Automating Application Deployments 101

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“Vision without execution is hallucination.”

—Thomas Edison

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Abstract

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DevOps -
Continuous Delivery

It’s time to move away from slow, manual application release processes and hard to maintain, error-prone scripts.

This session is designed to help you understand the basics of automating application deployments from development to test to production using an enterprise-class ARA solution: CA Release Automation.

It offers several tips to help you get started quickly and demonstrates how to lay a foundation of best practices that you can build upon as you mature your application release practices.

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Agenda

1. OVERVIEW – AUTOMATED APPLICATION DEPLOYMENT & ‘SOFTWARE FACTORY’
2. BEST PRACTICES – SUCCESS PATTERNS V/S ANTI-PATTERNS
3. GET STARTED – READY, SET, GO!
4. DEMO – ZERO-TOUCH AUTOMATED DEPLOYMENTS USING CA RELEASE AUTOMATION
5. RECAP & SUMMARY

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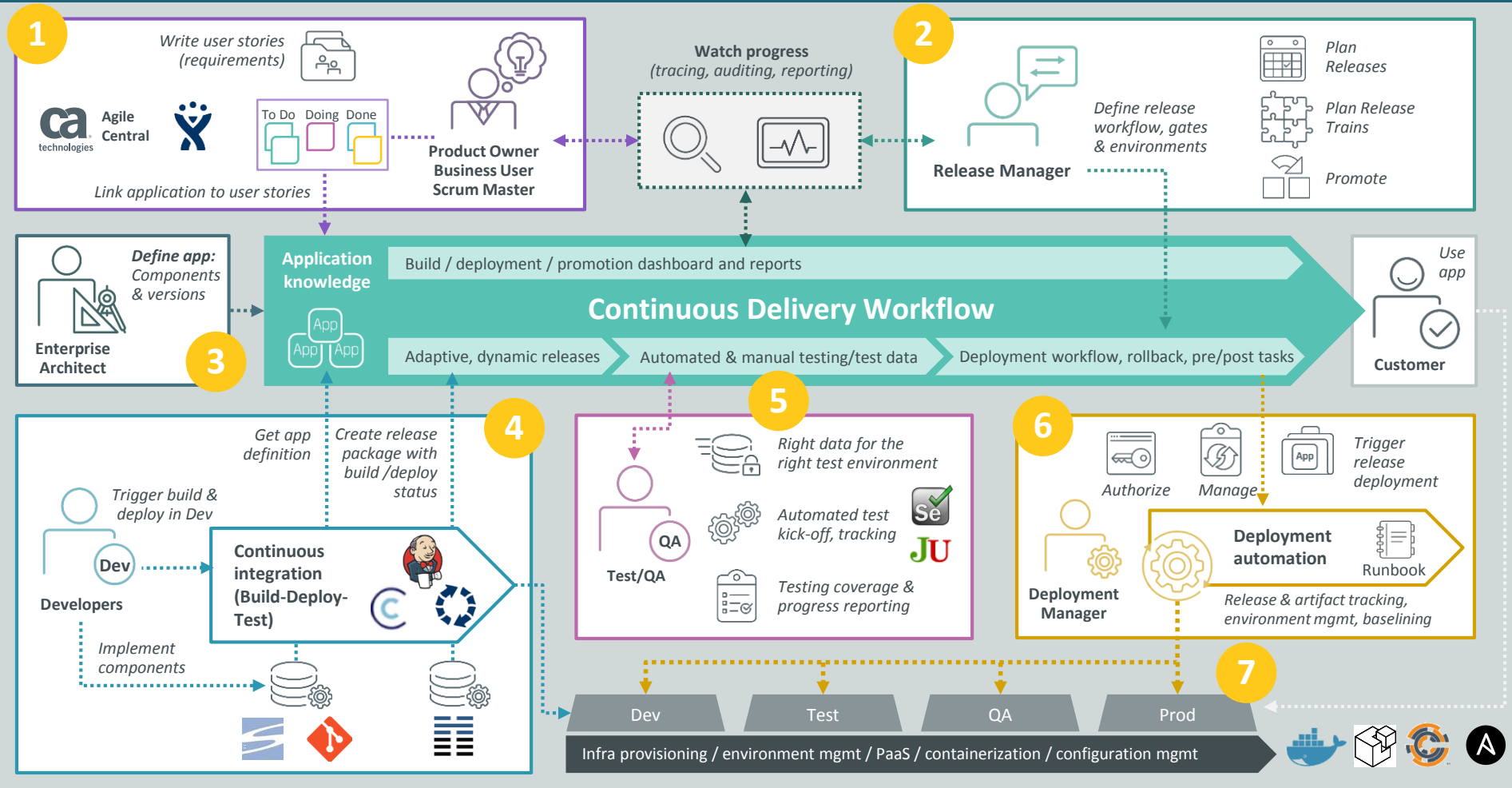
Scaling Continuous Deployment & Release with an Enterprise Release Automation Solution



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How Do You Deliver with Speed, Precision & Quality?

CONTINUOUS DELIVERY

The ability to reliably release high-quality applications at any time

Accelerate Deliveries

Reduce Errors

Manage Complexity

Increase Visibility

Drive Collaboration

Continually Improve

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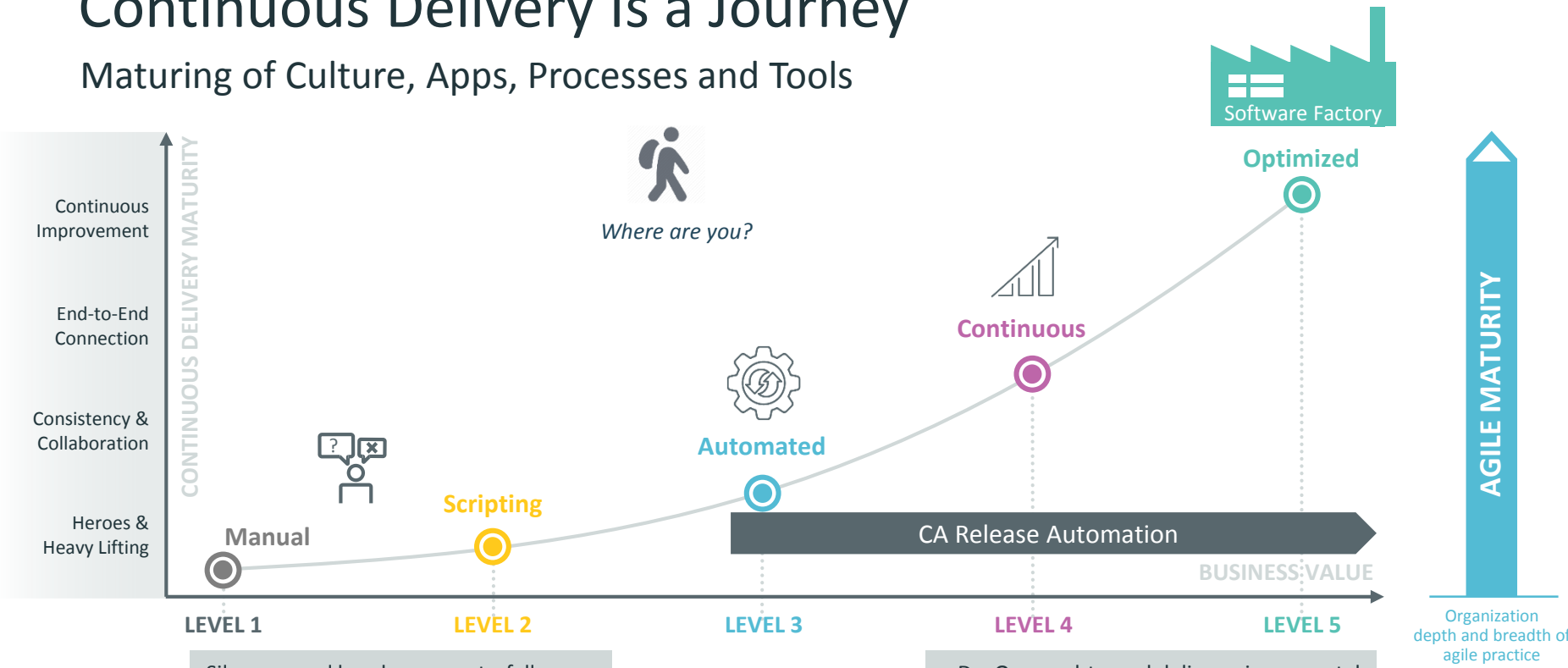
Continuous Delivery Is a Journey

Maturing of Culture, Apps, Processes and Tools



*Application release automation view

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CA RELEASE AUTOMATION

Proven foundation for companies to execute a successful DevOps, continuous delivery strategy

Deployment Automation
(Application-centric, Modular, Dynamic Deployments)

Continuous Delivery
(Release-centric, Adaptive CD Pipeline)

Rapidly and reliably automating application deployment on demand

Planning, managing and optimizing the continuous delivery pipeline

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BETTER PRACTICE = PATTERNS – ANTI PATTERNS

BEST PRACTICE = “PROVEN” BETTER PRACTICE

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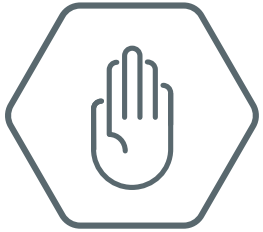
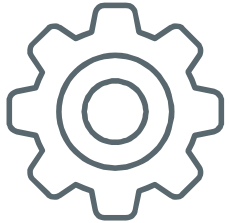
Anti-Patterns

Barriers impacting application delivery speed, cost, quality and customer experience



Manual Hand Off



Manual Process

Tribal Knowledge

Visibility Silos

Release Package Integrity

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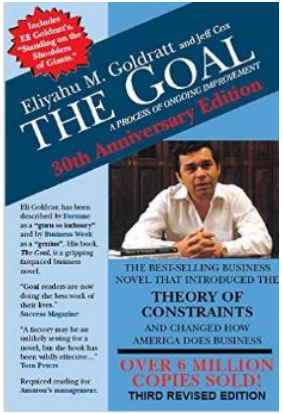
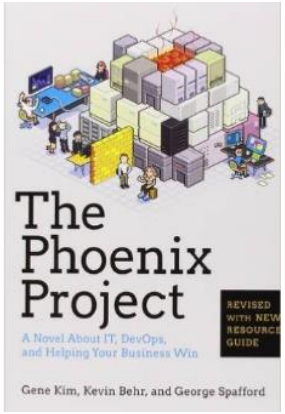
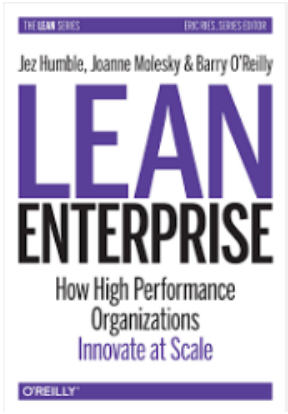
Success Patterns: Best Practices

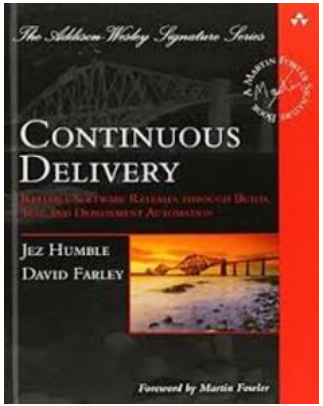
Proven foundational practices to build an agile, resilient continuous delivery pipeline

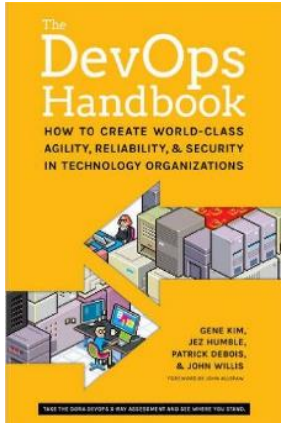
- ✓ Map Value Stream (LEAN)
- ✓ Create Flow (LEAN)
- ✓ Model-Based Deployment(ARA)
- ✓ Deployment Pipeline (CD)
- ✓ Auto-Deploy + Auto-Promote (CD)
- ✓ Artifact Package Model (ARA)











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Getting Started!

5-step approach to build a resilient, adaptive continuous delivery pipeline

1. Create Adaptive Continuous Delivery Pipeline
2. Create Dynamic, Modular Deployment Process
3. Define Artifact Package Model
4. Establish Quality Control Gates
5. Baseline Metrics, Analytics, Continuous Improvement

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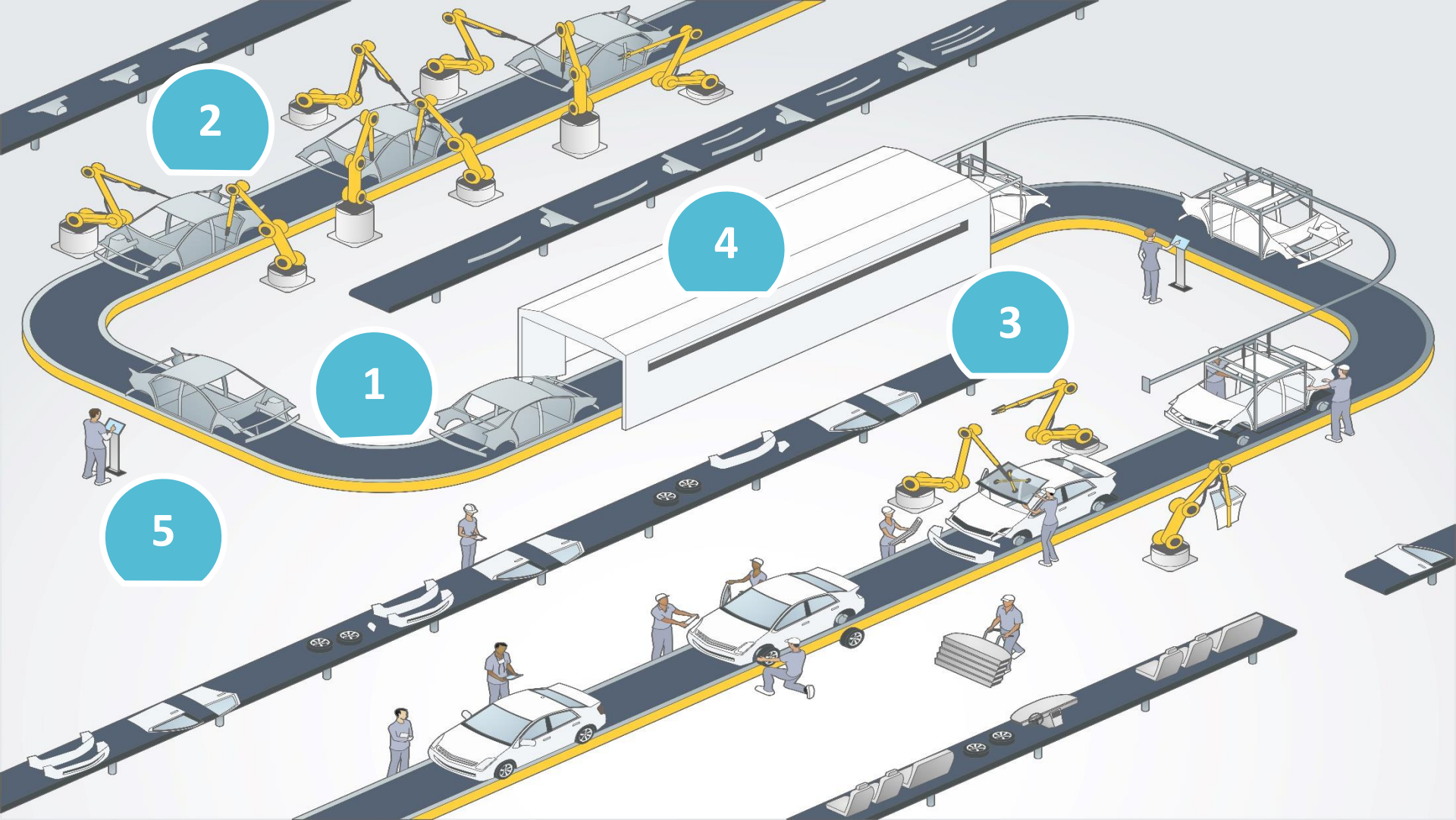
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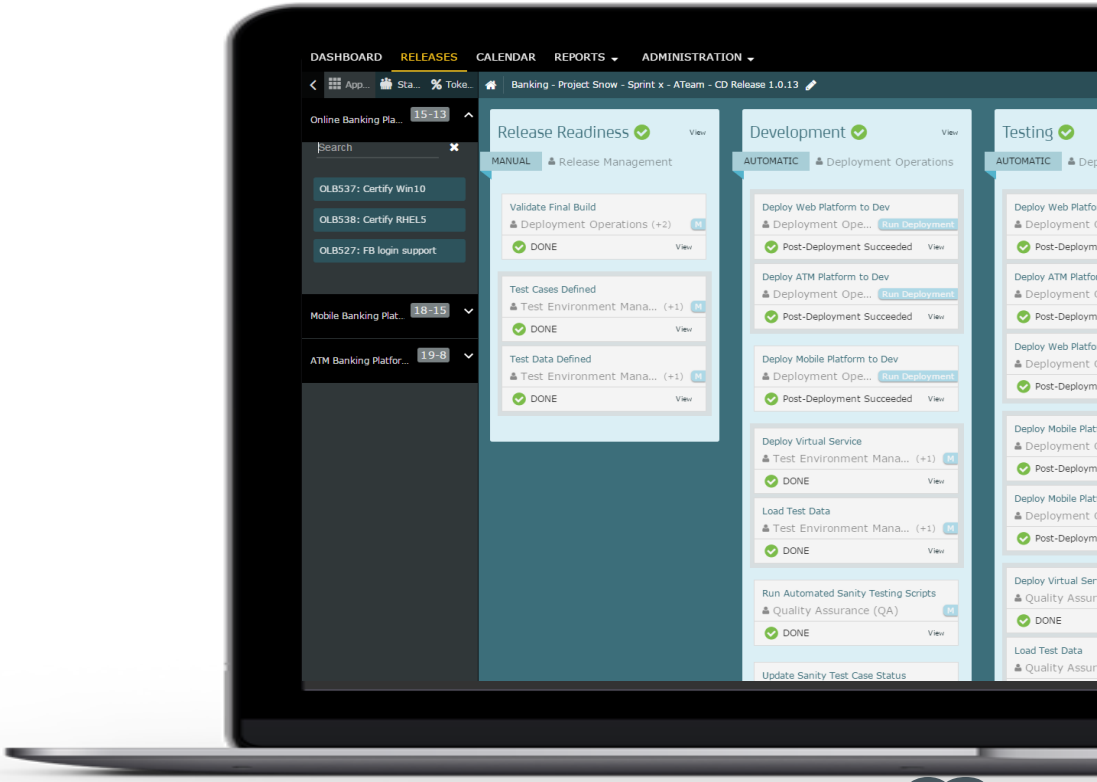
1 Establish Continuous Delivery Pipeline

- Create **release blueprint** to establish enterprise-wide best practice
  - **Align** Requirements
  - **Adaptive** Pipeline
  - **Dynamic** Deployment
  - **Control** Gates
- Embed **open-integration framework** to allow teams use preferred tools and follow a common discipline
- **Include standard protocols** for governance, release quality, security and change management



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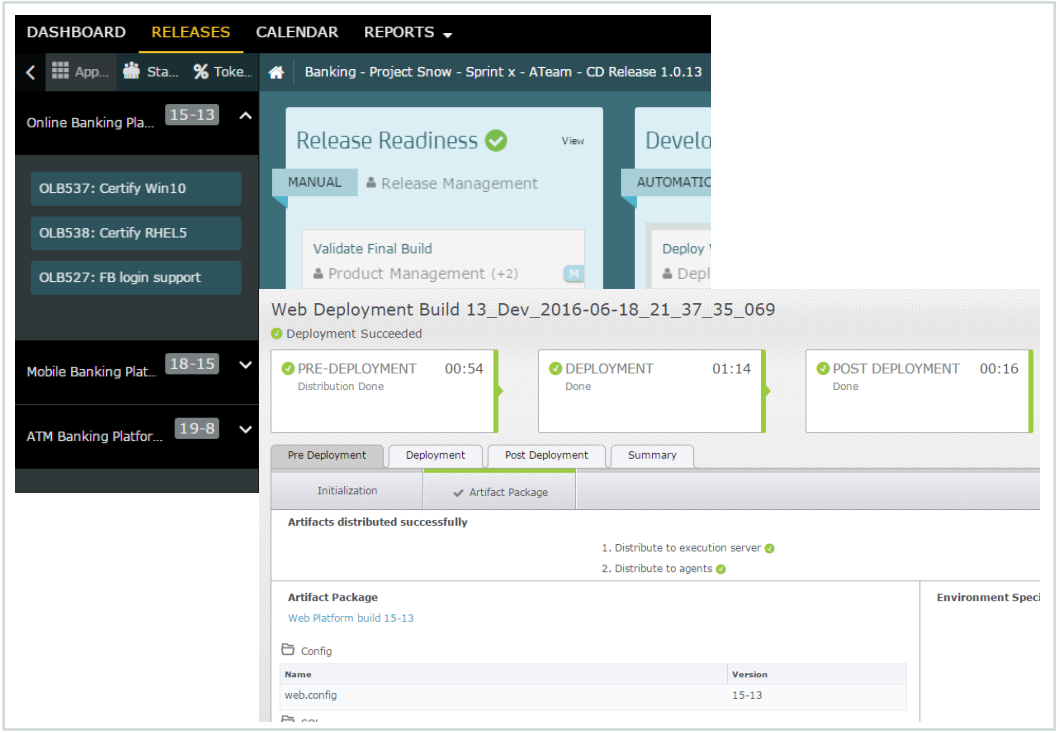
2 Create Modular Deployment Process



- **Design modular ‘atomic’** deployment process
  - Reusable, Repeatable
  - Shareable
  - Environment-agnostic
  - Dynamic, Artifact-driven
- **Build-in deployment validation** = improved delivery speed, reduced errors!
  - Auto-Validate
  - Auto-Deploy
  - Auto-Promote

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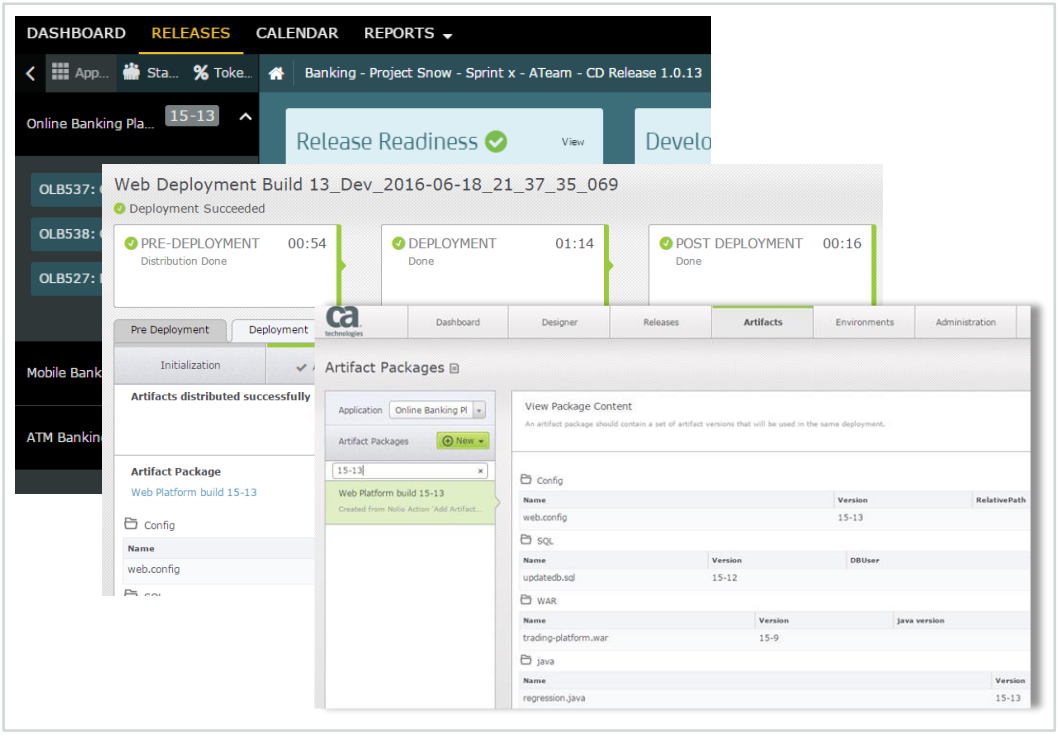
3 Define Artifact Package Model



- **Design Artifact Package** to be inclusive of *all* changes - binaries, environment and app configurations
- **Ensure artifact package integrity** during a deployment progression to reduce risk, improve release quality.
- **Review deployment pipeline** for end-to-end traceability to reduce MTTR and establish a continuous feedback loop.

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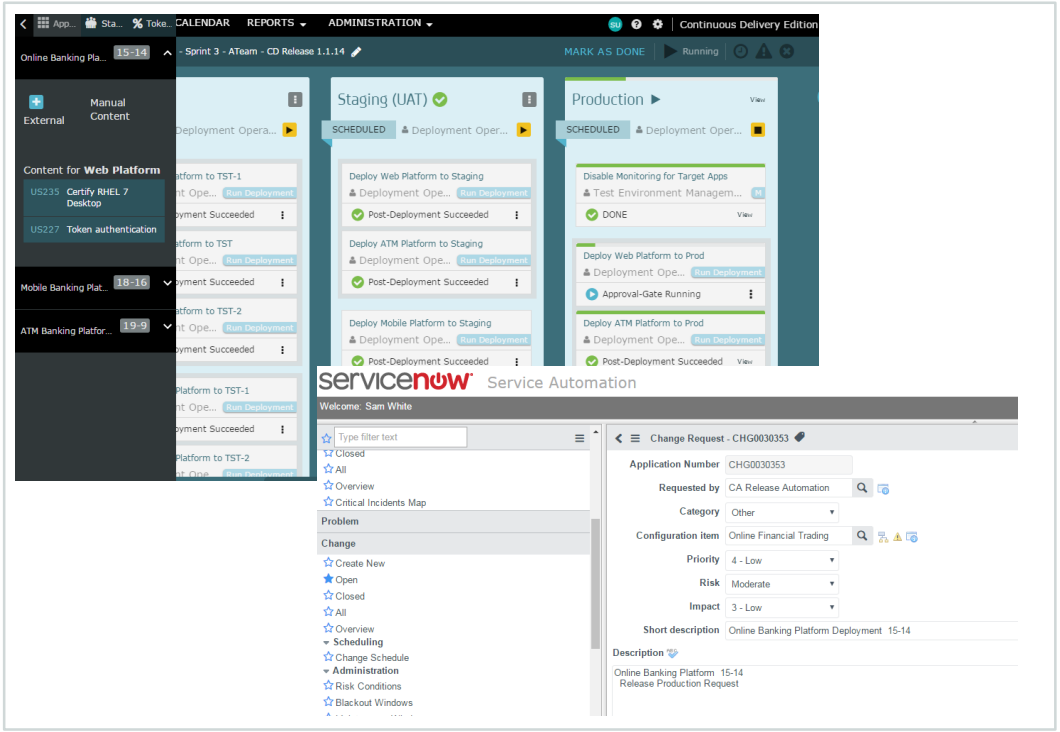
4 Quality Control Gates Based on Speed and Risk Profile

- **Review gating strategy** within release blueprint to follow governance, quality, compliance protocols.
- **Integrate with existing Change Management** systems for non-IT business users.
- **Include relevant information with essential data points** in change order/request to reduce approval ‘wait’ times and optimize delivery speed.



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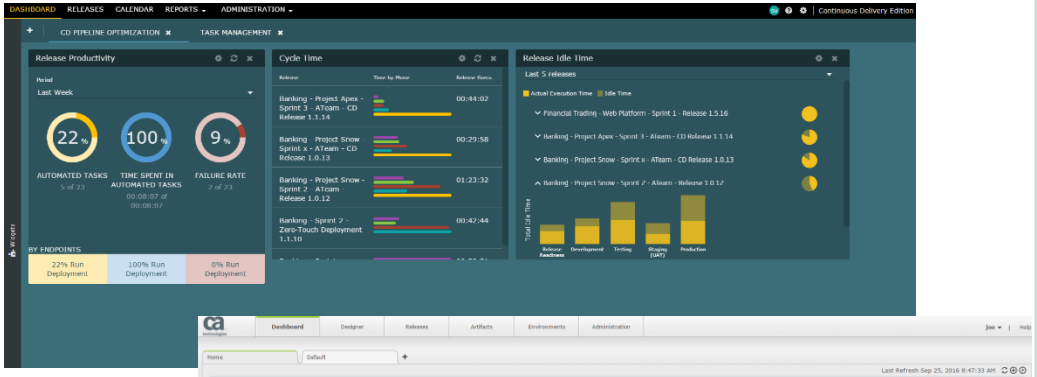
5 Baseline Metrics and Analytics for Continuous Improvement



- **Establish real-time dashboard** to drive collaborative DevOps practices
- **Continually optimize** continuous delivery pipeline for quality, cost and speed
  - Identify opportunities to resolve release cycle bottlenecks
  - Prioritize based on near-term business objectives (speed/cost/risk/quality)
- **Monitor evolution** of continuous delivery maturity of teams

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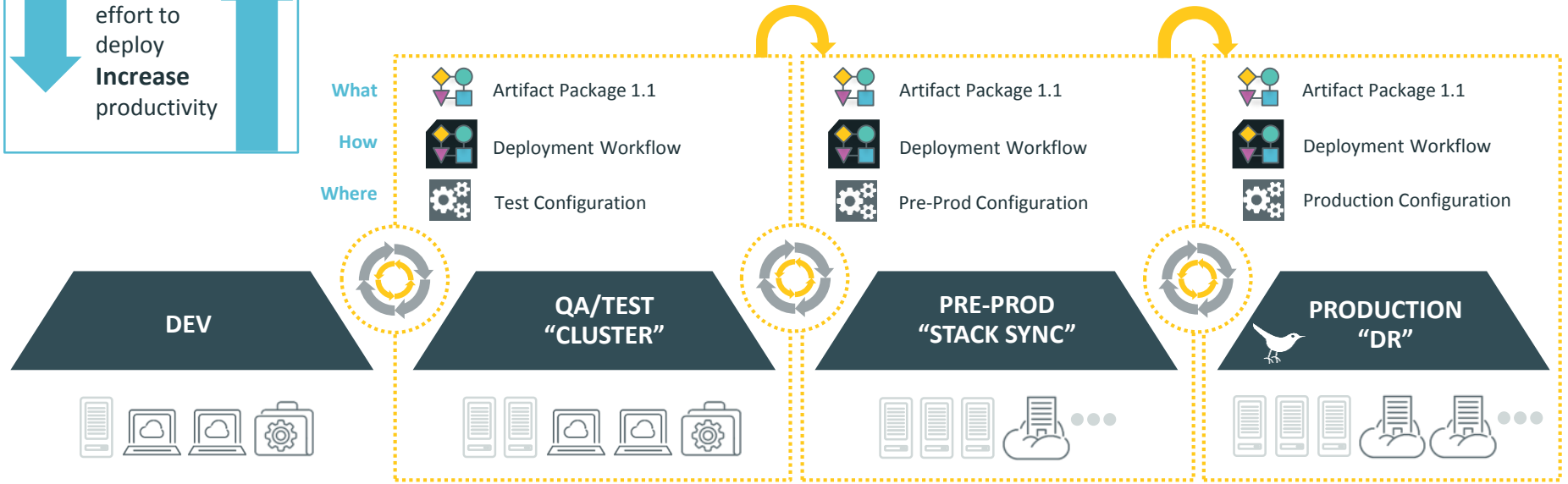
Demo: Model-Based, Zero-Touch Automated Deployments

Reduce manual effort to deploy **Increase** productivity

Separation of application, workflow and environment enables best-practices, increased reliability and reuse among multiple applications and teams



FLEXIBLE PROCESSES MATCH YOUR BUSINESS NEEDS TODAY AND IN THE FUTURE

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Demo

Model-Based, Zero-Touch Automated Deployments using CA Release Automation

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Summary

Automating Application Deployments 101 – Getting Started and Best Practices

Control

- Ease of use, adoption
- Ease of support & maintenance
- Build Modular, Repeatable, Reusable Process
- Promote collaboration
- Baseline Metrics
- Identify Opportunities

Accelerate

- Ease of onboarding new applications
- Promote sharing, reusability
- Embed DevOps / Lean / Continuous Delivery best practices
- Monitor Analytics for Continuous Improvement.

Scale

- Design for enterprise-scale using 3-Tier architecture
- Focus on Governance, Role-based Access Control
- Weave-in Security, Audit, Compliance protocols
- Utilize open-integrated framework to secure current & future technology stack

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"Agile and continuous delivery can be nothing but a journey. You are never done; you are constantly moving the needle. There is always something you can do."

—Director, DevOps tools management, Fortune 100 financial services firm

Source: The Total Economic Impact™ of CA Release Automation Study Commissioned by CA, December 2015.
https://www.ca.com/us/collateral/industry-analyst-report/the-total-economic-impact-of-ca-release-automation.register.html

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CA Release Automation: Ignite and Advance Your Continuous Delivery Journey

RELEASE CYCLE AGILITY

Fully automate the release of agile applications through dev, test & production — improving deployment time by 20x

SEAMLESS, END-TO-END ORCHESTRATION

Easily leverage existing tool investments to orchestrate thousands of composite releases across diverse environments

CONTINUOUS OPTIMIZATION

Improve release quality, processes, and teams — reducing production errors by 98%

AT ENTERPRISE SCALE

*Improving deployment time by 20x and reducing production errors by 98% taken from Forrester Total Economic Impact™ Study for CA Release Automation, December 2015, a study conducted by Forrester Consulting on behalf of CA Technologies

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Thank you

Learn more at ca.com/releaseautomation