

AMSO

Army Modeling and Simulation Office

Foundations '02
22-23 October 2002

Technical Session T7
Department of the Army
Verification, Validation, and
Accreditation (VV&A)
Policy and Standards

Presented by:

Susan D. Solick

Army VV&A Standards Category

Coordinator

TRAC-FLVN

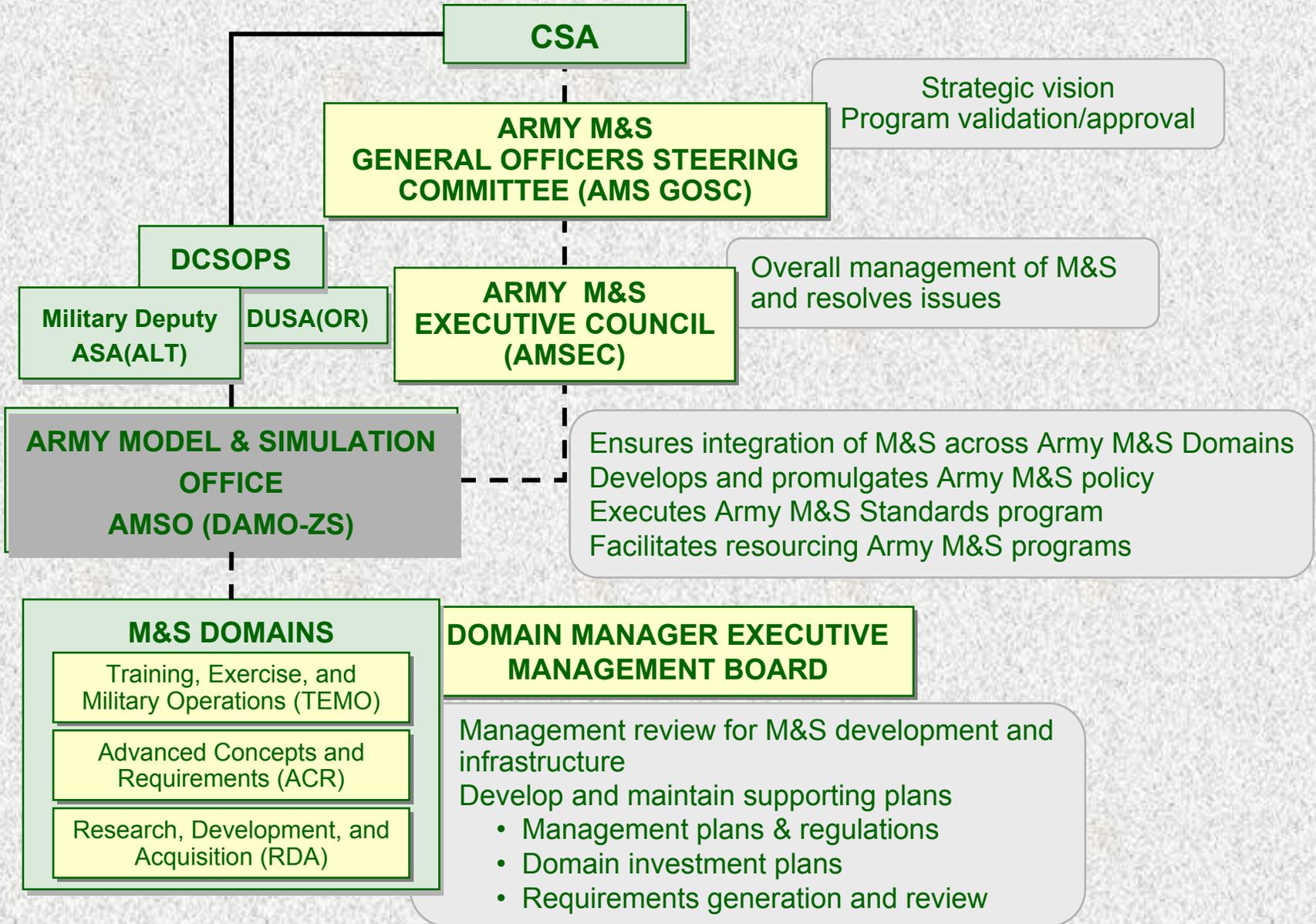
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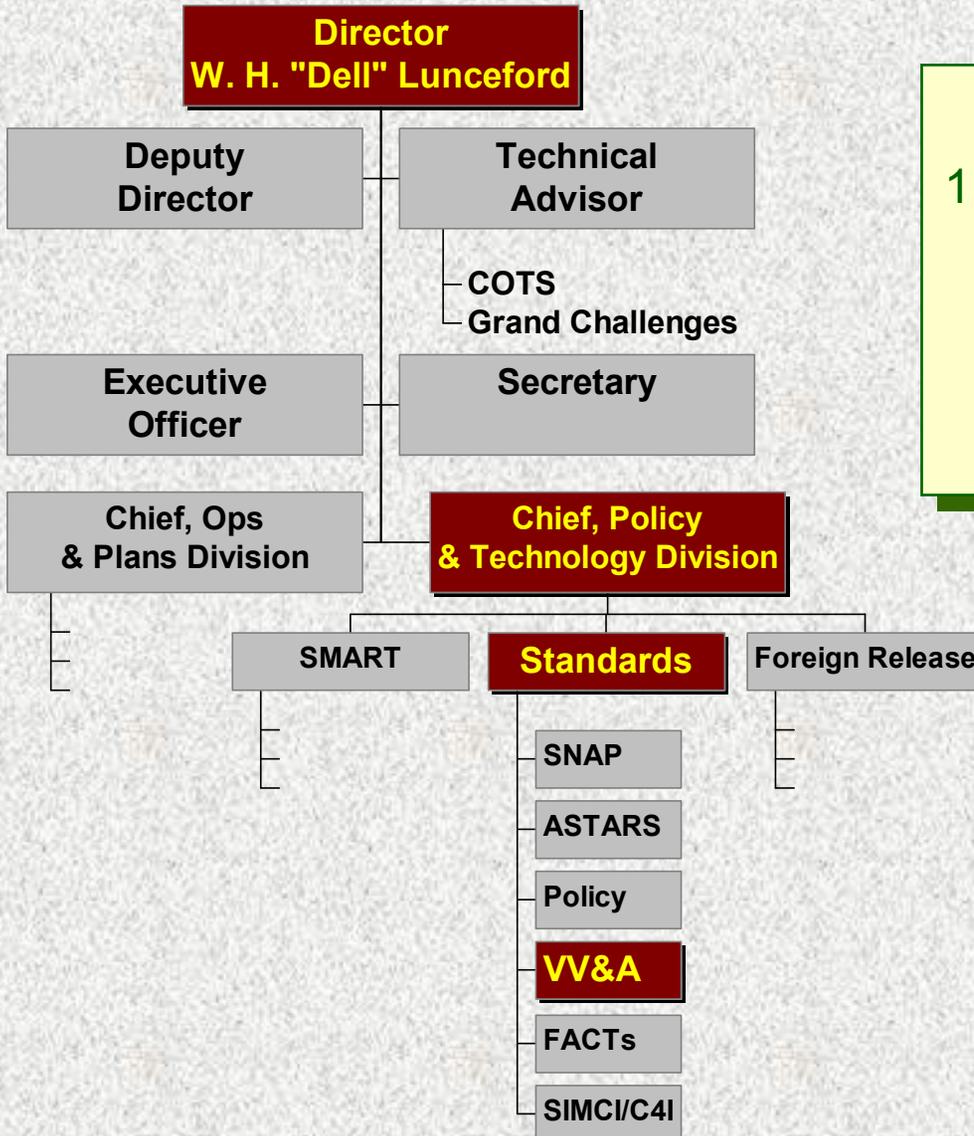
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- Army M&S Management Structure
- AMSO, The VV&A Focal Point
- Army M&S Policy and Guidance
 - AR 5-11
 - DA PAM 5-11
- Army VV&A Process
- Army VV&A Roles and Relationships
- Army M&S Standards Program
- Army VV&A Standards Effort
- Army VV&A Contact Information





Army Model & Simulation Office
1111 Jefferson Davis Hwy, Suite 503E
Arlington, VA 22202
AMSO website:
<http://www.amso.army.mil/>
Army VV&A Representative: TBA

Army M&S VV&A Standards
Category Coordinator (SCC)

Susan D. Solick

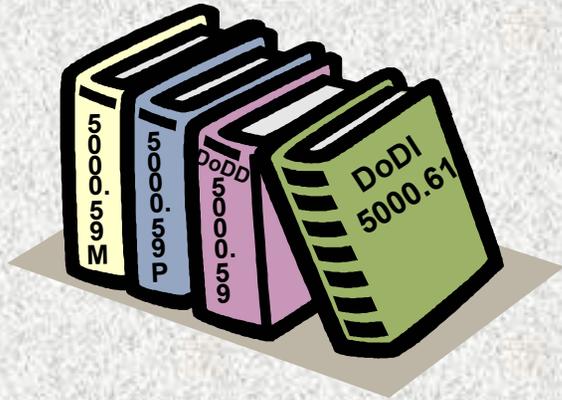
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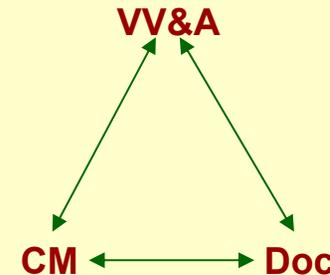
AR 5-11: Management of Army M&S (97)

DA Pam 5-11: VV&A of Army M&S (99)

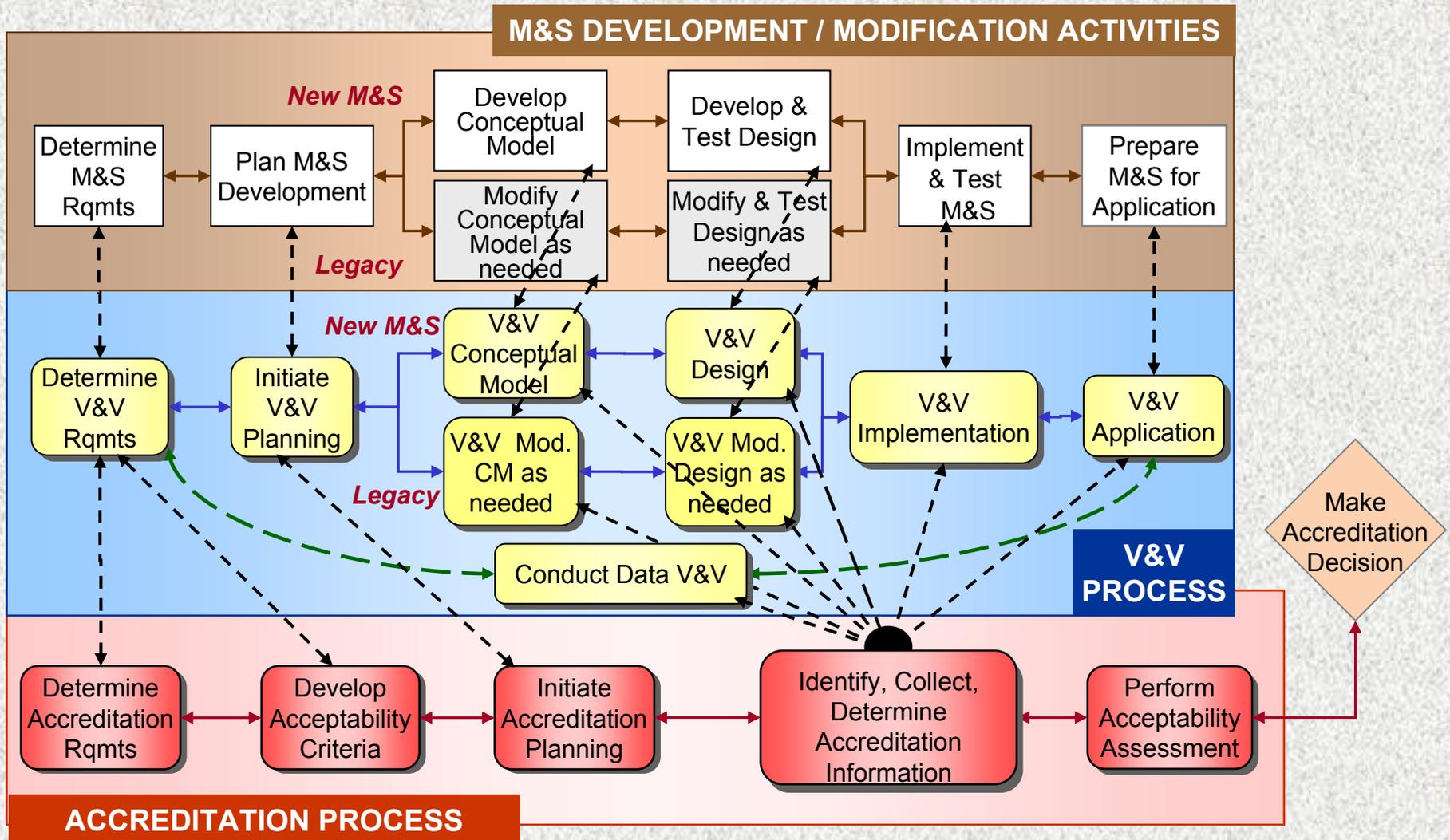
- Army M&S Master Plan
- AR 73.1: Test and Evaluation Policy
- TR 5-11: TRADOC M&S and Data Management
- Army SSP: Planning Guideline for SMART
- SMART Execution Plan
- Guidelines: Use of M&S to Support T&E (in progress)
- DA Memo 5-11: Army HLA Implementation Procedures (in progress)

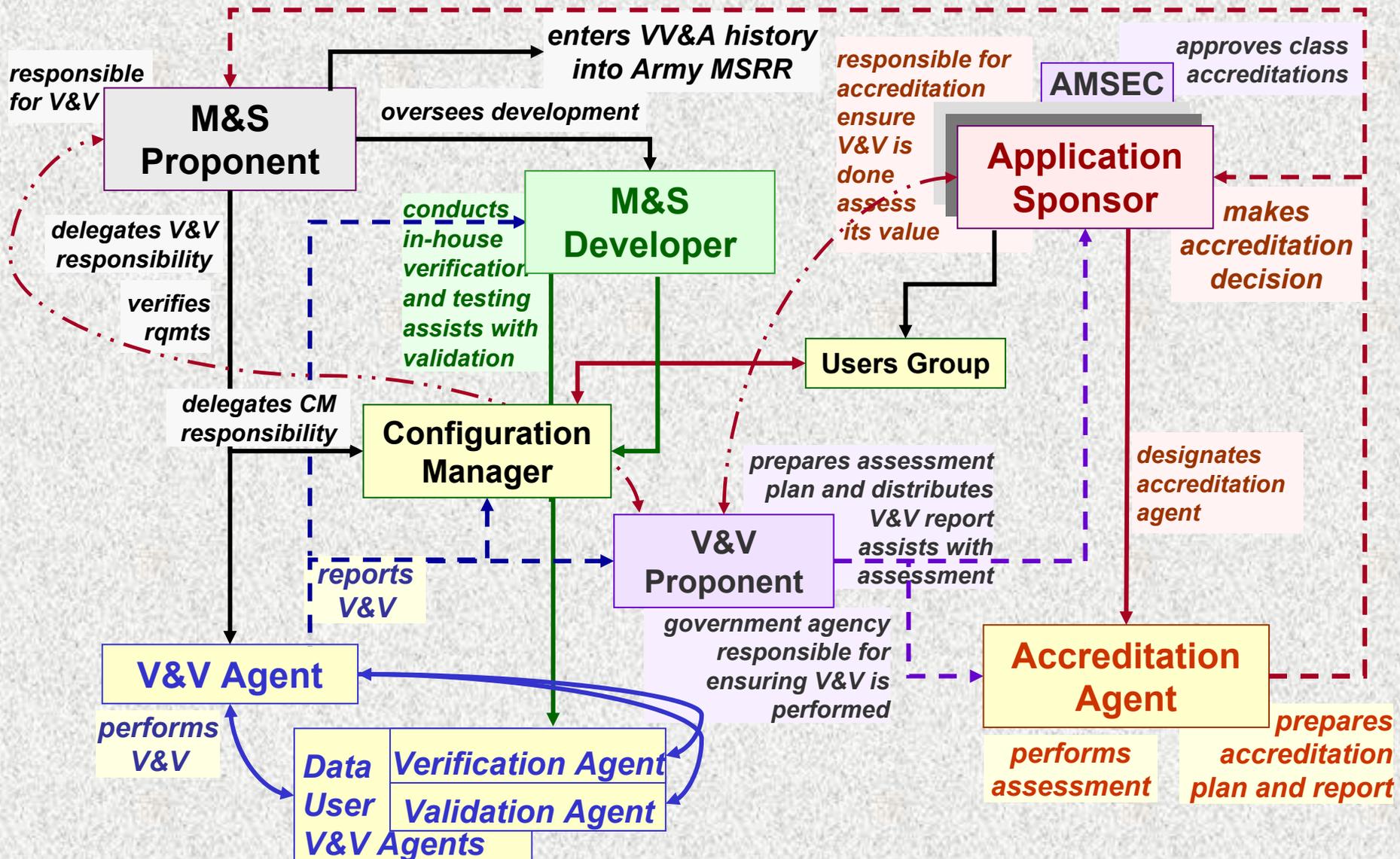
- Prescribes policy and guidance for all Army M&S
- Assigns responsibility for management of Army M&S
 - DUSA(OR) as proponent for Army M&S policy & standards
 - AMSO as the executive agent
- Requires systematic VV&A plan for all Army M&S
- Designates VV&A as part of M&S configuration management
- V&V
 - Provides foundation for accreditation
 - Responsibility of the M&S proponent
 - Integral part of M&S life cycle management process
 - Include assessments of representations of concepts, tactics, forces, processes, and doctrine from all perspectives
- Accreditation
 - Official determination M&S is acceptable for intended use
 - Management responsibility of the application sponsor
 - M&S class accreditations approved by AMSEC

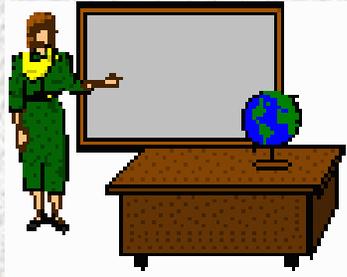
- Provides guidance for development, execution, and reporting of all VV&A activities
 - M&S developers, proponents, and application sponsors
 - Includes data V&V and accreditation
- Designates VV&A as an ongoing process throughout life cycle of M&S and its data
 - Resource requirements included in requirements for M&S development, application, data generation, and maintenance
 - Emphasis on documentation
 - Tied to configuration management
- Defines basic VV&A activities and roles
- Prescribes tailoring
 - Commensurate with relative importance and stage of development of the M&S
 - As appropriate to satisfy the intended need consistent with common sense, sound business management practice, time and resource sensitivities, and applicable regulations



V&V activities map to M&S development and modification activities.







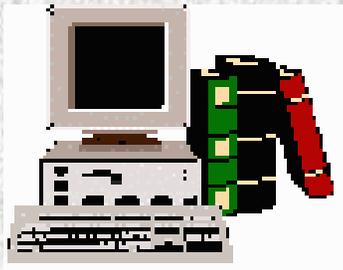
Educate



Build Teams



Define Requirements



Promulgate Standards



Develop Standards



Obtain Approval



Achieve Consensus

Concept currently under review

M&S Standards Categories

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	VVA	18

18 categories of interest in Army M&S

Standards Category Coordinators

- Oversee development and harvesting of common reusable software and M&S building blocks
- Empowered to develop teams
 - Interdisciplinary
 - Membership inclusive not exclusive
 - Volunteers



Build Teams

Standard Nomination Approval Process (SNAP)

- On-line submission of Standard Requirement Documents (SRDs)
 - Developing new standards
 - Refining established standards
 - Nominating accepted M&S procedures, practices, algorithms, heuristics, etc.
- SCCs responsible for keeping *focus*
- Approval based on community acceptance and appropriateness of item submitted



Define Requirements



Develop Standards



Achieve Consensus

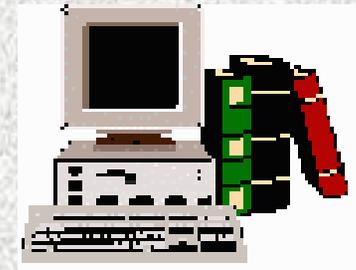
Consensus

Army Standards Repository System (ASTARS)

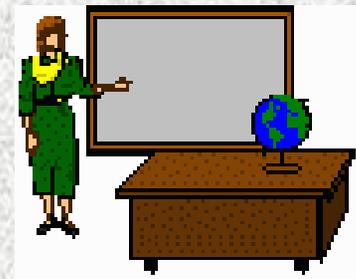
- SRDs on-line review and vote by SCC and senior SMEs
 - Sent forward with comments to DUSA(OR) for final approval
 - Returned to SCC team/author for additional work
- Approved standards registered in ASTARS
- AMSO and SCCs notify Army M&S community on availability, applicability and use of standards



Obtain Approval



Promulgate
Standards



Educate

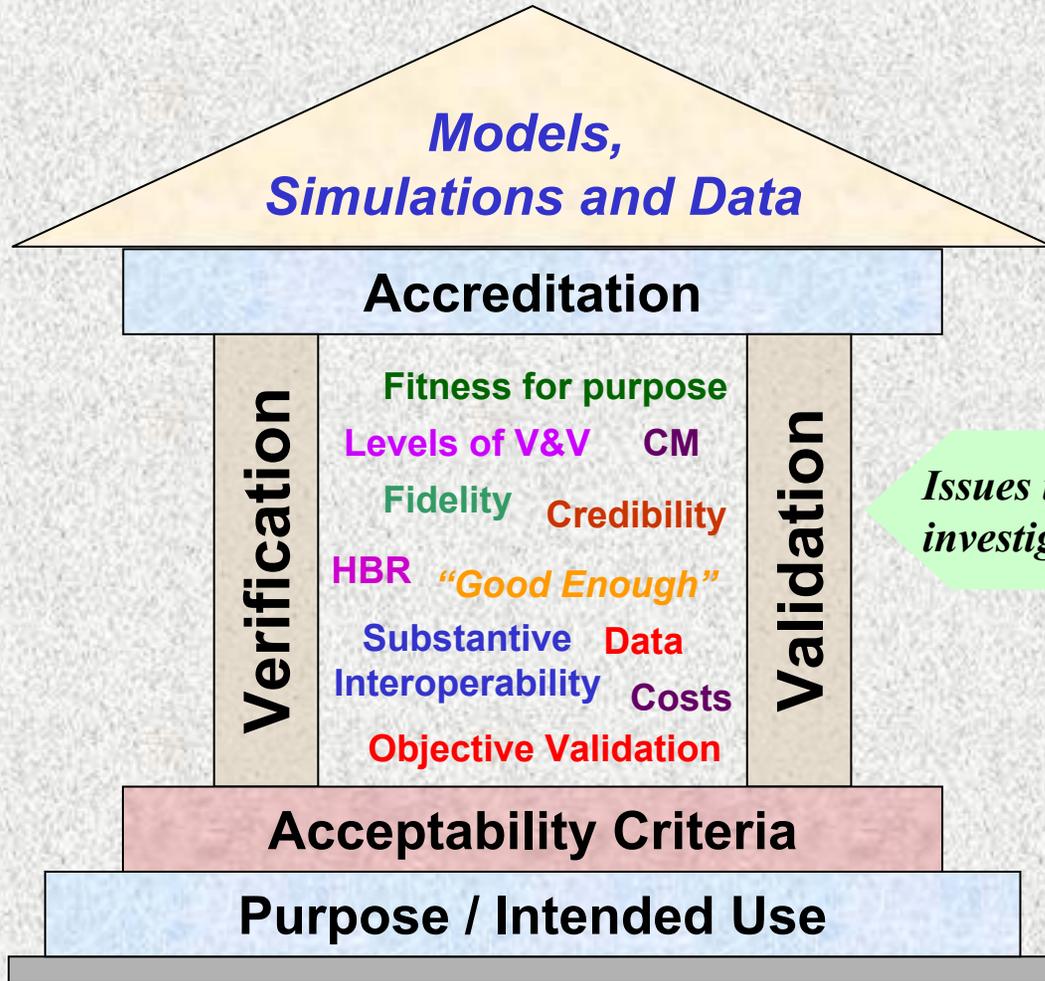
Army VV&A SCC

- Establishing V&V processes and procedures
- Identifying V&V techniques and tools
- Resolving V&V issues
 - Conceptual model validation
 - HBR validation
 - Credibility and fidelity
 - Substantive interoperability
 - V&V cost estimation
 - Data V&V
 - Objective validation
 - Formalizing V&V (Levels of V&V)
 - V&V and T&E

Army VV&A Representative

- VV&A education
- V&V programs in the field
- Coordination with other DoD components
- VV&A and T&E
- Formalizing V&V (Levels of V&V)
- Policy

Intent: Leverage (tie into) outside efforts



Issues under investigation

Coordinated efforts with others

- Foundations 02
- All-Service VV&A
- SISO DoD VV&A RPG
- ITEA DoD Data V&V
- DIS Workshops SCS
- ITOP VV&A MORS SIMVAL
- DoD VV&A TWG Credibility NAVY VV&A TAG

Past VV&A SCC activities

- 94-98 Definition of VV&A Recommended Practices for DIS
>>>> IEEE 1278.4
- 95-98 Algorithm standard compendia for Army M&S standards categories (*Terrain, Dynamic Environment, Attrition, Move*)
- 96-98 DoD Data V&V investigations

Ongoing VV&A SCC activities

- DoD VV&A RPG
- DoD VV&A TWG
- V&V levels
- Army T&E VV&A policy and procedures
- V&V cost estimating tool
- SISO, SCS, Foundations 02, MORS SIMVAL, All-Service

Levels of V&V

HBR

“Good Enough”

Fitness for purpose

Credibility

CM

Cost Estimation

Fidelity

Data V&V

Substantive Interoperability

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