

BIL-T CONFERENCE ARCHITECTURE OF TOMORROW

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Applying Agile Principles to Enterprise Architecture

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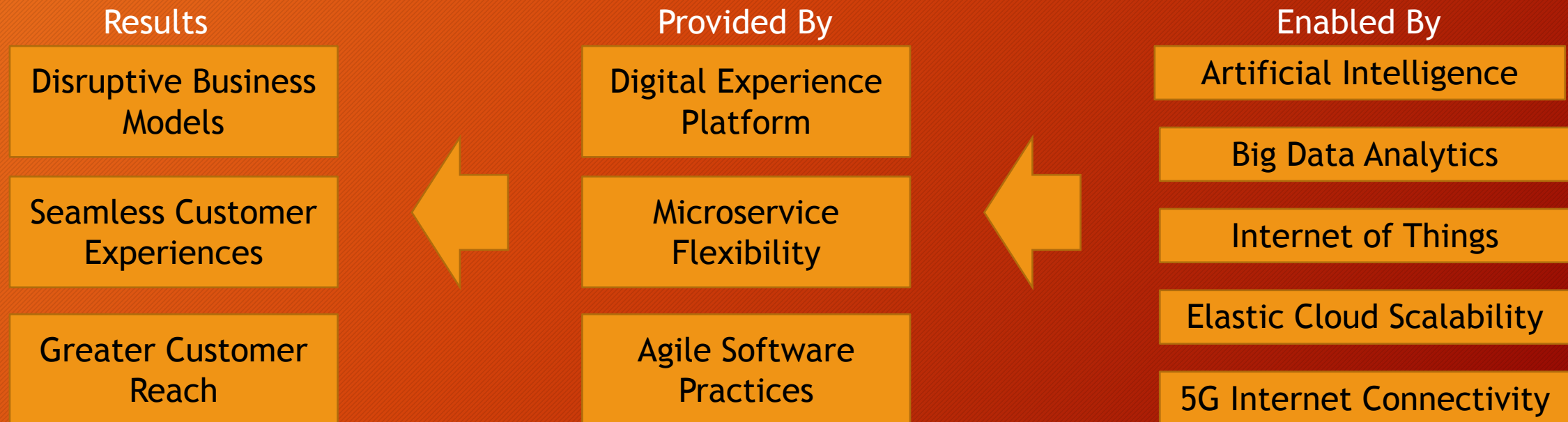
What exactly is Digital Transformation

Digital Transformation is a type of strategic effort that promises to reorient a traditional organization's business model to take advantage of new technologies, adopt modern mobile and social experiences, appeal to customers who are increasingly connected and meet their expectations for service, ease, and seamless use of digital technologies.

Customer Experience First
Data Intensive
Intelligence at the Edge
Mobile Ready
Social
Omnichannel

Digital Transformation is important

The global digital transformation market was valued at USD 998.99 billion in 2020 and is expected to reach a value of USD 2744.68 billion by 2026.



Scaled Agile Framework is widely adopted for the IT side of Digital Transformation

95% of companies surveyed are practicing agile software development

Half of surveyed organization have adopted value stream alignment or plan to.

Most experts and consulting firms recommend agile practices for digital transformation

20,000 organizations have adopted the Scaled Agile Framework

14th Annual *State of Agile* survey

In SAFe, Enterprise Architecture looks like this

The Scaled Agile Framework sets Enterprise Architecture up for failure

Especially in Digital Transformation



Scaled Agile Framework is a Partial Solution

SAFe is good
SAFe+Agile
Architecture is better

	Original Scrum	Modern Scrum	Scaled Agile Framework v.5 (SAFe)	Agile Architecture + SAFe
Strategic Alignment + Business Innovation + Capability Maturity				✓
Ecosystem Design + Architectural Roadmap + Standards & Governance				✓
Portfolio Simplification + Ecosystem Rationalization				✓
Value Stream Alignment + Product Vision + Cross Functional Flows			✓	✓
Agile Release Trains + Program Increments + Architectural Runway			✓	✓
Epic Development + Estimated Cost + Planned Delivery + CI/CD		✓	✓	✓
Backlogs + Grooming + Engineering Sprints + Demonstrations	✓	✓	✓	✓

The Enterprise Architecture “car” is not designed for a Scaled Agile “engine”



We can go anywhere that doesn't require turning right

Or seeing pedestrians

“Agile” Transformed Software, Not Architecture

Agile Manifesto	What happened to Software Development	What happened to Architecture
Individuals and interactions over processes and tools	Remove team boundaries (dev, test, operations), increased automation (CI/CD), taught devs how to test and deploy	
Working software over comprehensive documentation	Small deliverable stories describe the results not the design. Unit Tests prove MVP features. YAGNI cut gold plating.	
Customer collaboration over contract negotiation	Frequent presentations to customers to get feedback, involvement of business in creating stories	
Responding to change over following a plan	Fixed duration cycles with prioritized features at the start of each one - created the concept of Minimum Viable Product	

Forcing EA through the Agile Transformation

Agile Manifesto	After Transitioning to Agile Architecture
<p>Individuals and interactions over processes and tools</p>	<p>Architects take a stake in the success of the solution. They are full time members of an agile release train. Standards accelerate the team and reviews are done on demand. “Architecture Review Boards” exist for visibility with a very limited role in governance. Architects learn performance testing, security probing, and operations measurement.</p>
<p>Working software over comprehensive documentation</p>	<p>Architects rely on canonical transactions, events, services, and platforms to provide “future” flexibility, while focusing on delivering a small number of useful models for the development team to use. Architecture is used in prioritization and pruning and is demonstrated during sprint demonstrations to both the devs and business stakeholders.</p>
<p>Customer collaboration over contract negotiation</p>	<p>Architects are proactive, working with business stakeholders to create an architectural concept prior to initiating an effort, and demonstrating the model changes at each sprint demo.</p>
<p>Responding to change over following a plan</p>	<p>Future models are used to advise the acquisition of software products and platforms. Design is guided by principles, not static models. Models are updated frequently using integrated architecture tools.</p>

In SAFe, EA is an Afterthought

According to SAFe, Enterprise Architects “drive design, engineering, reuse, application of patterns, and create Enabler Epics for the architectures that comprise the solutions in a portfolio.”

Also according to SAFe, Enterprise Architects are never mentioned in any of those activities.

The Real Value Proposition of Agile EA



Reduces complexity
by personally working
with teams to use
standard patterns,
systems, models, and
information.



Aligns efforts
Through design thinking,
the architectural vision,
and prioritizing
architecturally relevant
stories

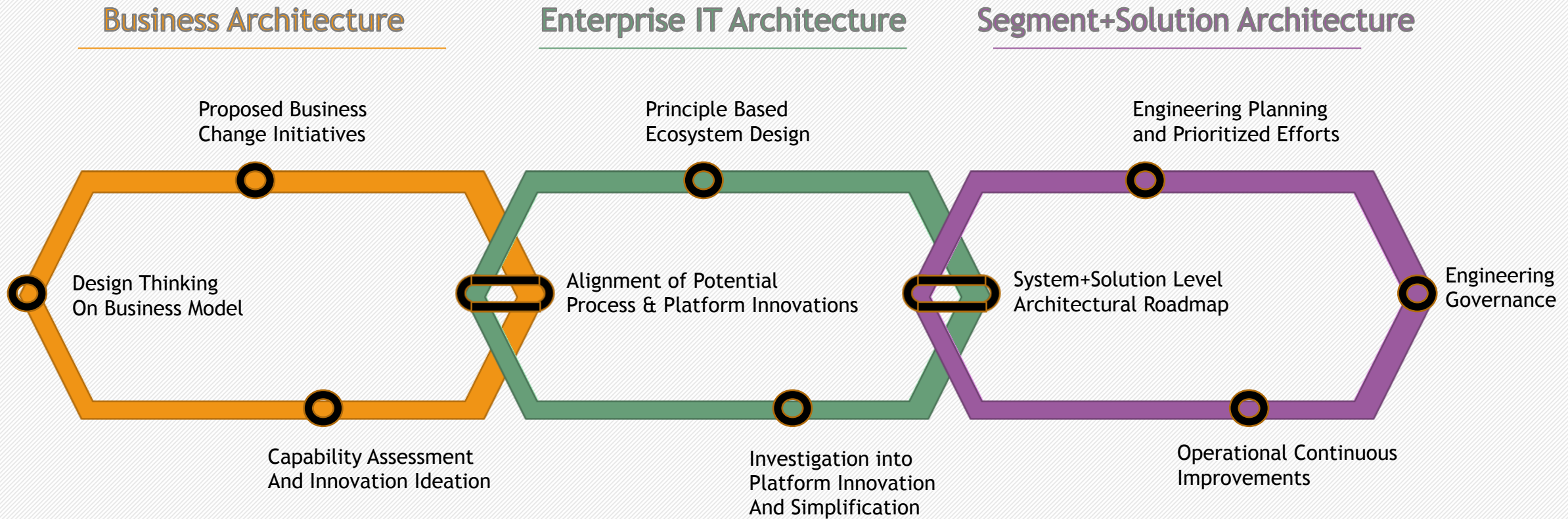


**Prevents expensive
mistakes**
by leveraging the entire
team, not just the
“ivory tower”, through
collaborative
governance.



Drives innovation
by experimenting and
driving proofs of
concept through the
Agile Release Trains
themselves

Agile Enterprise Architecture Lifecycles



All Cycles Tend Clockwise
In This Illustration

Reducing the Number of Architecture Roles

Scaled Agile Framework (SAFe) defines four roles that interact with architecture. That's inherited from waterfall. Let's reduce that number.

SAFe Defined Roles

Enterprise Architect	Ecosystem design
Solution Architect*	Solution design
System Architect*	Technology design
Lead Engineer	Code-level design

Agile Architecture Roles

Agile Enterprise Architect	Envisioned Solution within Evolving Ecosystem
System Architect	Bounded Solution within Evolving Platform
Lead Engineer	Module Level Design in Code

*SAFe does not consistently define roles. Some pages describe the roles differently.

Design responsibility flips. Instead of an architect being responsible for designing a system, an architect designs a solution within an ecosystem. This is far more aligned with an emerging ecosystem of (micro) services.

Product Management delivers the solution, but they don't design it.

Capability Improvement and Alignment

Business Architecture is completely missing from SAFe

- Drives Business Design Thinking
- Provides Input on Innovation
- Maps Strategy to Capabilities
- Measures Capability Maturity
- Provides Insight for Investment

Business Architect is not a separate job

In keeping with Agile, we recommend Business Architecture activities be performed by broad based Agile Enterprise Architects

- Pro: Seamless Flow of Ideas
- Con: Large Training Lift for IT EAs

The Career Guide and Skills Framework for Enterprise Architecture is here: <https://feapo.org/resources/>

The Innovation Side of Architecture

	Exploration	Ideation	Experimentation	Implementation
Business	<p>Product Owners</p> <ul style="list-style-type: none"> • Changes in Competitive Landscape • Customer Surveys and Feedback • Business Problems Driving Cost or Delay 	<p>Product Owners and Agile Architects together</p> <ul style="list-style-type: none"> • New Customer Experiences 	<p>Product Owners</p> <ul style="list-style-type: none"> • Evaluate Business Change • Find Early Adopters • Measure Impacts to Business • Estimate Value 	<p>Product Owners</p> <ul style="list-style-type: none"> • Translate into Stories • Drive ART Sprints • Evaluate Progress • Measure Impacts • Report on ROI
Technology	<p>Agile Architects</p> <ul style="list-style-type: none"> • New Features in Existing Platforms • New Technical Ways to Reach Customers • New Products Driving Customer Expectations 	<ul style="list-style-type: none"> • Improved Processes • New Product Ideas • New Markets • New Business Models 	<p>Agile Architects</p> <ul style="list-style-type: none"> • Architectural Vision • Select Components • Plan and Design POCs • Drive Completion and Evaluation 	<p>Agile Architects</p> <ul style="list-style-type: none"> • Align with Engineering Architects • Collaborate to create scalable production design • Ensure Testing matches NFR measures

Confrontational vs. Collaborative Governance



Traditional EA Governance is confrontational. It sets a barrier for teams to cross, where they must prove themselves to align to arbitrary standards. Unhealthy power dynamics and passive-aggressive behaviors often result.

No good deed goes unpunished.



Agile EA Governance is collaborative. It's the practice of creating discussing and reviewing all architecture as it evolves in a cross functional team, as it relates to deliverable systems.

Agile EA Governance is flexible, adaptive, and driven by data instead of by ego.

~~Architecture
Review
Board~~

Overcoming Criticisms of Agile Architecture

Assert: there are two types of architecture: *Emergent* and *Intentional*. Intentional Architecture is not Agile and Emergent is simply chaos

This assumes no iterations and no collaboration. Agile EA is Emergent towards Intent, the blend of both.

Architecture is the stuff that requires you to start over if it changes. Therefore, architecture cannot be emergent.

Conflates the architect with the architecture. Emergent architecture is discovered, not planned. That doesn't mean it changed. You did.

TOGAF says that you need an architecture review board to have effective governance.

That advice is out of sync with the agile needs of Digital Transformation and demonstrates a real lack of trust of engineers.

You've described software architecture, not enterprise architecture.

Software Architecture is already (badly) included in SAFe. Agile EA includes Business Architecture, Vision and Innovation

Why make this move?

- Teams working on Digital Transformation have widely adopted Agile methods.
- Most Agile methods, including SAFe, do not define EA in an agile fashion, if at all. That leads to poor experiences with EA.
- Therefore, without Agile EA, Digital Transformation teams will frequently jettison Enterprise Architecture altogether.
- That increases the risk of failure, the likelihood of complexity, and the common case of “blindness to the underlying problems” that business architecture typically reveals.
- Agile EA aligns Enterprise Architecture with Digital Transformation

Walk Carefully - Manage the Transition

- You do not have to transform all of Enterprise Architecture prior to starting a Digital Transformation program.
 - Train your IT EA Staff on consulting skills, business basics, business architecture, and the art of negotiation. Reinforce. Mentor.
 - Don't change everything at once. Make changes first to the reduce the workload on EA. Add capabilities from there.
1. Move to collaborative governance and end the Architecture Review Board
 2. Adopt Minimum Viable Architecture modeling in the Agile Release Trains
 3. Add investments in innovation, evaluation of new ideas, and presentation to business stakeholders.
 4. Grow to include Business Architecture and Capability alignment

Your Presenter

Avinash Nicklas Malik has a trouble-maker, systems breaker, and risk taker in the realm of Enterprise Architecture for the past 15 years.

Former CIO, Servant Leader, and all-around force of nature, Nick will drive you to success in EA and show you the sights along the way.

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