



Architects in the enterprise are often regarded as ivory tower residents who bestow their utopian plans upon project teams in the form of colorful diagrams that bear little to no resemblance to reality. The most suspicious in this group are often the “Enterprise Architects” who are perceived as being furthest from actual technical problems.

However, large-scale IT operation and transformation require transparency across hundreds or thousands of applications running on all sorts of middleware in data centers around the globe. The very enterprise architects are likely the only ones who stand a chance to bring transparency into such an environment and who can direct IT investments in the hundreds of millions of Euros towards modernization and run-cost reduction. This sounds a lot more exciting and valuable than drawing pictures!

This session takes a serious but light-hearted look at the role of enterprise architects in modern IT organizations. Gregor is a recognized thought leader on asynchronous messaging and service-oriented architectures. He is widely known as co-author of the seminal book “Enterprise Integration Patterns” and as frequent speaker at conferences around the world. He is an active member of the IEEE Software editorial advisory board. He has documented his experience as an architect driving IT transformation in the eBook “37 Things One Architect Knows”.

The Enterprise Architect's Office



We just write
about software...
You have to go and
debug it yourself!

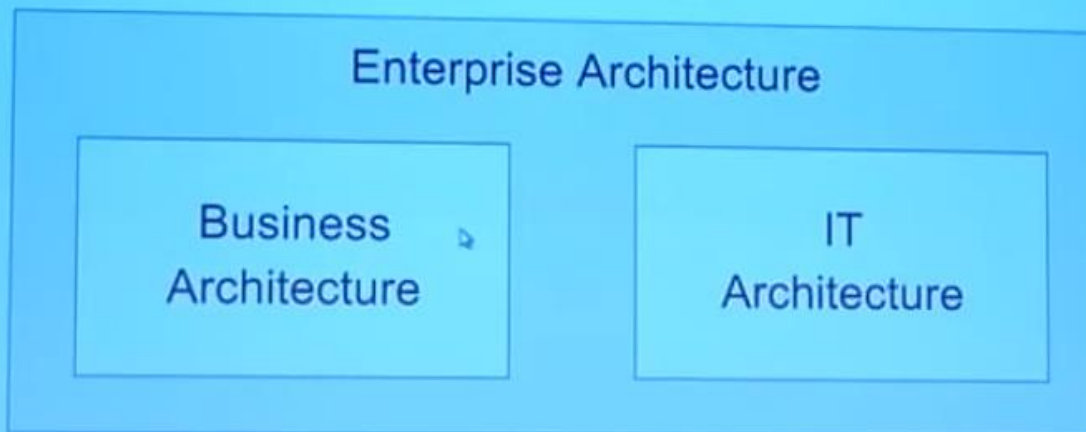
YOW!

The Purpose of Enterprise Architecture



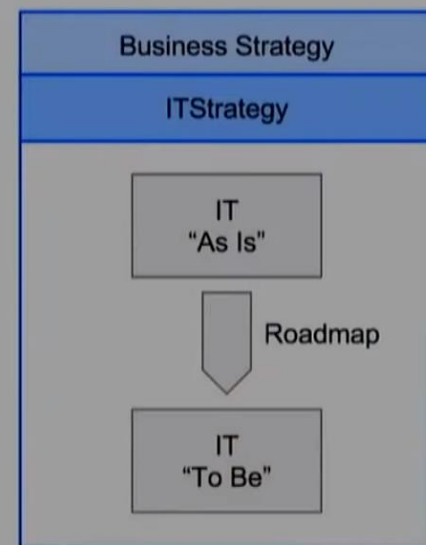
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Enterprise Architecture is the Glue between Business Architecture and IT Architecture



The Role of Enterprise Architecture

1. Understand the business strategy
2. Translate into an IT strategy
3. Create transparency
4. Define IT target picture
5. Define a roadmap
6. Harmonize and govern
7. Obtain feedback and refine
8. Coach and mentor



YOW!

1) Understand the business and its strategy

- Growth areas
- Profitability
- Geographic expansion
- Geopolitical aspects
- Acquisitions and divestitures

"Architecting the business"

- Divisions / business lines
- Group level vs. divisions
- Reporting lines
- Matrix organization
- Hidden org chart / loyalties

"Reverse engineering the organization"

Most business domains are much more interesting and exciting than it may seem, even insurance!

YOW!

Architecture is a lot about making assumptions and **building flexibility** in your systems, only by understanding the business can you have a feeling for what flexibility will actually provide value to the business.

1) Understand the perceived role of IT

	Cost Center	Asset	Partner	Enabler
Focus on	Cost	Return on Investment	Business Value	Speed & Innovation
Typical CIO Reporting line	CFO	COO	CDO	CEO
Common Strategy	Outsource IT	Harmonize / Rationalize	Insourcing IT	IT = business
Leverage	Cost Cutting	Economies of Scale		Economies of Speed

YOW!

2) Translate Business Strategy into IT Strategy

Strategy is...

- ...not reality
- ...defining what you won't do
- ...not the vendor's product road map

"Better products at lower price"
is not a strategy. That's wishful thinking.

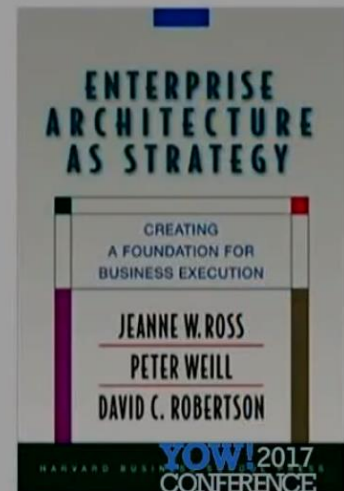
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Strategy is supposed to tell you "how you are going to get there?" "what are you NOT doing to get there?" "are you a premium provider or a low-cost provider?"

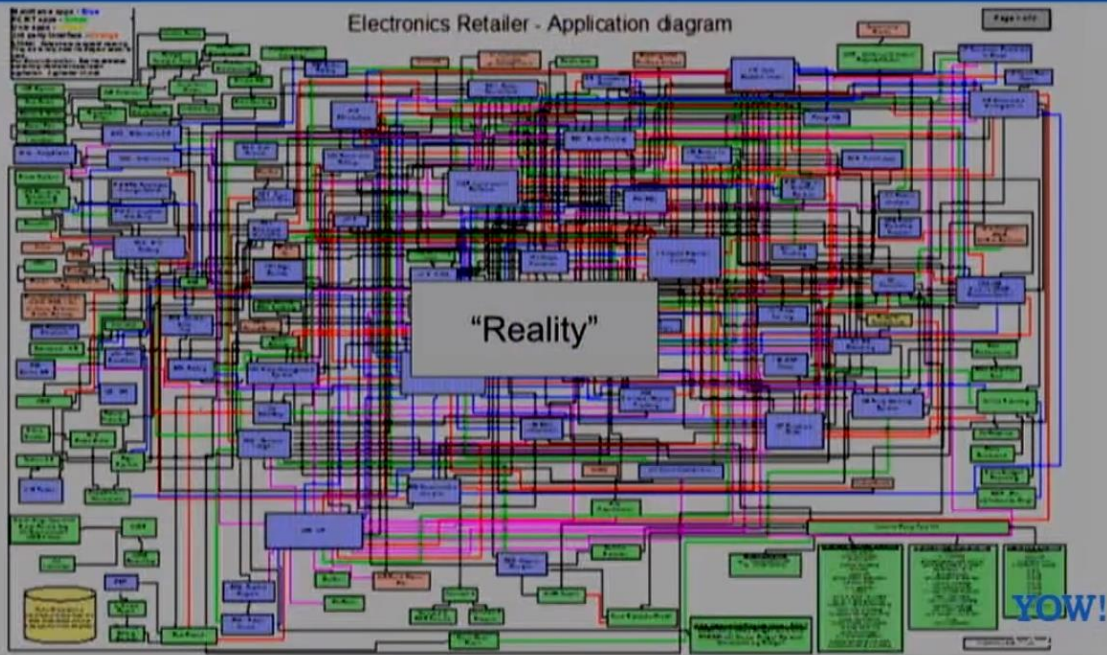
2) Translate Business Strategy into IT Strategy

Pick One of Four Operating Models - how do you want to grow

Business Process Integration	High	Coordination <ul style="list-style-type: none">• Unique business units with a need to know each other's transactions• Examples: Merrill Lynch, Toyota Motor Marketing Europe, MetLife• Key IT capability: access to shared data, through standard technology interfaces	Unification <ul style="list-style-type: none">• Single business with global process standards and global data access• Examples: Delta Air Lines, Dow Chemical, Pepsi Americas• Key IT capability: enterprise systems reinforcing standard processes and providing global data access
	Low	Diversification <ul style="list-style-type: none">• Independent business units with different customers and expertise• Examples: Johnson & Johnson, Carlson Companies, GE• Key IT capability: provide economies of scale without limiting independence	Replication <ul style="list-style-type: none">• Independent but similar business units• Examples: Marriott, CEMEX, ING DIRECT• Key IT capability: provide standard infrastructure and application components for global efficiencies
		Low	High
Business Process Standardization			

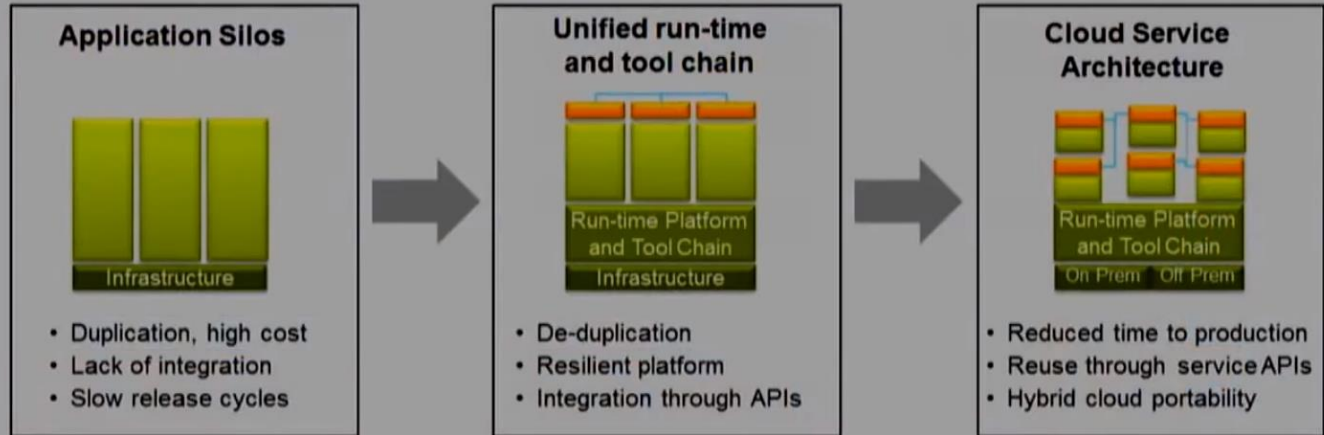


3) Create transparency



Find out where you are today? Getting reality is the starting point for charting a roadmap.

4/5) Define the IT Target Picture & Roadmap

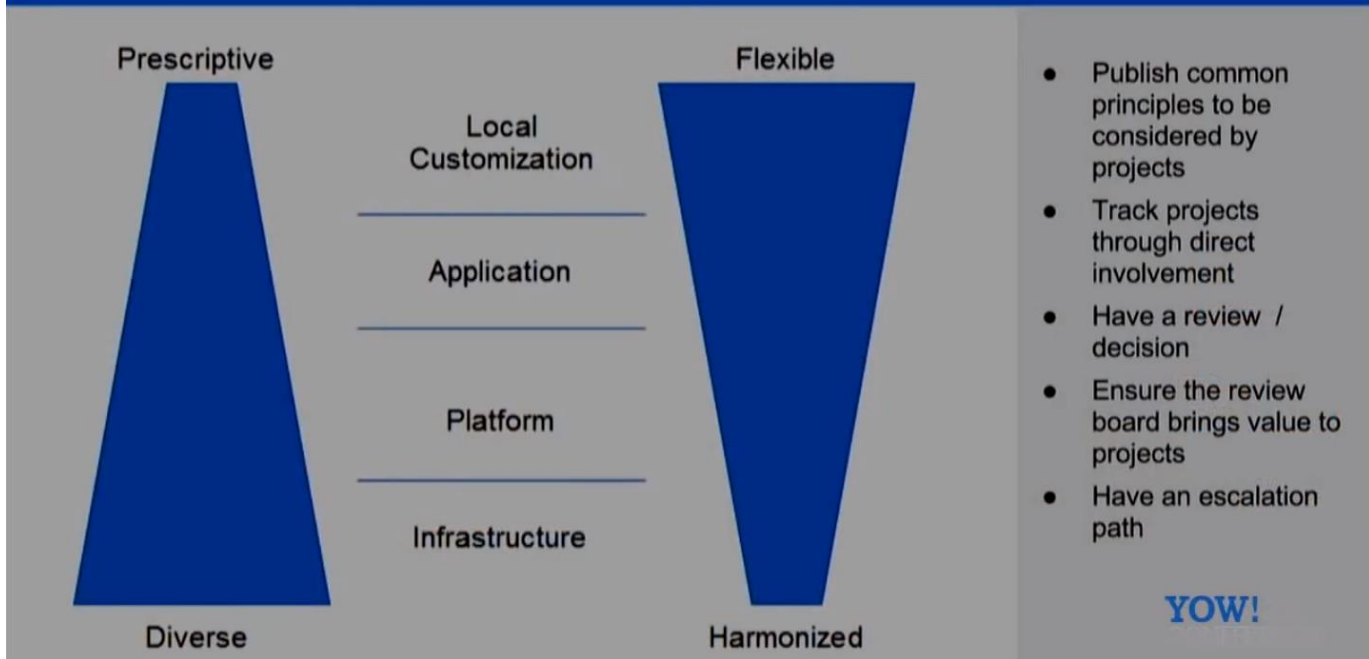


A good target picture is simple and convincing to a diverse audience.

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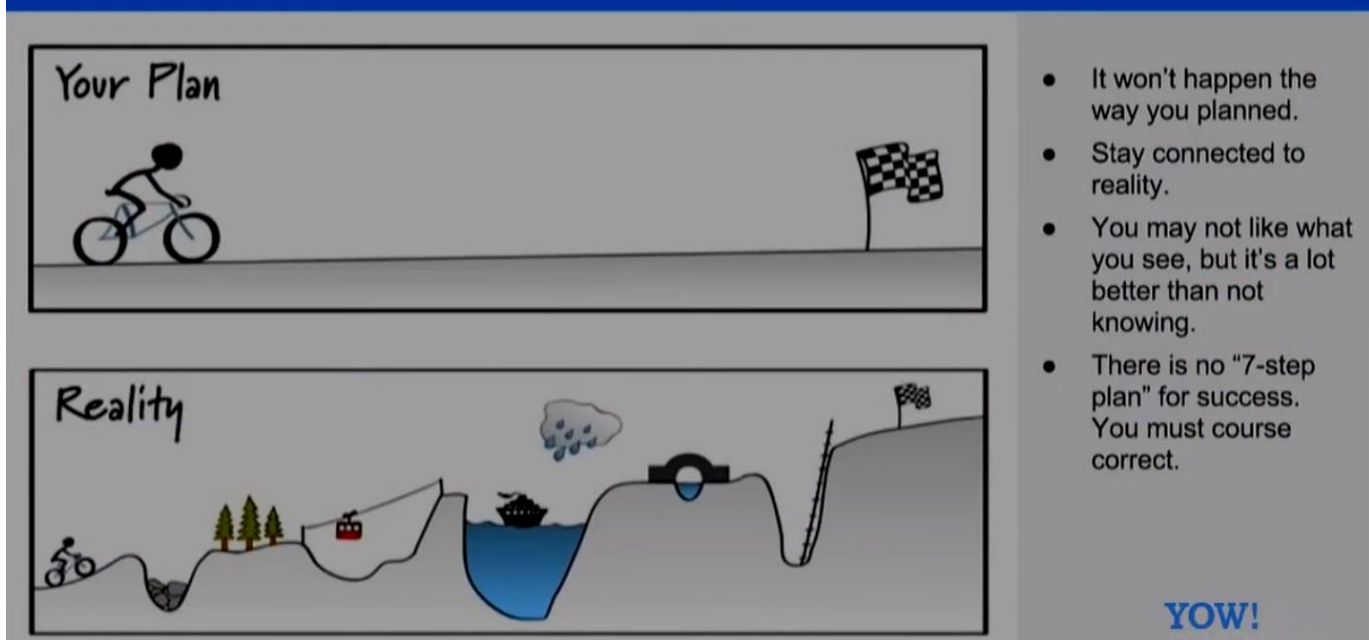
You should always display the before and after pictures.

6) Harmonize and govern



Governance is about making sure that reality follow the roadmap.

7) Obtain feedback and refine

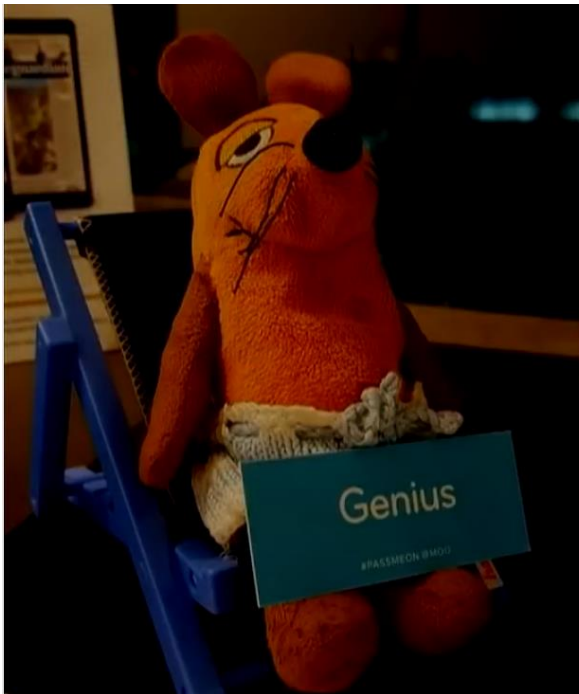


8) Coach and mentor



"Harmonize your infrastructure you must"

- You'll need support
- You won't have enough people with the right skills
- You'll learn a lot by helping other teams
- Teach new concepts and ways of working
- Publish technical strategy papers
- Establish qualification programs



Thinking like an Enterprise Architect

Connections

Abstractions

Decisions **YOW!**

What kind of thinking does an enterprise architect need to have? What does he/she need to do to be good at this?

Architecture is about Selling Options

$$C(S_t, t) = N(d_1)S_t - N(d_2)Ke^{-r(T-t)}$$

$$d_1 = \frac{1}{\sigma\sqrt{T-t}} \left[\ln\left(\frac{S_t}{K}\right) + \left(r + \frac{\sigma^2}{2}\right)(T-t) \right]$$

$$d_2 = d_1 - \sigma\sqrt{T-t}$$

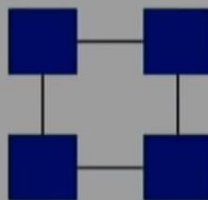
Connections between:

Layers



Alignment

Systems



Integration

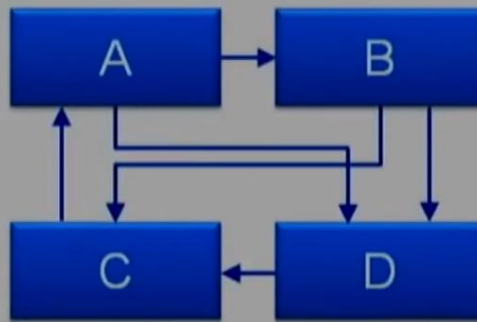
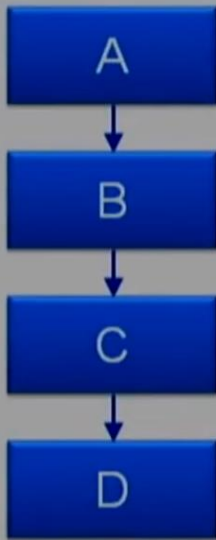
Functions



Coordination

People generally don't care about your systems architecture; they care about the properties that your architecture yields due to the connections being made within/outside the architecture.

No one cares about your architecture...



But they do care about the properties
your architecture gives the system!

YOW!

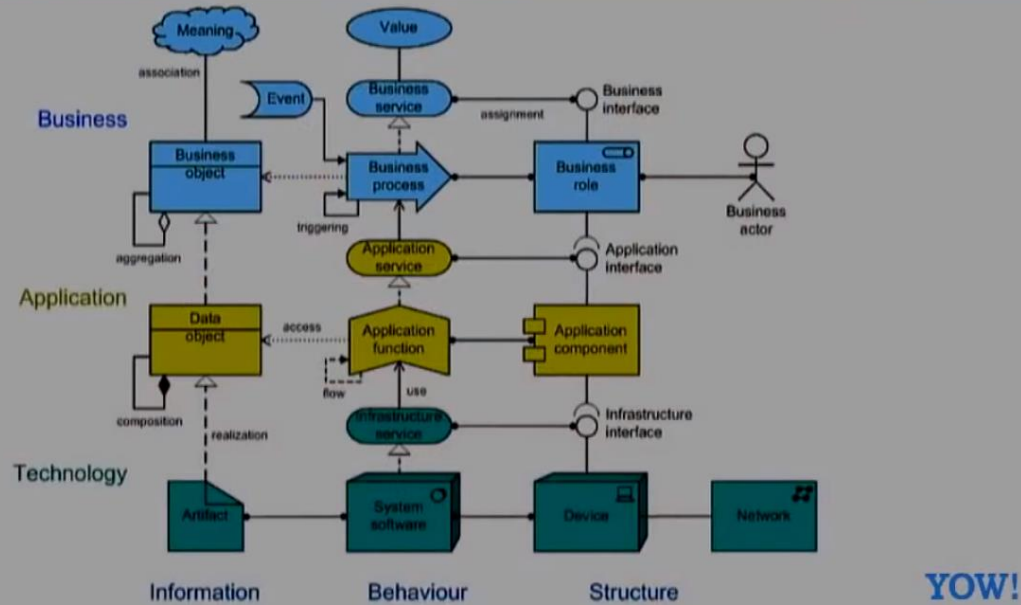
Abstraction

Complexities are conquered using abstractions, the real architecture is within the system itself.

To find the right representation, you need to know what
question you are looking to answer.



An Enterprise Architecture Model



Decisions

SKYLINE TRAIL	
Loughry Woods Tr.	1.6 mi
Summit Rock	2.2 mi
Castle Rock Parking	3.1 mi
Indian Rock	3.2 mi
Sanborn Trail	4.9 mi
SARATOGA GAP TRAIL	
Charcoal Road	1.9 mi
Long Ridge	2.2 mi
Table Mountain	3.7 mi
Page Mill Road	7.6 mi

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Is this architecture?



Would you have paid an architect for this?

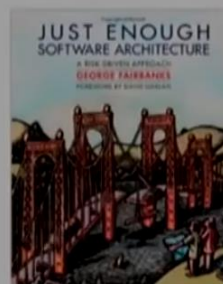
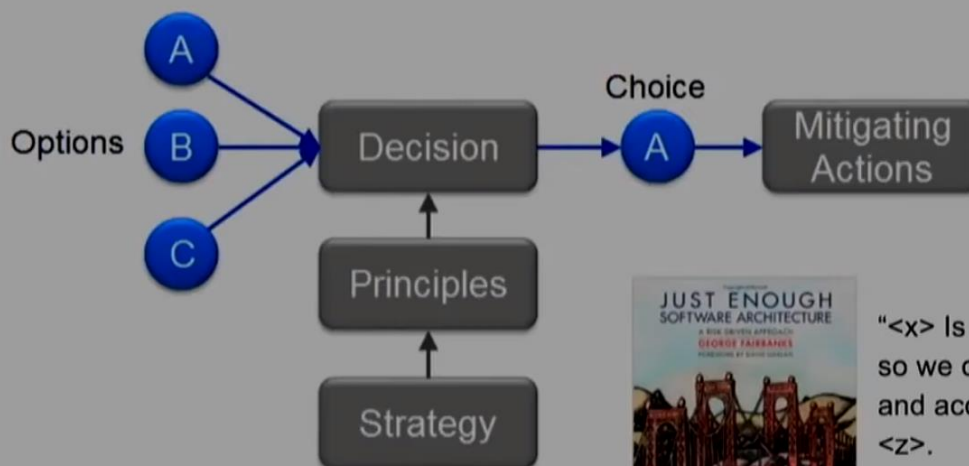
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What about now?



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Decision Discipline



"<x> Is a priority, so we chose design <y> and accepted downside <z>.

We also did <*> to minimize it."

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Decisions that don't have a cost are not very meaningful for the enterprise.

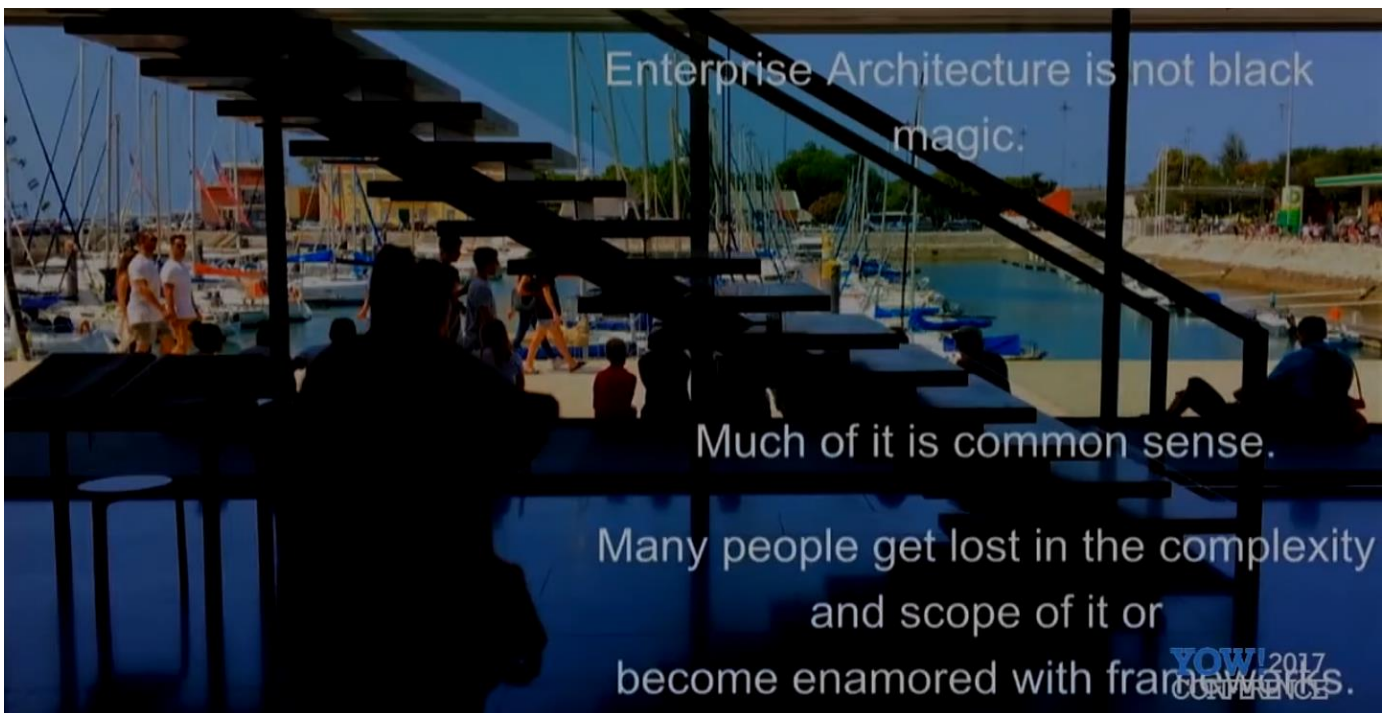
Progressively build your enterprise view...accept fuzzy areas



There is a lot of fuzziness between certainty and complexity, you have to draw a line and focus on implementing it to get an outcome so you can get outcomes to measure.

Focus on concrete problems to solve

- Focus on measurable outcomes
- Divide and Conquer
- Frameworks are a useful tool, but not the goal





Good Architecture is about combining multiple viewpoints.

An interesting career as architect is also about combining multiple viewpoints.

There's enormous demand for enterprise architects who achieve measurable results.

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37 Things One Architect Knows About IT Transformation

A Chief Architect's Journey

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