



Defense Systems Systems Engineering

Keynote Address

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Current Situation

What we need to do better

Requirements

- Adapting to changing conditions
- Matching operational needs with systems solutions
- Overcoming biases of Services and others
- Moving to transform military

PPBES

- Laying analytical foundation for budget
- Aligning budgets with acquisition decisions

Sustainment

- Controlling O&S costs
- Reducing logistics tails

Acquisition

- Acquiring systems-of-systems
- Making system decisions in a joint, mission context
- Transitioning technology
- Assessing complexity of new work and ability to perform it
- Controlling schedule and cost
- Passing operational tests
- Ensuring a robust industrial base



USD(AT&L) Imperatives

- “Provide a context within which I can make decisions about individual programs.”
- “Achieve credibility and effectiveness in the acquisition and logistics support processes.”
- “Help drive good systems engineering practice back into the way we do business.”



How Defense Systems is Responding

Instituted a new Systems and Mission Integration organization

- Extends and complements work of former Interoperability Office
- Engaging OSD, Joint Staff, Services, and COCOM staffs to define joint integrated architectures
- Synchronizing the requirements, acquisition, and budget processes

Warfare offices (formerly Strategic and Tactical Systems) tailoring the application of DoD 5000

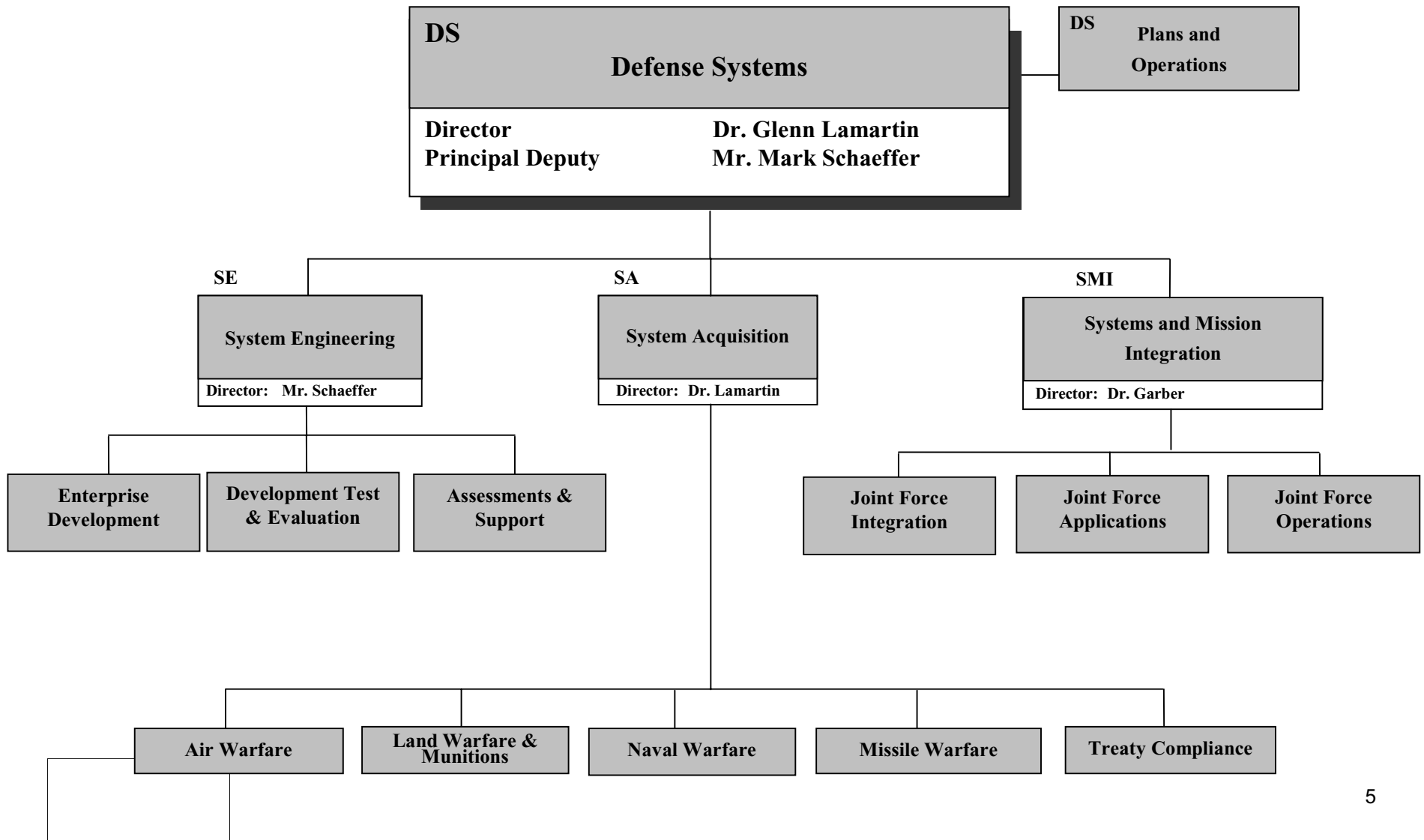
- Leading IPT process for program oversight and review
- Role is to help programs succeed

Formed a new Systems Engineering organization

- Institutionalizing Systems Engineering across the Department
- Setting policy for implementation, capturing best practices, setting standards for training and education
- Enhancing emphasis on system assessment and support



DEFENSE SYSTEMS ORGANIZATION





Systems Engineering Directorate

Focal Point for Defense Systems Software

Enterprise Development

- Defines “good systems engineering”
- Finds, captures, and shares best practices
- Establishes systems engineering policy and procedures
- Implements education of government and industry workforce
- Conducts outreach with industry, academia, associations, others

Assessment and Support

- Directs, manages, and coordinates SE and SW studies and reviews
- Leads special projects and DoD studies relating to software issues
- Recommends changes to systems engineering policies and procedures
- Focal point for outreach to individual programs

Development Test & Evaluation

- Verifies system performance
- Confirms the design meets specifications



Major Challenges

- Focus shifting from platforms to capabilities and system solutions
- System complexity is increasing – Family of Systems and/or System of Systems interdependencies
- Demand for network centric capability drives higher levels of integration
- Functional and physical interfaces expanding in number and complexity
- Evolutionary acquisition institutionalizing change
- New approaches to testing must match new systems views
- Multiple practitioner communities not well aligned
 - Hardware
 - Software
 - Information technology
 - Telecommunications