

A low-angle, upward-looking photograph of several modern skyscrapers with glass facades. The buildings are arranged in a way that creates a strong sense of height and perspective, converging towards the top of the frame. The sky is a pale, overcast grey. The overall tone is professional and architectural.

cprime



THE IMPACT OF DEVOPS

ON THE BUSINESS ANALYST

YOUR SPEAKER



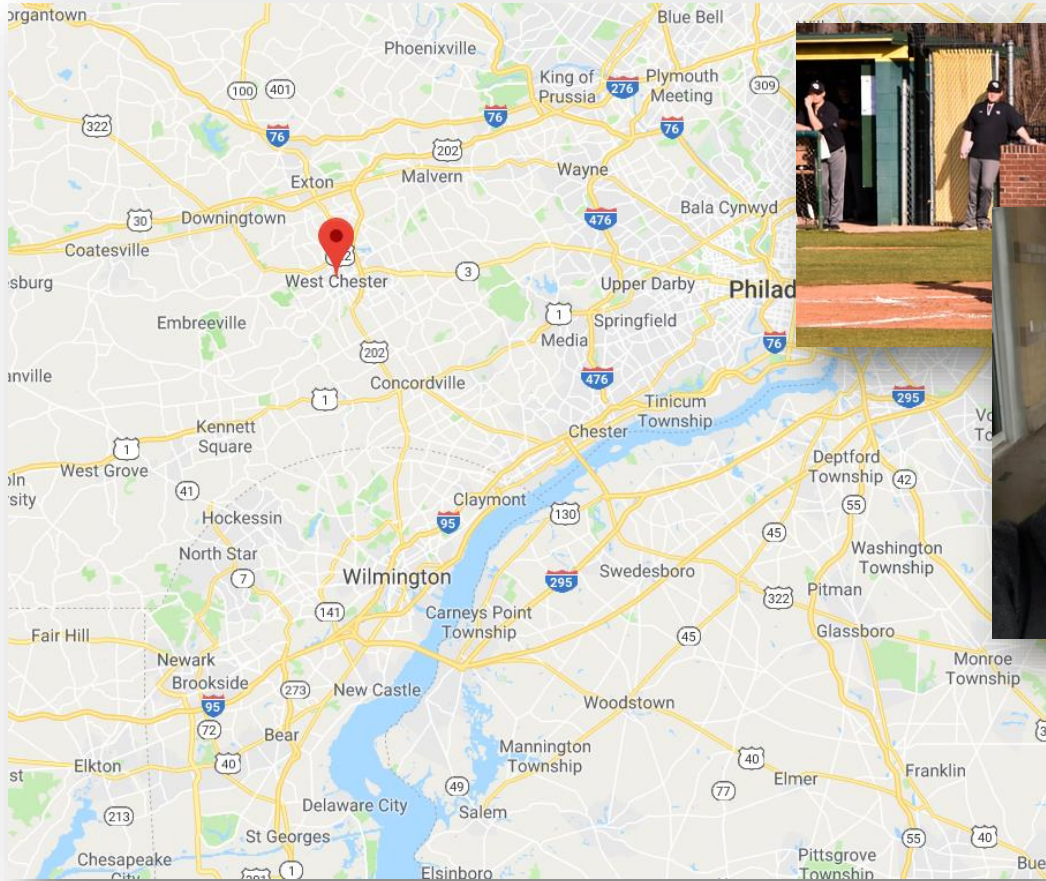
MICHAEL ROBERTS

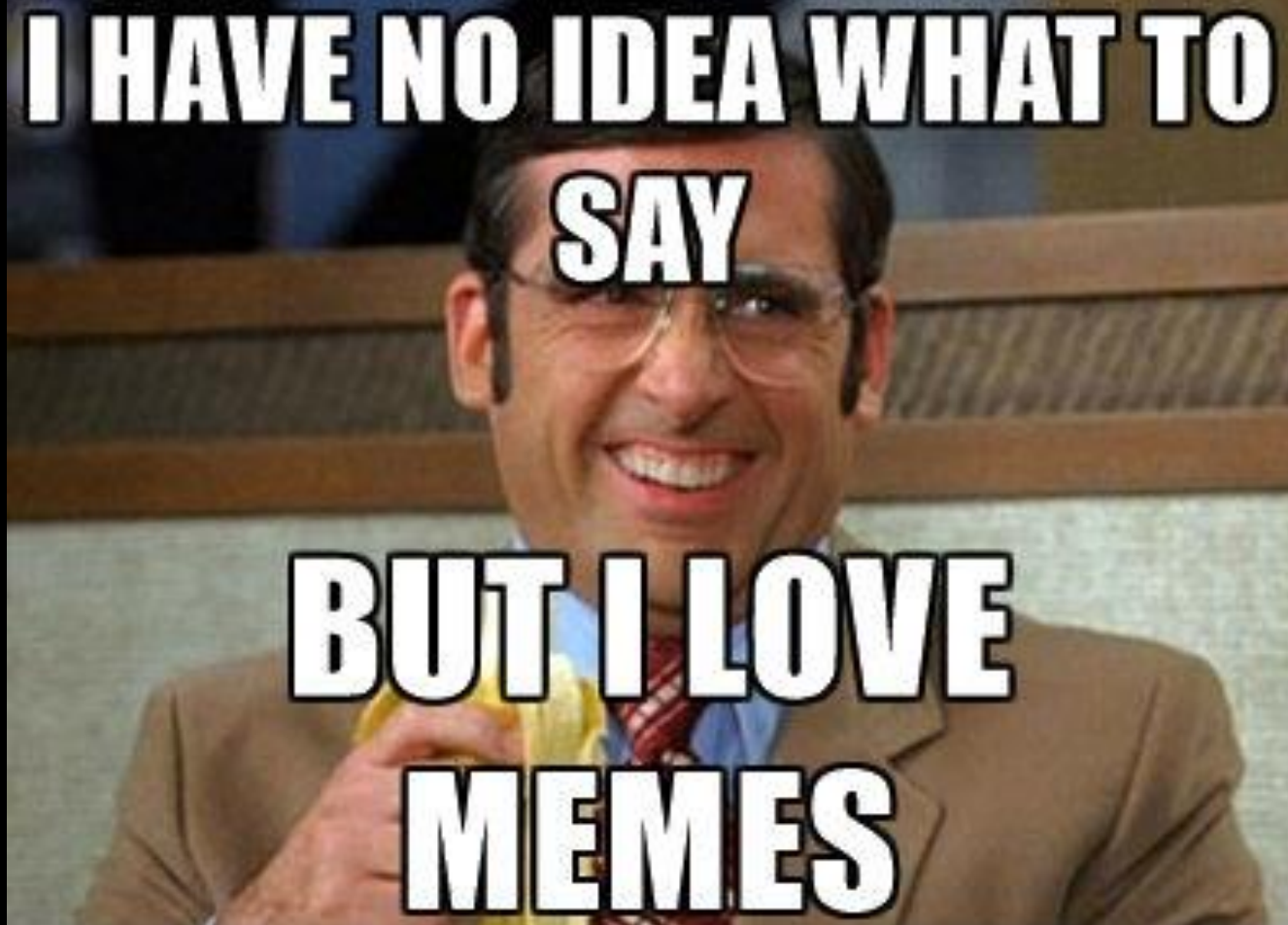
Director of Customer Engagement

Location: North Carolina
Company: Cprime
Certifications:



WHOAMI?



A meme featuring Steve Moss from the TV show 'The Office'. He is smiling broadly and holding a banana. The text is overlaid on the image in a white, bold, sans-serif font with a black outline.

**I HAVE NO IDEA WHAT TO
SAY
BUT I LOVE
MEMES**

WHY ARE YOU HERE TODAY?

I work with dev teams and I'm interested.

My friends are in here.

I don't know what DevOps means and want to learn.

My company is talking about DevOps.

I'm here to learn about Azure-DevOps.

This isn't the beer-drinking post conference party?

WHAT WE WILL DISCUSS TODAY...



- 01 CURRENT STATE OF MOST SDLC ORGS
- 02 WHAT DEVOPS IS AND HOW IT CAN BE IMPLEMENTED
- 03 APPLYING THE DEVOPS CONTEXT TO THE BABOK
- 04 PAIN POINTS AND ENABLERS
- 05 REAL-LIFE BA QUESTIONS ABOUT DEVOPS

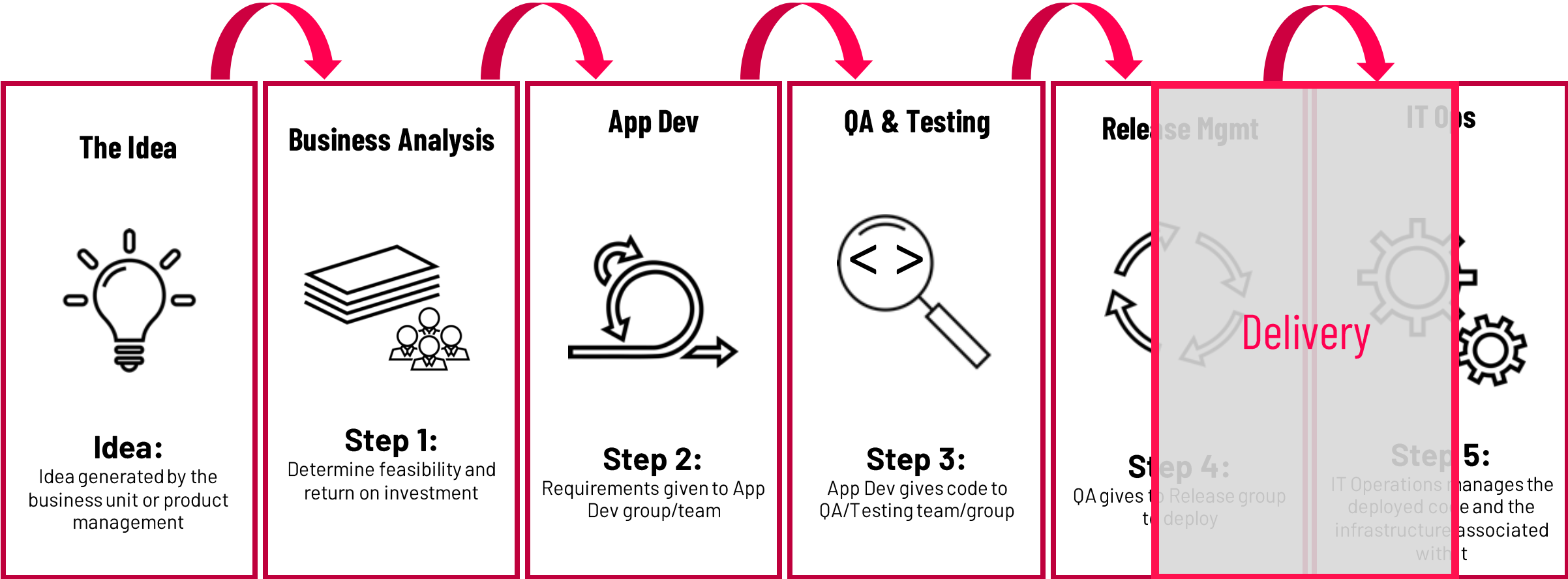
Who has heard of Technical Debt?

Who has heard of Technical Equity?

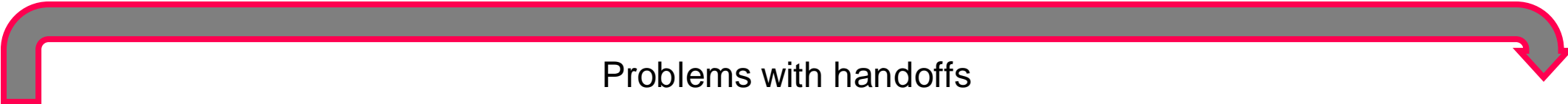
WHAT DO MOST SDLC ORGS LOOK LIKE?

The simplicity of it, but how
complexity and handoffs create problems

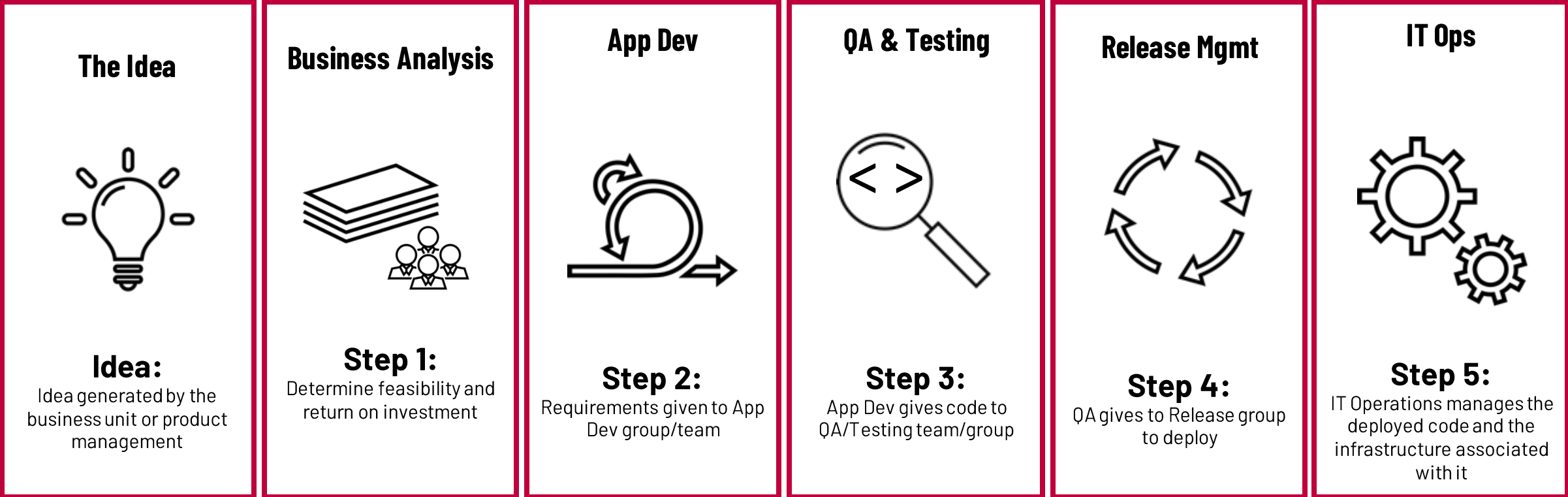
RELATIONSHIPS: DEVOPS & EVERYTHING ELSE



RELATIONSHIPS: THE PROBLEMS



Problems with handoffs





60% OF THE TIME

**DEPLOYMENTS WORK
EVERYTIME!**

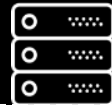
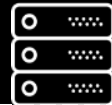
ONE MAJOR PROBLEM: SNOWFLAKES



SNOWFLAKES IN THE WILD



New Code



What solves this problem?
Configuration Management
A tenant of DevOps!



Windows Server 2016 Data
Center Ed.
Win Update – 5.4.108



MANIFESTATIONS OF THOSE PROBLEMS...

We need to get software releases out faster.

IT Ops having a hard time keeping up with Agile teams.

New tools being used but not seeing the benefits.

We aren't allowed to deploy more than once a month.

Unsure of what DevOps is and how it pertains to us.

Our production environment isn't all the same.

We don't understand tools to help us manage and deploy.

All deployments cause multiple issues.

CIO wants push-button deployments.

Our deployments are always painful.

We want to understand how to manage our infrastructure better.

THE MAIN CONSTITUENTS OF DEVOPS

Software Development



IT Operations



THE MAIN CONSTITUENTS OF DEVOPS

Software Development



1. Rewarded for creating value when software is deployed.
2. Deploy frequently to delivery value.

IT Operations



THE MAIN CONSTITUENTS OF DEVOPS

Software Development



1. Rewarded for creating value when software is deployed.
2. Deploy frequently to delivery value.

IT Operations



1. Penalized for downtime.
2. Rewarded & bonused for uptime.
3. Don't change anything on the system.



IT OPS

DEV TEAMS



SAY "DEVOPS"

ONE MORE TIME

memegenerator.net

WHAT IS DEVOPS?

AND HOW IS IT IMPLEMENTED?



What are organizations trying to achieve with **DevOps** type practices?



THE GOAL OF DEVOPS

Smaller batches of software work,
deployed **more frequently**,
with **less planning**
and **more adaptability**
by **people** working better **together**.

THE DEVOPS PRINCIPLES MINDSET

The fundamental principles of DevOps as generally agreed upon by the most influential early members of the DevOps community, were summed up in the acronym "CAMS."

CAMS

- Culture
- Automation
- Measurement
- Sharing

DEVOPS CULTURE

CAMS

- Inspiration was Agile.
- If they don't communicate, collaborate and give feedback, waste of time and effort.
- Common ground → Maximize customer value.
- Maximize Flow.
- Foster respect – Often referred to as “hugops.”
- Failure = Opportunity to improve ≠ Blame

DEVOPS AUTOMATION

CAMS

- Something that you'd otherwise do as hand. Example: deployment.
- "Lazy admin" – Make their own job easier, but not recognized as a valuable organizational feature.
- With scale, these items are important.
- Dev side automation – unit testing, acceptance testing and CI.
- Eliminate boundary between dev side automation and ops side automation.

DEVOPS MEASUREMENT

CAMS

- “If you want to improve something, you have to be able to measure it.”
- Normally Ops responsibility but Dev should be helping capture things too.
- Export useful data and service features.
- “Feature release promises 2x faster load times”

DEVOPS SHARING

CAMS

- Aligning stakeholders – shared vision, current practices and flows.
- Shared input, shared responsibility.
- Thoughts and opinions must be heard.
- Transparency – which is hard for some IT Ops folks.

DEVOPS ADOPTING LEAN PRINCIPLES

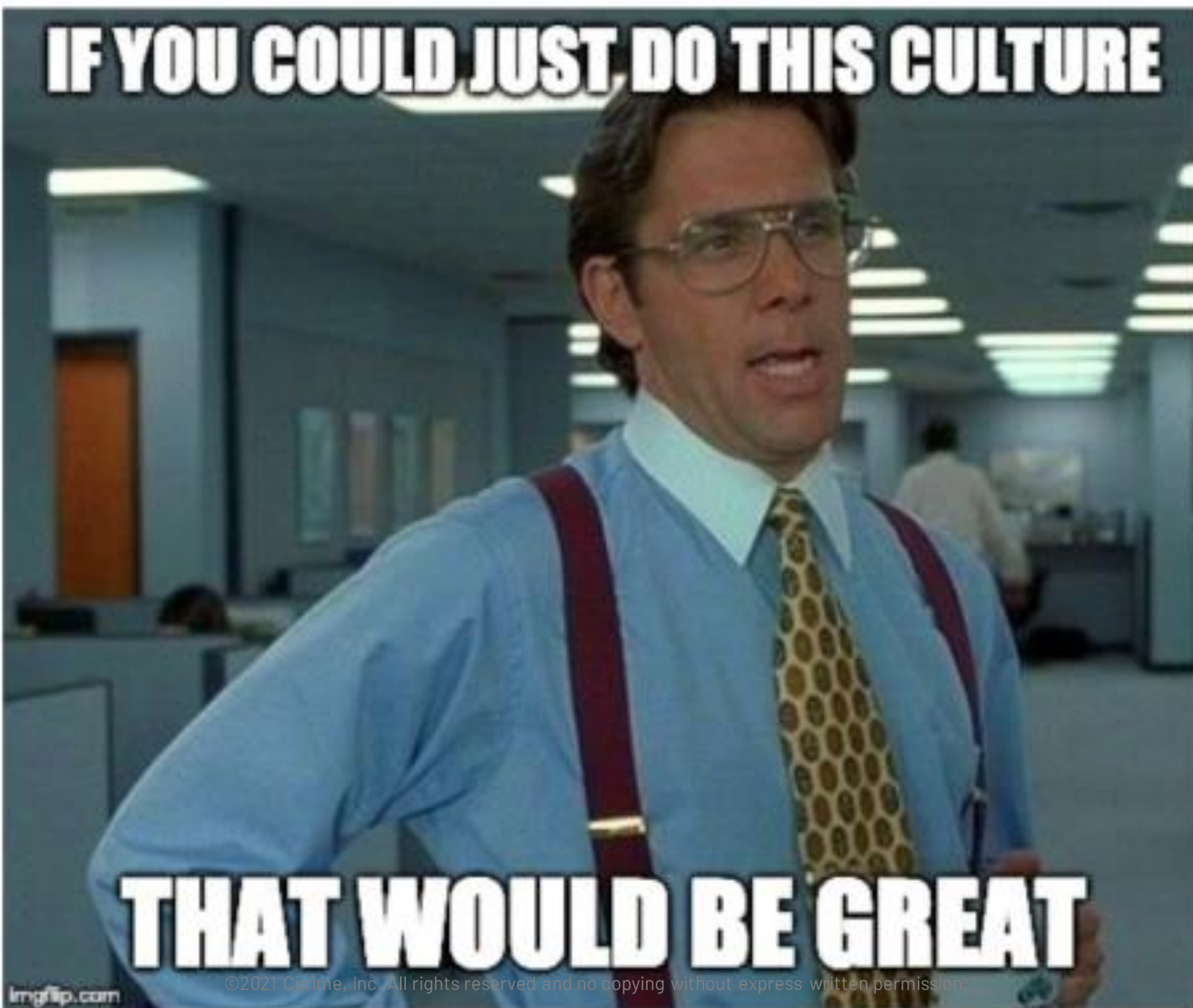
CALMS

Jez Humble, a notably influential and early DevOps leader, later suggested adding an “L” to the acronym, changing it to “CALMS.” This was enthusiastically accepted and widely endorsed.

- Culture
- Automation
- **Lean**
- Measurement
- Sharing



IF YOU COULD JUST DO THIS CULTURE

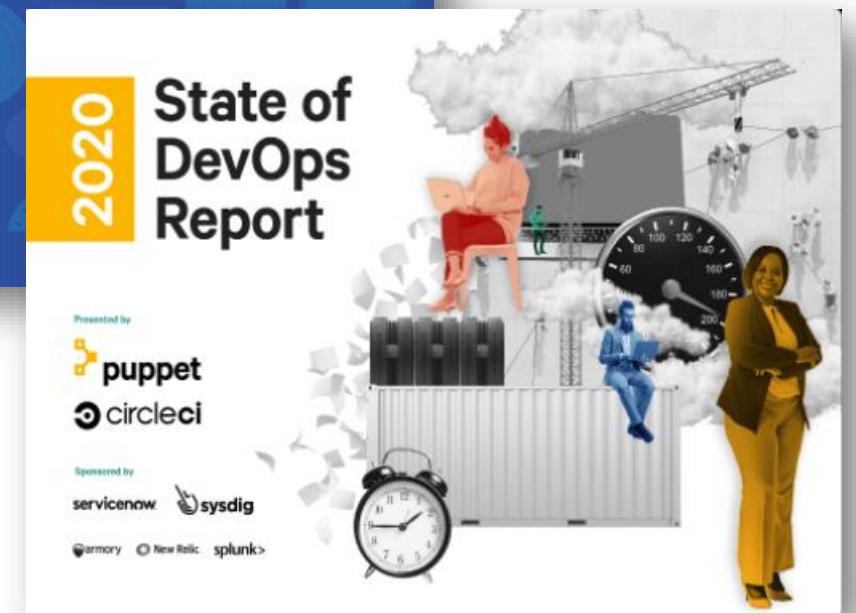


THAT WOULD BE GREAT

TOP PREDICTORS OF IT PERFORMANCE FROM 2014...

...that are still true today.

- Version control of all production artifacts
- Continuous integration and deployment processes
- Automated acceptance testing
- Peer-review of production changes (vs. external change approval)
- High trust culture
- Proactive monitoring of the production environment
- Win-win relationship between Dev and Ops



Source: Puppet Labs 2014 State Of DevOps

A DIFFERENT MENTALITY...



"You build it, you run it."

-Werner Vogels
CTO, Amazon

AMAZON DEPLOYMENT STATS **MAY 2011**

11.6 seconds

Mean time between deployments
(weekdays)

10,000

Mean # of hosts simultaneously
receiving a deployment

1,079

Max # of deployments in a single
hour

30,000

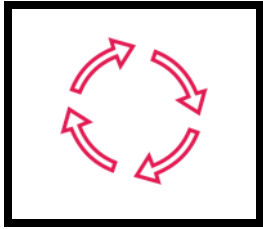
Max # of hosts simultaneously
receiving a deployment

Source: John Jenkins, Amazon.com

WHAT DEVOPS TEAMS ARE ASKED TO DO

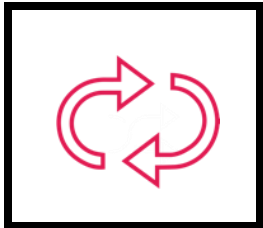
- Automate manual IT work
- Collaborate and share resources across IT departments
- Standardize and virtualize infrastructure assets (servers, databases, test environments)
- Release software faster ...much faster
- Empower developers to self-service and be responsible for the performance of their own products
- Monitor and measure performance and health of systems and software
- Capture feedback and continuously improve “the system”

CONTINUOUS... EVERYTHING!



Continuous Integration (CI)

Building and testing every change you make to your system. That requires working off of a shared trunk, not feature branches.



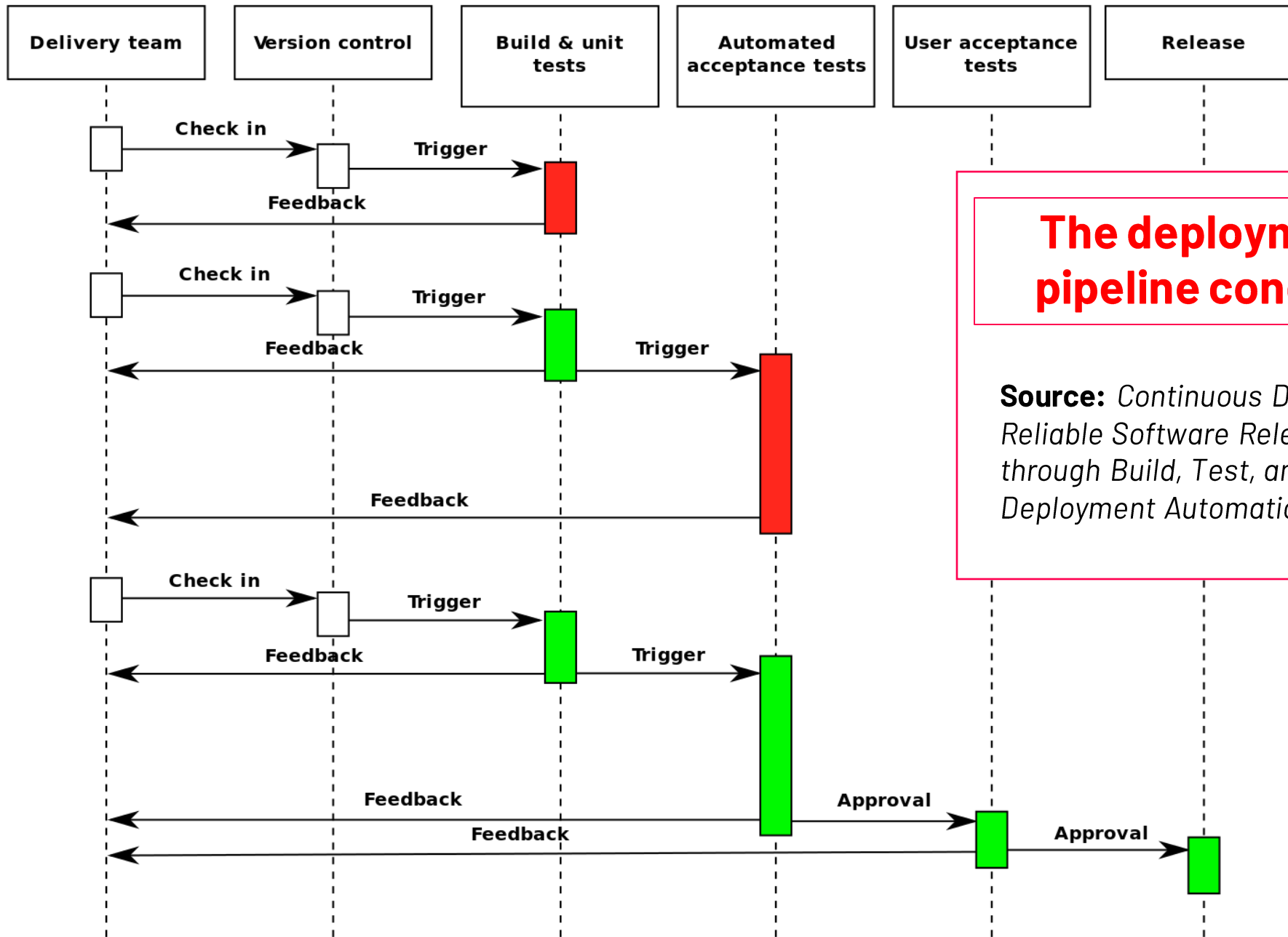
Continuous Deployment

When the CI build passes, it just automatically deploys to production (or there are some other validations/performance tests, etc). This should happen several times a day at least.



Continuous Delivery (CD)

Behaving as if you were going to do Continuous Deployment, but not actually deploying all those builds. Happens in industries/products where it doesn't always make sense to do that (firmware or mobile apps for example)



The deployment pipeline concept

Source: *Continuous Delivery: Reliable Software Releases through Build, Test, and Deployment Automation*

PERIODIC TABLE OF DEVOPS TOOLS (V2)

EMBED DOWNLOAD ADD

- Os Open Source
- Fr Free
- Fm Freemium
- Pd Paid
- En Enterprise

- SCM
- CI
- Deployment
- Cloud / IaaS / PaaS
- BI / Monitoring
- Database Mgmt
- Repo Mgmt
- Config / Provisioning
- Release Mgmt
- Logging
- Build
- Testing
- Containerization
- Collaboration
- Security

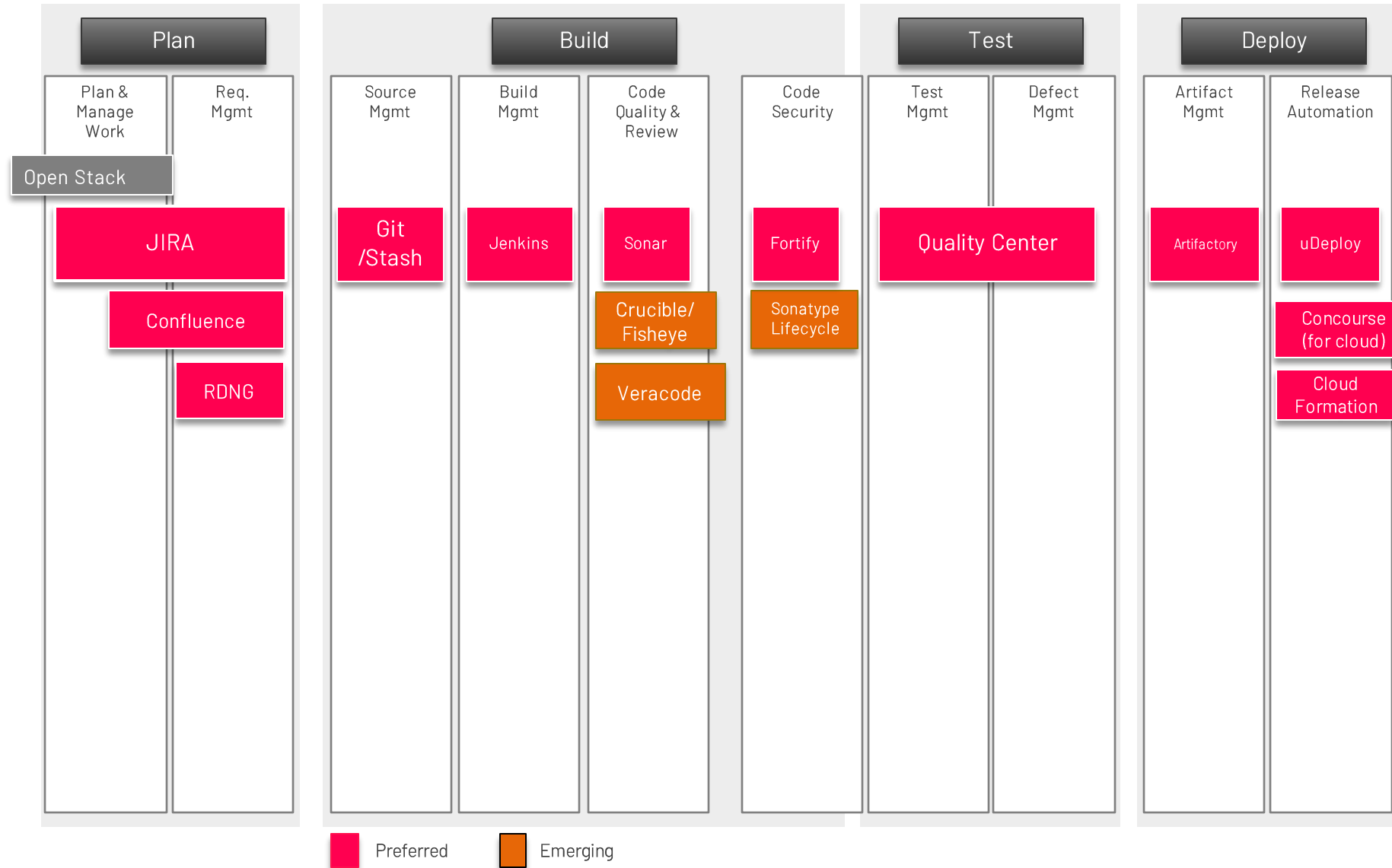
1 Fm Gh Github																			2 Fm Aws AmazonWeb Services				
3 Os Gt Glt	4 Pd Dm DBmaestro																	5 En Ch Chef	6 En Pu Puppet	7 Os An Ansible	8 En Sl Salt	9 Os Dk Docker	10 Pd Az Azure
11 Fm Bb Bitbucket	12 Os Lb Liquibase																	13 Os Ot Otto	14 En Bl BladeLogic	15 Os Va Vagrant	16 Fr Tf Terraform	17 Os Rk rkt	18 En Gc Google Cloud Platform
19 Os Gl GitLab	20 En Rg Redgate	21 Os Mv Maven	22 Os Gr Gradle	23 Os At ANT	24 Os Fn FitNesse	25 Fr Se Selenium	26 Os Ga Gatling	27 Fr Dh Docker Hub	28 Os Jn Jenkins	29 Pd Ba Bamboo	30 Os Tr Travis CI	31 Pd Gd Deployment Manager	32 Os Sf SmartFrog	33 Os Cn Consul	34 Os Bc Bcfg2	35 Os Mo Mesos	36 En Rs Rackspace						
37 Os Sv Subversion	38 En Dt Datical	39 Os Gt Grunt	40 Os Gp Gulp	41 Os Br Broccoli	42 Fr Cu Cucumber	43 Os Cj Cucumberjs	44 Fr Qu Quint	45 Os Npm npm	46 Fm Cs Codeship	47 Pd Vs Visual Studio	48 Fm Cr CircleCI	49 Fr Cp Capistrano	50 Fr Ju JuJu	51 Os Rd Rundeck	52 Os Cf CFEngine	53 Fr Ds Swarm	54 Os Op OpenStack						
55 Os Hg Mercurial	56 En Dp Delphix	57 Fr Sb sbt	58 Os Mk Make	59 Os Ck CMake	60 Fr Ju JUnit	61 Fr Jm JMeter	62 Fr Tn TestNG	63 Os Ay Artifactory	64 Fm Tc TeamCity	65 Fm Sh Shippable	66 Os Cc CruiseControl	67 En Ry RapidDeploy	68 Fm Cy CodeDeploy	69 En Oc Octopus Deploy	70 En No CA Nolio	71 Os Kb Kubernetes	72 Fm Hr Heroku						
73 En Cw ISPW	74 En Id Idera	75 Os Msb MSBuild	76 Os Rk Rake	77 Fr Pk Packer	78 Os Mc Mocha	79 En Xltv XL TestView	80 Os Jm Jasmine	81 Os Nx Nexus	82 Os Co Continuum	83 Fm Ca Continus CI	84 Pd So Solano CI	85 En Xld XL Deploy	86 En EB ElectricBox	87 Fm Dp Deploybot	88 En Ud UrbanCode Deploy	89 Os Nm Nomad	90 En Os OpenShift						

XebiaLabs
Deliver Faster

Follow @xebialabs

91 En Xlr XL Release	92 En Ur UrbanCode Release	93 En Bm BMC Release Process	94 En Hp HP Codar	95 En Au Automic	96 En Pl Plutora Release	97 En Sr Serena Release	98 Pd Tfs Team Foundation	99 Fm Tr Trello	100 Pd Jr Jira	101 Fm Rf HipChat	102 Fm Sl Slack	103 Fm Fd Flowdock	104 Pd Pv Pivotal Tracker	105 En Sn ServiceNow
106 Os Ki Kibana	107 Fm Nr New Relic	108 Os Ni Nagios	109 Os Zb Zabbix	110 En Dd Datadog	111 Os El Elasticsearch	112 Os Ss StackState	113 En Sp Splunk	114 Fm Le Logentries	115 Fm Sl Sumo Logic	116 Os Ls Logstash	117 Os Gr Graylog	118 Os Sn Snort	119 Os Tr Tripwire	120 En Ff Fortify

REAL LIFE DEVOPS TOOL CHAIN



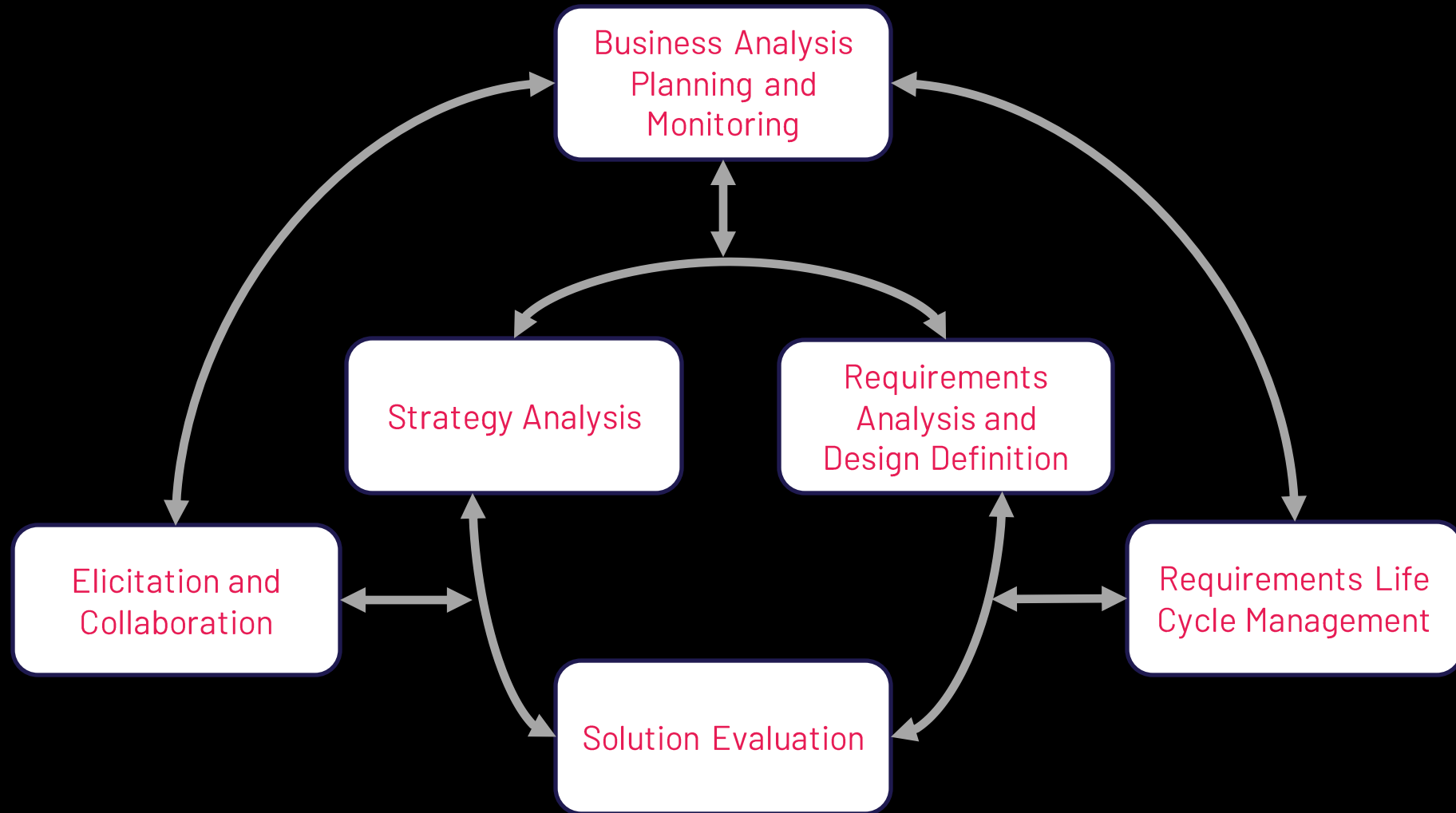
TOOLING IS IMPORTANT, BUT...



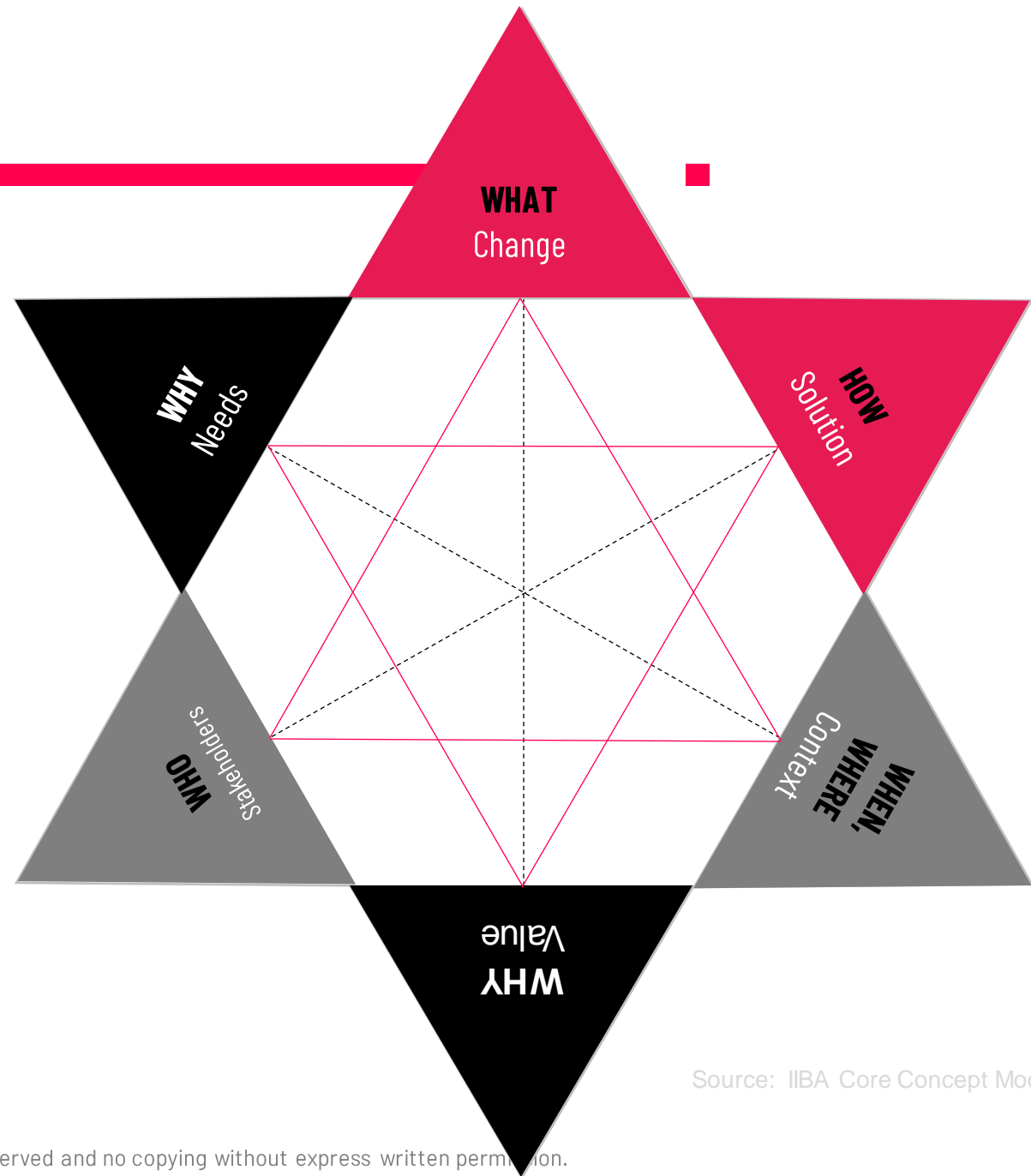
HOW DOES DEVOPS APPLY TO ME?

BUSINESS ANALYSTS CAN DRIVE DEVOPS ADOPTION!

BABOK® KNOWLEDGE AREAS STILL APPLY...



AND SO DOES THE BACCM™ ...



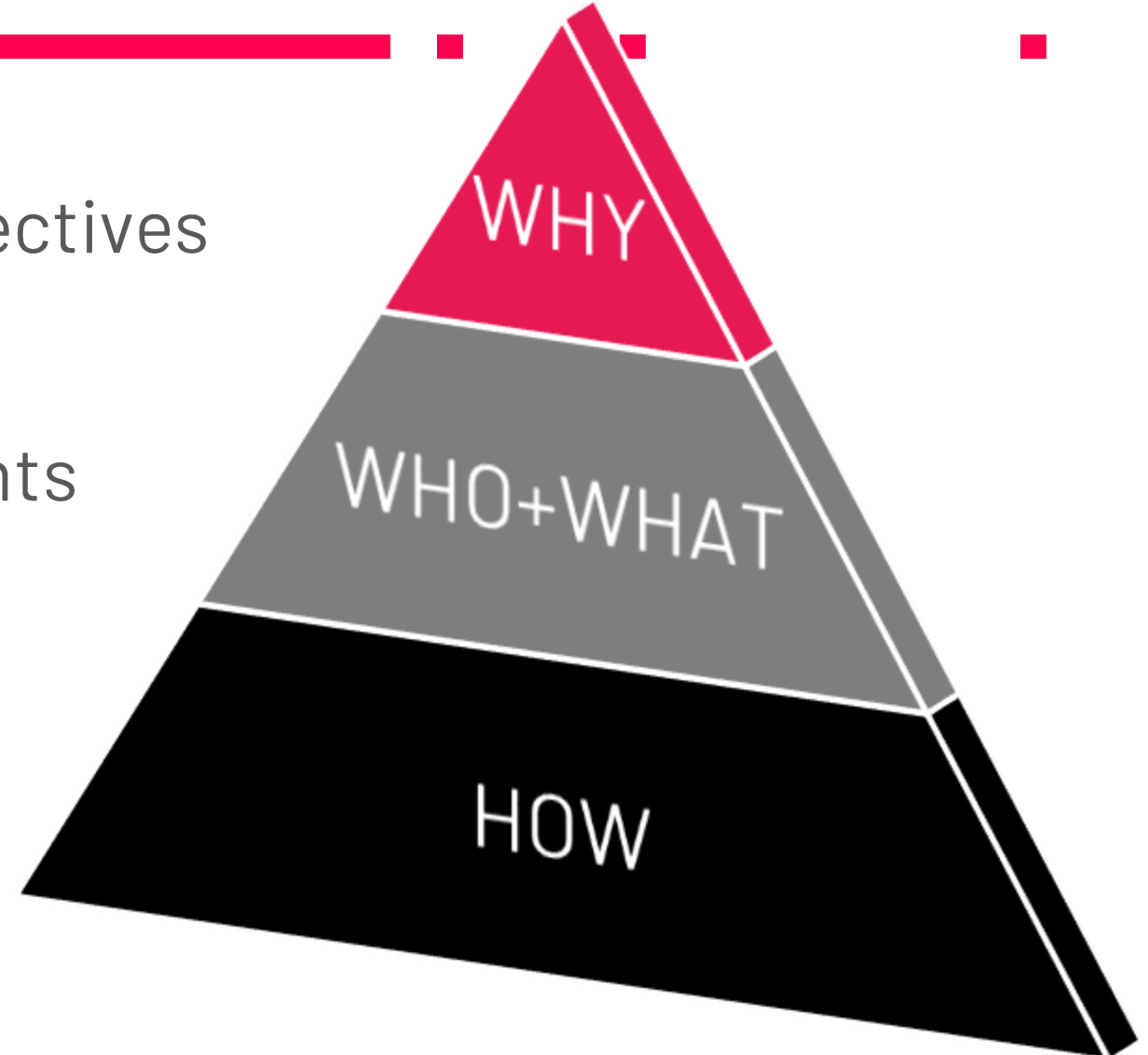
Source: IIBA Core Concept Model

THERE ARE 3 REQUIREMENT LEVELS...

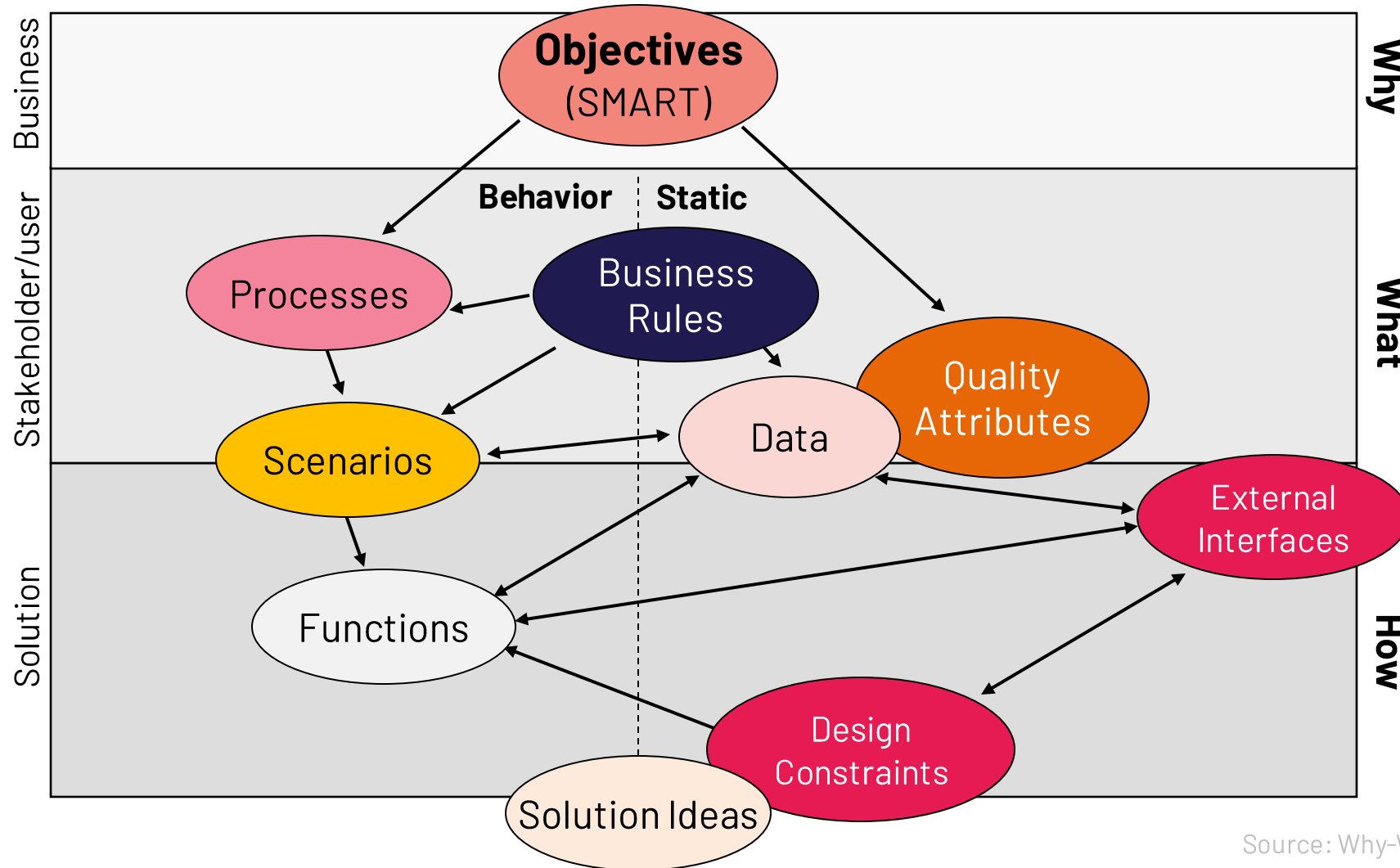
“Business Requirements”/Objectives

Stakeholder/User Requirements

Solution Requirements



... MULTIPLE REQUIREMENT TYPES...



Source: Why-What-How Consulting

**“ Don't let perfect be
the enemy of good.”**

- Voltaire

DEVOPS & THE STAKEHOLDERS

WHO CAN I HELP AND HOW?



STAKEHOLDER HELP

A few typical challenges:

- Legacy Technology
- Mission Criticality
- Technical Debt

DevOps-associated Enablers:

- Service Oriented Architecture
- Component-Centric Design
- Loose Coupling of Components
- Simulators and Emulators

SOFTWARE & SYSTEMS ARCHITECTS



STAKEHOLDER HELP

A few typical challenges:

- Definition of done
- Agile Practices that end with dev teams
- Long, or absent feedback loops
- Measurement of enterprise value

DevOps-associated Enablers:

- Agile Practices... *but they must scale!*
- “Deploy it yourself” with operational support
- Treating infrastructure as code
- Continuous delivery of software

SOFTWARE DEVELOPERS



STAKEHOLDER HELP

A few typical challenges:

- Blame from all sides
- Usually viewed as a cost center
- Most enterprises engineered to penalize
- Not responsible for most defects & failures

DevOps-associated Enablers:

- IT as a major producer of value
- Peer-driven change management
- Inclusion & collaboration early in projects
- Technology enablers (automation tools, etc.)

IT OPERATIONS & SUPPORT



STAKEHOLDER HELP

A few typical challenges:

- Accurate testing
- Fast enough...or simply enough...testing
- People ignoring test results

DevOps-associated Enablers:

- Designing tests as part of the product (TDD)
- Component oriented testing
- Using tests to automate deployment
- Making quality everyone's responsibility

SOFTWARE TESTERS



STAKEHOLDER HELP

A few typical challenges:

- Change management imposed from outside the work center / CAB boards
- Slow delivery of value
- Lack of leadership support
- Inefficiencies arising from fearful culture

DevOps-associated Enablers:

- Peer-driven change management
- Engineering change as a “product”
- Automating/mechanizing change (and thus auditability & compliance)
- Leadership-driven change

CHANGE MANAGERS



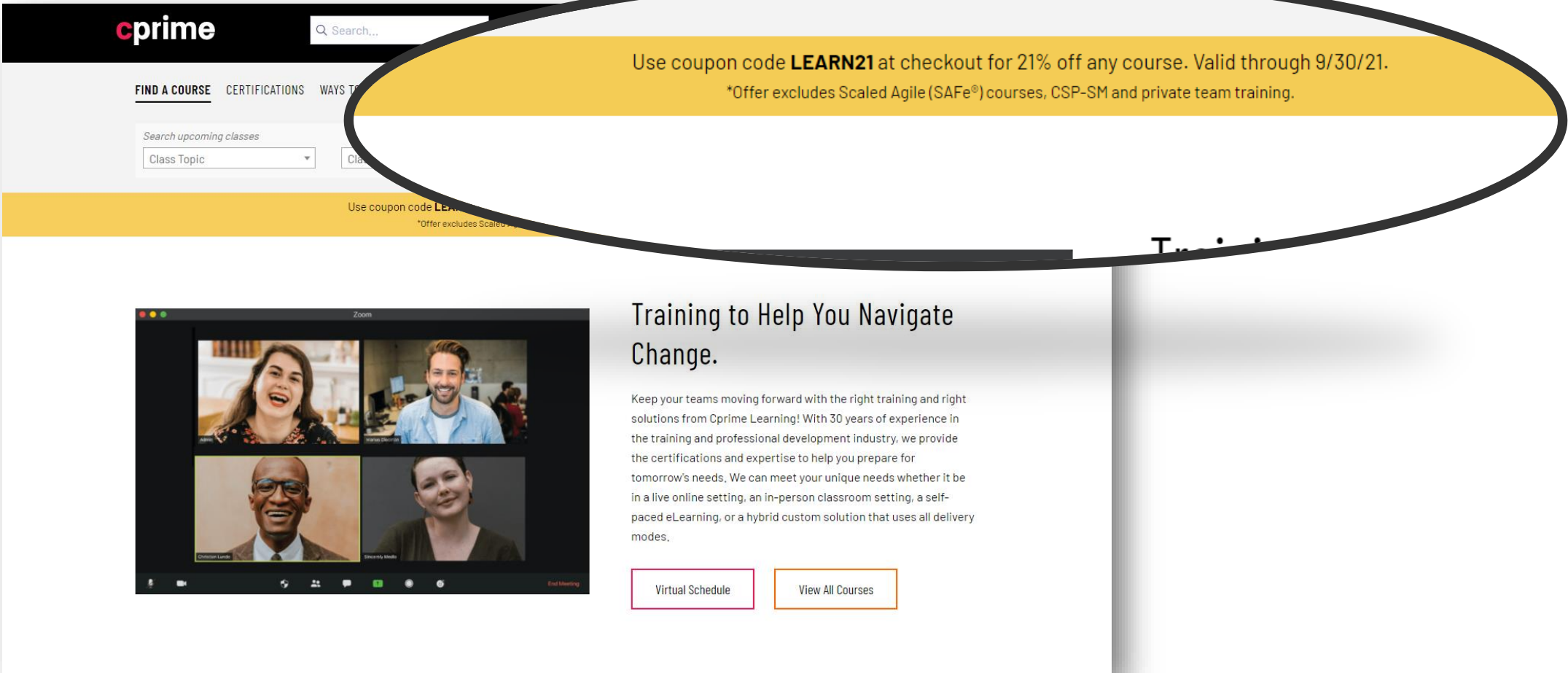
REAL-LIFE QUESTIONS FROM BA'S

HAVE WE ASKED ALL THE QUESTIONS YET?

REAL-LIFE QUESTIONS FROM BA'S

1. What DevOps tools should every BA be using?
2. How can BAs enable DevOps in their organization?
3. Will DevOps be the end of BAs?
4. Does the BABOK play nicely with DevOps principles?
5. How Do BAs fit into DevOps?

DISCOUNTED TRAINING!



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*Offer excludes Scaled Agile (SAFe®) courses, CSP-SM and private team training.

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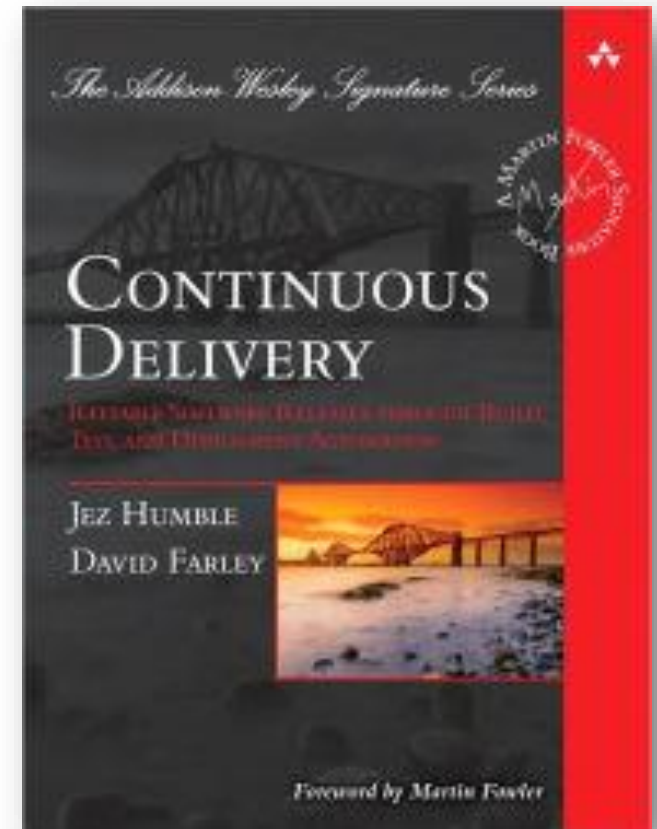
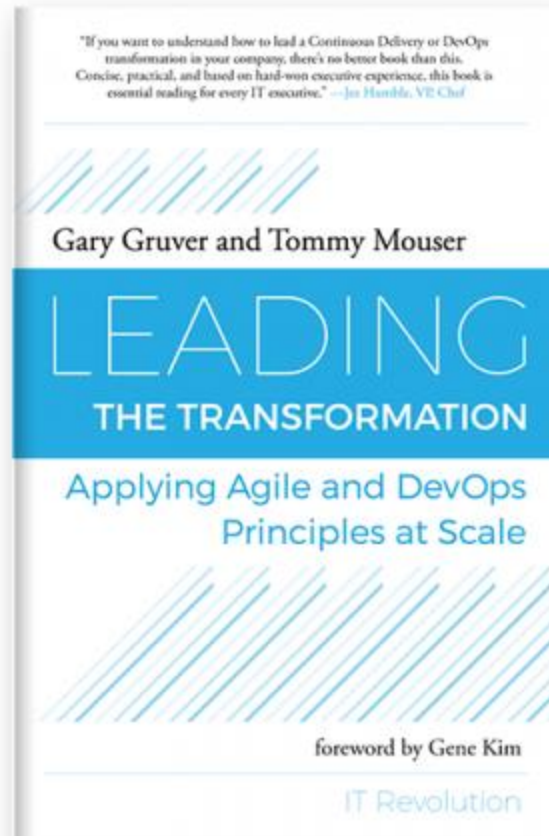
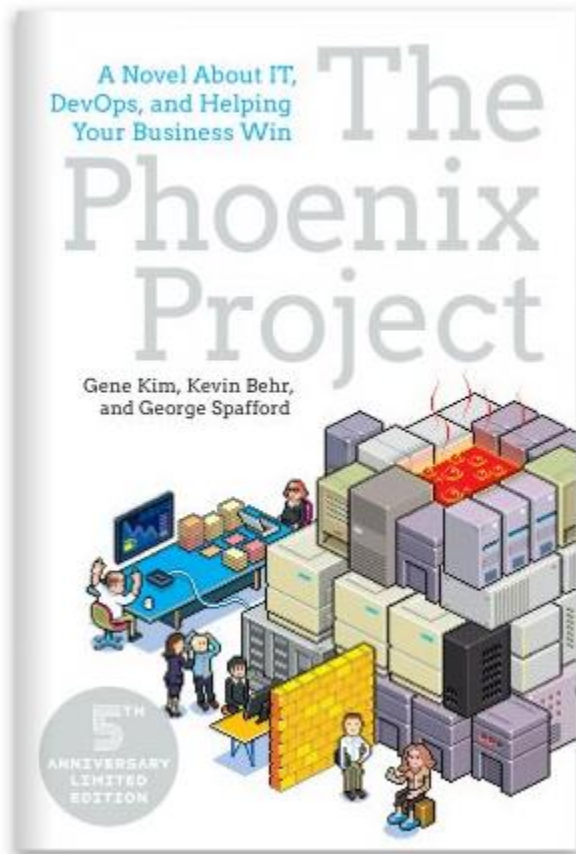
WHAT DO I NEED TO LEARN?

<https://www.cprime.com/learning/>

The screenshot shows the cprime website's learning page. The navigation bar includes 'SOLUTIONS', 'TRAINING', 'RESOURCES', 'ABOUT', and a 'GET STARTED' button. Below the navigation, there are tabs for 'FIND A COURSE', 'CERTIFICATIONS', and 'WAYS TO LEARN'. A search bar is present with the text 'Search...'. Below the search bar, there are filters for 'Search upcoming classes', 'DevOps' (selected), 'Class Format', and 'Certifying Body'. The main content is a table of courses with columns for 'COURSE NAME', 'LOCATION', 'DATE', 'PRICE', and 'REGISTER >'. Two courses are circled in red: 'Fundamentals of DevOps eLearning' and 'DevOps Implementation Boot Camp (ICP-FDO)'. Red callout boxes point to these courses with their full names.

COURSE NAME	LOCATION	DATE	PRICE	REGISTER >
Fundamentals of DevOps eLearning	eLearning	Jan 1st - 31st		
Implementing a CI/CD Pipeline	Live, Online Training	Jan 26th - 28th		
DevOps Implementation Boot Camp (ICP-FDO)	Live, Online Training	Jan 26th - 28th 8:30 AM - 4:30 PM ET	\$1695	Register >
Introduction to DevOps	Live, Online Training	Jan 27th - 28th 8:30 AM - 4:30 PM ET	\$795	Register >
Git & GitHub Boot Camp	Live, Online Training	Jan 28th - 29th 8:30 AM - 4:30 PM ET	\$1750	Register >
Ansible Configuration Management Boot Camp	Live, Online Training	Feb 2nd - 3rd 8:30 AM - 4:30 PM ET	\$1650	Register >
Jenkins User Boot Camp (.NET)	Live, Online Training	Feb 2nd - 3rd 8:30 AM - 4:30 PM ET	\$1650	Register >
Introduction to Using Puppet	Live, Online Training	Feb 2nd - 3rd 8:30 AM - 4:30 PM ET	\$1750	Register >
Implementing Azure DevOps Pipelines	Live, Online Training	Feb 3rd - 5th 8:30 AM - 4:30 PM ET	\$2550	Register >

RECOMMENDED READING



IN CONCLUSION

1. DevOps requires a **high trust culture**, despite conflicting motivators for Development and Operations teams.
2. Success with DevOps is contingent on your **CI/CD implementation**.
3. Automation is **A** component, not the **ONLY** component of DevOps.
4. Stakeholders will need **support** during a transformation to DevOps.

Sometimes you just
need to reflect.





QUESTIONS?

MICHAEL ROBERTS

(919) 816-1651

michael.roberts@cprime.com

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THANK YOU