

## E-3 Airborne Warning and Control System 40/45

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### Executive Summary

- Milestone C and the full-rate production decision are scheduled for 4QFY07.
- The Air Force has not submitted a Block 40/45 interoperability key performance parameter for validation by the Joint Requirements Oversight Council.
- The U.S. Air Force must begin Modeling and Simulation (M&S) verification and validation efforts to prepare for IOT&E.

### System

- The E-3 Airborne Warning and Control System 40/45 replaces the entire mission computing system in the existing E-3C Airborne Warning and Control System. It:
  - Transitions to a modern network of servers
  - Does a total replacement of the software
  - Implements multi-sensor integration to present the warfighter with a single track for each target
- Single cabinet upgrade will provide all E-3s with the same S-band radar that provides pulse Doppler, beyond-the-horizon, and a maritime surveillance radar capability.



- Electronic support measures upgrades will provide improved combat identification capabilities.

### Mission

- The Joint Forces Air Component Commander uses the E-3 to provide:
  - Air surveillance and airborne early warning
  - Command and control for air combat missions, including air defense and strike missions

### Activity

- The Block 40/45 program is in System Design and Development, and the test bed E-3C aircraft (TS-3) was modified for developmental and operational testing. Milestone C and the full-rate production decision are scheduled for 4QFY07.
- The program is making extensive use of M&S to test new software functionality and to solicit user input on new software and its user interface.

### Assessment

- The program has an extremely success-oriented schedule to support meeting a 2010 initial operational capabilities date.

- IOT&E will use appropriately accredited M&S tools.
  - The Air Force has not yet begun verification and validation of critical components of the M&S architecture.
  - If M&S is not accredited, increased flight testing will be required.

### Recommendation

1. The Air Force should begin the verification and validation effort of the required M&S as soon as possible.

# AIR FORCE PROGRAMS