

IT Architecture Board

Architecture Decision Criteria

1 Introduction

1.1 Document Purpose

This document defines architecture decision criteria that should be considered when proposing changes to the NETL IT architecture. The IT Architecture Board is the governing body that controls change decisions relative to changes envisioned for the NETL IT architecture.

1.2 Architecture Decision Criteria

Exhibit 1.2 below delineates criteria, objectives, and clarification information necessary to frame the data on which IT architecture decisions will be made.

| Criteria | Objective | Clarification/Meaning |
|-------------------------------|---|---|
| 1. Risk Management | Minimize or mitigate risk to an acceptable level. | <ul style="list-style-type: none"> • What risks would the adoption of the architectural item pose or reduce from a resource, schedule, technology, reputation, security, IT services reliability/availability and cost perspective? • What known problems/errors will be addressed with this solution? • How does this solution reduce the vulnerability and risk to the business? • Does the adoption of the architectural item transfer the risk to another architectural item? • Does the position of the architecture item in its product(s) life cycle induce risk (relates to Criteria item #7 regarding the state of the item under consideration)? |
| 2. Costs/Financial Management | Maximize return on investment. Minimize costs. Provide cost effective stewardship of the IT assets and the financial | <ul style="list-style-type: none"> • What are the licensing, hardware, software, maintenance, training, and support related costs and recurring costs associated with adopting the technology being considered? • What are the costs associated with maintaining non-production environments such as development and test platforms for the product |

Architecture Decision Criteria

| Criteria | Objective | Clarification/Meaning |
|--------------------------------|---|---|
| | resources used in providing IT services. | <p>or technology?</p> <ul style="list-style-type: none"> • What implementation costs could be expected from an end user and organizational adoption perspective? • If being used as a component of a system, what costs would be required for technology transfer? • Are IT resources existing or readily available to effectively support the technology from an operations perspective? • Does this architectural item require personnel resources to be trained to effectively implement? • Does this support the reduction of overall long term costs? • Can accurate and vital financial information be provided to assist in decision making? |
| 3. Benefits/Value Measurements | Maximize value to NETL. | <ul style="list-style-type: none"> • What are the quantitative and qualitative benefits associated with adopting the technology? • What improvements will be realized for ITD's Customers? • What services does this improve for the NETL user community? • Is the technology appropriate for the NETL environment in terms of the implementation (ie. Number of users, breadth of use, alternatives, etc...)? • Does this solution increase Customer confidence, possible competitive advantage and increased organizational credibility? |
| 4. Component dependencies | Minimize component dependencies. A loosely coupled architecture is the objective. | <ul style="list-style-type: none"> • What underlying technologies are required to support the architectural item being considered (e.g. FileNet is based upon WebLogic)? |
| 5. Capacity Management | Understand the future business requirements, NETL's operation, the IT infrastructure, and ensure that all current and future capacity and performance aspects of the business requirements are provided cost effectively. | <ul style="list-style-type: none"> • How are components of the solution to be monitored (service levels and cost)? • How will this impact other IT components within NETL's IT infrastructure? • How does this solution support current and future business needs? |
| 6. Interoperability/Interd | Maximize interoperability. A | <ul style="list-style-type: none"> • The ability of different types of computers, networks, operating |

Architecture Decision Criteria

| Criteria | Objective | Clarification/Meaning |
|------------------------------|--|--|
| ependency | loosely coupled architecture is the objective. | <p>systems, and applications to work together effectively, without prior communication, in order to exchange information in a useful and meaningful manner.</p> <ul style="list-style-type: none"> • The ability of information systems to operate in conjunction with each other encompassing communication protocols, hardware software, application, and data compatibility layers. • What incompatibilities and or conflicts with existing architectural items does the technology introduce? |
| 7. Sustainability | Maximize sustainability. | <ul style="list-style-type: none"> • What is the maturity of the technology? • What is the stability of the technology? • Is training and support available? • Is the manufacturer of the technology stable and thriving? • Is the technology prominent within the industry? • If the technology is a commercially available product, is it recognized as a market leading product? • Is the product/technology usability consistent within the user base capability. |
| 8. Regulatory compliance | Maintain compliance with regulations. | <ul style="list-style-type: none"> • What regulatory requirements relate to the adoption of the architectural item? |
| 9. Federal drivers | Crosswalk to the federal policies and guidelines. | <ul style="list-style-type: none"> • Does this align with government and/or DOE strategic direction? • Does the architecture item comply or deviate from Government or DOE standards? • |
| 10. Continuity of operations | Provision for continuity of operations & disaster recovery preparedness. | <ul style="list-style-type: none"> • How does the architectural item impact or relate to continuity of operations? |
| 11. Complexity | Minimize complexity. | <ul style="list-style-type: none"> • Will the architectural item increase the complexity of the environment significantly? • Are there redundant or like capabilities that already exist or that are already planned for incorporation? • Does the product unnecessarily increase the number of technologies that must be supported? |
| 12. Traceability | Build architectural traceability. | <ul style="list-style-type: none"> • Does the architectural item support or map to NETL mission, objectives, goals, and/or business processes? |