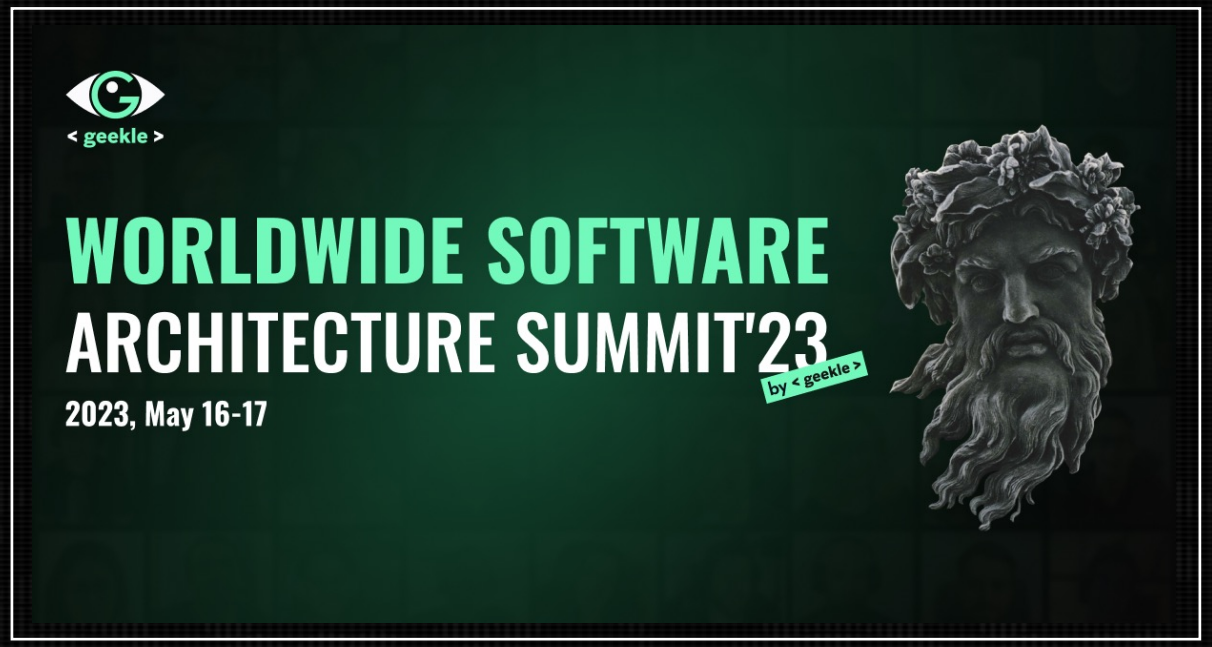

“Are *Microservices* better than Monoliths?”

William Collins

Principal Cloud Architect

alkira
Cloud Networking. ***Simplified.***

william-collins

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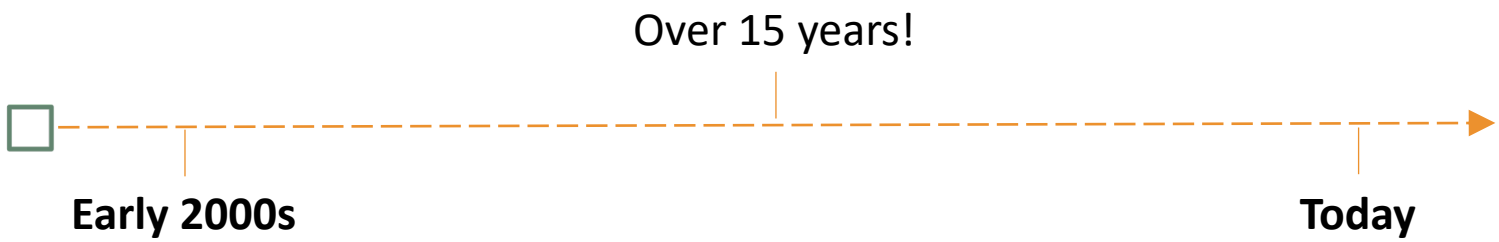
wcollins

Agenda

- Background
- Setting the Stage
- Dealing in Extremes
- Which is Better?

Background



History

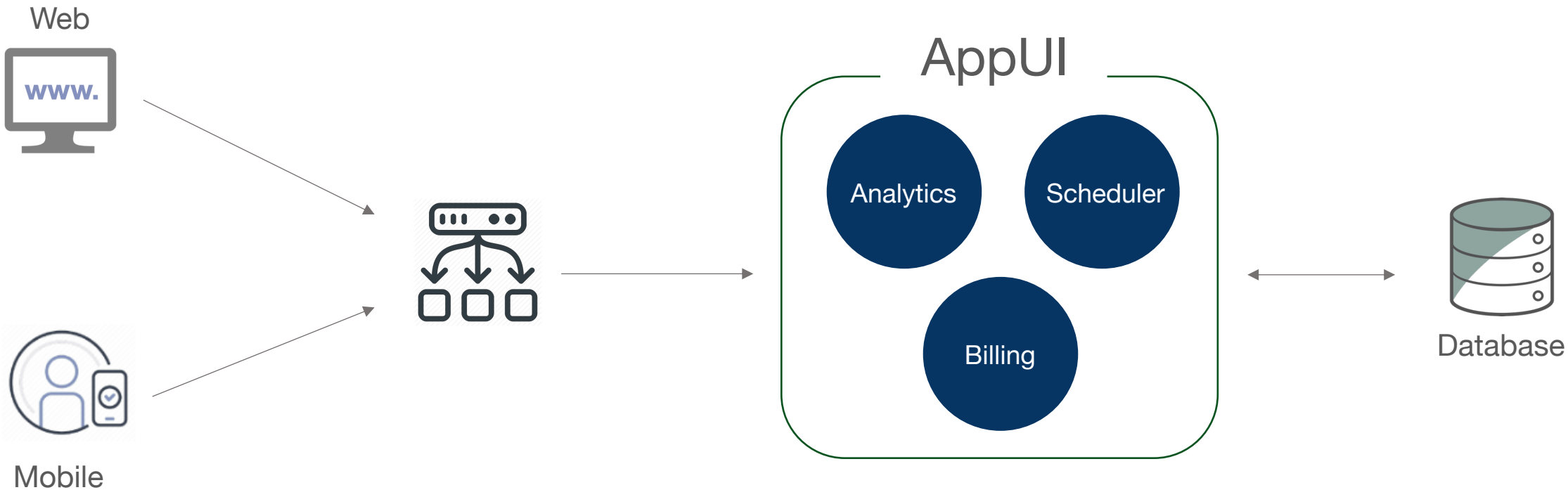
- Industry adoption of VMs
- *Software-Defined* Networking
- Automation becomes BAU
- Cloud Computing explodes
- Application Modernization

Present

- Working for a Startup
- AWS Community Builder
- LinkedIn Learning Instructor
- Content and Blogging

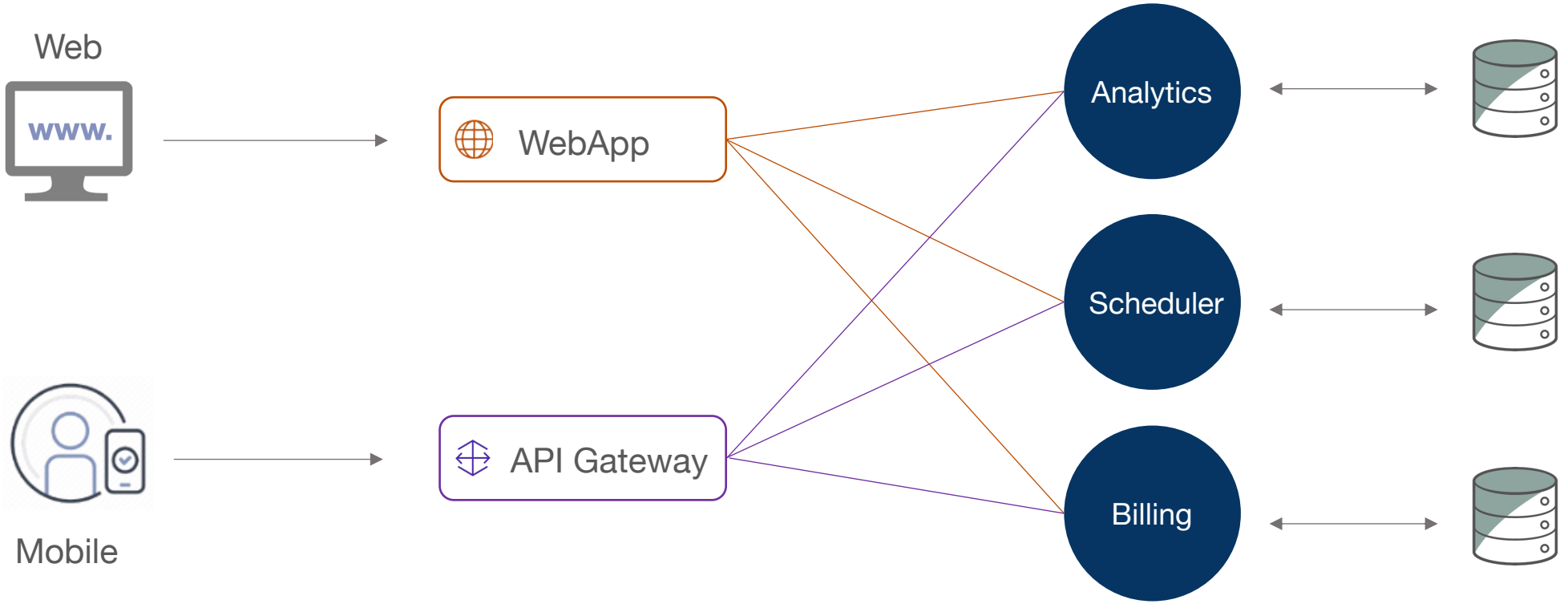
Setting *the Stage*

Monoliths consist of a server-side app, database,
and client-side interface – *(deployed as a single unit)*



Setting *the Stage*

Microservice architecture breaks up an application into loosely coupled and independently deployable services



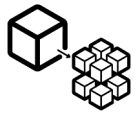
Setting *the Stage* *(Common Criticisms)*

Monolithic Architecture

- Diminished understanding over time of the architecture
- Lack of modularity, thus limiting reuse + replacement of components
- Scaling complexity; Entire application can scale, but not specific services
- Slower innovation coupled with a vastly competitive market

Microservice Architecture

- Transition from monoliths require deep understanding and refactoring
- Distributed nature adds complexity to testing; Increased overhead with growth
- Visibility and traceability challenges; New tooling / operational approach
- Increased moving parts create larger attack surface; Many new points of ingress/egress



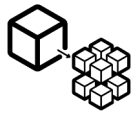
Setting *the Stage*

Question: Are Microservices ***better*** than Monoliths?

Dictionary.com

1 of superior quality or excellence:
a better coat; a better speech.

2 morally superior; more virtuous:
They are no better than thieves.



Setting *the Stage*

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Consider the Following

Everything breaks! How fast can an operations team restore service? If it is not in their power to restore service, how fast can the fault be identified and escalated?

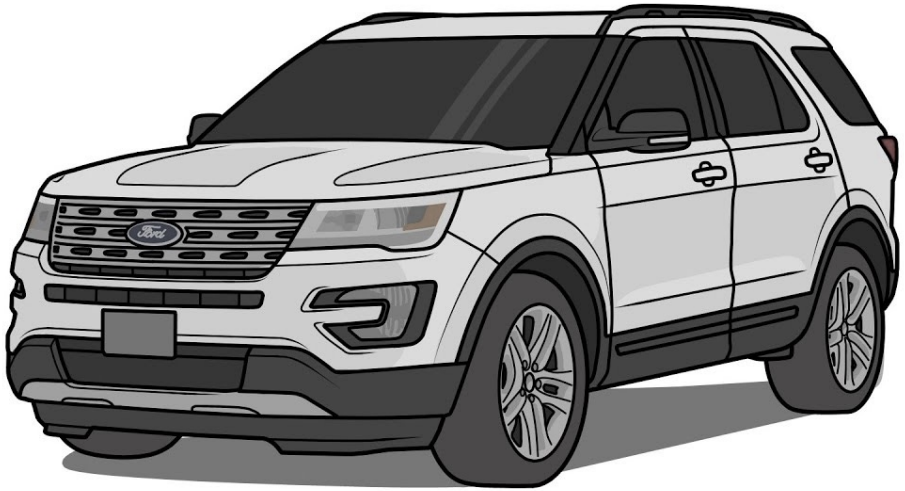
Setting *the Stage*

Identifying the Signs of a ***Distributed*** Monolith

*(**built** like a monolith, **deployed** like a microservice)*

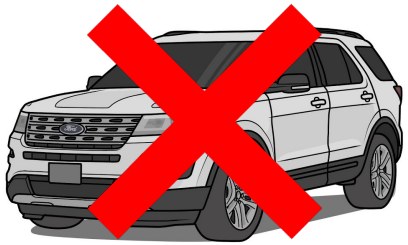
- Are any of our *microservices sharing* a datastore?
- Is our rock-star developer working across *numerous* microservices?
- Does pushing a change to one microservice require changes to others?

Dealing in ***Extremes***



- Seats 6 total
- Great cargo space
- EPA-estimated 21 city / 28 highway
- Fits in my driveway
- Wife likes the way it looks

Dealing in ***Extremes***



- Seats 72 total
- Outside / underbody cargo
- ~ 6 MPG / 80-gallon tank *(480 miles)*
- Doesn’t fit in my driveway
- Wife hates the way it looks

Dealing in ***Extremes***

Monolith When:

- ✓ Small team, limited resources
- ✓ Predictable scale + complexity
- ✓ No microservices experience
- ✓ Meets business requirements

Microservice When:

- ✓ Large team, adequate resources
- ✓ Horizontal scale, large growth expected
- ✓ Microservice experience
- ✓ Monolith can’t support growth / goals

Which is ***Better?***

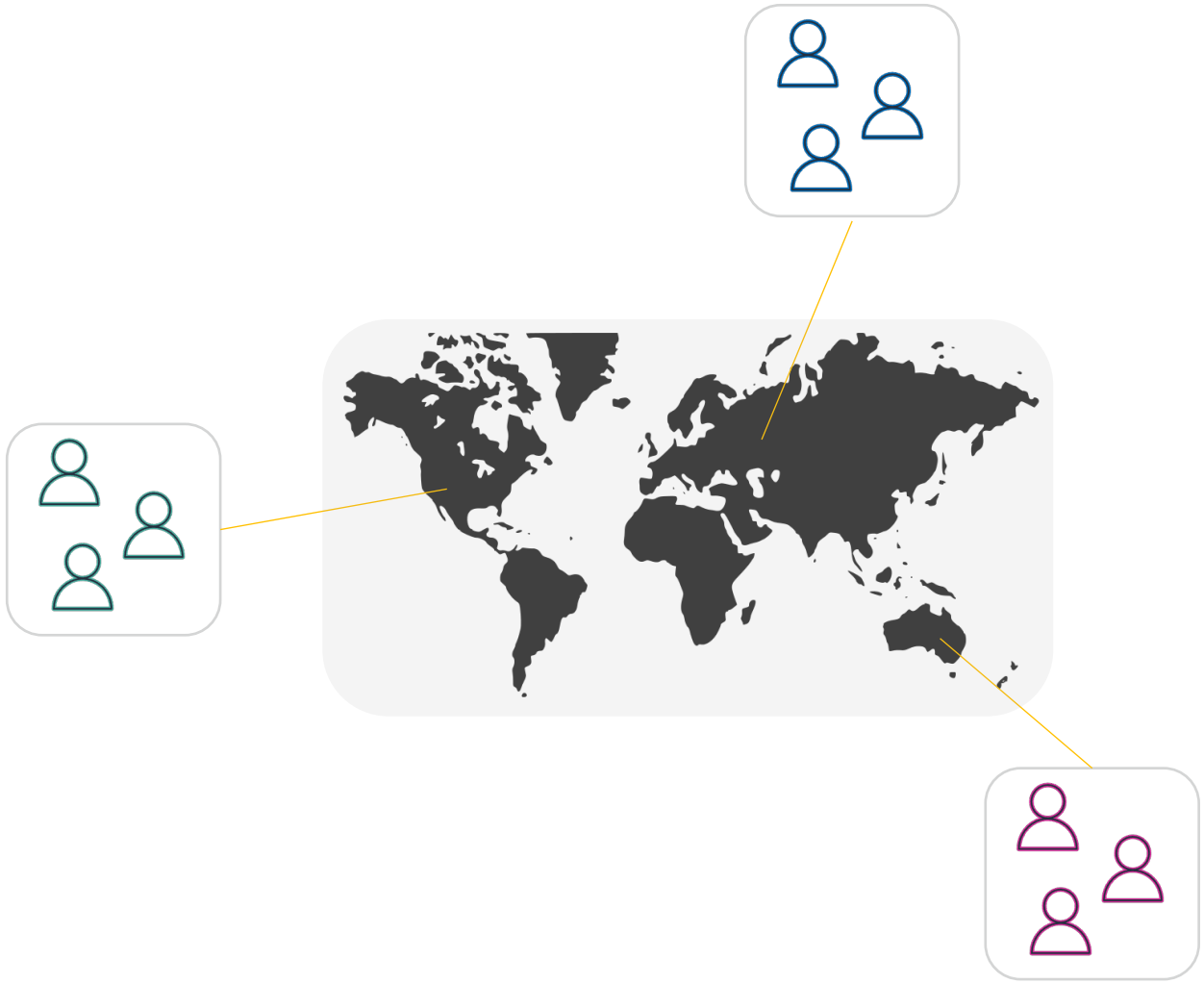
Question: Are Microservices ***better*** than Monoliths?

Answer: Are ***Apples*** better than ***Oranges***?

Which is ***Better?***

What Really ***Matters***?

Delivering the best possible product to the customer with the resources available to you while delivering on business goals



Thank You!

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