



“Enabling Planning for More Efficient & Effective Modeling & Simulation Support Across the Life Cycle -- A Standards Profile for Use of Acquisition Modeling and Simulation”

How to Help & Leave a Legacy - Contribute Digitally as a Subject Matter Expert (SME)

NDIA Systems Engineering Conference

October 31, 2013

Kenneth “Crash” Konwin, Booz Allen Hamilton

Tim Tritsch, DRC

Acquisition Standards Profile Product Development Group

Presentation Outline

- Issue: Identify Enablers for More Efficient & Effective Planning for Acquisition & Sustainment for Complex Systems
- Method: The SISO Standards Profile Development Effort
- Process: How Acquisition Community Knowledge is Harvested
- (Desired) Outcome: Contribution of Your Expertise to the Community Effort

Systems Engineering Enablers

The Builder is Always Defined by the Tools

“Common & shared technical standards provide the foundation and basis that allow modeling & simulation tools to be efficiently & effectively deployed to address enterprise challenges. ...

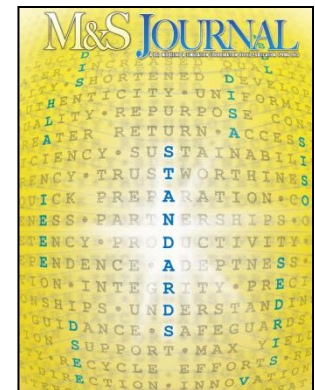
I believe technical standardization activities play a critical role in improving the Department’s effectiveness in weapon systems acquisition and sustainment.

Technical standards are an enabler to the Department’s larger goals of interoperability, improved operational readiness, and reduced total ownership costs between and among the Services, other Agencies, industry, and our allies. Technical standards provide the corporate process memory needed for a disciplined systems engineering approach and help ensure that the government and its contractors understand the critical processes and practices necessary to take a system from design to production, and through sustainment.”

Guest Editorial: M&S Journal -- Standards



Mr. Stephen P. Welby
DASA, Systems Engineering



Spring Edition 2013 (Volume 8 Issue 1)

SIS Simulation Interoperability
Standards Organization

Bottom Line Up Front (BLUF)

Our Request: Help Leave a Legacy

- Standards are Important – they can provide a solid foundation for more efficient & effective acquisition
- Become involved in the SISO Product Development Group (PDG) directly
 - Volunteer to become part of the drafting group(s)
 - Register to become part of the ballot pool
- Contribute your Subject Matter Expertise to the professional community technical process
 - Provide SME Input Electronically in November 2013
 - Via Email w/Digital Workbook to DG#2 (Konwin)
 - Example & Instructions follow
Electronic submission via Excel workbook
 - Posted within a public area of the SISO web site
 - www.sisostds.org To locate folder location go to: Digital Library > Development Groups > Acq MS Stds Profile PDG > Standards Research

The Need for Standards Profile Established

“As is obvious to all involved, ...”

- Various NDIA Systems Engineering Conferences
- NDIA Modeling and Simulation SE Subcommittee Meetings
- INCOSE MBSE Initiative Presentations
- National Research Council:
 - “Defense Modeling, Simulation, and Analysis: Meeting the Challenge” (2006)
 - “Modeling and Simulation in Manufacturing and Defense Acquisition: Pathways to Success” (2002).
- SISO Fall 2012 Workshop Call to Action Presentation within the System Life Cycle forum

The Impact Without a Standards Profile

The “Do Nothing” Consequences

- Product models that support simulation and analysis will continue to be built in a stove-pipe fashion.
- The goal of consistent and re-usable models will continue to be elusive.
- The current challenges faced in the acquisition of complex systems to apply modeling and simulation in consistently meaningful ways will continue to exist.
- The concerns of government acquisition leadership will not be addressed.
- The value gained in proper, consistent, and meaningful application of modeling and simulation to acquisition activities outside the traditional systems engineering domains will not be realized.
- Missed opportunity to address situation of diminishing resources, including finances and an aging engineering population.
- Missed opportunity to establish/pass on system knowledge in a consistent manner.
- Missed opportunity to enable a “single source of truth” with the reusability and interoperability benefits not maximized.
- Users will continue to rely on stove-piped activities that marginalize the activities from each other.



Creation & Primary Purpose of the SISO Product Development Group (PDG)

A Standards Profile for the Use of Modeling and Simulation in Support of Acquisition Activities



SISO-PN-005-2013

**Product Nomination
for**

**A Standards Profile
for the
Use of Modeling and Simulation
in Support of
Acquisition Activities**

Version 1.0

1 February 2013

SAC Approved: 02/19/2013

EXCOM Approved: 03/06/2013

To Provide Guidance on the Selection and Use of Standards & Recommended Practices Related to Technical Activities Using Modeling & Simulation To support the Acquisition Lifecycle.

The International Acquisition Community

- The products resulting from the product development effort will serve all communities that manage, develop, and/or use models and simulations in support of the design, development, acquisition, operations, and retirement of systems and system of systems.
- The professional community effort will establish a compilation of standards and recommended practices that are used to manage, coordinate, align, and integrate the development and use of model and simulation artifacts through a systems acquisition lifecycle across both time (e.g., acquisition phases) and organizational and activity boundaries.
- The community spans multiple user domains (Acquisition, Analysis, Test, and Training) and application areas (Defense, Aerospace, Medical, Information Technology, etc.)



A Typical Acquisition Life Cycle

Applies a Generic Life Cycle

Concept Stage	Assessment / Development Stage	Production/ Manufacture Stage	Utilization/ In-Service Support Stage	Retirement/ Disposal/ Termination Stage
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To provide International Communities a Solution
To Address the Standards Required
To Support Acquisition Communities of Practice
With Focus on the Potential Role and Application of
Modeling and Simulation
In Support of Key Functions Across the
Generic Acquisition Lifecycle.

The PDG Product(s)

To be developed, published, and maintained as two volumes:

Volume 1 - a Balloted SISO Guidance Product, will identify a set of modeling and simulation standards and recommended practices as key tools for guiding the international acquisition community in the use of modeling and simulation in activities that take place across the typical acquisition lifecycle.

Volume 2 - a SISO Reference Product, will provide the descriptions and metadata for each modeling and simulation standard and recommended practice identified in the SISO Guidance Product.

Source: SISO–PN-005-2013

Preparing for a Bountiful Harvest

Our Request: Help Leave a Legacy



There are many fields
(of expertise)
needing attention

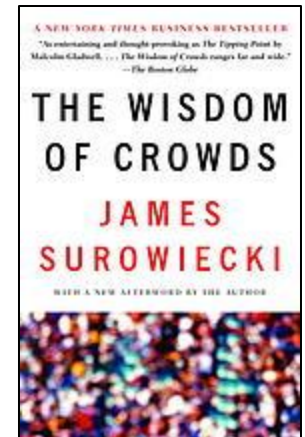
Labors are needed in many
fields!



How You Can Participate

Subject Matter Expert Input

- Review (& suggest additions or deletions) key activities that employ modeling and/or simulation across a typical acquisition life cycle – DEMAND function for standards
- Review (& suggest additions or deletions) of key standards or best practices that would help enable or inform activities above -- SUPPLY function for standards
- Assign a “ranking” of which standards are how relevant for each or the activities listed (or suggested)
- The more professionally-relevant SME voices heard, the more robust the resulting product(s) will be
 - Better chance to have balanced experience across the life cycle
 - Diverse functional / professional community members
 - SISO, INCOSE, NDIA SE, ITEA, IEEE, AIAA and many more ideally
 - Leverages the “Wisdom of the Crowd”



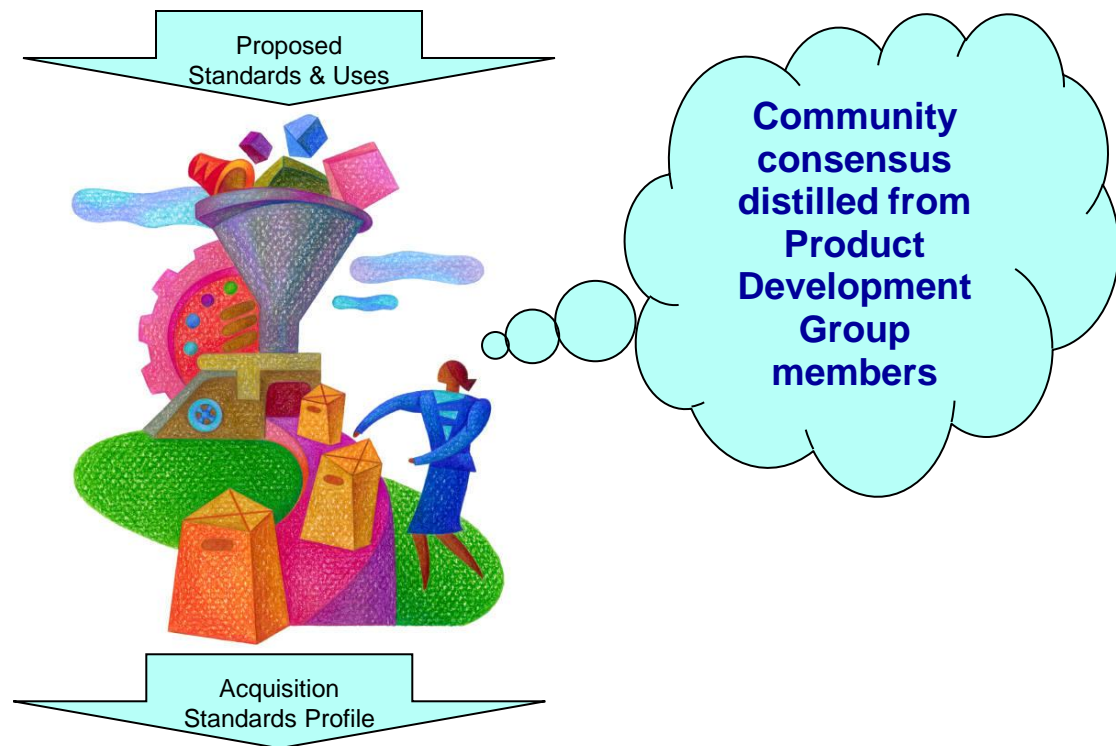
Via SME Elicitation Spreadsheet

How to Decide What Matters?

Draw from similar previous or existing foundational documents

Use language familiar to the Acquisition Stakeholder Community

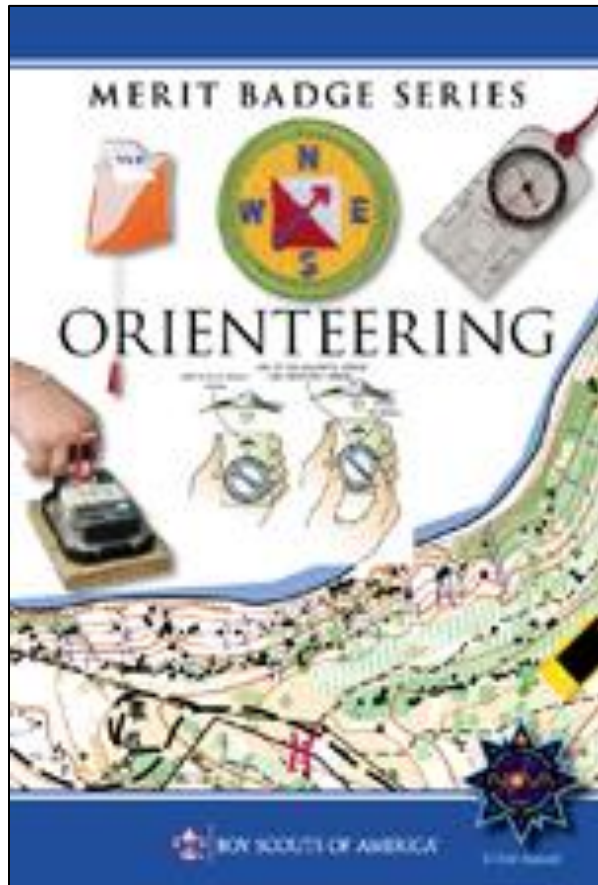
Develop Product(s) consistent with approved Product Nomination



Profile: Listing & Metadata for Standards Related to Use of Acquisition Modeling & Simulation

How Does the Acquisition Community Get There?

Today's Analogy: Orienteering



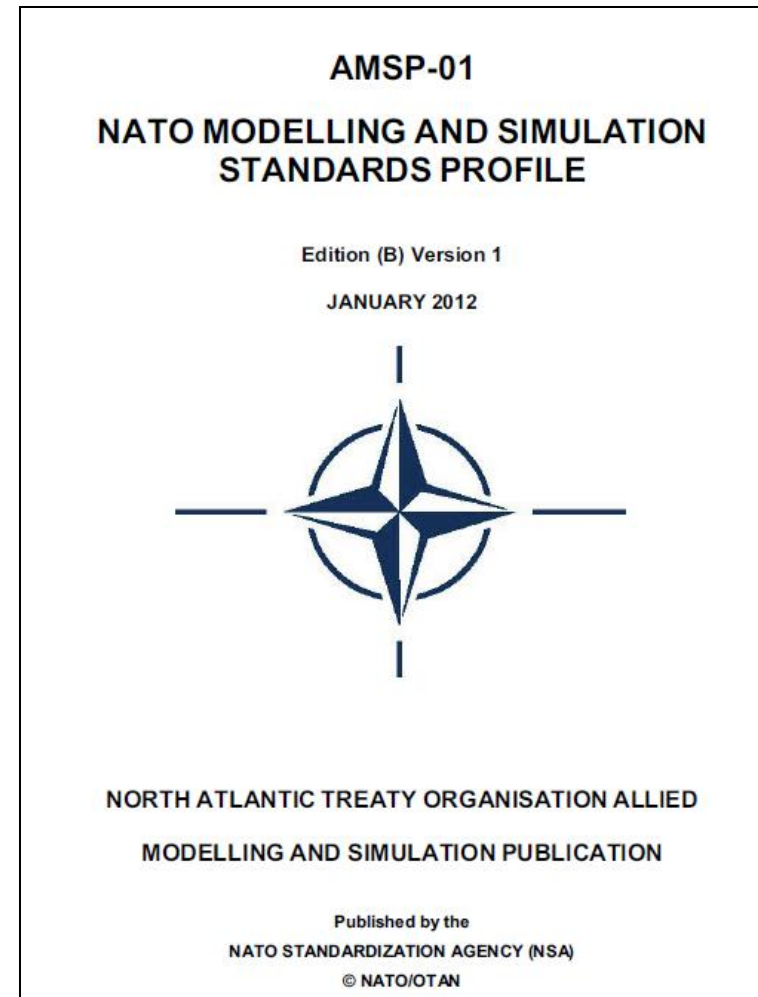
Orienteering, the use of map and compass to find locations and plan a journey, has been a vital skill for humans for thousands of years.

Orienteering is also a recognized sport at the Olympic Games, and thousands of people participate in the sport each year in local clubs and competitions.

Resources: Map & Compass

Our Map: Standards Profile Example

Built Upon
the Contributions
of
Approved & Known
International
Standards Projects
Related to Modeling &
Simulation



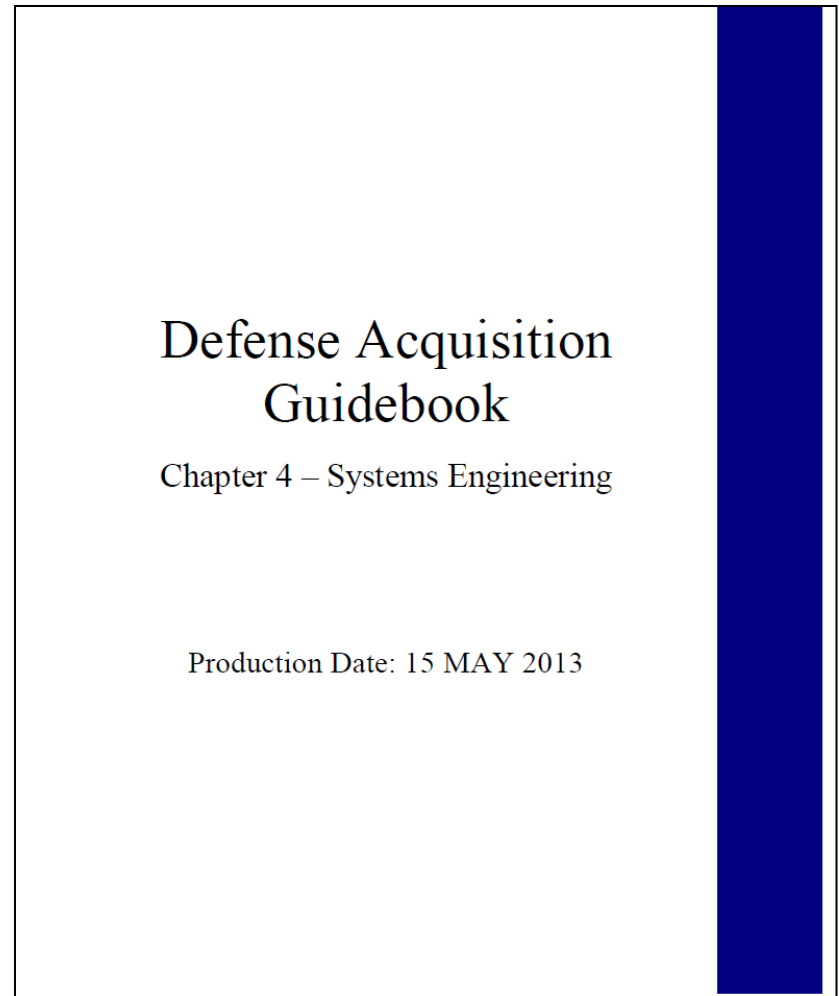
The AMSP-01 document is publicly available on the NATO website:

[http://nsa.nato.int/nsa/zpublic/ap/amsp-01\(B\).pdf](http://nsa.nato.int/nsa/zpublic/ap/amsp-01(B).pdf)

SUPPLY

Our Compass: Activities Example

Initially Built Upon
illustrative Key Activities
("44 Bullets") employing
modeling & simulation
found within the Systems
Engineering (Chapter 4)
United States Defense
Acquisition Guidebook



DEMAND

<https://acc.dau.mil/CommunityBrowser.aspx?id=638295>

The Tool: SME Elicitation Workbook

Instructions Tab

Standards Profile for the Use of M&S in Support of Acquisition Activities
Subject Matter Expert Input Capture

Instructions for Ranking Tab

All data is entered on the tab labeled "Ranking." For each standard in the first column, please enter a value in the boxes under each acquisition activity across the top. Use the following scale:

- "0" if the standard does not apply or you are unsure about the relevancy for the activity
 - "1" if the standard is of low relevancy for the activity
 - "5" if the standard is of medium relevancy for the activity
 - "9" if the standard is of high relevancy for the activity
- If a standard or activity is out of your expertise area, please leave it blank

Each standard title is hyperlinked to the "Standards Metadata" tab. By selecting the hyperlink, you will be provided with an abstract and applicability for that standard. Select the standard name to return to the "Ranking" tab.

Each activity name is hyperlinked to the "Activity Definition" tab. By selecting the hyperlink, you will be provided with a definition of the activity. Select the activity name to return to the "Ranking" tab.

If you wish to suggest a standard for consideration for the Acquisition Standards Profile, please add the information below the gray bar at the bottom of the standards listing. DO NOT place the standard in the middle of the standards list as this will cause problems during compilation and analysis of the data.

If you wish to suggest an additional activity for consideration for the Acquisition Standards Profile, please add the information to the right of the gray bar at the right side of the activity listing. DO NOT place the activity in the middle of the activities list as this will cause problems during compilation and analysis of the data.

Please save the completed spreadsheet and append your last name (e.g., "filename_Konwin") to the file and return it to me at:

konwin_kenneth@bah.com

If you are so inclined, within the body of the email please include a short summary of your expertise relevant to acquisition and modeling and/or simulation.

DO NOT MAKE CHANGES TO THE "ACTIVITY DEFINITION" OR "STANDARDS METADATA" SHEETS.

Submit any suggested changes during the review of the applicable volumes. The information displayed on these sheets is contained in the main documents and will be reviewed at that time.

Ranking Tab

Rows: Candidate Standards; Columns: M&S-related Acquisition Activities

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	ISO/IEC SYSTEM LIFE CYCLE STAGES	CONCEPT STAGE				DEVELOPMENT STAGE												
2																		
3	NATO M&S Standards Profile (Jan 2012)	<u>Concept of Operations (CONOPS) modeling</u>	<u>Cost/ Schedule/ Performance trades</u>	<u>System Interoperability discoveries</u>	<u>Portfolio Coverage analysis</u>	<u>Assess material solutions</u>	<u>Estimate life cycle costs</u>	<u>Model CONOPS and mission context</u>	<u>Interoperability & warfighter integration analysis</u>	<u>Industrial/ manufacturing capability analysis</u>	<u>Supportability & sustainment modeling</u>	<u>Trade Studies</u>	<u>System threat integration</u>	<u>Model environment & demonstrate technology</u>	<u>Interoperability & supportability analysis</u>	<u>Operational suitability & affordability</u>	<u>Industrial/ manufacturing capability and readiness assessment</u>	<u>Estimate manpower/cost</u>
4	Base Object Model (BOM)																	
5	Coalition - Battle Management Language (C-BML)																	
6	Common Image Generator Interface (CIGI)																	
7	OpenGIS® City Geography Markup Language (CityGML) Encoding Standard																	
8	COLLADA which stands for "COLLABorative Design Activity"																	
9	Common Object Request Broker Architecture (CORBA)																	
10	"IEEE Standard for Distributed Interactive Simulation" (DIS)																	
11	DoD Architecture Framework (DoDAF)																	
12	IEEE Recommended Practice for Distributed Simulation Engineering and Execution Process (DSEEP)																	
13	Digital Terrain Elevation Data (DTED)																	

Activity Definition Tab

	A	B	C	D
1		Activity Name	Activity Definition	Link
2	CONCEPT STAGE	Concept of Operations (CONPS) modeling	A Concept of Operations (ConOps) document is produced early in the requirements definition process to describe what the system will do (not how it will do it) and why (rationale). It should also define any critical, top-level performance requirements or objectives (stated either qualitatively or quantitatively) and system rationale. (Systems Engineering Handbook INCOSE-TP-2003-016-02, Version 2a, 1 June 2004)	http://www.dtic.mil/ndia/2008systems/7191roberts.pdf
3		Cost/ Schedule/ Performance trades	Cost, Schedule, Performance, and Risk are the basic elements through which DoD acquisition professionals make tradeoffs and track program status. Risk cuts across the other three elements (Cost Risk, Schedule Risk, and Performance Risk). In DoDD 5000.01, paragraph 4.2. "The primary objective of Defense acquisition is to acquire quality products that satisfy user needs with measurable improvements to mission capability and operational support, in a timely manner, and at a fair and reasonable price."	https://dap.dau.mil/aap/pages/qdetails.aspx?cgiSubjectAreaID=9&cgiQuestionID=115982
4		System Interoperability discoveries	the ability of diverse systems and organizations to work together (inter-operate). While the term was initially defined for information technology or systems engineering services to allow for information exchange, ^[1] a more broad definition takes into account social, political, and organizational factors that impact system to system performance. ^[2]	http://en.wikipedia.org/wiki/Interoperability
5		Portfolio Coverage analysis	Portfolio analysis has been devised to help associations bridge the gap between strategy formulation and strategy implementation. In other words, it helps you make the hard choices of where to put your money. Portfolio analysis is a systematic way to analyze the products and services that make up an association's business portfolio.	http://webcache.googleusercontent.com/search?q=cache:5OIk53ea5K0J:www.forbesgroup.com/uploads/toolbox/Portfolio-Analysis-Matrix-explanation-and-questionnaire.doc+&cd=11&hl=en&ct=clnk&gl=us
6		Assess material solutions	As part of the investment management phase of a project, Assess material solutions and satisfy phase-specific entrance criteria designated by the MDA for the next milestone.	http://afceamontgomery.org/Resources/Documents/MITS%202012%20Wednesday%20Sampson.pdf

Standards Metadata Tab

A	B	C	D
1	Standard	Abstract	Applicability
2	Base Object Model (BOM)	<p>Base Object Models (BOMs) provide a component framework for facilitating interoperability, reuse, and composability. The BOM concept is based on the assumption that piece-parts of models, simulations, and federations can be extracted and reused as modelling building-blocks or components. The interplay within a simulation or federation can be captured and characterized in the form of reusable patterns. These patterns of interplay are sequences of events between simulation elements. The representation of the pattern of interplay is captured in the first BOM document. [Reference SISO-STD-003-2006]. The second document, the "Guide for Base Object Model (BOM) Use and Implementation", introduces methodologies for creating BOMs and implementing them in the context of a larger simulation environment. The document is a means of familiarizing the reader with the concept of BOMs and providing guidance for BOM development, integration, and use in supporting simulation development. [Reference SISO-STD-003.1-2006]</p>	<p>The BOM template has constructs that allow the expression of 1) a conceptual model (in terms of events and states), 2) a data exchange model based on the HLA OMT, and 3) the relationships between 1 and 2. Parts 1 and 2 can be use independently or together in combination with part 3. BOMs are intended to improve the reusability and composability of models, simulations and federations.</p>
3	Coalition - Battle Management Language (C-BML)	<p>A Battle Management Language (BML) is an unambiguous language used to: Command and control forces and equipment conducting military operations. Provide for situational awareness and a shared, common operational picture. It can be seen as a standard representation of a digitized commander's intent to be used for real troops, for simulated troops, and for future robotic forces. BML is particularly relevant in a network centric environment for enabling mutual understanding. A Coalition BML developed and applied by the all Services and by coalition members would not only allow interoperability among their C4ISR systems and simulations, but also among themselves. As it is almost impossible to imagine a situation in the future when a single Service will be unilaterally employed, these efforts must be embedded into international standards. Because future military operations, and a significant amount of training, will be Joint in nature, it is critical that a Joint Service approach be taken to the BML development effort.</p>	<p>One significant effort to leverage interoperability between C4I systems and simulations.</p>
4	Common Image Generator Interface (CIGI)	<p>CIGI is an interface designed to promote a standard way for a host device to communicate with an image generator. As this interface is designed to be a real-time interface; bandwidth requirements have been minimized. CIGI is not to be associated with any particular hardware interface. With CIGI, it is possible to connect a host with an arbitrary number of image generators. The communications can be performed during either synchronous (the host's frame rate matches the image generator's frame rate) or asynchronous operation. To construct complex simulations, a high level of abstraction is provided by CIGI, using so-called building blocks. Each of these building blocks is generic in nature and represents a related group of data. With these building blocks, things such as high-level image generator commands, out-the-window view portals, entities, special effects, articulated parts, atmospheric effects, mission functions and sensor simulation objects can be specified.</p>	<p>Specifically designed to support the communication between host devices and image generators</p>
5	OpenGIS® City Geography Markup Language (CityGML) Encoding Standard	<p>OpenGIS® Encoding Standard for the representation, storage and exchange of virtual 3D city and landscape models. CityGML is implemented as an application schema of the Geography Markup Language, version 3.1.1, (GML3). CityGML models both complex and geo-referenced 3D vector data along with the semantics associated with the data. In contrast to other 3D vector formats, CityGML is based on a rich, general purpose information model in addition to geometry and appearance information. For specific domain areas, CityGML also provides an extension mechanism to enrich the data with identifiable features under preservation of semantic interoperability. Targeted application areas explicitly include urban and landscape planning; architectural design; tourist and leisure activities; 3D cadastres; environmental simulations; mobile telecommunications; disaster management; homeland security; vehicle and pedestrian navigation; training simulators and mobile robotics. CityGML is considered a source format for 3D portraying. The semantic information contained in the model can be used in the styling process which generates computer graphics represented e.g. as KML/COLLADA or X3D files. The appropriate OGC Portrayal Web Service for this process is the OGC Web 3D Service (W3DS).</p>	<p>CityGML is used for representation, storage and exchange of virtual 3D city and landscape models (Urban Feature Data).</p>
6	COLLADA which stands for "COLLABorative Design Activity"	<p>COLLADA defines an XML-based schema to transport 3D assets between applications - enabling diverse 3D authoring and content processing tools to be combined into a production pipeline. The intermediate language provides comprehensive encoding of visual scenes including: geometry, shaders and effects, physics, animation, kinematics, and even multiple version representations of the same asset.</p>	<p>COLLADA was not developed by the M&S community but by the gaming industry. Nevertheless it allows building 3D content as support for the services of a simulation program. COLLADA is using an XML schema that enables the powerful capability of validating data, as well as the possibility of using many existing commercially available or public-domain tools. The primary goal of COLLADA was to create a working group enabling collaboration among all the partners to standardise on the representation of all the features required by interactive applications.</p>
7	Common Object Request Broker Architecture (CORBA)	<p>CORBA, the Common Object Request Broker Architecture, is OMG's open, vendor-neutral architecture and infrastructure that computer applications use to work together over networks. Using the standard protocol IIOP®, a CORBA-based program from any vendor, on almost any computer, operating system, programming language, and network, can interoperate with a CORBA-based program from the same or another vendor, on almost any other computer, operating system, programming language, and network.</p>	<p>Has been used for simulation interoperability even though it was not dedicated to simulation. Has been use by some HLA and TENA middleware designers.</p>

Ranking Tab – Example Relevancy Data

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	R	S	
1	ISO/IEC SYSTEM LIFE CYCLE STAGES	CONCEPT STAGE				DEVELOPMENT STAGE													
2		Concept of Operations (CONPS) modeling	Cost/ Scheduler/ Performance trades	System interoperability discoveries	Portfolio Coverage analysis	Assess material solutions	Estimate life cycle costs	Model CONOPS and mission context	Interoperability & warfighter integration analysis	Industrial/ manufacturing capability analysis	Supportability & sustainment modeling	Trade Studies	System threat integration	Model environment & demonstrate technology	Interoperability & supportability analysis	Operational suitability & affordability	Industrial/ manufacturing capability and readiness assessment	Estimate manpower/cost	Model system to performance specifications
3	NATO M&S Standards Profile (Jan 2012)																		
4	Base Object Model (BOM)	9	1	9		5	1	9	9	1	0	9	9	9	9	9	1	1	9
5	Coalition - Battle Management Language (C-BML)	9	1	9		5	1	9	9	1	0	9	9	9	9	9	1	1	9
6	Common Image Generator Interface (CIGI)	9	0	9		5	0	9	9	0	0	9	9	9	9	9	0	0	9
7	OpenGIS® City Geography Markup Language (CityGML) Encoding Standard	5	0	5		5	0	5	1	0	0	5	5	9	1	9	0	0	5
8	COLLADA which stands for "COLLABorative Design Activity"	1	1	1		1	1	1	1	1	1	5	5	5	5	5	1	0	5
9	Common Object Request Broker Architecture (CORBA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	"IEEE Standard for Distributed Interactive Simulation" (DIS)	5	1	5		5	0	9	9	0	0	9	9	9	9	9	0	0	5
11	DoD Architecture Framework (DoDAF)	9	1	9		1	0	5	9	0	0	5	5	5	9	9	0	0	1
12	IEEE Recommended Practice for Distributed Simulation Engineering and Execution Process (DSEEP)	5	0	5		5	0	5	9	0	0	9	9	9	9	9	0	0	5
13	Digital Terrain Elevation Data (DTED)	5	0	5		5	0	5	9	0	0	9	9	9	9	9	0	0	5
14	Dynamic Link Compatible (DLC) HLA API Standard for the HLA Interface Specification																		
15	GeoTIFF																		

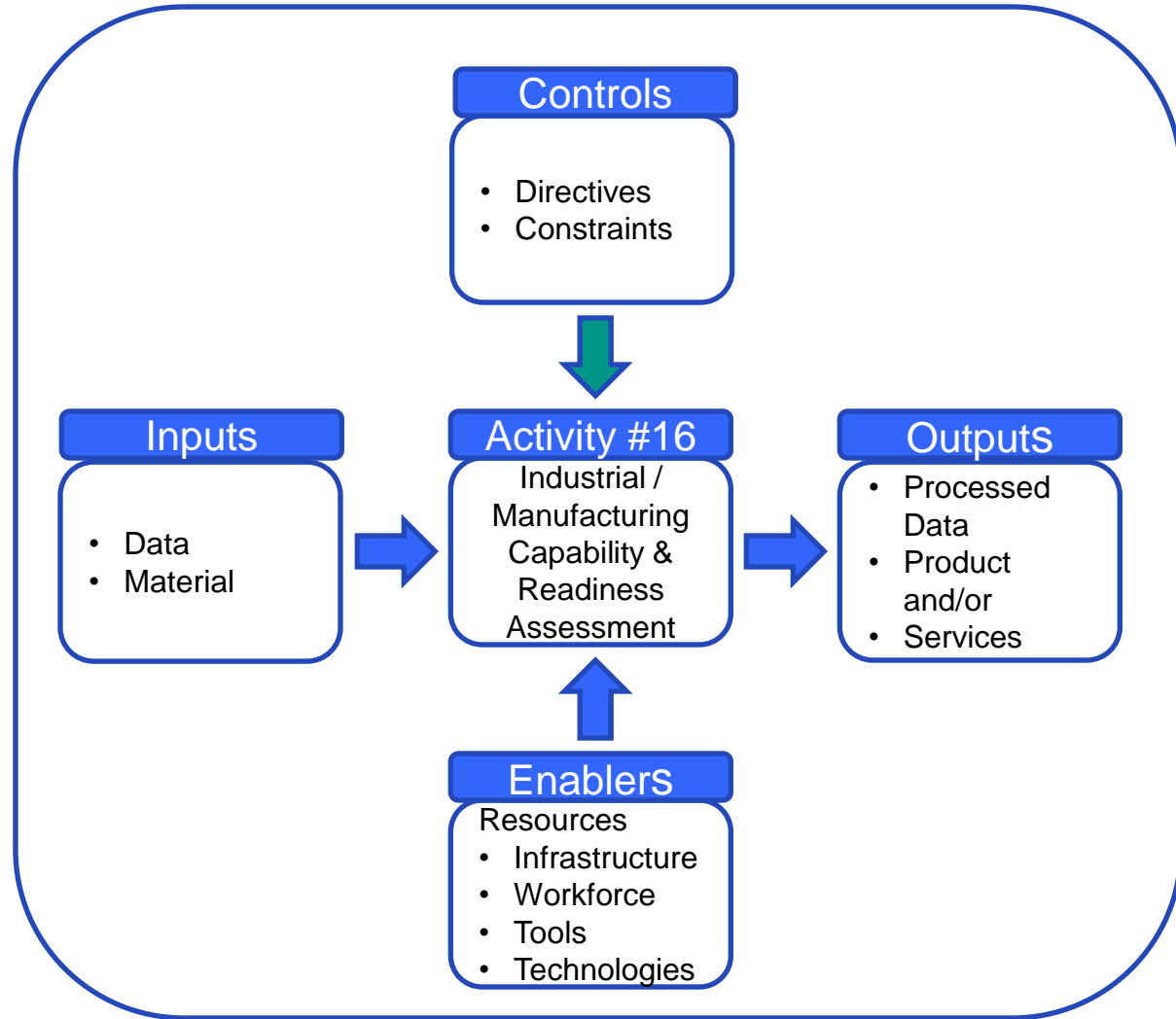


Acquisition Life Cycle Technical Activity

“Bullet 16 of 44”

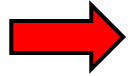


http://en.wikipedia.org/wiki/File:Hyundai_car_assembly_line.jpg



Systems Engineering Approach

Illustrative Activity “Demand Signal”



Activity #16: Industrial / Manufacturing Capability & Readiness Assessment

Enablers (illustrative)

- Tools

- COTS Discrete Event Simulation Environments/Frameworks: ARENA; EXTEND; SIMUL8; DEVS
- Models or Simulation Applications: Multiple COTS & GOTS

- Infrastructure “Supply Inventory”

Standards (Example of existing standards NOT in the NATO Standard Profile)

- [SISO-STD-008-2010](#): **Standard for Core Manufacturing Simulation Data (CMSD)-UML Model**
This Standard addresses interoperability between simulation systems and other manufacturing applications. The Core Manufacturing Simulation Data information model is a standard representation for core manufacturing simulation data. It provides neutral structures for the efficient exchange of manufacturing data in a simulation environment. These neutral structures can be used to support the integration of simulation software with other manufacturing applications.
- [SISO-STD-008-01-2012](#): **Standard for Core Manufacturing Simulation Data – XML Representation**
The new “Standard for Core Manufacturing Simulation Data – XML Representation” is a component of the “Standard for Core Manufacturing Simulation Data – UML Model” (SISO-STD-008-2010). The specification of the Core Manufacturing Simulation Data information model is presented using two different methods using the (1) Unified Modeling Language (UML); and (2) XML Schema Definition Language. Together these Standards provide neutral data structures for the efficient exchange of manufacturing data in a simulation environment. These neutral data structures are used to support the integration of simulation software with other manufacturing applications

Why are we here at NDIA SE Conference?

- The Acquisition Standards Profile is an opportunity to have SISO members work within the wider international acquisition community and multiple professional forums (like this one!)
- The goal is to harvest and synthesize the deep acquisition knowledge resident across multiple Standards Development Organizations (SDO), their members, and be agnostic to specific organizational acquisition life cycle models
- The SISO Product Development Group is in the first year of process formulation and data collection
 - SME Contributions – Leave a Professional Legacy
 - Register for PDG, get involved & complete PDG affiliation form
 - Worksheet inputs to konwin_kenneth@bah.com by 15 Nov 2013
 - There is strength & value in diversity & numbers
 - A success oriented schedule should result in products by end 2014



**The time for maximum
impact of your
contributions is NOW!**



Summary

- The Acquisition Standards Profile will increase the visibility and role of multiple Standard Development Organizations (SDO) products within the wider international acquisition community
 - Will improve the efficiency of non modeling and simulation specialists by providing a method to locate and use modeling and simulation standards
 - Where applicable this product will also provide relevance, insight and visibility for SISO standards and the SISO Balloted Products Development and Support Process



We are looking forward to your enthusiastic participation!

SISO PDG Officers

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So Let's Get On With It !!!



Product Development Milestones

- Fall 2012 SIW: Phase 1 Activity Approval: Product Nomination (For both the SISO Guidance Product and the SISO Reference Product) drafted and submitted for approval.
- Spring 2013 SIW: Phase 2 Product Development Initiated: PDG Kickoff Meeting; Officers Elected, Drafting Group Established; Proposed Road Ahead (schedule; templates; product document structure).
- Fall 2013 SIW: PDG Workshop Meeting; Progress report (product development, review and comment resolution)
- Spring 2014 SIW: PDG Workshop Meeting; Progress report (product review and comment resolution)
- Summer 2014: Finalize product development. Development of both the SISO Guidance Product and the SISO Reference Product shall be finalized at this point. The SISO Reference Product shall be part of the Circulation Package for the SISO Guidance Product.
- Fall 2014 SIW: PDG presents product to the SAC for approval to begin balloting. Initiate Phase 3 Product Balloting
- By end of 2014: Phase 4 Product Approval: SISO product available for use worldwide