Verizon's Journey to enterprise grade DevOps

Jenkins
User Conference

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We are Verizon.

Verizon delivers the promise of the digital world.

- Fortune 500 rank: #13
- $30.5 billion in second-quarter revenue (2016)
- 162,700 employees

LTE covers 98% of U.S. population

113.2 M total retail connections
XLTE covers 466 markets

100% fiber optic Fios network

5.5 M Fios Internet & 4.6 M Fios TV connections
500Mbps upload and download speeds

Global IP network

One of the largest, most reliable IP networks in the world

Products and Solutions

Innovating in entertainment, digital media, the Internet of Things and broadband service

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Verizon Product & New Business Group.

An innovative incubator for entrepreneurs and inventors.

Media Co. & Digital Video

- AOL
- go90
- Complex
- Awesomeness TV
- VDMS

Product Evolution

- M2M technology
- Multicast
- Cloud

IoT & Telematics

- hum
- Grid Wide
- ThingSpace
- Fleetmatics

Innovative Initiatives

- Innovation Centers
- Verizon Ventures
- VZ Labs

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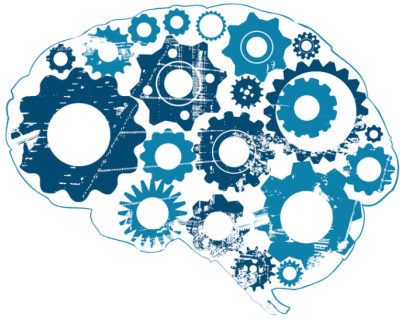
Change Drivers

- Competitive environment is increasing pressure on our business to optimize for agility
- Although progress has been made, significant opportunities exist to evolve our current technology delivery model, culture, and skillset
- Operating model changes will improve customer/value alignment, accountability, speed, quality, and security
- Technology capabilities must enable, not hinder, ability of business to pivot

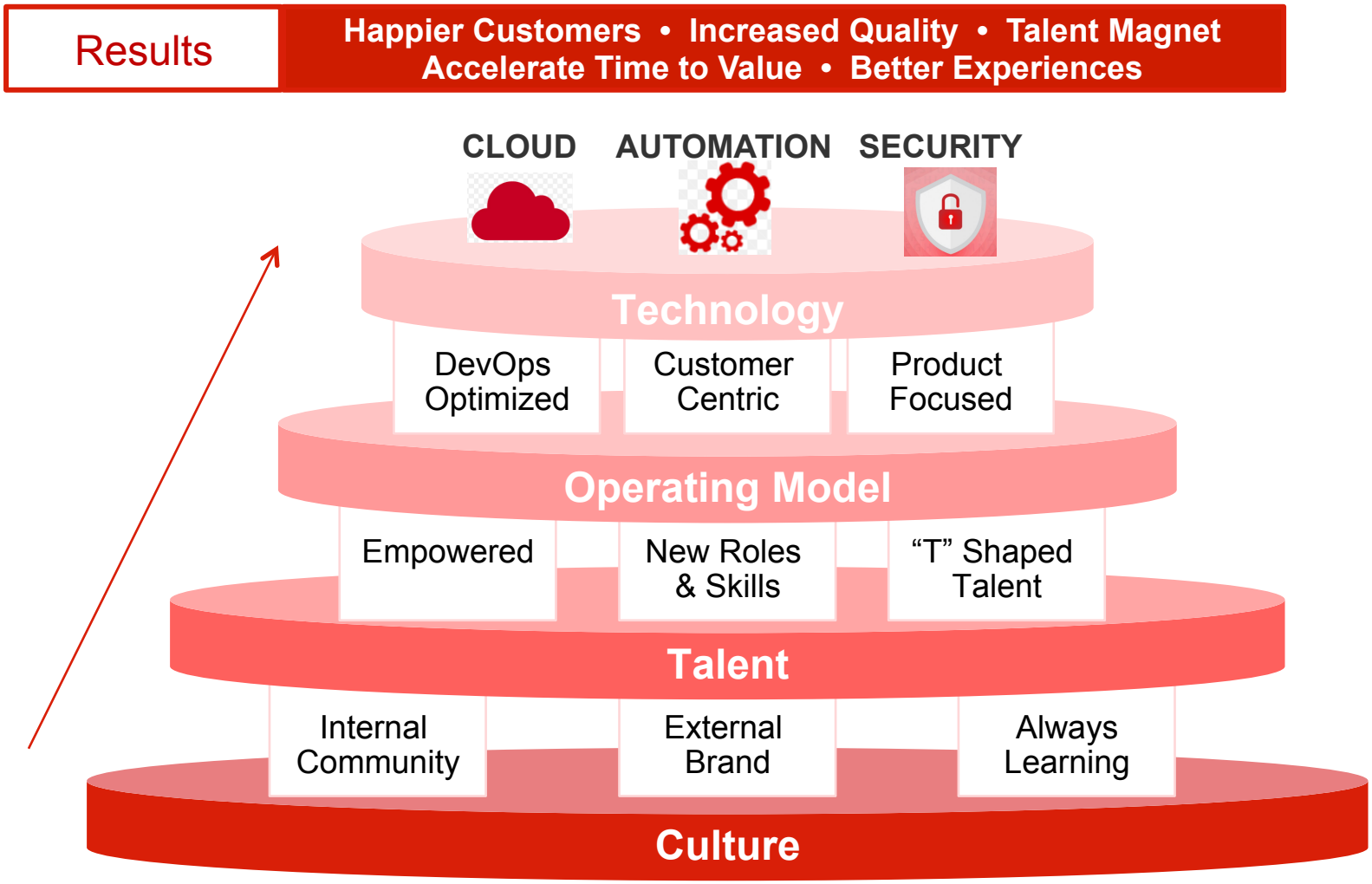
Accelerate our tech innovation capability to enable Verizon's business agility

Bold Goals

- Public Cloud first and all new application development is Cloud Native
- All engineers develop proficiency in secure coding practices
- All Dev teams fully accountable for building and running their product tech stacks
- All Infrastructure teams make services automated, compose-able, and self-service; work intake is no longer through ticket processing
- Quality & Security is engineered in to the delivery process and is valued more than features
- Through continuous improvement, all processes and activities that don't add value to the product or service delivery are eliminated



Accelerating Innovation



Focus on Outcomes to Increase Business Agility

	Outcomes	Measuring Success
Culture	*Highly collaborative engineering community, responsibility and ownership for technology delivery*	• Team engagement / feedback • DevOps Survey - Culture Improvement • Community / Dojo partcipation
Talent	*Extremely adaptive workforce, with deep coding competency, and multidisciplinary skills.*	• DevOps Survey–Capability Improvement • At least once per day, 85% of talent check into git • Proficiency levels in training
Operating Model	*Optimized products, services, and practices with simplified accountability*	• Velocity (Time To Value) • Quality (Defects) • Service Availability
Technology	*Technology viewed as a "first option" business agility enabler*	• % applications in Cloud Architecture • Increased DevOps platform utilization • % of infrastructure services self-service

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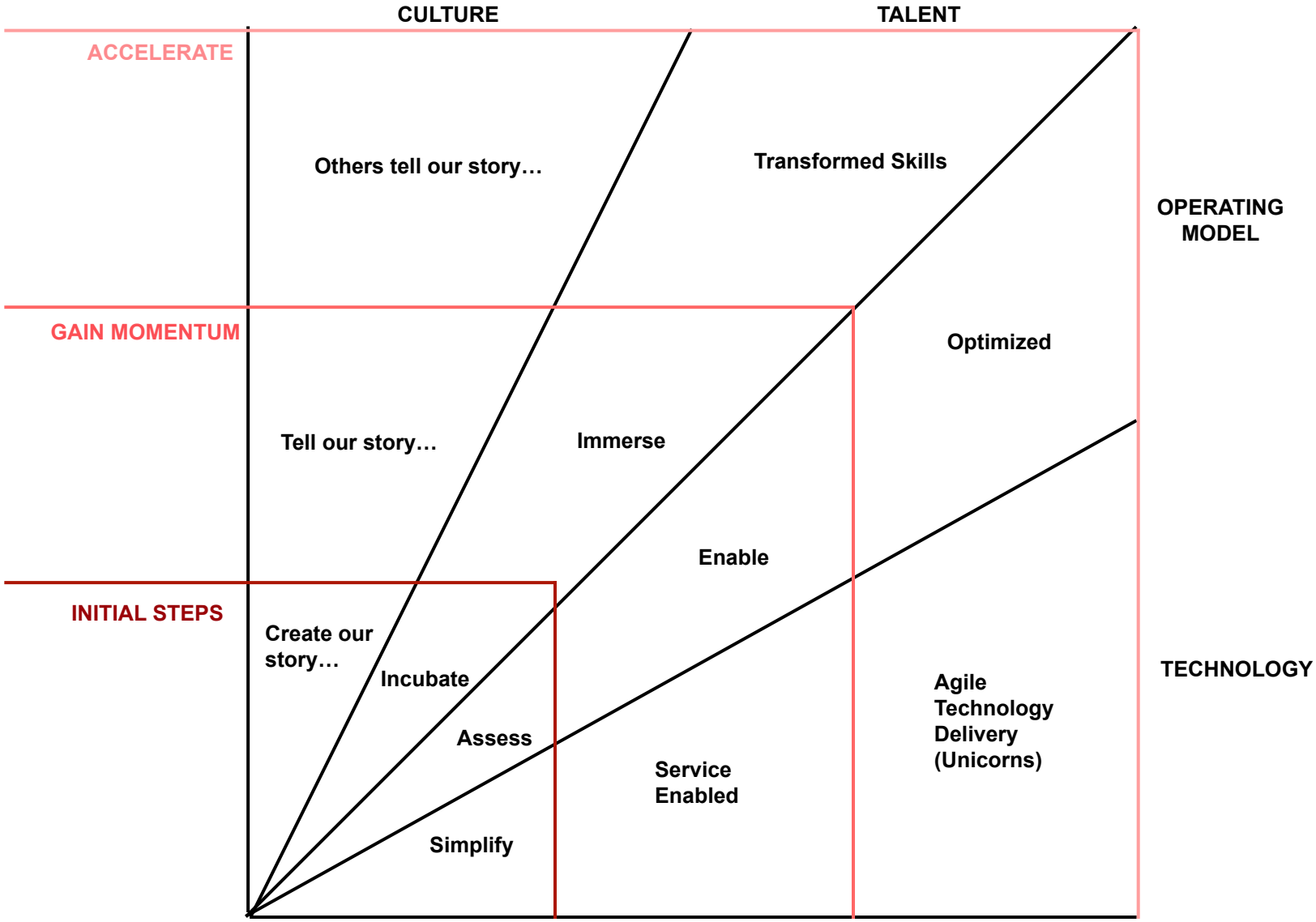
Continuous Improvement & Iterative Implementation



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The three phases to maturity

Initial Steps

- Get the tool chain up and running
- Git-Jenkins-Jira-Ansible connectors
- Invest in large scale automation and automation best practices

Gain Momentum

- Orchestration of application releases
- Service Virtualization
- Test Data Management
- Mature Engineering practices

Accelerate

- Rewrite/Refactor Applications as Microservices
- Cloud Enable the applications.
- Run the containerized applications on cloud

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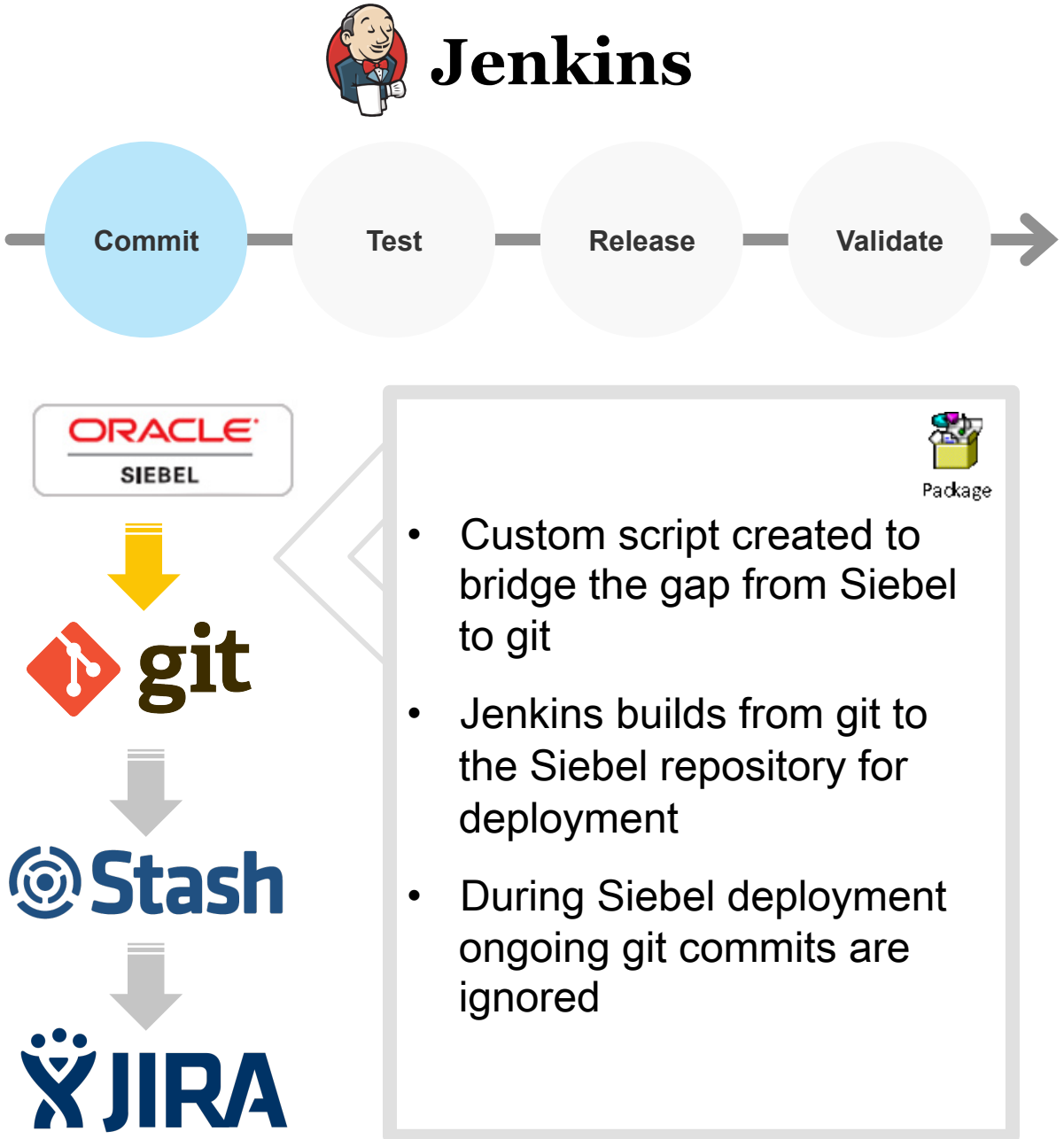
DevOps Tools

DevOps Integration

No app left behind

DevOps integration of COTS products (Oracle Siebel example)



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SDLC Digitization

Full SDLC visibility

SDLC digitization/ automation to enable full visibility

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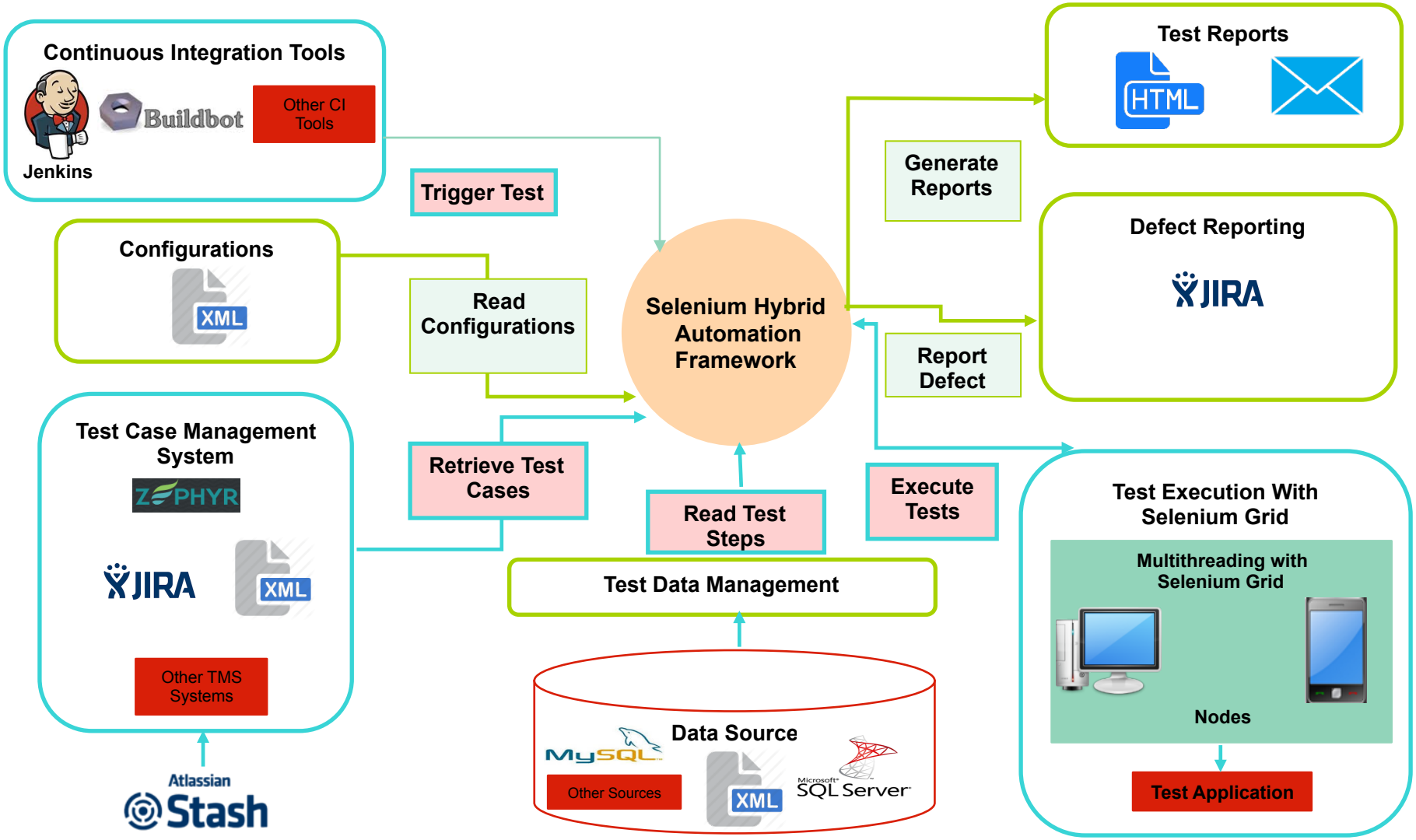
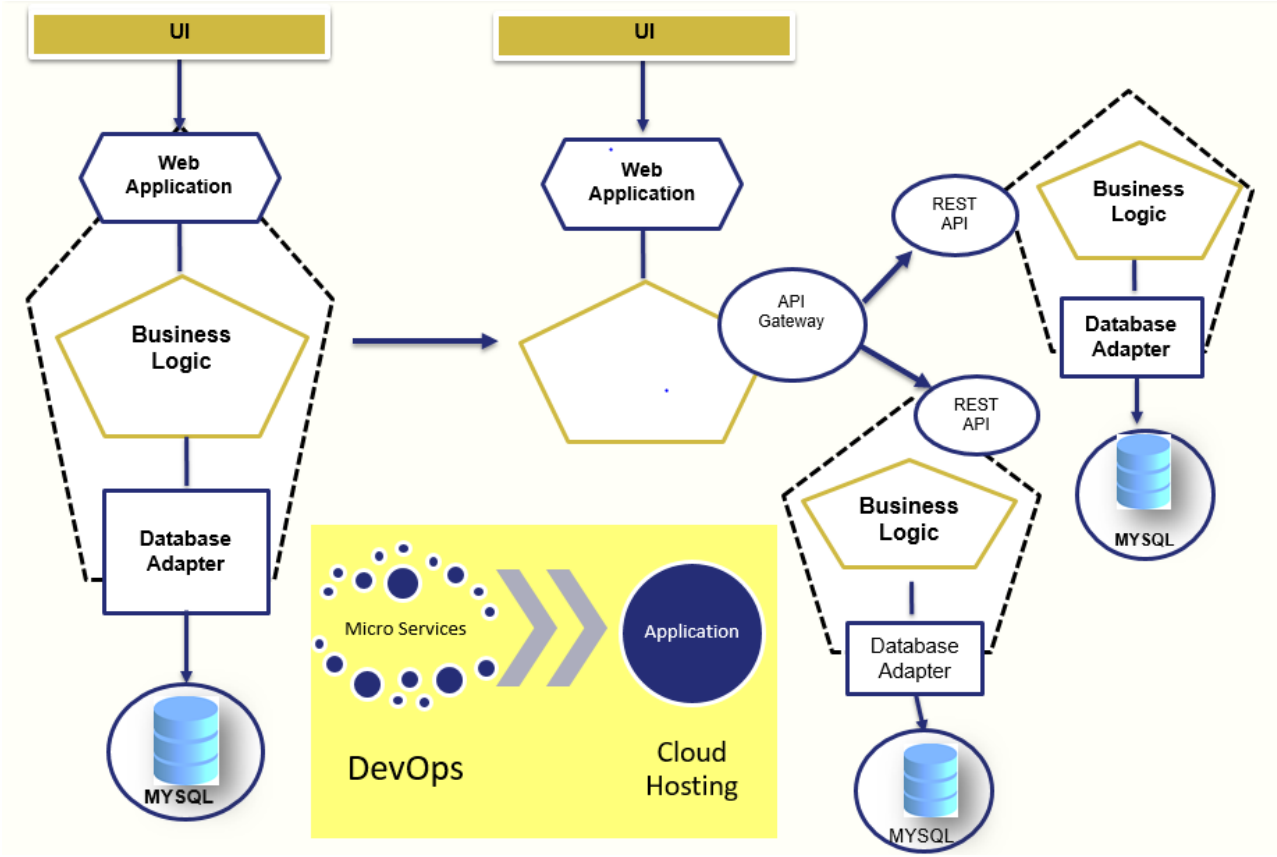
Complete CI CD and Mature Engineering



Accelerate DevOps: Microservices route



- **Refactor Existing apps as Microservices**
- **Organize services based on business units**
- **Accelerate DevOps and gain 10x agility**
- **Major applications involving orchestration, validation and provisioning refactored as Microservices**
- **Achieve true independence of teams focused on business results**

Success with DevOps, in numbers..

338875

 # test cases created

25100

 # automated test cases

1533

 # support Tickets created

696

 # confluence spaces

315

 # jira Projects

260

 # stash Projects

5130

 # confluence users

1900

 # jenkins jobs

6450

 # jira users

3150

 # stash users

42

 # Cloud onboarding queue

5

 # apps in cloud

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