
DevOps in Principle and in Practice

Presented by Laird Williams, DevOps Practice Lead

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DevOps is About Value Delivery

If you aren't focused on business value, then you have taken your eye off the ball.

- “Continuous, low-latency delivery of **value** to the **business/mission**”
- Heavily Influenced by Lean Product Development
 - “Continuous” = Emphasis on achieving sustainable flow
 - “Low-latency” = Emphasis on low lead time
 - “Value” = Enhanced revenue, Greater efficiency, Reduced risk, etc.
- Other side of the agile coin
 - In IT, you really can't *be* agile without *doing* DevOps
 - Very difficult to do one without the other and still gain the benefits
 - Most contemporary DevOps literature has Agile as a key component of DevOps

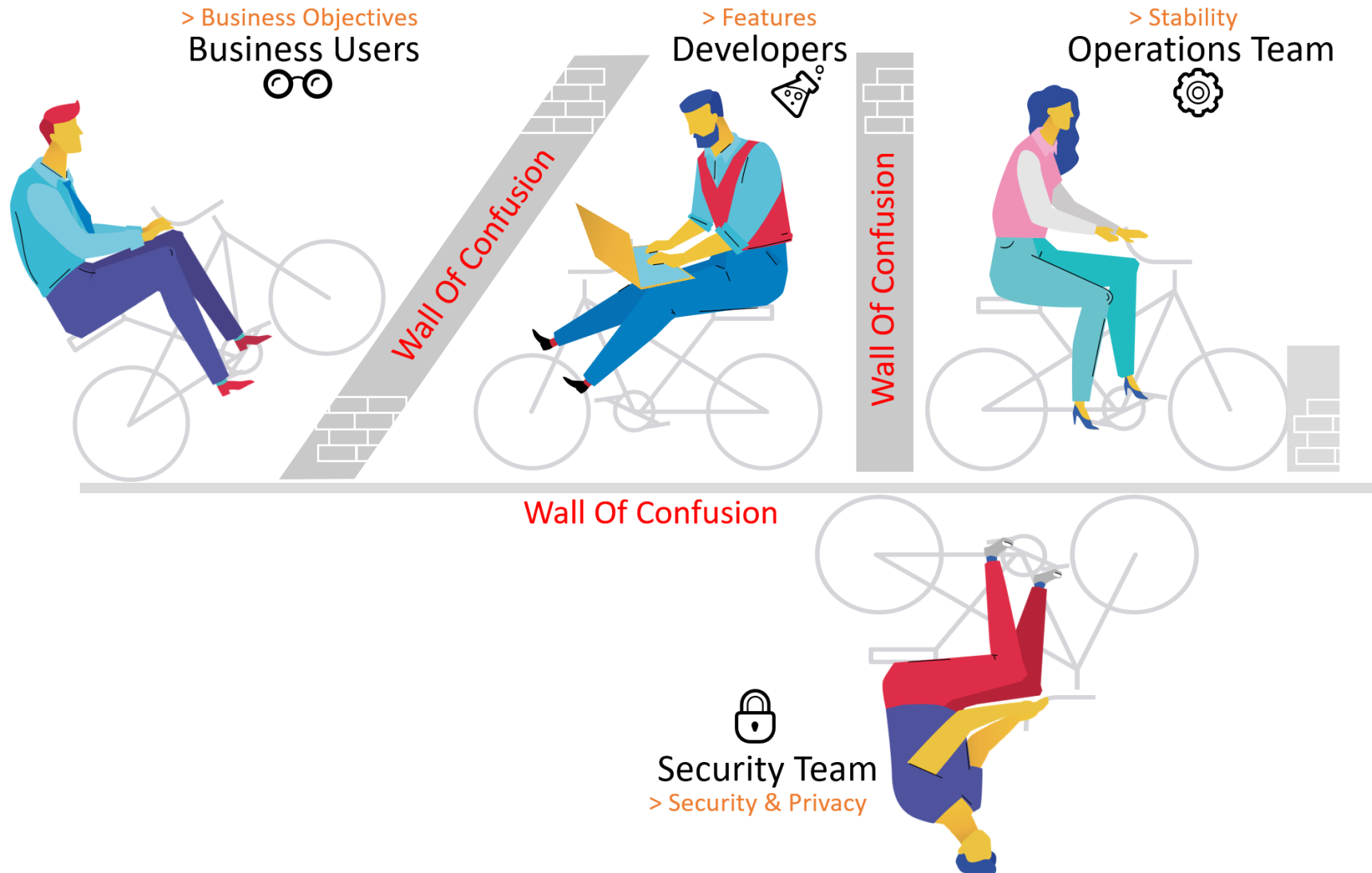


DevOps Requires Reducing Functional Silos

Your org chart is useful, but it is a poor tool for defining how you actually do work.

- Lean goal: Eliminate waste
 - Functional silos require hand-offs
 - Hand-offs create queues
 - Queues create delays
 - Delays waste opportunities (cost of delay)
- Goal: Optimize the whole system
 - Local optimizations are often ineffective or counterproductive
 - Functional departments have different objectives and optimize for their own objectives with little regard for the impact to the rest of the system
- “... as a service” mentality can decouple the organization but also can cause waste
 - Can encourage “throw a service request over the wall” behavior
 - “Throw a service request over the wall” = Hand-off. (see first bullet)
 - Can encourage departments to model and optimize their own stove-piped flows of “value”, often to the detriment of value delivery to the mission as a whole

DevOps Seeks to Reduce Functional Conflict...



...by using Cross-Functional Teams that Share the Same Business Priorities, Creating Alignment



Key Technical Principles

- Adopt Cross-Functional (Shared) Responsibility & Transparency
- Measure-Inspect-Adapt-Repeat
- All IT risks are business risks. Risk is anti-value.
 - Therefore: Mitigating IT risks (or other risks) delivers business value
- Many Small (Low Risk) Changes are Better Than Fewer Big (High Risk) Changes
- Recovery is Expected – not an Aberration
- Treat Everything as Code
- Decouple Deployment and Release
- Left Shift on Security and Quality
- Automate Everything...



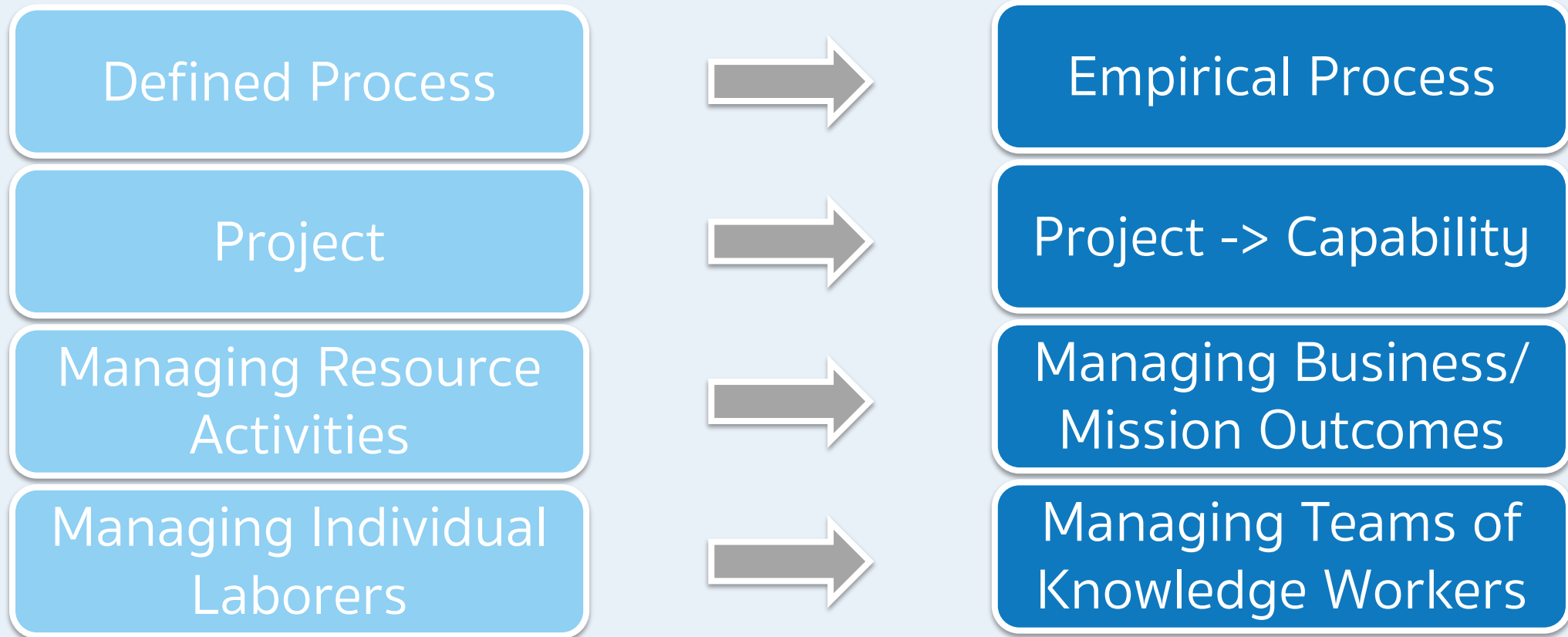
Automation is a Key Enabler

- Software Builds and Deployments
- Code Quality and Vulnerability Scanning
- Component, Integration, Functional Test
- Penetration and Performance Tests
- Recovery and Monitoring
- Infrastructure Provisioning and Configuration
- Compliance – *Abolish the Gate Review!*
 - Re-think *how* you accomplish governance



DevOps/Agile Incite Big Changes Over Time

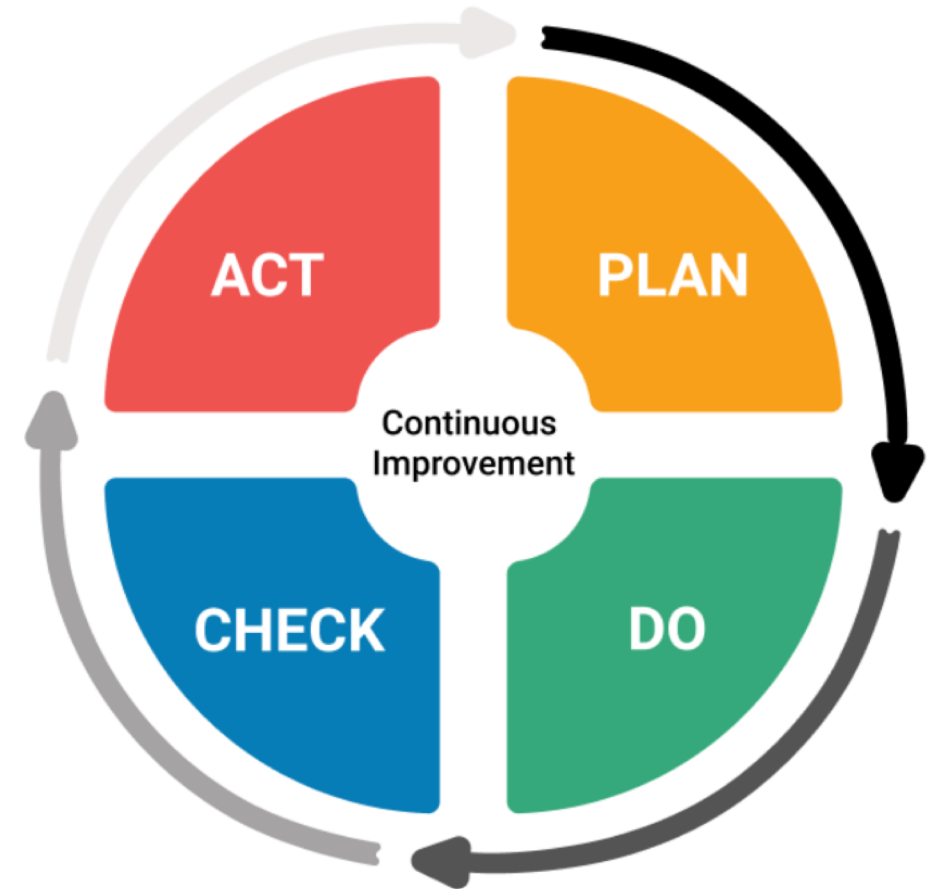
and those changes come with interesting challenges



Defined Process -> Empirical Process

PDCA cycle as hypothesis testing

- How does one quantify the value of learning something, even if it is how not to proceed?
- How does one acquire services in a way that allows one to leverage learning before a contract ends or without a lengthy contract mod process?



Project -> Product -> Business Capability

Making sustainable decisions that benefit the company in the long term

- How does one acquire services in a way that is good for the product or business in the long term and not just for the duration of a project?
 - Laird's favorite question: "What is the incentive for a project team to do things that benefit the product or business only after the project is over?" (The correct answer, usually, is "There is none.")
- How does one distinguish between CapEx and OpEx when maintenance and enhancement work are mixed together?
 - Is the distinction between CapEx and OpEx for custom software even meaningful any more?
- How does one fund and adjust continuously when one plans budgets annually?
- How does one pivot mid-year without a multi-month evaluation and approval cycle?

Managing Activities -> Managing Outcomes

Change in definition of “productivity” back to its economic (outcome-based) meaning as opposed to just amount of work completed

- How does Government quantify “value” when so much of what we do is not financial (regulatory, etc.)?
- What does one use as the basis for cost-benefit analysis to use for setting priorities?
- How does one evaluate vendor performance?



Managing Individual Laborers -> Managing Teams of Knowledge Workers

Managing people who know more than you about what they do is hard!

- How does one incentivize teamwork/collaboration over individual accomplishments?
- How does one incentivize and reward continuous learning?
- How often does one provide feedback and where does the feedback come from?



QUESTIONS?

THANK YOU

Laird Williams

DevOps Practice Lead

✉ lwilliams@macrosolutions.com

Todd Hager

Vice President

☎ 202.329.1393

✉ thager@macrosolutions.com



DevOps

Accelerating Delivery of IT Business Value

Digital transformation in the public and private sectors requires a **commitment to continuous improvement** of flow of value to the business or mission.

Macro Solutions delivers proven performance in delivering critical DevOps capabilities that support **accelerated delivery of business value**.



- **BASELINING**

Establish and collect initial value-delivery metrics and key indicators.

- **ANALYSIS & PRIORITIZATION**

Select incremental improvements by assessing level of effort against expected improvement to baseline metrics.

- **TOOLING**

Stand up or improve DevOps tools if needed to support the selected improvements.

- **IMPLEMENTATION**

Work with relevant stakeholders to roll out the changes and foster adoption.

- **REFLECT & ADJUST**

Review post-implementation metrics against expected improvements and adjust metrics or improvement process if-needed.

Macro Solutions at a Glance

Certifications and Past Performance

- ✓ 20 Years of Government Service
- ✓ Woman-Owned
- ✓ DC-based, National Focus
- ✓ CMMI ML3 for DEV & SVC
- ✓ ISO 9001, 20000, 27001
- ✓ Top Secret Facility Clearance
- ✓ Washington Post Top Places to Work 2018, 2019, 2020*

- GSA IT-70 (47QTCA18D00A7) Certified Small
- GSA PSS (GS-23F-008AA) Certified Small
- GSA Cloud SIN (518210C formerly 132-40)
- Army ITES-3S (W52P1J-18-D-A051) Certified Small
- Navy SeaPort-e (N00178-10-D-6184) Certified Small
- FDIC ITAS II (CORHQ-13-G-0106)

NAICS – 518210, 541511, 541512, 541513, 541519

