



# **Tenth Annual Executive Forum on Modeling and Simulation**

**May 29-31, 2001**

## **Joint Modeling and Simulation System (JMASS) Program Brief**

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**REPORT DOCUMENTATION PAGE**

Form Approved OMB No.  
0704-0188

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<b>1. REPORT DATE (DD-MM-YYYY)</b> 29-05-2001	<b>2. REPORT TYPE</b> Briefing	<b>3. DATES COVERED (FROM - TO)</b> xx-xx-2001 to xx-xx-2001
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<b>4. TITLE AND SUBTITLE</b> Joint Modeling and Simulation System (JMASS) Program Brief Unclassified	<b>5a. CONTRACT NUMBER</b>
	<b>5b. GRANT NUMBER</b>
	<b>5c. PROGRAM ELEMENT NUMBER</b>

<b>6. AUTHOR(S)</b> Faye, Phil ;	<b>5d. PROJECT NUMBER</b>
	<b>5e. TASK NUMBER</b>
	<b>5f. WORK UNIT NUMBER</b>

<b>7. PERFORMING ORGANIZATION NAME AND ADDRESS</b> ESC/CXC XXXXX, XXXXXXX	<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b>
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<b>9. SPONSORING/MONITORING AGENCY NAME AND ADDRESS</b> United States Department of Defense Defense Modeling and Simulation Office 1901 N. Beauregard Street, Suite 500 Alexandria, VA22311-1705	<b>10. SPONSOR/MONITOR'S ACRONYM(S)</b>
	<b>11. SPONSOR/MONITOR'S REPORT NUMBER(S)</b>

<b>12. DISTRIBUTION/AVAILABILITY STATEMENT</b> APUBLIC RELEASE
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<b>13. SUPPLEMENTARY NOTES</b>
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<b>14. ABSTRACT</b> ? Designated Acquisition Commander (DAC) responsibility is transferring to Electronic Systems Center, Hanscom AFB (pending formal SAF/AQ approval) ? Further consolidates ESC/CC DAC Enterprise Management responsibilities--provides synergy with other existing ESC M&S programs ? Joint Program Office to remain at Wright-Patterson AFB ESC?s Role
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<b>15. SUBJECT TERMS</b>
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<b>16. SECURITY CLASSIFICATION OF:</b>	<b>17. LIMITATION OF ABSTRACT</b> Public Release	<b>18. NUMBER OF PAGES</b> 11	<b>19. NAME OF RESPONSIBLE PERSON</b> Fenster, Lynn lfenster@dtic.mil
	a. REPORT Unclassified	b. ABSTRACT Unclassified	c. THIS PAGE Unclassified

			<b>19b. TELEPHONE NUMBER</b> International Area Code Area Code Telephone Number 703767-9007 DSN 427-9007
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# ESC's Role

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- **Designated Acquisition Commander (DAC) responsibility is transferring to Electronic Systems Center, Hanscom AFB (pending formal SAF/AQ approval)**
  - **Further consolidates ESC/CC DAC Enterprise Management responsibilities--provides synergy with other existing ESC M&S programs**
  - **Joint Program Office to remain at Wright-Patterson AFB**



# System Description

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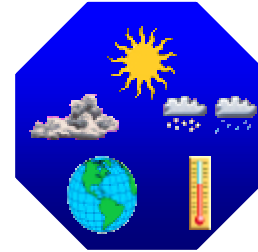
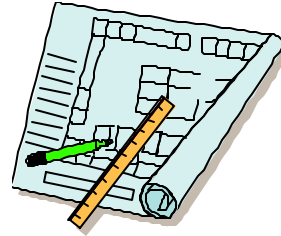
- **JMASS is an Air Force led joint program that provides an integrated systems-level software architecture product that supports DoD modeling and simulation analysis**
  - **Architecture consists of interface standards, tools and services that outline a set of guidelines for building JMASS compliant models (red, blue and environment)**
  - **Provides standard structure for designing and executing simulations and their component models**



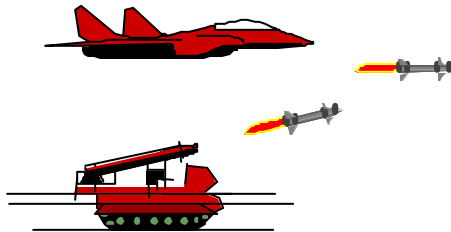
# System Description

## The JMASS System

Legacy Model Functions



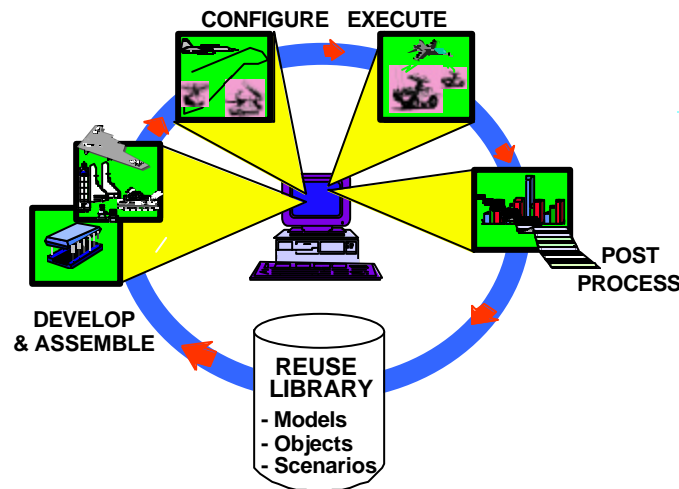
Environments



Red Threat Models



Blue Models



JMASS architecture facilitates model development & simulation configuration/execution



# Benefits of JMASS

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- **Fosters greater model reuse and interoperability**
  - Models interchangeable across joint warfare domains
  - Changes to one model do not impact validity of other models in same simulation
  - Allows multiple model fidelity levels with consistency throughout
- **DIA-validated threat models available**

**No other COTS/GOTS software package meets the JMASS requirements**



# Program Status

## “Quick Look”

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- **JMASS 5.1 final delivery--Jun 01**
  - Incorporates high fidelity RF environment, real time execution on SGI platform
  - Supports Initial Operational Capability (IOC) demonstrations (Jun-Sep 01)
    - Tri-Service weapon system engagement scenarios using JMASS-compliant Blue and DIA-validated threat models
    - HLA interoperability patch available Jul 01
- **JMASS contracts awarded Dec 00 to deliver final two architecture releases (JMASS 6.0/7.0). Includes:**
  - Distributed processing
  - Generic real-time scheduler for use on all platforms
  - Generic Electronic Countermeasures player
  - N-point scatter in the RF environment
  - 2D/3D contour maps for terrain, atmosphere and ocean data
  - Multiple usability enhancements



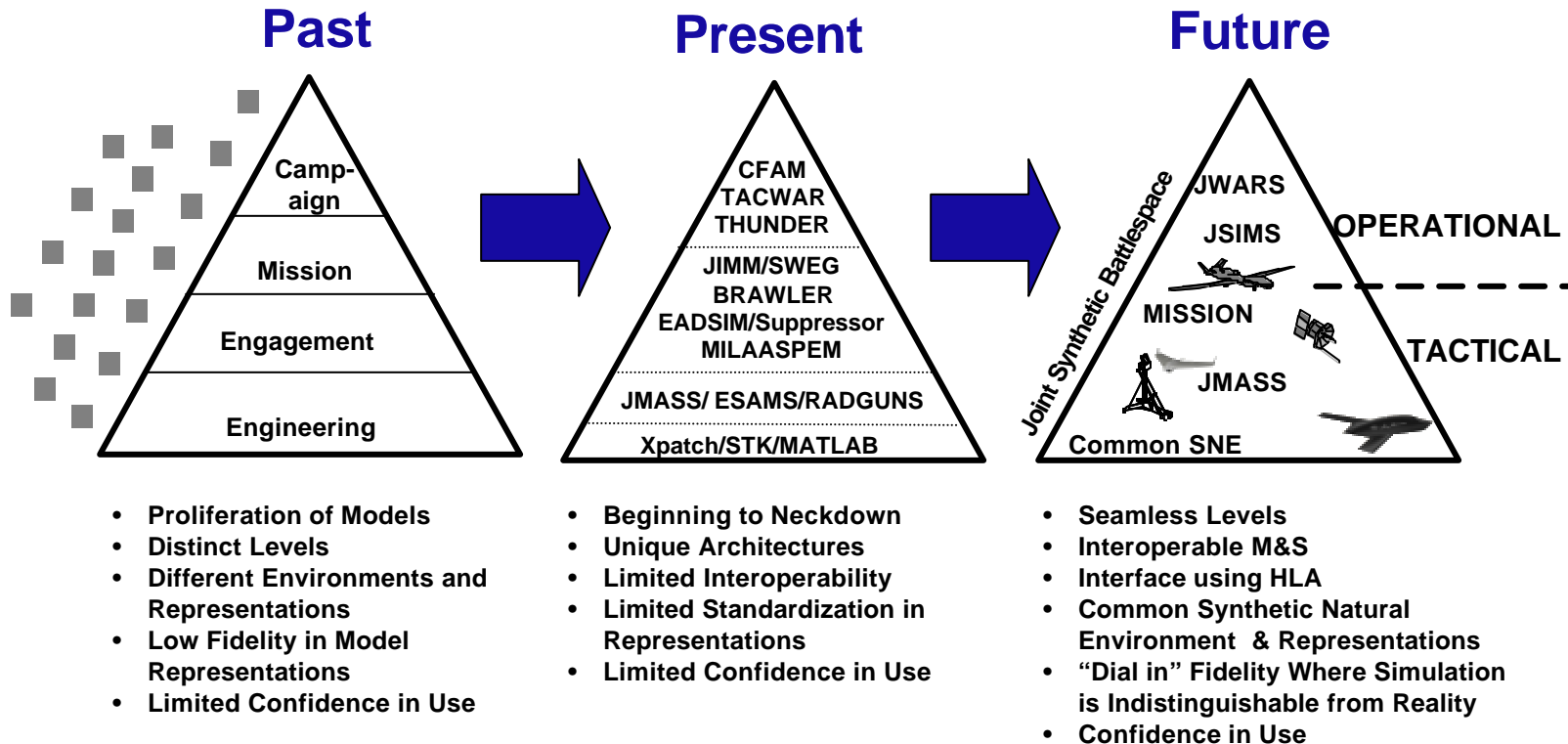
# JMASS Users

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- **Analysts**
- **Model Developers (Red, Blue, Environment)**
- **Open Air Ranges (China Lake, Edwards, Eglin)**
- **Several System Program Offices**
- **IOC Test Sites (AF, Army, and Navy)**
- **Contractors (Architecture, Tools, Models)**



# M&S of Tomorrow



**The M&S of Tomorrow is Moving Toward a Single Architecture With A Commonly Defined Synthetic Environment, Representations, and Scenarios That Allows Seamless Analyses Across the Full System Acquisition Life Cycle**



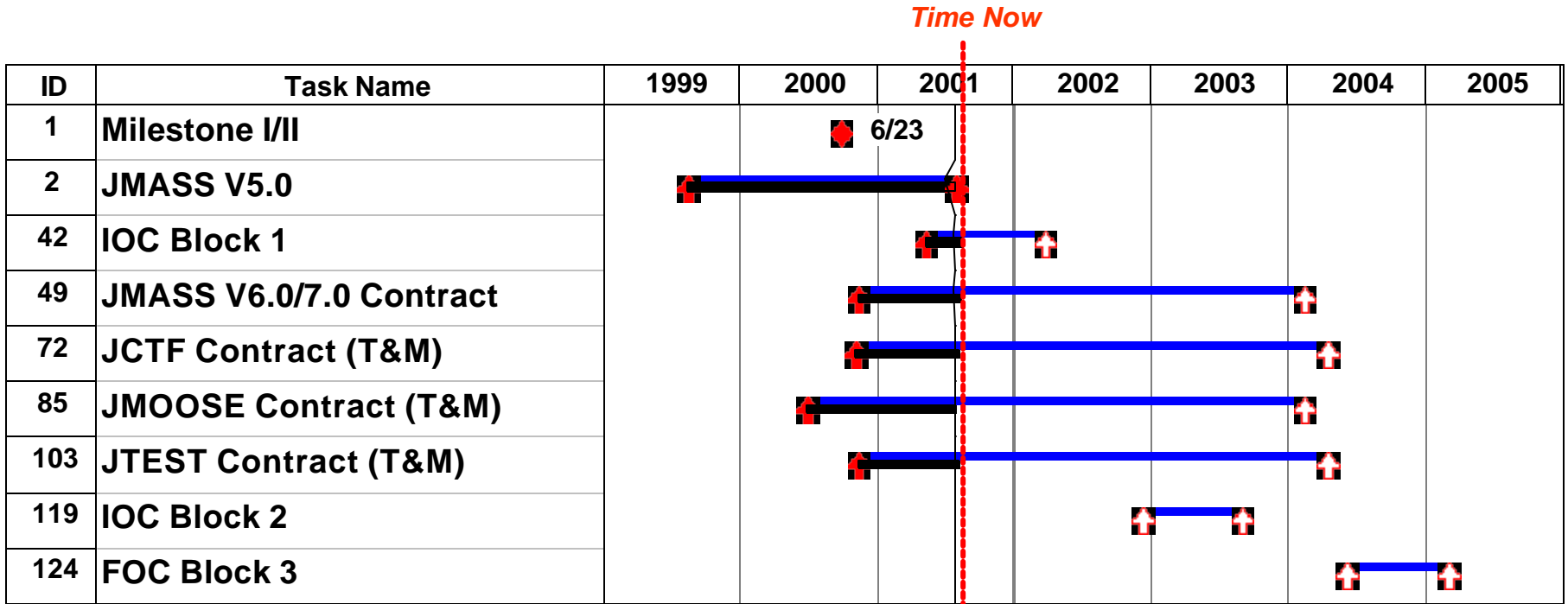
# BACKUP

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# Program Status

## Schedule (FY)



- IOC Block 1 decision - Dec 01
- IOC Block 2 decision - May 03
- V 6.0 release - Sep 02
- V 7.0 release - Dec 03
- FOC Block 3 decision - Nov 04



# DIA Threat Models

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- **MSIC**
  - 17 RF SAMs (analytic and EC-capable)
    - SA-2, SA-3, SA-5, SA-6, SA-8, SA-10, SA-11, SA-12, SA-15, SA-20, ROLAND II
  - IR SAM (SA-7) in development
- **NAIC**
  - Su-27, MiG-29, Rafale and associate radars and air-air missiles
- **ONI**
  - Anti-ship missile
- **NGIC**
  - ZSU 23-4