The place of Semantic Architecture in the Enterprise Architecture Framework

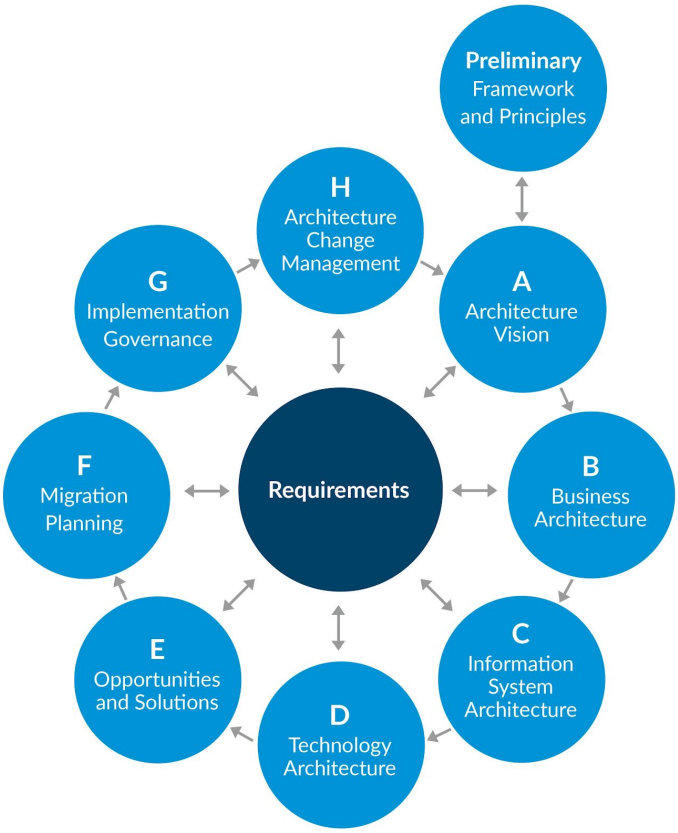
In this lecture:

- Enterprise Architecture Framework: where does the Semantic Architecture sit?
- Views and Viewpoints
- Information Objects

Semantic Architecture in the Enterprise Architecture Framework

Semantic Architecture: the representation of a conceptual domain in terms of entities that exist, relationships between these entities, and attributes that describe these entities and dictate the behavior of related data.

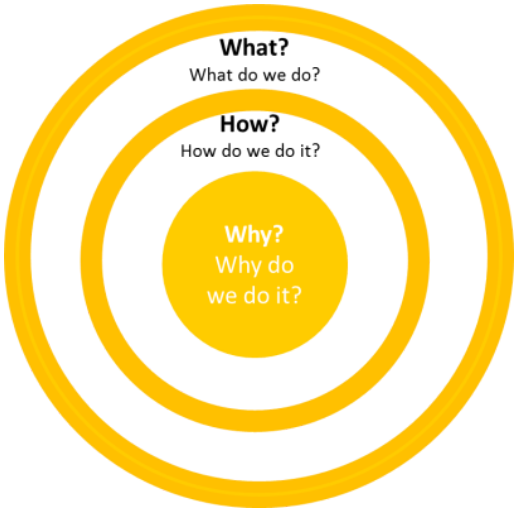
Where does the Semantic Architecture fit on the Enterprise Architecture chart?



TOGAF framework for architectural delivery

*It's all about **Requirements** - that we will cover more talking about viewpoints*
***Architecture Vision** is about the strategy: the business has a goal, how do we get there? What is the idea we need to implement?*
***Business Architecture** tells us what kind of business processes and interactions are required to deliver the Architecture Vision. What needs to happen? Who needs to do what, and when? Everything that a business does is about generating and consuming data. In fact, everything anyone and anything in the world ever does is generating and consuming data - so no surprise the next step in our solution is I**nformation Architecture**, that answers the questions like: what kind of data is required by each process? Where does it come from? How do we know we can trust it? What kind of data does each process generate? What and who for?*
***System Architecture** is about the applications required to support the information exchange and manipulation performed to support the business processes. What kind of logic needs to be automated? What kind of tooling is required? What are the algorithms? How do we handle the data to support the business process?*
***Technology Architecture** is about physical implementation. Hardware, networks, balancing performance and availability - the whole infrastructure needed to support the applications that support the data consumption and generation that the business processes result in.*

Juicy extra: The Golden Circle



Exercise: Think of a business idea. Think of the purpose of the business, and how it is achieved (this is your Architecture Vision). What needs to happen? What kind of data and information is required?

Semantic Architecture is first and foremost about understanding the business:

- Terms and concepts
- Things that matter
- Business processes in terms of what data is being produced, consumed and operated

Semantic Architecture is a way of expressing the business story in terms of information objects. As such, it belongs to the domain of Information Architecture but has a heavy leg in Business Architecture domain.

Views and Viewpoints

How we see things depends on how we look at them. The perspective we are taking is referred to as **Viewpoint** in Architecture. The world we see from our viewpoint is the **View**.
A Shipment company sees phones as their category: electronic goods, the weight of the shipment, the source, and destination, as well as the cost of the whole cargo for insurance purposes. It does not care about the brand of every single phone, the functionality of the phones in the cargo, whether or not these phones have Russian localization etc.
A phone retailer has a very different view: they don't care about the weight of the container the phone came in, but they do need to know every phone's brand, functionality, localizations, compatible accessories and unit price.
Two Ontologists, working one for the Shipment company and another one for the Retailer, will come up with very different domain narratives for phones.

The **difference between academic and applied Semantics** is that the academic approach tries to describe a concept from a very generic viewpoint, while applied Semantics takes the viewpoint of the business it is serving. Applied Semantics allows approximations and imprecisions. It does not care about creating THE representation of the domain; it delivers A representation to support the business it operates in.

Always take the viewpoint
Which means, you will have to understand the business
There is no way around this, for an Applied Semantics professional.

Information Objects

When we discussed a business idea and talked about the How, we also covered the data that is needed to make it work.

That is because **as an Information Architect, you will end up developing a viewpoint of your own: one where everything is an information object, and every quality and quantity is an attribute, and every event in life is an information exchange.**

What is an Information Object?

- It is a thing of interest for your business.
- It is always a noun, and it cannot be expressed in units and cannot have a literal value. If it can, it's not an information object, but an attribute of such. You can catch the object by asking the "of what?" question.

Let's take a crazy example:
Business*: rent-a-hamster.*
Why *(this is my value proposition and my differentiator): a lot of people would love to have a pet, but they don't have a house big enough to host one. A hamster is a small pet. People who live in small apartments are usually the ones with the least anchors - they might travel often, stay out late, and hence owning a pet can be a bad idea. Therefore, I create a possibility for them to rent a hamster.*
How *(this is my strategy and my go-to market): by allowing people to use a mobile app to select a hamster and have it delivered and picked up upon request. We will reach out to the bachelors living in small apartments, and assume that 10% of them will want to rent a hamster.*
What *(this is my business plan): a hamster farm from which hamsters will be delivered by a hamster-mobile to the clients upon request via a mobile app.*
What are my information objects? What kind of data do I need?
Obviously, hamsters, with their breed, color etc.
Also, the number of bachelors within a 30 minutes drive, and the size of their houses. But "the number of bachelors" is not an information object - it has a literal value - for example, "1000". It is hence an attribute. Good news is, this attribute already contains the information object we are looking for: bachelors. We can count them later - for now, we need to know their addresses to determine whether they are in the qualifying distance from us.
"Size of the houses" is also not an information object - it can be expressed in units - for example, square meters. It is hence also an attribute - an attribute of the information object House.

In order to run the rent-a-hamster business, we need to know about hamsters, bachelors and their houses (and, of course, as for any other business, however ridiculous, a million other things).