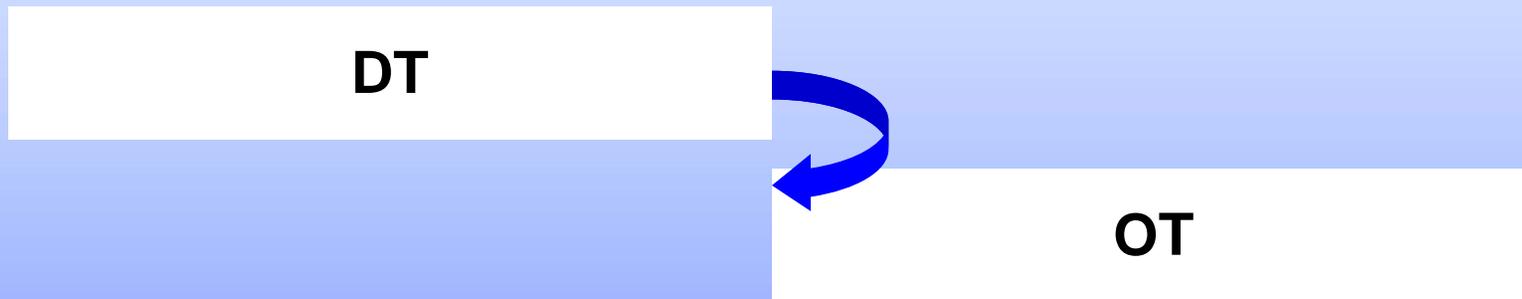
- **MAJCOM - Centralized Management is required**
 - **ACC or AFMC**
 - **Management/ Execution- practical and philosophical differences must be addressed**
 - **Funding – from one or multiple sources/programs**
 - **Personnel - Mix of both commands**
 - **Organization – by MDS (F-15, F-16, etc.)**
 - **Separate management and execution arms**
 - **Combined – all functions in one organization**
 - **Maintenance – internal or external**
 - **Munitions- one account (test and training)**
 - **Currencies/Training– must be factored into schedule**



Why it Matters – Bottom Line



Past



Proposed



- Smart testing is our goal!



CONCLUSION



Questions and Comments