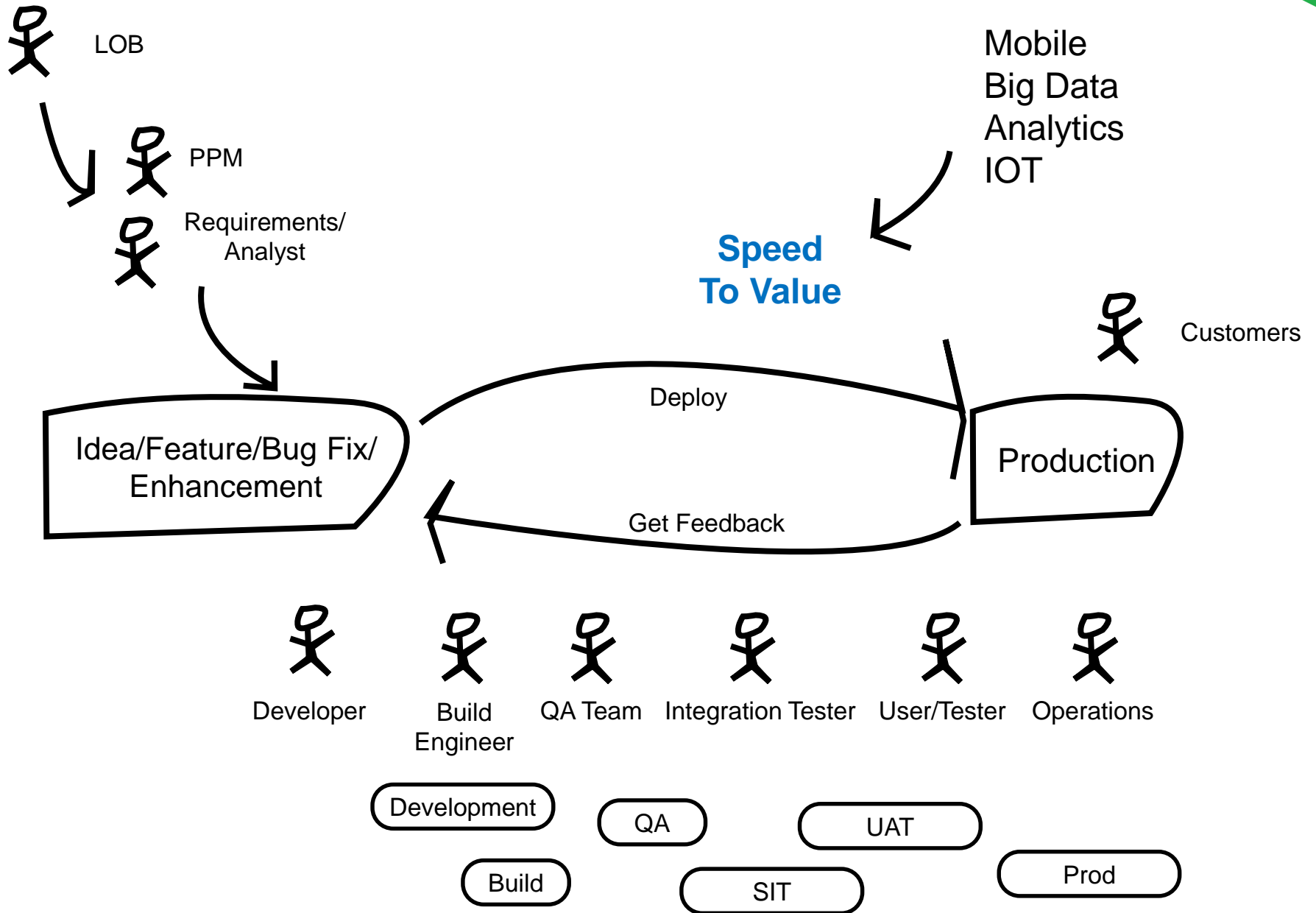# DevOps
Concepts and Overview
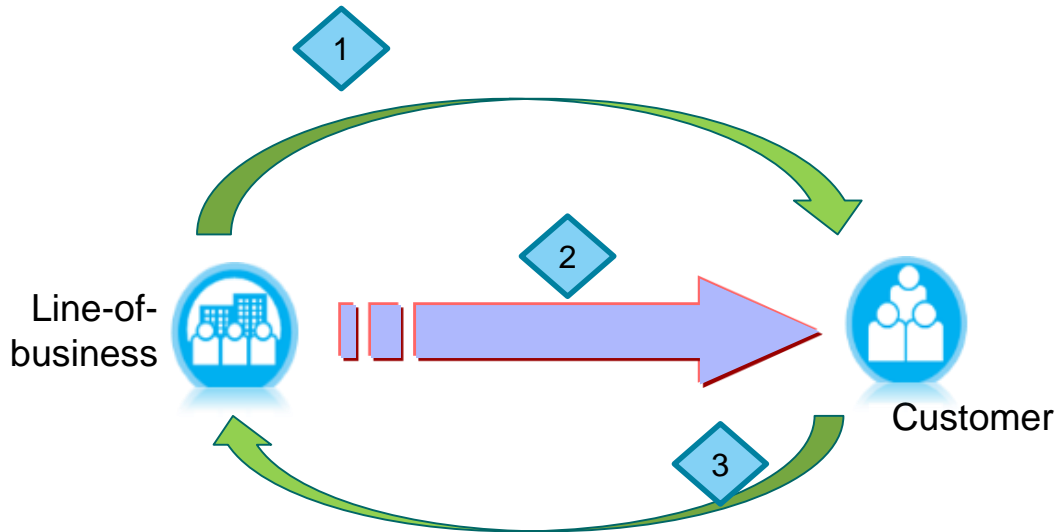
Lee Reid
loreid@us.ibm.com
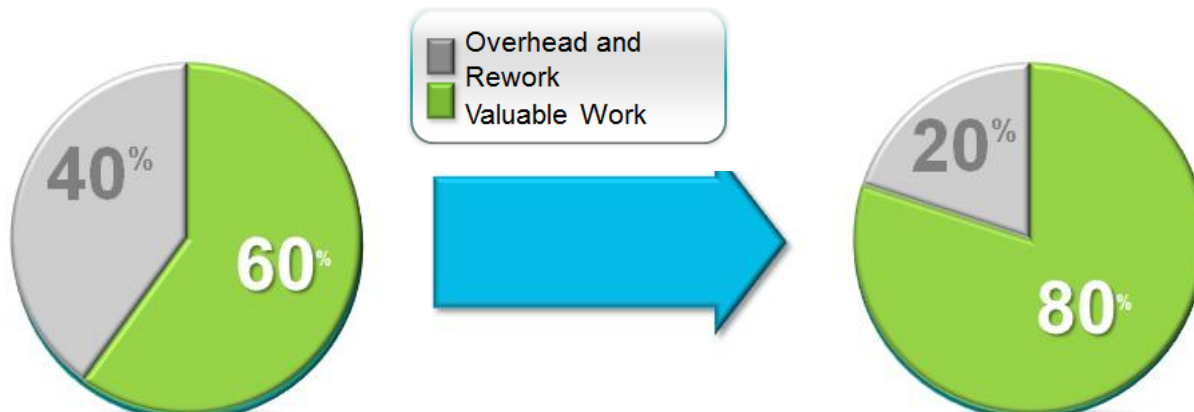
IBM

A Holistic View of DevOps

DevOps approach: Apply Lean principles to software innovation and delivery to create a continuous feedback loop with customers
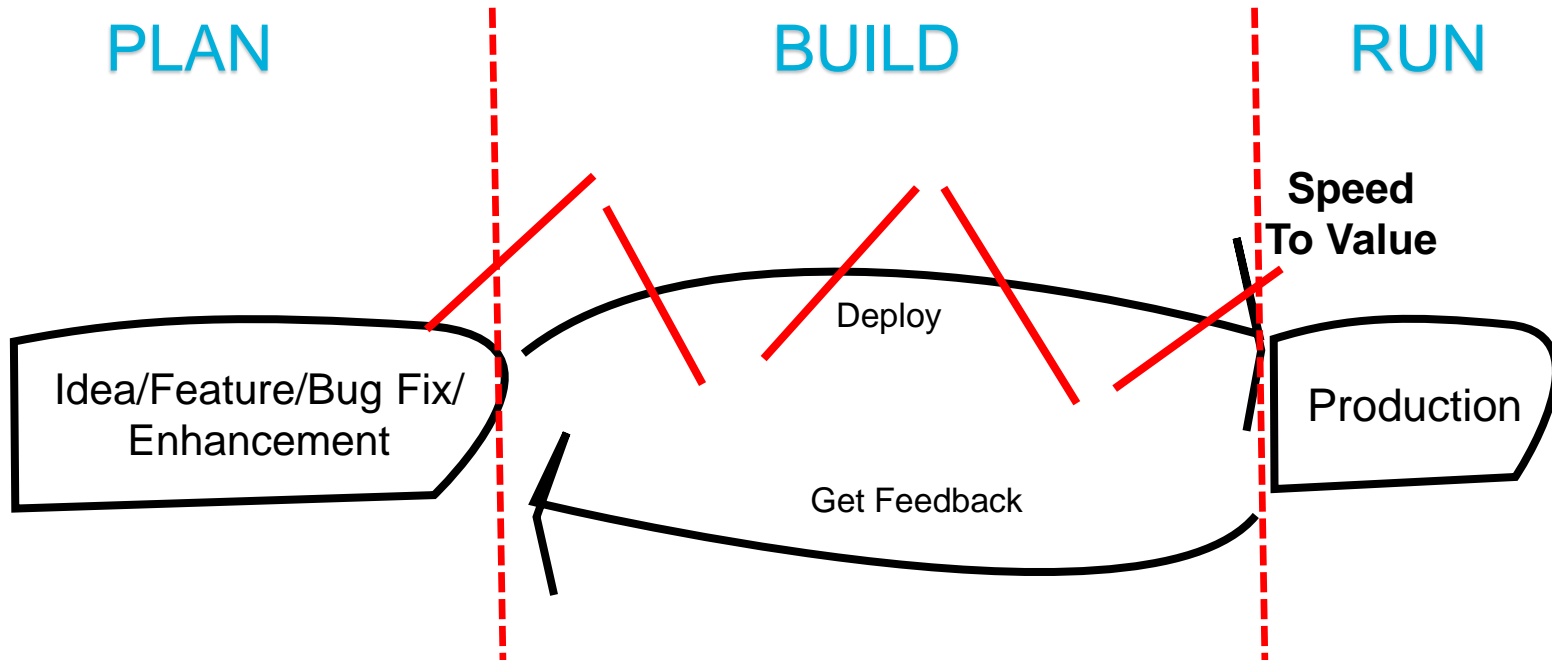
1. Get ideas into production fast
   2. Get people to use it
      3. Get feedback

Adopt DevOps approach to continuously manage changes, obtain feedback and , deliver changes to users

Line-of-business

2

Customer

3

1

Overhead and Rework
Valuable Work

40%
60%

20%
80%

Eliminate any activity that is not necessary for learning what customers want

DevOps & Culture
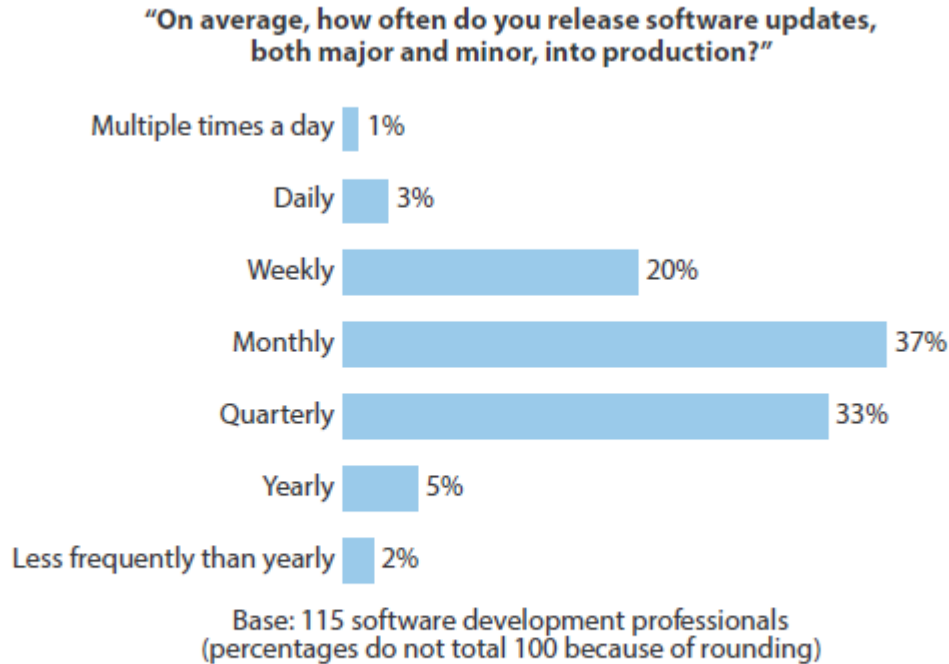

Fast and smooth workflow depends on Trust

Trust is enabled by Collaboration & Consistency

Collaboration is enabled by Cross Functional Teams

Consistency enabled by Automation

DevOps is a Natural Evolution of Agile

"Continuous delivery does not replace Agile approaches; rather, it enables Agile to finally deliver on its promise to business leaders: faster delivery of genuine business value." (Forrester Research)

"On average, how often do you release software updates, both major and minor, into production?"

Category	Percentage
Multiple times a day	1%
Daily	3%
Weekly	20%
Monthly	37%
Quarterly	33%
Yearly	5%
Less frequently than yearly	2%

Base: 115 software development professionals
(percentages do not total 100 because of rounding)

Source: March 2013 Global Application Life-Cycle Management Online Survey

99321

Source: Forrester Research, Inc.

Nationwide embraces DevOps to drive continuous delivery across platforms and improve speed to market

50% increase
in software **quality** over
the last three years

90% on-time delivery
vs. 60% previously

70% decrease
in user downtime

58% of developers moved to
industry top quartile in
productivity measures

Steve Farley
Vice President, Application Development Center
Nationwide

"We're more agile as a business and more responsive to our customers. Collaboration has become an expected part of our culture."

— **Steve Farley**, Vice President,
Application Development Center, Nationwide

Nationwide®
On Your Side℠

Case Study: TIAA-CREF

Do the right things right

■Attack the high value and high risk items first

■Predict and quantify the outcomes and resources

■Measure honestly with distributions of outcomes

■Learn what customers really want and steer with agility

"We've achieved a 1600% increase in delivery velocity, in 7 months, using a DevOps approach."

John Kosco
Director of IT Operations

Case Study: WebMD

Accelerate delivery of usable increments for continuous outside-in feedback

▪Provide a continuous delivery pipeline that automates deployments to test and production environments

▪Reduce overhead with push-button deployments

▪Quantify change stability and measure transparently for compliance

"Before it took 2 days to deploy a build, with uDeploy and our new processes, it takes us less than 60 seconds."

Matthew Wilson
Director, Consumer Web Operations

How We are Improving - An Example from IBM CLM (RQM, RTC, RRC)
Measures of Operation

Lifecycle Measurements	2008	2010	2012 – 2013	Total Improvement
Project Initiation	30 days	10 days	2 days	**28 days**
Groomed Backlog	90 days	45 days	On-going	**89 days**
Overall Time To Development	120 days	55 days	3 days	**117 days**
Iteration Length	6 weeks	4 weeks	4 weeks	**2 weeks**
Number of Iterations	6	8	3	**N / A**
Composite Build Time	36 hours	12 hours	8 hours	**400 %**
BVT Availability	N / A	18 hours	< 1hour	**17 hours**
Iteration Test Time	5 days	2 days	4 hours	**4 days**
Total Deployment Time	2 days	8 hours	2 hours	**2 days**
Overall Time To Production	9 days	3 days	15 hours	**8 days**
Time Between Releases	12 Months	12 Months	3 Months	**9 Months**