National Modeling and Simulation Coalition (NM&SC) - Inaugural Congress Event -

After-Action Brief to NDIA SE M&S Committee
21 February 2012
W. F. Waite on behalf of NM&SC Advisory Board
M&S as a National Opportunity

Range of M&S Application Domains
Circumstance and Need

• M&S is an emerging discipline, profession, industry and marketplace
• M&S diversity is common:
  – Many kinds of simulation, application domains, and simulation uses exist
  – Many simulation organizations exist
• M&S collaboration needs improvement:
  – technology is stove-piped,
  – professional certification is irregular,
  – the industry is not generally / globally recognized, and
  – markets are balkanized by application domain
• We can do better TOGETHER.
National M&S Coalition
Organization Charter

• Vision:

The National Modeling & Simulation Coalition is the capstone organization to promote and leverage Modeling and Simulation (M&S) to better the human condition and to strengthen the National well-being.
• **Description:**

It is an unincorporated, voluntary, nonprofit coalition sponsored by and composed of government, industrial and educational organizations and professional societies having a common interest in the purpose to be served by the Coalition as set forth herein.
National M&S Coalition Organization Charter

• Mission:

The mission of the National Modeling & Simulation Coalition (NMSC) is to create a unified national community of individuals and organizations around the M&S discipline and professional practice and to be the principal advocate for M&S.
A Roundtable on the Future of the Modeling and Simulation Profession, Industry, and Marketplace
M&S Agenda Coordination

**M&S TECHNOLOGY**
- Data Management
- Conceptual Modeling
- Composability
- Architecture Management
- Research Agenda
- Capabilities-Based Acquisition
- Standards
- Event Coordination
- Inter-Industry Collaboration
- Intrusion-Industry Collaboration

**M&S PROFESSIONAL DEVELOPMENT**
- Education
- Code of Ethics
- BOK Specification
- Professional Certification
- Labor Classification Codes
- Procurement Guidance
- Economics of M&S

**M&S INDUSTRIAL DEVELOPMENT**
- Business Case Specification

**M&S BUSINESS PRACTICE**
NM&SC Standing Committees

• Technology, Research and Development
  ... focused on promoting research in and development of the technical applications of M&S and the definition, instantiation, and implementation of a strong, collaborative research agenda.

• Education/Professional Development
  ... focused on establishing common educational standards, curricula, professional certifications, guidelines for the profession, and an M&S body of knowledge index.
• Industrial Development
  ... focused on ways to include the existing organizations using and integrating M&S, with their roles, relationships and inter-relationships across content domains.

• Business Practice
  ... focused on the policies and business processes that are most relevant to the integration and use of modeling and simulation technologies
• Communications/Outreach
  ... focused on communicating a consistent, well articulated message across all M&S disciplines and to provide outreach for the priorities established by the NMSC.
National Modeling and Simulation Coalition (NMSC)
Inaugural Congress
6 February 2012
L-Enfant Plaza Hotel, Washington DC

Sunday, 5 February 2012
4:00pm – 6:00pm Registration Open
6:00pm - 8:00pm Sponsor Reception, Performance by Young Singers, Pensacola, FL

Monday, 6 February 2012
6:30am – 6:00pm Registration Open
6:30am – 8:00am Continental Breakfast
7:30am – 8:00am Musical Celebration, Performance by United States Air Force Brass Quintet
8:00am - 8:30am Opening Ceremonies
Presentation of the Colors, United States Air Force National Anthem, Performed by CAPT Nelson Jackson (Ret), USN
Musical Celebration, Performance by Young Singers, Pensacola, FL
8:30am - 8:45am Welcome and Call to Order
RADM Fred Lewis (Ret), USN
President of NTSA
8:45am - 9:15am Congressional Delegation
9:15am - 9:30am Proclamation of Organization and Ribbon Cutting
9:30am - 10:00am Keynote Address - Mr. Aneesh Chopra
Chief Technology Officer, United States of America
10:00am - 10:15am break
10:15am - 12:00pm Visionary Perspectives on Modeling and Simulation
Moderator - Dr. John Sokolowski, VMASC/Old Dominion University
Dr. Jim Davis, UCLA and Smart Process Manufacturing Leadership Council
Dr. David Gaba, Stanford Medical School
Mr. Robert Gehorsam, Image Metrics
Dr. Sridhar Kota, White House Office and Science and Technology Policy
Mr. Tom Large, Urban Capacity Organization, Proctor and Gamble
Dr. Ajit Sachdeva, American College of Surgeons

Agenda as of 30 January 2012
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• Congressional Delegation – Representative Randy Forbes
  Chairman, U. S. House of Representatives Caucus on Modeling and Simulation

• Keynote Address - Mr. Aneesh Chopra
  Chief Technology Officer, United States of America
NM&SC Inaugural Congress
6 February 2012

Visionary Perspectives on Modeling and Simulation

• Dr. Jim Davis, UCLA and Smart Process Manufacturing Leadership Council
• Dr. David Gaba, Stanford Medical School
• Mr. Robert Gehorsam, Image Metrics
• Dr. Sridhar Kota, White House Office and Science and Technology Policy
• Mr. Tom Lange, Global Capability Organization, Proctor and Gamble
• Dr. Ajit Sachdeva, American College of Surgeon, Satava, University of Washington
Establishing a Collaborative National Action Plan

- Dr. George Adams, Manufacturing Hub, Purdue University
- Ms. Nancy Conrad, Innovation Nation
- Mr. Stefano de Ponti, Dallara Racing (Invited)
- Mr. Frank DiGiovanni, Office of the Deputy Assistant Secretary of Defense (Readiness)
- Mr. John Kenney, TRAX International
- Dr. Richard Satava, University of Washington
Issues:

- What part of the DoD methodology for simulation interoperability is reusable across other domains?
- What should the modeling and simulation body of knowledge contain?

Next Steps:

- Explore a method for sharing Modeling & Simulation technology in a broad sense
  - Wikipedia/Angie’s List concept
- Define incentives for contributing content
Education and Professional Development – Key Points

- Review/revise committee definition in charter
  - Much broader than STEM; areas such as HR, business, ...

- We don’t understand M&S profession well enough
  - M&S technology/tool developers
  - M&S used to learn the unknown
  - M&S used to teach the known to others

- We need to better articulate the value of M&S (e.g., ROI)
  - Develop stories, elevator speech, testimonials (collaborate with other committees)
  - Work with outreach committee
Education and Professional Development – Key Points

• K-12 education very important
  – M&S broadly applicable to common curriculum

• Need to educate the educators
  – Develop materials to support educators
  – Mentors in classroom

• University curriculum needs to have broader incorporation of M&S
  – ABET sometimes constrains curriculum
Education and Professional Development – Action

- Define the M&S profession
  - Build on prior efforts to broaden community
  - Define common taxonomy
  - Domain dependent vs. domain independent aspects

- Get the M&S NAICS code approved!
  - Work with business practice

- Develop framework and roadmap for developing action items

- Review, broaden, expand M&S certification process
  - Differentiate between common core and domain specific aspects

- M&S clearinghouse to know what’s there
Issues:

• Campaign to promote image of M&S; market
  – capture success stories...and TELL THEM
• Support the M&S Commission
• Consider a concept for a compendium/library of models
• Investigate how to protect IP
• Support efforts to get NAICS approved
Industrial Development
- Standing Committee Out Brief -

Next Steps:

• Appoint permanent Chair
• Identify interested Standing Committee Members
• Monthly Telecoms
• Action Plan by October meeting
• Focus each meeting on specific industry area
## AGENDA TOPICS

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• **Goal:** Understand the business practices and identify means of improvement

• **Actions:**
  – Understand key components, dynamics, processes, and players of M&S ‘market’
  – Pursue NAICS Codes

• **Product:**
  – Case study review of similarities across domains
  – Communicate value of M&S to relevant stakeholders...business case template
• Can’t articulate message – tag line, charter, etc.
• Identify NMSC users/customers
  • NMSC Boards, Committees, Sponsors, Members
  • Cross cut with other standing committees
  • Business sectors, government, academia, professional societies
  • Value proposition unique to each sector and common to the coalition
• Develop outreach strategy with goals
• Appoint detailed leads/volunteers to prepare for Oct meeting
• Commit to development and funding multi-year strategy and plans
• Agree with charter description for this committee
U.S. National M&S Coalition Campaign

- TECHNICAL ACTIVITIES
- WORKFORCE DEVELOPMENT ACTIVITIES
- ORG RELS ACTIVITIES
- BUSINESS PRACTICE ACTIVITIES
- TIME ➔
Creation of an M&S Congressional Commission

THE TIME IS RIGHT FOR A NATIONAL COMMISSION ON M&S:
- DoD will increasingly need to fulfill its mission with fewer capital resources
- M&S is an enabling tool that will allow DoD to do “more with less”

PURPOSE OF THE COMMISSION:
- The M&S Commission would drive the systematic use of M&S into all facets of DoD operations ... 'and beyond'

FOCUS OF THE COMMISSION/STUDY:
- The goal would be to greatly expand opportunities for M&S within DoD ... and possibly within other federal agencies

BASED ON THE SUCCESSFUL MODEL OF “THE COMMISSION ON THE FUTURE OF THE U.S. AEROSPACE INDUSTRY”:
- Year-long, staffed Commission formed by Congress in 2001
- The commission developed actionable recommendations, many of which were implemented into law

Invitation to Comment or … to Join NM&SC
M&S Caucus

Purpose of the Caucus?
The Caucus will showcase M&S initiatives, promote the M&S industry, and will be a forum to understand the policy challenges facing this growing and versatile technology.

http://forbes.house.gov/Biography/MSCaucus.htm