White Paper

Positioning Business and Enterprise Architecture

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As a reader of Orbus white papers, you have probably already come to the conclusion that there is a lot of room for discussion regarding what enterprise architecture (EA) is, what it contains, how to do it, and more. EA is widely misunderstood, not only by IT professionals, but also by CIOs, business professionals, and many architects themselves. The Federation of Enterprise Architecture Professional Organizations (FEAPO) describes EA: "Enterprise Architecture is a well-defined process for conducting the enterprise analysis, design, planning, and implementation needed for successful execution of strategy by applying architecture principles and practices to guide organizations through the business, information, process, and technology changes necessary to execute their strategies"[i]. While this is one of the better definitions I've seen, it still leaves a lot of room from interpretation.

A different approach is to define EA in terms of the subject areas that it covers — typically business, information, application, and technology architectures — and how they fit together to meet an enterprise's requirements. Other definitions try to describe the process of creating architecture, or the work products that architecture produces. The challenge is that all of these approaches are correct, because EA is a broad topic with many different techniques used to solve a variety of different problems. As a result, EA is often "interpreted" to support the goals of a particular user, enterprise, or community. I would suggest that as long as these interpretations are consistent with a broader, general understanding (such as what FEAPO attempts to describe), it is probably

an effective strategy to focus EA on meeting your particular goals, with the understanding that it is one of many such interpretations.

Architectural Foundations

Let's look at some of the foundations of architecture as a way to set a baseline, general understanding from which we can then distinguish or narrow a particular architectural approach or discipline.

Domains
Describes architecture in terms of the subject areas that it covers. In general, each domain can be decomposed into more detailed subject areas.

Artefacts
Describes architecture in terms of the work products that are created, such as models, documents, standards, etc.

Methods
Describe architecture in terms of the activities that are performed by architects to produce the artefacts specific to each domain.

Data Architecture or Information Architecture

A side debate is whether this domain is called Data Architecture or Information Architecture. One approach to thinking about this is to compare the definitions of data and information. Data is a collection of facts. When we put those facts into context, the data becomes Information. My perspective is that this is one of the main characteristics of enterprise architecture, to put individual things (for example systems, processes, technologies, and data) into the context of the overall enterprise. So, I think EA is concerned with data in the context of the enterprise, aka. Information, in my opinion.

When we apply this approach to describe enterprise architecture, unfortunately, we do not find clear agreement on the makeup of the different areas, and in particular, the specifics of artefacts and methods. Rather, different approaches to EA typically have different answers based on the goals of the architecture effort, the stakeholders, and their viewpoints. Again, as long as the artefacts and methods stick to a reasonable set of principles (such as being based on a consistent metamodel), this is probably an effective strategy.

But, one area that most will agree on is the foundational domains of EA which include:

- Business Architecture
- Information Architecture
- Application Architecture
- Technology Architecture

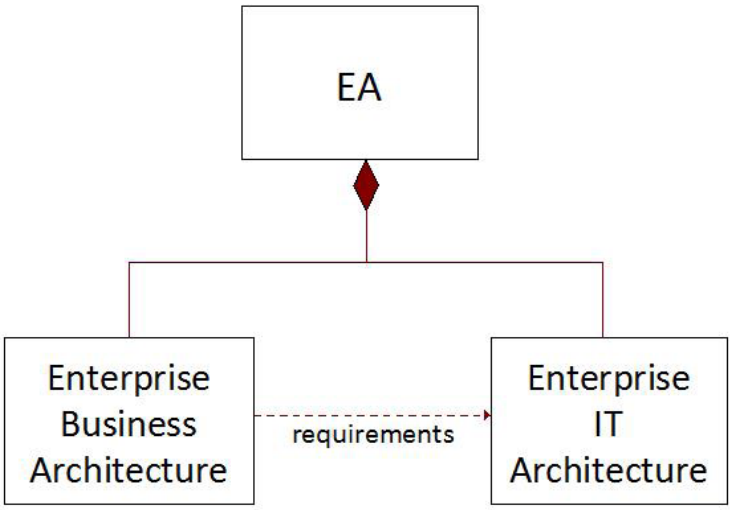

Figure 1 – Positioning EA and BA

Business Architecture and Enterprise Architecture Relationship

Given that business architecture is considered a domain of enterprise architecture, how can we describe the relationship?

Figure 1 shows the common view that business architecture and IT architecture (information, application, technology) are all domains of enterprise architecture, and that business architecture provides the requirements for IT. While there is general agreement that business architecture should provide requirements for IT, many business architects feel that is also a limited view of the role of business architecture and what it can accomplish. A growing body of scenarios where BA has been used to clarify business issues, independently of IT support this position. But, while BA can be used independently of IT, most would agree with the relationships in the diagram. However, things become much less cordial if we shift the discussion to the organizational structure of business architecture and EA. Let me state an important principle for this discussion (based on the idea of separation of concerns).

"Never confuse architectural domains with organizational charts"

From the context of architectural subject areas (domains), Figure 1 makes sense, but it does not imply an organizational structure. We typically see two different organizational structures for EA and BA summarized in the table below.

Business Architecture reports to:	Structure	Advantages	Disadvantages
Business Unit	Business Architecture reports to a Business Unit or Line of Business. Architects are assigned to support projects or specific domains	Business Architects have better access to business counterparts Business Architects have better credibility in terms of 'business knowledge'. Are not viewed as IT Geeks. BA and the business have common goals and measures	Business Architecture has a narrower focus, possibly promoting 'Silo' thinking. Business Architects can become detached from the architecture community. Business / IT alignment can be more difficult to obtain
Enterprise Architecture	Business Architecture reports through EA or CIO.	Business Architecture has an enterprise scope Business Architecture is naturally aligned with IT architectures	Business Architects are not taken seriously or viewed as a valuable resource by the business The relationship of architects to projects or initiatives is not always clear or understood

Probably what is most important is that the organizational structure makes sense within the context of a particular enterprise with respect to culture, politics, skill sets, etc. But in general, I see the following trade-off: When BA reports to the business, it has better access and credibility with the business, but narrower scope. When BA reports to EA, it has the potential for better alignment, but has little traction with the business. Either situation can be made to work, but in general, I find that having BA report to the business works better.

One reason for this is that it is easier to get architects from different organizations to work together than it is to get business people from one organization to work with architects from an IT organization. Although it is not a complete solution, an Architecture Community of Practice made up of architects from EA, business units, and other organizations (often information and security is outside the scope of EA) goes a long way in getting architects to collaborate and to address alignment. But even then, the enterprise scope issue requires the individual Business Architects to take initiative to address it.

Architectural Domains

For each architectural domain, there is an associated set of concerns, goals, or concepts. Each set can be described by a conceptual model and perhaps documented in a commonly used formal model. These models define the vocabulary used within that domain.

Business Architecture Domain

Business architecture is concerned with defining the business such that strategies and goals can be clearly articulated, management decisions can be based on facts, transformations can be focused on the most important aspects, and issues can be addressed based on clarity and information, rather than hunches. From an EA perspective, BA is also concerned with specifying clear business intentions that can be effectively aligned with and supported by information technology (IT).

The business architect wants to help achieve effective transformations and alignment, ensuring that these efforts are coordinated across business units so that different business units are not working at cross-purposes or duplicating efforts. The business defines capabilities and information maps to establish a common vocabulary; identifies important stakeholders; and defines the value based end-to-end interactions with those stakeholders using value streams.

This establishes the foundation for applying business architecture to business planning and related initiatives. Next, the business clarifies and formalizes business goals, strategies, and outcomes, and maps them

to capabilities and value streams as targets for alignment. Finally, the business defines tactics, organizational structures, and initiatives as ways of meeting goals and strategies. The BIZBOK™ (Business Architecture Body of Knowledge) explains that these concepts are defined in various maps such as the capability map, information map, value map, strategy map, organization map, product map, initiative map, various cross-mappings, and business roadmaps.

Notice that business architecture is not concerned with IT concepts or producing IT focused deliverables. This is one reason for the shift in organizational structure of BA, moving into the business units and away from IT. And also an explanation of why some business architects argue that BA is concerned with much more than simply creating requirements for IT to achieve better alignment. Let's compare this with the concerns of the IT architecture domains.

Information Architecture Domain

Information architecture is concerned with providing a managed information environment for operational and transactional data, and for transforming that data into information to support business analysis and reporting. At the enterprise level, the architect wants to provide a consistent view and usage of operational data across multiple applications and to rationalize storage to minimize duplication and simplify access.

Like all architects, the information architect is interested in commonality, specifically in providing a common mechanism for moving and transforming operational data into analytical data, sometimes called data flow architecture. Data transformations should be based on common business and information models.

Operational data for the application is typically defined in ERD models. Analytical information for the application, often accessed through a data mart is typically defined in terms of a multi-dimensional data model.

Application Architecture Domain

The application architect is concerned with commonality in applications. At the enterprise level, this means creating reference models and standards that specify a common structure or architectural style that promotes sharing of common responsibilities, of using common services in a consistent fashion, supporting a common user interaction style and configuration mechanisms, using a standard technology platform, having common management, monitoring and operations procedures, etc. This is not done in an attempt to limit the creativity of application developers (as many will argue), but rather to improve integration between

applications, allow for sharing of common information, have consistent results for the same operation no matter how it is performed, and reduce the cost and complexity of maintenance and enhancements.

To achieve these goals, the application architect first specifies the architectural styles to be used and specific roles and responsibilities of the architectural elements that make up that style. Technology aspects such as performance, scalability, reliability, and security are factored into the reference architecture, not each individual project. The application architecture can be expressed as a conceptual drawing, but can also be formally specified in a reference model created in Unified Modeling Language (UML).

Technology Architecture Domain

In the technology domain, the technology architect is responsible for providing common platforms that supports the different (hopefully few) application architecture styles with the appropriate quality of service. Technology architecture often includes a wide variety of technologies such as systems, storage, security, networks, data center, management, capacity planning, performance analysis and monitoring, and other options.

Conclusion

The alignment between business architecture (BA) and enterprise architecture (EA) is a natural alignment of two related domains. Business Architecture, like the other architecture disciplines is based on applying architectural skills and techniques to a particular domain, taking into account the concerns of that domain, the stakeholders involved, and the appropriate viewpoints and artefacts.

A consensus seems to be emerging that business architecture should be mainly concerned with business concepts, and independent of IT. But of course, the business is part of the enterprise as well, and business architecture must be an integral domain of enterprise architecture. The question is how best to structure the architectural organizations such that business architecture is respected, useful, and effective as well as providing unambiguous requirements leading to fully aligned business needs and IT systems within an enterprise scope. Currently, the pendulum is swinging toward having business architecture report through the line of business. Time will tell what the best approach turns out to be.

[i] A Common Perspective on Enterprise Architecture, 2013, FEAPO White Paper

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