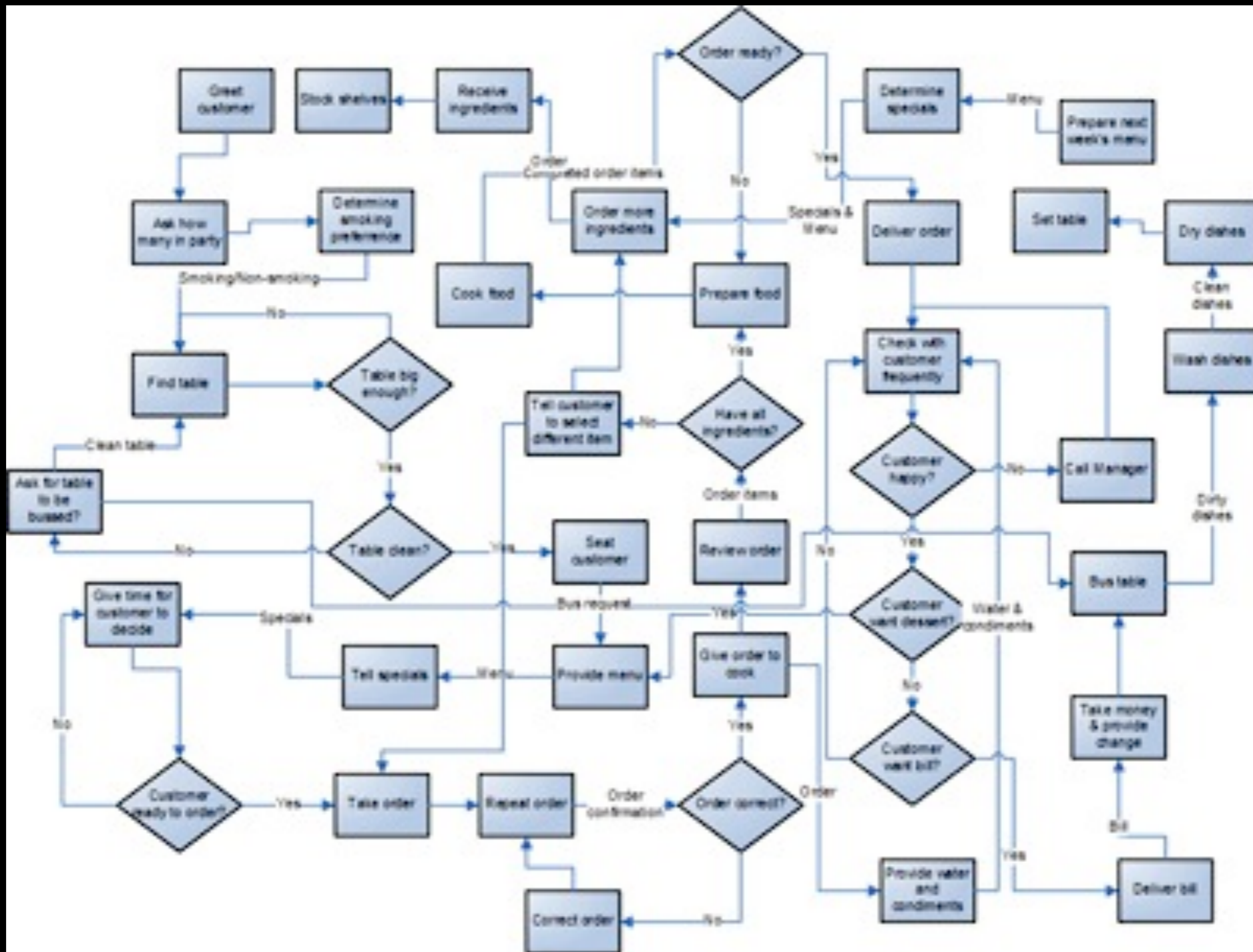


OBSTACLES AND PATTERNS TO MAXIMIZE FLOW IN $\#$ CLOUD OPERATIONS

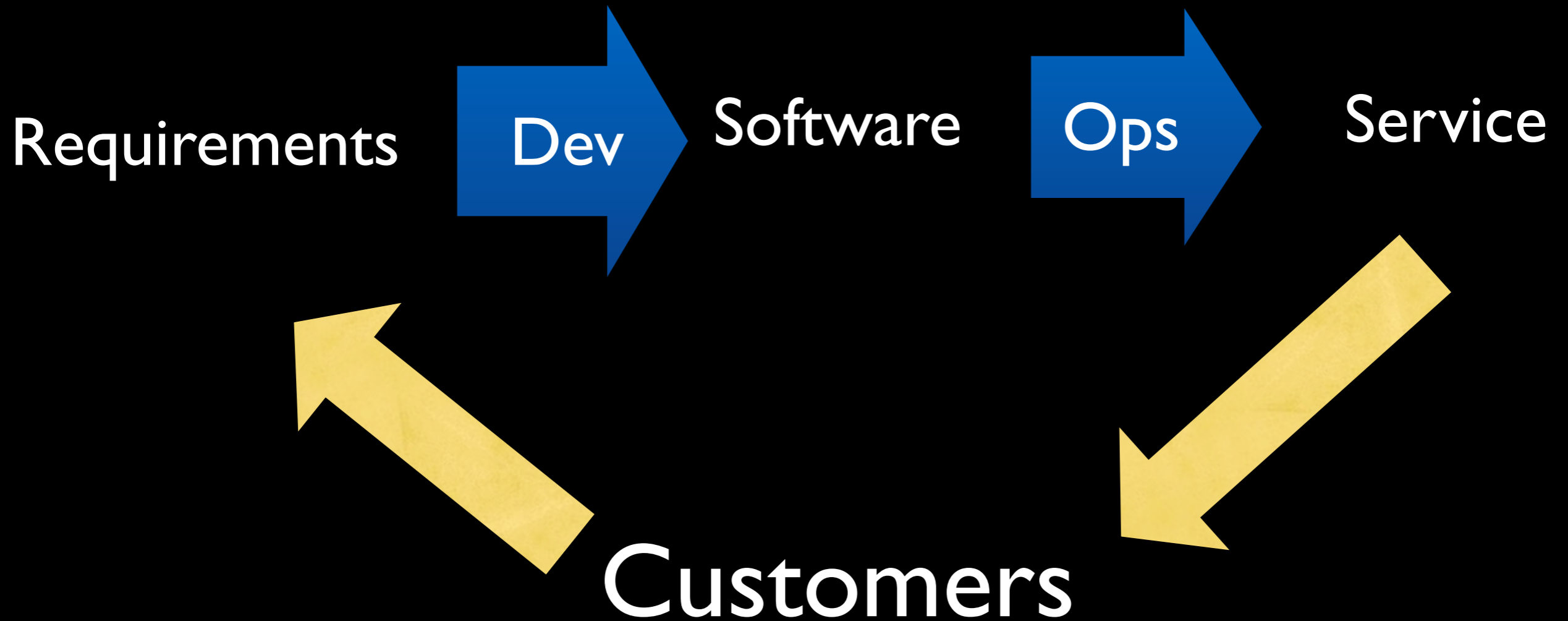
Ben Rockwood
Joyent

now





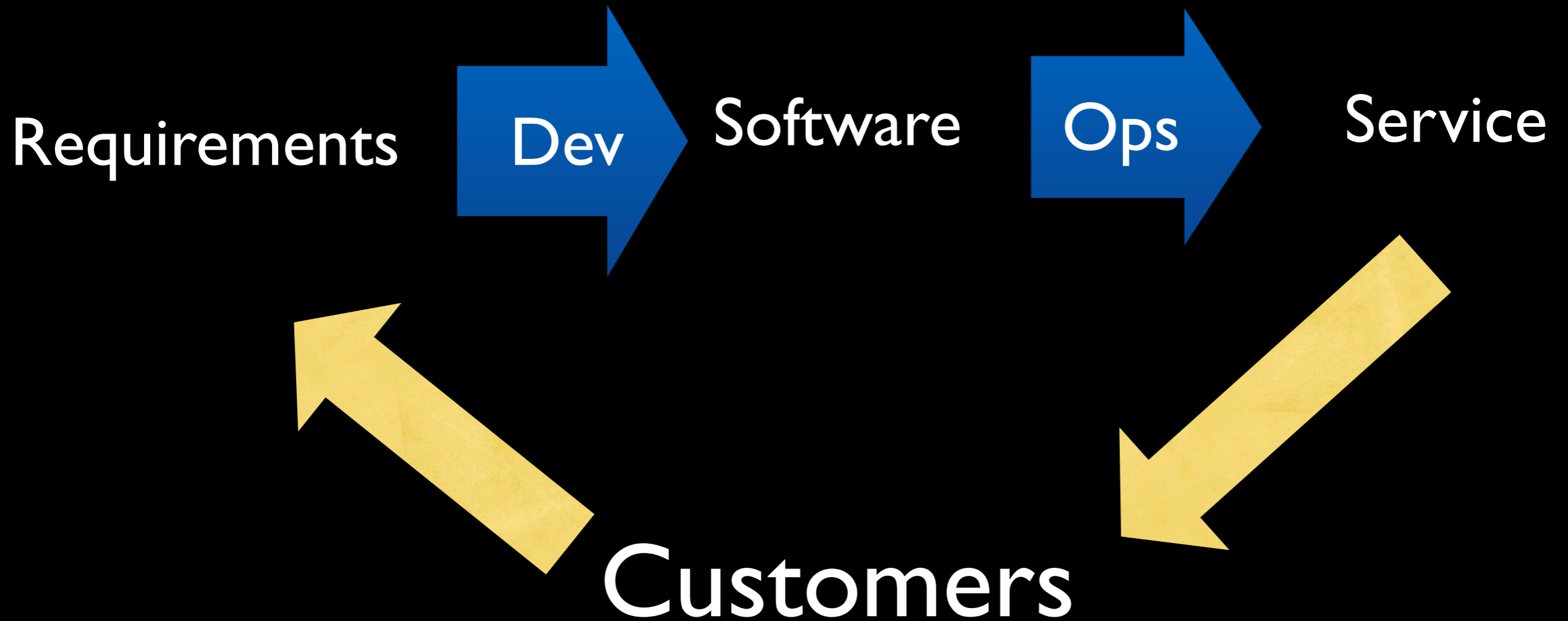
The DevOps Flow



Goods & Services

- Goods are things (“artifacts”)
- Services are actions on behalf of another

The DevOps Flow

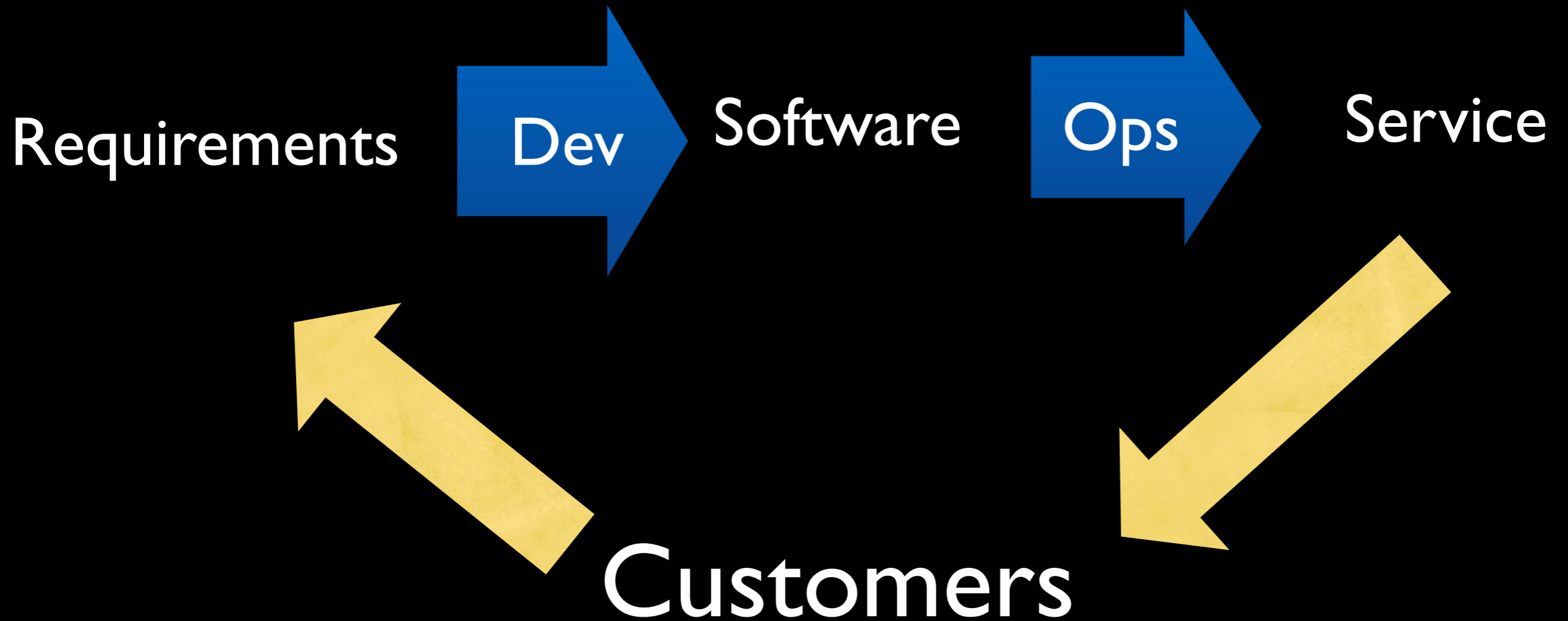


Systems Thinking

- A system is a whole that **cannot be divided** into independent parts
- The essential properties of a system are **those which none** of its parts have
- A system is **not the sum of the behavior** of its parts, but its **the product of their interactions**

Dr. Russell Ackoff

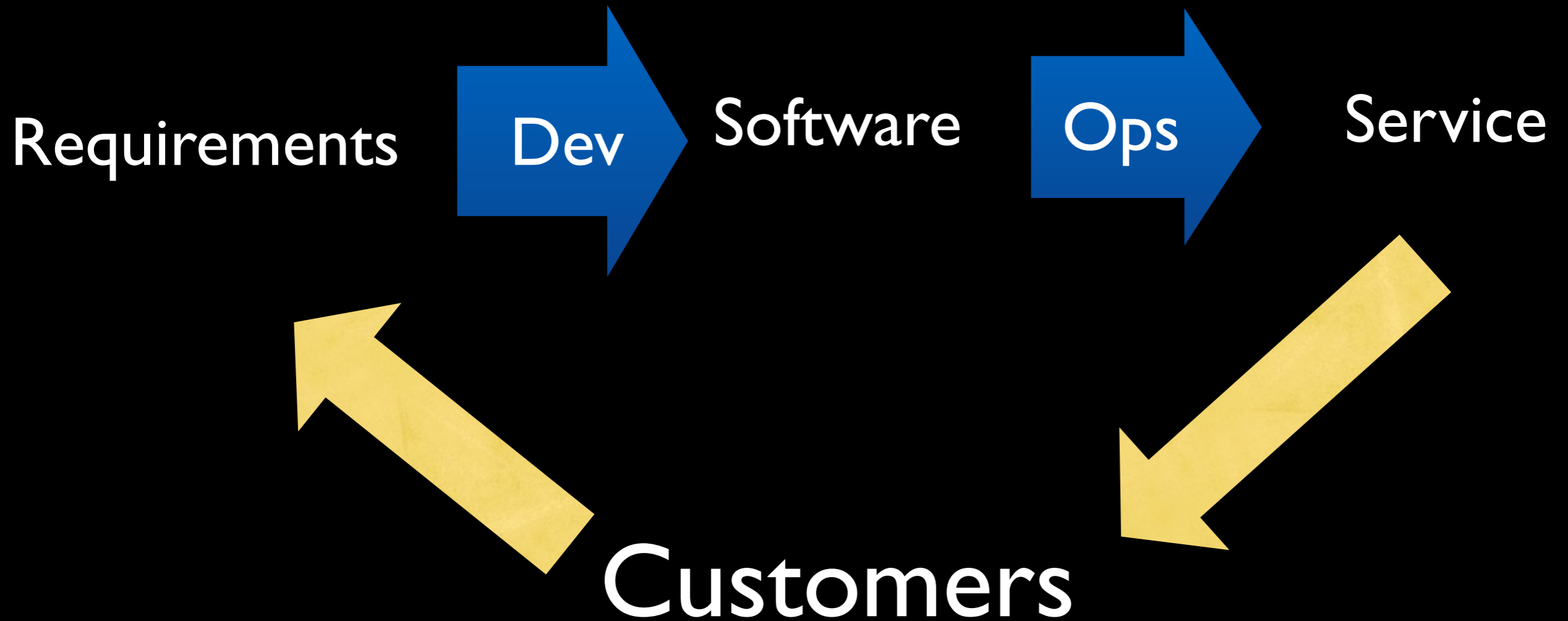
The DevOps Flow



DevOps Components

- Collaboration of **People**
- Convergence of **Process**
- Creation & Exploitation of **Tools**

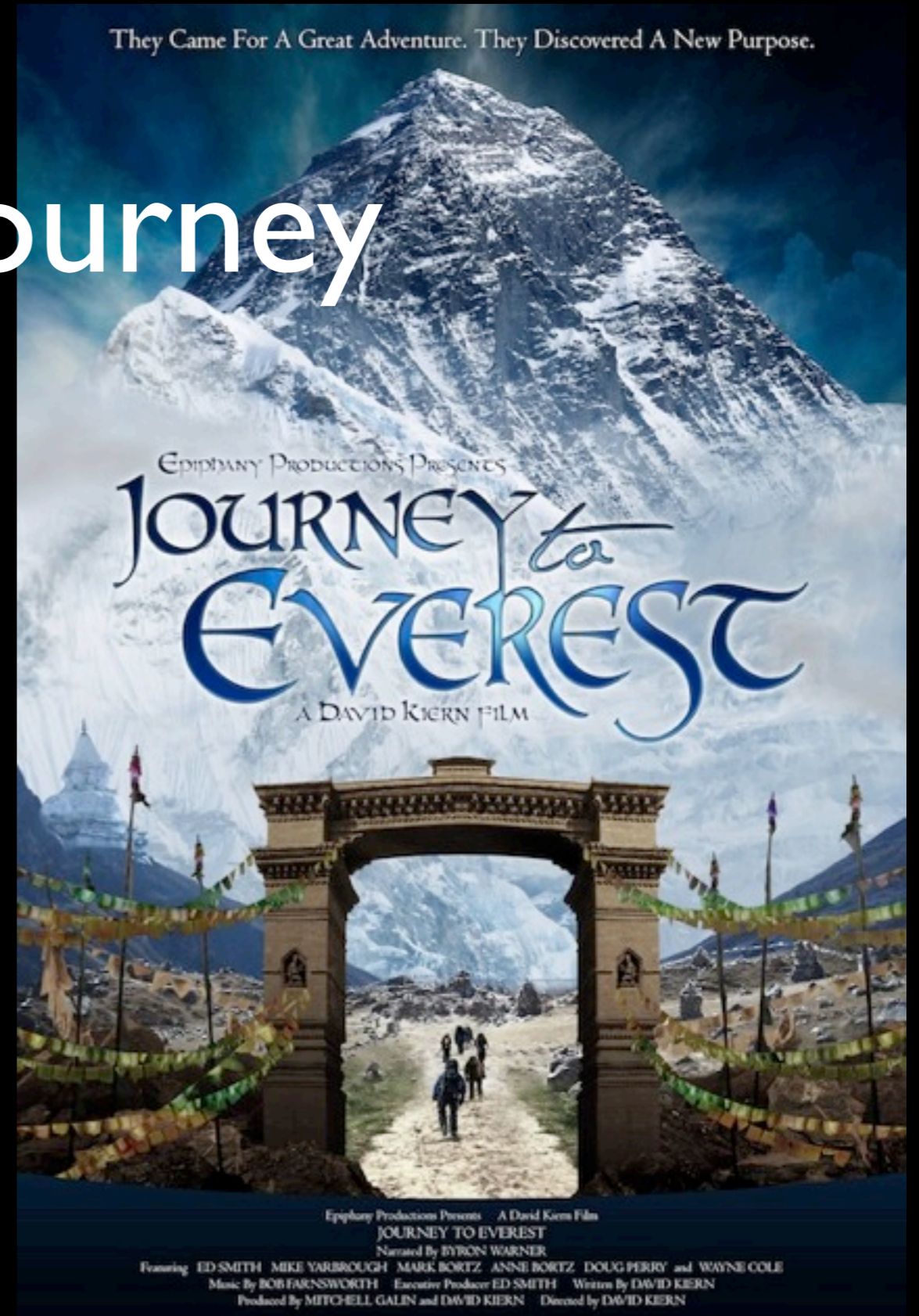
The DevOps Flow



Flow in Action



Beginning the Journey



Pattern I: Start with why.

- The key to doing anything well is “intentionality”
- The means to become intentional is to have a singular set of goals and values
- To discover these, we must “*Start with Why*” (Sinek)
- “Systems” which are not designed are usually bad and broken systems.

Pattern 2: Build Trusting Relationships

- “When we’re with people who believe what we believe, trust emerges.” (Sinek)
- Have honest one-on-one discussions with peers **outside the office**
- Particularly import for leaders
- *NOTE:* You don’t need to be “friends”, but you must be peers and not enemies.

Pattern 3: Share the Vision & Align the Culture

- Spread the “Why”, ensure they “get it”
- Extend personal trust and respect throughout the organization
- Propagate a flow based vision built on systems thinking that is customer focused
- Ensure every employee understand the customer your trying to reach
- If people aren't on board, trim them now

Pattern 4: Value Stream Mapping

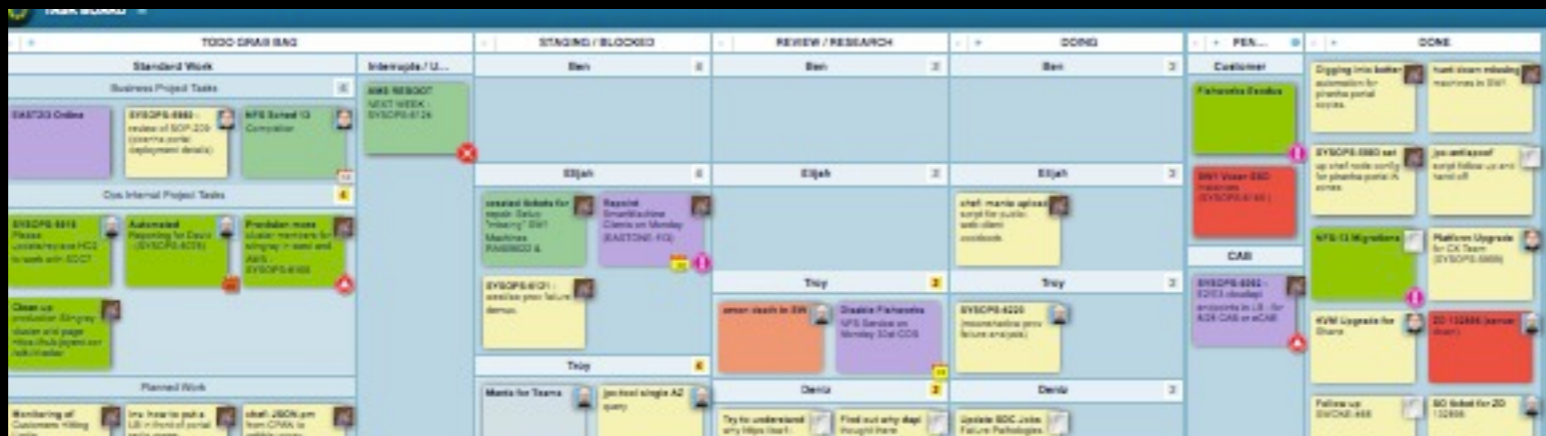
- Fundamentally, we:
 - Start with resources
 - Value is added through a variety of phases
 - Provide it to a customer
- This is the internal “system”, visualize it

Pattern 5: Standardize Work

- Document your processes for each stage of the value stream
- Employees should never struggle to know what to do
- If you don't do work in a standardized way, you'll never find flaws in the process

Pattern 6: Manage Flow in the Value Stream

- Kanban is an excellent means of visualizing the flow of work through “work centers” (groups)
- Tickets alone are not enough!
- Can work in tandem with ITIL Change Management
- Will vary considerably from company to company depending on methodologies



Pattern 7: Muda (Eliminate Waste)

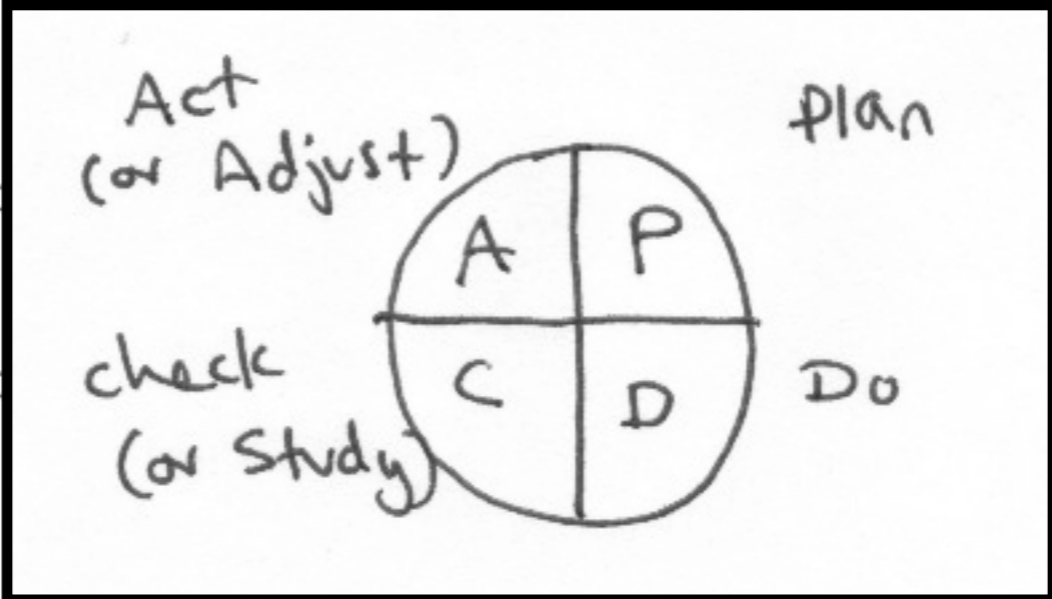
- Any effort which is not adding value to the value stream is “muda” (waste, in Japanese literally “futility”)
- Don't do things just to do them
- Examples:
 - Insufficient change data supplied to Ops
 - Excessive Meetings
 - Excessively large changes
- Stamp out Muda using Kaizen

Pattern 8 : Kaizen (Process Improvement)

- Kaizen literally means “change for the better”
- Use the PDCA cycle
- True Kaizen is driven by stakeholders and empowered by management; those doing the work know how best to improve it!
- We have a culture of personal responsibility and continuous improvement.

PDCA & A3

Background		Countermeasures				
		1. Suspected Cause	Action Item	Responsible	Due	Finding
		2.				
		3.				
		4.				
		5.				
		6.				
		7.				
		8.				
		9.				
		Current Condition				
Goal						
Root Cause Analysis						
		Follow-up Actions				
		Investigation Item	Responsibility	Due	Status	
		1.				
		2.				
		3.				
		4.				
		5.				
		6.				
		7.				



A Kaizen Kaution:

“**Efficiency** is doing things right;
effectiveness is doing the right things.”

Peter Drucker

Pattern 9: Jidoka (Quality at the Source)

- Jidoka is “autonomous automation”
- A philosophy of built in fault detection facilitating faster recovery
- Practical examples:
 - Building idempotent tools
 - TDD, Automated Security Scanning, etc.
 - Clear error reporting & exception handling; fail-safes is possible
 - Monitoring, Alerting & Dashboards (Andon)

Pattern 10: Gemba (“Go and See”)

- Managers: Don't live in an ivy tower
- Go spend time with other parts of the value stream, spend time using the product yourself, talking to customers
- Avoid assumptions, investigate the situation for yourself!

Pattern 11: Practice & Teach Kata (Form)

- “Practice Makes Perfect”
- We must repeat the patterns again and again, and especially as leaders, teach them to others
- “Kata Thinking” means not just leading your team using the Kata’s of Kaizen, Standardized Work, etc, but teaching them to use them
- Kata is about building subconscious habits

Be Intentional!

Use Science!

Practice, Practice, Practice

Thank You.