© 2017 SPLUNK INC.

splunk> .conf2017

Analytics Through The Devops Lifecycle

Andi Mann I Dominic Eger

September 2017 I Washington DC

© 2017 SPLUNK INC.

Forward-Looking Statements

During the course of this presentation, we may make forward-looking statements regarding future events or the expected performance of the company. We caution you that such statements reflect our current expectations and estimates based on factors currently known to us and that actual events or results could differ materially. For important factors that may cause actual results to differ from those contained in our forward-looking statements, please review our filings with the SEC.

The forward-looking statements made in this presentation are being made as of the time and date of its live presentation. If reviewed after its live presentation, this presentation may not contain current or accurate information. We do not assume any obligation to update any forward looking statements we may make. In addition, any information about our roadmap outlines our general product direction and is subject to change at any time without notice. It is for informational purposes only and shall not be incorporated into any contract or other commitment. Splunk undertakes no obligation either to develop the features or functionality described or to include any such feature or functionality in a future release.

Splunk, Splunk>, Listen to Your Data, The Engine for Machine Data, Splunk Cloud, Splunk Light and SPL are trademarks and registered trademarks of Splunk Inc. in the United States and other countries. All other brand names, product names, or trademarks belong to their respective owners. © 2017 Splunk Inc. All rights reserved.

splunk> .conf2017

© 2017 SPLUNK INC.

Abstract (hidden)

- Title: Analytics through the DevOps Lifecycle
- One of the often-cited barriers to DevOps success is visibility across the organization and the plethora of tools. DevOps should break down the department silos. But many tools show their data in a single-tool view, maintaining the silo. Splunk, as a data and analytics platform, provides visibility by collecting and presenting the data from many tools across the DevOps Lifecycle, from planning to dev/test to deploy and monitoring in production. Agile development teams can measure velocity across sprints and releases, finding healthy projects as well as those with hygiene issues, adding to tech debt. With Splunk, you can have end-to-end visibility enabling better collaboration and true data-driven decisions.

splunk> .conf2017

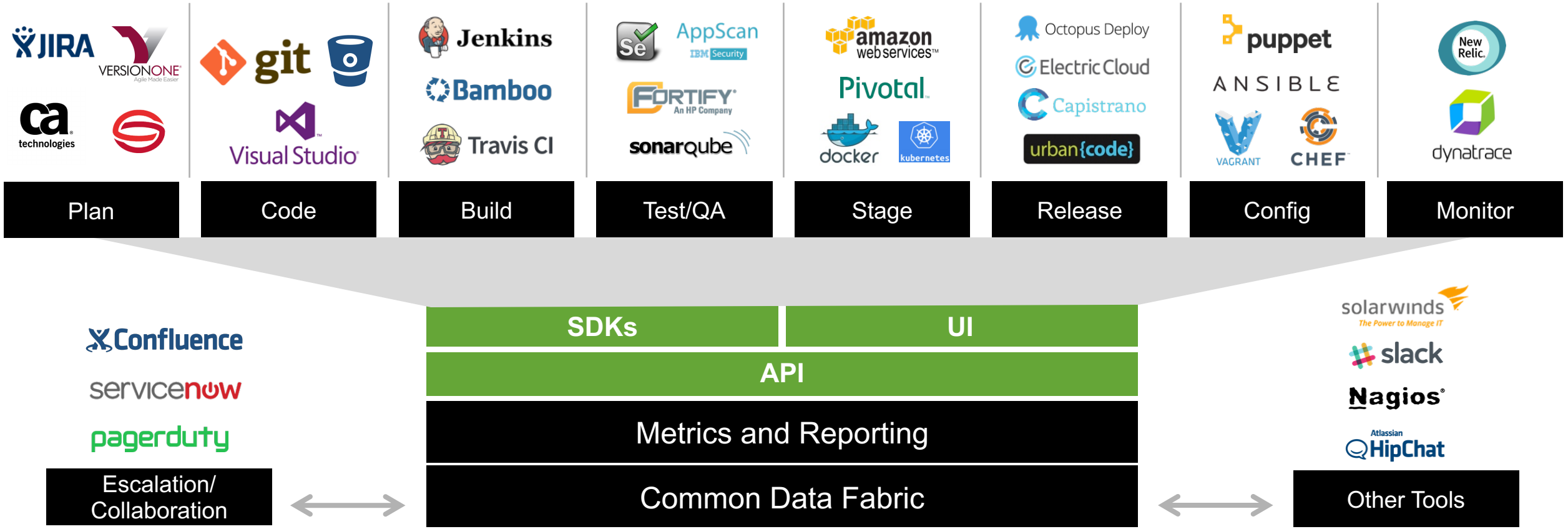
© 2017 SPLUNK INC.

DevOps Has A Visibility Problem

splunk> .conf2017

© 2017 SPLUNK INC.

The Dev Lifecycle is Complex

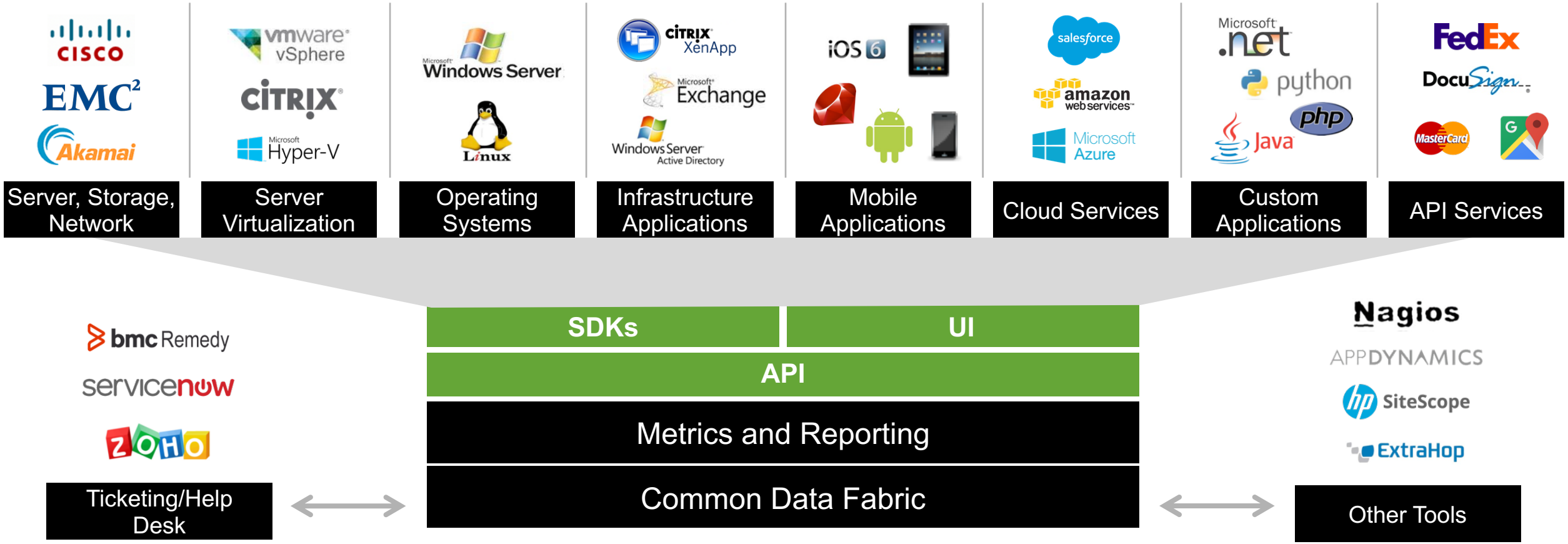


No rigid schemas – add in data from any other source.

splunk> .conf2017

© 2017 SPLUNK INC.

The Ops Environment is Complex



© 2017 SPLUNK INC.

DevOps is Exponentially More Complex

Plan: JIRA, VersionOne, ca technologies

Code: git, Visual Studio

Build: Jenkins, Bamboo, Travis CI

Test/QA: Selenium, AppScan, Fortify, sonarqube

Stage: amazon web services, Pivotal, docker, kubernetes

Release: Octopus Deploy, Electric Cloud, Capistrano, urban{code}

Config: puppet, ANSIBLE, VAGRANT, CHEF

Monitor: New Relic, dynatrace

Biz → PMO → Dev → Build → QA → Sec → Stage → Ops → Biz

Server, Storage, Network: CISCO, EMC², Akamai

Server Virtualization: vmware vSphere, CITRIX, Microsoft Hyper-V

Operating Systems: Windows Server, Linux

Infrastructure Applications: CITRIX XenApp, Microsoft Exchange, Windows Server Active Directory

Mobile Applications: iOS 6

Cloud Services: salesforce, amazon web services, Microsoft Azure

Custom Applications: Microsoft .net, python, Java, php

API Services: FedEx, DocuSign, MasterCard, Google Maps

splunk> .conf2017

© 2017 SPLUNK INC.

DOM – Color

"Tell us some of the challenges you have seen customers deal with before they looked to Splunk to solve them"

splunk> .conf2017

One Constant - Data

- From every tool, process, or component in Dev.
- On-premises, in the cloud, or with 3rd party Ops.
- Across diverse teams, activities, and services.

© 2017 SPLUNK INC.

Measuring The DevOps Lifecycle

Metrics that matter for data-driven DevOps decisions

splunk> .conf2017

© 2017 SPLUNK INC.

Culture
Automation
Measurement
Sharing

splunk> .conf2017

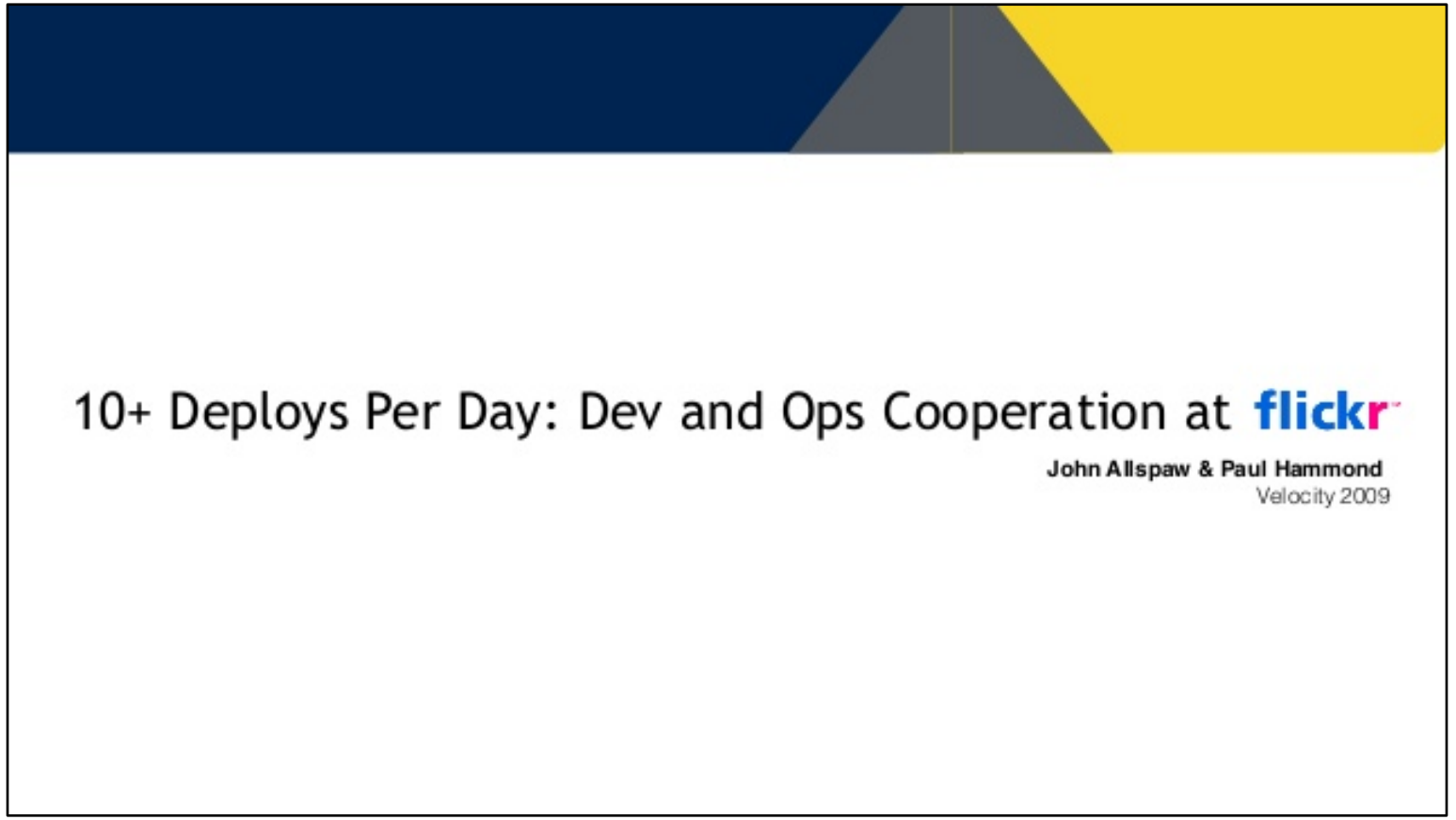
© 2017 SPLUNK INC.

Culture
Automation
Measurement
Sharing

splunk> .conf2017

© 2017 SPLUNK INC.

BUT WHAT DATA DRIVES GOOD DEVOPS DECISIONS?



splunk> .conf2017

Sales?
Downloads?
Installs?
Users?
What activities?
What outcomes?

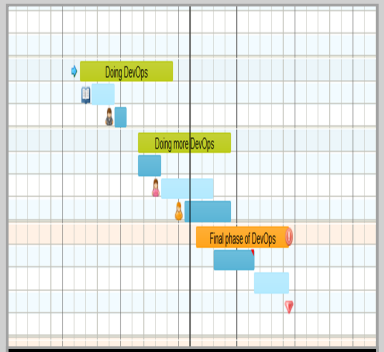
© 2017 SPLUNK INC.

Some DevOps Metrics That *Might* Matter

Culture

e.g.

- Retention
- Satisfaction
- Callouts



Process

e.g.

- Idea-to-cash
- MTTR
- Deliver time

Quality

e.g.

- Tests passed
- Tests failed
- Best/worst

Systems

e.g.

- Throughput
- Uptime
- Build times

Activity

e.g.

- Commits
- Tests run
- Releases

Impact

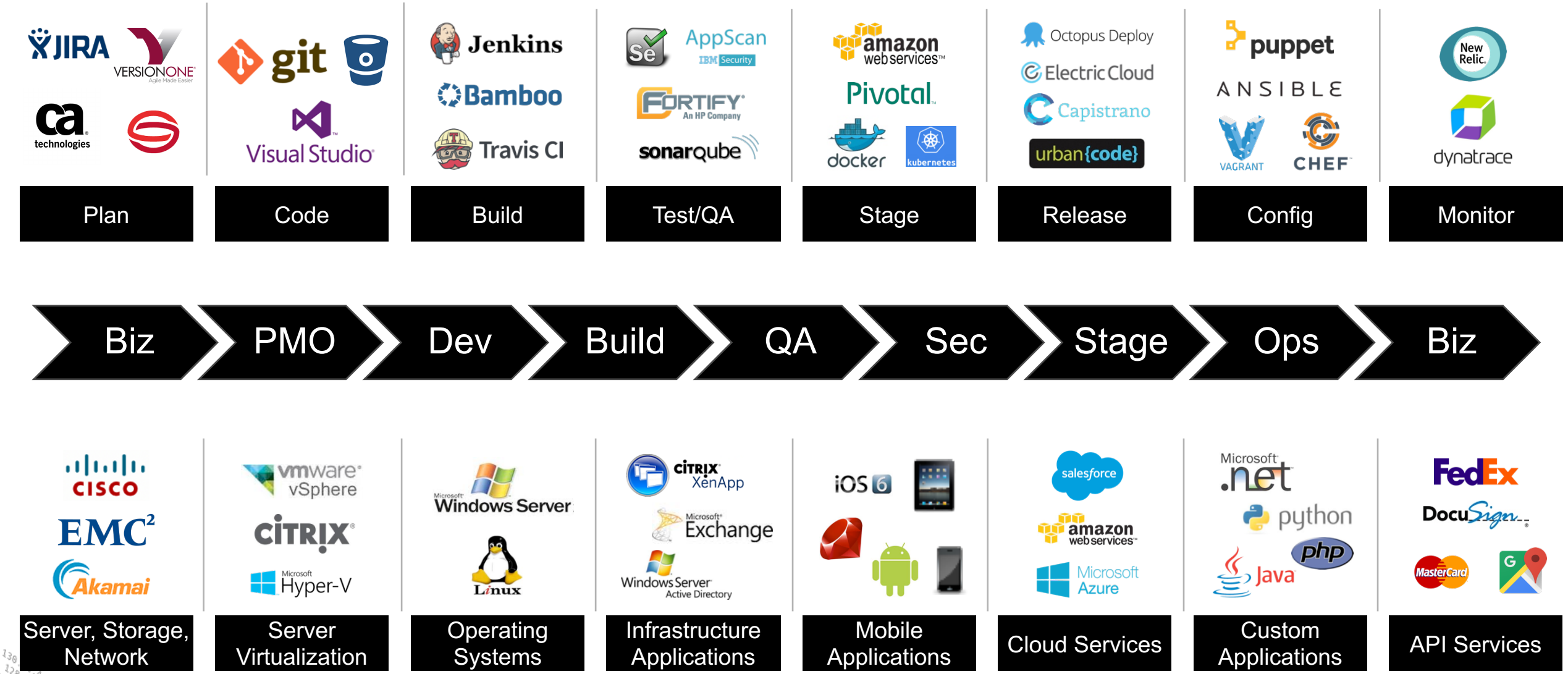
e.g.

- Signups
- Checkouts
- Revenue

splunk> .conf2017

© 2017 SPLUNK INC.

Visibility Enables Measurement and Analytics



splunk> .conf2017

© 2017 SPLUNK INC.

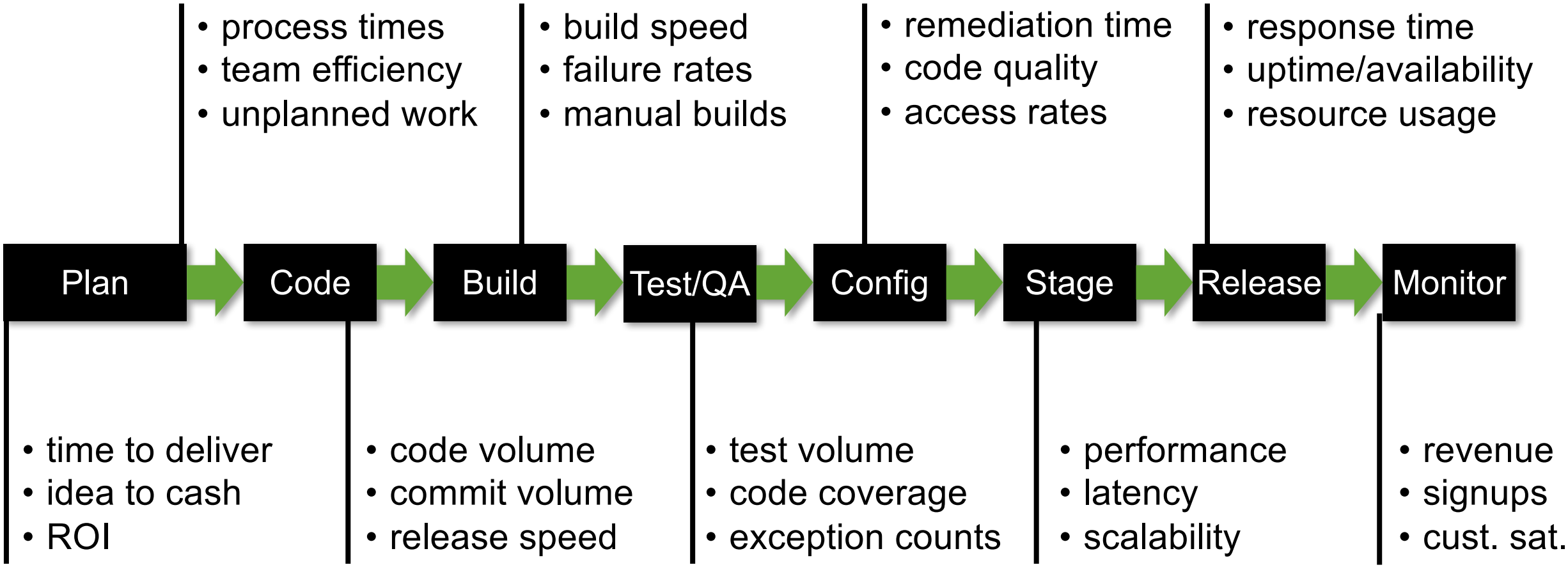
Introducing DevOps Lifecycle Analytics

Using metrics that matter to analyze speed, quality, and business impact

splunk> .conf2017

© 2017 SPLUNK INC.

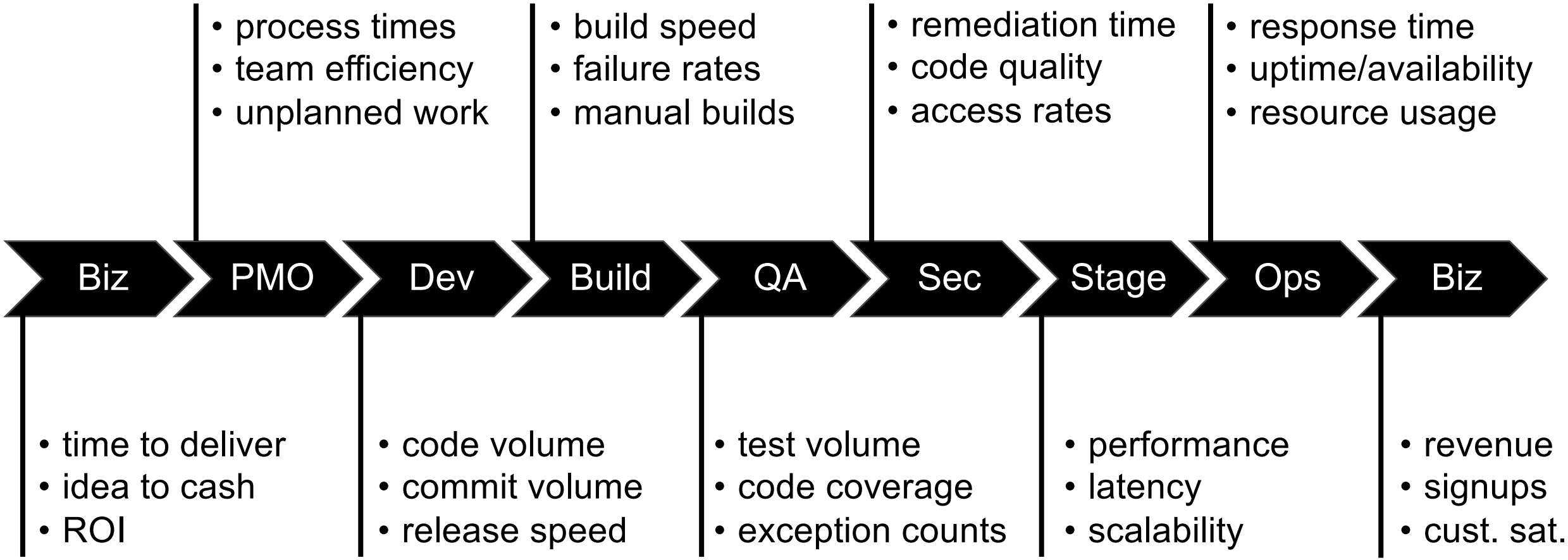
Analytics At Every Phase of The DevOps Lifecycle



splunk> .conf2017

© 2017 SPLUNK INC.

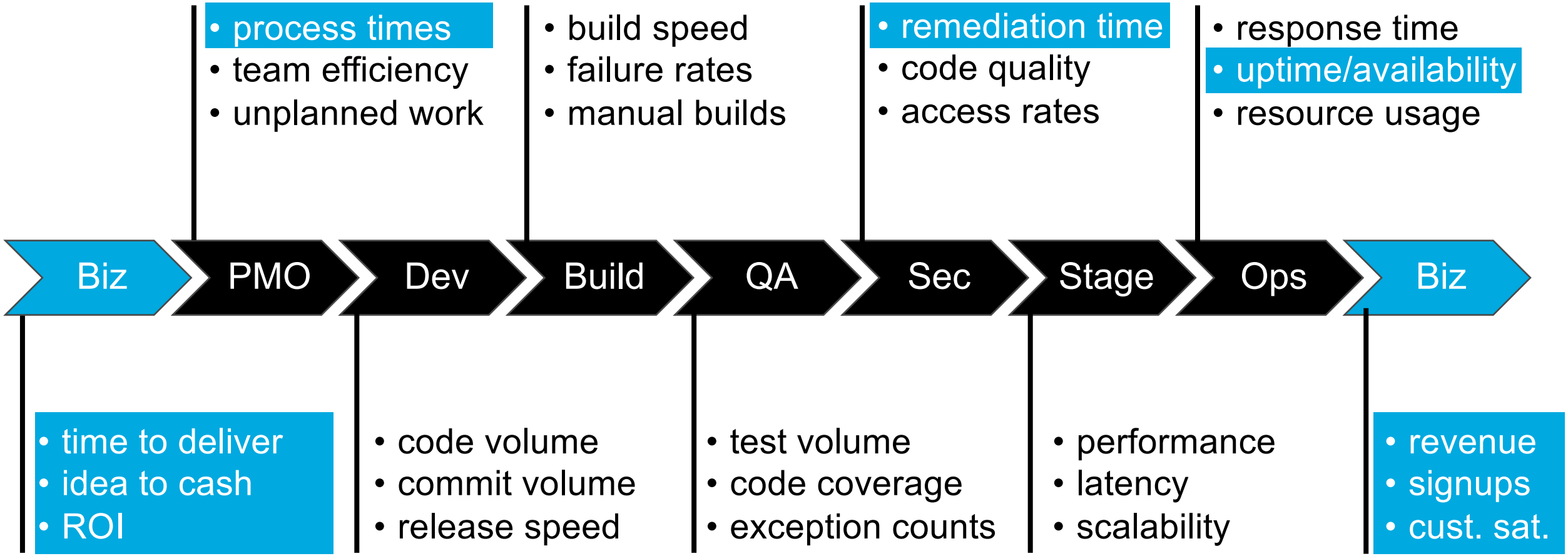
Specific Data For Each Stakeholder



splunk> .conf2017

© 2017 SPLUNK INC.

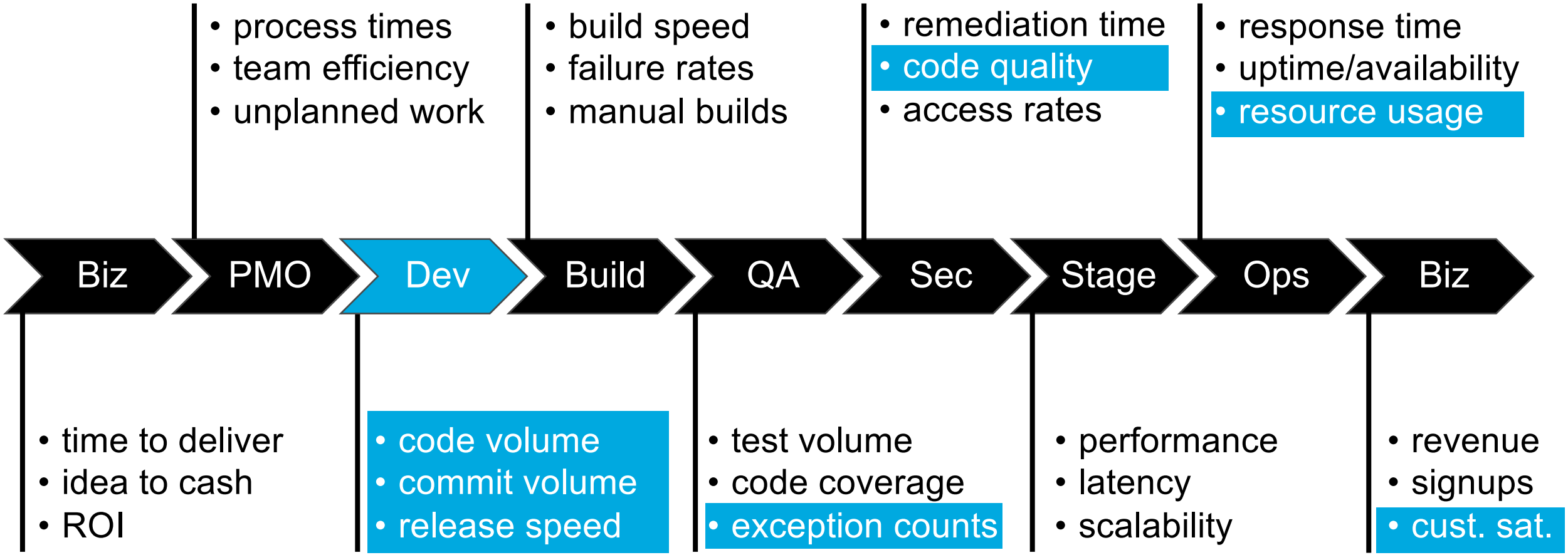
Shared Data for Multiple Stakeholders



splunk> .conf2017

© 2017 SPLUNK INC.

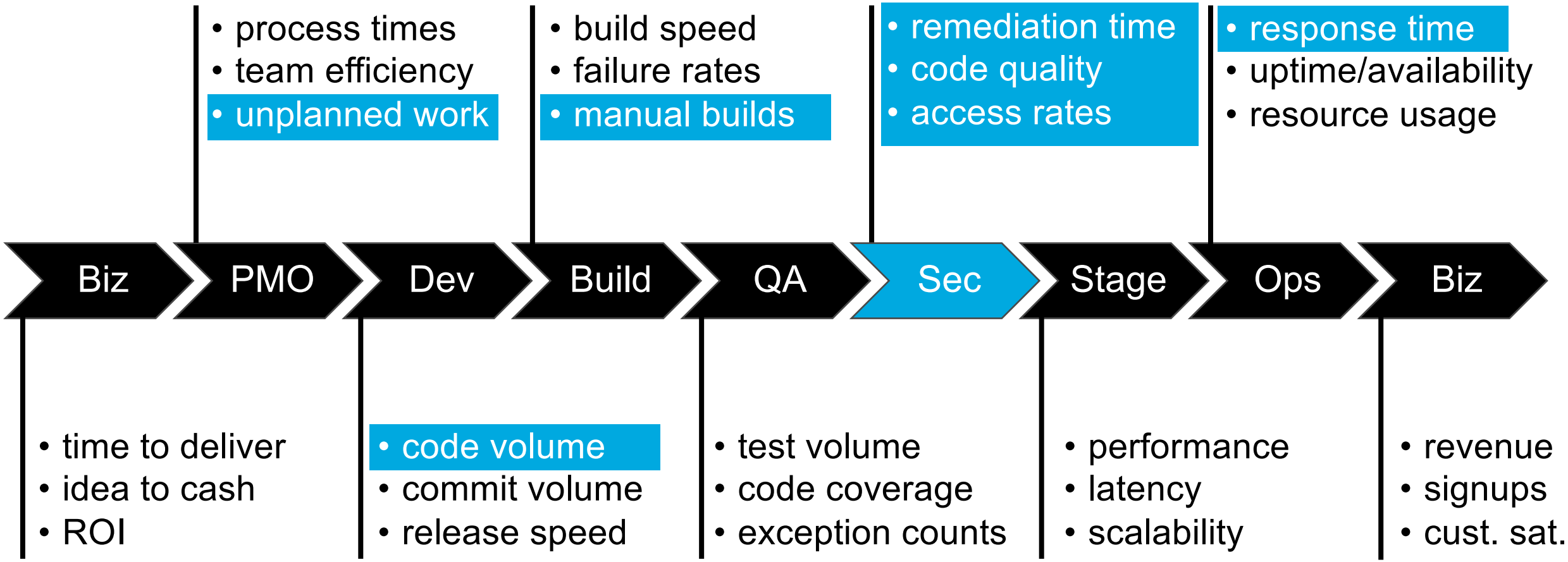
Shared Data for Multiple Stakeholders



splunk> .conf2017

© 2017 SPLUNK INC.

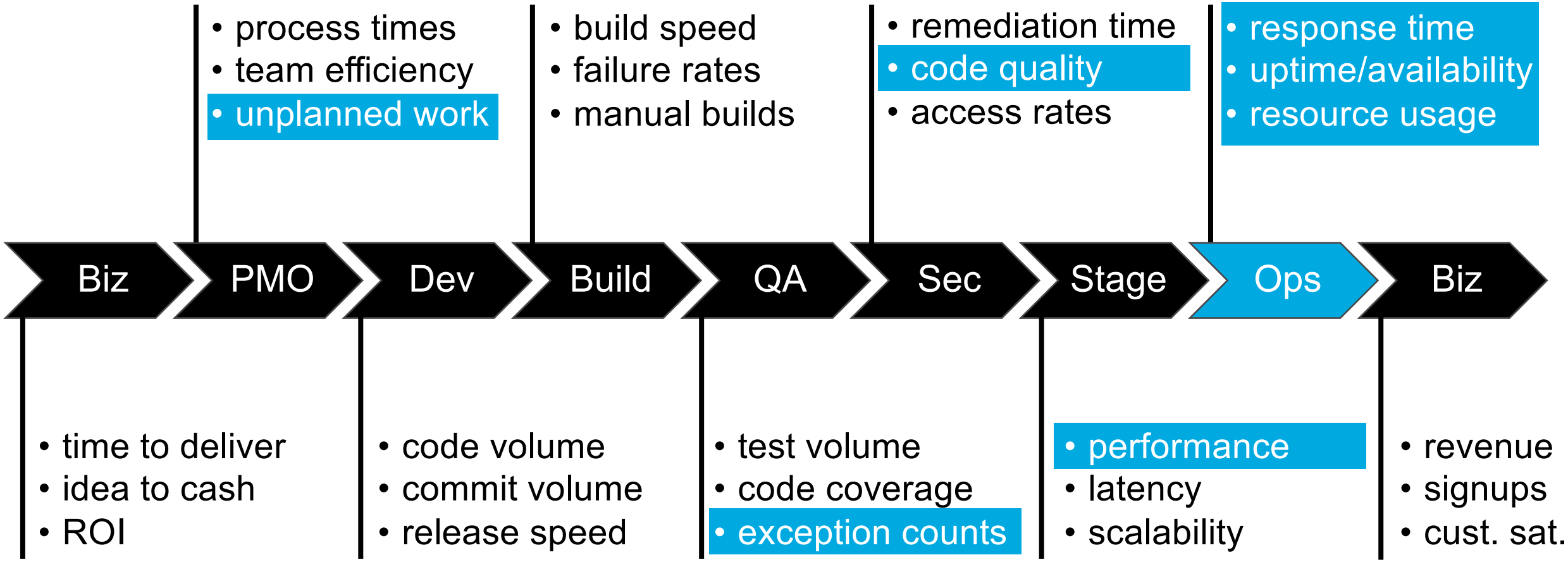
Specific Data For Each Stakeholder



splunk> .conf2017

© 2017 SPLUNK INC.

Specific Data For Each Stakeholder



splunk> .conf2017

© 2017 SPLUNK INC.

DevOps Lifecycle Analytics: Use Case Examples

Customer use cases and examples of how Splunk addresses key visibility problems

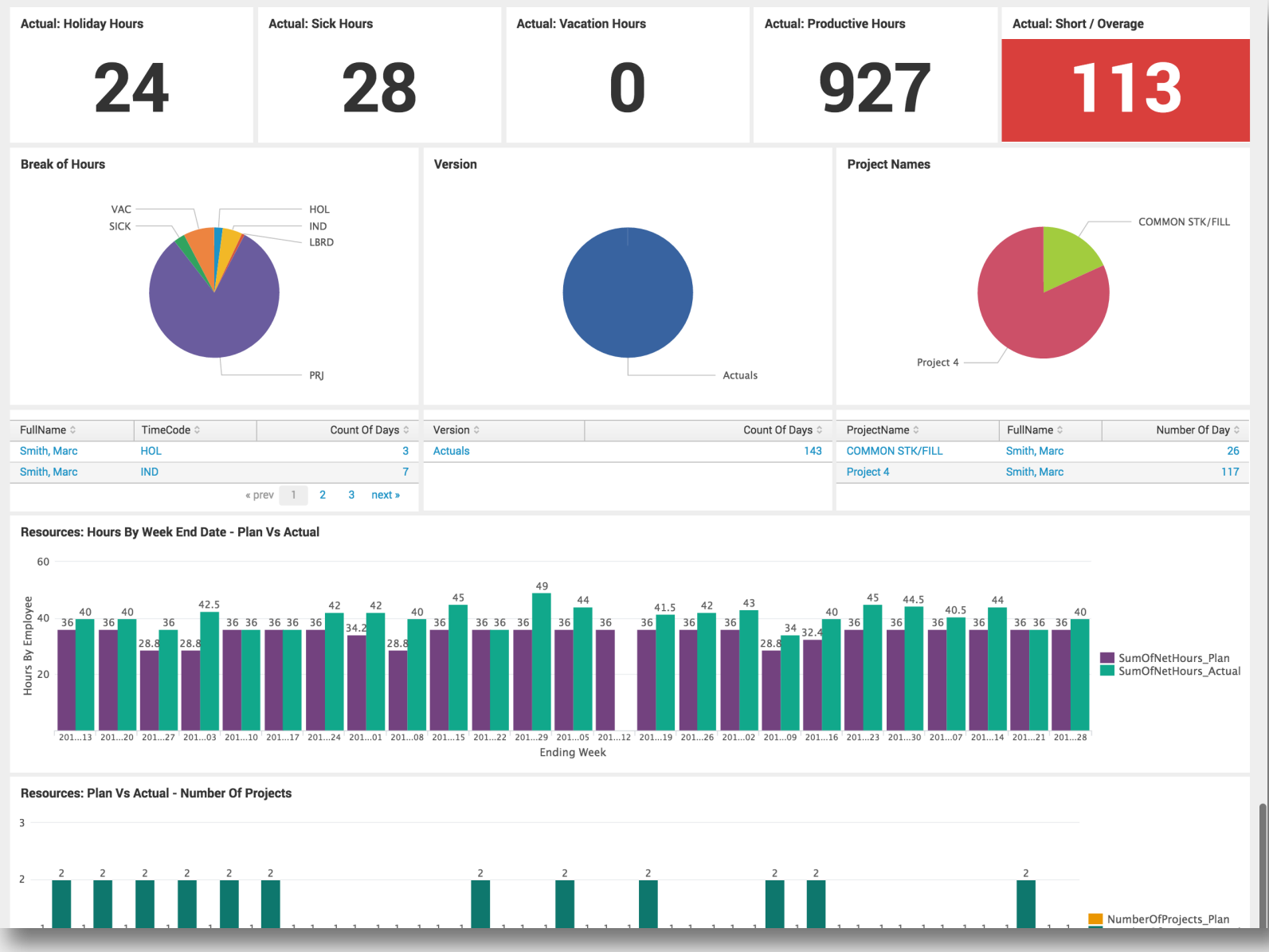
splunk> .conf2017

© 2017 SPLUNK INC.

Using Splunk for Resource Analytics

Insight and prediction for effective resource allocation

- Key Metrics:
  - Work time vs. PTO/sick
  - Hours by product/project
  - Resource shortages
- Data Sources:
  - Jira
  - WorkDay



splunk> listen to your data®

© 2017 SPLUNK INC.

Using Splunk for Cost Analytics

Measurement and predictability for cost control

- Key Metrics:
  - Productive hours
  - Labor costs
  - Plan vs. actual
- Data Sources:
  - WorkDay
  - PeopleSoft

splunk> listen to your data®

© 2017 SPLUNK INC.

Using Splunk for DevTeam Analytics

Insight to coder activity for teaming & work/life balance

- Key Metrics:
  - Commit count
  - Commits by author
  - Commit days/times
- Data Sources:
  - GitHub

splunk> listen to your data®

© 2017 SPLUNK INC.

Using Splunk for Code Analytics

Real-time data on code quality and compliance

- Key Metrics:
  - Code policy compliance
  - Code/file/class complexity
  - Code analysis coverage
- Data Sources:
  - GitHub
  - Sonarcube

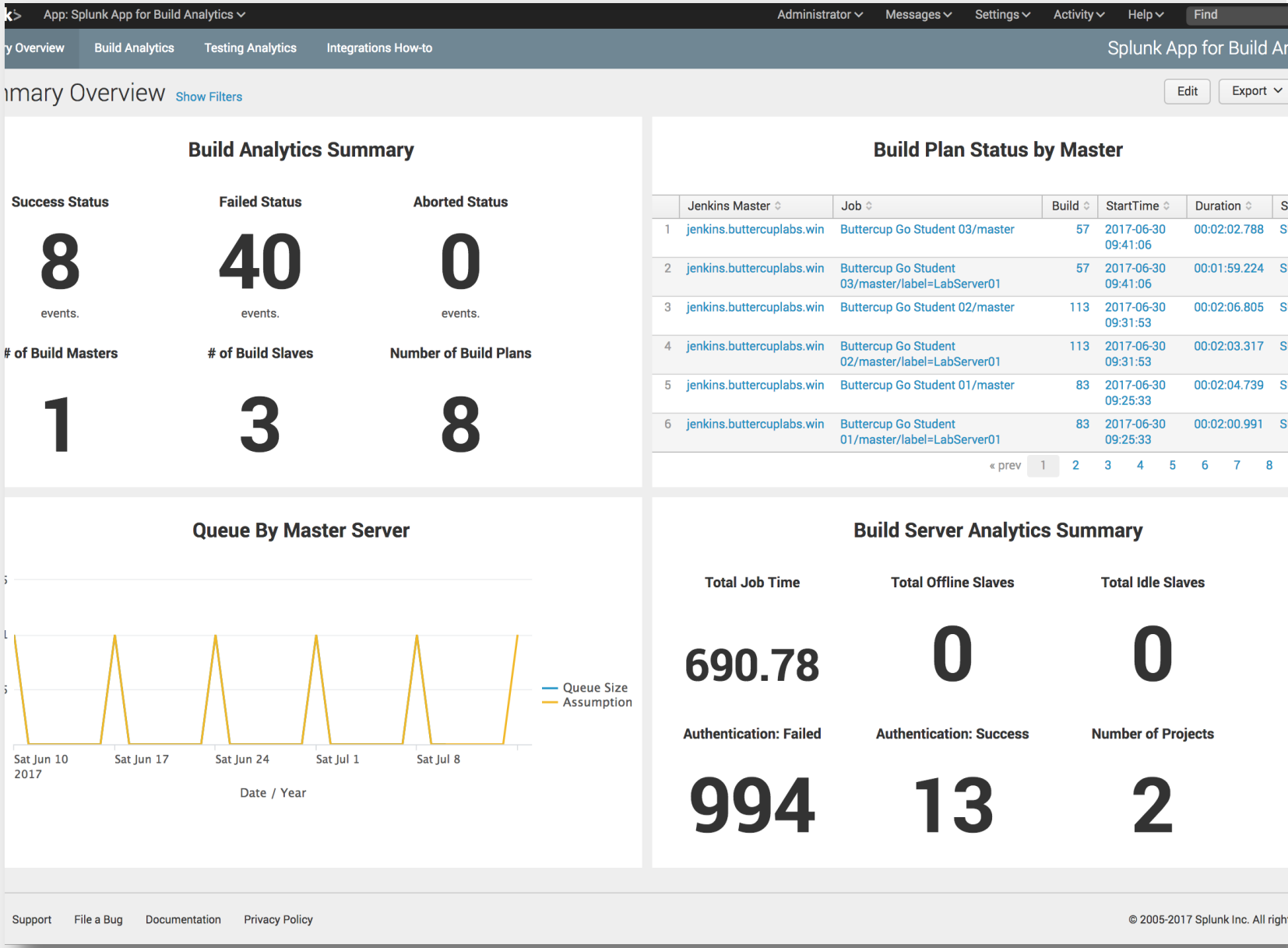
splunk> listen to your data®

© 2017 SPLUNK INC.

Using Splunk for Build Analytics

Find and fix build issues to accelerate product lifecycle

- Key Metrics:
  - Build success/failure
  - Build queue status
  - Build process times
- Data Sources:
  - Jenkins
  - Sonarcube



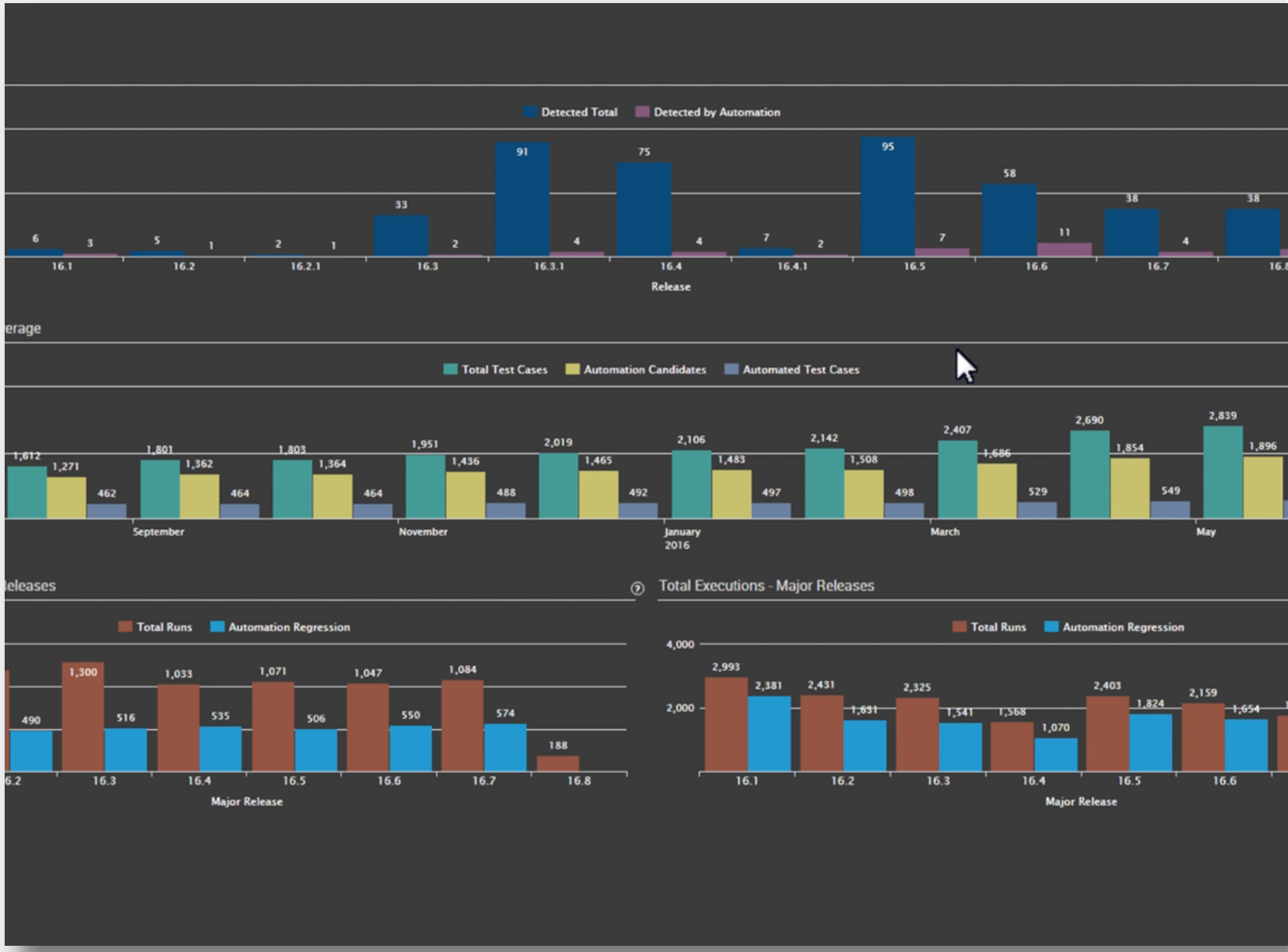
splunk> listen to your data®

© 2017 SPLUNK INC.

Using Splunk for Quality Analytics

Automatically review QA results to improve quality

- Key Metrics:
  - Defects detected
  - Test coverage
  - Test executions
- Data Sources:
  - Selenium
  - AppScan
  - ServiceNow



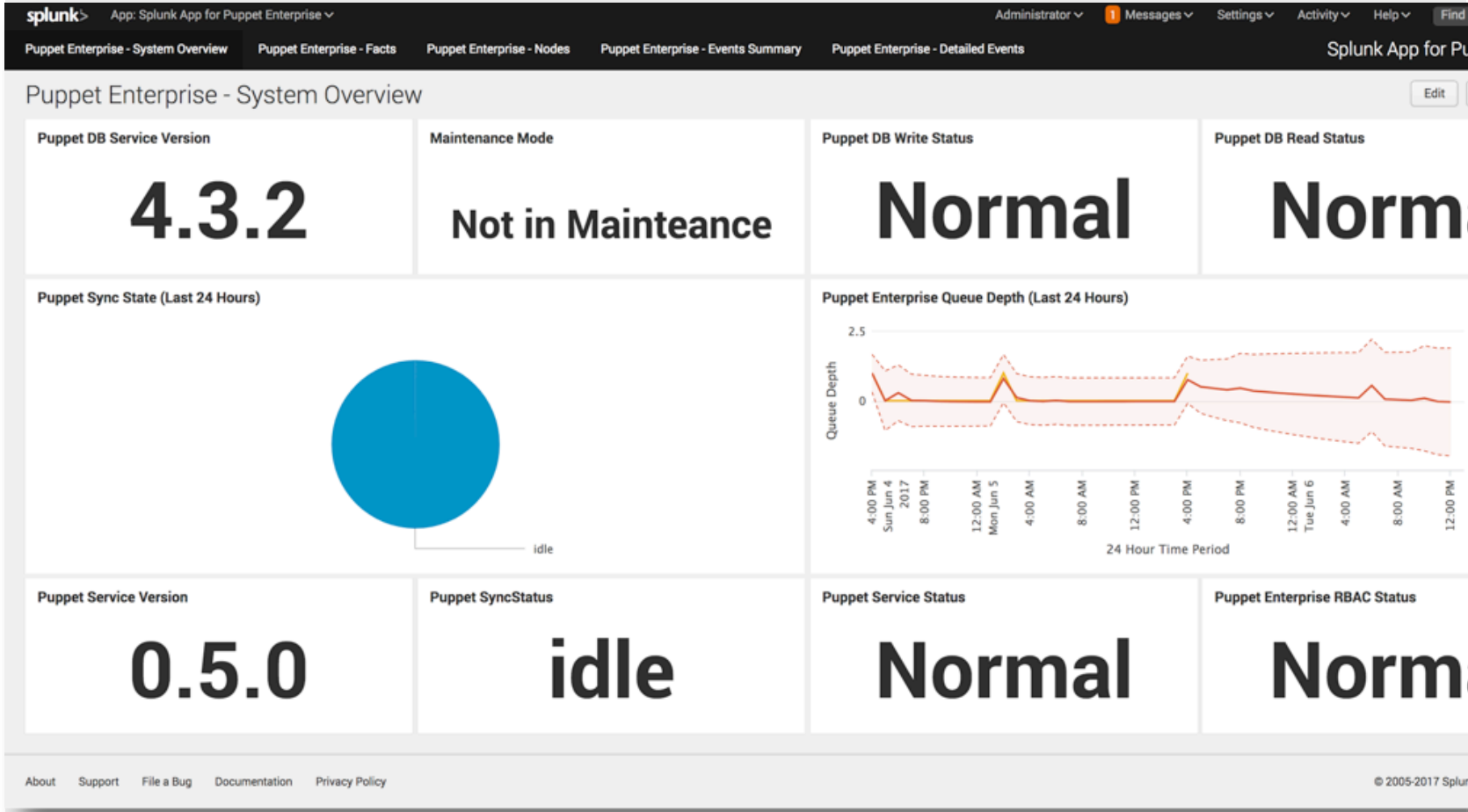
splunk> listen to your data®

© 2017 SPLUNK INC.

Using Splunk for Config Analytics

Monitor provisioning/config to accelerate time to ‘done’

- Key Metrics:
  - Provisioning success/failure
  - Provisioning times
  - Config drift by node
- Data Sources:
  - Puppet

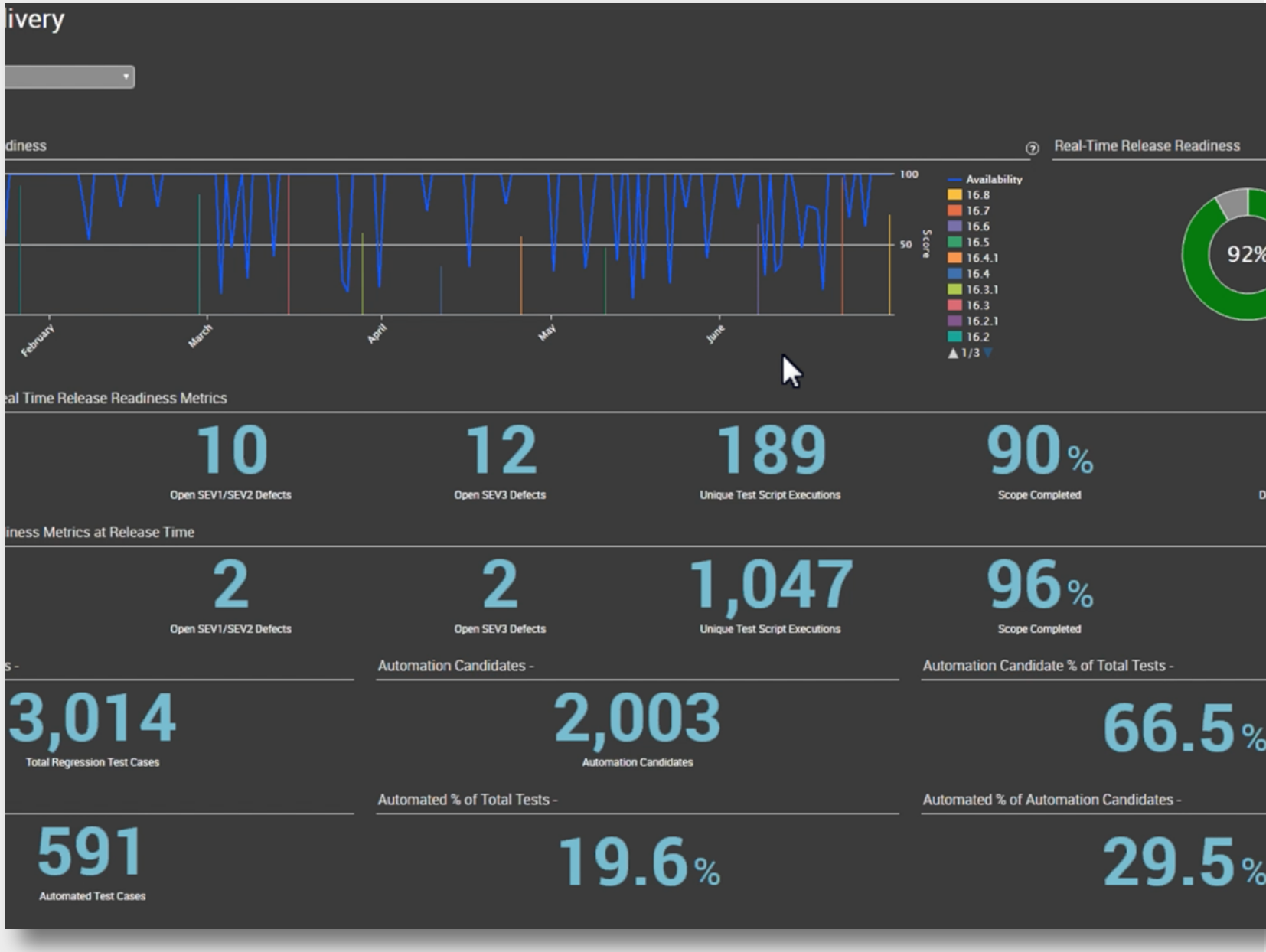


© 2017 SPLUNK INC.

Using Splunk for Release Analytics

Real-time data for better, faster release decisions

- Key Metrics:
  - Availability by release
  - Tickets by release
  - Release readiness
- Data Sources:
  - ServiceNow
  - SonarCube
  - HP OpenView



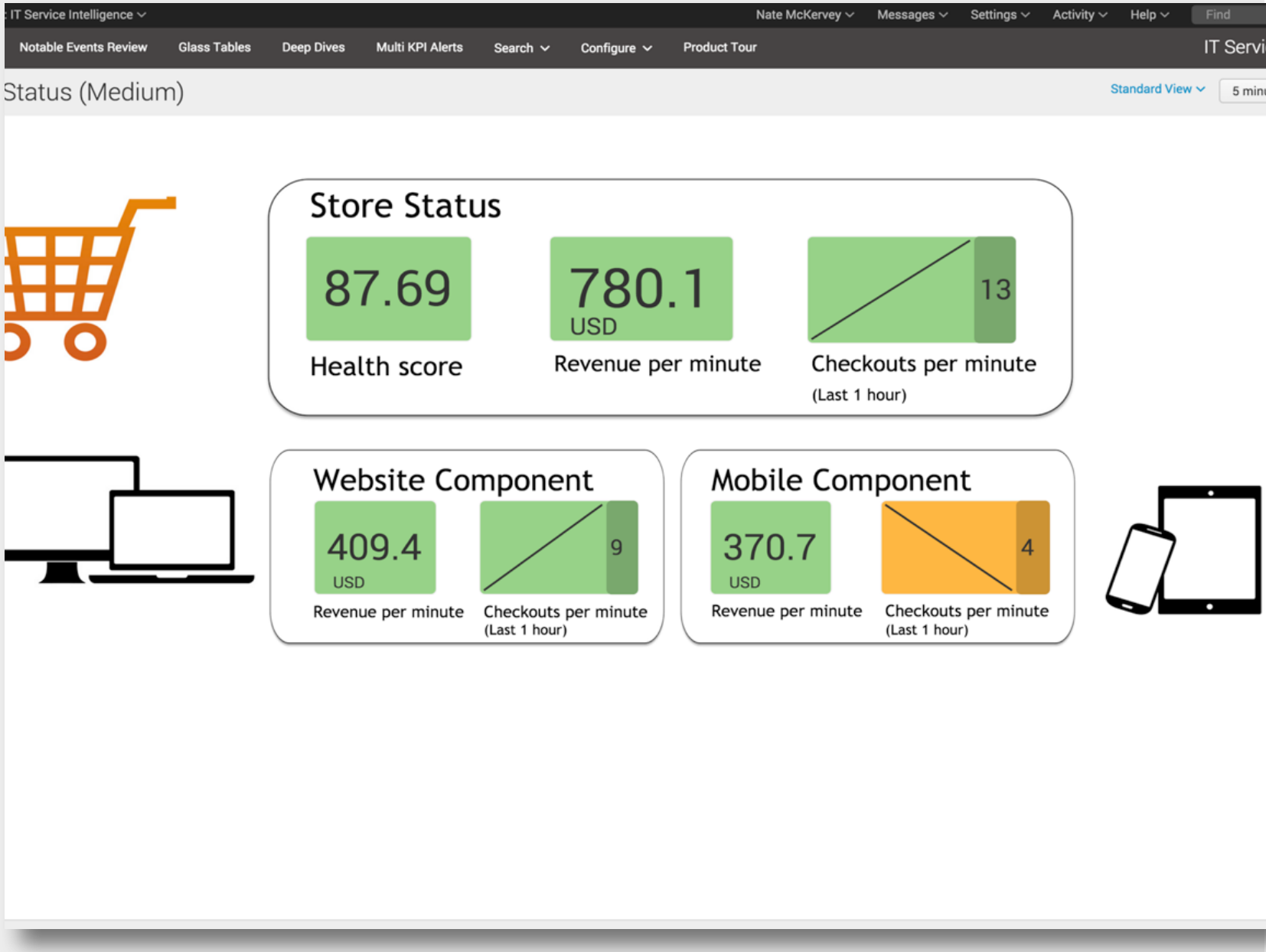
splunk> listen to your data®

© 2017 SPLUNK INC.

Using Splunk for Impact Analytics

Realtime business insight to drive impactful development

- Key Metrics:
  - Revenue per min
  - Checkout rate
  - Cart fulfillment/abandon
- Data Sources:
  - Web logs
  - HTTP events
  - SFA/CRM

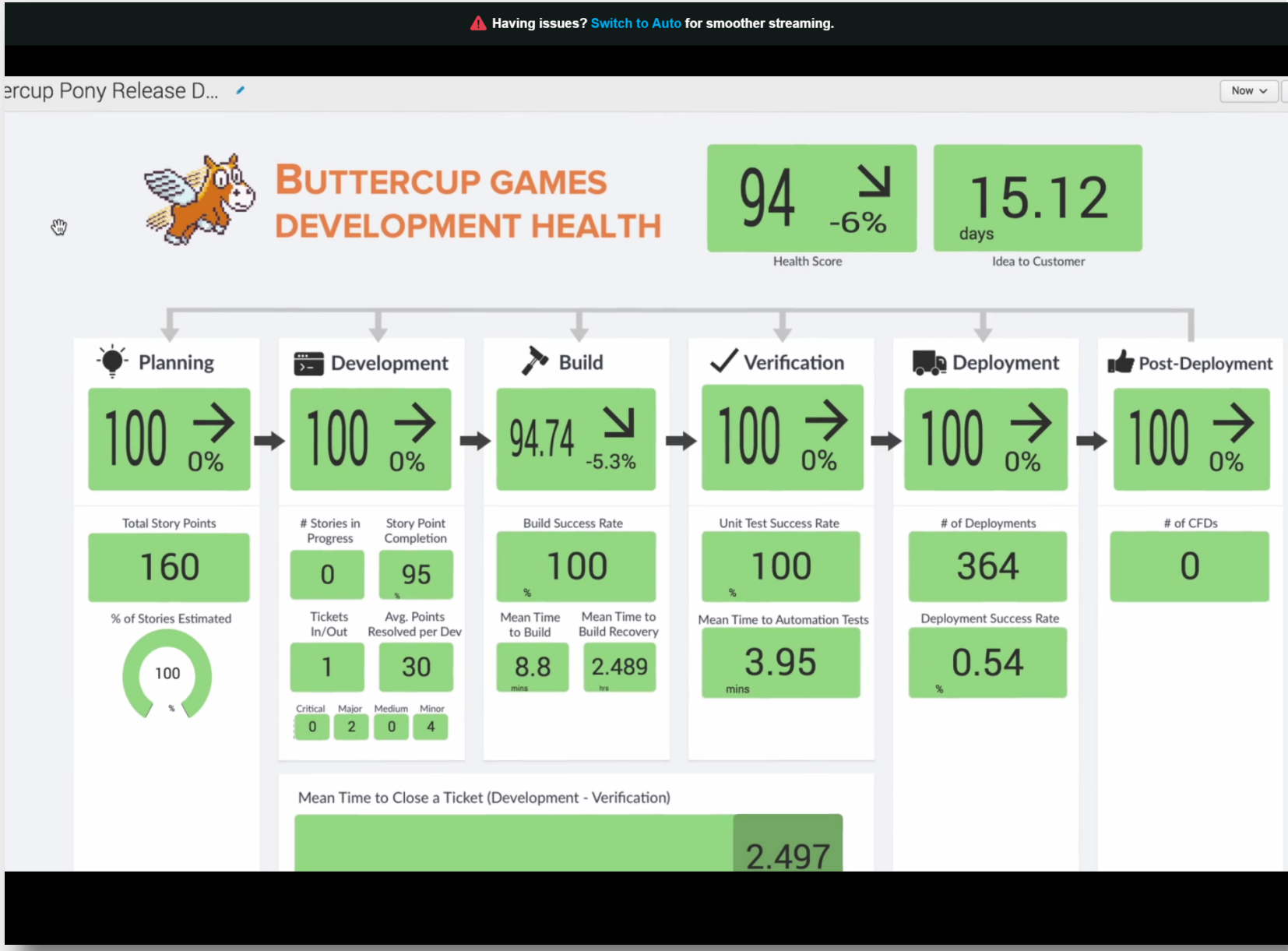


© 2017 SPLUNK INC.

Using Splunk for Value Stream Analytics

KPIs across the lifecycle for value-stream management

- Key Metrics:
  - Cycle time
  - Story completion
  - Deployment rate
- Data Sources:
  - Jira
  - Bamboo
  - BitBucket



splunk> listen to your data®

© 2017 SPLUNK INC.

DOM – Color

"Tell us some of the benefits that your customers have seen from using Splunk to address these use cases"

© 2017 SPLUNK INC.

DOM – Demo (Build Analytics)

"Can you show us a live demo of any of these capabilities?"

splunk> .conf2017

© 2017 SPLUNK INC.

Other Use Cases In AppDev and DevOps

Collaborative IT troubleshooting for Dev and Ops

Build machine data analytics into applications

ChatOps and Splunk for war room & post-mortems

Connect DevOps and security via data (DevSecOps)

Insight into human systems for cultural metrics

splunk> .conf2017

© 2017 SPLUNK INC.

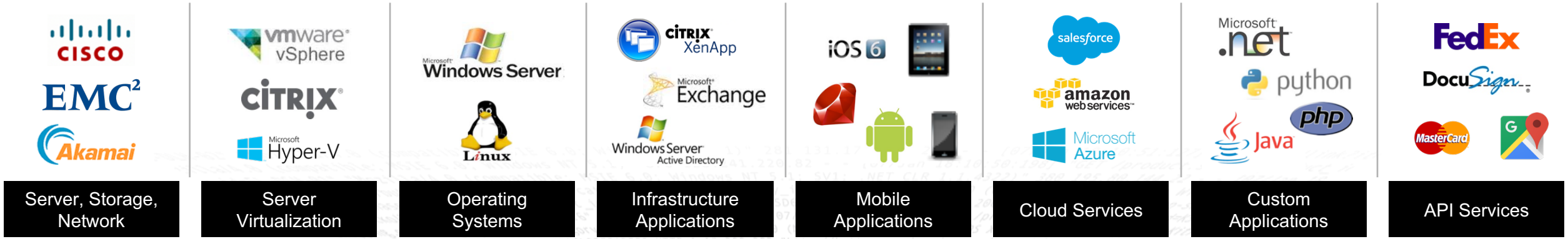
Splunk for DevOps

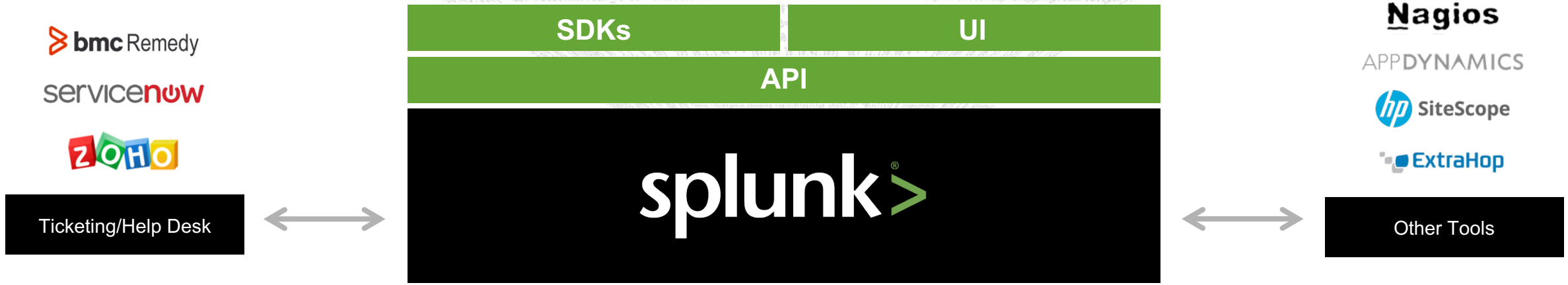
Enabling collaboration, communication, and integration
for DevOps teams making data-driven decisions

splunk> .conf2017

© 2017 SPLUNK INC.

Splunk Provides Visibility Across Ops



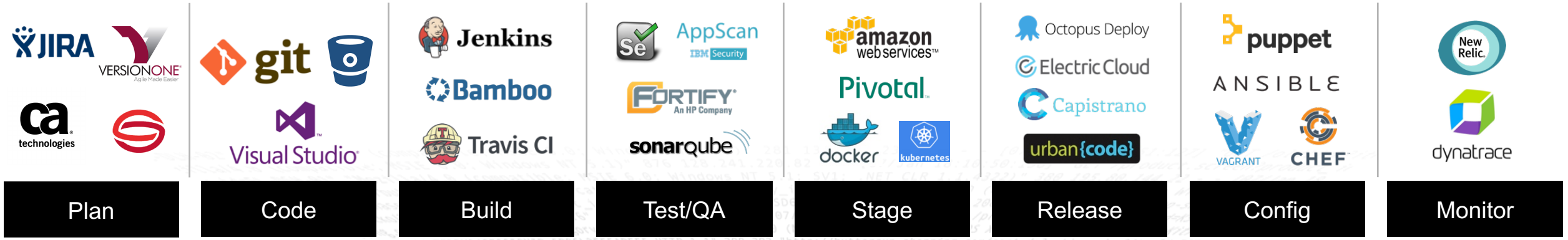


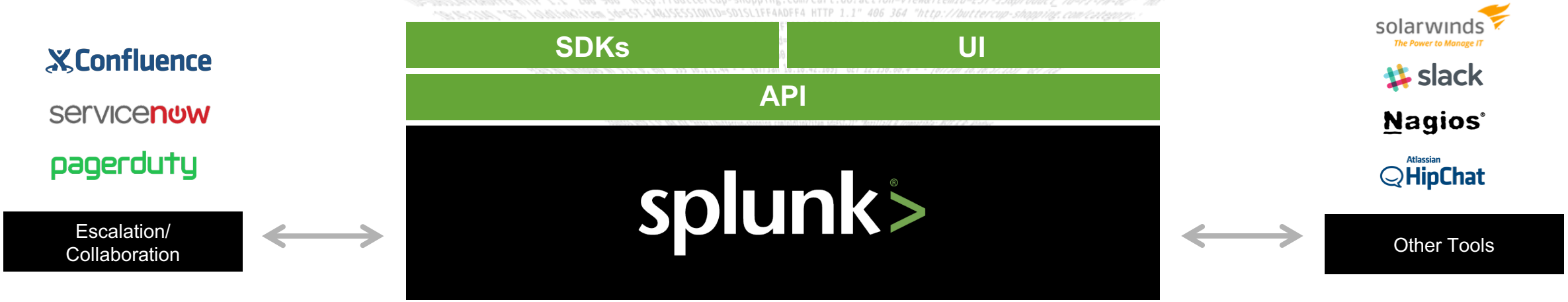
No rigid schemas – add in data from any other source.

splunk> .conf2017

© 2017 SPLUNK INC.

Splunk Provides Visibility Across Dev



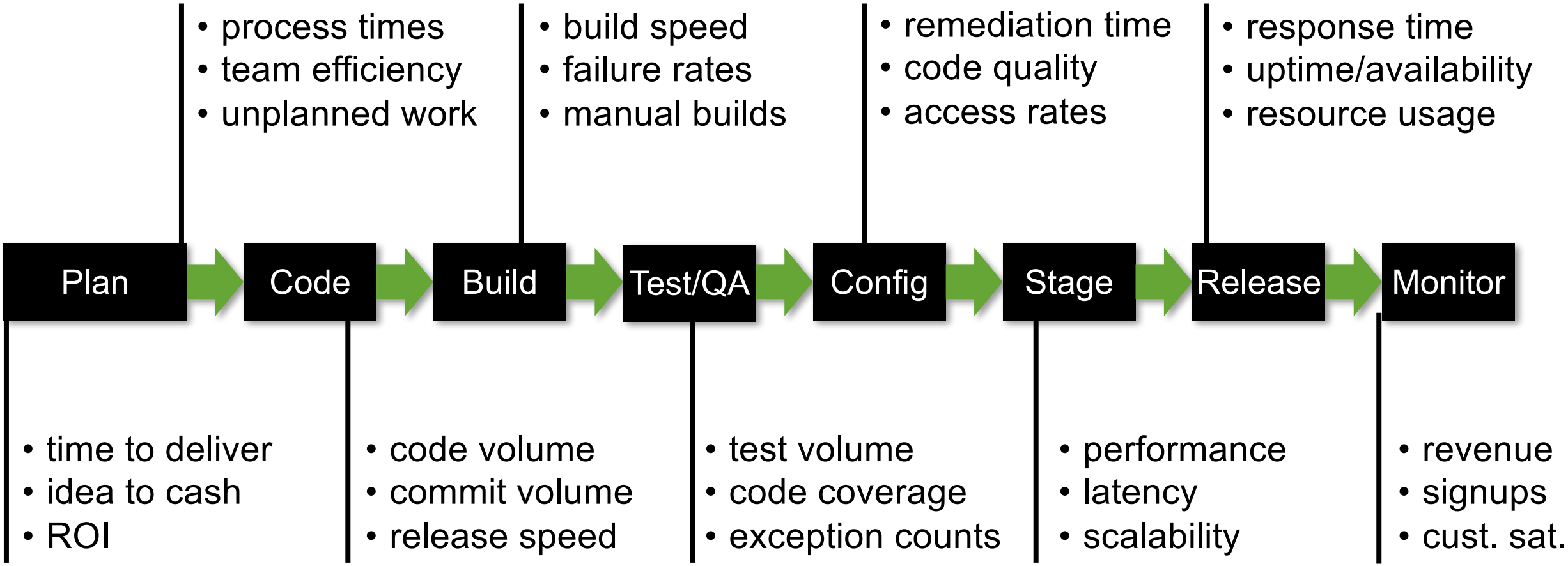


No rigid schemas – add in data from any other source.

splunk> .conf2017

© 2017 SPLUNK INC.

Splunk Enables Analytics Across The Lifecycle



splunk> .conf2017

© 2017 SPLUNK INC.

DevOps Lifecycle Analytics: Splunk Capability

DevOps Maturity

- Continuous Learning
- Continuous Delivery
- Organizational Alignment
- Agile Team Collaboration
- CI-Aligned Task Automation

Value Stream Analytics

DevOps Organizational Analytics

Resource Analytics | DevTeam Analytics | Cost Analytics

Application Lifecycle Analytics

Code Analytics | Build Analytics | Config Analytics | Quality Analytics | Release Analytics

Business Impact Analytics

splunk>enterprise

splunk>cloud

TAs, HEC, etc.

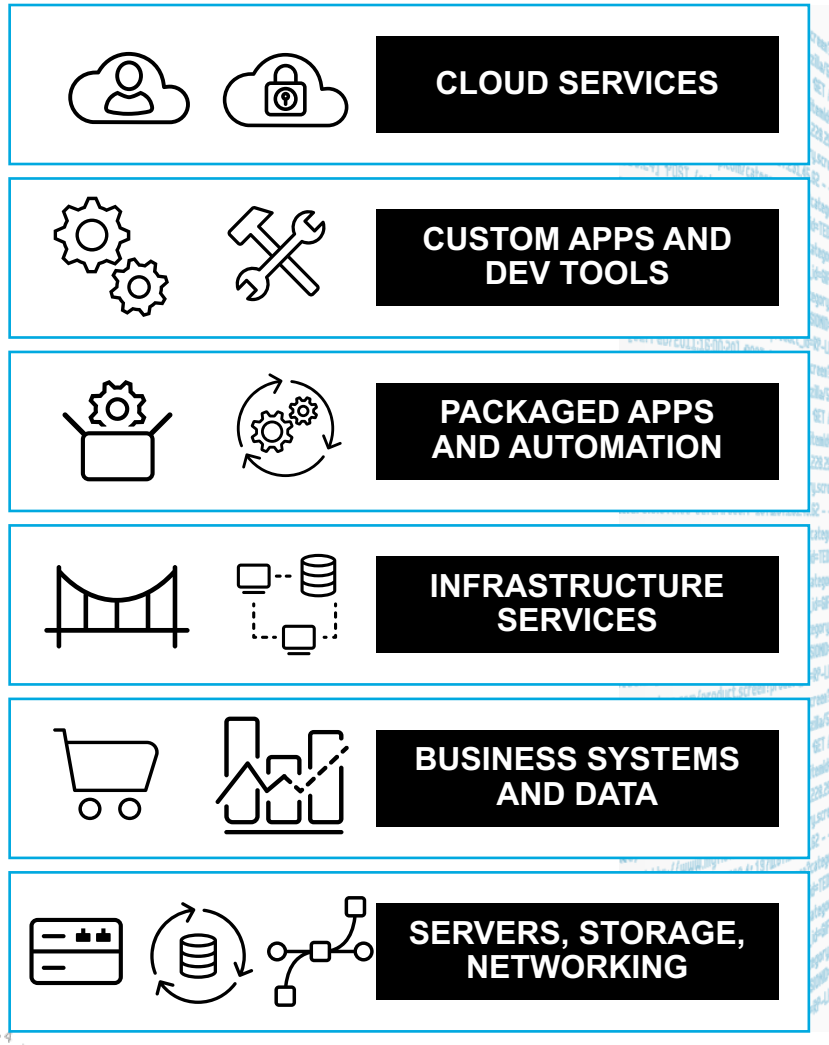
Plan	Code	Build	Test/QA	Config	Stage	Release	Monitor
JIRA, Rally, VersionOne, Visual Studio	git, IBM Rational	Jenkins, Bamboo, Travis CI	AppScan, Fortify, sonarqube	puppet, Ansible, Vagrant, Chef	amazon web services, Pivotal, docker, kubernetes	Octopus Deploy, Electric Cloud, Capistrano, urbancode	New Relic, bmc, Nagios, dynatrace, splunk>

DevOps Lifecycle

splunk> .conf2017

© 2017 SPLUNK INC.

Splunk + Partners Offer Complete Visibility



splunk> partner+

Accelerate product delivery

Use data from teams, tools, and activities to find bottlenecks in the CI/CD pipeline and eliminate waste

Improve product quality

Understand code quality from QA, pre-prod, staging, and post-release to ensure continuous improvement

Deliver on business goals

Drive continuous innovation by using real-time insight into release impact on business goals to iterate rapidly

splunk> .conf2017

© 2017 SPLUNK INC.

Key Benefits of Splunk for DevOps

Faster Time-to-Market

Shrink the time it takes to get code through dev/test to market—through faster issue resolution and reduced cycle time

"Our devs are now able to find and fix issues 5-10 times faster."

Agility with Confidence

Real-time visibility into processes like code check-ins, builds, tests to support continuous integration and continuous delivery

"We can monitor all the automation and handoffs it takes to deploy 5-10 times a day."

Business Insights

Instrument customer engagement and application usage to capture critical business events, outcomes, and user behavior

"My code isn't ready until it's Splunk-ready."

© 2017 SPLUNK INC.

Successful Businesses use Splunk for DevOps

ENERNOC

Cerner

NBCUniversal

APOLLO EDUCATION GROUP

redhat.

TiVO

AMAYA

Zillow

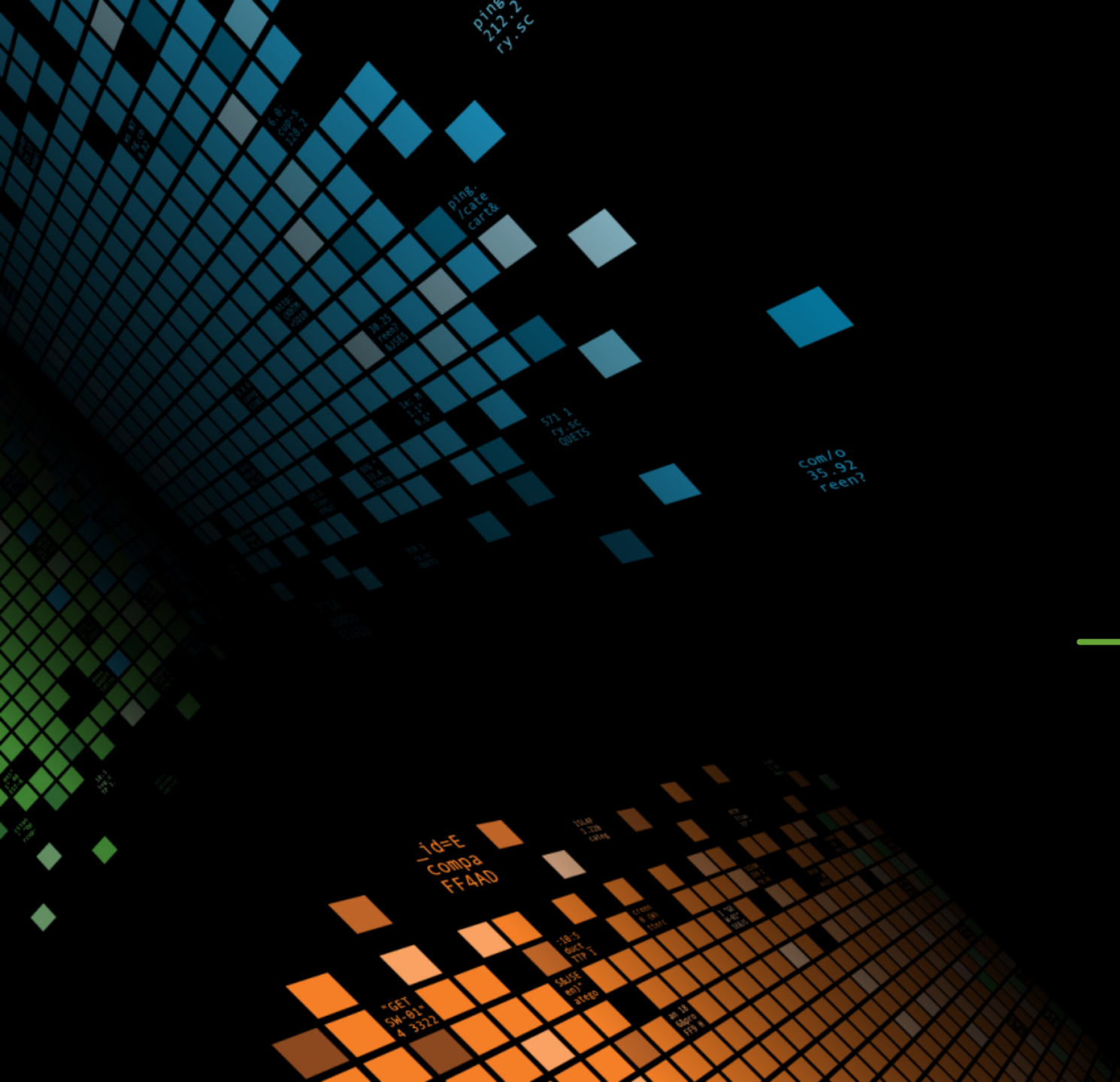
VERISIGN

SNAP INTERACTIVE

StubHub

splunk> .conf2017

© 2017 SPLUNK INC.



Next Steps

How Do You Eat An Elephant?

One bite at a time!

© 2017 SPLUNK INC.

PRODUCT LIFECYCLE ANALYTICS

Start with a Build Analytics POC

Find and fix build issues to accelerate product lifecycle

- Start with a pre-defined capability for a proof of concept in a key problem area
- Use your data and systems with a prebuilt, sandboxed Splunk deployment
- Our team onsite to walk through deployment, configuration, and proof of value

E-mail DevOps@splunk.com to get started!

© 2017 SPLUNK INC.

Remember To Check Out These Resources

- Splunk for DevOps – www.splunk.com/DevOps
- Splunk DevOps ecosystem apps: splunkbase.splunk.com
- Splunk blogs: www.splunk.com/blog/tag/devops
- Splunk community: www.splunk.com/community
- DevOps demo available – e-mail DevOps@splunk.com

splunk> .conf2017

DevOps

Making ~~machine~~ data accessible, usable and valuable to everyone.

splunk>

splunk> .conf2017

© 2017 SPLUNK INC.

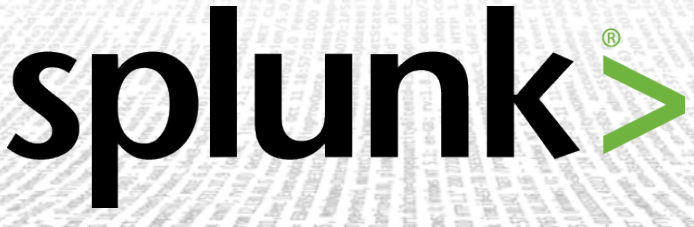
© 2017 SPLUNK INC.

Improve the Impact of Application Delivery

Accelerate Delivery Velocity

Improve Code Quality

Increase Business Impact



© 2017 SPLUNK INC.

Thank You

Don't forget to rate this session in the .conf2017 mobile app

splunk> .conf2017