META Practice

GROUP

Best Practices in Architecture Management:

Architecture Approval Processes

FOCAL POINT

Mastering the process of navigating cultural, organizational, and political barriers and achieving broad consensus across IT and line-of-business (LOB) organizations is a key trait of organizations that successfully implement enterprisewide technical architectures (EWTAs). These organizations have learned that the creation of processes to gain approval and sign-off on EWTA deliverables by senior business and IT management is a critical enabler to overcome these barriers.

META Trend: By 2000, the "best practices" of EWTAs will be increasingly consistent, as Global 2000 companies move to network-centric computing with widening success. The "unified management" and "governed evolution" of the enterprise architecture will become dominant best practices, even where asset ownership is federated.

META Trend: Through 2003, the primary determinant of an EWTA's success will be the extent to which corporate line managers comprehend, support, and enforce it. Enterprise architecture efforts that are not successful in gaining line management support will fail, regardless of the EWTA's design and engineering quality.

Background

Many well-intentioned EWTA efforts are ill prepared for the realities they will face. Eager to achieve results, architecture teams (ATs) often immediately proceed to build an EWTA. Even teams that understand how to create an adaptive architecture tied to the business drivers find their efforts stalled when organizational consensus cannot be achieved. Their progress is hampered by the lack of a formal process to gain agreement on the content of the EWTA. This leads to a retreat by the ATs as they retroactively address sponsorship, buy-in, and issues surrounding governance. These midcourse corrections cause delay and can be fatal to an architecture effort (see EAS Delta 40, 12 Jan 1999, for a discussion of other inhibitors to EWTA success). A common AT mistake is to consider the EWTA a one-time event, with assumptions that the end product will win approval upon completion. Successful architecture efforts are continuous and organic, requiring layered and iterative approval cycles. The creation of an IT steering committee (ITSC) and an architecture review board (ARB) with the appropriate IT department and line-of-business (LOB) representation is essential to a successful ongoing architecture effort. Often overlooked are formal rules and procedures for the operation of these committees, as well as ways to interact with them when requesting approval of architecture deliverables. Many early architecture efforts are detoured awaiting approval of their first deliverable while the committees define the scope, authority, membership, voting rules, and review processes. Their long-term viability is enhanced by creating a set of rules defining how often they assemble, which issues they address directly (architecture principles, standards, and strategic products), and which they defer to smaller working groups (lower-level product decisions), while ensuring all constituencies are adequately represented. Care must also be

META Group

taken to avoid complex or unwieldy procedures, as well as committees too large for effective and frequent dialog. The process must move quickly and efficiently, with time and workload being the critical elements. It is a well-recognized fact that business and technical leaders universally abhor onerous processes and will fail to participate effectively.
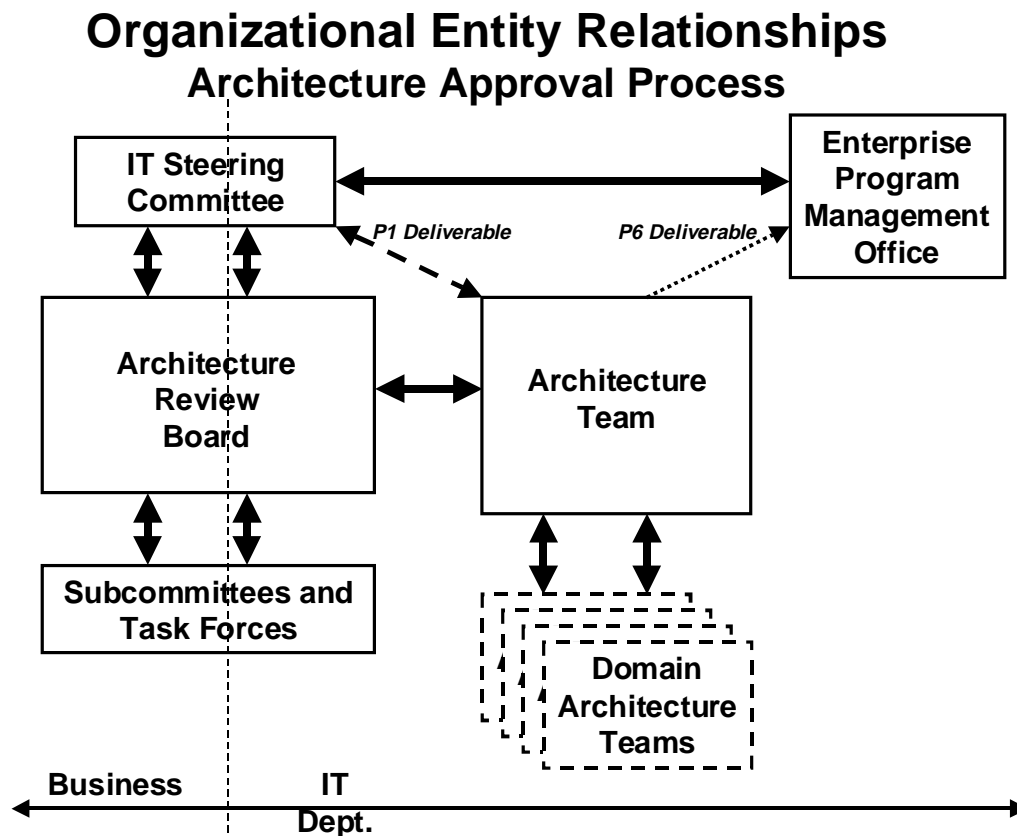
Architecture Approval Process

Process

There are many aspects to architecture management processes, approval, assurance/enforcement/governance, infrastructure initiatives, architecture maintenance, etc. A process to approve the content of the EWTA is fundamental to all other aspects. An authoritative body representing both IT and the LOBs (ITSC) that endorses each of the EWTA deliverables (see Table 1) is the root authority of the approval process. Architecture approval is accomplished through the organizational entities described in the "Roles and Responsibilities" section and depicted in Figure 1. The "Best Practices" section outlines the rules through which these organizational entities are managed, operate, and interact.

The organizational entities, roles, responsibilities, and best practices of the architecture approval process define a framework to develop a process customized to an organization's context (size, funding, business climate, culture, etc.). Variations can and do occur across different organizations, but the framework's fundamental concept scales well across multiple context scenarios.

Table 1 — EAS Process Phase Definitions		
Phase	**Name**	**Contents**
P1	Common Requirements Vision	Business Drivers Business Strategies Business Information Requirements Environment Trends Requirements for Technical Architecture Technology Trends
P2	Conceptual Architecture	Conceptual Architecture Identification of Domain Architectures Gap Identification
P3	Domain Architecture	Design Principles Technologies Standards Products Configurations Gap Identification
P4	Gap Analysis	Recommendations
P5	Migration Planning	List of Projects List of Policies High-Level Migration Plan
P6	Implementation Planning	Individual Project Plans

Figure 1 — Organizational Entities

Organizational Entity Relationships
Architecture Approval Process

- The IT steering committee is responsible for prioritizing all IT efforts in relation to the business requirements and for reaching a common vision between the business and IT on the business drivers and on the role of EWTA and technology.
- The architecture review board is responsible for providing input for and reviewing and approving the conceptual and component architectures, including product standards.
- The architecture team is responsible for driving the overall enterprise architecture process, creating and maintaining deliverables (except for product standards and configurations), and overseeing all infrastructure projects.
- Component architecture teams are responsible for selecting product standards, defining standard configurations, collaborating on component architecture principles with the architecture team, and planning and executing infrastructure projects.
- Program management is responsible for tracking all projects, resources, budgets, and project interdependencies to provide the IT steering committee with the information it will require to set the priorities for allocating money.

Roles and Responsibilities

The organizational entities' roles and responsibilities in the architecture approval processes are described below. Each organizational entity has additional responsibilities (not outlined here) in developing architecture, conducting architecture assurance, and communicating and selling the EWTA to the organization (see EAS Delta 12, 29 Jun 1998, for a reference on building and staffing the AT; see META Practice Volume 1, Number 6, Dec 1997, for additional information on the makeup, skills, characteristics, and other duties of the ITSC and ARB).

IT Steering Committee

The ITSC is the root authority for the architecture approval process. It is a cross-functional committee chaired by the CIO and consisting of senior corporate and LOB management. This team collectively sets the enterprisewide priorities for how the IT group will be used to enable the business. As a business-centric committee, the members are not specifically focused on technology. However, recognizing technology is a strategic weapon, the members must be aware of technology use and its potential implication for the business. The ITSC is responsible for prioritizing all IT efforts in relation to the business requirements and for reaching a common vision between the business and IT organization on the business drivers, as well as the role of EWTA and technology.

The ITSC is responsible for the following architecture approval tasks (in addition to their other cross-functional obligations associated with strategic planning, project approval, budgeting, oversight, architecture assurance, etc.):

- Work closely with the AT to provide input on business drivers and their decomposition into requirements for technical architecture (P1 deliverable)
- Approve the P1 deliverable (common requirements vision)
- Charter the ARB and authorize it to approve certain lower-level EWTA deliverables (and to deny/approve/escalate exceptions to the EWTA standards)
- Understand the P2 deliverable (the conceptual architecture) and its implications
- Charter the enterprise program management office (EPMO) to manage resources associated with (but not limited to) architecture-initiated development or infrastructure projects on behalf of the ITSC (also charter the EPMO to act as the facilitator for an architecture assurance function at the project level)
- Review and approve (through the EPMO charter) projects spawned from the P6 EWTA deliverable, as appropriate
- Be optionally responsible to review and approve all strategic vendor partnerships and relationships

Architecture Review Board

The ARB is a cross-functional committee chaired by the chief architect (or AT leader) and consisting of IT managers (aligned with the business) and corporate/LOB management (with an understanding of technology). All ARB members are expected to have sufficient business and technical depth to understand the implications of all EWTA deliverables. They are chartered by (and appointed by) the ITSC with specific authority to approve all EWTA deliverables. An exception is the P1 deliverable, which must be submitted directly to the ITSC for approval.

In addition to other tasks (e.g., acting as EWTA "ambassadors" to "sell" the EWTA throughout the organization), the ARB is responsible for the following architecture approval tasks:

- Work closely with the AT to provide input on all deliverables
- Review and approve all deliverables, excluding the P1 deliverable
- Provide input on the P1 deliverable and jointly submit it (with the AT) to the ITSC for approval
- Charter subcommittees (internal, external task force, both) as appropriate, and authorize them to review/approve certain lower-level EWTA deliverables (vendor and product selections, etc.)
- Provide input on projects spawned from the P6 EWTA deliverable, as appropriate
- Deny/approve/escalate exceptions to the EWTA standards

Architecture Team

The AT is an IT team led by the chief architect (or other team leader) and consisting of technical architects, supplemented by key IT stakeholders (application delivery team, infrastructure development, operations, etc.). The AT is responsible for driving the overall EWTA process, creating and maintaining deliverables, and overseeing all infrastructure projects. The team effectively sits between business and IT groups and must develop the ability to operate "in collaborative mode" between the two. The core team requires broad skills in both technology and business.

In addition to its responsibilities to drive the EWTA process (including regularly scheduled updates), the AT is responsible for the following architecture approval tasks:
- Prepare deliverables for submission to the ITSC and ARB, as appropriate
- Prepare and deliver presentations to the ITSC and ARB
- Prepare and respond to any issues raised by ITSC or ARB
- Charter the domain architecture team (DAT) to assist in creation of domain architectures (in support of this, the AT must prepare requests for part-time DAT member resources through appropriate approval channels)
- Staff the DAT with representatives of the AT, as applicable
- Review P3 deliverables created by the DAT
- Act as a conduit to ARB for review/approval of P3 deliverables
- Forward projects approved from the P6 deliverables to the EPMO for implementation
- Monitor membership in the ARB, subcommittees, and task forces as input to the ITSC for ensuring representation by all stakeholders

Domain Architecture Teams

DATs are composed of technical experts within the IT department. The DAT is responsible for selecting product standards, defining standard configurations, collaborating on domain architecture principles with the AT, and planning and executing infrastructure projects. Teams should include cross-technical skills (network, data, platform, application, security, etc.).

In addition to its responsibilities to create domain architectures, the DAT is responsible for the following architecture approval tasks:
- Prepare P3 deliverables for submission to the ARB (via the AT)
- Prepare and deliver presentations to the ARB
- Prepare and respond to any issues raised by the ARB

Enterprise Program Management Office

The EPMO is responsible for tracking all projects, resources, budgets, and project interdependencies to provide the ITSC with the information it will require to set the priorities for allocating money and resources across IT group efforts. This includes all projects, applications, and infrastructures.

In addition to its normal "super" project tracking responsibilities, the EPMO is responsible for the following architecture approval tasks:
- Review and approve projects spawned from the P6 EWTA deliverable, as appropriate
- Act as the facilitator for an architecture assurance function at the project level

Best Practices

EAS Best Practice 1: The planning and management of an enterprise's technical architecture must be unified (see META Practice Volume 1, Number 3, May 1997).

- A unified approach will assist in establishing the required cultural attributes.
- Governance will be simplified.
- Organizationally, unification will have to occur at many levels, informally or formally: enterprise, LOB, IT organization.

EAS Best Practice 2: An enterprise's technical architecture must have a planned evolution that is governed across the enterprise.

- Establishing architecture takes time and involves a lot of change.
- Good change requires collaboration and collective planning.
- Architecture is not "hit or miss."
- Architecture must be well thought out.
- Prioritization and reprioritization are necessary across all IT initiatives.
- Dependencies must be maintained.
- Short term versus long term must be constantly re-examined.

Approval Process, Best Practice 1: Reduced Management Complexity

Rationale

The EAS best practice for reducing integration complexity recognizes the human resources value and cost to the organization versus equipment cost. Standardization simplifies infrastructure and reduces long-term total cost of ownership (TCO) while freeing valuable resources to focus on competitive advantage. Reduced management complexity suggests the same with regard to management processes. Complex processes are difficult to manage, and they consume management, staff, and administrative resources, diverting attention from high-value projects. When implementing an architecture approval process, as in any management process, tradeoffs must be made between appropriate attention to detail and simplicity of implementation while ensuring inclusion of all stakeholders.

Key Actions

1. Centralize approval authority and decision making in a single, root entity representing the combined interests of the business and IT organization (ITSC).
2. Charter subcommittees or other entities (task forces), and grant approval authority for routine deliverables.
3. Keep the path length of the approval process as short as possible.
4. Use a consistent, scalable process for all deliverables (scaled down for the simplest deliverables to avoid administrative rubber-stamping).
5. Simplify the approval process so that each entity interacts with the smallest number of other entities possible.

Implications

1. All members of each organizational entity must be educated in the overall process.
2. Members of each organizational entity must clearly understand their individual roles and responsibilities, as well as those of the groups they interact with.

Approval Process, Best Practice 2: Inclusive Process Governing Approval of the Enterprise Architecture and Subsequent Revisions

Rationale

The purpose of an EWTA is to develop an adaptive technical architecture aligned with the business requirements of the organization. Many IT organizations attempt an EWTA effort using assumptions about the business drivers, strategies, and business information requirements of the enterprise. Doing so without participation of the business is likely to lead to a less than optimal effort. Similarly, upon completion of individual EWTA deliverables, failing to obtain management sign-off for all stakeholders, business, and IT groups results in an equally unbalanced architecture. The resulting EWTA is unlikely to accurately reflect broad organizational views and will not be supported when difficult decisions must be made. A formal request for management approval is designed to eliminate ambiguity and to ensure LOB and corporate decision makers partner with the IT organization.

Key Actions

1. Involve all stakeholders in the approval process (business, IT teams, technical specialties).
2. When the number of stakeholders exceeds the optimal size for effective ITSC and ARB operations, elect or appoint individual representatives to fairly represent all stakeholders (many stakeholders to few representatives).
3. Define roles and responsibilities precisely, representing all stakeholder organizations fairly.
4. Charter subcommittees and additional approval organizations (task forces) with appropriate authority and with proportional representation for each stakeholder group.
5. Charter all subcommittees and additional approval organizations (task forces) from a single root source of authority (ITSC) representing all business and IT stakeholders.
6. Have all approvals in the form of a formal, written sign-off by the root authority (ITSC) or the chartered designates.

Implications

1. The root authority chair (CIO) must take an active role in ensuring representative membership in the root authority (ITSC) for all stakeholders.
2. The root authority (ITSC) must take an active role in ensuring representative membership in all chartered entities (ARB), subcommittees, and task forces for all stakeholders.

Approval Process, Best Practice 3: Approval Process Governed by Predefined Operational Rules

Rationale

The EWTA process is continuous and organic, requiring layered and iterative approval cycles. As such, the process must endure repeated iterations of the EWTA. To ensure fair representation for all stakeholders, accomplish timely reviews, ensure thoroughness, and maintain operational efficiency, a set of operational rules must be in place. These rules define the operations of each group, govern the interactions between the groups, and ensure the consistent and repeatable execution of the process. Care must also be taken to avoid complex or unwieldy procedures and to avoid committees too large for effective and frequent dialog.

Key Actions

1. Maintain a calendar for all tasks assigned to each organizational entity detailing planned receipt of initial materials, meeting dates, response due dates for deliverable feedback, etc.
2. Provide deliverables due for review and approval in advance, with adequate time for review.
3. Establish rules for membership in the ITSC, ARB, subcommittees, and task forces (permanent, rotating, replacement of chronic absentee members, procedures to fill vacancies, etc.).
4. Define quorum rules (when are there enough attendees to hold a meeting), and define voting rules for passage of deliverables (unanimous, two-thirds majority, simple majority, etc.).
5. Establish time limits for presentations, debate, and discussion.
6. Establish consistent and regular meeting times and locations for each organizational entity.
7. Establish delegation rules, specifying which deliverables and issues may be delegated to subcommittees and task forces (e.g., nonstrategic product selection, product selection under a specified cost).
8. Define a process for structured review cycles (request for comment [RFC] on deliverable, review comments, feedback/modification of deliverable, maximum number of RFC/feedback cycles, time limit for responses, facility for external or public comment, etc.).
9. Define a process for final approval. All deliverables must be rejected, rejected with comment, or approved. Lacking a formal rejection within a specified time limit (e.g., two weeks), all submissions should be considered approved. This prevents requests from "dying in committee."

Implications

1. As the source for all deliverables sent for review or approval, the AT must manage the calendar of the ITSC, ARB, all chartered subcommittees and task forces, the AT, and DATs.

Approval Process, Best Practice 4: Approval Process Motivating Members to Participate

Rationale

The participation of senior and line management in both the IT organization and the LOBs is essential to the ongoing success of the approval process. Without participation of key, influential members possessing appropriate authority from both organizations, and without representation from all stakeholders (or their appointed many-to-one representatives), the approval process will fail to attain the necessary quorum to approve deliverables in a timely fashion. By definition, the key influential representatives are the most time-challenged in their respective organizations. As such, the processes, time commitments, and rules associated with operation of the organizational entities must be streamlined and efficient to gain maximum use of these valuable resources. The time and resource commitments required must be under each member's justification threshold (i.e., the value delivered must be worth the time and effort contributed).

Key Actions

1. Make frequent use of audio/videoconferencing when available.
2. Avoid omnibus deliverables. Keep all deliverables focused on single subjects and as short as possible. Do not combine and submit multisubject deliverables as a single package. Brevity is imperative to ensure timely reviews.
3. Ensure deliverables are accompanied by an executive summary, where appropriate.
4. Have the submitter present during review, debate, and discussion of a deliverable, to answer questions. A brief presentation must be prepared, if requested.

META Practice
G R O U P

5. Charter lower-level groups or create subcommittees to address routine matters.
6. Regularly schedule meetings, but not so frequently as to interfere with members' other assigned duties. Regularly scheduled meetings encourage attendance and help maintain interest.
7. Maintain maximum organizational entity size to the level permitting reasonable debate. Large groups are ineffective and unable to resolve differences. We suggest a group size of no more than 15 individuals.

Implications
1. IT and LOB departments and senior management must commit adequate time and resources to the approval process.
2. The AT must actively manage the deliverables presented to the ARB for review and approval.

Bottom Line: A well-thought-out architecture approval process enables a rapid start to the enterprisewide technical architecture (EWTA) development effort and continues through iterative cycles of EWTA development and maintenance. The formal request for management approval is designed to eliminate ambiguity and to ensure that line-of-business and corporate decision makers partner with the IT organization. In addition to driving the architecture process, the architecture team must assume responsibility for coordinating the activities of the architecture approval process, to ensure timely and successful acceptance of the EWTA.

META Group