Maturity Assessment for Enterprise Architecture

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Introduction

Many organizations know that they need to improve their Business and IT alignment in order to successfully manage change, but don't know how. Such organizations typically either spend very little on process improvement, because they are unsure how best to proceed; or spend a lot, on a number of parallel and unfocused efforts, to little or no avail.

An evaluation of the Enterprise practices against the model — called an ''assessment'' — determines the level at which the organization currently stands. It indicates the organization's maturity in the area concerned, and the practices on which the organization needs to focus in order to see the greatest improvement and the highest return on investment. As the Enterprise Architecture (EA) Matures the predictability, process controls and effectiveness also increases.

EA progresses in maturity will benefit the organization in the following ways

- Promote Strategic Initiatives
- Reduced software and data redundancy
- Enhanced enterprise information sharing
- Reduced information systems complexity
- Better alignment of business strategy and system development
- Greater reliability at implementations & updates
- Reduced dependency on key resources
- Improved accuracy in scheduling software development / implementation
- More accurate forecasting of development and support costs
- More efficient deployment of technology solutions
- Greater ability to set realistic goals
- Increased traceability

This Article describes the steps towards assessing the Maturity of an Enterprise in an Architecture Stream covering all the views (Business, Application, Information and Technology).

Maturity Assessment

The main drivers of the Enterprise Architecture of the Organization are,

- Declarations of business mission, vision, goals, strategy
- Technology and organizational silos prevent the implementation of rapid changes
- Processes are not working optimally, causing cost, customer dissatisfaction and churn
- Business process problems or desired process improvements
- Not possible to monitor end to end process and measure the results
- Difficulty of aligning business needs with IT capabilities

Business Architecture forms the important part in the context of EA. It helps IT to support the business better, cheaper and faster. As part of the EA assessment and EA definition, we need to understand/define business goals, business strategy, business plans, or initiating business process re-engineering.

Also, development of the Enterprise Architecture is an ongoing process and cannot be delivered overnight. The establishment an EA is critical because it provides the rules and definition necessary for the integration of information and services at the operation level across enterprise boundaries. An organization must work patiently to nurture and improve upon its Enterprise Architecture Program until architectural processes and standards become second nature and the Architecture Framework and the Architecture Blueprint become self-renewing.

EA Maturity Assessment Framework

An EA Maturity Assessment framework comprises a maturity model with different maturity levels and a set of elements which are to be assessed, methodology and a toolkit for assessment (questionnaires, tools, etc.). The final outcome is a detailed assessment report which describes the maturity of the enterprise as a whole, as well as the maturity against each of the architectural elements.

The key components of this framework are depicted below:
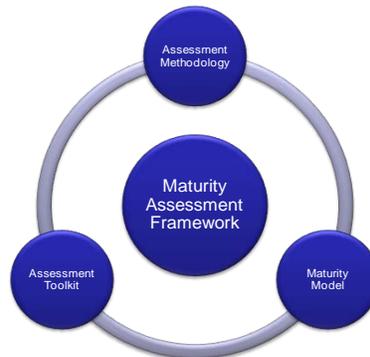
Figure 1 – Maturity Assessment Framework

Enterprise Architecture Maturity Model (EAMM) is used to conduct the Maturity assessment. EAMM provides the framework that represents the key components of a productive enterprise architecture process. The goal is to enhance the overall success of enterprise architecture by identifying weak areas and providing a defined evolutionary path to improving the overall architecture process.
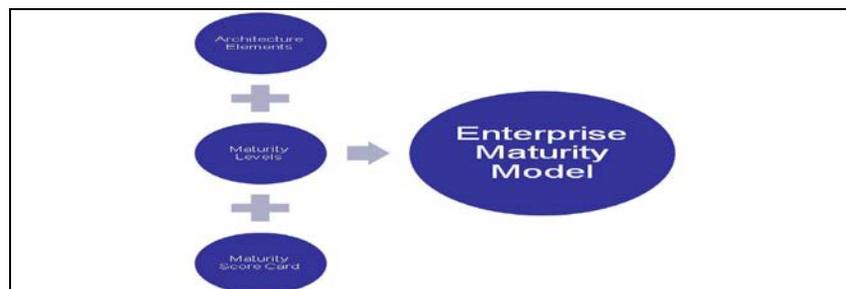
Figure 2 – Enterprise Maturity Model

The EAMM comprises the following,

- Architecture Elements
- Enterprise Maturity Levels
- Maturity Score Card

Enterprise Architecture Element

Based on Industry Standards [1-4] and our consulting experience the following architecture elements are identified and are to be assessed as part of the EA maturity assessment methodology,
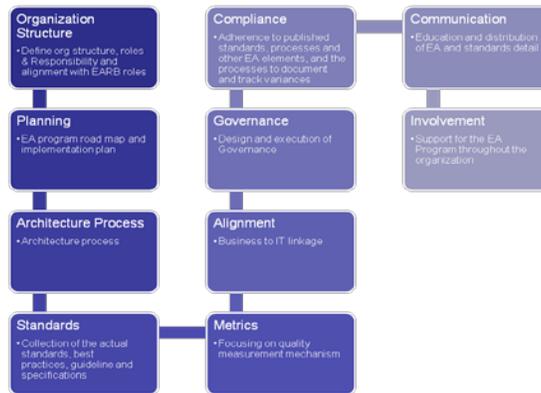

Figure 3 – Enterprise Architecture Elements

A brief description of each element follows.

Architecture Element	Description
Organization Structure	This element covers the organization structure that exists for the EA program – roles and responsibilities of team members and their skill sets with respect to Enterprise Architecture.
Planning	Planning ensures the program is managed to assure the goals for implementation are realistic and achievable and the program is kept within scope. It also indicates whether a clear vision exists for business architecture development within the enterprise.
Architecture Process	This element indicates whether there is any process in place for architecture development and how effectively is it followed.
Alignment	This element indicates whether the activities of the IT/Architecture teams are aligned with the organization's business goals and objectives. It indicates whether IT senior management is actively involved with business teams in the decision making process.
Governance	Architecture governance is the practice and orientation by which enterprise architectures and other architectures are managed and controlled at an enterprise-wide level.
Compliance	Architecture Compliance review is a scrutiny of the compliance of a specific project against established architectural criteria and business objectives.

Standards	It covers the processes, guidelines, templates and forms used by those involved in the process of architecture development.
Involvement	Involvement must be part of an EA Program. Without the support of managers and employees who are expected to utilize and follow the defined process, the program is sure to fail. Involvement addresses the ability of the various entities (internal or external to the organization) to coordinate their efforts to the greatest benefit of the organization.
Metrics	This element indicates EA maturity in terms of measurement and monitoring of EA activities and efforts. It indicates if the results of EA activities are being captured and measured and the benefits of the EA program have been quantified.
Architecture Communication	Communication is the element that ensures standards and processes are established and readily available to team members for reference and use. As an organization changes and programs evolve the continued communication ensures the EA program remains vital and operates optimally.

Enterprise Maturity Levels

The Enterprise Architecture Maturity Model, depicted below, and the following sections reflect the phases an organization will see as their architecture program matures. The model follows the path of an organization as their enterprise architecture program matures, and sets benchmarks to measure the performance and path that is a natural progression in the development of enterprise architecture.

In the following sections, each of the levels of the Enterprise Architecture Maturity Model is defined. Each level contains statements that are indicative of an EA Program at that level.

Figure 4 – Enterprise Maturity Levels

Level	Description

Level 0: No EA	There is not a documented architectural framework in place at this level of maturity. While solutions are developed and implemented, this is done with no recognized standards or base practices.
Level 1: Initial	The base architecture framework and standards have been defined and are typically performed informally. Organizations with an Enterprise Architecture framework at this level are still dependent on the knowledge of individual contributors.
Level 2: Under Development	The vision, principles, base architecture and standards have been identified and are being tracked and verified. At this point in the maturity program processes are repeatable and reusable templates are starting to be developed.
Level 3: Defined	The enterprise architecture framework is well defined using approved standard and/or customized versions of the templates. Processes are documented across the organization. Performance metrics are being tracked and monitored in relationship to other general practices and process areas.
Level 4: Managed	At this point performance metrics are collected, analyzed and acted upon. The metrics are used to predict performance and provide better understanding of the processes and capabilities.
Level 5: Optimizing	The processes are mature. Targets have been set for effectiveness and efficiency based on business and technical goals. There are ongoing refinements and improvements based on the understanding of the impact changes have to these processes.

Assessment Methodology

The following diagram depicts the EA Maturity assessment approach used at Enterprise:
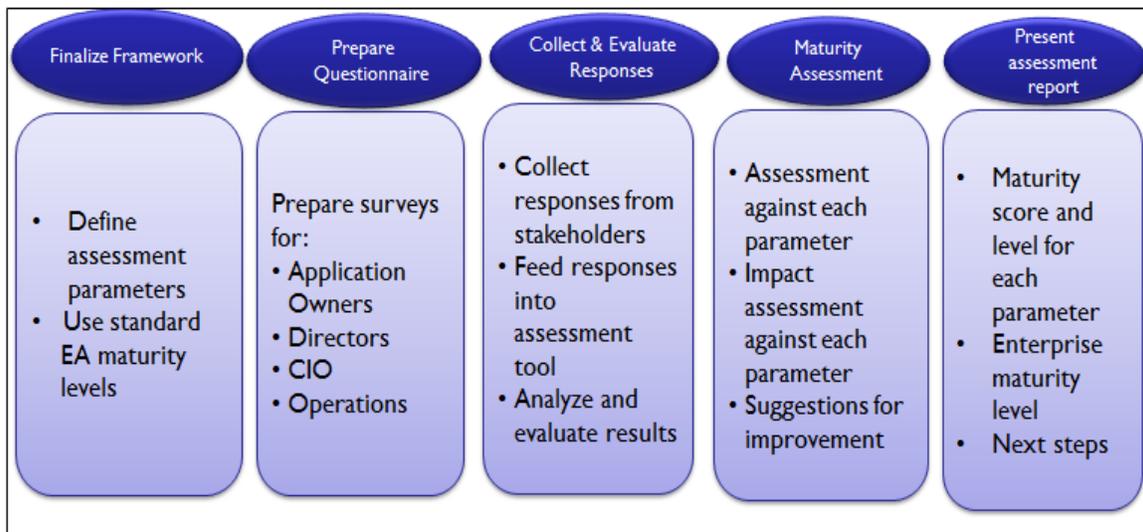

Figure 5 – Assessment Methodology

Maturity Score Card

The Maturity Score Card describes the maturity scores with respect to each of the architecture elements and their maturity level on basis of the maturity assessment exercise which was conducted across the organization. The following diagram depicts the sample Maturity Score card.
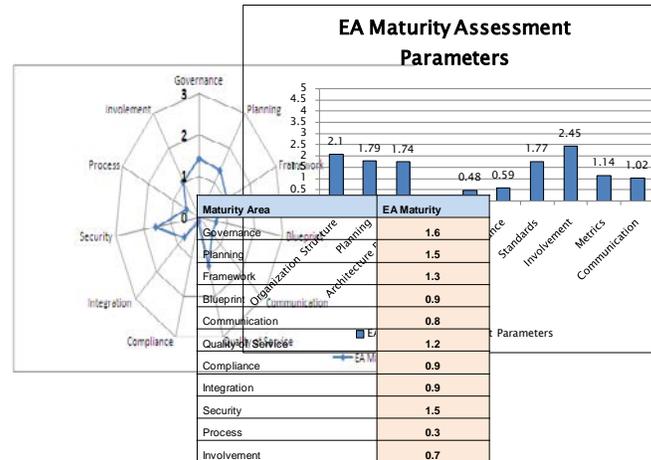

Figure 6 – EA Maturity Score Card Conclusion

Conclusion

Maturity within the architecture framework will vary across the business architecture, business processes, technology architecture, as well as the architecture blueprint. This is an ever-evolving process of Enterprise that leads to an efficient, effective responsive development and support organization.

The architecture blueprint is not a document that we produce once, store on the shelf and reference on occasion. It is a plan and a methodology and allows for better analysis for future decisions.

The most important elements to be considered in the architecture assessment/objectives are:

1. Enterprise Standards compliance
2. EA principles compliance
3. Business Architecture Assessment
4. Operational standards compliance
5. Functional assessment with respect to objectives & goals
6. Reuse of existing application/technology/infra components
7. Leveraging existing/applicable competencies and skills
8. Non-functional requirements compliance

References

1. TOGAF definitions for architecture compliance levels
   http://www.opengroup.org/architecture/togaf7-doc/arch/p4/comp/comp.htm
2. http://www.nascio.org/pressReleases/02_tool-kit02.cfm
3. http://www.sei.cmu.edu/about/website/indexes/siteIndex/siteIndexTRnum.html
4. http://www.gao.gov/new.items/d03584g

Acknowledgements

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