



Everyday Enterprise Architecture

Sense-making, Strategy, Structures,
and Solutions

—
Tom Graves

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Everyday Enterprise Architecture: Sense-making, Strategy, Structures, and Solutions

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Eaglehawk, VIC, Australia

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About the Author



Tom Graves has been an independent consultant for more than four decades, in business transformation, enterprise architecture, and knowledge management. His clients in Europe, Australasia, and the Americas cover a broad range of industries including banking, utilities, manufacturing, logistics, engineering, media, telecoms, research, defense, and government. He has a special interest in architectures beyond IT and integration between IT-based and non-IT-based services.

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Introduction

What exactly do we *do* every day in enterprise-architecture? What value does it deliver to the business? How do we develop our skills and experience, our judgment and awareness, so as to keep on enhancing the value that we deliver? And how do we do it *fast*, to respond to the real-time pressures of an always-on business world?

Many books on enterprise-architecture place an emphasis on frameworks, models, or methods – their overall *theory* of architecture, without much description of what actually happens in day-to-day practice. The reason for that gap is simple: if we start from theory, it's hard to show much more than guidelines and principles without getting lost in irrelevant detail, because every architecture context is different.

So this book takes almost the opposite approach. We concentrate on the everyday *activities* that underpin each of the architecture disciplines – particularly the core processes such as sensemaking and design-thinking.

We explore how and why and when the various items of “theory-stuff” come into the picture – all those methods, frameworks, models, metamodels, and other information-sources.

And we show how to do all of that in a real architecture-project that must deliver real business-value in just two working weeks – not the two years or more required by some other approaches to enterprise-architecture. So yes, *real* enterprise-architecture, in real-time, that really *does* make business sense.

Use the architecture itself to explain how to do enterprise architecture.

Illustrate it by tackling a real enterprise-level business problem.

Exactly ten days in which to do it.

Starting now.

Go.

Interested? Read on...

Who Should Read This Book?

The principles and practice described here apply to every type of enterprise – for-profit, not-for-profit, government, whatever – and at every scale, from a global corporation all the way down to the local school’s sports-club. So in principle, and in practice too, it should be relevant to just about everyone.

This book should be especially useful for enterprise and business architects, but also for executives, strategists, strategic analysts, and any others who are tasked with understanding the enterprise as a whole.

Enterprise-architectures provide a “big-picture” overview for other architecture disciplines: so this would also be useful for process architects, security architects, solution architects, software architects, and the like.

What’s in This Book?

The aim of this book is to show what *actually* needs to happen in enterprise-architecture practice – not just its outcomes, but the activities from which those outcomes arise. As part of this, the book introduces a new technique called “context-space mapping,” which provides a structured method for sensemaking across the entire context of an enterprise. There’s also a strong emphasis here on what building-architects describe as “meta-thinking” – the reflective “thinking about thinking” through which the quality of personal practice is developed.

The book and its content are built around a real two-week project explicitly undertaken to illustrate all of these themes. Each of the ten main chapters in the book describes the respective day’s activities, and includes and expands on the actual project-diary entries for that day, which are shown as follows:

Diary-entries have their own distinct formatting to separate them from the main text

We’ll use the project-diary for records, notes, sketch-diagrams, and anything else we’d need to document as we go along.

There are also various comments, anecdotes, asides, and examples – again drawn from real business practice – which are shown as follows:

A story, anecdote, or aside provides a real-world example of the point that's being discussed in the main text.

Most books on enterprise-architecture and the like will include many illustrative models and diagrams, and this too follows that tradition. What's different here is that many of these diagrams are adapted straight from the sketch-pad or whiteboard, to emphasize that this book is all about what happens in real-world practice.

There are actually two projects running in parallel during the two-week period described in this book:

- How to use architecture ideas and activities to describe what actually happens in a real enterprise-architecture project, and the business-reasons and business-value for each of those activities

...and, selected during the early stages of that main project, to illustrate each of the respective principles and practices:

- Using architecture to address a real enterprise-level business-problem that was a serious and urgent concern to one of our clients

The architecture activities for this second project are described in a separate section in the later part of each day's chapter.

Each of those chapters ends with another section that provides suggestions for how to apply the same principles in your own architecture work.

There are also two additional chapters after the overall projects. The first of these describes the structures of the information-repositories needed for enterprise-architecture, and summarizes the respective content for each. The second of these two chapters provides more detail on context-space mapping, with some additional examples of cross-maps that can be useful in specific types of sensemaking. And finally there's an appendix that lists the various resources referenced within the book.

That's the overall structure of what follows. But the clock's already ticking on this architecture-project: time to get started.

CHAPTER 1

Day 1: Getting Started

Whatever we do, however we approach it, and whichever part of the organization we work in, all of enterprise-architecture comes down to one single, simple idea:

Things work better when they work together, with clarity, with elegance, on purpose.

Enterprise-architects are responsible to the organization to make that happen: the underlying aim of every item of architecture-work in the enterprise is to make things work better for everyone, in a more effective way.

And every item of architecture-work should start from an explicit business-question. In this specific case, in exploring the role of architecture itself, the “business-question” will come from us, but the principle remains the same as for any other architecture task. So for here, the question is this:

What do enterprise-architects *do*?

And how exactly do they add value to the business?

One obvious driver for value to the business will be speed of response: the work is not going to be of much value if we allow ourselves to get stuck in “analysis-paralysis.” But the business will also need us to deliver something that is of practical use: we do need to get the balance right here. So, following an Agile-style development principle, we’ll pick an arbitrary but appropriate timescale – ten working-days, or two business-weeks – for a first-level architecture iteration. At the end of that time, we’ll review and decide what to do next.

Action: *Start a project-diary.* Document the key requirements and decisions to date:

Commitment

- use architecture methods, etc., to describe how to do architecture-development in real-time
 - topic for the architecture-project is architecture itself
 - document in book-form
 - timescale: 10 working days
 - success-criteria: better understanding of architecture purpose and practice
-

This means we're already in Day 1 for the project: no time to waste.

Overall Aim, Scope, and Purpose

As a starting-point, we briefly summarize some key themes and understandings about what this work will involve, and ideas about what we want to have achieved by the end of this cycle:

Starting-point:

- project-stakeholders are architects and architects' clients
 - use the existing Agile-architecture development-process
 - demonstrate the recursion, etc., within that process
 - particularly want to describe the sensemaking and decision-making components of architecture, such as via context-space mapping
-

Action: *Identify the stakeholders and scope.* Every item of architecture work will apply to and affect one or more groups of stakeholders, so we need to identify who those are, as early as possible in the project. We describe these people as “stakeholders” rather than “clients,” because although the work is usually *for* a specific group of people – such as you, in this case – there are often many others who will be affected *by* it, and whose feelings and opinions will definitely impact the overall effectiveness of the end-result. It's essential to set the right scope, so it's important to note that for architecture work, the scope of *influence* – the stakeholders whose views we need to take into account – is usually several steps broader than the scope of *action* – the part of the business for which we have the authority and budget to enact change.

Action: *Identify the methods and overall approach to be used.* The aim here is to use architecture to describe how architecture works, so we'll need to base the work on existing disciplines, frameworks, and methods. One key to this is the way in which

the same overall practices recur not just as sequential cycles, but within other cycles – a pattern known as *recursion*. We also want to explore and explain the process of sensemaking and decision-making that is the real core of architecture-practice.

Agile-architecture cycle:

1. Setup – context, scope, values, business-purpose, and success-criteria
 2. Architecture-side: what do we have, what do we want, what's the difference from here to there
 3. Implementation-side: what needs to change, what's the plan, do it
 4. Wrap-up: what value was gained, what have we learnt, what's next
- Include glossary/thesaurus, models, opportunity/risk, issues, etc.
Perhaps use an adapted version of TOGAF ADM to illustrate this?
-

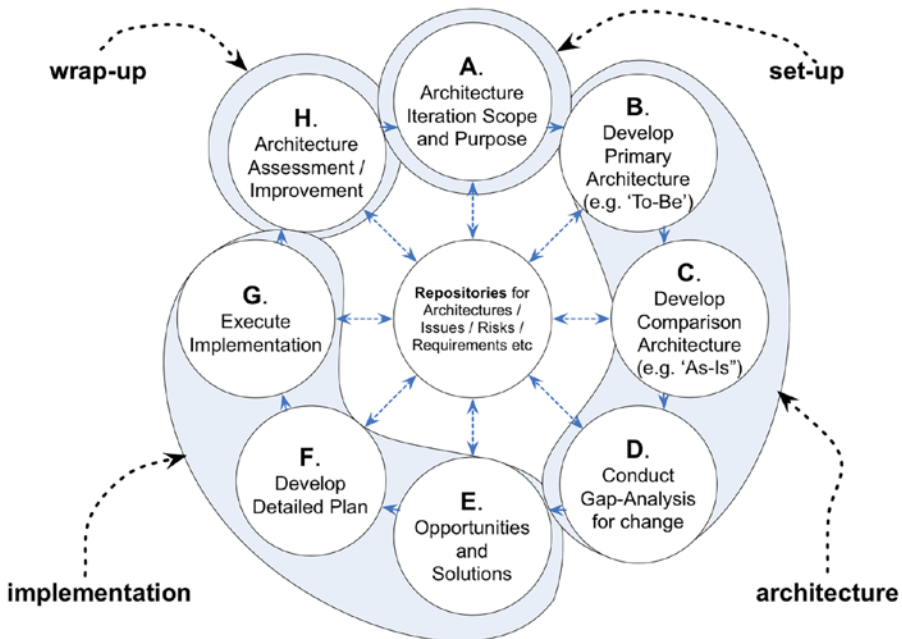


Figure 1-1. *The architecture cycle*

As in the project-diary, the architecture-development process is structured as a cycle with four main groups of activities. As shown in Figure 1-1, we've adapted this from the style established by the TOGAF ADM (The Open Group Architecture Framework Architecture Development Method – see Appendix C), so we've laid out these four groups into eight distinct phases:

- A setup phase
- A group of three phases on architecture-assessment
- Another group of three phases on implementing the results of that assessment
- And a shared completion-phase that wraps up the overall project

By the way, do note that what we're describing here is not the TOGAF ADM. It intentionally uses the same kind of layout, to support compatibility, but some of the differences are fundamental. In particular, phases B, C, and D work in a very different way: in TOGAF, these are arguably usable only for larger-scale IT projects, whereas in this frame they're designed for use with any type of content or context, any type of scope, scale, or timescale. To see the difference, compare the labels for each phase to those in the TOGAF ADM.

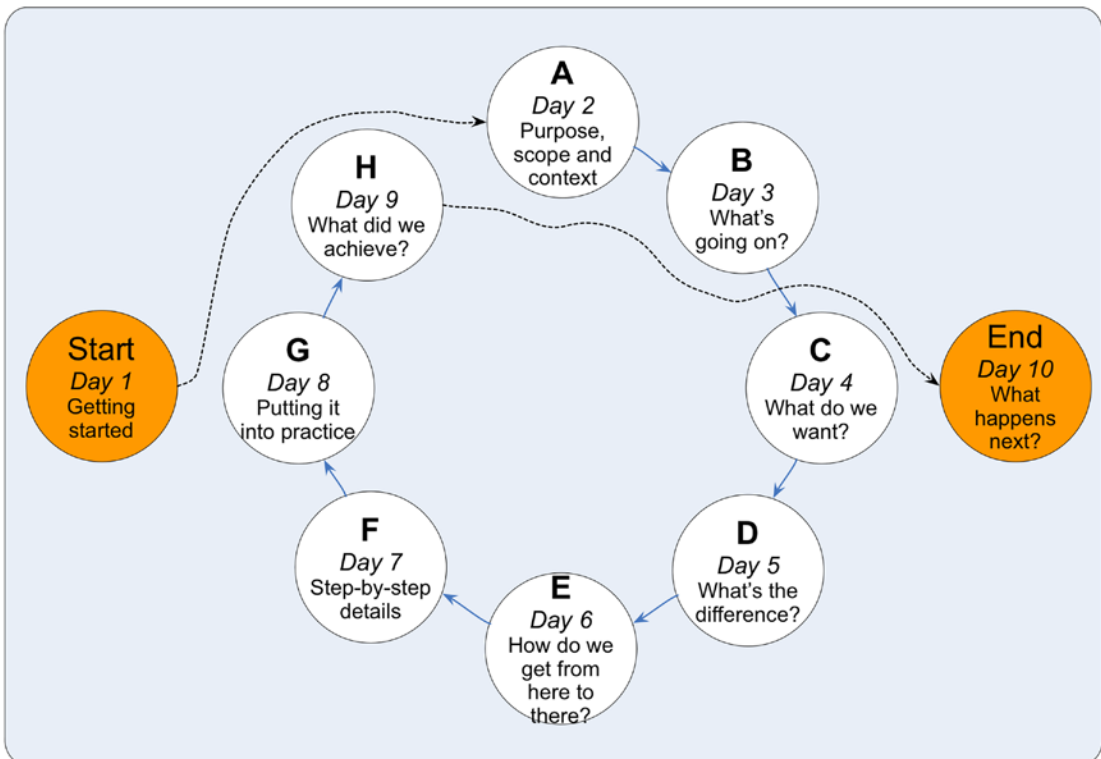


Figure 1-2. Structure for this project: cycles within a cycle

As shown in Figure 1-2, there will be just one main cycle for this project, with separate smaller cycles either side to provide lead-in (Start) and follow-up (End). Each of these cycles may well include other cycles within it, to support the needs for recursion.

In effect, this first day (labelled Start in Figure 1-2) is one very rapid skim through that cycle, looking at purpose, then the needs that arise from that purpose, and what we need to do to action those requirements, followed by a quick wrap-up and review. After that we'll do a full cycle, allocating one day to each set of activities (phases A to H). We'll then complete the project with a final overall review, which again will be another rapid one-day cycle (End).

Initial Aim, Scope, and Stakeholders

For this initial one-day cycle, the stakeholders are ourselves, the scope is the same “how would we describe architecture?” and the aim is to develop a plan of action for the remaining work that will deliver useful results in the small amount of time that we have.

Initial Assessment

Right at the start of an assessment-phase, by definition, we don't know what we're doing, and we don't know what to do. We know where we want to go, but not much more than that. This can often bring on a strong feeling of inadequacy, incompetence, even of failure, so it's important to realize that *this bewilderment is normal and to be expected at this stage of the process*.

For almost everyone, this kind of inherent uncertainty can be very uncomfortable. And although it takes a lot of practice to become “comfortable with being uncomfortable,” that's a very useful skill for architects to develop, because our clients will be going through exactly the same experience, and we'll need to help them through it too. What helps most here is to acknowledge what we feel, yet remember to follow the process: keep the focus on the overall aim or “vision,” and then *do something* – almost anything, in fact – to give appropriate ideas somewhere to begin to coalesce.

Action: *Don't fight against the uncertainty, work with it.* In this phase of the work, it's best to place ourselves in an “information-rich” environment of some kind, to provide the broadest possible range of triggers for ideas. For some people this will literally be “noisy” – music, crowds, the market – whilst others would prefer the library or a wild scatter of papers and images. The key is to keep a notepad or voice-recorder to hand at all times here, to catch the often-fleeting impressions that will start the ball rolling.

Assorted notes:

- start with a mind-map of key themes/concerns: what is “enterprise architecture”? for this purpose?
- how would I use this? – give a real example
- “what is an enterprise?” – what is “the enterprise” for this?
- use simple checklists: context-space; five-principles; five-elements; four-dimensions segments-model (extended-Zachman)

As shown in Figure 1-3, the free-form nature of mind-mapping can be useful here – if only to express how we feel about the uncertainty at this point...

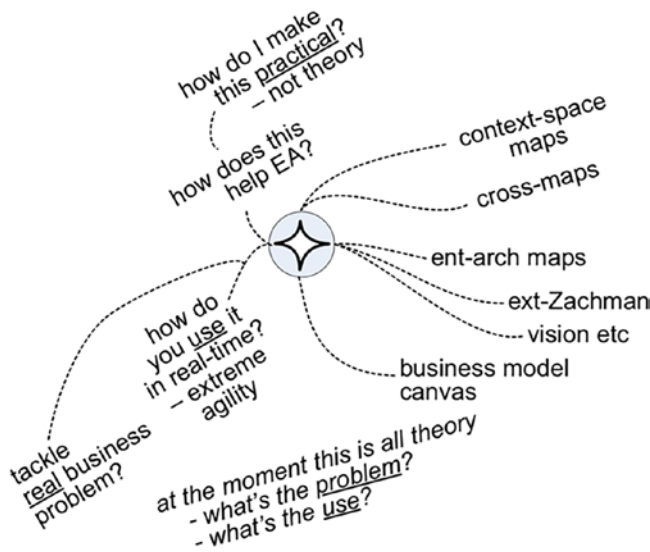


Figure 1-3. Initial mind-map

Importantly, *all* we are doing at this stage is assessment and information-gathering: we document the ideas and images that come up, but we *don't* take action to follow up on any of them as yet. This does, however, point to a key operating principle that we will use throughout the entire process:

Action: *If anything comes up during a project-phase that more properly fits the function of a later phase, the only action should be to document and tag it for retrieval during that later phase.* For example, that list in the preceding graphic includes “how would I use this?” and “use simple checklists” – both of which are more about action than assessment, so we do nothing more about them for now, other than ensure that we

will remember them when we get to the “implementation” stage of this small cycle. But the question “what is an enterprise?” *is* useful for assessment, so we do need to explore that point briefly before moving on.

Perhaps unsurprisingly, the question “what is an enterprise?” is fundamental to enterprise-architecture. This is important because many discussions about enterprise-architecture will assume that it’s solely about IT. The point here is that even if we’re only concerned with IT, we still need to set its respective “enterprise” in a broader scope – *much* broader, in fact.

The key distinction here is that we develop an architecture *for* an organization, but *about* an enterprise that provides its context:

- The *organization* is bounded by *rules, roles, and responsibilities*
- The *enterprise* is bounded by *vision, values, and shared commitment*

This essential difference between rule-based versus values-based means that whilst we can sort-of control what happens within an organization, we can’t do the same with an enterprise. The best we can do is negotiate agreements – which is a very different process than issuing organizational edicts...

An organization is also an enterprise in its own right, of course (though an enterprise is not necessarily an organization) – hence the common habit of describing a business-organization as “the enterprise.” But for the context we’d typically need for an architecture, a useful guideline, as shown in Figure 1-4, is that *the enterprise in scope is at least three steps larger than the organization in scope.*

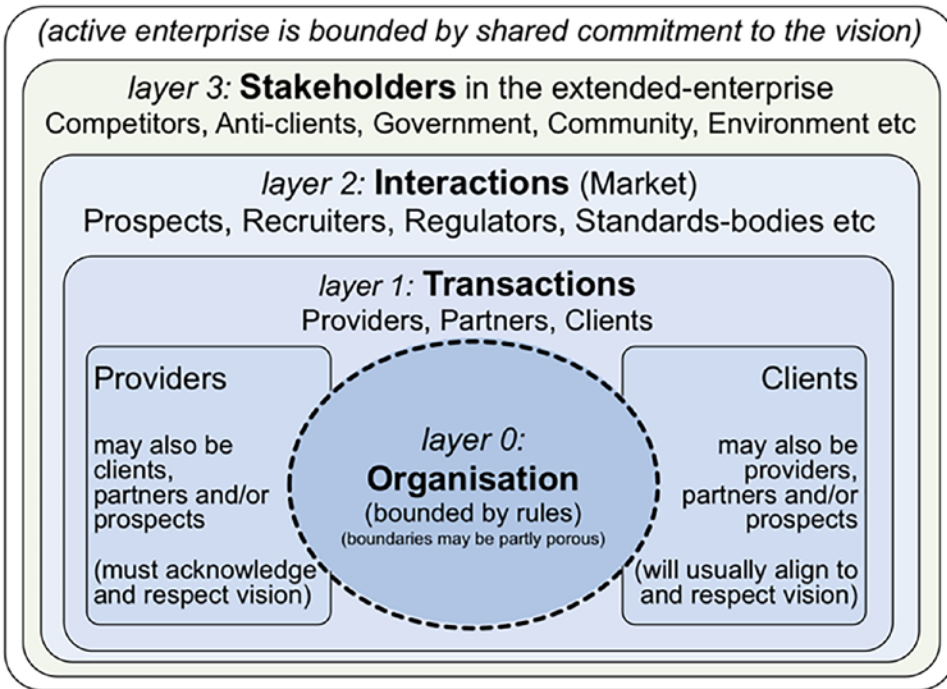


Figure 1-4. Organization and enterprise

For a business-organization, those three steps or layers outward would typically include:

- *Layer #0 (root):* The organization itself
- *Layer #1 (transactions):* Clients, suppliers, suppliers, service-providers, and partners
- *Layer #2 (interactions):* Prospects, regulators, recruiters, the market, and more
- *Layer #3 (further stakeholders):* Competitors, non-clients, anti-clients, government, community, environment, and more

For a government department or not-for-profit organization, we might use alternate labels for “clients,” “prospects,” or “competitors,” but the overall structure would be much the same.