

Mastering DevOps

Dave Mangot

About Me

- 20+ years of Systems Engineering experience
- Developer before SysAdmin
- Have led multiple transformations
- Love metrics, monitoring, and scalability
- tech.mangot.com/@davemangot



Dave Mangot

Video 1.1

The Course Overview



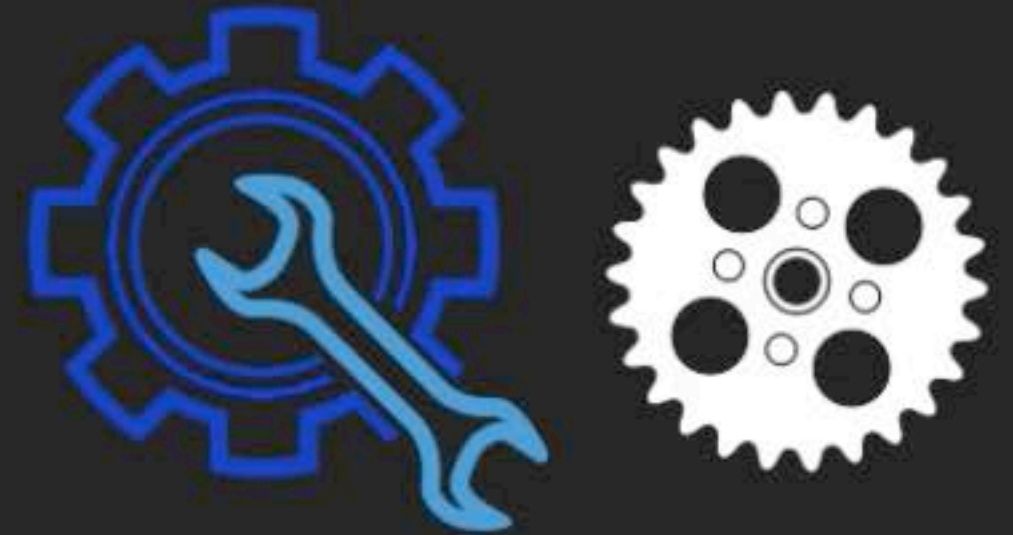
In this Course, we are going to take a look at...

- What is DevOps



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- What is DevOps
- The CAMS model



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- Establishing a DevOps culture



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- Configuration management
- Automation



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- Sharing



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- Measurement
- Sharing
- Next steps



Reason

“For the nearly 800 organizations that provided a stock ticker symbol, we found that the high performers had nearly 50 percent higher market capitalization growth over three years—indicating that DevOps is great for IT performance, as well as organizational performance.”

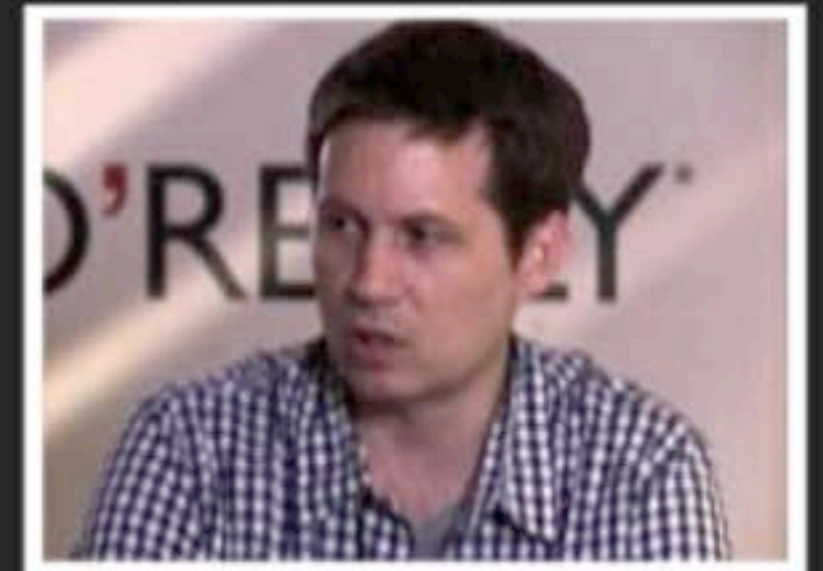
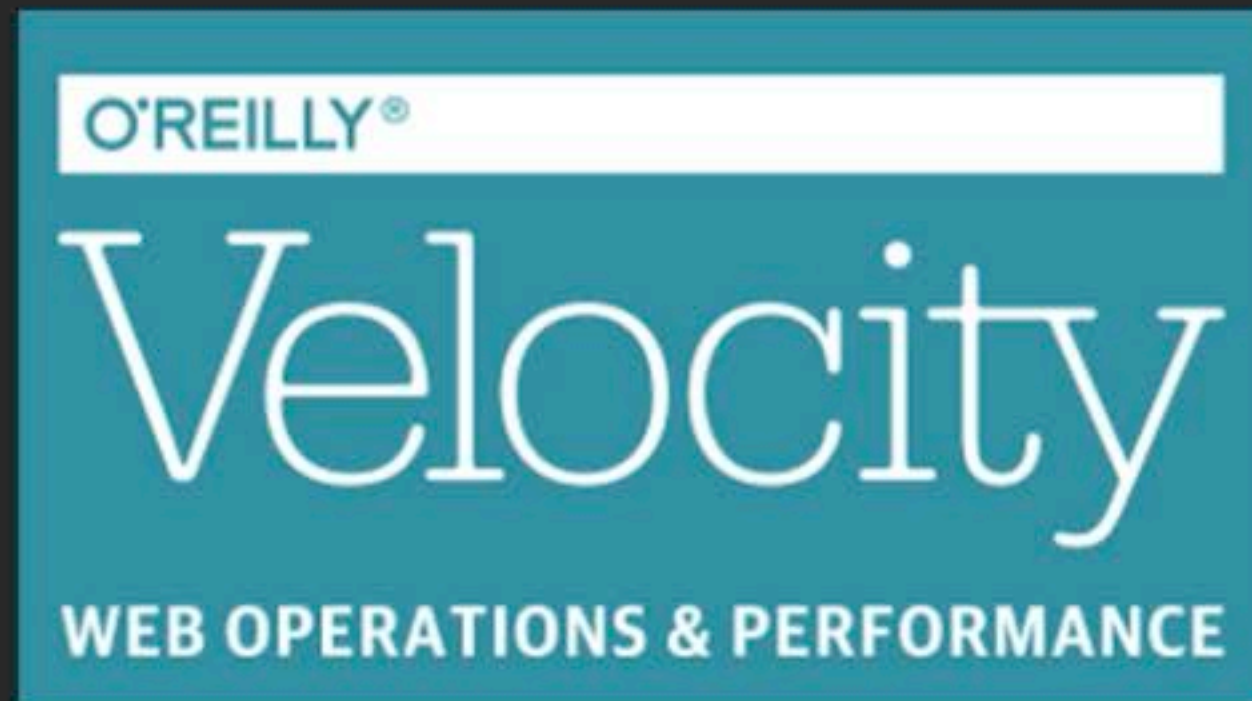
– Gene Kim on the 2015 DevOps Survey

Goal – High Performance



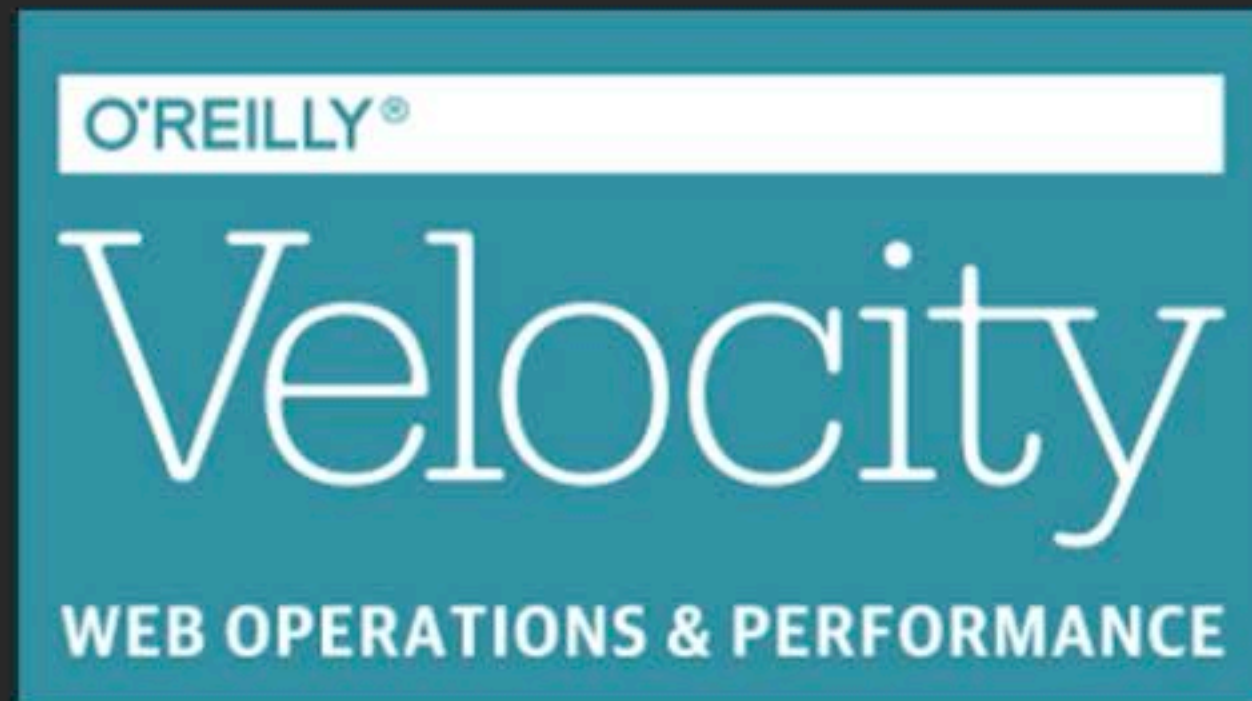
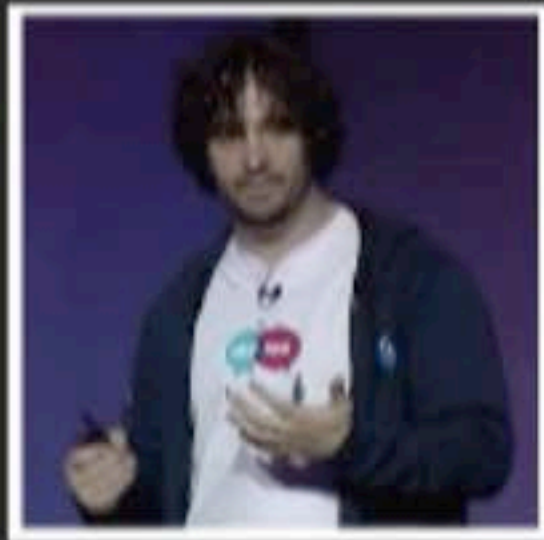
Goal

- "10+ Deploys Per Day: Dev and Ops Cooperation at Flickr"



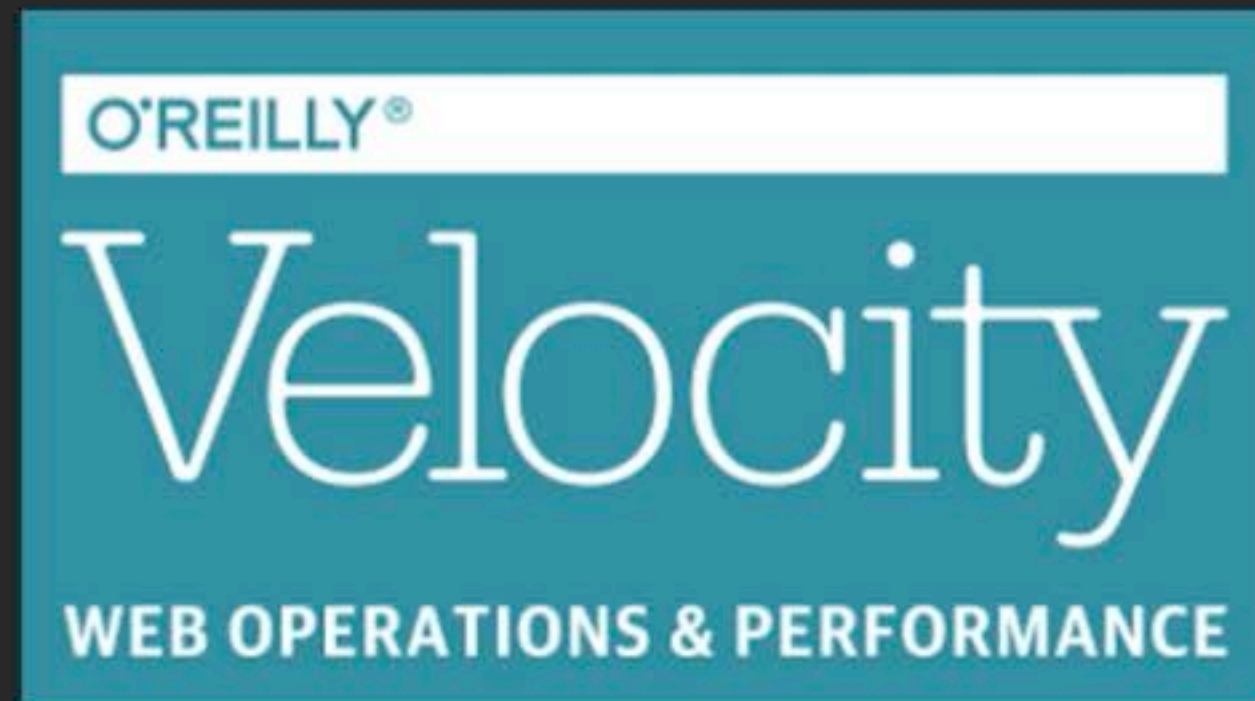
Goal

- "10+ Deploys Per Day: Dev and Ops Cooperation at Flickr"



Goal

- "10+ Deploys Per Day: Dev and Ops Cooperation at Flickr"



<https://youtu.be/LdOe18KhtT4>

Helpful But Not Required

- Programming background
- Relevant work experience on an IT team
- Systems Thinking approach

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Section 1

What Is DevOps?



In this Section, we are going to take a look at...

- Is DevOps for me
- The first way – Systems thinking
- The second way – Feedback loops
- The third way – Culture of experimentation
- The principle of kaizen

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Video 1.2

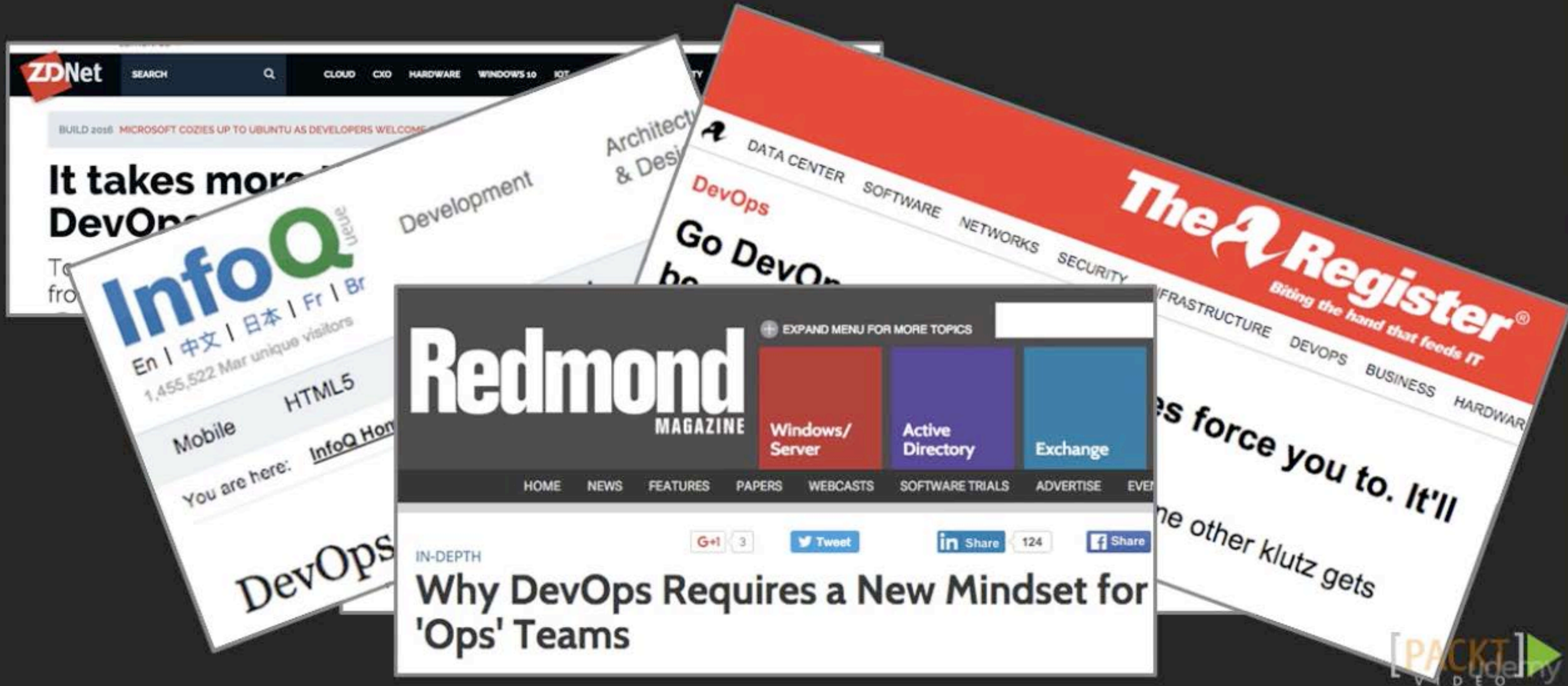
Is DevOps for Me?



In this Video, we are going to take a look at...

- DevOps the buzzword
- Why should I care
- The software development "factory"

DevOps In The Press



Why Should I Care?

200x faster deployments, 60% fewer failures

DevOps practices enable organizations to move faster without sacrificing reliability and stability. Compared to their lower-performing peers, high performers:

- Deploy 30 times more frequently and 200 times faster
- Experience 60% fewer service disruptions due to change failures
- Recover 168 times faster when they do experience failure

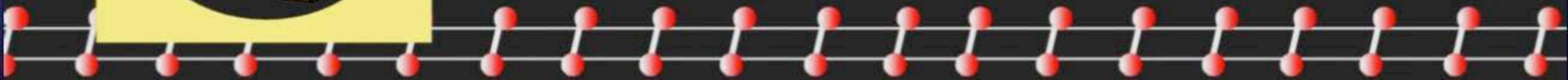
Why Should I Care?

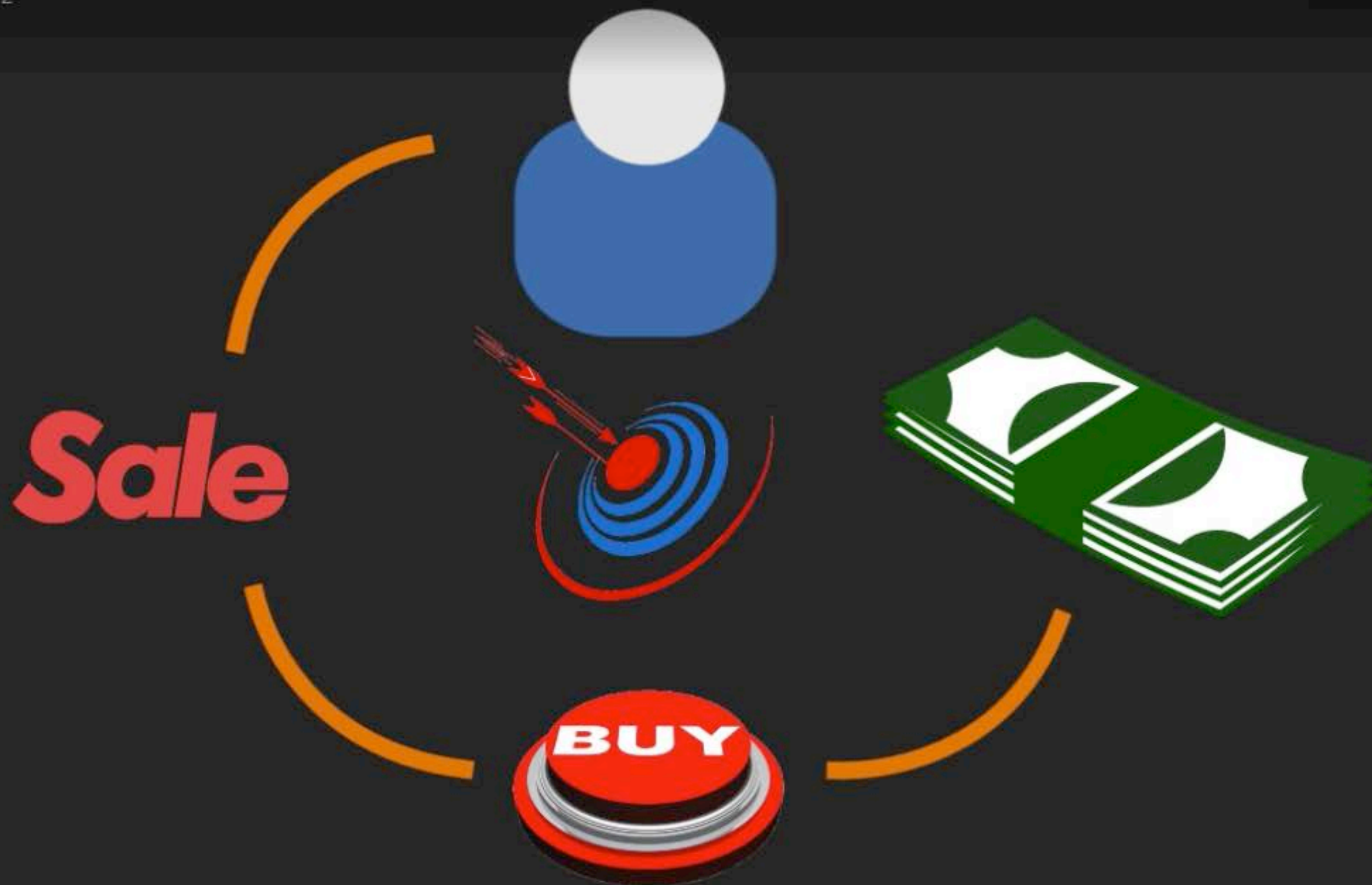
- Companies with high-performing IT departments are twice as likely to significantly exceed their targets for productivity, market share and profitability, compared to those with lower-performing IT departments
- Job satisfaction is the No. 1 predictor for high organizational performance. And job satisfaction correlates strongly with the tools, processes and culture of DevOps
- <https://puppetlabs.com/2014-devops-report>



The Factory







1x



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The Factory



www.oregonlive.com/O/index.ssf/2009/07/tillamook_the_town_that_cheese.html

Next Video

The First Way – Systems Thinking

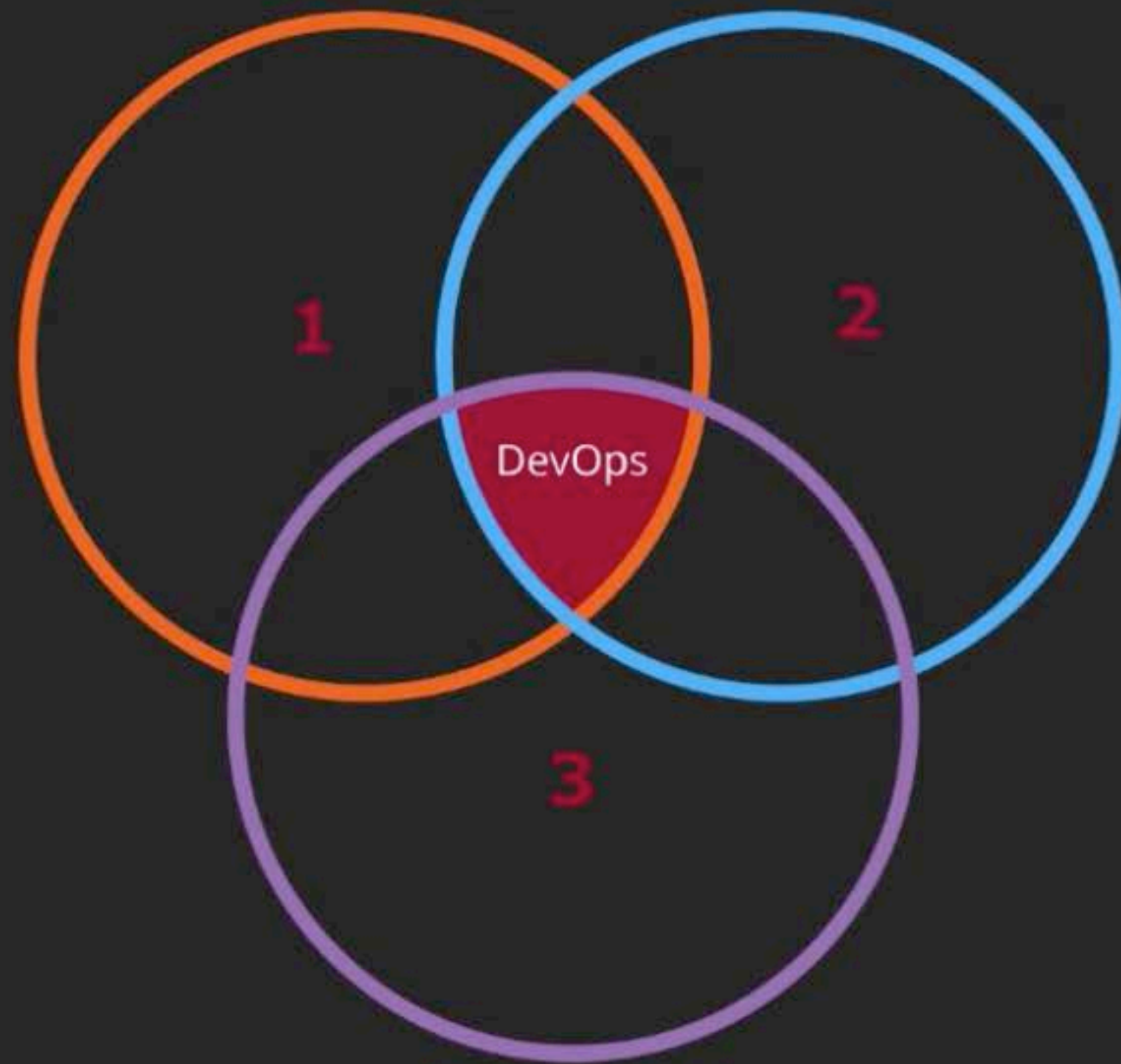
Video 1.3

The First Way – Systems Thinking



In this Video, we are going to take a look at...

- The first way
- Examples of the first way
- Barriers to the first way



The First Way

The First Way:
Systems Thinking



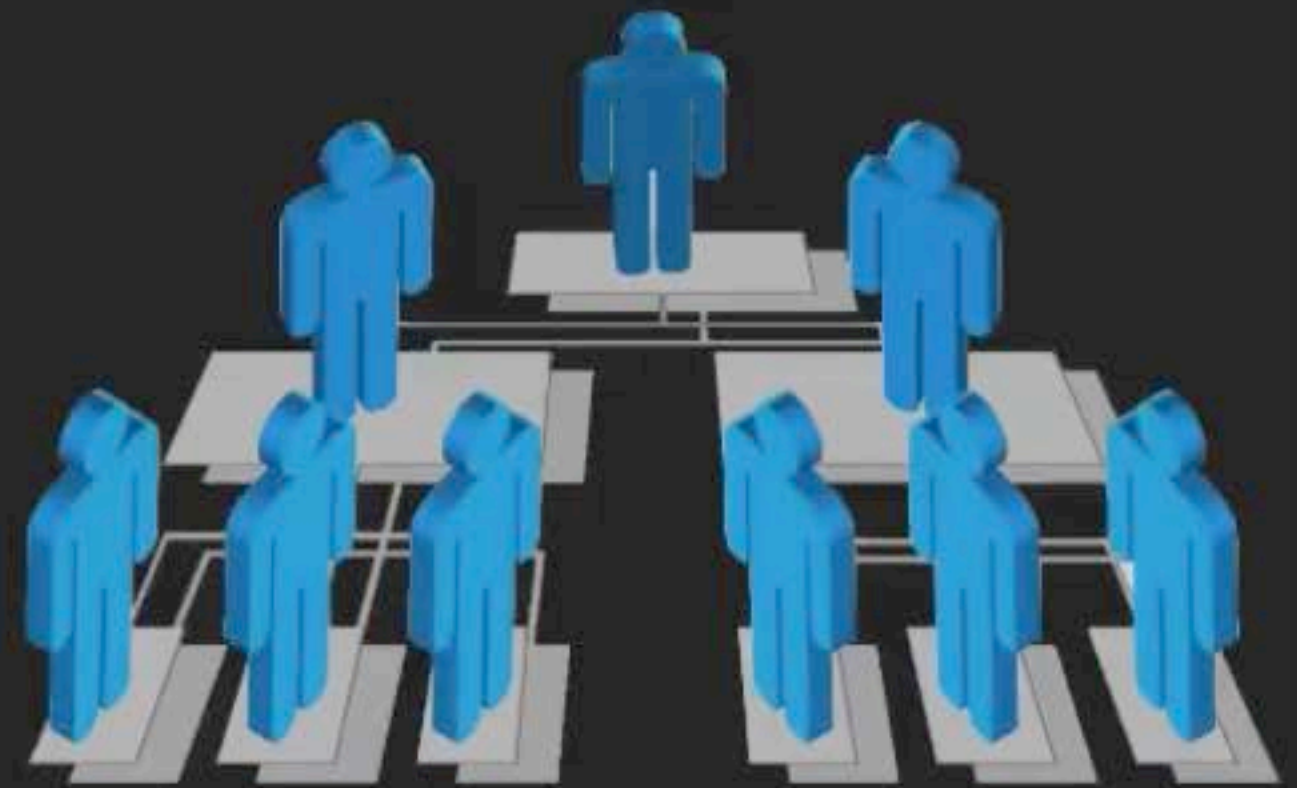
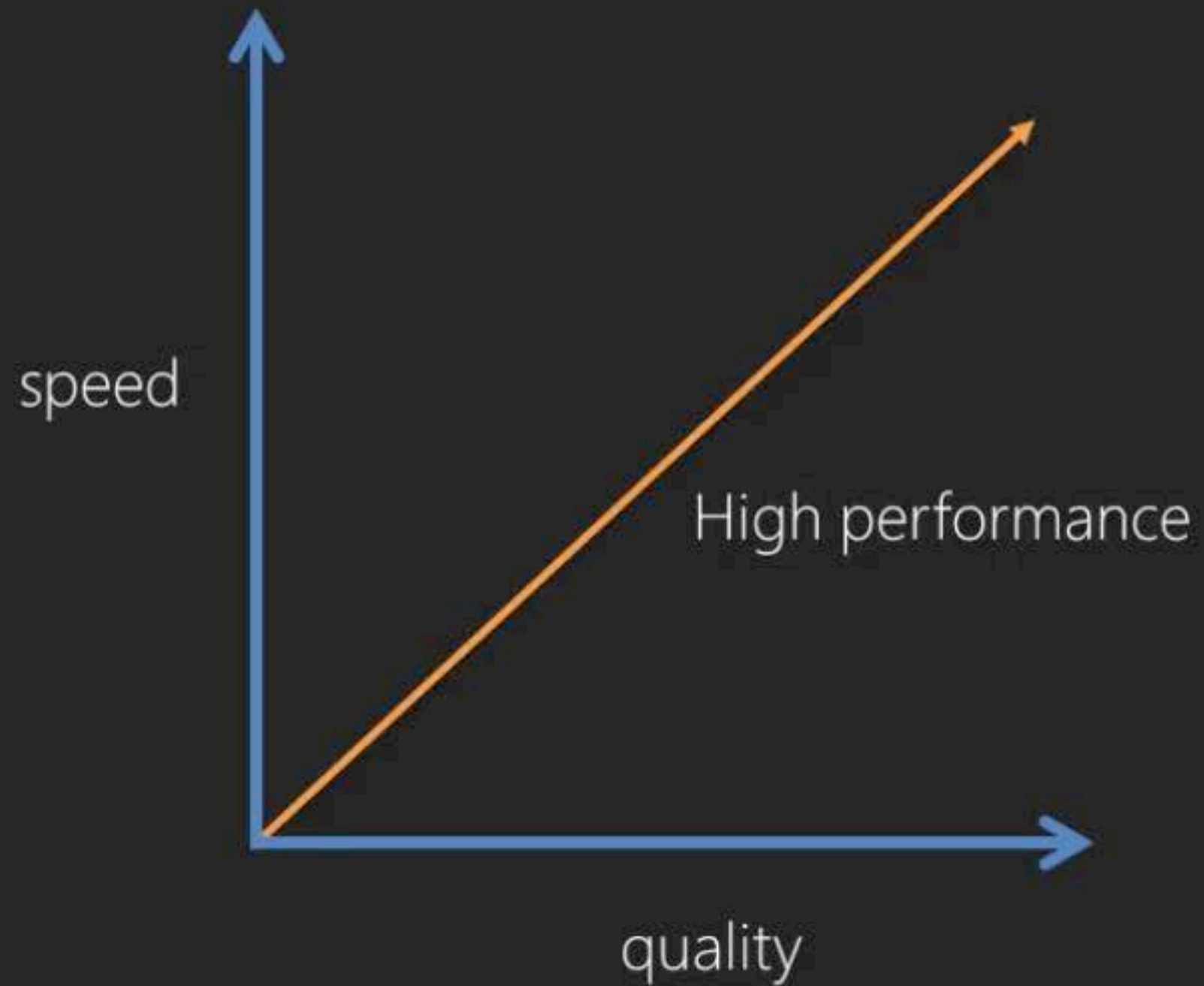
The First Way Outcomes

- Never passing a known defect to downstream work centers
- Never allowing local optimization to create global degradation
- Always seeking to increase flow

First Way Examples



High Performance



First Way Barriers



First Way Barriers

Technique: Value Stream Mapping

Speed



Speed



Speed

Lead Time: Time from Idea to Production

Speed

"Our DevOps journey started when we stopped optimizing technology for cost, and instead, started optimizing for speed."

Courtney Kissler
VP of E-Commerce and Store Technologies
Nordstrom

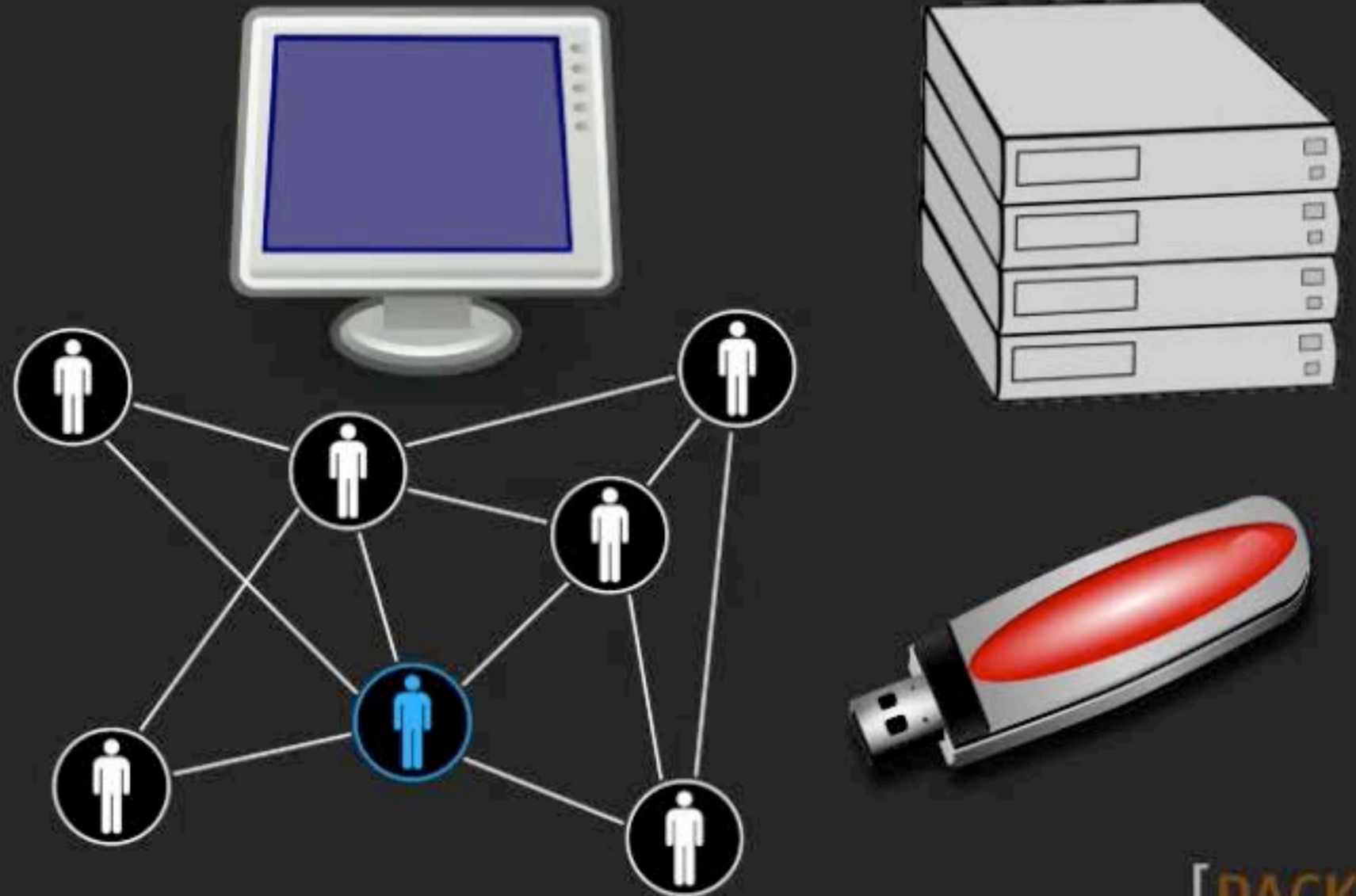
Feedback Examples

- Measure throughput of work through the system
- Page load times
- Am I building the right thing

A B

Feedback Examples

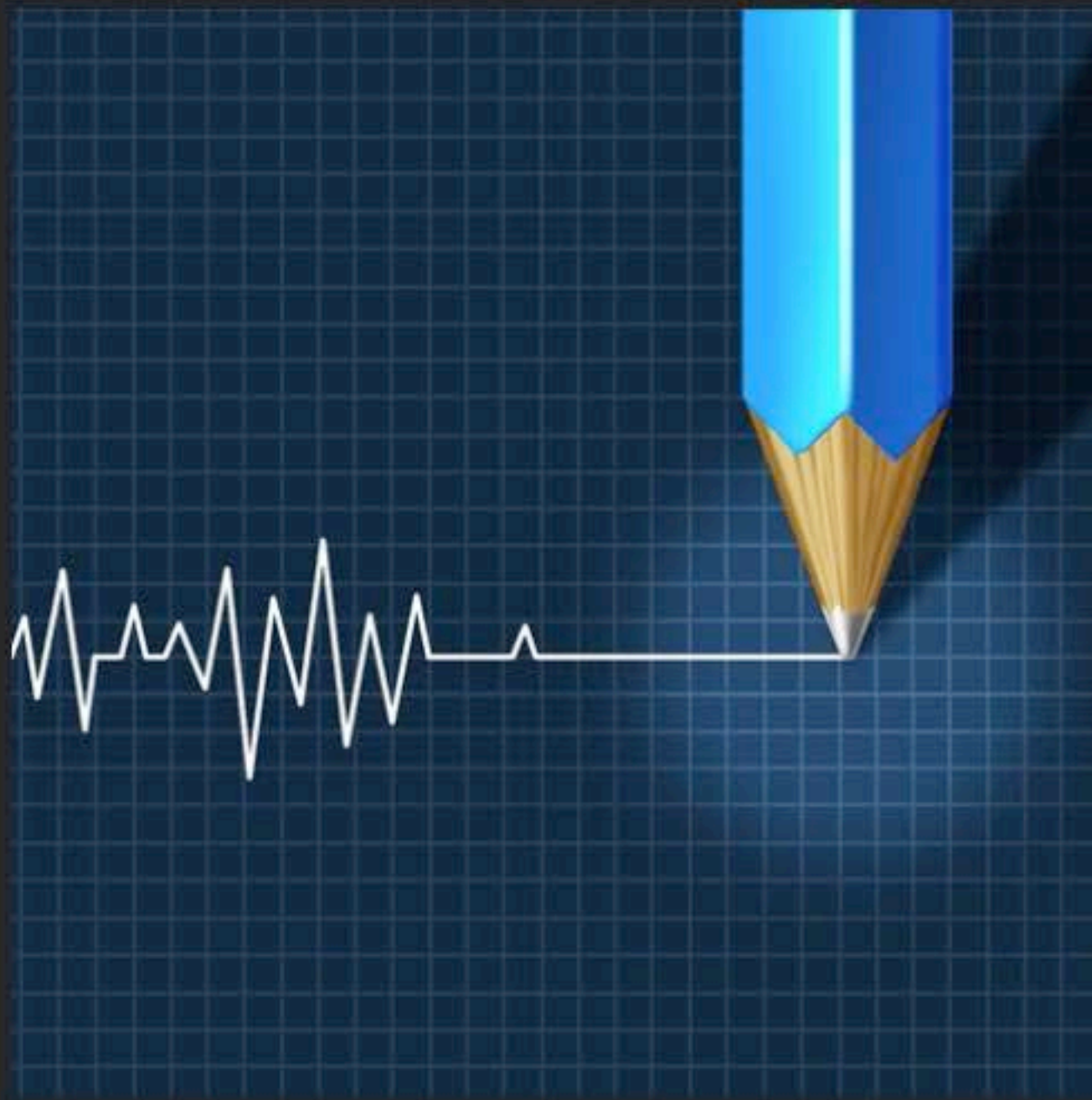
- Measure throughput of work through the system
- Page load times
- Am I building the right thing
- Metrics



Feedback Examples

- Measure throughput of work through the system
- Page load times
- Am I building the right thing
- Metrics
- Postmortems/learning reviews

The Second Way Barriers



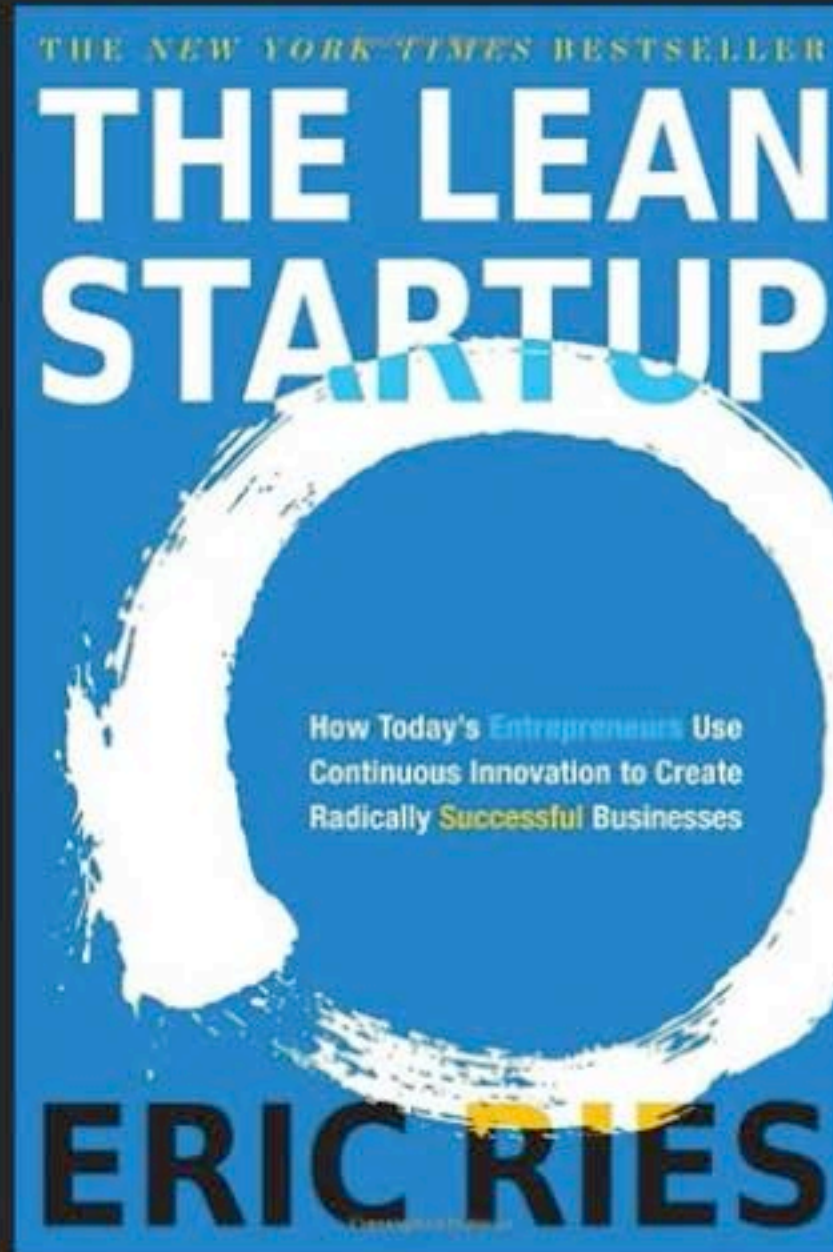
The Second Way Barriers



The Second Way Outcomes

- Understanding and responding to all customers, internal and external
- Shortening and amplifying all feedback loops
- Embedding knowledge where we need it

For More Information



Next Video

The Third Way – Culture of Experimentation

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Video 1.5

The Third Way – Culture of Experimentation

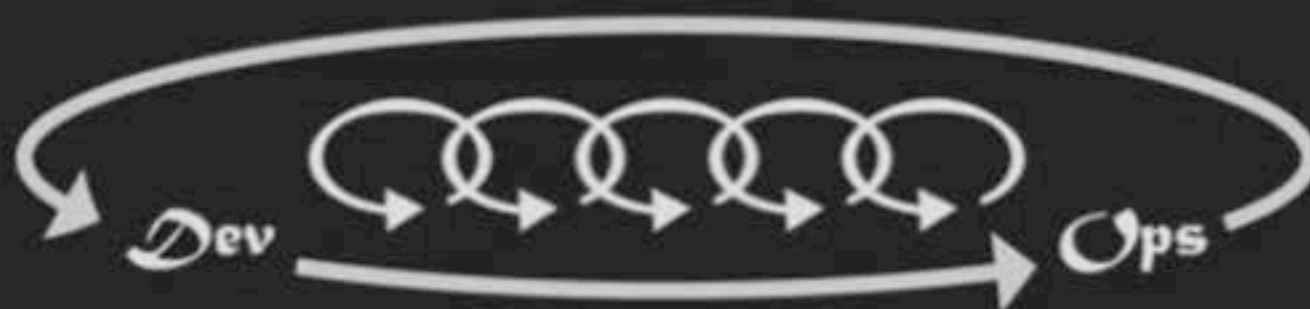


In this Video, we are going to take a look at...

- The third Way
- Examples of the third Way
- Barriers to the third Way

The Third Way

The Third Way:
Culture Of Continual Experimentation And
Learning



Outcomes of the Third Way

- Allocating time for the improvement of daily work
- Creating rituals that reward the team for taking risks
- Introducing faults into the system to increase resilience

Examples of Third Way

The Google logo, consisting of the word "Google" in its characteristic multi-colored font (blue, red, yellow, green, red).

www.google.co.in

The Salesforce logo, which features the word "salesforce" in white lowercase letters inside a blue cloud shape.

www.salesforce.com

Examples of Third Way



Examples of Third Way

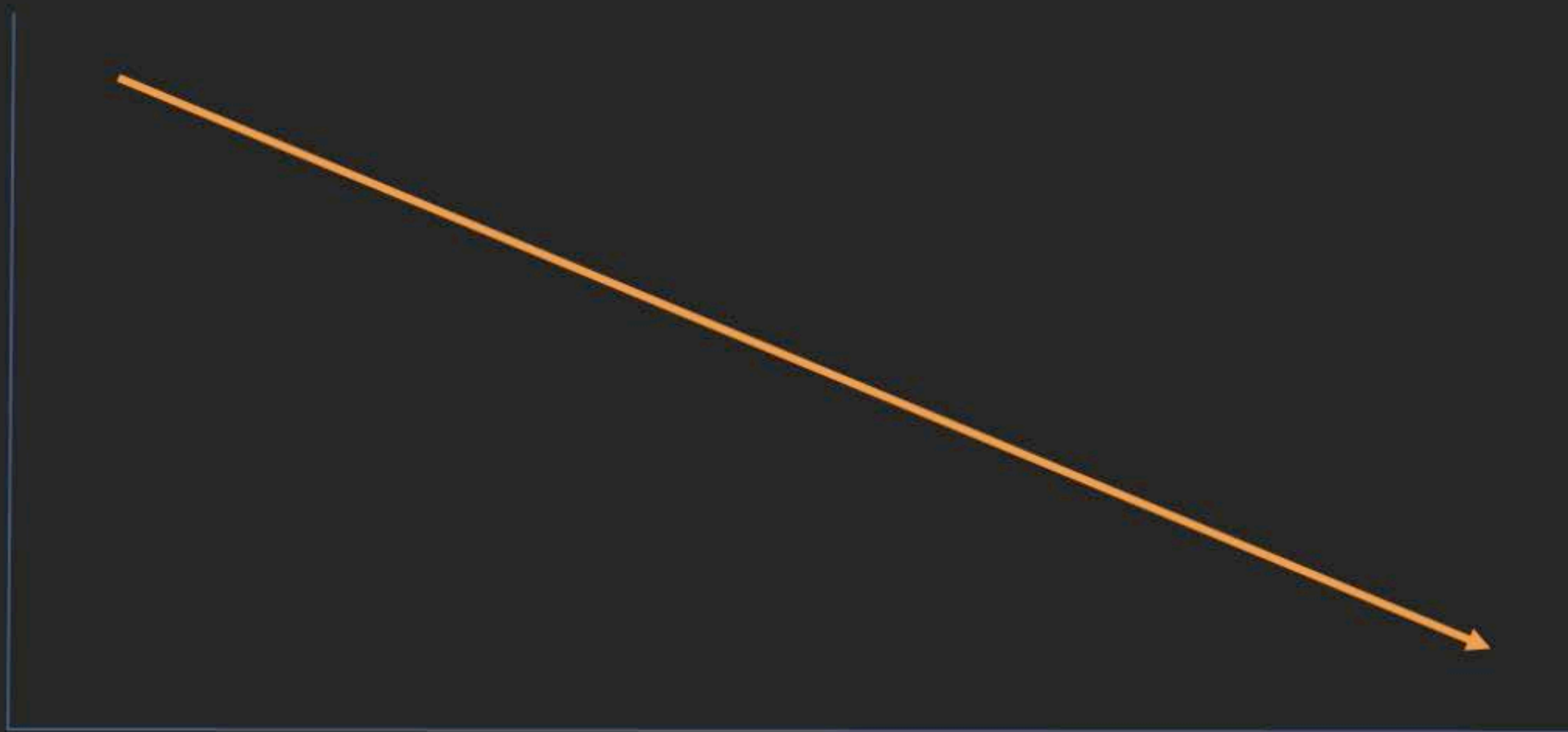
- Are they trained well enough
- Are these failures we anticipated
- What happened, How was it fixed or not fixed, and Why



Examples of Third Way



Site Switching



Barriers to the Third Way

- Poor throughput through the system (first way)
- Inability to measure success (second way)

For More Information

- Simian Army by Netflix <https://github.com/Netflix/SimianArmy>
- <http://techblog.netflix.com/2011/07/netflix-simian-army.html>
- SREcon

Next Video

The Principle of Kaizen

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Video 1.6

The Principle of Kaizen



In this Video, we are going to take a look at...

- The principle of kaizen
- Toyota Motor Systems

The Principle of Kaizen



The Principle of Kaizen



Lean

- Emphasis on –
 - Systems thinking
 - Quality
 - Process control
 - Minimal inventory
 - Kaizen

Kaizen in Practice



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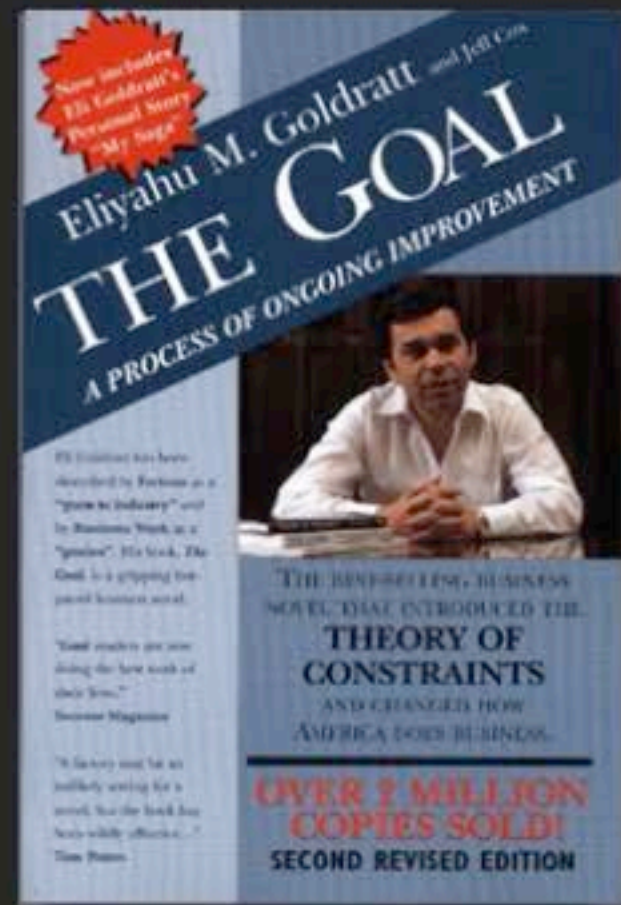


Kaizen



For More Information

- <http://itrevolution.com/the-three-ways-principles-underpinning-devops/>
- <http://tech.mangot.com/blog/2013/05/29/-im-not-a-devops-dot-dot-dot-are-you-an-agile/>



Summary

- What is DevOps
- The three ways of DevOps
- The principle of kaizen

Next Section

The CAMS Model – DevOps Thinking