

 Independent Verification & Validation Program	IT Business Management	IVV 11 Version: B Effective Date: March 27, 2013
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AUTHORITY		DATE
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Doug Dorrer (original signature on file)	Process Owner	03/26/2013

REFERENCE DOCUMENTS	
Document	Title
IVV QM	NASA IV&V Quality Manual
IVV 04	Program Support Office Services Request Process
IVV 07	Financial Data Control
IVV 10	Software and Hardware Configuration Management
IVV 16	Control of Records
IVV 20	NASA IV&V SWAT Request Process
NPD 2830.1	NASA Enterprise Architecture
NPR 1441.1	NASA Records Retention Schedules
NPR 2830.1	NASA Enterprise Architecture Procedures
NPR 7120.5	NASA Space Flight Program and Project Management Requirements
S3401	Enterprise Architecture Board Charter

If any process in this document conflicts with any document in NODIS, this document shall be superseded by the NODIS document. Any reference document external to NODIS shall be monitored by the Process Owner for current versioning.

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1.0 Purpose

The purpose of this system level procedure (SLP) is to establish a procedure to ensure a consistent method for Information Technology (IT) governance for the NASA IV&V Program and its related business functions. This will be governed by the NASA IV&V Enterprise Architecture Board (EAB).

This SLP outlines how to track and approve basic architecture changes brought forward by the NASA IV&V business community. The EAB will serve as a functional component to the NASA IV&V IT infrastructure and related components to ensure business continuity.

More detailed information regarding EAB membership roles and responsibilities can be found in S3401, *Enterprise Architecture Board Charter*.

2.0 Scope

This SLP encompasses business functions as they affect and relate to NASA IV&V IT. This includes all facilities/systems and business processes that affect the NASA IV&V Program, including partners, tenants, contractors, and related personnel. The EAB falls under NASA Policy Directive (NPD) 2830.1, *NASA Enterprise Architecture*.

3.0 Definitions and Acronyms

Official NASA IV&V roles and terms are defined in the [Quality Manual](#). Specialized definitions identified in this SLP are defined below.

3.1 Enterprise Architecture (EA)

Enterprise Architecture is an explicit description and documentation of the current and desired relationships among business and management processes and information technology. An Enterprise Architecture includes principles, an architecture framework, a technical standards profile, current and target architectures, and a transition strategy to move from the current to target architecture. (From NASA Procedural Requirements [NPR] 7120.5, *NASA Space Flight Program and Project Management Requirements*.)

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3.2 Enterprise Architecture (EA) “As-Is”

The EA “As-Is” is the set of products that portray the existing enterprise, current business practices, and technical infrastructure. It is also referred to as the “As-Is” Architecture.

3.3 Enterprise Architecture Board (EAB)

The EAB is a board of IT and business professionals whose goal is to facilitate cohesion between IT and business as well as a mapping between business goals and the underlying IT needed to support them.

3.4 Enterprise Architecture (EA) Official

The EA Official is responsible for defining all of the overall processes and logistics related to EA actions, as well as helping the Initiator define and direct the EA action.

3.5 Implementation Team

The Implementation Team is the team that is responsible for implementing EA actions from both feasibility and operational standpoints. This team will perform due diligence before any EA action is approved and will also be responsible for implementing the final solution.

3.6 Initiator

The Initiator is any individual or group that initiates the request for a new business requirement to be brought before the EAB.

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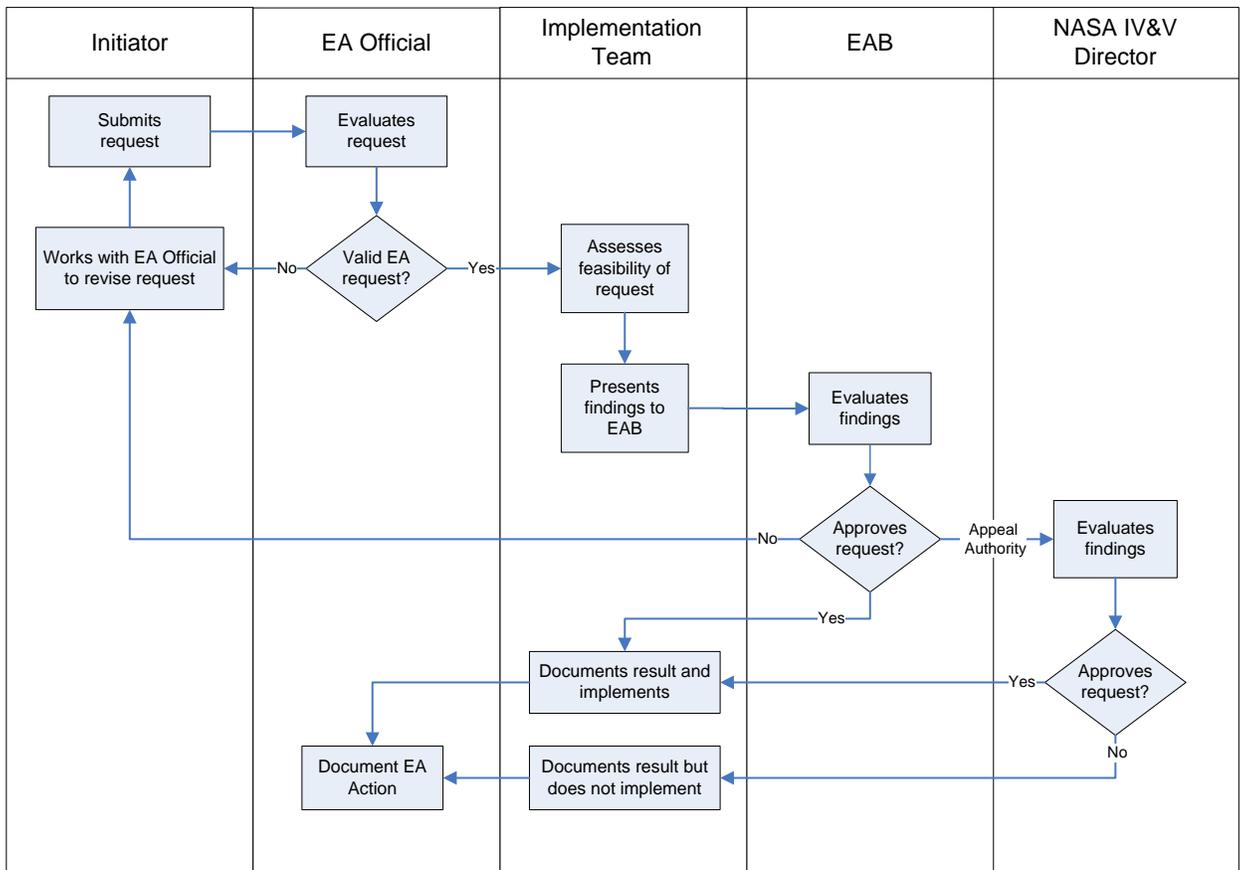
3.7 Acronyms

EA	Enterprise Architecture
EAB	Enterprise Architecture Board
ECM	Enterprise Content Management
FY	Fiscal Year
GSFC	Goddard Space Flight Center
IMS	NASA IV&V Management System
IT	Information Technology
NPD	NASA Policy Directive
NPR	NASA Procedural Requirements
PFM	Program Financial Management
QM	Quality Manual
SLP	System Level Procedure

4.0 Process Flow Diagram

The following diagram depicts the process described in this document, and the responsibilities and actions that shall be performed by process participants or their designees. Any information supplemental to the depicted process will appear after the diagram.

4.1 Business process request to enact IT implementation



4.1.1 Initiator Request

The Initiator may request an EA review by the EAB for a new capability, or for a new resource to meet a current capability. The Initiator may be directed to the EA Official after having requested a

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resource per IVV 04, *Program Support Office Services Request Process*, or IVV 20, *NASA IV&V SWAT Request Process*. The request should come in the form of a business justification or statement, and should be emailed to the EAB at eab@ivv.nasa.gov.¹

If the capability exists, then the EA action will be closed and forwarded to the appropriate personnel to implement the request processes in IVV 04 or IVV 20.

If the capability already exists but the Initiator feels that the resource could be improved, or if the capability doesn't exist, then the EA Official will work with the Initiator to identify the following elements to assist in creating the initial requirements document for the EA action:

- Justification from the affected business area (e.g., the IV&V Office, Program Support Office, etc.) that the request is valid
- Anticipated funding allocation (initial cost and out-year maintenance)
- Identification of expertise and oversight for support of the request (i.e., who will create it and who will support it)
- Notes from previous requirements meetings held per IVV 20

If the EAB rejects the request, the Initiator will have a chance to revise and resubmit the request for review by the NASA IV&V Director. The appeal can happen at any time during the process after one EAB review and requested via the EAB, the Implementation team, or Initiator.

Through each part of the process an email will be sent to the appropriate individuals to notify them of the progress. Most email will be sent to the eab@ivv.nasa.gov email address along with the initiator's email address.

¹ For example: Request received to allow end-users to access IV&V email from their web-enabled personal cell phones through a direct interface to the IV&V email server interface.

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4.1.2 EA Evaluation

To identify the best course of action, the EA Official will set up a meeting with the appropriate lead and all affected parties, including the respective implementation teams, along with the NASA IV&V Director or designee.

The EA Official shall use the following questions (defined in NPR 2830.1, *NASA Enterprise Architecture Procedures*) as guidelines for approving or rejecting actions and will ensure that the following items are brought forward either in a meeting or through other correspondence:

- Does this action fall within the scope of the NASA IV&V Business Architecture and Strategic Plan identified by management?
- Does this action follow NPR 2830.1? (This includes expanded criteria if all the criteria here are not sufficient.)
- Does this action not impact other business areas in an adverse way?
- Is there appropriate funding (initial and out-year)?
- Does this action provide added benefits?
- Does this action follow NASA and Goddard Space Flight Center (GSFC) guidelines?
- Is this business requirement unique, requiring special attention that cannot be met with the current toolset or IT function?
- Does this currently comply with the EA “As-Is” Reference and Technical Architecture?
- Is ownership agreed upon by a respective program? This would include maintaining the tools and providing subject matter expertise to support this capability
- Can this action be implemented effectively (with regard to IT security, technology, and other technical considerations) in the current IT environment? (This action is handled by the implementation team[s] and will take considerably longer to answer as there may need to be in-depth analysis to answer this question.)

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If these questions are answered with “Yes,” then the action should most likely be approved and proceed as a new EA request. If one or more of these actions is answered with “No,” then the EAB must determine what is most important (business feasibility, functionality, or security) and what is acceptable.

4.1.3 Budget and Planning

Once the questions are answered to the satisfaction of the EAB, the Initiator can move forward with projecting funding and other planning.

The Initiator shall identify dollars in the respective budgets and work with the Program Financial Management (PFM) Group to identify any necessary funding transfers and baseline revisions identified in IVV-07, *Financial Data Control*. All support functions to support maintenance of the tool will be transferred to the respective project.

The Initiator will work with the PFM Group to identify a spending plan for each fiscal year (FY).

The Initiator will then identify milestones and create a project plan to identify resources needed by other support programs and/or contracts and shall ensure that all procurements are made through a NASA approved procurement vehicle.

4.1.4 Final Implementation

The Initiator will work with Implementation Teams to fulfill the request, providing the Implementation Teams with the following information:

- Project plan with milestones
- Cost plan
- Concept of operations (to provide the Implementation Teams some insight if this is a new idea that is to be implemented with no clear direction already identified)
- Installation and/or implementation plan

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The Initiator and/or the Implementation Team will create a Configuration Management Plan (CMP) per IVV 10, *Software and Hardware Configuration Management*, no later than the end of this milestone.

4.1.5 Results and Final Documentation

The EAB will document the results and capture any notes, meeting minutes, and other pertinent information along with an EA number (EA-###) on the Enterprise Content Management (ECM) System.

The EAB will approve or deny the request via email or during an EAB meeting. Approval of the request must be unanimous from all EAB members.

If an EAB member is unavailable to provide input, then he/she may appoint an alternate to vote on his/her behalf or notify the EAB that all votes must be suspended until he/she is available. This suspension will be in effect for a maximum of 10 business days.

For EAB meetings, all parties (or their alternates) vote on the corresponding action.

If there is insufficient information or a disagreement among any EAB members, then the EAB must either deny the request or have the Initiator rework the request until agreement can be reached.

All EA documentation (including minutes, approvals, and assessments) will be stored in a centrally shared EA repository for reference and EAB review.

4.2 Appeals

EAB decisions may be appealed to the NASA IV&V Director. The NASA IV&V Director has the overall authority to approve an EAB-denied action as long as Program Management is willing to accept the risk and cost associated with the request. This authority shall be exercised only under special circumstances, such as when a mandate is handed down to the

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Agency and there is not a valid business case, but there is a requirement to implement.

Upon notification of an appeal, the Director will arrange an EAB meeting, at which the member that wishes to appeal shall present the Director with the risks, costs, issues, and impacts. The Director's decision on that appeal shall be final.

5.0 Metrics

Any metrics associated with this SLP are established and tracked within the NASA IV&V Metrics Program.

6.0 Records

The following records will be generated or updated and filed in accordance with this SLP and IVV 16, *Control of Records*, and in reference to NPR 1441.1, *NASA Records Retention Schedules*.

Record Name	Original	Vital	Responsible Person	Retention Requirement	Location
EA Approvals	Y	Y	EA Official	Cut off when superseded by a new iteration of the EA. Destroy/delete when 7 years old or when no longer needed, whichever is later. (2/26B)	EA Repository
EA Assessments	Y	N	EA Official	Cut off when superseded by a new iteration of the EA. Destroy/delete when 7 years old or when no longer needed, whichever is later. (2/26B)	EA Repository
EAB Meeting Minutes	Y	N	EA Official	Cut off when superseded by a new iteration of the EA. Destroy/delete when 7 years old or when no longer needed, whichever is later. (2/26B)	EA Repository



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VERSION HISTORY

Version	Description of Change	Rationale for Change	Author	Effective Date
Basic	Initial Release		Rick Cavanaugh	08/11/2010
A	Update example, terms, and request flow (4.1). Added Budget and Planning flow (4.1.2).	Annual Document review; PAR 2012-P-365: Example was not what is now considered an EA change.	Doug Dorrer	01/31/2013
B	Changed Business Process flowchart and process language. Removed Budget and Planning flowchart.	Clarify the process	Doug Dorrer	03/27/2013

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