

12<sup>th</sup> ICCRTS  
“Adapting C2 to the 21<sup>st</sup> Century”

The U.S. Air Force’s  
Technical Implementation Architecture (TIA)

Track 8: C2 Technologies and Systems  
Track 1: C2 Concepts, Theory and Policy  
Track 5: Organizational Issues

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## ABSTRACT

This paper provides an introduction to the Air Force's Technical Implementation Architecture (TIA) effort. The Technical Implementation Architecture (TIA) is an initiative to define, provide and implement a single technical architecture for Air Force C2 information systems. The TIA is a collaborative effort among many Air Force stakeholders.

## OUTLINE

Introduction: The Technical Implementation Architecture (TIA) is an initiative to define, provide and implement a single technical architecture for Air Force C2 information systems. The TIA is a collaborative effort among the Air Force Electronic Systems Center (ESC); Air Force CIO (SAF/XC); Air Force Command, Control, Intelligence, Surveillance, Reconnaissance Center (AFC2ISRC), Air Mobility Command (AMC), Air Force Space Command (AFSPACE), Air Force Research Labs (AFRL) and other stakeholders.

- This effort was initiated in response to an action item from the May 2006 Air Force C2 General Officers Steering Group (GOSG).
  - Assess Air Force C2 architectures and identify "best of breed" attributes.
  - Document a migration path to a single architecture that embraces these best of breed attributes.
- The TIA is based upon the fundamental principles of net-centricity and Service Oriented Architecture (SOA).
- The TIA objectives include:
  - Agility: Enable C2 systems to adapt to changing requirements
  - Interoperability: Provide standards for information exchange
  - Economies of Scale: Reduce resource requirements (dollars and manpower)
- The TIA consists of:
  - A technical architecture blueprint (a graphical depiction of layers and components).
  - Documentation of the specific protocols, standards, and solutions required to implement the architecture.
  - Contract language template with requirements for implementing the architecture.
  - A governance body construct for enforcing and evolving the architecture.
- The TIA is supported by the Common Infrastructure (CI) activities at ESC that assess and document:
  - Candidate commercial solutions for the architecture (or parts thereof).
  - Interoperability testing among candidate products.
  - Pre-qualified products for the Air Force enterprise.
- The TIA exploits the CI tenets:
  - Provide a small number of local infrastructure stacks for Air Force use
  - Buy integrated from the vendor – no special configurations unless necessary
  - Focus on interoperability across local infrastructures
- The TIA was endorsed by the Air Force C2 GOSG on 7 November 2006.
- The TIA should be considered as a pathfinder for an overall DoD approach to provide computing infrastructure.