

Interoperability ClearingHouse

Architecture Assurance Method (AAM)

A consensus base process standard for enabling sound IT investment decisions



**Streamlined DoD 5000-02 and Clinger Cohen Act Compliance
for IT Architecture, Assessments and Acquisitions**

AAM 2009

Executive Summary

Version 2.1

Interoperability Clearinghouse
Non-profit Research Institute 501(C)6
904 Clifton Drive, Alexandria, VA 22308
703 768-0400 (v) 703 765-9295 (fax)
www.ichnet.org info@ICHnet.org

Overview of ICH's Architecture Assurance Method (AAM)

Meeting today's IT Acquisition Challenges!

Beginning with the signing of the Clinger Cohen Act, and evidence by numerous blue ribbon panels (Defense Science Board, AF Science Advisory Board, IAC/ACT, Gansler Commission, and ECCWG), Streamlining the IT Acquisition Process is one of the most significant challenges facing government today. Current methods support requirements, architectures and acquisitions have changed little over the past 20 years, and today, fail to keep up with the market innovations and the faced paced IT market. The Architecture Assurance Method (AAM) begins to answer this challenge by bringing to market an IT lifecycle decision support methodology designed to better enable sound investment decisions. AAM provides the connective tissue that integrates existing "cylinders of excellence" in **requirements, architectures and acquisitions** processes. AAM enables alignment and better management oversight as IT programs move through each of the acquisition lifecycle "decision gates" through a series of evidenced based templates. AAM is an Interoperability Clearinghouse consensus standard derived from commercial best practices designed to fulfill key elements of the Clinger Cohen Act and mitigating root causes of failure found in numerous GAO, Defense Science Board and blue ribbon panel reports. Contributors to this "standard of practice" represented forward thinking standards bodies, federal agencies, financial institutions, communities of practice, and leading IT solution providers. Evolving since 1998, AAM has proven again and again to drive sound investment decisions. AAM, supported by ICH's Knowledge Network, mitigates common IT program failure patterns that afflict 34% of all major IT programs; inability to align prioritized business needs with interoperable commercial IT solution sets. AAM is a core component of the AF Solution Assessment Process (ASAP), and the BTA Capability Assessment Method (CAM), and formally recommended by the worlds largest IT institutes.



Acquisition Warriors circa post 2003

Why Agency Need to Act To Assure IT Acquisition

PMs:

- How do requirements fold into capabilities in 360 days or less?
- Which requirements are high value and which or high risk?
- How does the architecture connect with the acquisition strategy?
- To what extent can current technologies satisfy my capability gaps?
- Is there a DAU course that addresses the "how" with real world case studies?

Why AAM is needed:

Ad hoc Analytical Methods
Lack of standardized decision tools

Unresolved, Acquisition efforts produce:

- Errors/Redo's
- Over Specification
- Schedule/Implementation Delays
- Increased risk/costly Custom Development

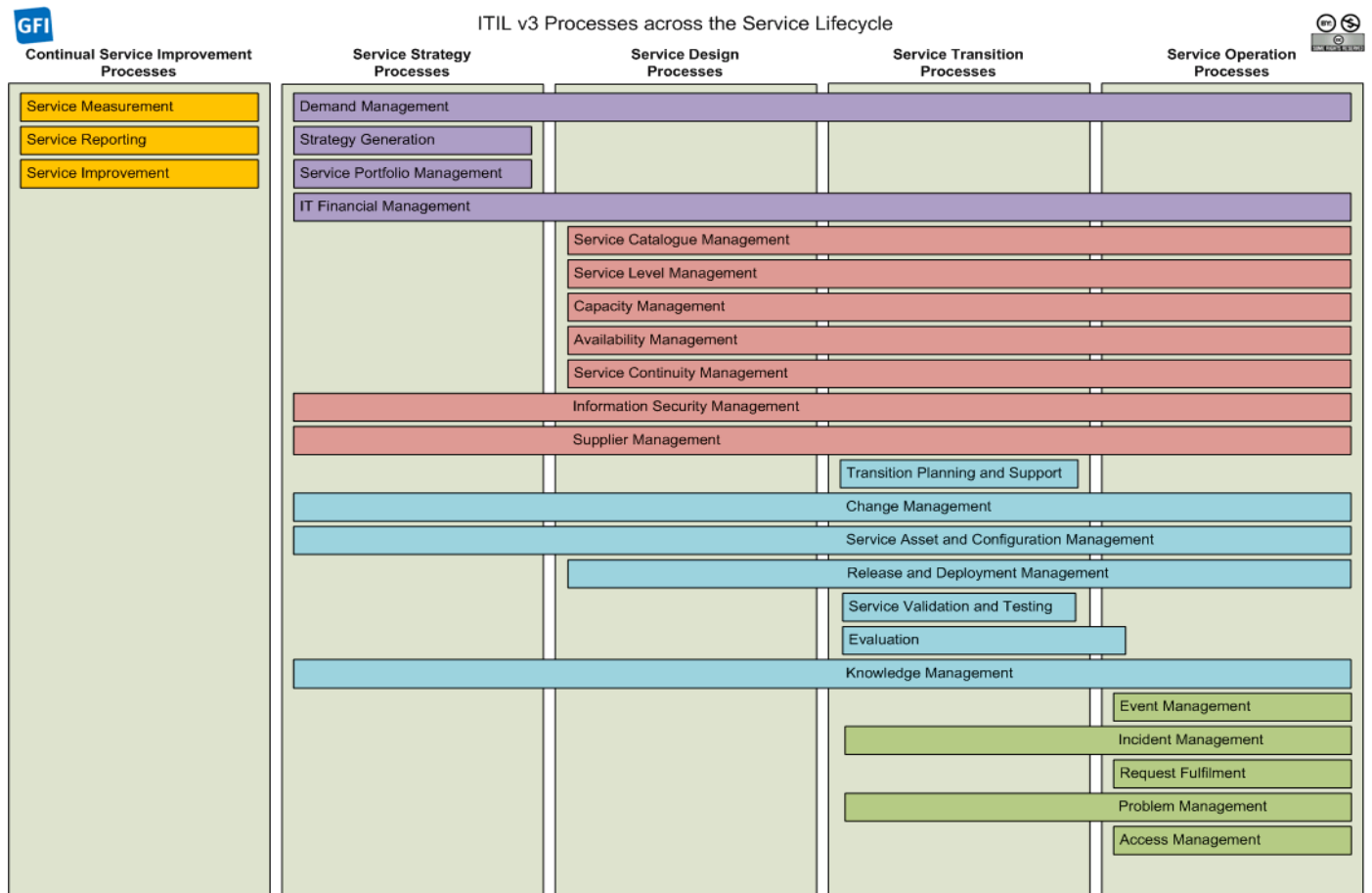
AAM enables *transparency* and *accountability* through out the IT Acquisition Lifecycle by:

- Eliminating low value and high risk requirements through Value Chain Analysis techniques
- Providing a "bottom up" view of the "realm of the possible" in a Services Oriented Context (COTS/Open Source)
- Providing reusable solution architectures templates that reduce analysis/paralysis and duplication of efforts
- Optimize contributions among IT Supply chain members; users, COTS vendors, integrators, testers, overseers.
- Standardizing Assessments of Vendor Capabilities, IT Technology Readiness Levels and Tech Maturity.
- Providing a rigorous business case analysis tool that measures the business value of technology.
- Increasing the accuracy/vitality of a capability assessment by vetting vendor capabilities assertions against real-life lessons learned through the COTS assessment framework within the Agency.

This standardized decision support framework is essential in solution-based assessments where requirements are often overstated with no mechanisms to discern if an 80% solution using an available technology is viable.

AAM incorporates by reference emerging standards of practice already proven commercial market to provide an integrated decision tool for the entire IT Lifecycle; Component Based and Service Oriented Architectures, Federal Enterprise Architecture Reference Model, ITIL v3 for specifying processes, Value Streamline Analysis to prioritize capabilities and outcomes, Evidence Based Research to validate sources and quality of past performance data, and Business Process Management (BPM). AAM is managed and distributed as a consensus based standard of practice

Leading FFRDC: "... the concept of the Interoperability Clearinghouse is sound and vital. Its developing role as an honest broker of all interoperability technologies, no matter what the source, is especially needed. Such efforts should be supported by any organization that wants to stop putting all of its money into maintaining archaic software and obtuse data formats, and instead start focusing on bottom-line issues of productivity and cost-effective use of information technology."



by Rui Soares, based on "The Official Introduction to the ITIL Service Lifecycle" (Sharon Taylor) - itilblues.wordpress.com

much like SEI manages, trains and equips the market with CMMi. OMB A119 and NTTAA direct agencies to give greater deference to industry developed and maintained standard as it provide greater economies of scale and lower cost to each of the subscribing organizations.

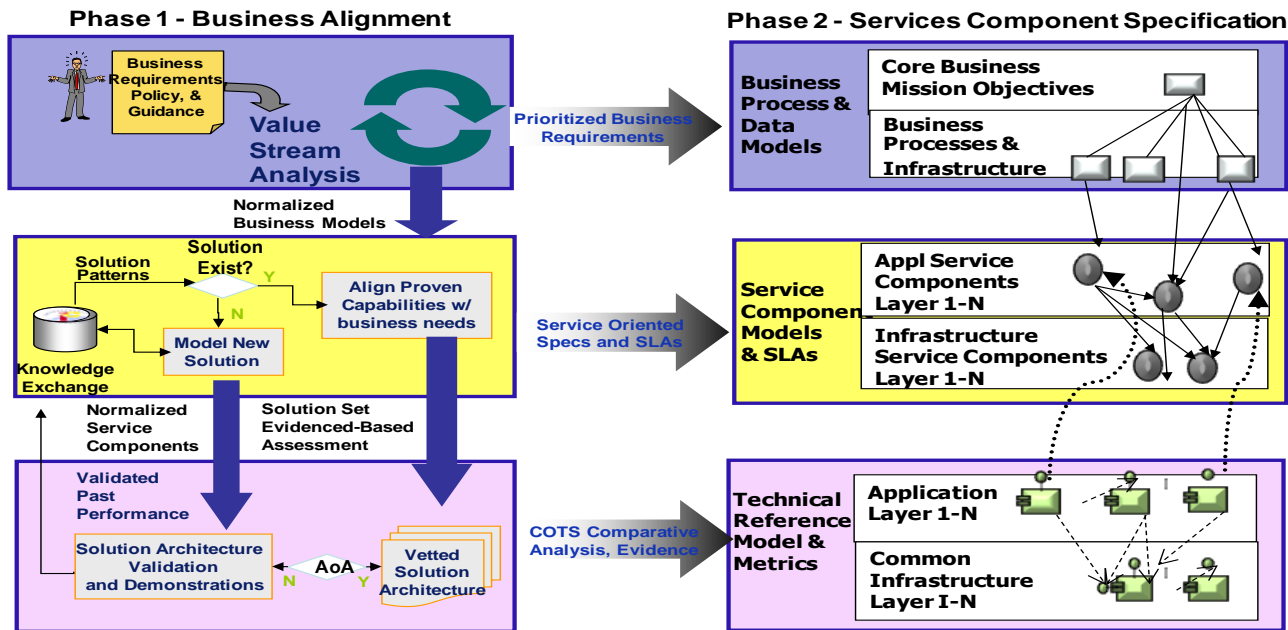
AAM Process Models

The discussion that follows describes the 3 phases of AAM. AAM is based on analytical techniques that identify the "hard" business capabilities that need to be satisfied in the problem statement, translating them into capabilities,

then into service that enable SOA and traditional implementations and the AAM products that streamline this Process. Below is a graphical depiction of how AAM aligns business needs with technical solutions.

AAM Process Models

Validates and aligns business drivers with proven interoperable IT Services



Phase 1 - Business Alignment - Maps Requirements into Business Processes and Outcomes. As shown below, AAM uses value-stream analysis to determine if requirements align with capabilities in the Problem Statement. AAM's objective is to force an objective analysis of whether all requirements are necessary to achieve the core mission objectives. In collaborative manner ICH conducts Capabilities Prioritization sessions to determine the importance of each capability to meet the problem statement objective. Capabilities may come from DoD documents as Enterprise Architecture To-Be's, JOPsC, CDD and/or industry best practices. This effort then uses value stream analysis as mechanism to align the collection of requirements into actionable Business processes improvements that support how the stakeholder can provide better value to the enterprise. The outcome is normalized business capabilities. ICH would use its Capability Analysis and Prioritization Products to focus on achieving mission essentials and would appropriately determine the Service Level Agreements and performance measures.

EXPECTED OUTCOME: Business Reference Model. This focuses on applying Michael Porters Value Stream Analysis to assure critical business need, processes and performance measures. The output of this phase maps directly with OMB FEA-PMO and DODAF Operational Views.

Phase 2 - Services Component Specification - Aligns Business Outcomes with SOA Capabilities. As shown above, AAM uses a service reference model (SRM) approach to determine how the normalized business capabilities can be decomposed into service domains/types/components and how these can be referenced to similar systems. It is from the normalized service components that solution set are evaluated to determine the availability of exiting COTS and GOTS solutions are available. No matter the implementation approach, as web-services, a service component approach enables the establishment of service-level requirements and performance parameters. The outcome will eventually become implementation service-level agreements or performance requirements.

EXPECTED OUTCOME: Analysis of Alternatives Templates, Service Component Reference Model and SLA, Business

Case rules. This Phase determine the course of actions necessary to determine: *Is there sufficient existing services in terms of Open Source, COTS/GOTS offerings to meet the capabilities identified in Phase 1?* ICH would use it Capability/Solution Product to focus on achieving mission essentials and would appropriately determine the Service Level Agreements and performance measures.

Phase 3 – Solution Assessments. As shown below, AAM uses analytical and collaborative processes to conduct Capability Alignment, Analysis of Alternative and Economic Analysis that provide a how-to streamline path that are compliant with the legal statutes and agency regulation. AAM is mature process that includes Guides, Training, Mentoring and Industry outreach services reduce the evaluation risk through ICH’s Evidence-based Research (EBR) service. ICH would use it Solution Architecture Assessment and Economic Analysis Products to best-fit solution from COTS/GOTS/OSS solutions.

EXPECTED OUTCOME: Evaluation of Alternatives, Business Case Analysis. A Risk Assessment approach providing decision quality data to Decisions Makers. This assessment follows with a business case analysis that applies economic value to the solution that can be then go through a tradeoff analysis form the AoA. Alternatives are evaluated against one another using a weighted analysis methodology that measures against risk. In the end the Solution Assessments identifies the set of solutions that provide most valued capabilities desired with the least risk.

Stakeholder Value: AAM’s three phase decision support method benefits all the members of the IT Acquisition Value Chain, including;

- **Domain User Practitioner:** Validates desired capabilities against realm of the possible. Verifies how COTS/Open Source solution sets and provider together solve critical business need.

"We have put to practice the AF Solution Assessment Process (ASAP) at the Air Force Communications Agency (AFCA) with some well documented success. It was developed with Interoperability Clearinghouse (ICH) and provides a structured and measurable IT assessment process with the agility to provide decision-quality assessments ranging from quick-looks to more in-depth capability-focused technology assessments and lightweight business case analysis"
General Mike Peterson, AF CIO.

- **Senior Management/Overseers:** Aligns requirements with measurable outcomes and service component specifications. Provides clear decision data (and risks) need to assure implementation success while mitigating common risk of failure (over specification, market hype, reduced cycle time, actionable service level agreements).
- **IT Standards Organizations (Defacto, de jure, International, Consortia):** Validate system specifications to standards specifications and conforming products. Defines business value and viability of standards.
- **COTS/Open Source Providers (ISVs):** Validate “openness” and alignment of product capabilities with desired capabilities and system requirements through evidence based research. Provide “use cases” of successful implementations as proof theorem and validated past performance in a solution architecture context.
- **Independent Testing Labs and Syndicated Research Firms:** Demonstrates value and repurposes existing testing results to reduce C&A cycle times.

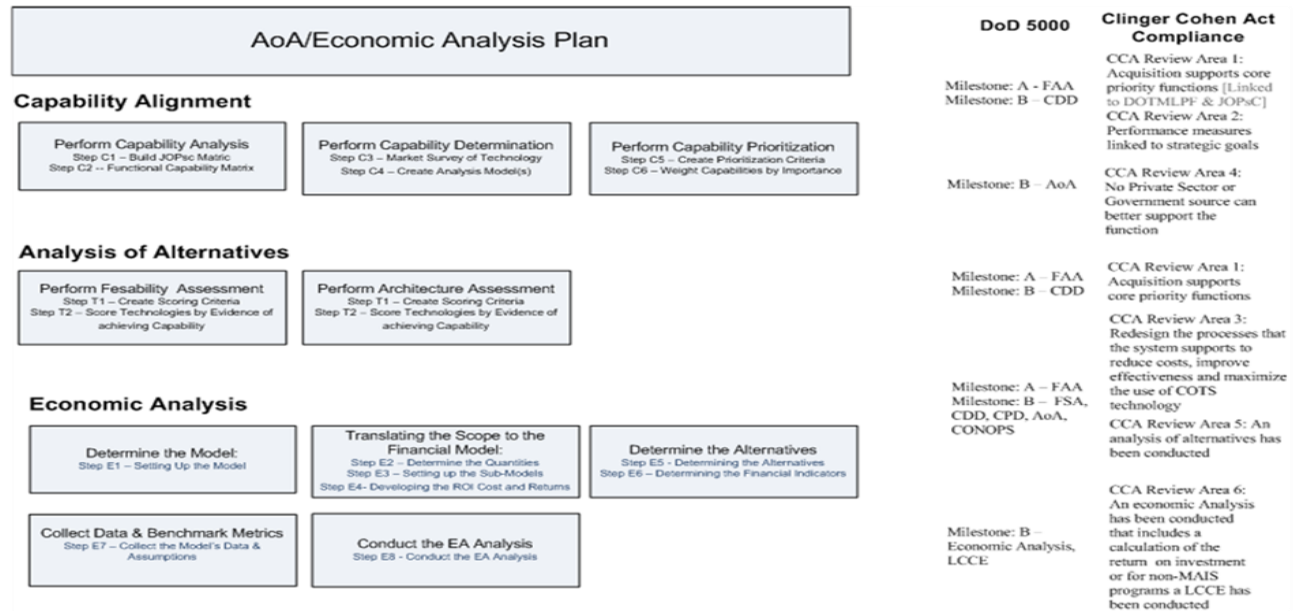
- **Solution Integrators:** Validate proposed solution architecture and viability of architecture. Confirms business value contribution to user needs.

AAM Analytics: AAM provides agencies with a repeatable, measurable and standardized approach for managing the IT Acquisition Lifecycle with a standardize set of interconnecting decision tools designed to better enable sound decision making, and bring management focus to the critical issues and risks facing major IT programs. AAM’s standardized and reusable artifacts create consistency across the federal enterprise and provide a common set of assessment tools for effective oversight and risk mitigation. As an increased amount of program management is dedicated to conformance vs performance, AAM simplified compliance while reducing common risks associated with

major IT programs as evidenced by an unmatched string of implementation successes across DOD, Civilian and Commercial organizations.

Phase 3 – AAM Analytics – Accelerated 5000 and CCA Compliance

Assuring timely, Rational Decisions



3 Phases 19 Processes
Assessments

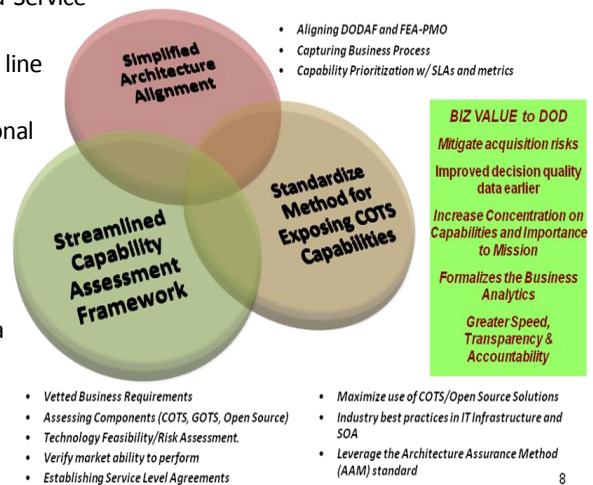
Solution

Business Case for AAM

The Business Case for AAM addresses the Clinger Cohen Act Mandates and the need for faster cycle times:

- Increased efficiency, efficacy and a higher utilization of GOTS/COTS products in Federal acquisition operations
- Business Capabilities Validation— Focuses on the business outcomes and creates actionable and measurable requirements
- Leveraging OMB Service references models by establishing such models that map to industry best practices and capturing existing performance measures and Service Level Agreements or Performance Measures.
- Providing an industry–tested acquisition approach that provides a line of sight to the appropriate solutions architecture.
- Reducing redundant Assessments that decrease overall operational efficiency,
- Making non-optimal decisions more difficult to approve,
- Creating knowledge libraries to reduce the discovery time for artifacts while providing configuration management of the documents
- Providing a transparent actionable methodology providing a uniform understanding of the results of the assessment.

Business Case for AAM



Meeting these mandates is a must for any large organization that is seeking an actionable, measurable and transparent decision support framework that provides traceability and risk management from

requirements through operations.

ICH Evidence-Base Research Service (EBR)

ICH's AAM is capability based approach to determine the availability, efficacy, and vitality of commercial products to address a business enterprises objective. Few can afford technology because it cool or has the most features anymore. This means technology uses (and its costs) must be directed on business goals. A bad selection of technology can have a major impact on a business efficiency or competitiveness. We no longer can depend on what the vendor indicates their product can accomplish. ICH's outreach program audits and verifies a vendor's claims through the companies references from the vendor and through our outreach program. The audit demonstrates the strength of the vendors claim through evidence created in SAIL's virtual "lab ("consortia"). We understand how "most probable cost" analysis we conduct today can effect a technology decision. But, we do not understand most probable technology value today. SAIL is the most robust method available today to understand the risks in technology selections in architectures. SAIL is essential element of AAM as it provides this vital data for selecting the least risk technology to build are solution architectures.

New AAM Tools

Recent additions to AAM Are:

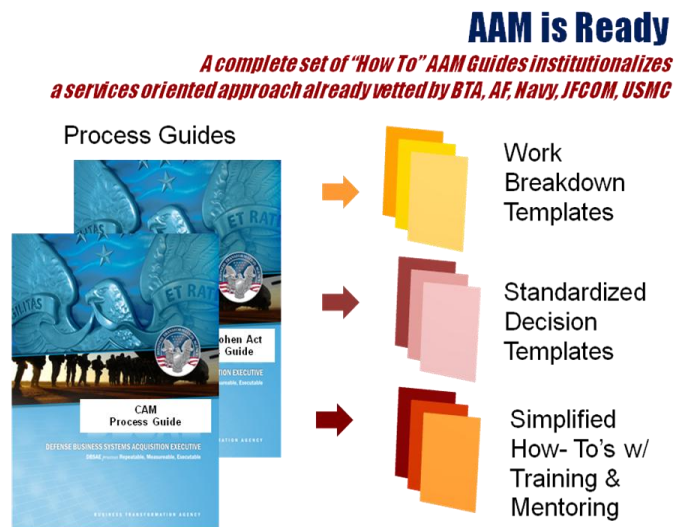
- Metric-based Reporting System that automatically develops:
 - Cost estimated based on complexity and evaluator skill level across each Phase of a AAM based project. Metrics are automatically updated after each new input
 - Annual Budgets based on the numbers of projected assessments.
- Economic Analysis Workbench that:
 - Calculates Total Cost of Ownership and Return on investment
 - Includes easy to fill out templates for each alterative.

EDS: "The leveraging of our efforts with other parties through the formulation of a non-profit consortium is the most cost effective and efficient way of achieving the goal of interoperability assurance among heterogeneous systems. This ICH capability will augment our capability and provide us much more information about products, standards, and viable enterprise solution sets than we could ever realize through our own internal efforts."

Predicable outcomes driven by AAM adoption are three fold; 1) validate the priority and clarity of requirements in terms of Capabilities, 2) establish objective, service-oriented, evaluation criteria and metrics, and 3) increased efficiency, efficacy and a higher utilization of GOTS/COTS products as service components in Federal Agency operations. **AAM and ICH represent the ounce of prevention for those who cannot afford the pound of cure.**

Architecture Assurance Method as a Decision Support Framework

Numerous study groups looking at IT Acquisition have noted that there were varying degrees of rigor applied to established IT architecture, assessment and acquisition processes. These cylinders of excellence support their own community of interest, but fail to consistently align decision information across the IT Acquisition lifecycle, while also creating many redos. Solution Architecture reporting is also developed in a non-uniform manner with different degrees of process documentation, which makes it difficult to accomplish "apples-to-apples" assessments both intra and inter-organizationally. AAM, on the other hand, provides a repeatable, standardized and measurable outputs needed to enable effective decision support and oversight at each stage of the program lifecycle, from requirements to implementation. The AAM process can be viewed as a sequence of



adaptive “solution architecture decision gates” that focus on outcomes and define exit/entry criteria, so as to identify and resolve potential risks early in the program lifecycle. The AAM business “decision gates” is described in the section below which are applied at any time in the lifecycle process. Experience has taught us that the relative cost to identify and resolve false assumptions or critical flaws increases exponentially as these unseen errors make their way unresolved as they pass through each business gate.

AAM uses building block approach where each Phase provides reuse and traceability between artifacts. This allows separate organization to produce documents with little if any redo of research by taking advantage of this *Integrated Process*.

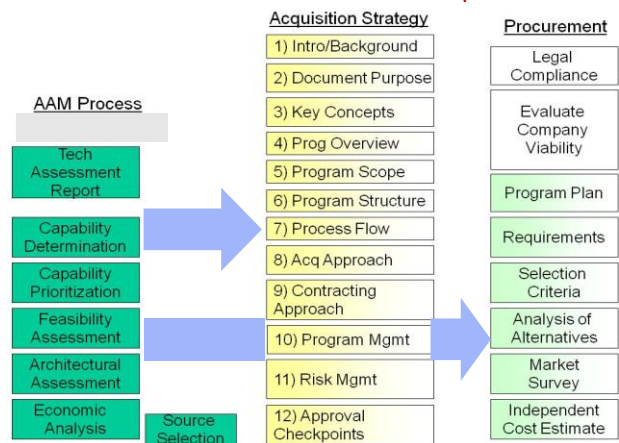
AAM documents are designed to provide an “integrated process” using a building block approach that assures traceability between:

- **Capability Determination**
- **Capability Refinement**
- **AoAs**
- **Economic Analysis**
- **CDDs**
- **Acquisition Strategy**
- **Clinger-Cohen Compliance Memorandum**
- **Procurement Documents preparation**
- **Source Selection**
- **ISPs.**

While most acquisition often have stove piped the acquisition process adding length, cost and lose of depth in the acquisition’s team depth of knowledge, AAM breakthrough with standardized process the reuses the building blocks from prior stages. AAM there by decrease the time to conduct, need fewer resources to conduct including dollars and build a strong team with a depth of knowledge as to what is needed to be produced.

Each of these analysis artifacts are described below:

AAM Touchpoints with Acquisition & Procurement Reuse vs. Duplicative Efforts



AAM PROCESSES	AAM PROCESS DESCRIPTIONS
Root Cause Analysis	<i>Root cause Analysis (RCA)</i> is a top-to-bottom review of the issues and gaps that an organization is facing. This review can be conducted at the CIO level, a specific initiative, or a system of record/program.
Capability Analysis	<i>Capability Analysis</i> conducts an in depth analysis of business and mission needs assessment. This effort is best conducted after a <i>Root Cause Analysis</i> . This effort identifies the problem that is to be solved - by enumerating in detail the capabilities that are required.
Capability Determination	<i>Capability Determination</i> . This effort produces a capability description and an analysis plan that breaks the capabilities into one or more services or solution sets relevant for conducting a technology assessment. Solution sets may be organized by user activities or types of activities and can often be represented by use-case scenarios.

<p>Capability Prioritization</p>	<p><i>Capability Prioritization</i> is conducted with the key stakeholders to create an analytical measure of the value of the capability to the enterprise/program/project. This is an important tool in understanding the scope of program objectives which, in turn, drive the ordering of requirements. The technique that is used for prioritization was developed by ICH - Value Chain Analysis (VCA). ICH derived VCA from Michael Porter’s work on Value Chains. The goal of the <i>capability prioritization</i> process is to look at the value of each capability/objective in the environment for each use-case and to assign numerical priorities representing the importance of individual capabilities for each of the use-cases. This effort produces an agreed-to prioritization of the capabilities values. A by-product of this effort is a set of vetted evaluation criteria that can be used in future acquisitions.</p>
<p>Solution Arch. Assessments:</p> <ul style="list-style-type: none"> • Feasibility Assessment • Architectural Assessment • Source Selection 	<p><i>Solution Assessments</i> are based on the ability of a technology/service component to satisfy the business or mission capability. There are 3 types of these assessments which occur at different phases of a solution’s architecture development. In all cases, the scoring is based on ICH’s <i>Evidenced Based Research</i> (EBR) that uses industry-based best practices as evidence on vendor claims.</p> <p>(a) Feasibility Assessments analyze the degree to which existing technologies meet the capabilities needed (sufficiency). They are used to determine the applicability of vendor products to the set of prioritized alternatives. Once the alternatives are prioritized, the Feasibility Assessment guides the determination of a “make/buy” decision: The analysis produces emphasis on existing products rather than building custom solutions which are prone to much higher risk. Feasibility Assessments are a quick view technology and not meant to be a comprehensive view of all technology.</p> <p>(b) Architectural Assessments provide a fast-path means of capturing detailed/in-depth analysis on technology solutions and their alternatives. The objective is to deliver research, analysis, and gathering of direct business experience/examples from “audits”, of our SAIL offering or validated responses developed by a network of product vendors, integrators and end users. <i>Architectural Assessment</i> will produce an analytical rating of each technology considered from “no risk” to “high risk” using AAM’s “value” matrix.</p> <p>(c) Source Selection provides an in-depth <i>analysis</i> of only the proposed solution sets for procurement. The “value” matrix process within AAM does a “best” fit solution analysis and proposed solutions are scored as applicable to the identified capability. The “value” matrix summarizes the evaluation to the source selection authority. Finally, after all of the proposed products have been evaluated, the “best” fit solution is identified and ranked in the selection assessment table. This table summarizes the evaluation to the source selection authority. Accompanying assessment reports describe the rationale for the scoring. These analytical artifacts are used in the Defense community to augment and streamline the JCIDS processes, thereby providing a sound justification and supporting evidence for successful program execution.</p>
<p>Analysis of Alternatives / Evaluation of Technical Alternatives</p>	<p>ICH’s Analysis of Alternatives is a sub-process in which ICH segments the solution into Technology Assessment processes. Based on the <i>Capabilities Prioritization</i> and <i>Technical Assessment</i>, each alternative can be measured against these aggregated objectives, which can often be described as a use-case. Rating each use-case with respect to a capability, allows a value calculation that can provide a priority indicator for each alternative to determine its feasibility.</p>
<p>Business Case Analysis</p>	<p><i>Business Case Analysis</i> is a rapid assessment of the Total Cost of Ownership, Return on Investment, and Payback Period on all or selected alternatives identified by the Analysis of Alternatives Report.</p>
<p>Outcome Assurance</p>	<p><i>Outcome Assurance</i> provides analysis of to-be built capabilities versus the capabilities delivered. This is a critical analysis to assure that what was expected actually occurred. Capabilities, not or partially delivered are identified and iterated to the gaps and improvement areas at the start of a Solutions Engineering.</p>

Another outcome of the AAM is it provides a set standardized decision support (analytical) templates that can be reused across multiple agencies and domains. AAM's provides a 5 point scoring methodology (where 1 is high, and 5 is low). Scoring is capability weighted to determine the overall value of a product or solution, and is represented in a color-coded scheme ICH refers to as "Value Matrices". An illustration of the value matrix template is shown below for a portal evaluation. This could be a set of service components in a SOA/Mashups environment or a set of capabilities in a cross-domain high assurance military/IC environment.

ARCHITECTURE ASSESSMENT - Sorted	Scale: 1= lowest risk 5= highest risk											Weighted Risk	
	PRODUCT NAME	Weight	Compliance with Industry Standards	Personalization	Knowledge Management	Collaboration	Search and Indexing	Content Management and Delivery	Workflow	Document/Records Management	System Monitoring and Reporting		Customer Service
Portal 1		2	1	1	1	1	1	1	1	2	1	2	1.31
Portal 2		1	2	1	5	1	1	2	1	2	2	2	1.58
Portal 4		2	5	1	2	3	2	2	1	3	3	3	2.00
Portal 10		1	2	2	1	2	2	3	3	1	3	3	2.01
Portal 11		3	3	1	4	4	1	3	1	4	3	3	2.30
Portal 5		4	2	2	2	2	3	2	2	2	4	4	2.46
Portal 15		2	2	3	3	3	1	3	3	3	3	3	2.55
Portal 8		3	3	2	3	3	3	2	3	3	3	3	2.76
Portal 6		1	3	4	2	4	3	4	2	3	3	3	2.88
Portal 9		3	3	3	3	3	3	3	3	3	3	3	3.00
Portal 12		3	4	4	5	4	4	4	3	3	3	3	3.59
Portal 3		3	4	3	4	4	4	4	5	4	4	4	3.90
Portal 13		3	3	4	4	4	4	5	5	5	3	3	4.32
Portal 7		3	1	5	5	5	4	4	5	5	4	4	4.39
Portal 14		3	5	4	5	5	5	4	5	5	4	4	4.51
Portal 16		5	5	5	5	5	5	5	5	5	5	5	5.00

Blue = Essential
 Green = Desirable
 Yellow = Less Desirable
 Red = Undesirable

to determine if an 80% solution is viable.

SOA Enabler. AAM provides higher utilization of Capabilities, Service Components, and available technology products in a context, necessary for any SOA implementation and governance processes. The AAM processes place a higher value on existing COTS/OSS solutions as the default. Customized development and proprietary solutions are assigned higher risks based on overwhelming industry evidence. This is particularly necessary in solution-based assessments where requirements are overstated with no methodology

AAM Governance Framework for SOA

AAM is a set of management processes needed to increase the efficiency and effectiveness of the IT Acquisition Lifecycle. Fundamentally, the gaps in agency technology evaluation processes indicate a "managed process" is necessary and requires a set of synchronized policies, processes and methodologies. AAM is an enterprise approach, implementing a governance model that will: (1) reduce over specification of non-essential requirement (2) increase clarity and measurement of high value capabilities and services, (3) increase rigor of evaluation of alternatives, and (4) provide clear entry/exist criteria for each decision milestone. ICH informs and validates the architecture artifacts generated by this process through high performance working groups and solution architecture working groups that are inclusive of many communities of interest.

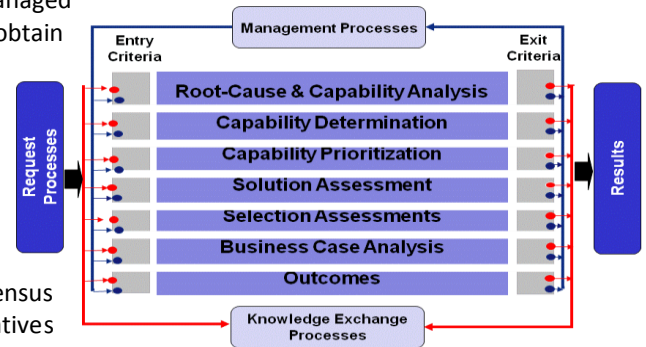
Solution Architecture Working Groups.

SAWGs, when properly facilitated by the ICH, provide a community of practices (COP), that will help establish objective performance metrics, architecture artifacts and entry/exit criteria aligned with business outcomes. At every step AAM seeks supporting evidence based research to validate organizational assumptions. The SAWG membership has an opportunity to reach other communities of interest available through ICH membership. ICH operates these working groups in an open and inclusive structure that conforms with the ANSI standards guidelines. Existing standards and standards of practice are incorporated by reference in accordance with OMB A-119 and NTTAA. The resulting vetted AAM products achieve a greater level of "buy in" when all Value Stream stake-holders are invited to participate, as they become part of the solution.

SUN MICROSYSTEMS: "Sun applauds the efforts of the OMG, ICH and DARPA in developing an 'Interoperability Clearinghouse' tool. This ambitious project will help to evangelize what Sun has been saying for so long. 'Open systems are the best way to protect IT investments.' "

AAM’s High-level Process. In AAM, each “type” of Capability Assessment (CA) will be conducted through a standardized process flow as illustrated in the Figure which shows Management control and service processes provide an enterprise view of the AAM process. This includes processes for Admissions into technical assessments and management review and decision points; where decisions include classification of technology including an agency level-of interest indicator to define the next steps and their staffing. In this figure *entry/exit criteria* are required.

AAM Life-cycle Assessment Framework. The most important aspect contributing to the success of an AAM undertaking is the management processes – which make up the AAM Assessment Framework. This includes performing flow, Entry/Exit criteria, and decision points that must be specified for each step in the process to assure “buy in” from all stakeholders as shown in the figure below. ICH has the appropriate templates and forms management structure to assure that these criteria are captured properly so that an *AAM Integration of Process, Control and Knowledge Bases* agreement can be reached at each step. The processes are managed through control documents which must be completed to obtain authorization or make a classification, feasibility, architecture, or selection decision. All decision results need to be documented (Form-based) and a fully automated process workflow with access to knowledge requirements via an ICH Library repository must be implemented for future reference.



Each step as performed will be managed and documented with overall entry and exit criteria. All stakeholders will come to a consensus to move forward on each step of the process, and the best alternatives will be selected for implementation to optimize the probability of success. Once implemented, the process information will be captured, stored in a library, and be available for similar government agency projects to take advantage of in the future.

“OASIS recognizes a much-needed synergy between our own interoperability development work and the ICH charter to model and validate interoperable solutions,” said Laura Walker, executive director of OASIS. “We look forward to seeing the efforts of both our organizations realized through greater industry deployment of interoperability standards.”

As AAM improves alignment of business needs with interoperable IT solutions, it provides the critical data for implementing a risk mitigation strategy, eliminating one of the primary causes of IT failures. This will result in:

- Reducing the overall time to reach a consensus concerning the best technical approach
- Standardizing the assessment process
- Vetting vendor and integrator assertions on solutions against real life lessons learned
- Reducing the time to conduct technical research by creating a library of “what works and what doesn’t”
- Creating a common lexicon across the enterprise



ICH's Dedication to Streamlining and Assuring Solution Acquisition Lifecycle

The Interoperability Clearinghouse (ICH) was conceived in 1998 and formerly chartered on 9-11-2000 by the Office of Secretary of Defense, as a 501(C)6 research institute (Business League). ICH was chartered to assure the solution engineering of commercial items into mission systems. The ICH Architecture Assurance Methodology and virtual Solution Architecture Integration Lab together provide a collaborative honest broker that can efficiently inform the IT planning, architecture and acquisitions processes. ICH provides PMs with a proven processes and access to a wide range of expertise not available through traditional contracting mechanisms. ICH provides "conflict free zone" to all members of the IT value chain: government agencies (federal, state, local), academia, standards bodies, commercial users, and solution providers (large and small) who work together to define solution architecture standards of practice w/ associated performance metrics required to modeling, vetting and sharing proven IT capabilities (COTS/GOTS/Open Source). With IT failure rates in government tracking at 72%, and over a 1/3 attributed to the inability to align common business needs with proven technical solutions, ICH can effectively transform and inform the solution engineering and portfolio management process.

**OFFICE OF THE
SECRETARY OF DEFENSE,
DEPUTY CIO:** "Since the value of the ICH to our programs increases rapidly through results sharing, we encourage the defense community and IT industry to participate directly in the public service initiative in terms of sponsorship and lessons learned"

About the Interoperability Clearinghouse

On Sept. 11th, 2000, the Interoperability Clearinghouse was chartered as a non-profit 501C6 to provide industry with new architecture assurance methods, knowledge sharing tools and an architecture resource center for ensuring implementation success. With its goal to serve the IT value chain members, the Interoperability Clearinghouse (ICHnet.org), now provides the mechanisms for mapping technical solutions to business drivers by addressing the challenges involved in making timely architectural choices for E-Business and Secure Information Infrastructures.

Large organizations are especially susceptible to interoperability and implementation challenges due to the autonomy of departmental system buyers, and the inability to assess the impact of new technologies on the existing infrastructure. It is not surprising that major federal IT program failures are at an all time high, running between 72 to 80% (IDG, GAO, OSD Comptroller, Gartner), with those who can least afford failure leading the pack; the public sector. In 1996, the Clinger-Cohen Act was signed into law, requiring government IT managers to establish better processes for adopting commercial technologies and avoiding the risk of customer unique software development whenever possible. However, ten years after passage of this important legislation few mechanisms have been established to help government IT program managers achieve this mandate.

PMs, Architects and Acquisition work forces need a more efficient and transparent approach for aligning common business requirements with commercially proven IT solutions (COTS/Open Source). They need information on technology that is based upon in-context information, not guesswork and marketing illusions. They need a lifecycle decision guide that enables sound decisions at each stage of program lifecycle. They need a true honest broker that cannot be compromised by profits or vested interest in downstream development, integration or testing efforts that create organizational conflicts of interests.

ICH Research Projects 2000-2008

Related Experience: 2008

Marine Corps CDS transition analysis for Combat engineer training environments

Army AAM Service Component Reference Model development

AF CIO planning for Unified Communications

AF CIO Assessment of eFIOA technologies

Related Experience: 2007

Phase 2 of Air Force-wide ASAP transition planning. ASAP Pilot for Server Based Computing

Evaluation of CDS in a SOA services for the Navy Afloat program for FY09 and FY15.

Related Experience: 2006

Risk Assessment of MNIS CDS solutions for DISA/Navy Program Office

Evaluation of MNS CDS Training Roadmap for JFCOM
AF CIO Solution Assessment Program (ASAP), development of an enterprise wide solution architecture process building on ICH's Architecture Assurance Method.

Related Experience: 2005 and earlier

2005 Department of Homeland Security Enterprise Portal Consolidation Architecture Roadmap

2005 Government Printing Office's (GPO) Future Digital System program Capability Assessment.

2004 Commerce/NTIA, Spectrum Management Enterprise Architecture Roadmap (with Computer Science Corp. (CSC)).

2004 Dept of Commerce/Patent Trademark Office Mainframe Migration Program, migrating from mainframes to a Web Services Architecture.

2004 GSA FTS Enterprise Architecture

2003 Drug Enforcement Agency's (DEA) Strategic Plan and Enterprise Architecture Roadmap

2002-2003 GSA's Financial Management Systems Solution Architecture Roadmap

2002 CIA's Web Service/Portal Solution Assessment

2002 Discovery Communications Global Multi-media Web Services Solution Architecture

1998-2001 OSD's Government Wide Patient Record, E-Healthcare Architecture Roadmap (GCPR)

Capabilities Determination	Capabilities Prioritization	Feasibility Assessment	Architecture Assessment	Selection Assessment
✓	✓	✓		✓
✓				
✓	✓	✓		
✓	✓		✓	
✓	✓	✓	✓	
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