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| Architecture Review Board (ARB) |



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| **Global** | **Infrastructure** |

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# Revision History

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| --- | --- | --- | --- |
| Rev # | Description | Date | Author |
| 1.0 | Baseline | 8/25/18 | Ed Ziehm |
| 1.1 |  |  |  |
|  |  |  |  |

# Approvals

|  |  |  |
| --- | --- | --- |
| Name: | Signature (email) | Date |
| Michael Rhymes  Chief Information Officer | Email approval |  |
| Ed Ziehm  Director Global Infrastructure | Email approval |  |
| Sam Masiello  CISO | Email approval |  |
| Tim Biglen  Global Manager of Infrastructure | Email approval |  |

# **Document Scope**

This document, process, principles and guidelines apply to all IT work efforts, enhancements and projects that influence, impact, depend upon or require IT infrastructure.

# **Introduction**

The Architecture Review Board (ARB) contributes to the company’s information technology success in three distinct but related roles: Strategy, Guidance and Execution.

## Strategy

The ARB, sponsored by the Director of Global Infrastructure (DGI) and Chaired by the Global Manager of Infrastructure (GMI), assists the company’s global and regional teams with strategic and advisory support during IT investment selection including input to the portfolio budgeting process.

## Guidance

The ARB provides technical and intellectual continuity of high-level architectural decisions and direction. These decisions are driven by the Gates Architecture Principles (GAP) (see Appendix 1) and its supplements, which are maintained by the ARB.

## Execution

The ARB serves as the governing body responsible for performing governance level reviews supporting the Gates IT PMO Methodology. The ARB directly supports key Gates IT Infrastructure responsibilities for developing, maintaining, and facilitating the implementation of sound and integrated infrastructure and technology architecture. The ARB applies uniform and repeatable review practices in achieving enterprise-wide systems integration, operability and on-going operations.

# Purpose

The ARB provides oversight to ensure that IT investments are consistent with Gates’ IT strategy, assists Gates internal organizations in ensuring solutions support the IT strategy, and assists projects by ensuring solutions are technically sound and able to deliver promised capability. These activities govern all Gates global and regional technology and infrastructure activities.

## Vision

The ARB will provide timely strategic advice and governance; provide reasonable, achievable technical guidance; and, enable cost effective and innovative implementation(s). ARB work in these domains will identify opportunities for reuse, standardization, consolidation, security, integration and ongoing support operations. The ARB facilitates information sharing of all Gates IT projects and efforts to deliver high-value technology solutions to key stakeholders of Gates programs.

## Mission

The ARB helps ensure:

* IT investments are positioned for success and adhere to the Gates architecture, standards, and guidance.
* The organization gets the most value out of IT investments by maximizing opportunities for commonality, reuse, and information sharing.
* Compliance with applicable laws, regulations and security practices as defined by the Chief Information Security Officer (CISO) of Gates.
* The totality of scope for infrastructure delivery is considered and includes the full life cycle from requirements to asset retirement including operational support considerations.

# **ARB Scope**

The ARB has two related areas of scope: 1) strategic advice at the portfolio planning level and; 2) technical/engineering guidance and integrity at portfolio/project/work effort level. The ARB support described in the following sections corresponds to these areas of scope. The ARB is not responsible for determining and approving the business case and/or merit of any given of project.

## Strategic and Advisory Support

The ARB provides strategic advice and counsel including:

* Guiding the technical infrastructure architecture direction of the company
* Seeking opportunities for synergies across the company
* Leveraging the ARB body of knowledge more broadly by participating in the concept phase of projects and technology designs
* Establishing and maintaining IT enterprise-wide strategies.
* Reviewing, assessing, and approving/disapproving technology architectures.

## Engineering Architecture Support

The ARB ensures company-wide, technical, and architectural integrity by:

* Leading high-level architectural discussions for global and regional IT initiatives
* Engaging the Senior Technical Leaders (STLs) and Technical Engineers (TEs) and Center of Excelence (COE) teams from across the global IT teams to participate as appropriate
* Providing and reviewing technical/operational requirements to ensure that any applicable (as defined herein) project/initiative/effort adheres to GAP and Gates infrastructure and security standards as determined by the ARB.
* Establishing consistency on architectural and engineering practices
* Expanding the establishment of shared services, both business and technical
* Continuing standards definition and refinement including the review and approval of new technical standards
* Providing technical advisory services for global and regional projects.

# **Project and Work Effort Support Flow**

The ARB owns the creation and maintenance of the Architectural Review Process (ARP) to help review, coordinate and develop IT technologies. A high-level depiction of this process is show in Figure 1 below.

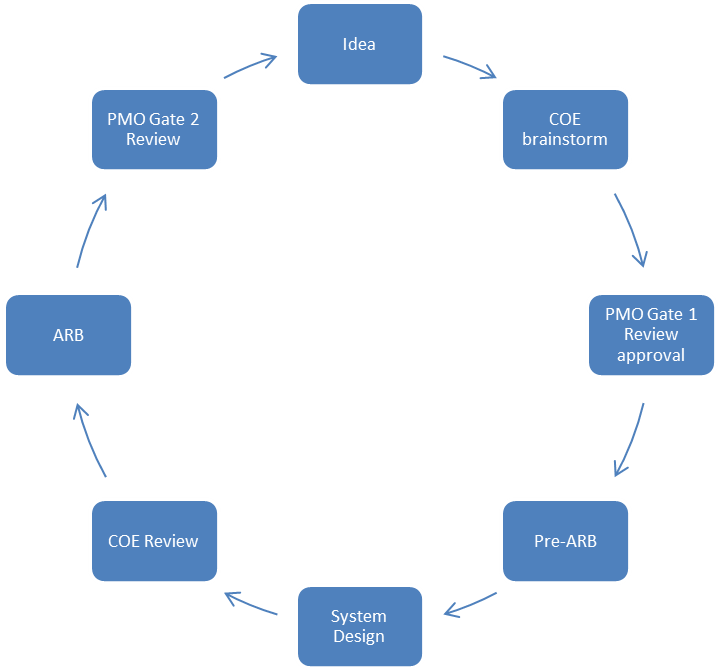


Figure 1: Architectural Review Process

Once a project has been approved as an investment through the Gates PMO Gate 1 Business Case Review, the ARB supports, as a required step in the PMO process flow, the “Project Execution” of the lifecycle by conducting technical/governance reviews as appropriate. These reviews include a Preliminary ARB review(s) (see Figure 1) and possibly an ARB review (see Figure 1).

If a work effort does not qualify as a PMO defined project but does fall under the auspices of this document because it meets the criteria as defined in the ARB & Pre ARB Criteria document then the effort shall abide by the process(es) and decisions as defined by these controlling documents.

# **Authority**

The DGI envisions the ARB as a collaborative team of global and regional resources leveraging their industry knowledge and subject matter expertise to assist Gates in its governance of IT management and technology solutions. The ARB operates under the leadership of the DGI with membership drawn from all groups within IT and governs all infrastructure technology.

The ARB is the governing body at key technology decision points and throughout the IT development life cycle. The ARB will arbitrate compliance questions and concerns as well as render compliance decisions and make exception recommendations to project Stakeholders.

Compliance with all ARB requirements, is required for all projects and work efforts (as described in section(s) 1 and 5 herein) prior to any deployment or release into a Gates production environment.

# Membership

The ARB consists of four types of members – ARB Executive Committee, Subject Matter Experts (SMEs), STLs/TEs and COEs.

## ARB Executive Committee

The ARB Executive Committee is made up of:

* ARB Sponsor: DGI (voting),
* ARB Chair: GMI (voting),
* ARB Security Vice-Chair, (voting)
* ARB Vice-Chairs (voting), and
  + The ARB Vice-Chairs will act on behalf of the ARB Chair in the ARB Chair’s absence.
  + The ARB Chair, on an as-needed basis, can appoint ARB Vice-Chairs.
  + The ARB Vice-Chairs will include at least one individual from each Gates region
* ARB Program Manager (non-voting).

## Subject Matter Experts

SMEs will provide technical expertise in applicable aspects of technology, processes, and practices. When invited, SMEs will be an integral part of the team by providing input that assist the ARB when evaluating projects. Otherwise, SMEs are not a permanent part of the ARB. The ARB chair will identify the need for subject matter expertise on a project-by-project basis and request support as needed.

## Senior Technical Leaders and Technical Engineers

The ARB will engage STLs and TEs to participate on major IT initiatives for finite time periods. STLs and TEs will be invited by the ARB Chair or Vice-Chairs to join the ARB on a project by project basis.

## COE Team Members

The ARB will engage COE members to participate in ARB project level oversight. This includes contributing to governance level reviews and ARB consults. COE members can be drawn from all IT global or regional resources.

# Responsibilities

## Architectural Review Board

Initial responsibilities of the ARB and ARB members include the following activities:

* Active participation at the ARB sessions
* Offer constructive feedback
* Work as an integrated team
* Provide timely review of materials and artifacts
* Garner and share experiences and lessons learned with the ARB and respective organizational groups
* Respond to questions from project teams regarding the interpretation of technical standards or clarification of guidance.
* Review and assess applicable project/effort designs and approvals and determine if all ARB requirements have been satisfied.

### ARB Executive Committee

The ARB Chair and Vice-Chairs will perform the following activities and functions:

* Provide overall leadership and guidance to the ARB
* Ensure proper expertise is represented at reviews
* Ensure transparency of the ARB process
* Ensure timely and accurate communication
* Ensure IT Projects align with the GAP and ARP
* Support the DGI in consultation with projects that may need technical assitance in an area not specifically addressed by the ARB, GAP and ARP
* Provide input and guidance on GAP and ARP

### Subject Matter Expert Support

SMEs will support the ARB and perform the following activities:

* Upon invitation attend ARB project oversight reviews
* Provide input to final ARB decisions
* Make recommendations for further reviews

### Senior Technical Leaders and Technical Engineer Support

STLs and TEs will support the ARB by performing the following activities:

* Participate in ARB Strategic and advisory/engineering support activities as requested
* Provide topic area expertise to the ARB to assist in determining compliance
* Provide input and recommendations as requested
* Support strategic and enterprise architecture on major IT initiatives for finite time periods as requested

### COE Team Support

COE Team(s) will support the ARB by performing the following activities:

* Attend ARB Reviews as requested
* Provide topic area expertise to the ARB to assist in determining compliance and suitability
* Provide input and recommendations to final ARB requirements
* Provide input and guidance on Gates Standards and technology
* Assist project teams in the design and development of required technologies

### ARB Program Manager Support

The ARB Program Manager (APM) will support the ARB by performing the following functions:

* Coordinate ad hoc requests to come before the ARB
* Coordinate and schedule ARB review sessions
* Distribute official ARB letters, artifacts and templates
* Notify all required ARB members and project level personnel of requested reviews and schedules
* Coordinate, prepare and post all ARB materials, i.e. Agendas, briefing materials from participants, minutes, and final letters of the ARB

# Operating Procedures

## Meetings

The ARB will schedule and conduct bi-weekly planning, project review, and post review meetings. A description of each follows:

* Pre-ARB planning and design Meetings
  + Make determinations of need for full ARB reviews and sessions
  + Schedule reviews and sessions as needed
  + COE, SME and STL/TA members will be in attendance as required
* ARB Reviews
  + The project team will brief the ARB on the salient information pertinent to the review. A formal outline and guidelines will be provided to the project teams by the ARB Program Manager in advance of the reviews outlining the information and the level of information, which should be presented.
  + ARB Executive Committee, invited SMEs, STLs, TEs, COE and project team members will be in attendance

## Voting

The ARB defines and describes the requirements and standards that technical designs must adhere to prior to release into a production environment. It is up to the ARB to make the determination and ensure that any design that is brought before it has satisfied any and all ARB requirements.

Voting members of the ARB will vote on the satisfaction of or any exception to ARB requirements.

* ARB decisions do not require a consensus vote.
* Voting members of the ARB include the DGI, ARB Chair and Vice-Chairs
* The ARB Chair or a Vice-Chair is required to be in attendance.
* In any case where no consensus is reached, the DGI, or ARB Chair or Vice-Chair (when acting on behalf of the ARB Chair) will render the final decision.

## Reporting

The ARB PM (APM) will be responsible for the preparation, distribution and posting of ARB agendas, briefing materials from participants, minutes, and final documentation of the ARB. All ARB participating members will be responsible for providing all necessary materials to the APM so that information sharing is available in a timely manner.

## Repository

All working documents will be posted on the ARB designated repository for members review and are available for comments and sharing.

* All documentation will be posted in the ARB repository.
* All posting will be completed by the APM or by his/her designated representative.

## Communications and Notifications

All official ARB communications and notifications will be maintained in the ARB repository.

**Appendix 1 - Gates IT Strategy & Objectives**

1. **Focus on Value Delivery (not just technology)**
   1. Use technology to **enhance capabilities**, create value and deliver competitive advantage.
   2. Support **new**, **innovative** technology and business models
   3. Focus on value delivery by overcoming barriers and aligning **people, process, data and technology**
   4. Track value delivered
2. **Provide Reliable Service**
   1. Build **secure**, **scalable**, **cost effective** and **compliant** solutions on time and on budget
   2. Create measurable year over year productivity
3. **Run like a Best Run Business**
   1. **Pragmatically** drive to common technology and systems (buy vs. build)

**Appendix 2 - Gates Architectural Principles (GAP)**

Principle 1:

The rules apply to everyone - Aligns with Strategic Objective 1.0, 1.3, 1.4, 2.2

Statement: The only way we (APAC, EMEA, Americas, Corporate) can provide a consistent and measurable level of quality and value add IT services and products is to abide by these principles.

Rationale: If the rules do not apply to all then why live within the rules if others don’t have to.

Principle 2:

Maximize Benefit to the Organization - Strategic Objective 1.0, 1.3, 3.0

Statement: No minority group will detract from the benefit of the whole.

Rationale: You cannot build and deploy projects that might harm or negatively impact others. By attaching your technology to the corporate network you automatically expose our network and systems to your lowest level of security and technology. Ask and share first.

Principle 3:

Technology is Everybody's Business - Strategic Objective 1.0, 1.1, 1.2, 1.3

Statement: To operate as a team, every stakeholder, or team member needs to accept responsibility for helping each other solve problems, do the right thing, and be in compliance with these principles.

Rationale: If you solve problems or create solutions on your own, you are setting yourself up for “no” when it comes time for architectural review. How should people react when you buy something new, build it into your system and then ask if it is ok? Seek guidance when you have an idea. Ask and share first.

Principle 4:

Business Continuity - Strategic Objective 2.0

Statement: Recoverability, redundancy, security and maintainability should be addressed at the time of design and incorporated to comply with organization architecture standards.

Rationale: Design and build it right the first time with the help of others versus building it by yourself and then having to go back and do the work again. Ask and share first.

Principle 5:

Common Use Technology - Strategic Objective 1.0, 1.1, 1.3, 3.0, 3.1

Statement: Organizations will not be allowed to develop technologies for their own use that are similar/duplicative/exclusive of organization-wide capabilities.

Rationale: Don’t introduce, design and build technologies that are intended for only one customer. Share your ideas up front so you can save time and energy. We may already own, be retiring, are working on or have deployed somewhere else what you are trying to accomplish. If you do it on your own you risk having your project stopped. Ask and share first.

Principle 6:

Compliance with Law – Strategic Objective 1.3, 2.0, 2.1, 3.0, 3.1

Statement: Global IT technology processes and systems must comply with all relevant laws, policies, and regulations.

Rationale: The laws may be outside of your region or country. You might build an application in your region that violates the laws in another. If you do it on your own you risk having your project stopped. Ask and share first.

Principle 7:

IT Responsibility – Strategic Objective 1.3, 2.1

Statement: All members of the organization are responsible for owning and implementing IT processes, standards and technology that enable solutions to meet user-defined requirements for functionality, data security, reliability, return on investment, service levels, cost, and timing.

Rationale: It takes a global team to effectively align business expectations with capabilities so that all projects create business value and deliver efficient and effective solutions that are simple, secure, scalable, supportable and have reasonable costs and clear benefits.

Principle 8:

Protection of Intellectual Property and Confidentiality – Strategic Objective 2.1

Statement: The organization's Intellectual Property (IP), Personally Identifiable Information (PII) and other Gates confidential information must be protected. This protection must be reflected in the IT architecture, implementation, and governance processes.

Rationale: A major part of an organization’s IP, PII and confidential information is hosted in the IT domain.

Principle 9:

Common Vocabulary and Naming Conventions – Strategic Objective 1.3, 3.0, 3.1

Statement: Technology is defined consistently throughout the organization, and the definitions are understandable and available to all users.

Rationale: The platforms that will be used in the development of technologies must have a common definition throughout the organization to enable sharing of data. A common vocabulary will facilitate communications and enable dialogue to be effective. A common vernacular is required to interface systems and exchange data.

Principle 10:

Data Security – Strategic Objective 1.3, 2.1, 3.0, 3.1

Statement: The organization’s security posture will not be degraded or marginalized by the introduction of any new technology, process, initiative, application or system that is to be connected to, incorporated into or operationalized in the environment.

Data is protected from unauthorized intrusion, use and disclosure. Data security applies to all aspects of enterprise security data classifications, which includes, but is not limited to, protection of pre-decisional, sensitive, aggregated, source selection-sensitive, PII, PCI, PHI, IP and proprietary/confidential information.

Rationale: Existing laws and regulations require the safeguarding of enterprise assets and the privacy of data, while permitting free and open access as appropriate. Security must be designed into data elements and systems from the beginning; it cannot be added later as an afterthought. Ask and share first.

Principle 11:

Technical Diversity – Strategic Objective 1.3, 2.1, 3.0, 3.1

Statement: Technological diversity is controlled to minimize the cost of maintaining expertise in and connectivity between multiple processing environments. The introduction of technology into the environment must be reviewed and approved well in advance of effort and/or budget being expended.

Rationale: There is a real, non-trivial cost of infrastructure required to support alternative technologies for processing environments. There are further infrastructure costs incurred to keep multiple technology constructs interconnected and maintained.

Common technology across the organization brings the benefits of economies of scale to the organization. Technical administration and support costs are better controlled when limited resources can focus on this shared set of technology.

Principle 12:

Interoperability – Strategic Objective 2.1, 3.0, 3.1

Statement: Software and hardware should conform to defined standards that promote interoperability for data, applications, and technology. When a specific standard does not exist, ask and share first.

Rationale: Standards help ensure consistency, improve our ability to manage systems and protect existing investments. Standards for interoperability additionally help ensure support from multiple vendors for their products, and facilitate supply chain integration.

Principle 13:

Spirit of the law – Strategic Objective 1.0, 2.0 and 3.0

Statement: It is up to the technical teams and IT leaders to understand and enforce the intent of these principles. There are 4 key elements to technology development and deployment at Gates. Our designs need to be: 1) Secure, 2) Simple, 3) Supportable, and 4) Scalable.

Rationale: Not all instances and circumstances can be described fully and specifically in these principles. It is the responsibility of IT leadership and the technical teams to utilize good judgement and apply these principles and 4 key elements and act in the best interests of adherence to these principles and of Gates and the Global IT team.