AGILE ARCHITECTURE FOR BUSINESS AGILITY

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IT Manager of Agile Enablement of Methodologies and Practices

My mission is to lead, the way in adopting Lean, Agile, DevOps and agile-at-scale by empowering and enabling others to lead change.

SAFe Practice Consultant and Lead in Agile Enablement and Transformation

- Web Software Engineer
- Project Management
- Lean CI Consultant
- Enterprise Agile Coach
- Release Train Engineer

WITonCampus Co-Chair for WIT Wisconsin AND Instructor at MSOE

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OBJECTIVES

BUSINESS AGILITY AND AGILE ARCHITECTURE

AGILE ARCHITECT ROLES

ARCHITECT FOR CONTINUOUS DELIVERY

ARCHITECT LEADERSHIP DURING LEAN-AGILE AND DEVOPS TRANSFORMATION

BUSINESS AGILITY AND AGILE ARCHITECTURE

BUSINESS AGILITY

Applies the principles and mindset of agile development to the entire organization in order to compete in the **age of software and digital**.

Allows companies to compete and thrive in an **increasingly dynamic and competitive environment** by being more responsive to change, hasten the time to market, and reduce costs without sacrificing quality.

Requires **a holistic commitment** that begins with and is reinforced by the executive team to permeate the entire organization.

BUSINESS AGILITY KEY CONCEPTS

Connects to the customer, senses the market opportunities and aligns strategic goals to innovative new solutions.

Organizes a Team of Teams around value to deliver the Minimum Viable Product iteratively and incrementally following Lean-Agile practices.
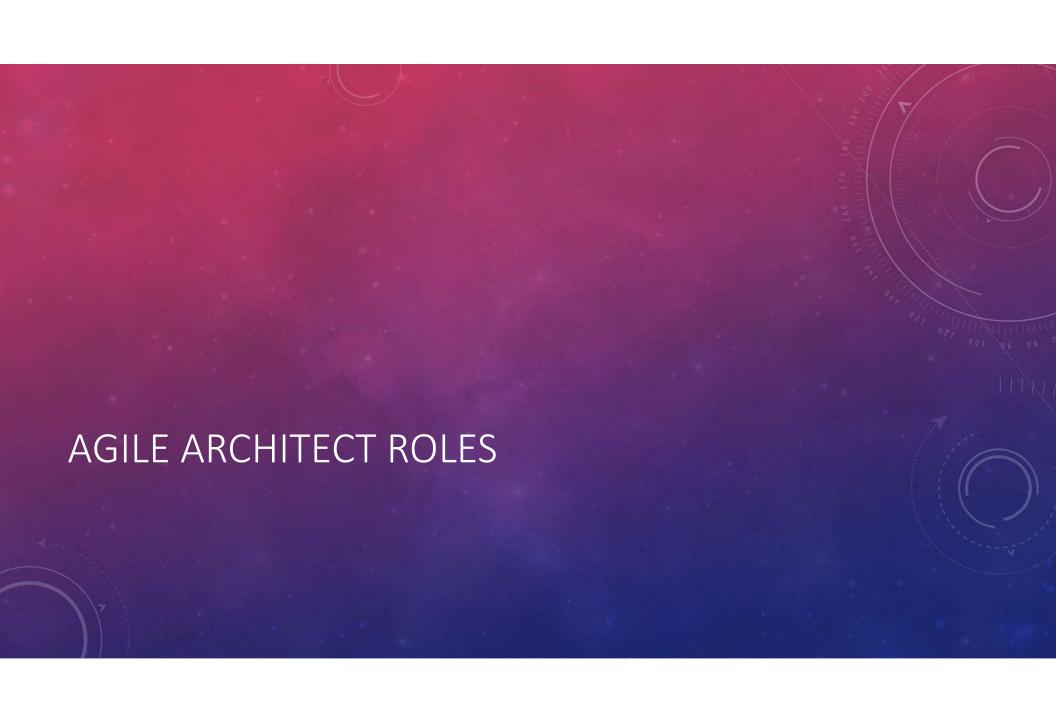
Deliver value continuously by leveraging DevOps practices and optimizing a Continuous Delivery Pipeline.

Identifies the Minimum Viable Product and applies Lean Portfolio Management and Lean budgeting practices.

Pivot and persevere according to a set of facts that support decisions regarding where to proceed with further solution development.

Learn and adapt by measuring for organizational performance and improvement.

AGILE ARCHITECT ROLES

AGILE ARCHITECTURE DEFINITION

"A set of values and practices that support the ACTIVE EVOLUTION of the design and architecture of a system while implementing new system Capabilities." – *Scaled Agile, Inc.*

What does this mean to you?

ARCHITECTS ALIGN WITH BUSINESS AGILITY GOALS AND PRACTICES

DevOps and Release on Demand

Aligning Architecture with Business Value

Contributing to the roadmaps and the plan

Supporting Continuous delivery during execution of work

Supporting new business objectives and value streams

Architect during Lean-Agile transformation

AGILE ARCHITECTS ENABLE BUSINESS AGILITY

Evolves systems over time while supporting the needs of current users.

Avoids overhead and delays associated with phase-gate processes.

Ensures systems always run.

Supports the continuous flow of value.

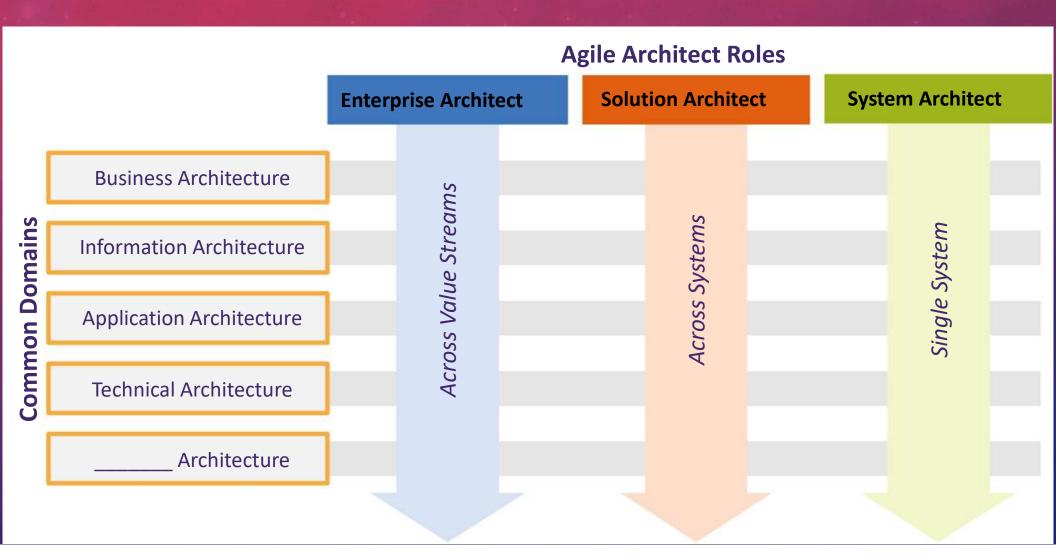Balances intentional architecture and emergent design.

AGILE ARCHITECT ROLES

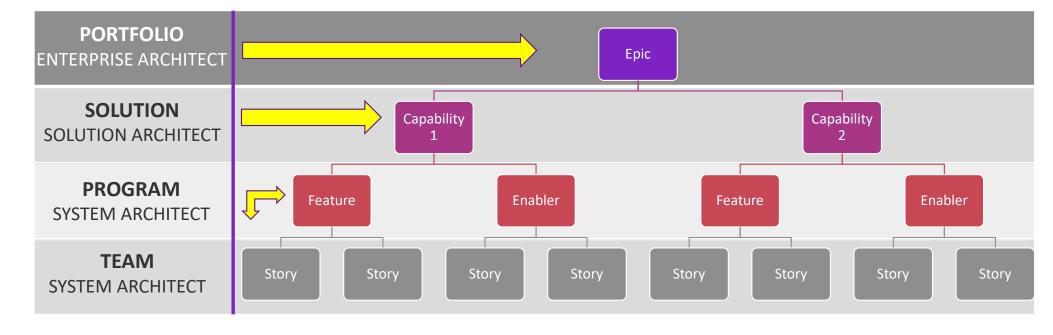| FLOW LEVELS		AGILE ARCHITECT RESPONSIBILITIES
PORTFOLIO	ENTERPRISE ARCHITECT	• Guides, supports, and aligns architecture and infrastructure strategy with business strategy • Provides strategic technical direction across Program roles and Teams • Promotes modern technical and DevOps practices • Collaborates with Lean Portfolio Management • Synchronizes architecture functions across Program roles and Teams
SOLUTION	SOLUTION ARCHITECT	• Plans the Architecture for a full Solution • Actively supports designing and steering of Continuous Delivery Pipeline • Establishes and supports definition of nonfunctional requirements (NFRs) • Partners with System Architects to elaborate Capabilities and Features • Fosters Built-in Quality for the entire Solution
PROGRAM AND TEAM	SYSTEM ARCHITECT	• Plans the Architecture • Actively supports design and steering of CI/CD pipeline • Establishes and supports the definition of NFRs • Partners with Solution and Enterprise Architects to elaborate Epics, Capabilities, and Business Capabilities • Fosters Built-in Quality for the ART's systems

AGILE ARCHITECT ROLES SPAN DOMAINS

Agile Architect Roles

	Enterprise Architect	Solution Architect	System Architect

Common Domains

- Business Architecture
- Information Architecture
- Application Architecture
- Technical Architecture
- _____ Architecture

Across Value Streams

Across Systems

Single System

AGILE ARCHITECT IS A KEY PARTNER AT EVERY LEVEL
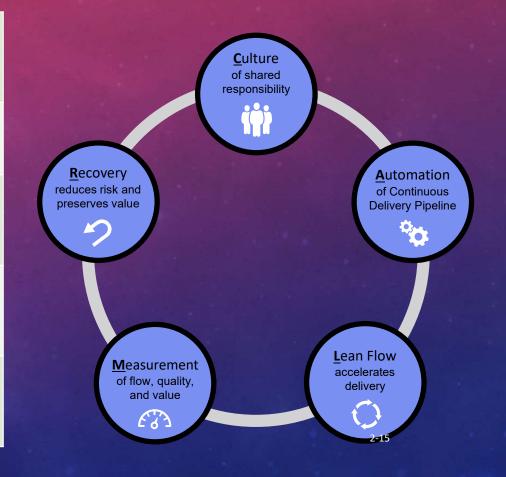
ARCHITECT FOR CONTINUOUS DELIVERY
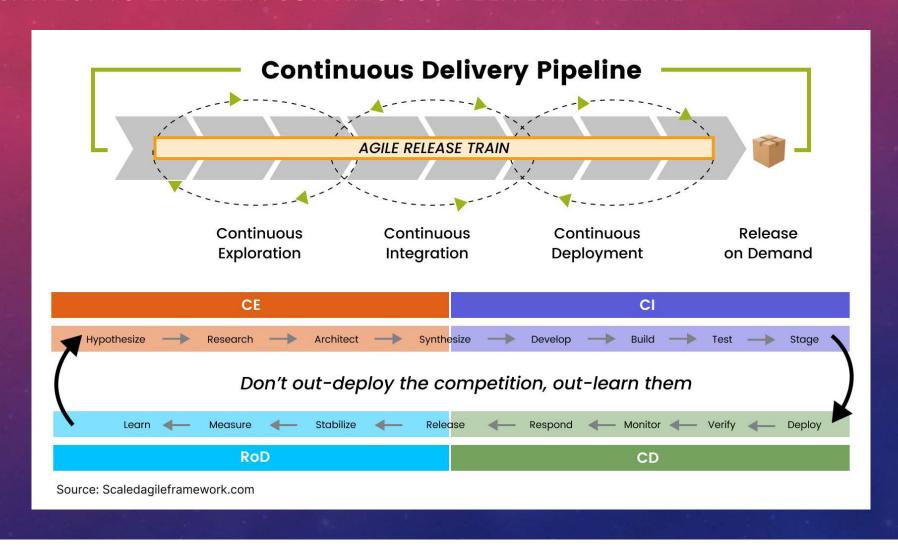
Why do we want to architect for CD?

Increase time to market, respond quickly to market changes, and reduce cost without sacrificing quality.

A CALMR APPROACH TO DEVOPS AND ENABLING FLOW

C	Culture	Establish a culture of shared responsibility for development, deployment, and operations.
A	Automation	Automate the Continuous Delivery Pipeline.
L	Lean Flow	Keep batch sizes small, limit work in process (WIP), and provide extreme visibility.
M	Measurement	Measure the flow through the pipeline. Implement full-stack telemetry.
R	Recovery	Architect and enable low-risk releases. Establish fast recovery, fast reversion, and fast fix-forward.

Culture of shared responsibility

Automation of Continuous Delivery Pipeline

Lean Flow accelerates delivery

Measurement of flow, quality, and value

Recovery reduces risk and preserves value

2-15

ARCHITECTURE GREATLY IMPACTS VALUE FLOW

Common Flow Impediments	Common Flow Enablers
Big design up front (BDUF)	Minimum viable architecture (CE)
Architecture review boards	Automated compliance checks (CI)
Ivory towers	Continuous collaboration (CDP)
Monolithic systems	Loosely coupled systems (CI)
Architecture as documentation	Architecture as code
Architecture silos	Federated architecture

OTHER CONSIDERATIONS

Automate compliance

- Automate compliance steps to speed delivery and reduce risk.
- Script all compliance rules and build them into the pipeline.

Architect for Operations (RoD)

- Operational integrity is the foundation of business value (safe, secure and reliable).
  - Architect for desired business functionality AND long-term Solution viability.
  - Define and architect for build, and test NFRs.
  - Defined by NFRs, SLAs, BCPs, and QoS agreements.

Traditional methods: architectural review boards, governance committees, change approval boards, security reviews, etc.

MEASURING BUSINESS VALUE

Measure the value delivered!

- Determining value delivered is critical to evaluate hypotheses and analyze qualitative and quantitative feedback.

Architectural considerations (RoD)

- System performance analytics.
- User behavior/experience analytics.
- BI systems, dashboards, and reports.
- Full-stack telemetry.
- Retrospectives sessions.

ARCHITECT LEADERSHIP DURING LEAN-AGILE AND DEVOPS TRANSFORMATION

AGILE PRACTICES AND THE GROWTH MINDSET

SUPPORT A CONTINUOUS LEARNING CULTURE

As technical leaders, Architects have a significant impact on the growth and learning culture of an organization.

Learning Organization	Innovation Culture	Relentless Improvement
► Shared vision ► Systems thinking ► Personal mastery ► Mental Models ► Team Learning	► Innovative people ► Time and space ► Go See ► Experimentation and feedback ► Pivot without mercy or guilt ► Innovation riptides	► Constant sense of urgency ► Problem solving culture ► Reflect and adapt frequently ► Optimize the whole

KEYS TO LEADING SUCCESSFUL CHANGE

Change Accelerators

INSTITUTE
Change

CREATE
A Sense of Urgency

SUSTAIN
Acceleration

BUILD
A Guiding Coalition

THE BIG
Opportunity

GENERATE
Short-Term Wins

FORM
A Strategic Vision

ENABLE
Action by
Removing Barriers

ENLIST
A Volunteer Army

The 8-Step Process for Leading Change" by Kotter, Inc.

Change Principles

The key to successfully navigating complex change is embodied in four critical principles that unlock the full power of the eight-accelerator methodology.

1 **Management + Leadership**
In order to capitalize on windows of opportunity, leadership must be paramount—and not just from one executive. It's about vision, action, innovation, and celebration, as well as essential managerial processes.

2 **"Have to" + "Want to"**
Those who feel included in a meaningful opportunity will help create change in addition to their normal responsibilities. Existing team members can provide the energy—if you invite them.

3 **Head + Heart**
Most people aren't inspired by logic alone, but rather by the fundamental desire to contribute to a larger case. If you can give greater meaning and purpose to your effort, extraordinary results are possible.

4 **Select Few + Diverse Many**
More people need to be able to make change happen—not just carry out someone else's directives. Done right, this uncovers leaders at all levels of an organization; ones you never knew you had.

https://www.kotterinc.com/8-step-process-for-leading-change/

ARCHITECT SYNC

Architects, tech leads, and key subject matter experts attend the Architect Sync to:

Align on strategy at all levels

Design the Architectural Runway

Resolve risks and impediments

Share news and knowledge

Swarm on problems and solutions

Support continuous improvement

THANK YOU!

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Manager IT - Agile Coaching and Enablement at FedEx

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