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DevOps' Seven Deadly Diseases

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#RSAC



The Seven Deadly Disease's

BEYONDThe Phoenix Project

The Original and Evolution of DevOps

Gene Kim and John Willis



The DevOps Movement from the Inside Out

BEYOND THE PHOENIX PROJECT

New!

In this transcript of the audio series, Gene Kim and John Willis present a nine-part discussion that includes an oral history of the DevOps movement, as well as discussions around pivotal figures and philosophies that DevOps draws upon, from Goldratt to Deming; from Lean to safety culture to learning organizations. The book is a great way for listeners to take an even

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DevOps Handbook

HOW TO CREATE WORLD-CLASS
ABILITY, RELIABILITY, & SECURITY
IN TECHNOLOGY ORGANIZATIONS



DEVOPS HANDBOOK (AUDIOBOOK)

New!

Increase profitability, elevate work culture, and exceed productivity goals through DevOps practices. More than ever, the effective management of technology is critical for business competitiveness. This non-fiction follow-up to *The Phoenix Project* shows leaders

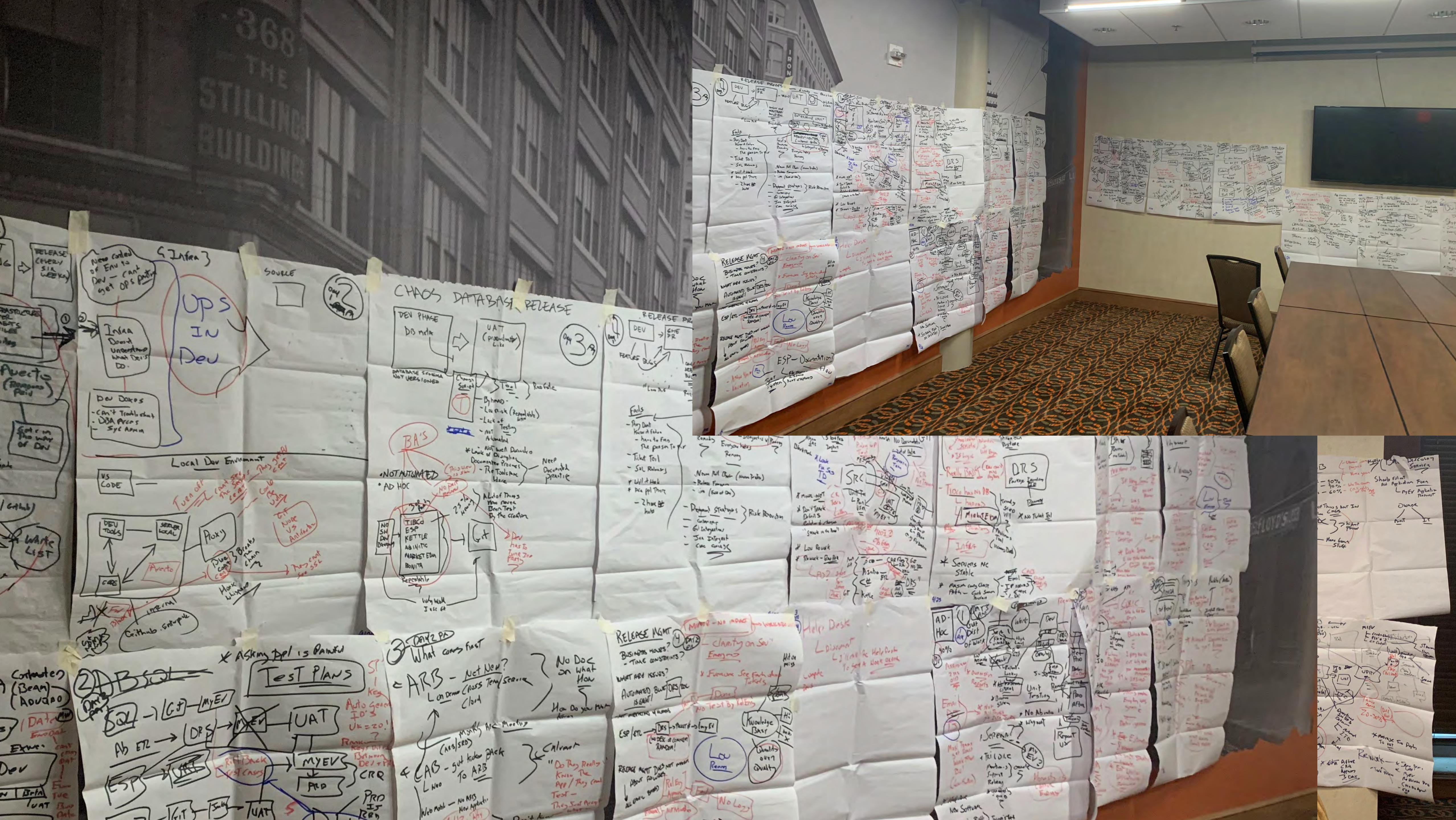
Mythbusting DevOps in the Enterprise

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MYTHBUSTING DEVOPS IN THE ENTERPRISE

Anyone leading a company through a DevOps transformation will encounter minor to significant internal skepticism or lack concrete experience. This document lists the most common leadership and cultural traps and provides high-level reassurance and evidence that DevOps practices are generally applicable and plausibly successful in enterprise environments.



**It's Where Human Capital
Meets Technology**

**You can't Lean, Agile, SAFE or
Devops your way around a bad
organizational culture.**

Devops is about Humans

Devops is a set of practices and patterns that turn human capital into high performance organizational capital.



The Seven Disease's

- 1. Invisible Work**
- 2. Management System Toil**
- 3. Tribal Knowledge**
- 4. Misalignment of Incentives**
- 5. Incongruent Organizational Design**
- 6. Managing Complexity**
- 7. Security and Compliance Theater**

Solutions

- 1. Invisible Work - [Capture All Work Visible](#)**
- 2. Management System Toil - [Consolidate Work Management Systems](#)**
- 3. Tribal Knowledge - [Theory of Constraints Methodology](#)**
- 4. Misalignment of Incentives - [Graphical Story Telling](#)**
- 5. Incongruent Organizational Design - [Inverse Conway Maneuver](#)**
- 6. Managing Complexity - [Improvement Kata](#)**
- 7. Security and Compliance Theater - [Edge to Audit](#)**

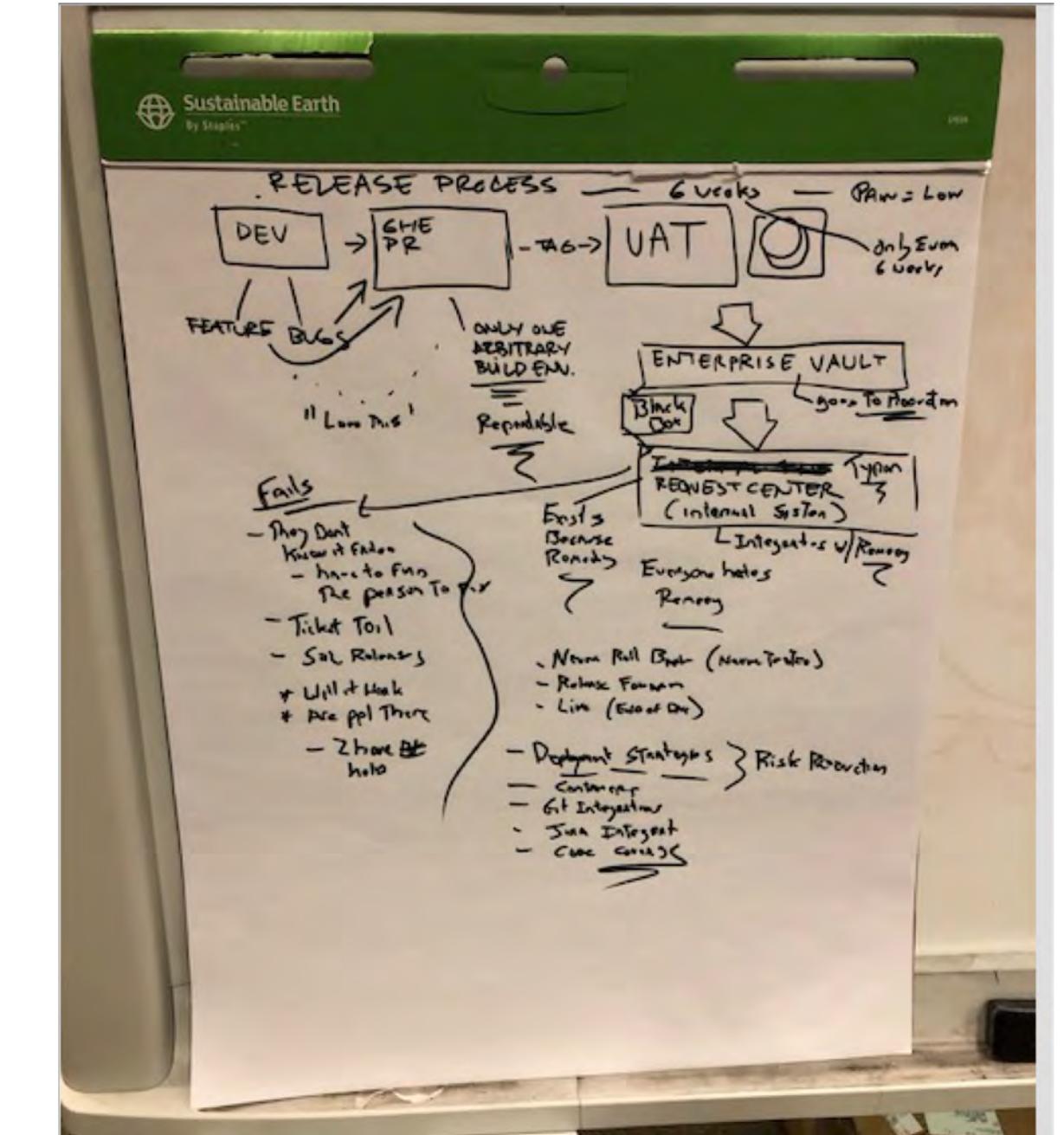
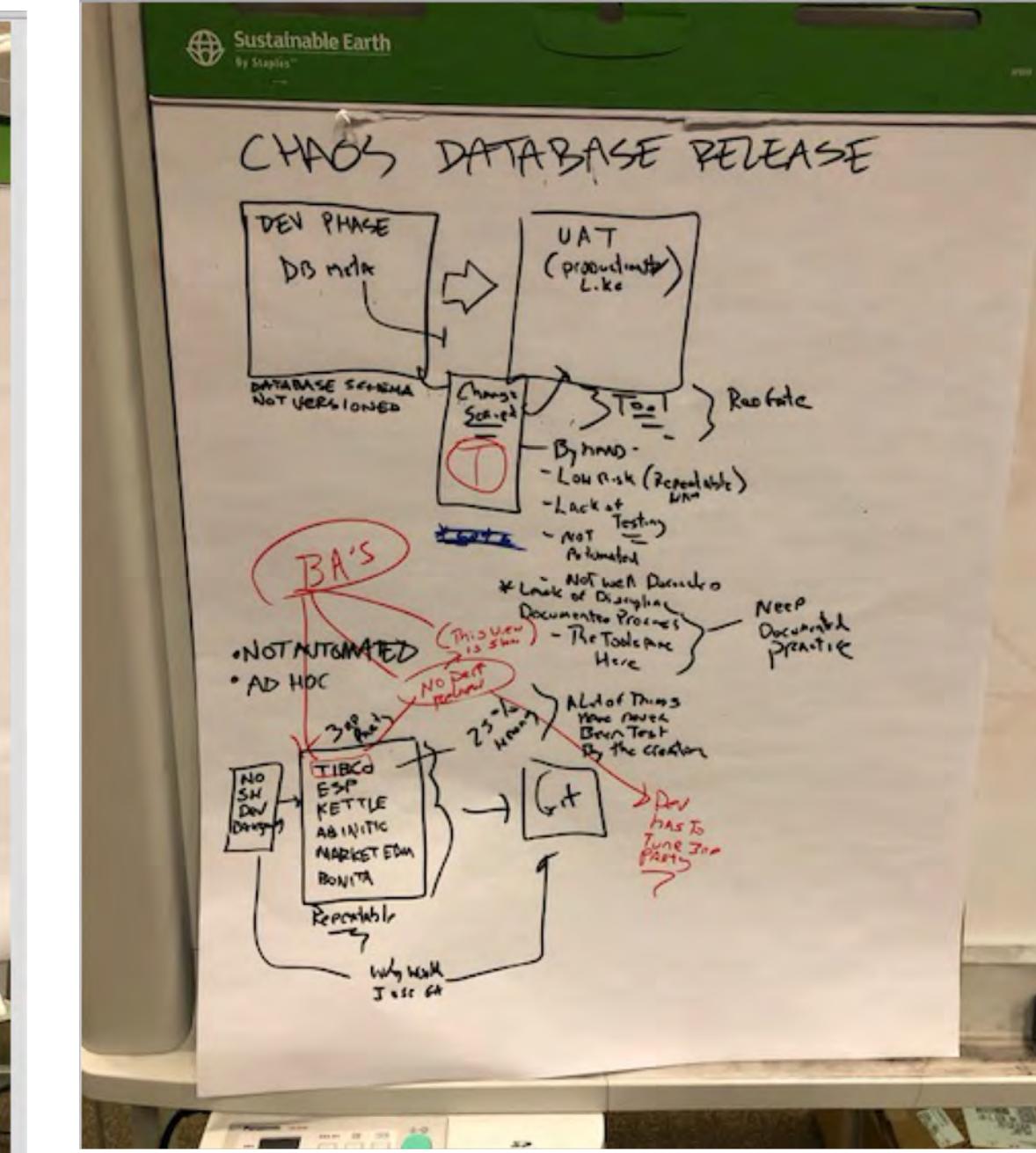
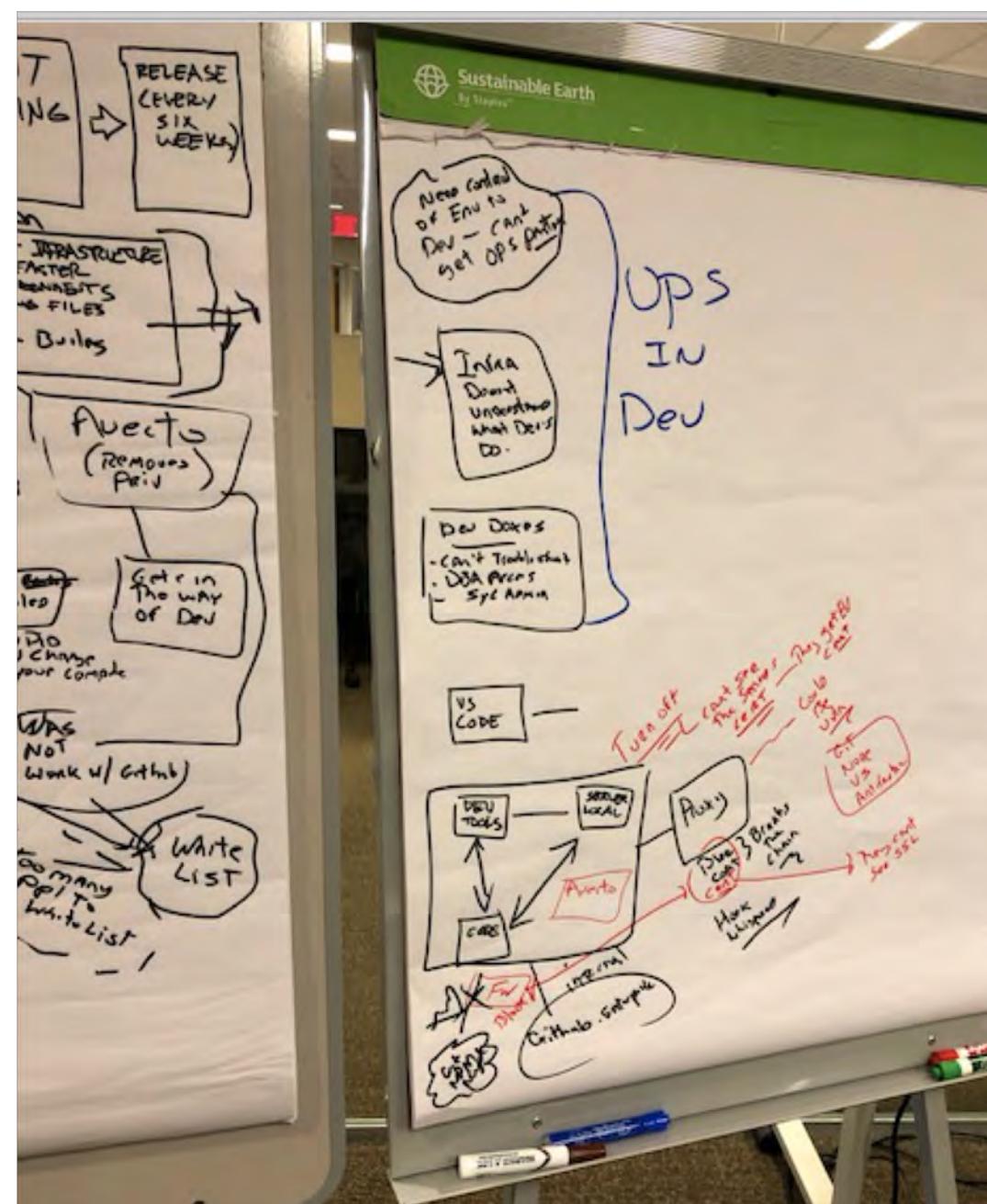
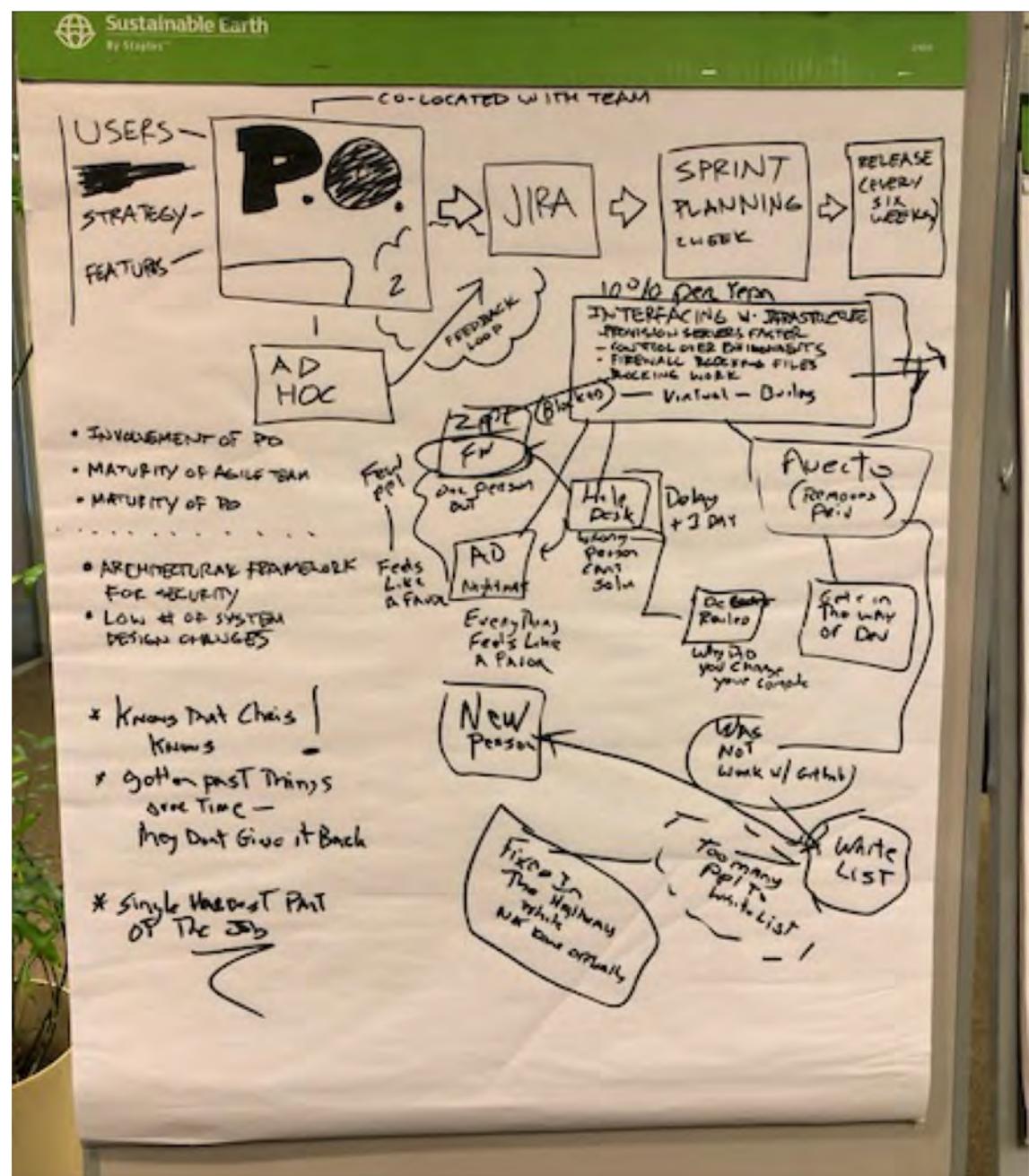
Organizational Forensics

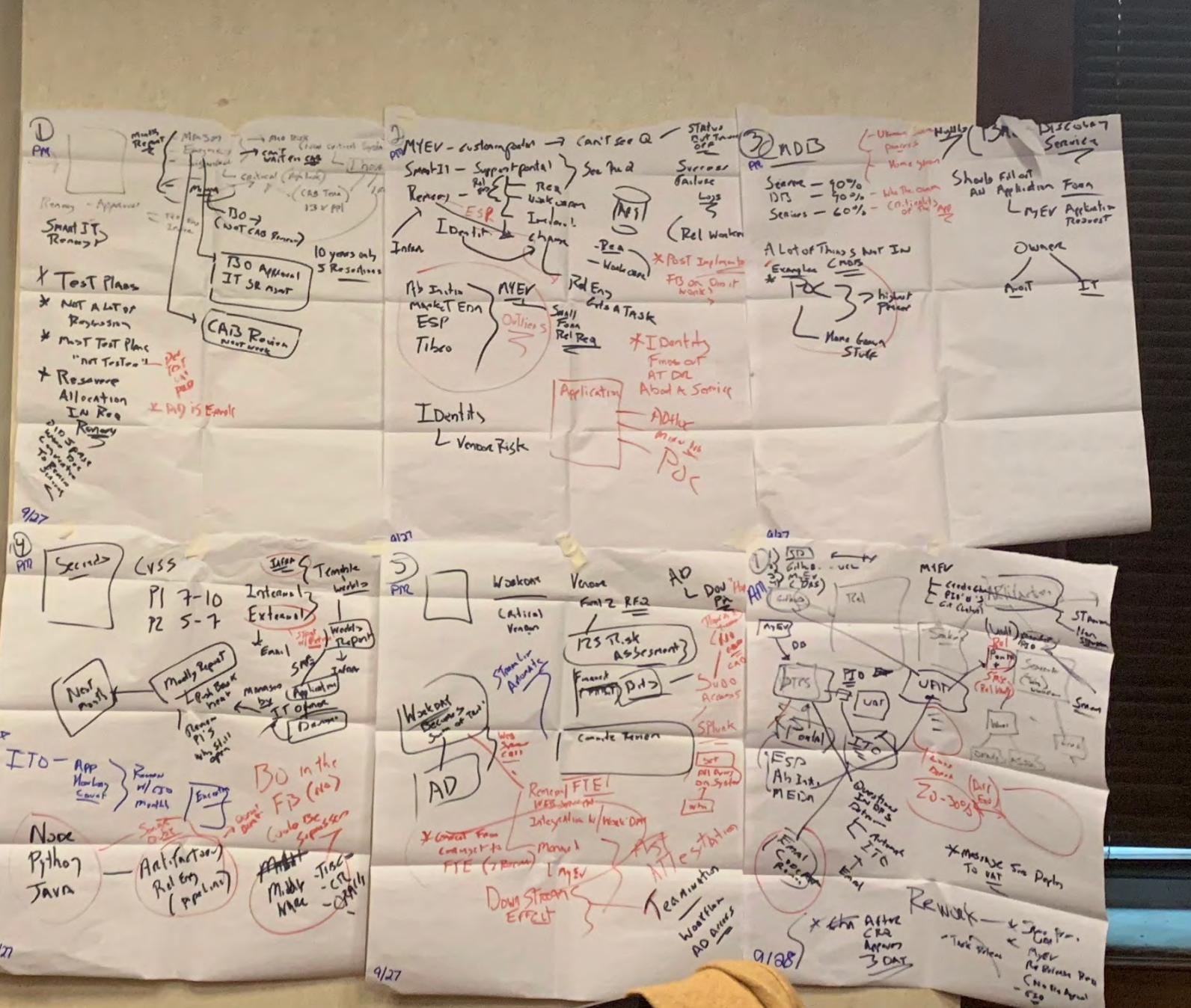
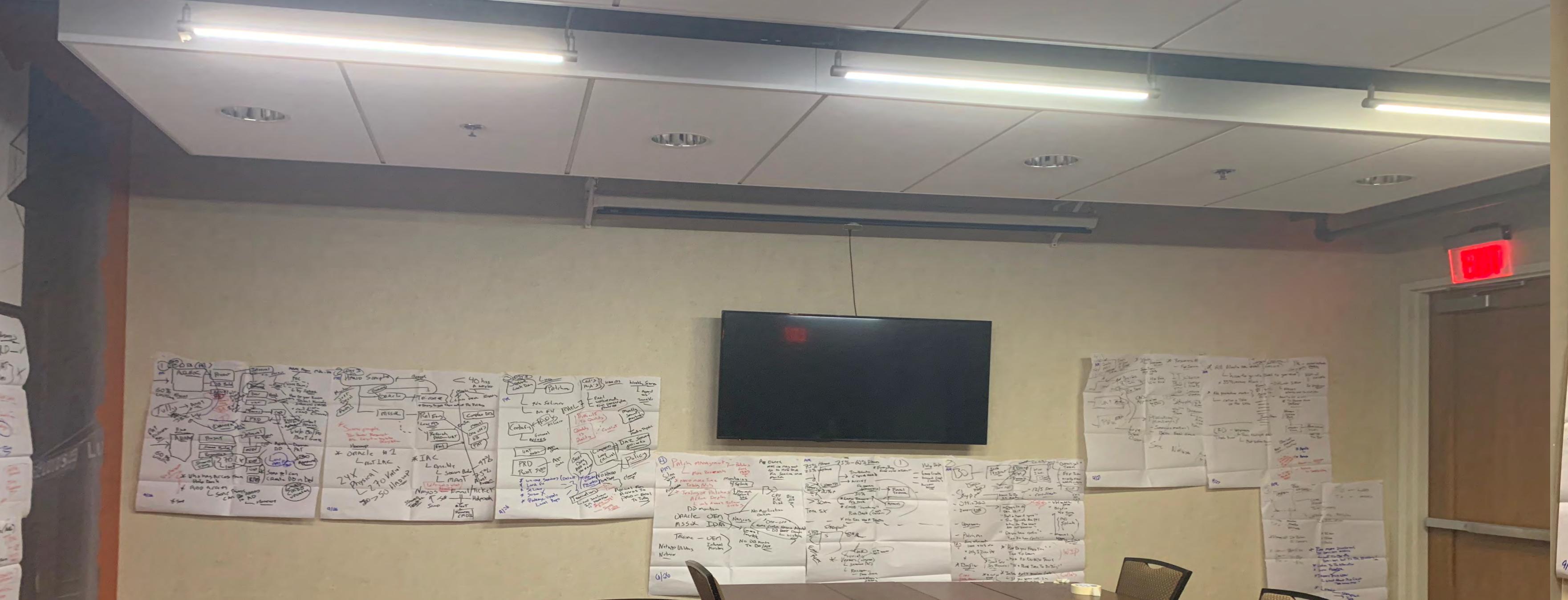
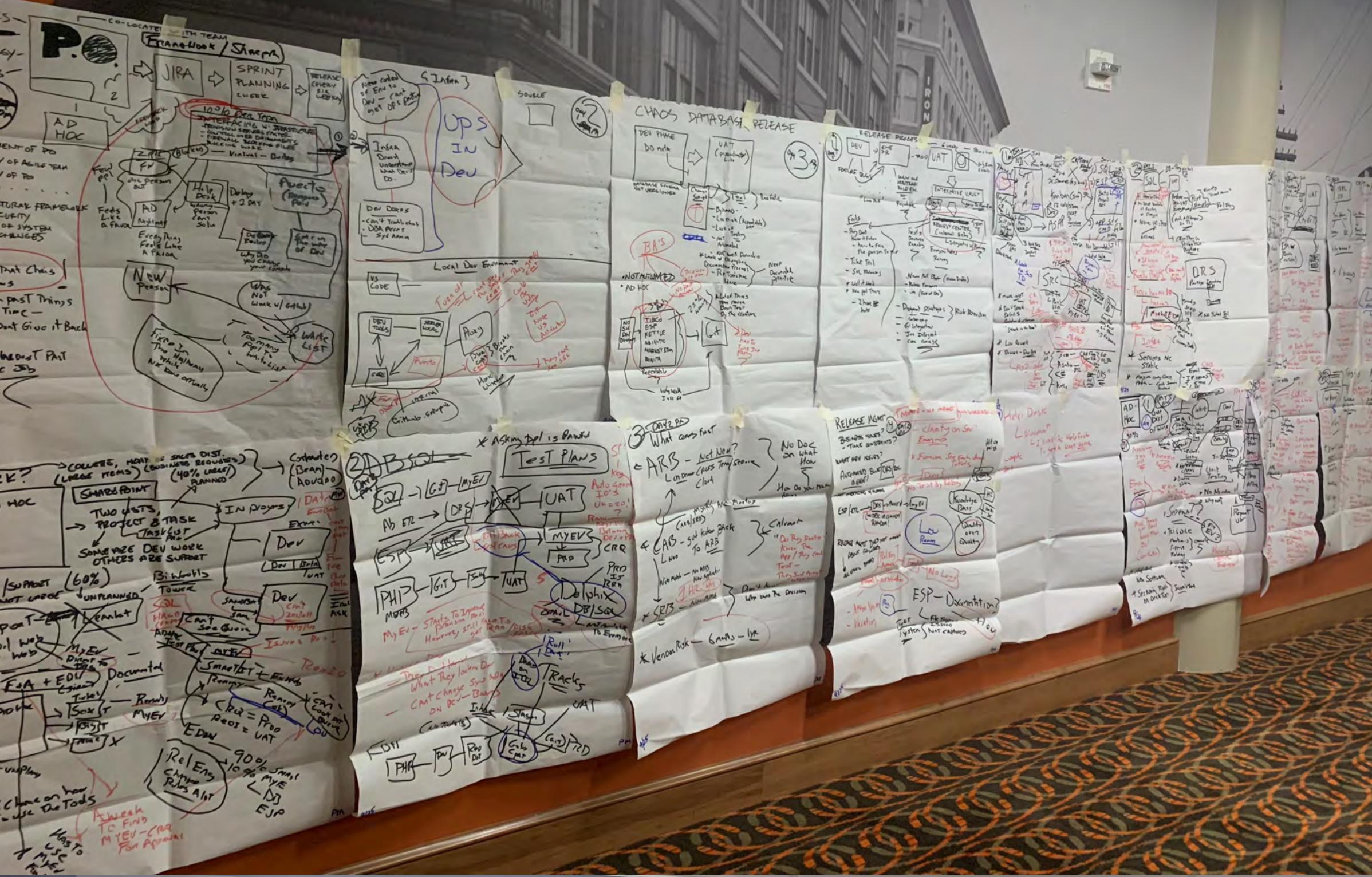


Organizational Discovery at the Edge

Whenever we're talking about any kind of **change** or **improvement** you are counting on a bunch of **human beings** to change and make this happen. If they haven't been part of figuring out how to do it, the change efforts will be **dead-on-arrival**.

Investment Software





#1

Measuring and Managing Work (Make Work Visible)

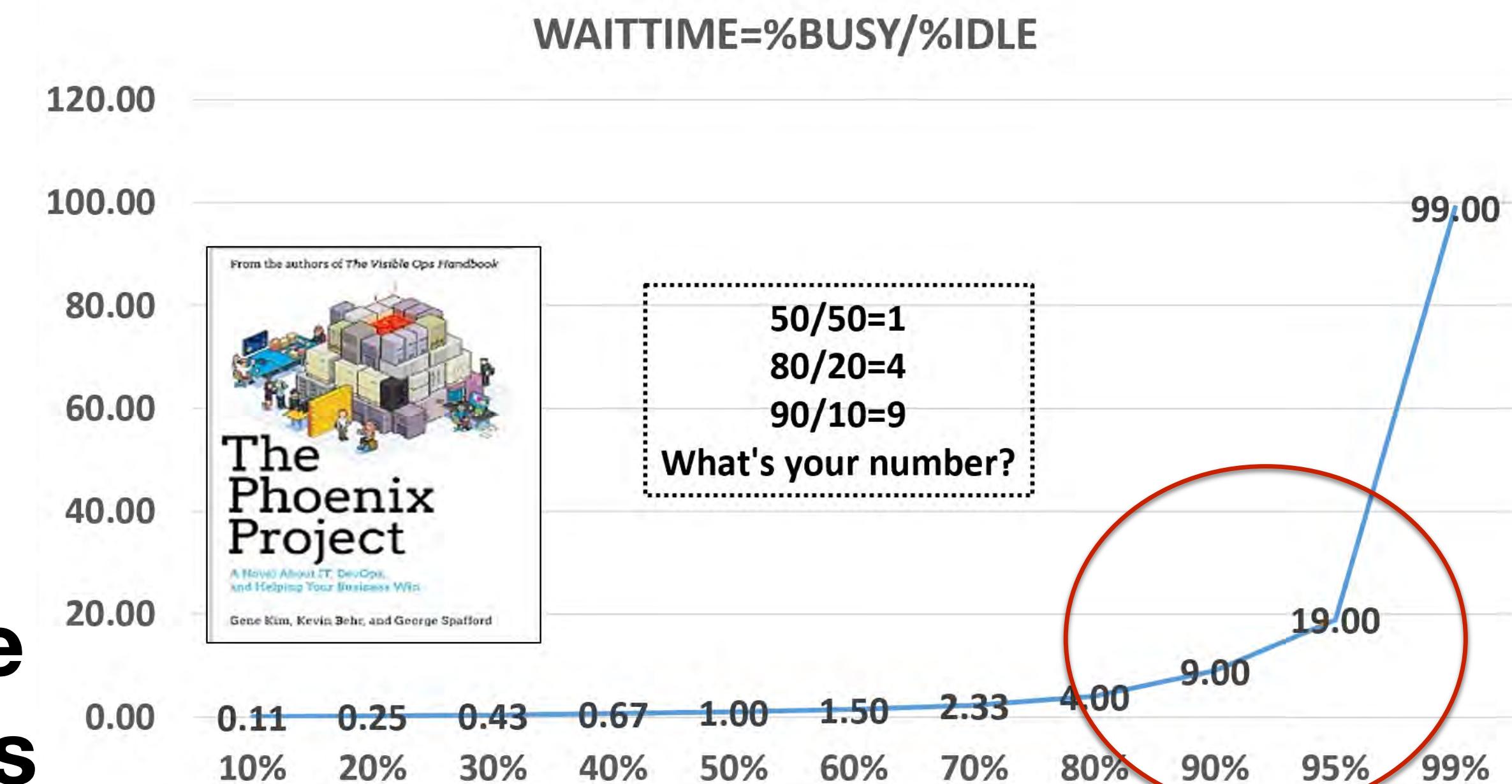
Problems

- What Percentage of Work is Unknown?
- Can Work be Accurately Classified?
- Is There Complete Information?
- Lack of E2E Understanding
- Are there Workarounds and Hidden Work
- Can't Analyze Bottlenecks (TOC)
- Hard to Create Repeatability (Automation)

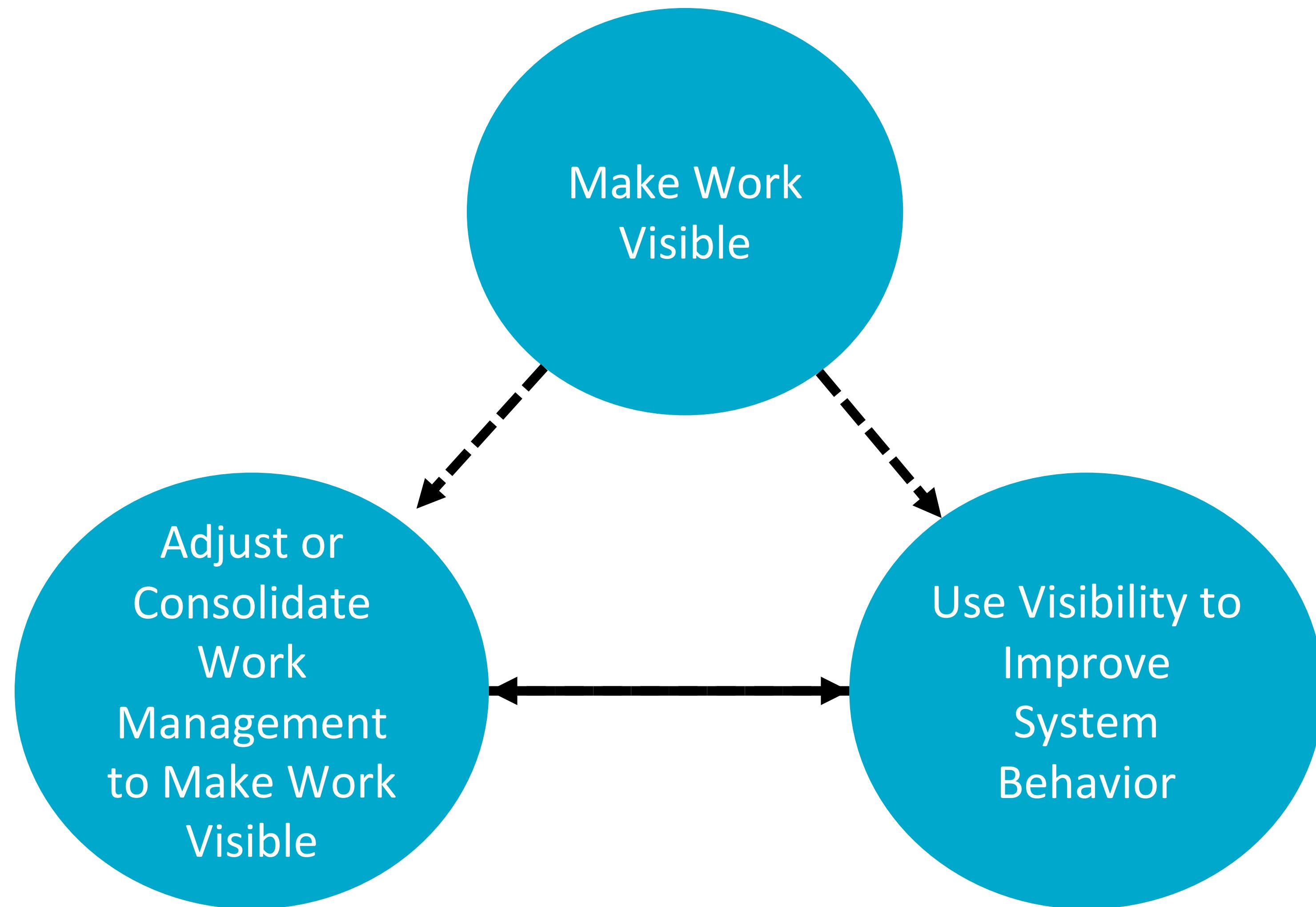
The Phoenix Project

I conclude, “So... For the Phoenix task, assuming we have seven handoffs, and that each of those resources is busy ninety percent of the time, the tasks would spend in queue a total of nine hours times the seven steps...”

“What? Sixty-three hours, just in queue time?” Wes says, incredulously. “That’s impossible!”



Work Management Improvement Cycle



System Behavior

- Flow of Work
- Handoffs
- Batch Size
- Work Process
- Nature of Work*
- Knowledge Sharing
- Common Awareness

Countermeasures

- Make Work Visible
- Work can be Accurately Classified
- Better Understand Waste (5 Thieves)
- Complete Information
- Better E2E Understanding
- Can Analyze Bottlenecks (TOC)
- Can Create Repeatability (Automation)



#2

Multiple Work Management (Reduce Sprawl)

Areas

- **Ticketing Systems**
- **Service Pipeline**
- **Monitoring**

Problems (Ticketing Systems)

- **How Many Ticketing Systems?**
- **Hard to Manage Work (Visibility)**
- **Inconsistent Messaging**
- **Non Existant Correlation**
- **Low Accurately**
- **Perpetuates Toil**
- **Motivates Workarounds**

Countermeasures

Countermeasure	Description
Off-the-Shelf Replication	Replicate entities across tools using off-the-shelf products such as Tasktop.
Consolidation, Replication, and Strangulation	Choose a foundational system to replicate and consolidate work items to and strangle off non-strategic options.
Migrate	Wholesale migration of one or many work items to desired target, may include eventual depreciation of original source system.

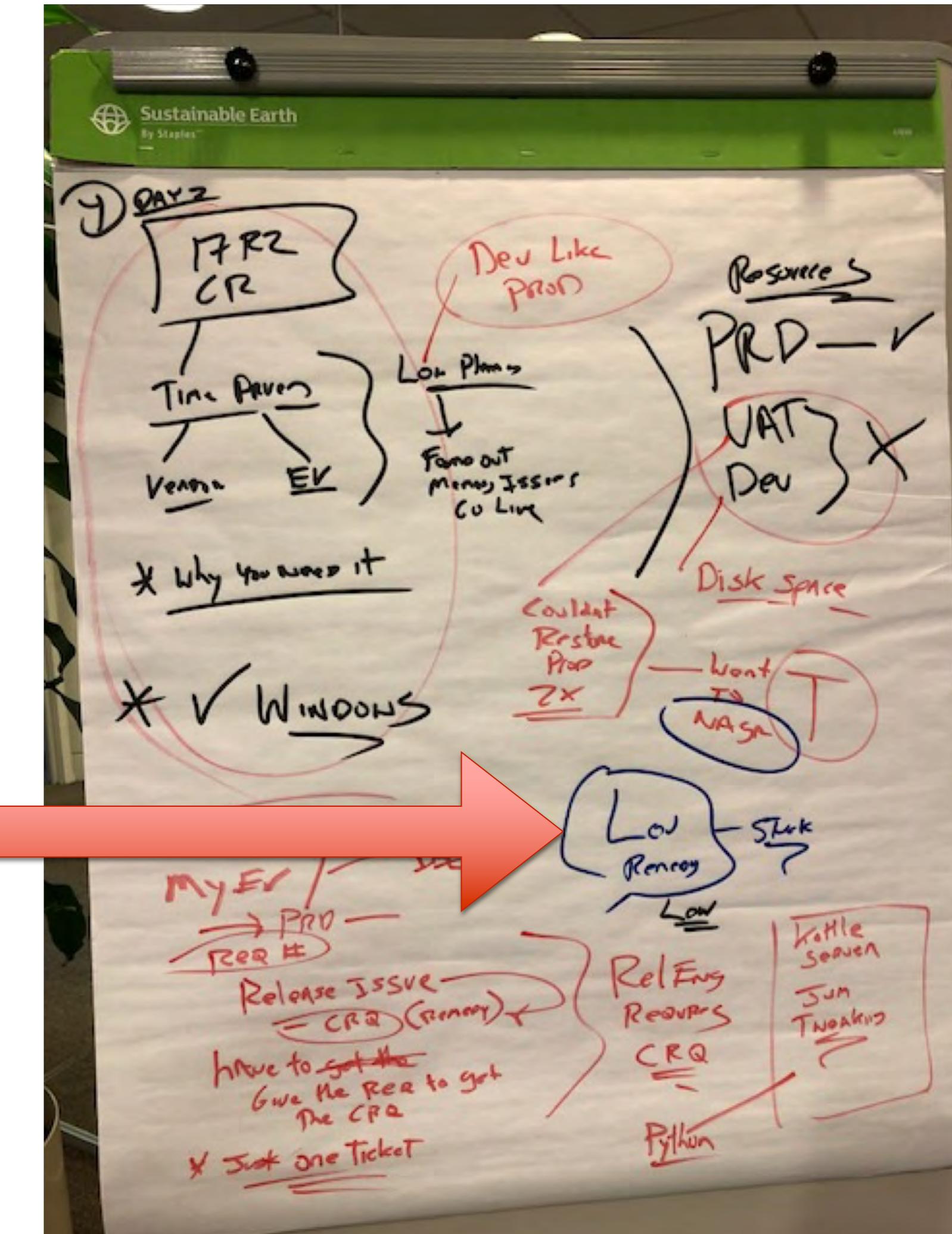
Requires
Development
Based
Methodology

#3

Institutional vs Tribal Knowledge (Theory of Constraints)

Five Focusing Steps (TOC)

- Identify the constraint
- Exploit the constraint
- Subordinate all other activities to the constraint
- Elevate the constraint to new levels
- Find the next constraint



Examples

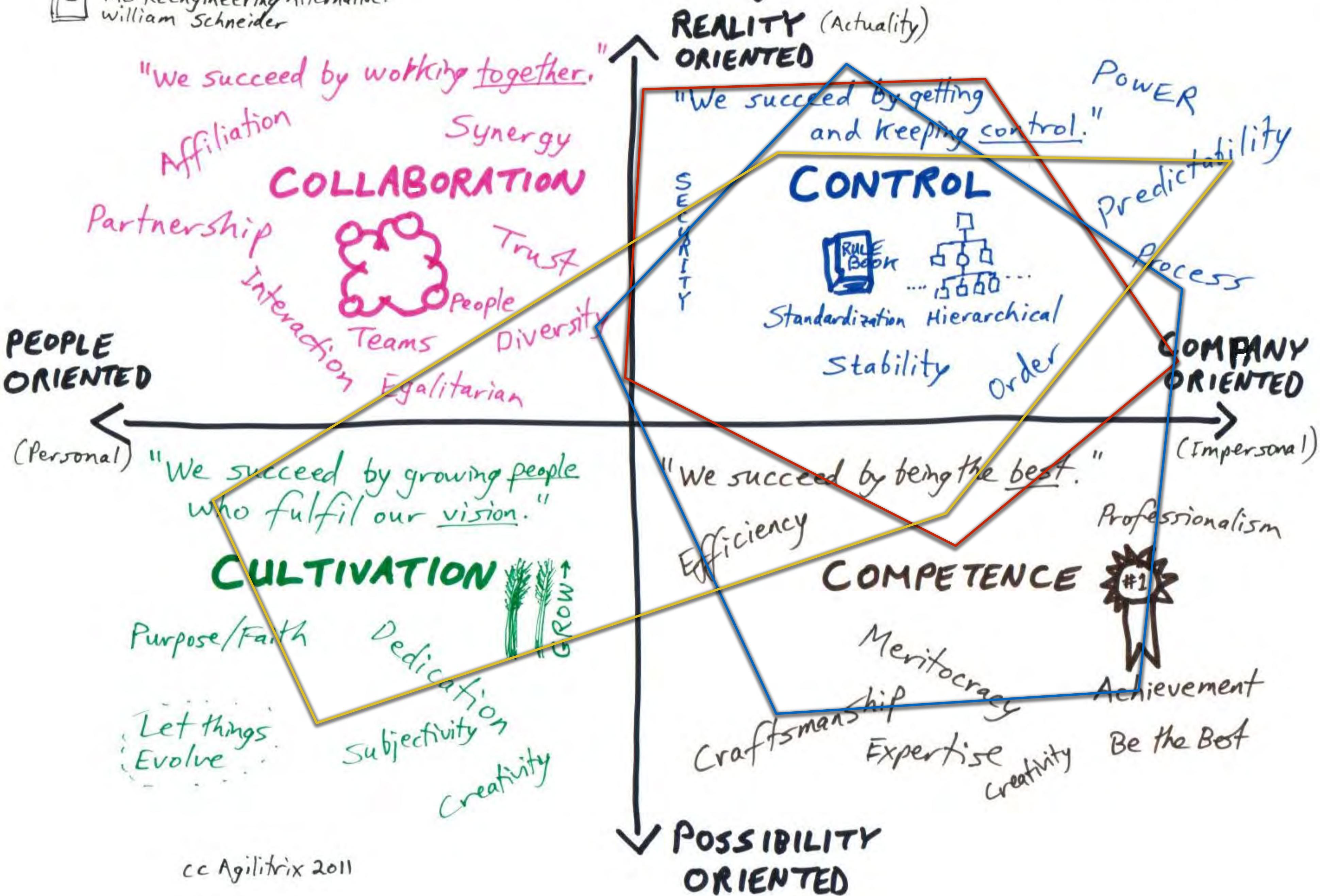
- **Slack**
- **Chatbots**
- **Chatops**
- **Chat ML**
- **Integrated Wiki**

#4

Misalignment of Incentives

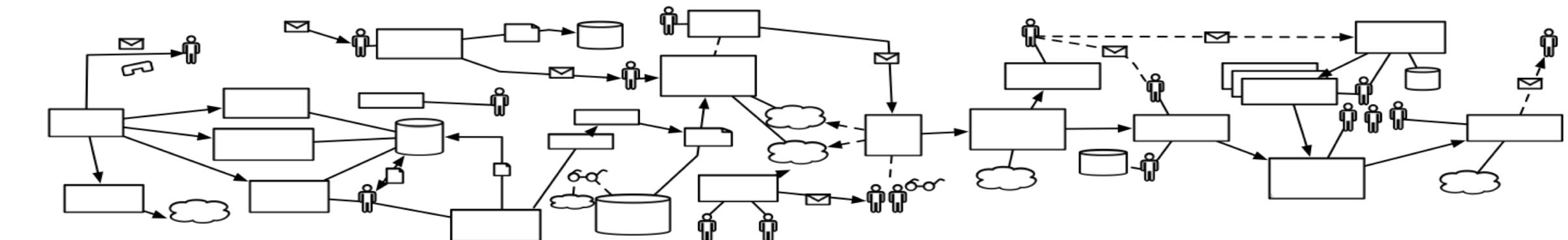
CULTURE = "How we do things around here to succeed."

"The Reengineering Alternative."
William Schneider

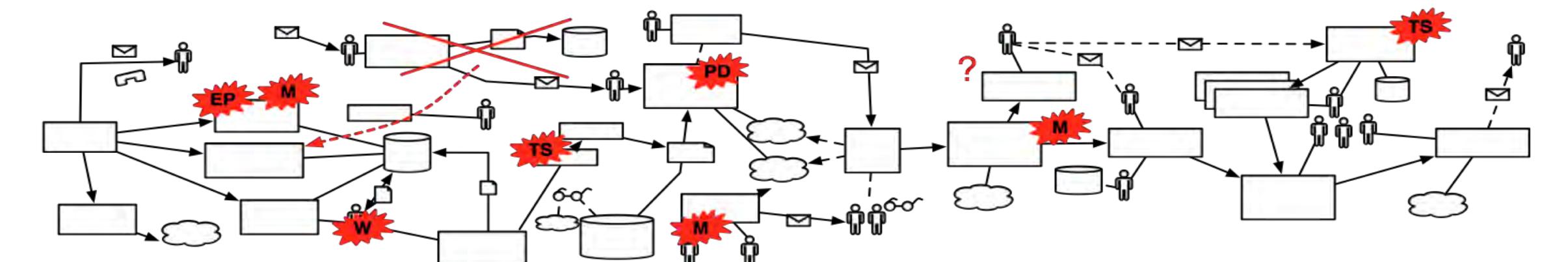


Graphical Storytelling

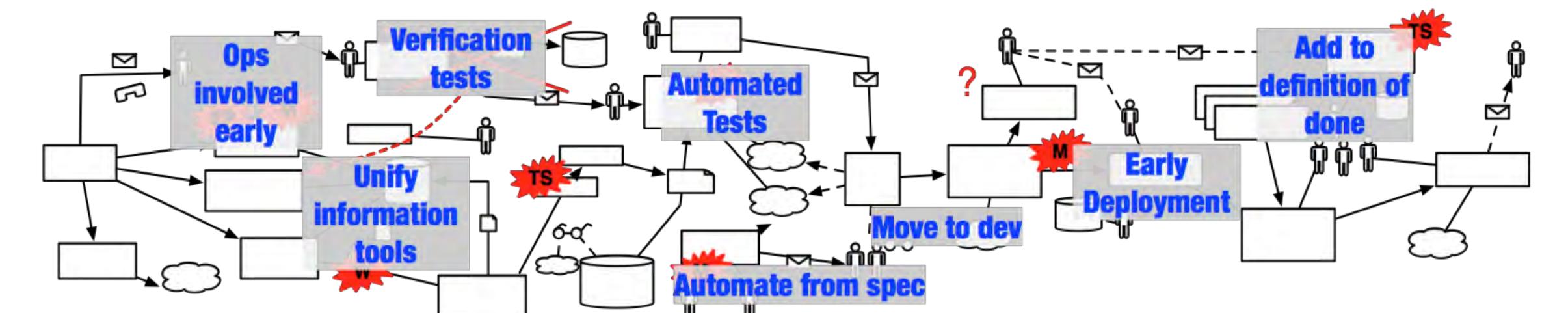
1 Map end-to-end process



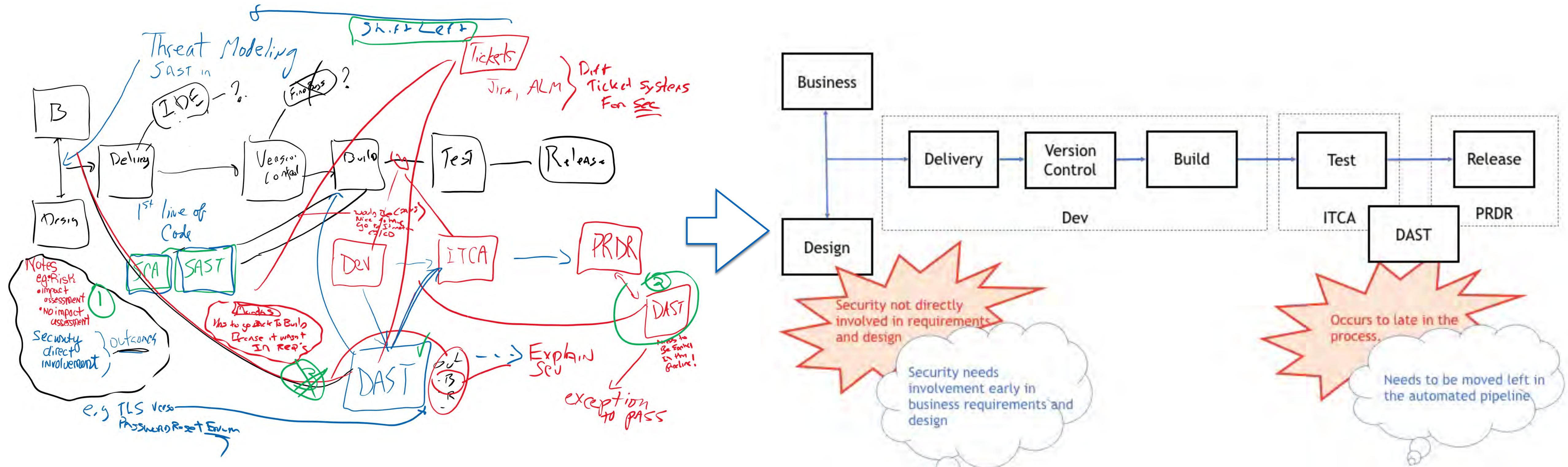
2 Identify wastes, inefficiencies bottlenecks



3 Identify countermeasures



Graphical Storytelling (Day One)



#5

Incongruent Organizational Design

Problems

- Taylorism and Conway
- Silo'd Origination
- Silo'd Teams
- Redundancy
- “I” vs “T” vs “E” Shaped
- Knowledge Loss
- Motivation/Apathy
- Continued Perpetuation of Toil

Conway's Law

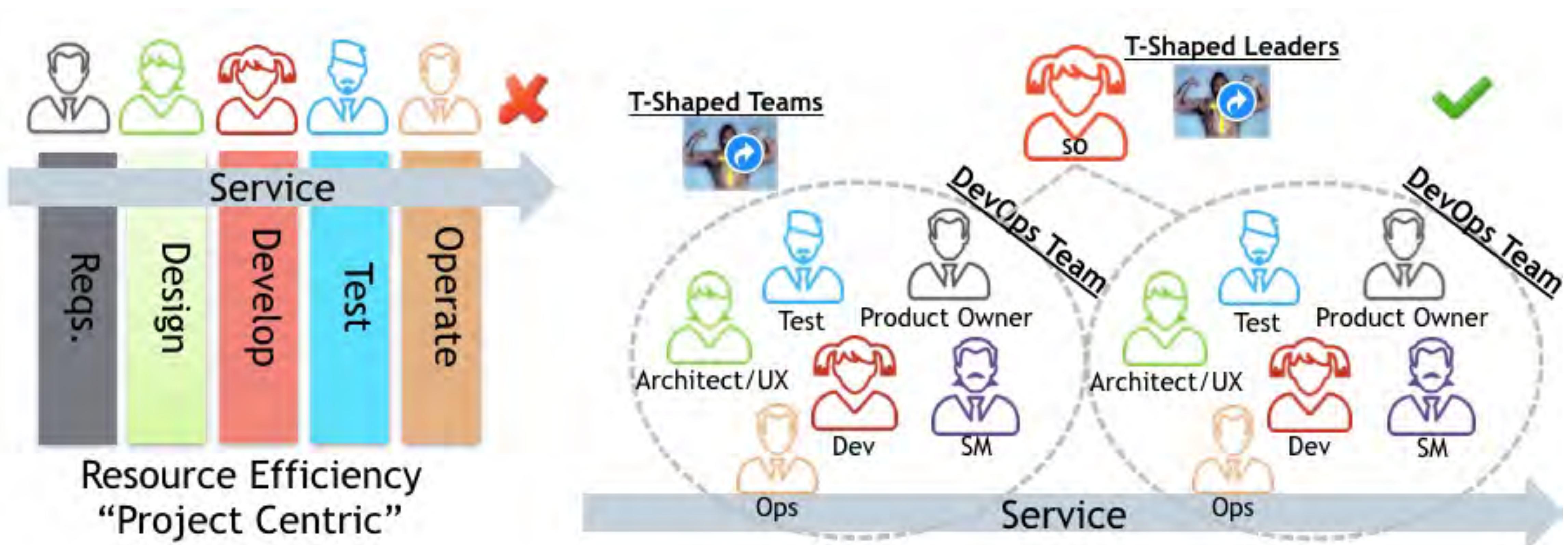
An adage named after computer programmer Melvin Conway, who introduced the idea in 1967. It states that. "organizations which design systems ... are constrained to produce designs which are copies of the communication structures of these organizations."

ORGANIZATIONAL ARCHETYPES

- Functional-Oriented
 - Optimize for expertise, division of labor, or reducing cost
- Matrix-Oriented
 - Combine functional and market orientation
- Market-Oriented
 - Optimize for responding quickly to customer needs

Build/Run Teams Service Owner Value Streams

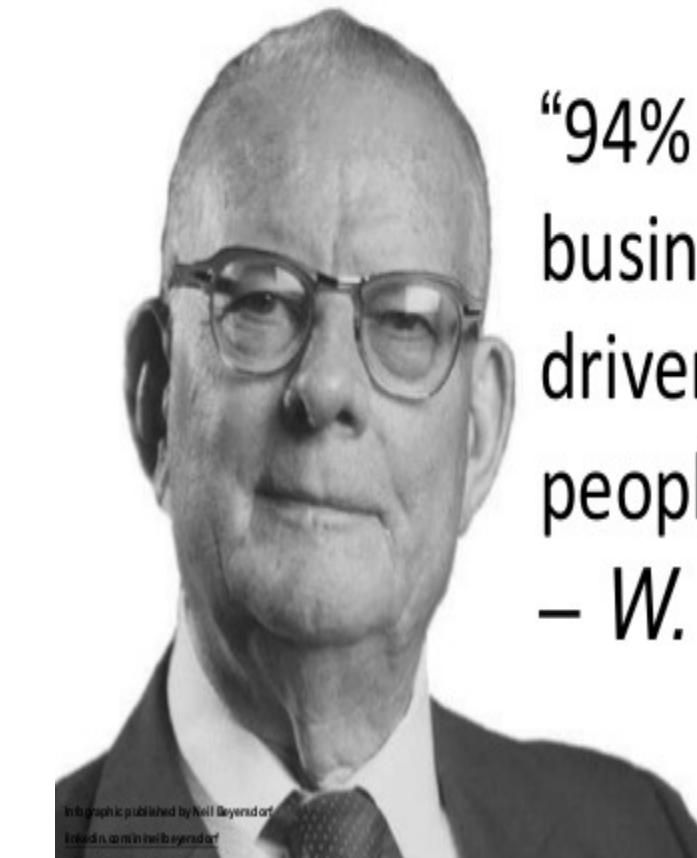
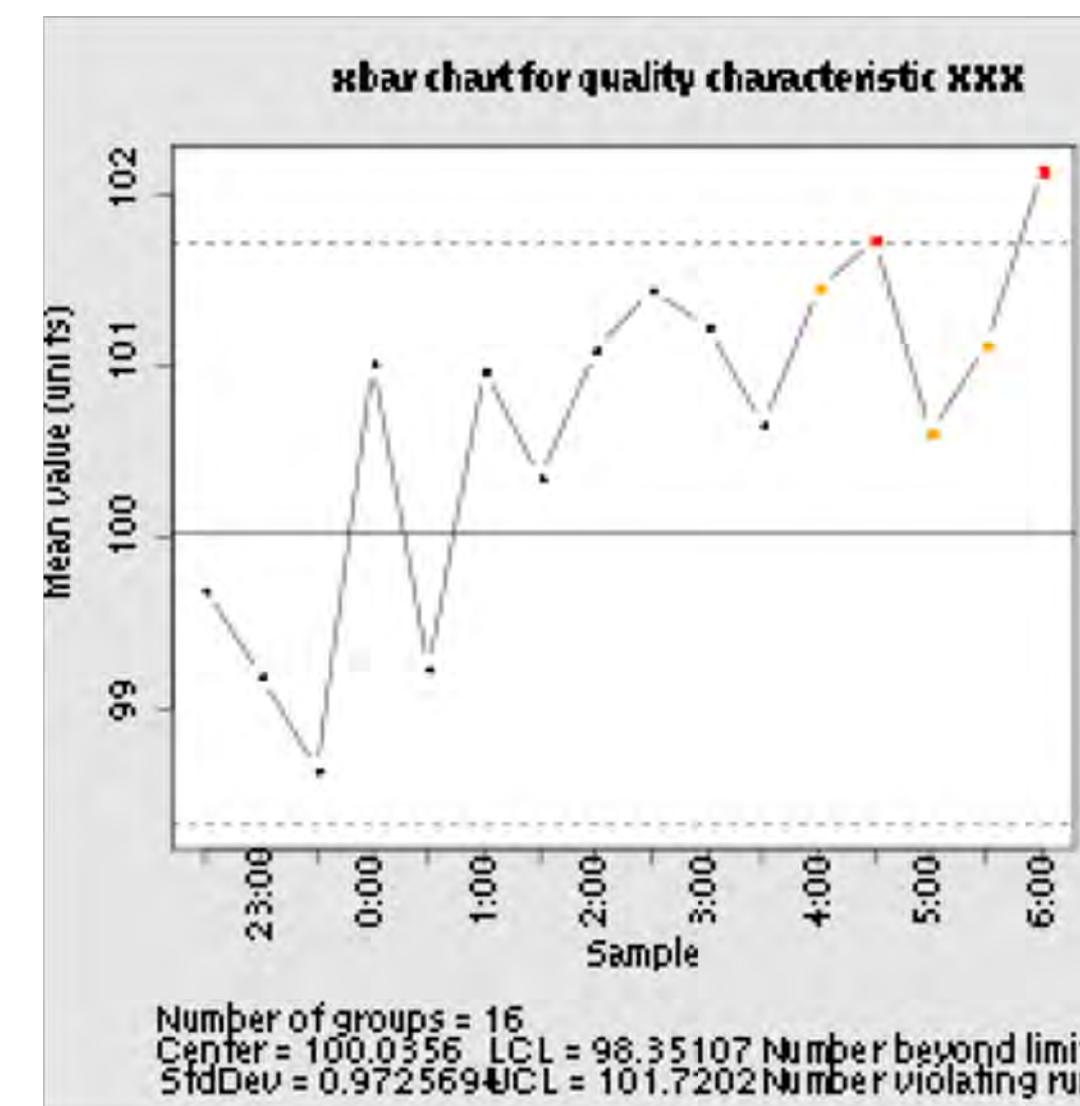
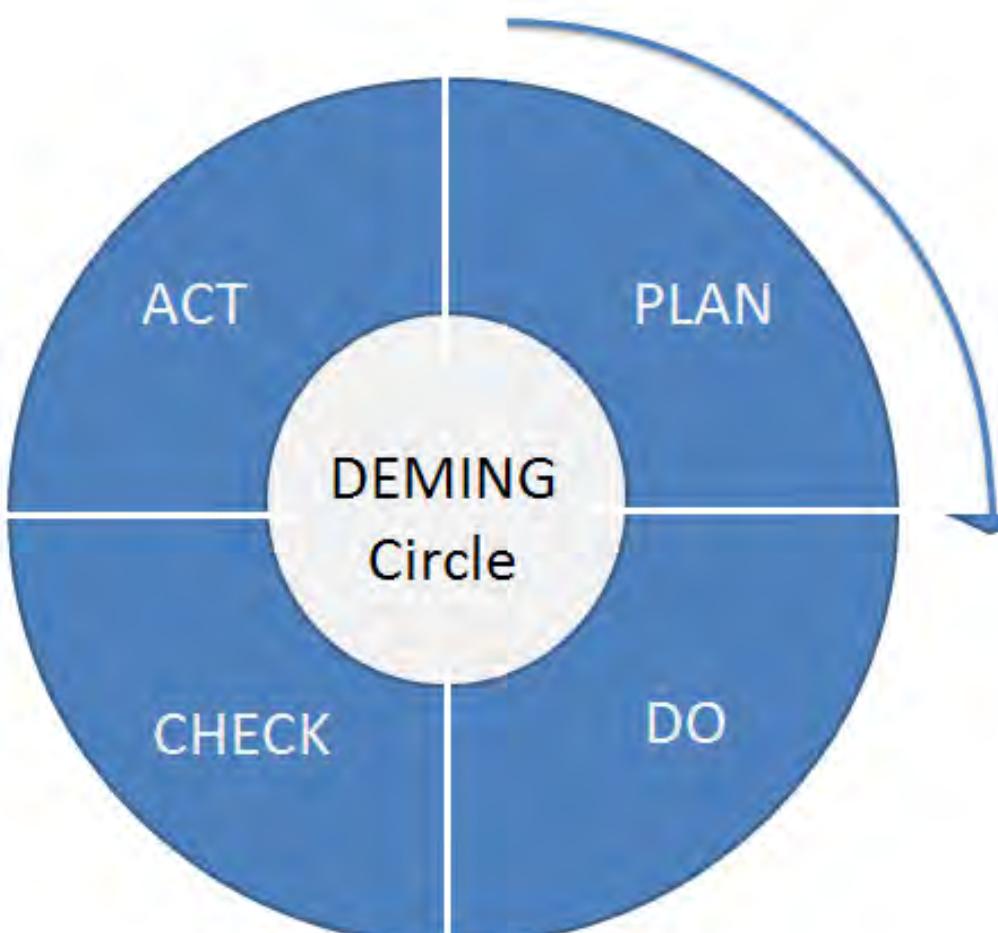
The Service Owner is the single Transformational Leader accountable for the: end to end construction, operation, SLAs, customer experience and stewardship of business value for a product or set of services.



#6

Managing Complexity (Understanding Complex Systems)

Dr Deming

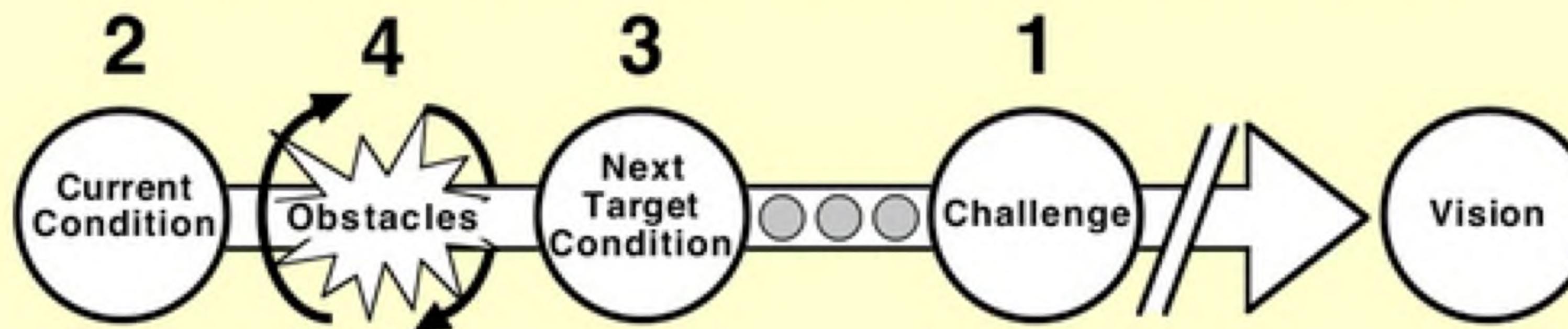


“94% of problems in business are systems driven and only 6% are people driven.”
– *W. Edwards Deming*

THE IMPROVEMENT KATA PATTERN

The **Improvement Kata** is a 4-step pattern that includes practice routines in order to make striving and scientific working a daily habit

- 1 In consideration of the overarching direction or challenge...
- 2 Grasp the current condition.
- 3 Define the next target condition.
- 4 Move toward that target condition iteratively via experiments, which uncovers the obstacles that need to be worked on.



*The Improvement Kata pattern is a way of achieving things
that you don't know how you are going to achieve*

#7

Security & Compliance

DevSecOps

(Shift Left Auditors)

))

Problems (Shift Left Auditors)

- **Review Boards (ARB, PRB,CAB)**
- **Check Box Compliance**
- **Workarounds and Hidden Work**
- **Auditor Workarounds**
- **Vulnerability Theater**
- **Negative RIO**
- **Policy Theater**

Problems (Shift Left Auditors)

- Who's your adversary?
 - Cyber Team
 - Auditors
 - Adversaries (hackers)
- Adversary Interest is the edge case
- Fallacy to build risk less code
- Adversary Interest

DevSecOps Operational Tips

- Work with and educate your auditors
- Ruthlessly eliminate false positives to Developers
- Explain the vulnerabilities in business impact terms
- Devops the vulnerability (JIRA, backlog, Kanban)
- Open the code base to everyone in the organization
- Educate on how to fix

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Questions?