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NOV. 28 – DEC. 2, 2022 | LAS VEGAS, NV

ENT218

The architect elevator: Connecting the boardroom and IT

Gregor Hohpe

Enterprise Strategist
Amazon Web Services

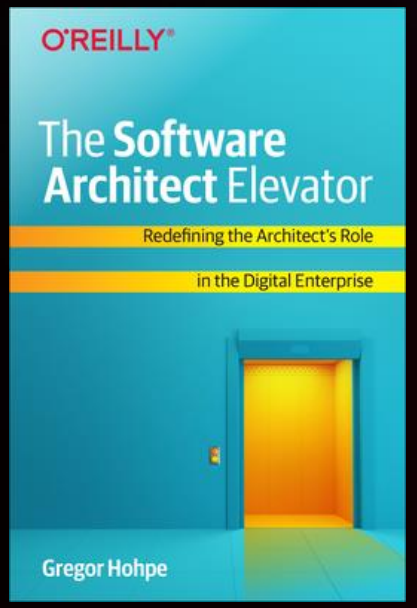
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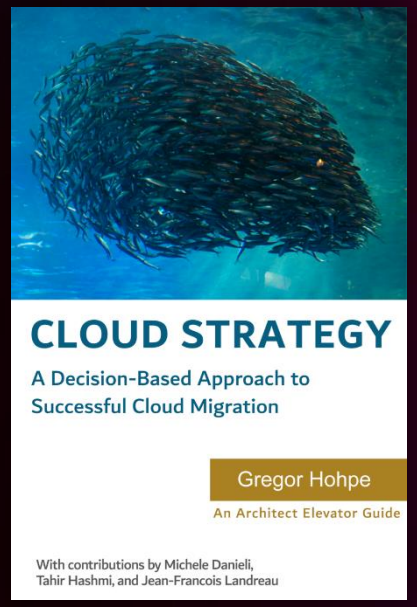
Gregor Hohpe – Enterprise Strategist

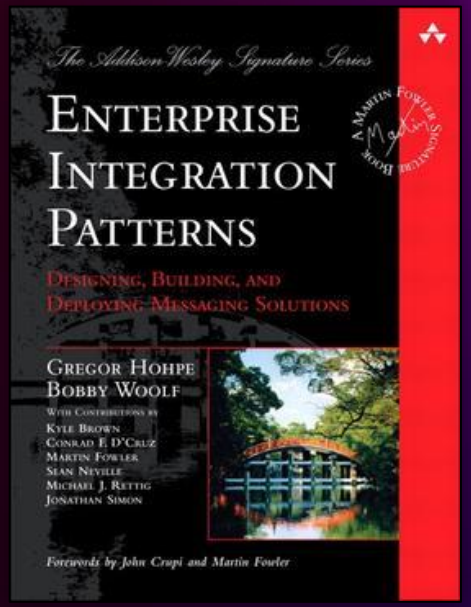


As an AWS Enterprise Strategist, Gregor helps enterprise leaders rethink their IT strategy to get the most out of their cloud journey

Prior to joining AWS, Gregor served as Smart Nation Fellow to the Singapore government, as Technical Director at Google Cloud, and as Chief Architect at Allianz SE







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“Let’s talk architecture!”

“Sure, which one?”

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The three architectures

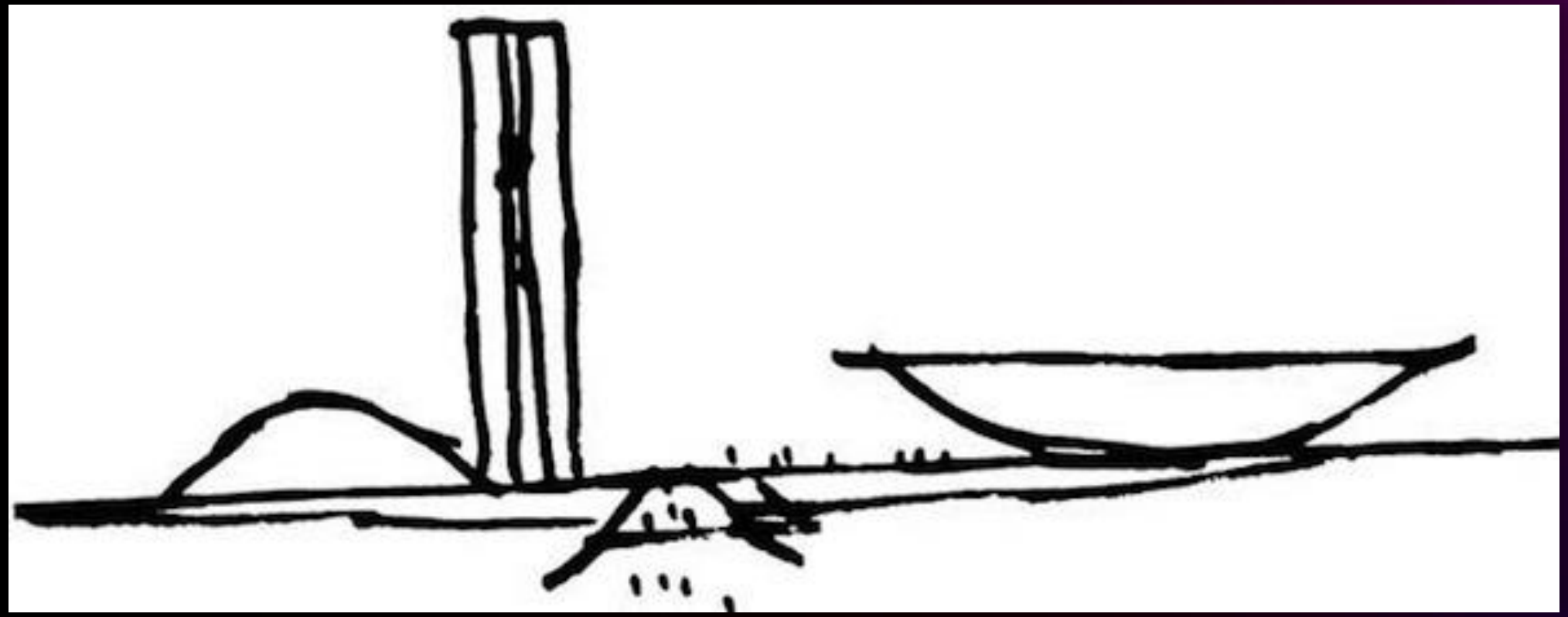
Having architecture	The system	— Always there
Doing architecture	The task	— Choose wisely
Organizing architecture	The team	— Choose even more wisely

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Thinking like an architect

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Famous architects sketch



Oscar Niemeyer, sketch of the Brazilian National Congress

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Famous architects sketch



Oscar Niemeyer, sketch of the Brazilian National Congress

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Famous architects sketch

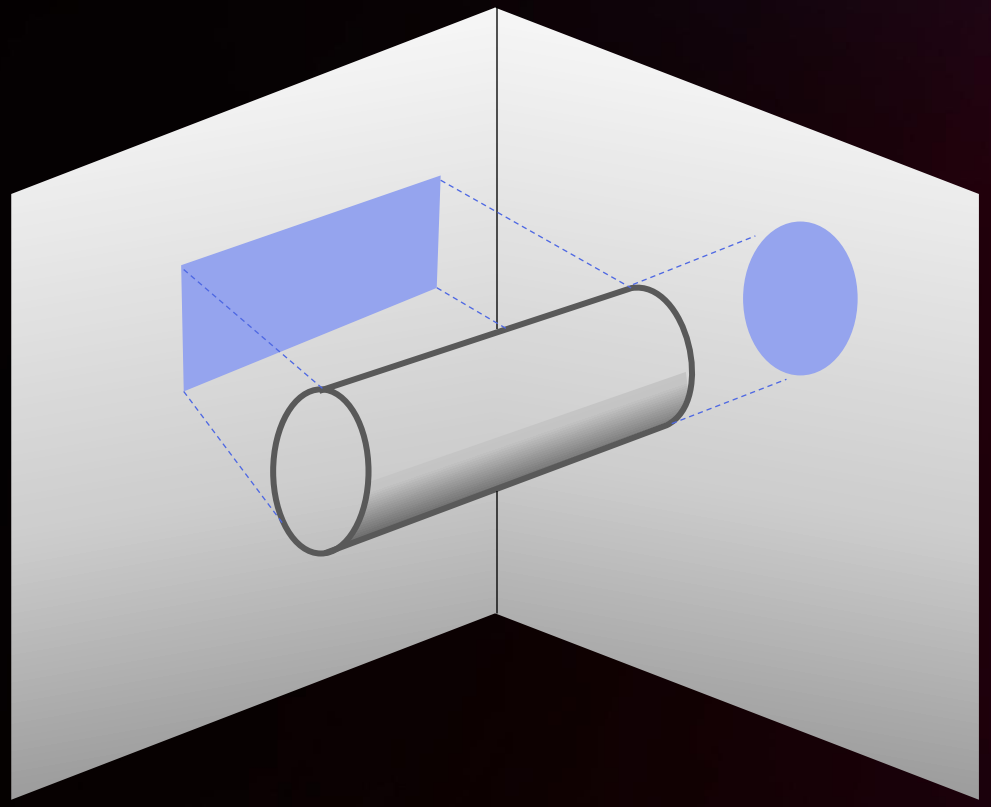


Agência Senado

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Architects see more dimensions

This is a **circle**!

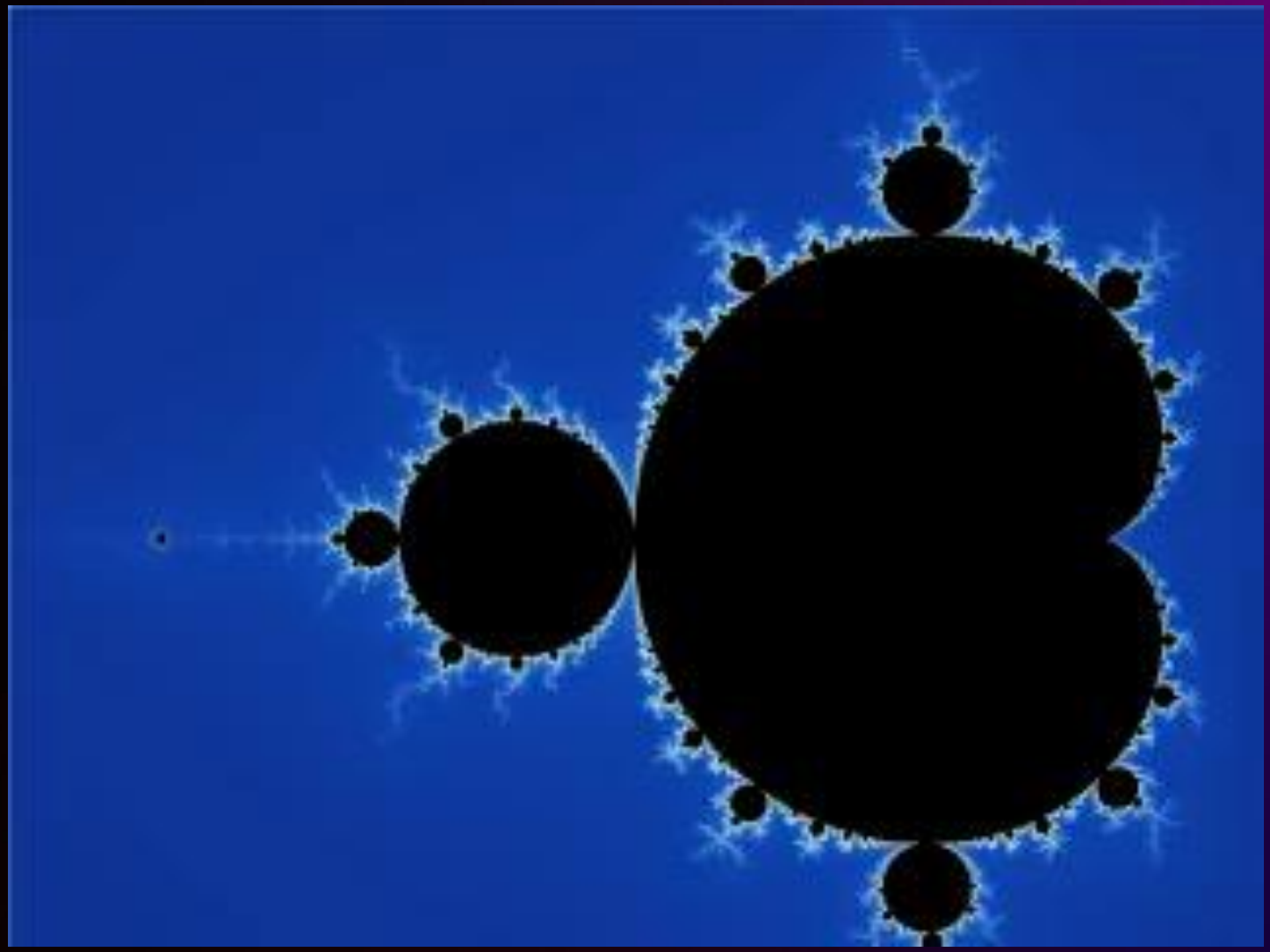


This is a **rectangle**!

https://architectelevator.com/architecture/multiple-dimensions/

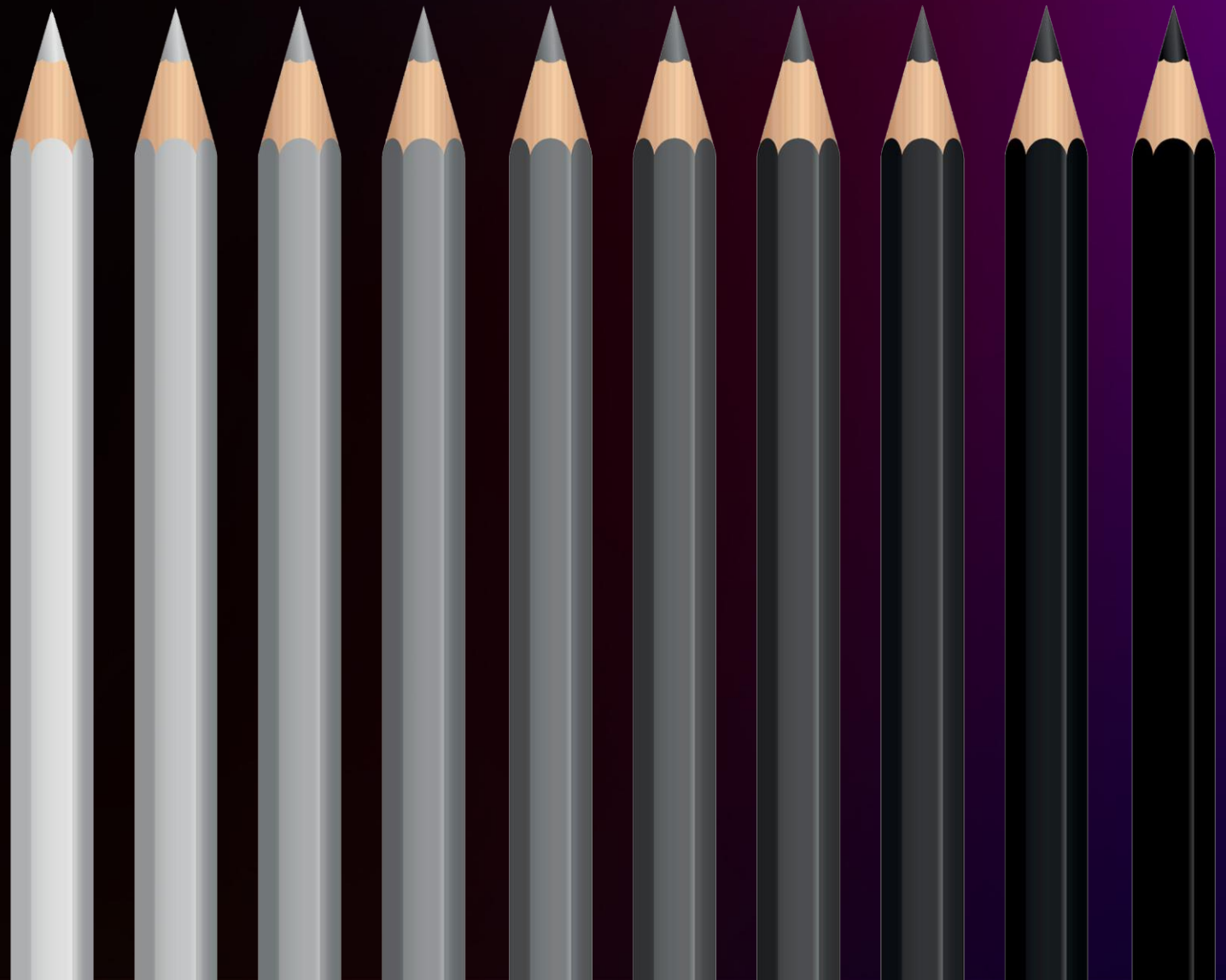
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Architects zoom in and out, see different things



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Architects see shades of gray, avoid extrema



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Architects in modern organizations

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Architecture vs. agile?





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Modern architects sell options

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

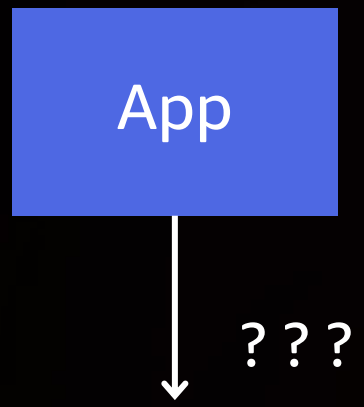
$$d_1 = \frac{1}{\sigma\sqrt{T-t}}\left[\ln\left(\frac{S_t}{K}\right) + \left(r + \frac{\sigma^2}{2}\right)(T-t)\right]$$

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

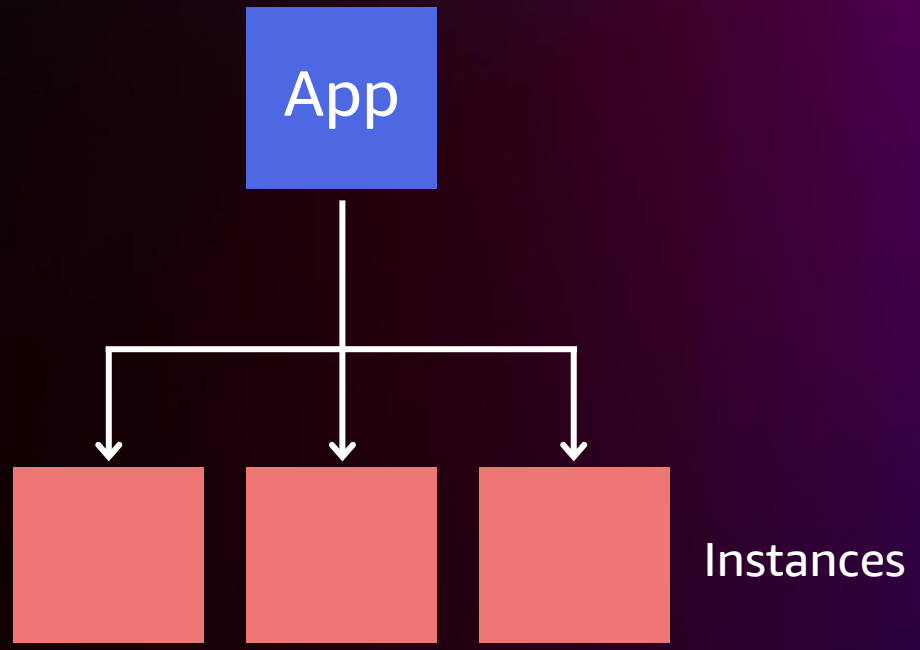
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Cloud architecture options: Hardware sizing



Scale up
VM/Physical



Scale out
VM/Containers/Serverless

No option = guesswork

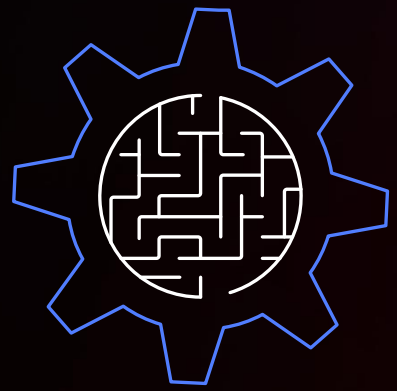
Option = better decision

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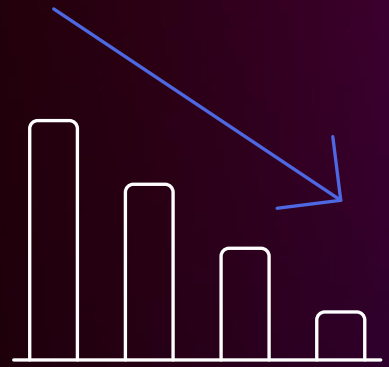
Options aren’t free



Effort



Complexity



Underutilization

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“Excessive complexity is nature’s punishment for organizations who are unable to make decisions.”



Gregor’s Law

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Architecture and agile!

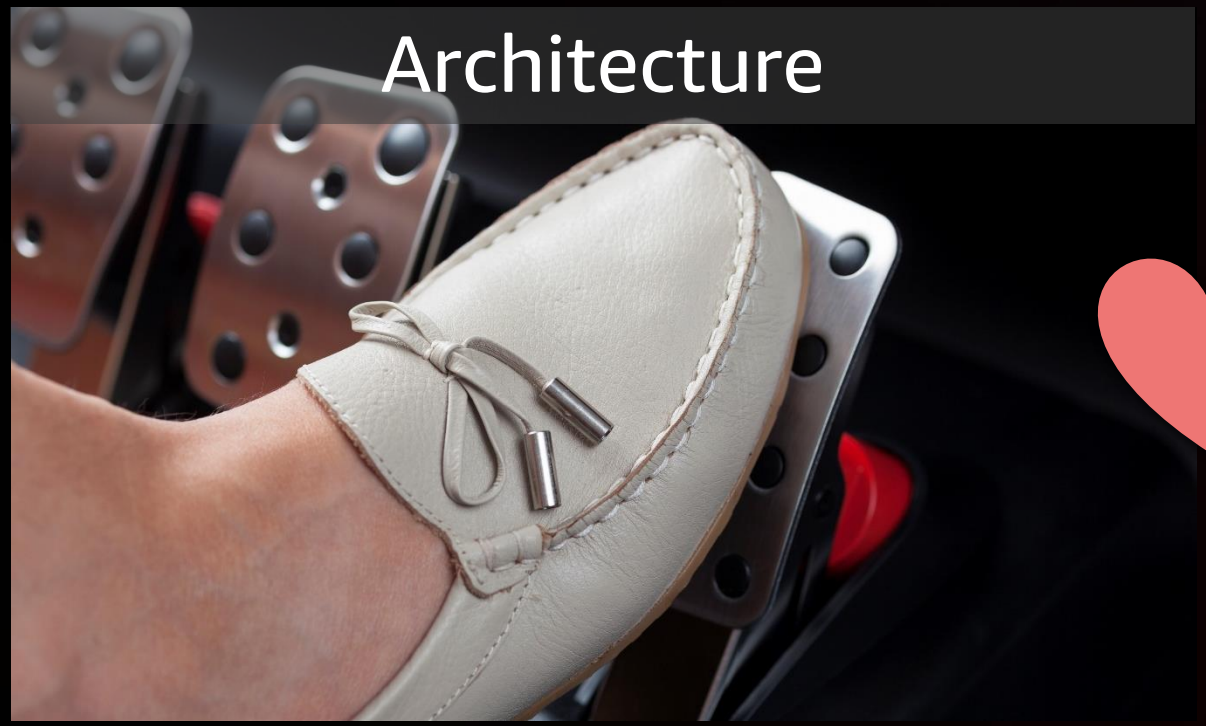




Both thrive on uncertainty!

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Architecture and agile!





Both thrive on uncertainty!

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The Architect Elevator

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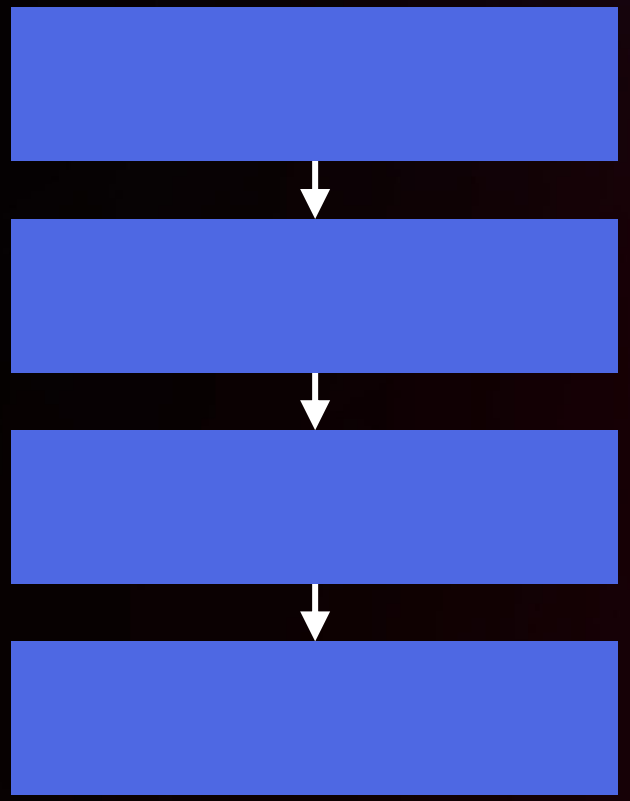
“The value of a modern architect is measured by how many levels they can span.”



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Layered architectures

- Separation of concerns
- Well-defined interfaces
- Abstraction
- Clean dependencies
- Replaceability



- Overhead
- Runtime latency
- Own complexity
- Local optimization
- Change propagation

“Complex technical and organizational systems behave similarly.”

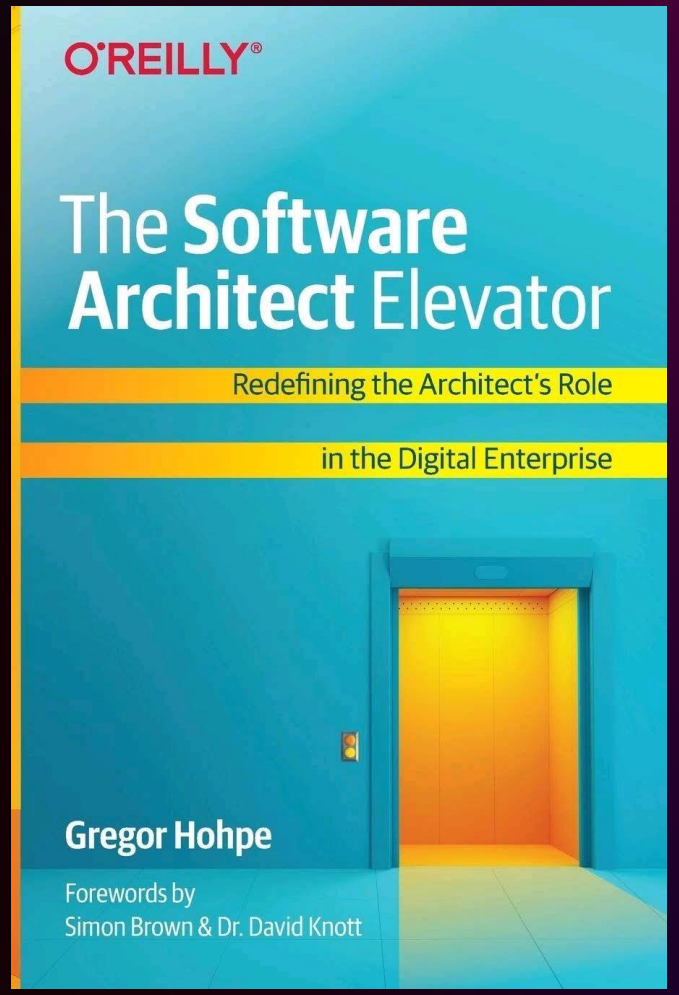
“Changes in context impact your architecture decisions.”

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The architect elevator

- Connect business and IT strategy
- Drive change
- Conquer complexity
- Explain, demystify, and excite
- Design internet-scale systems
- Remove friction
- Keep up

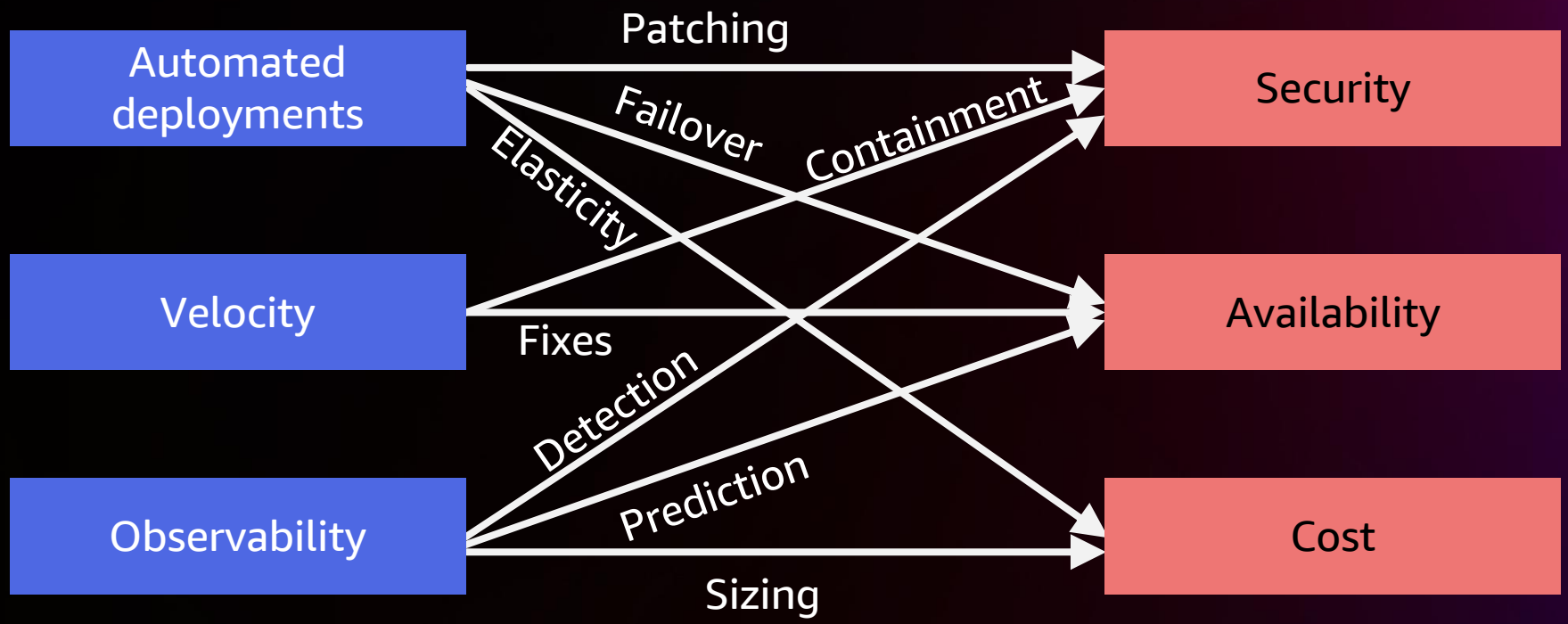


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Riding the architect elevator

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Elevator architects connect the dots



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Elevator architects use models – Which one's best?

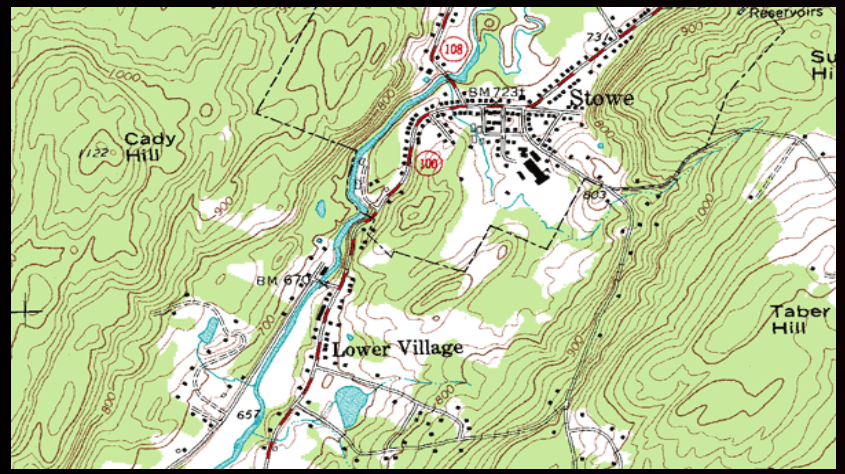




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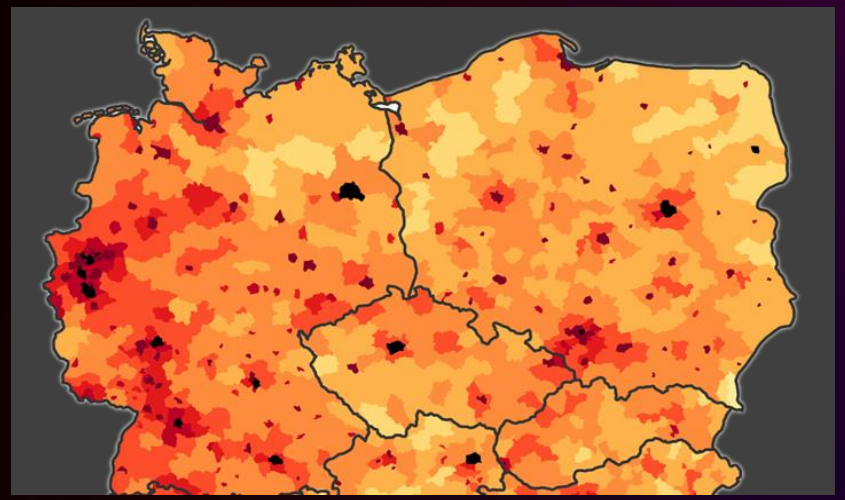


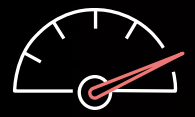
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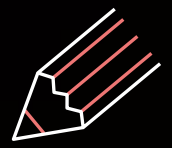
Elevator architects break through constraints



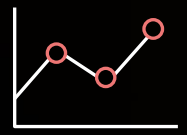
Standards



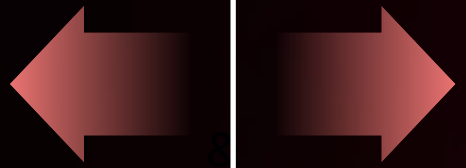
Speed



Customization



Short-term gain



Innovation



Quality



Low cost



Long-term viability



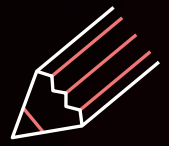
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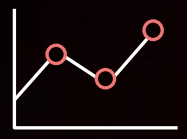
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Elevator architects break through constraints

Standards  and  Innovation

Speed  and  Quality

Customization  and  Low cost

Short-term gain  and  Long-term viability

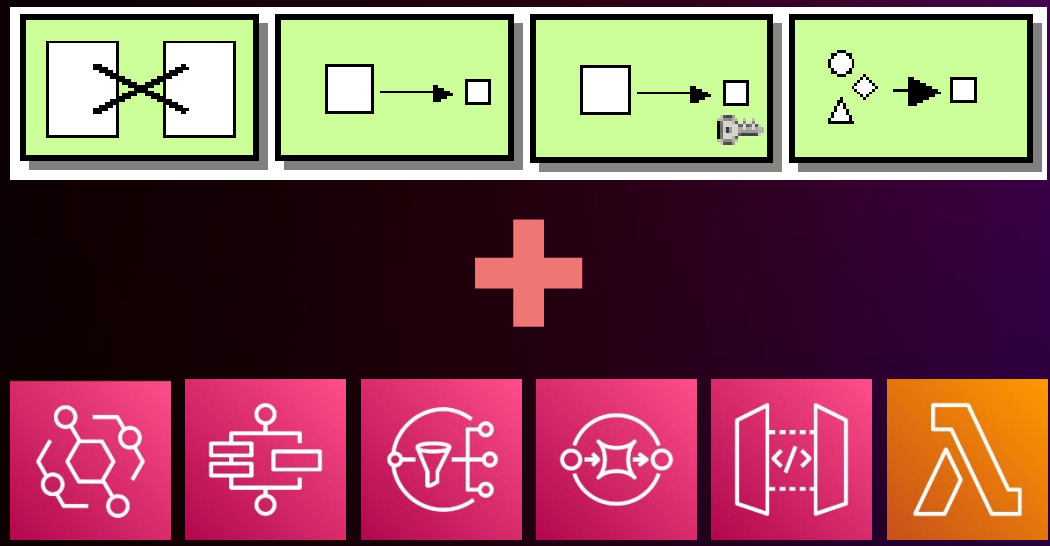
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Elevator architects express intent and capabilities, not products

"Your architecture isn't a bill of materials.

You're the chef, not shopping for groceries."



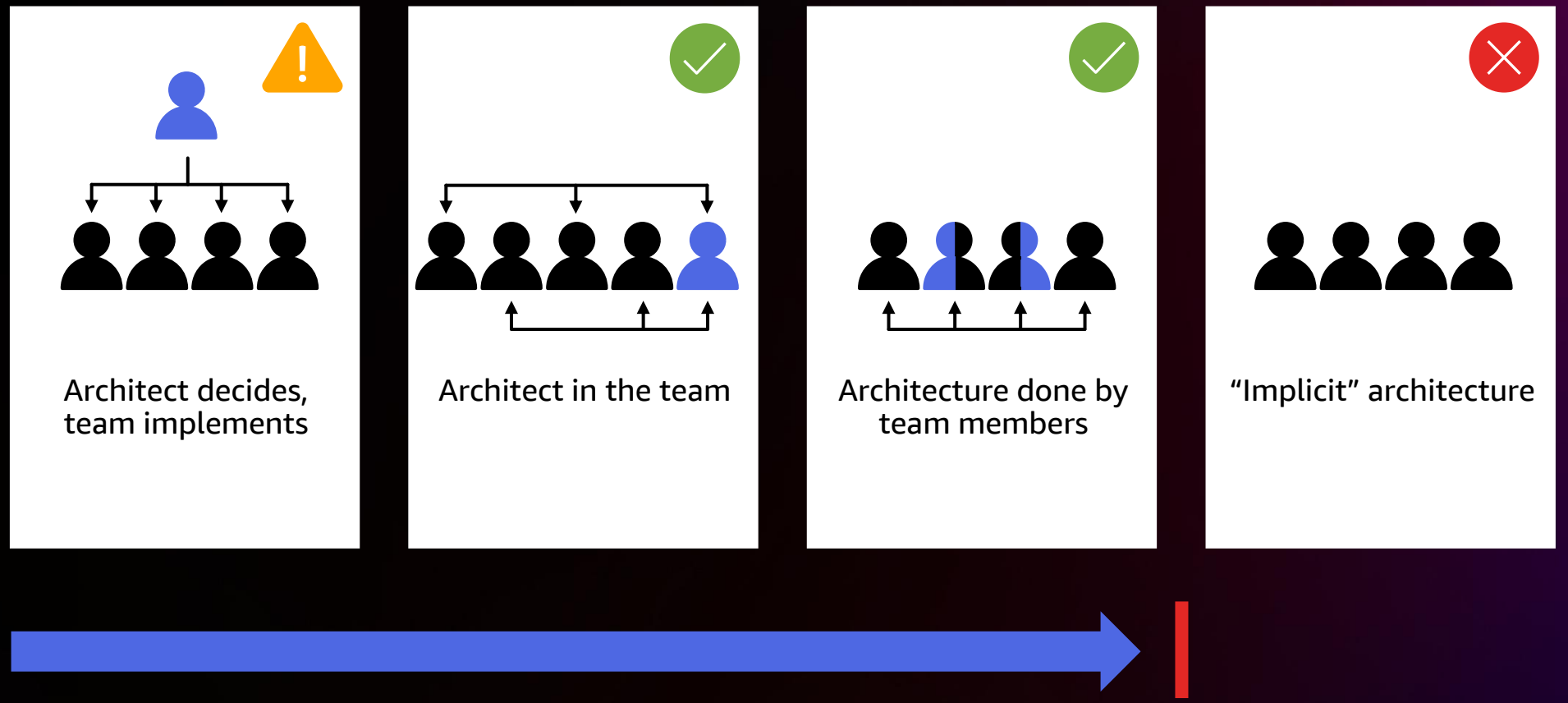
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Organizing architecture

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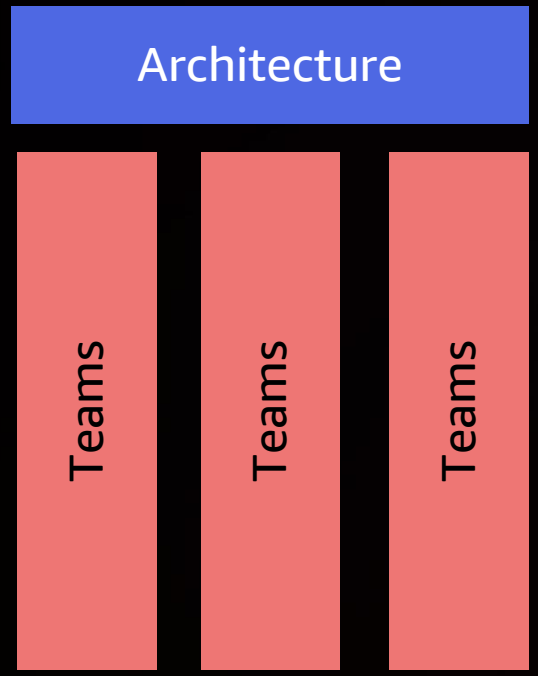
Would you like architects with your architecture?



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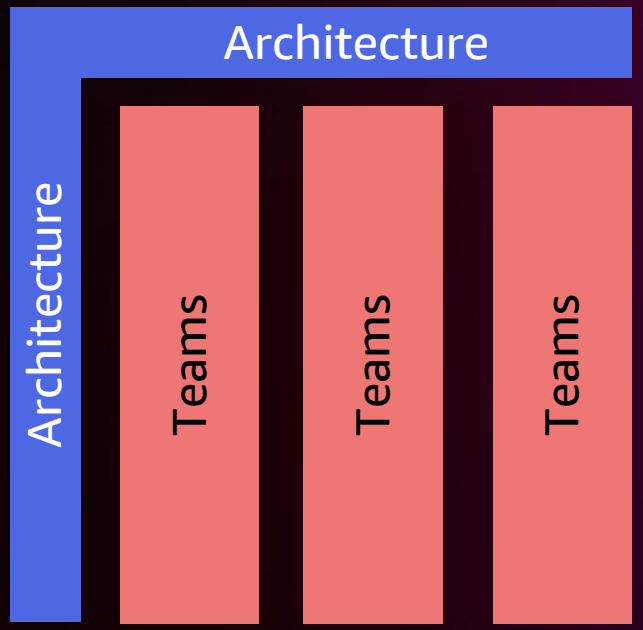
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A vertical architecture team



Traditional model

+ Easier to manage
+ Clear responsibilities
– Lack of feedback
– “Ivory tower”



Vertical model

+ Closer engagement
+ Feedback cycles
+ Delivery capability
– Harder to build and manage

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Taking the elevator from the top floor

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Simple goals don’t work with complex systems



“Reduce IT cost by 10%!”

“Migrate all workloads to the cloud!”

“Let’s become agile!”

“Transform IT from a cost center to an innovation driver!”

Outdated, brittle, insecure systems? Rigid outsourcing contracts?

Lift and shift all old problems? Another data center in the cloud?

Project managers renamed to Scrum masters? Weekly iterations, semi-annual releases?

Ask me again in three years …

?

Quit playing IT Whac-a-Mole!

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The IT rules of the game have changed



The “engine room” is
no longer a black box



Technical decisions
impact your future ability
to maneuver



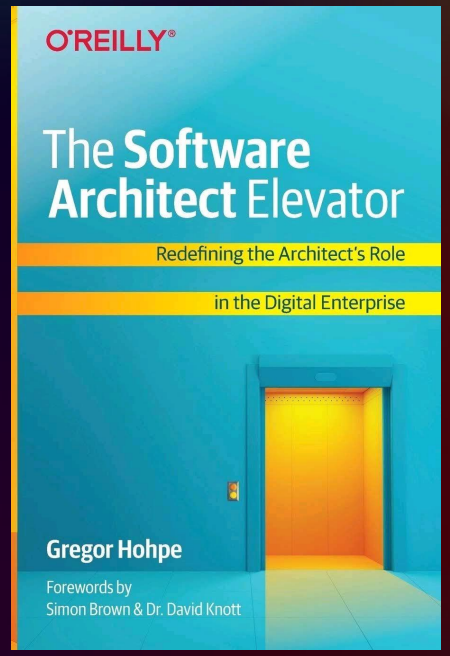
Business strategy and
tech strategy are
a two-way street

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The architect elevator: Connecting the boardroom and IT

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Let's continue the conversation

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Thank you!

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