

Overview of the TOGAF ADM – MDA[®] Synergy Activity

The Problem Statement

Just as architecture is critical for the effective and safe construction of buildings or bridges, so too is architecture critical to the construction of information systems. A proven architecture for IS can speed up implementation, reduce total costs, and increase project success rates. Yet organizations struggle to develop quality IS architectures that meet business needs.

A Solution

The memberships of The Open Group and the OMG are collaborating to describe and promulgate the enormous synergy that they believe exists between The Open Group Architecture Framework (TOGAF) Architecture Development Method (ADM) [1] and OMG's Model Driven Architecture (MDA) [2]. This working group will greatly benefit industry if these concepts are used effectively together. This activity will provide a coordinated, disciplined approach to developing and implementing standards-based enterprise architectures and resulting systems that are focused on meeting business needs.

This working group seeks to deliver:

1. A clear and unambiguous process for creating enterprise architectures and their related detailed architectures and system designs.
2. Opportunities for tools vendors to create products that leverage a proven chain of methods and standards without having to cover the whole span from business rationale to running code.
3. A higher degree of transparency for End Users that will improve the communications and understanding between the architecture, development, and operations personnel.
4. Greater collaboration among consultancies and system integrators and their subcontractors in managing large, complex projects through leveraging well articulated methods and guidelines.
5. Evidence to architecture practitioners that TOGAF ADM and MDA can be used together with a framework of choice, to bring greater discipline and reusability to enterprise architecture.

The purpose of this activity is to develop a formal, model-driven, industry-independent, standards-based enterprise architecture development methodology; a framework for enterprise architectures; and an information sharing framework. These technologies will be grounded in a formal modeling approach and framework that defines and creates architectural artifacts (e.g., models) enabling a disciplined approach to enterprise architecture and engineering.

Rather than simply being a theoretical exercise, the conclusions drawn from this activity will be applied to actual test cases drawn from industry. To that end, the Integration Consortium and the Torpedo Enterprise Advanced Modeling and Simulation (TEAMS) Initiative have been recruited as commercial, government and defense contributors. The vision for this activity is further clarified in a white paper [3]. A more detailed value proposition may be found in Appendix A.

Over the next 9 to 18 months, the combined contributing organizations and their respective members intend on demonstrating, concretely, these posited synergies.

Background

TOGAF ADM is a detailed, industry standard method for developing architectures for enterprise systems that address the needs of business, technology and data systems, and their unification.

It calls for the development of a number of architectural models in order to effectively describe the architecture.

MDA is the industry's leading standards-based approach to model-based business focused architecture and systems development. It helps ensure that enterprise software is developed in a way that conforms to the chosen architecture. It provides for the reusability and easy maintainability of the components of the architecture throughout its lifecycle - supporting the cycle from business requirements through to implementation and maintenance.

Both of these industry standards are intended to complement the use of popular development frameworks, such as the Zachman Framework [4], that provide a taxonomy for relating real world business concepts to the concepts of information systems and their specification and implementation.

Deliverables

?? A set of standards:

- enabling the use of a repeatable architecture methodology across all projects / programs / portfolios, ensuring integration and interoperability.
- enabling technology development, evaluation and selection methods to be mapped to business goals and strategies.
- promoting reuse.
- and supporting increased system development flexibility / agility / adaptability etc. in a cohesive and disciplined way.

?? Guidelines and descriptive business best practices providing methods and procedures for improved product / service quality from concept to implementation.

?? Reports and White Papers

?? Various services that may include (among others) certification of implemented standards.

Stakeholders: Decision makers in all enterprises.

An Invitation

The Open Group and OMG are inviting all senior technologists with an interest and experience in developing enterprise architectures, large-scale systems and/or systems-of-systems. Participants (ideally) will have an understanding of TOGAF ADM and/or MDA. Lacking that, they should be conversant in architecture and systems development methodologies and a model-driven approach to software specification, design, implementation and maintenance.

References

[1] John Spencer, et al (2004). **“TOGAF Enterprise Edition”**, Version 8.1. <http://www.opengroup.org/architecture/togaf8-doc/arch/>

[2] Object Management Group. **MDA Guide**, Version 1.0.1. <http://www.omg.org/docs/omg/03-06-01.pdf>

[3] T. Blevins, J. Spencer and F. Waskiewicz. **“TOGAF ADM and MDA”**, Revision 1.1. <http://www.opengroup.org/cio/MDA-ADM/>

[4] J. F. Sowa, J. A. Zachman (1992). **“Extending and Formalizing the Framework for Information Systems Architecture”**, IBM System Journal, Vol 31, No 3, 1992

Appendix A

The Business Value of Articulating Synergies between TOGAF and MDA

The proposed activity to evaluate the synergies between The Open Group Architecture Framework (TOGAF) and the Object Management Group's Model Driven Architecture (MDA) will produce improvements to both frameworks that will enable organizations to develop better quality architectures. Architecture is critical for the effective and safe construction of buildings or bridges, so too is architecture critical to the construction of information systems (IS). A proven architecture for IS can accelerate implementation, reduce total costs, and increase project success rates.

The Open Group's Architecture Framework (TOGAF) offers the Architecture Development Method (ADM) and supporting tools that together provide a comprehensive method for planning, implementing, and operating enterprise architectures and related information, application, and technology architectures. The Object Management Group's Model Driven Architecture (MDA[®]) enables the modeling, planning, and development of software systems. MDA can be coupled with other industry standard technologies to assist in the deployment and management of these systems. In addition to being adopted by many end-user organizations, these standards have also been endorsed by the Integration Consortium and form an integral part of its Global Integration Framework.

These vendor neutral industry standard frameworks are complementary. Significant business value will accrue when the synergies between TOGAF and MDA are articulated. This activity will provide the following benefits:

- ?? Provide a coordinated, disciplined approach to developing and implementing standards-based enterprise architectures and systems that are focused on meeting business needs.
- ?? Provide a clear and unambiguous process for:
 - o creating enterprise architectures and their related detailed architectures and system designs
 - o creating higher quality and lower cost deliverables
 - o reuse of architecture
 - o standards-based traceability from the operations level back to architecture.
- ?? Recognizing that both technologies draw upon years of experience within other organizations and industry activities, and this effort will take a broad view of applicability; provide a single source point for technology and processes related to developing enterprise architectures.
- ?? Enable architecture practitioners to select the elements of TOGAF and MDA that will provide a disciplined approach to the development of architectures and systems that are tailored to the specific business needs of the organization.
- ?? Provide clearly defined, industry-wide roles and accountability for the effective creation of architectures and systems.
- ?? Promote a higher degree of transparency that will improve the communications and understanding between the architecture, development, and operations personnel.

- ?? Enhance the portability, reusability, and interoperability of enterprise architectures and system architectures to facilitate the efficient and effective integration of enterprise applications.
- ?? Provide opportunities for tools vendors to create products that leverage a proven chain of methods and standards without having to cover the whole span from business rationale to running code.
- ?? Promote greater collaboration among consultancies and system integrators and their subcontractors in managing large, complex projects through leveraging well articulated methods and guidelines.

Clearly, there are some very good reasons to ensure that TOGAF and MDA can work together when desired. The value proposition for the members of Open Group, the Object Management Group, and the Integration Consortium will be that the whole will be greater than the sum of the parts. For enterprise architects, the value proposition will be a more seamless architecture model that spans several layers of architecture planning from the highest level business modeling to the most detailed systems specifications.