In the summer of 2016, The Open Group announced the latest version of ArchiMate - version 3.0. The official announcement was featured at the IRM Enterprise Architecture Europe Conference in London on June 14.

This latest version is an evolution of the standard. It includes some important new features and refinements – including improving its alignment with other standards, such as TOGAF®.

In this paper I will examine some of the changes in ArchiMate, and show how they fit with TOGAF. Part 1 will provide an overview of the relationship between the two standards; while Part 2 will examine some of the changes and how they relate to TOGAF in more detail.

SOME BACKGROUND ON ARCHIATE:

Here is some brief background if you are not familiar with the ArchiMate Specification®.

ArchiMate is a modelling language aimed at helping Enterprise Architects to visualize, describe, and analyse architecture domains and the relationships between their components. It provides a common "language" for architectural description.

The Three Key Benefits of ArchiMate:

• To provide a consistent, formal, standardized way to model an enterprise architecture.
• To make it easier to explain architectural states and architectural changes to stakeholders.
• To make it easier for architects to examine the pros and cons of alternative architectural designs.

ArchiMate 3 is a major new release, with new features that need to be familiarised on. This paper gives an overview of the new features that need to be familiarised on.
The Previous ArchiMate Framework has been Extended to Include Two New Layers:

- **Strategy Layer** – to model the enterprise at a strategic level; new elements here include capability, resource, outcome, and course of action. This puts ArchiMate closer to the capability-based planning approach adopted by TOGAF.

- **Physical Layer** – builds on the existing Technology Layer, to support the physical materials and equipment; new elements here include facility, distribution network, material, equipment, and path. For example, this can be used to model physical facilities and equipment, distribution networks, and materials in areas such as manufacturing or logistics.

Note that there are no separate behaviour elements for the Physical Layer. Elements from the Technology Layer, such as technology function, process, interaction, service, or event, are used instead to model physical elements.

The idea behind this is that physical elements are often computer-controlled or have a close relationship to IT, so behaviour can be described using the existing technology behaviour concepts. For example, ArchiMate can be used in this way to describe the behaviour of sensors and devices that make up the Internet of Things.

It is also worth noting that TOGAF doesn’t always have a clear distinction between the architectural description of something physical and its physical manifestation. For example, in EA we may want to describe the conceptual pattern for an application, the pattern used by an application, the architectural components that constitute the application, the solutions used to build the architectural specifications and the processes of an application, and finally the physical manifestation of the application as it is deployed in different locations across the enterprise. These distinctions are important but difficult to model. The Physical Layer in ArchiMate is a step towards recognizing this problem, but EA teams will need strong metamodeling skills to trace the links between the various levels of architectural understanding.

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Mapping ArchiMate and TOGAF:
The new layers and elements in ArchiMate make it easier to map ArchiMate to TOGAF, and in particular, to the Architecture Development Method (ADM).

This diagram provides a very efficient way to summarize the relationship between the two standards. In my opinion, it neatly divides the ADM into three distinct areas:

Three Distinct Areas of the ADM:
- It links the three high-level domains of TOGAF with the corresponding Layers in ArchiMate. This area of the diagram covers Architecture Development. Note that the labels used by the two standards are not quite the same…
  - Remember that TOGAF subdivides the Information Systems architecture into Data Architecture and Application Architecture, whereas ArchiMate refers to these parts of the enterprise architecture as the Application Layer.
  - These three domains are now a widely accepted approach for having a typical enterprise architecture. ArchiMate doesn’t subdivide the Application.
- It links the strategy and motivation elements from ArchiMate to support the Preliminary, Architecture Vision, Requirements phases.

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<table>
<thead>
<tr>
<th>TOGAF Domains</th>
<th>ArchiMate Layers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>Business</td>
</tr>
<tr>
<td>Information Systems</td>
<td>Application</td>
</tr>
<tr>
<td>Technology</td>
<td>Technology</td>
</tr>
</tbody>
</table>

Fig. 2 - The ArchiMate and TOGAF mapping

A new diagram shows a simplified view of this mapping:
Management and Architecture Change Management Phases of the ADM. These are the parts of TOGAF that determine the need for an EA initiative, while ArchiMate provides elements that help to visualise and document this information.

The third area shows how the Implementation and Migration aspects of ArchiMate support the Opportunities and Solutions, Migration Planning, and Implementation Governance phases of the ADM.

It is worth noting that the various elements from ArchiMate can be used to support any of the phases in the ADM as necessary or useful - they are not limited to the phases shown in this simplified diagram. For example, the Strategy elements might also inform architecture development in Phases A, C and D, and the elements might also be used to help govern and ensure conformance.

Contents of the ArchiMate 3.0 Specification

The new content in ArchiMate 3.0 means that the documentation has been restructured. Here is a summary of the layout of the specification, with an indication of what you will find in each Chapter:

1. Chapter 1: Introduction - includes the objectives, overview, conformance requirements, normative references, and terminology.
2. Chapter 2: Definitions - includes definitions of the general terms used.
3. Chapter 3: Language Structure - describes the structure of ArchiMate, including the top-level structure, using the ArchiMate Core Framework, and the Full Framework.
4. Chapter 4: Generic Metamodel - describes the structure and elements of the ArchiMate generic metamodel.
5. Chapter 5: Relationships - describes the relationships in the language.
6. Chapter 6: Motivation Elements - describes the concepts and examples for expressing the motivation for an architecture.
7. Chapter 7: Strategy Elements - provides elements and examples for modeling the enterprise at a strategic level.
10. Chapter 10: Technology Layer - the definition, usage and examples of the Technology Layer.
11. Chapter 11: Physical Elements - describes the design elements and examples for modeling the physical world.
12. Chapter 12: Cross-Layer Dependencies - relationships between different layers in ArchiMate.
13. Chapter 13: Implementation and Migration Elements - elements for expressing the implementation and migration aspects of an architecture.
14. Chapter 14: Stakeholders, Viewpoints, and Views - describes the ArchiMate viewpoint mechanism.
15. Chapter 15: Language Customization Mechanisms - how to customize the ArchiMate language for specialized or domain-specific purposes.

Part 2 of this paper will examine some of the detailed changes that are particularly relevant to TOGAF students and practitioners.