Enterprise DevOps: Steps to Consider on the Dev Side for Faster App Releases
April 21, 2016

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Hosted By

Jim Copio
Carolinas Chapter Leader
BSM SIG Leader

Today's Speakers

Ashish Kuthiala
Sr. Director, Marketing
and Strategy - DevOps
Hewlett Packard Enterprise

Matthew Brayley-Berger
Sr. Product Marketing Manager
Application Lifecycle and Quality
Hewlett Packard Enterprise

Housekeeping

- This "LIVE" session is being recorded
  Recordings are available to all Vivit members

- <u>Session Q&A:</u>
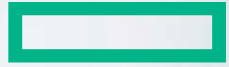 Please type questions in the Questions Pane

Webinar Control Panel

Toggle View Window between Full screen/window mode.

Questions

Digital revolution

Software driving differentiation

Innovating faster…

means **building**, **testing** and **releasing** quality software **faster** and more **frequently**.

Every business is a software business today!

The challenge:
Building high quality apps at the speed of business

With today's competing priorities,
how do I prioritize my investments and planning?
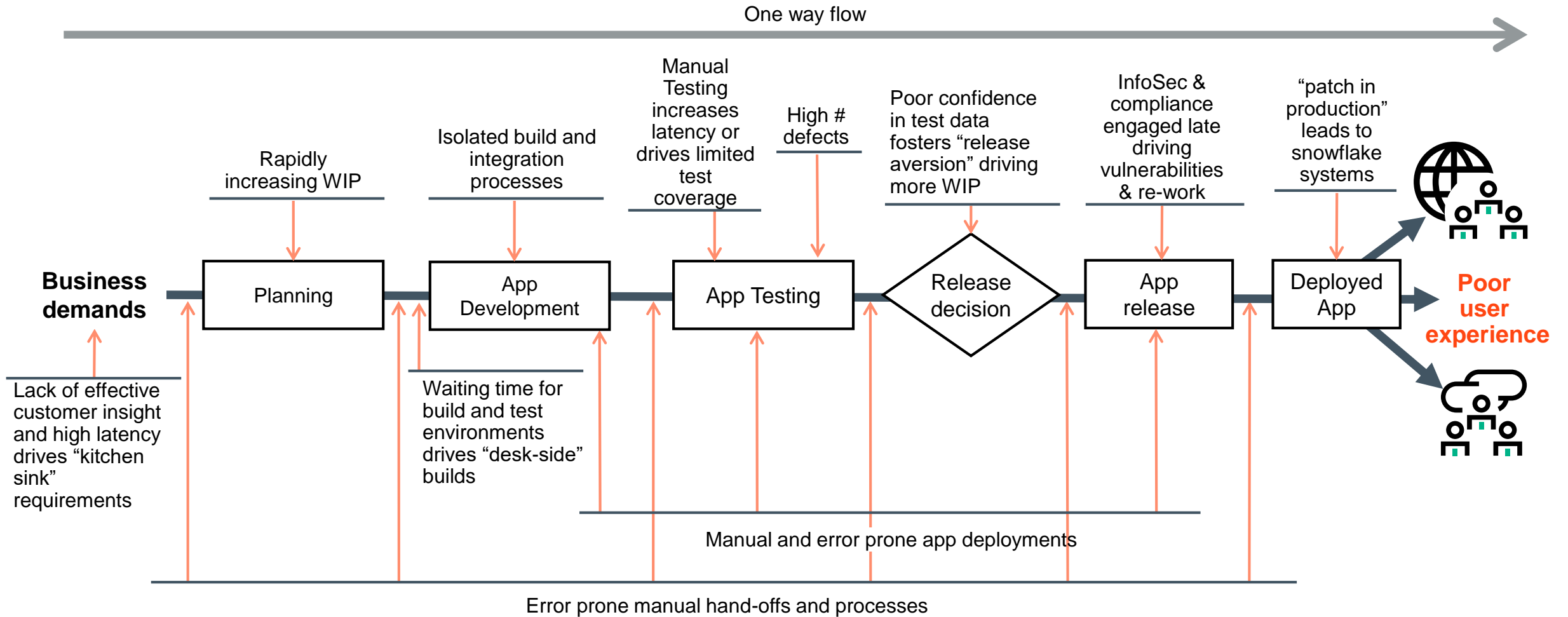
How do I
deploy apps faster?

How do I decide
what to test, how to do it continuously, and **manage it all?**

How do I ensure my app
is secure and reliable To minimize business risk?

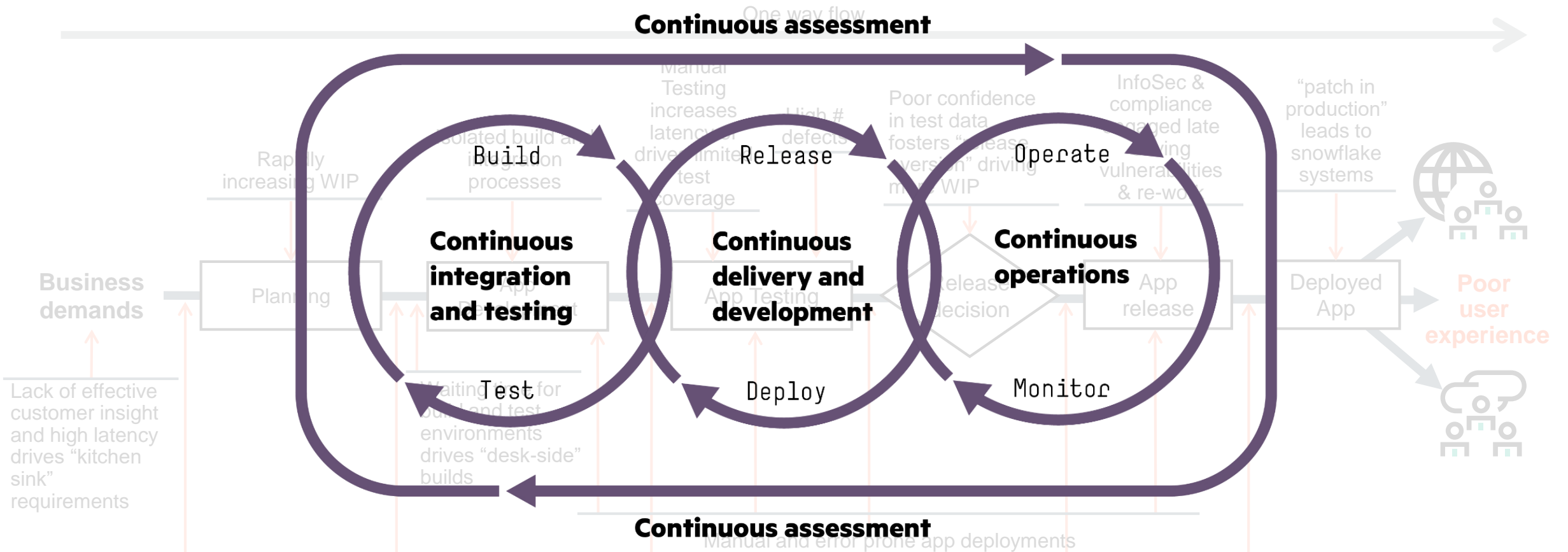How do I measure how
end users are experiencing my apps ?

How do I
isolate problems faster?

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Enterprise

High velocity innovation, multiple constraints

One way flow

Rapidly increasing WIP

Isolated build and integration processes

Manual Testing increases latency or drives limited test coverage

High # defects

Poor confidence in test data fosters "release aversion" driving more WIP

InfoSec & compliance engaged late driving vulnerabilities & re-work

"patch in production" leads to snowflake systems

Business demands

Planning → App Development → App Testing → Release decision → App release → Deployed App → **Poor user experience**

Lack of effective customer insight and high latency drives "kitchen sink" requirements

Waiting time for build and test environments drives "desk-side" builds

Manual and error prone app deployments

Error prone manual hand-offs and processes

Locally optimized teams, measures and tools drives escalating WIP, lack of end-to-end visibility and trust

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DevOps addresses high velocity innovation

Continuous assessment

Build

Release

Operate

Continuous integration and testing

Continuous delivery and development

Continuous operations

Test

Deploy

Monitor

Continuous assessment

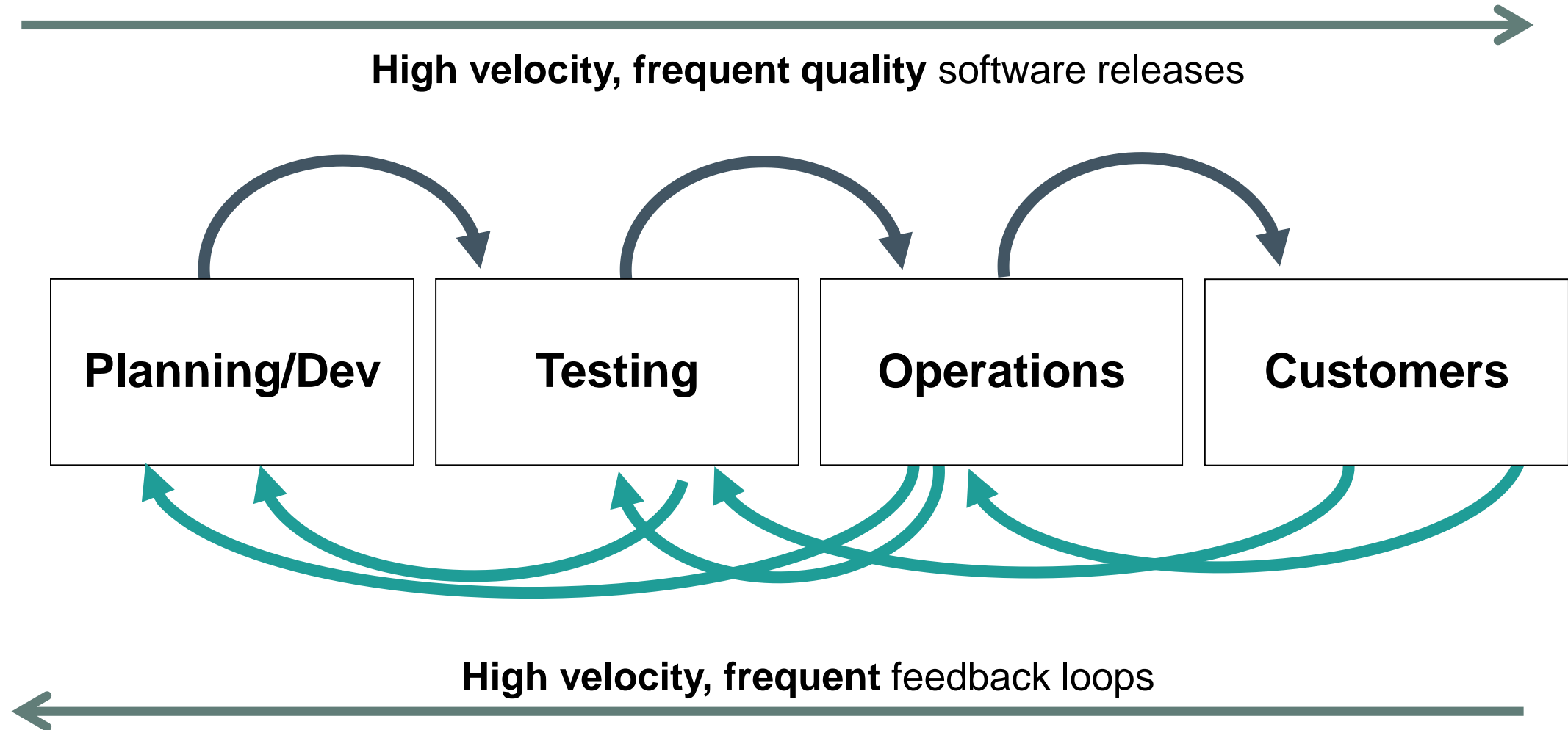**Business demands**

Planning

App release

Deployed App

Poor user experience

DevOps allows development, quality assurance, and IT operations to meet customer needs.
This integrated team approach facilitates communication, collaboration and integration to manage today's rapidly changing business demands.

Increased velocity requires rapid feedback

DevOps enhances feedback at all steps in the lifecycle

High velocity, frequent quality software releases

Planning/Dev	Testing	Operations	Customers

High velocity, frequent feedback loops

However, getting to DevOps calls for a collaborative approach

It requires sustained effort

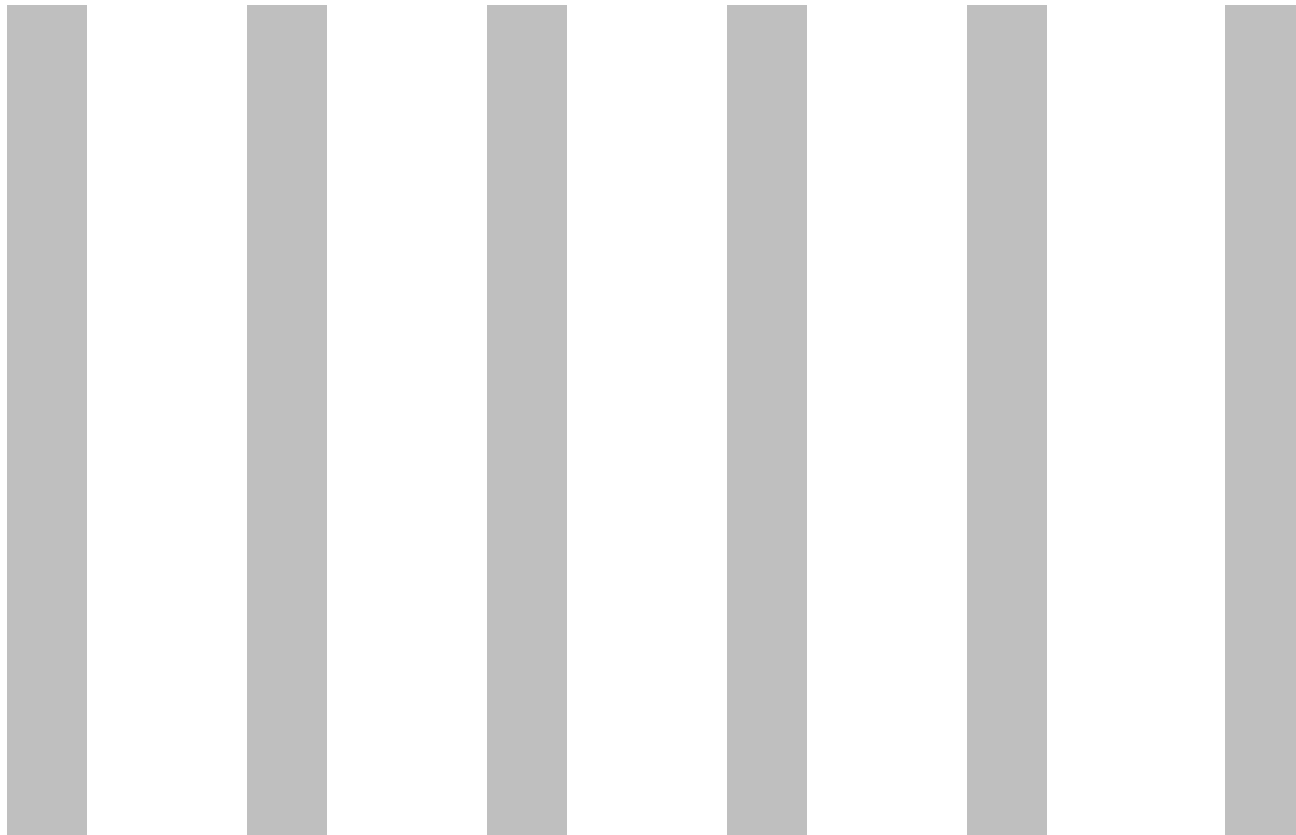– Not a product, spec, job title

– No one true authority

– No one way

People

Process

Technology

Hewlett Packard
Enterprise
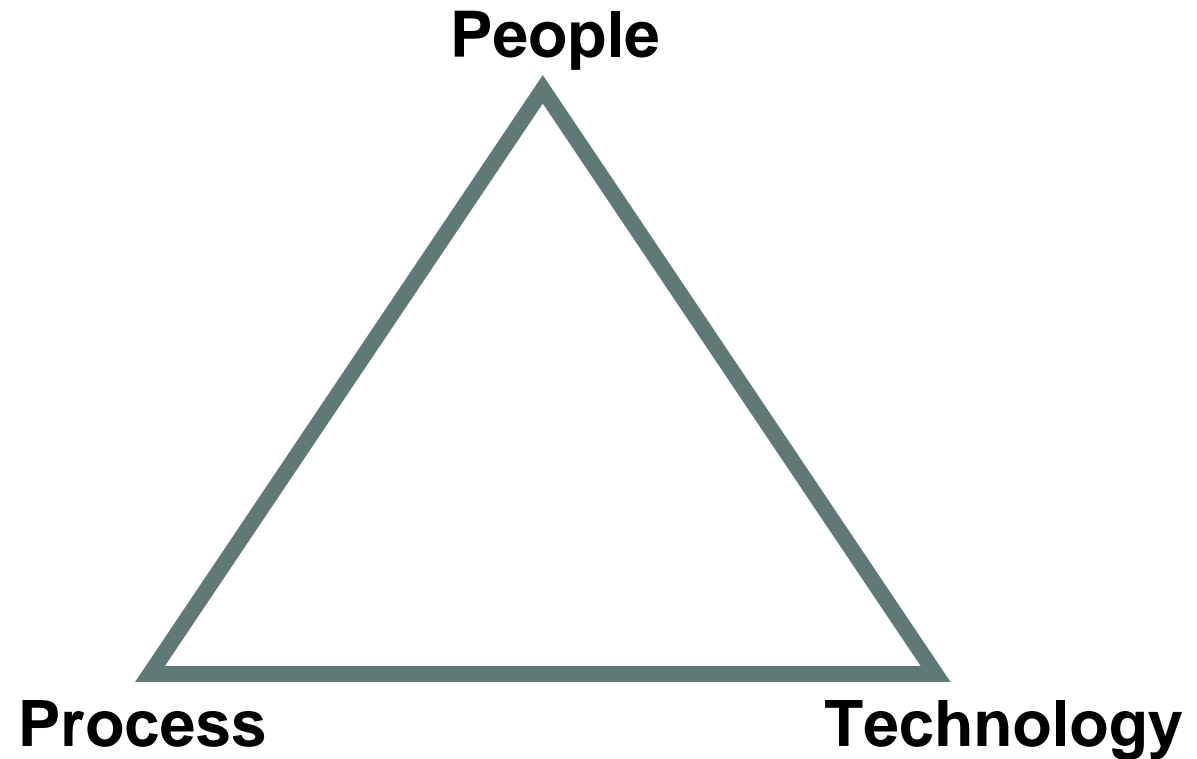
Enterprise IT is very complex
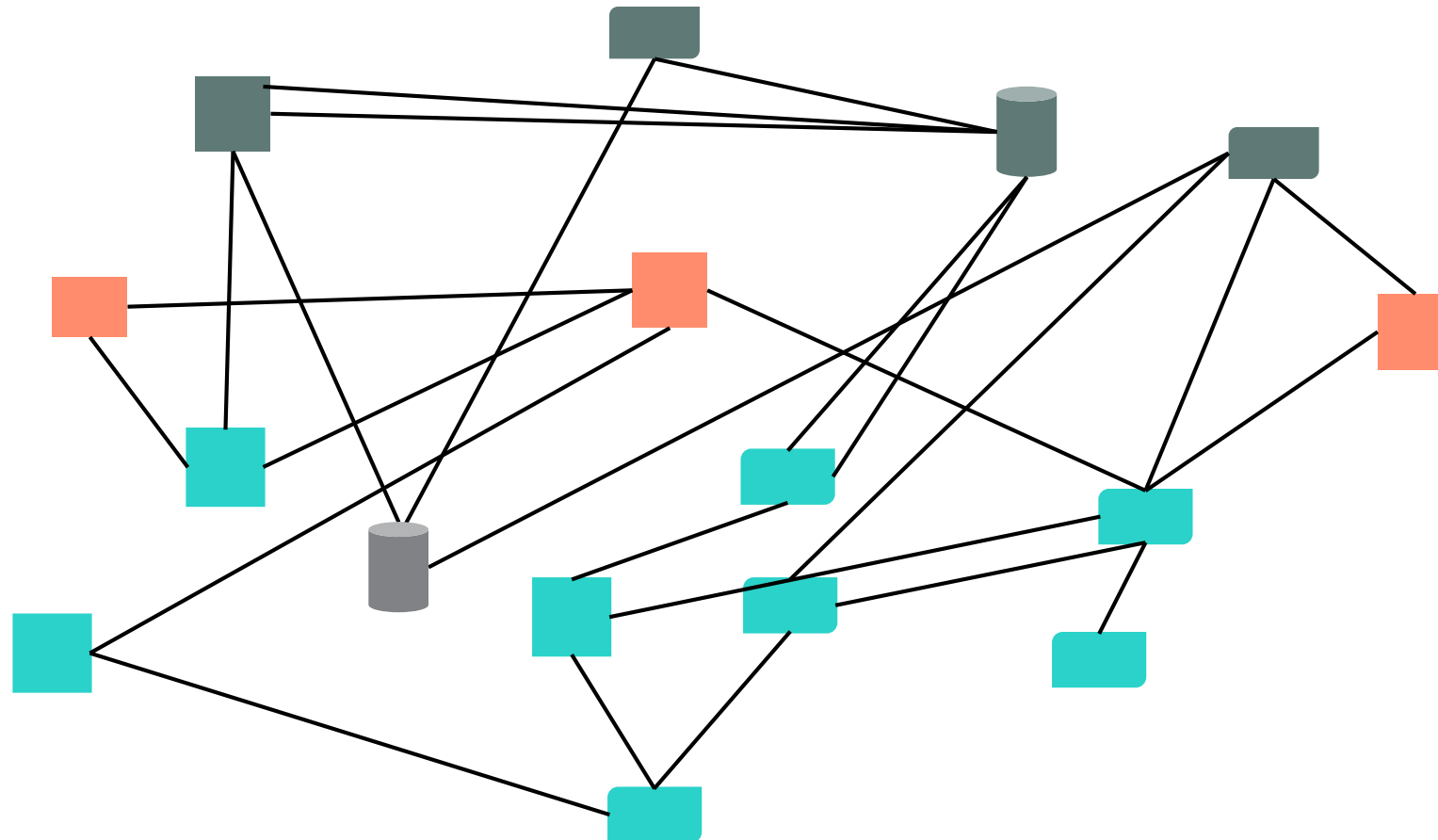
Systems are tightly coupled
Interrelated
Complex
Brittle

IT is built on silos

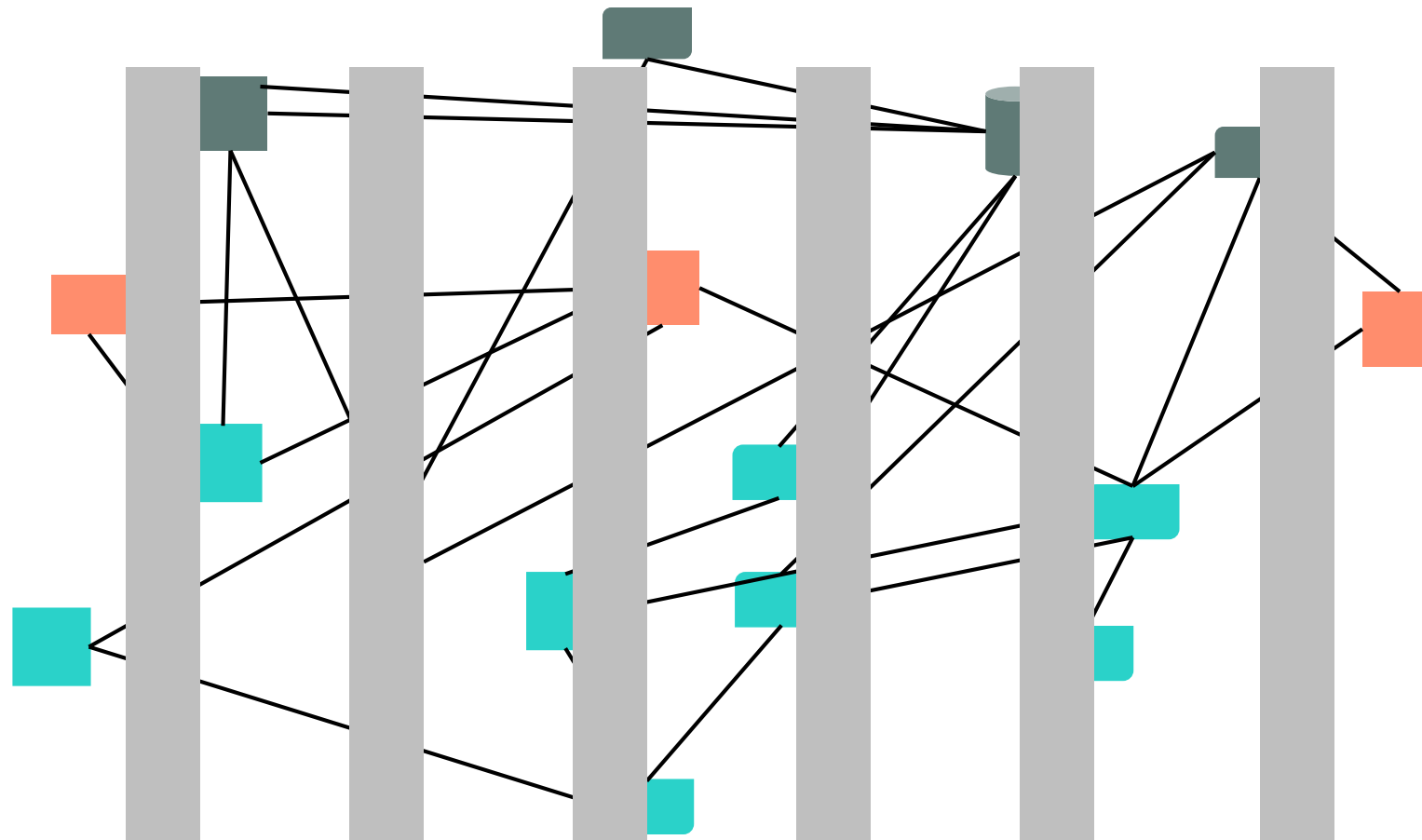PMO   Requirements   Dev   Test   Security   Production

IT is organized into teams based on common skills, disciplines and technology
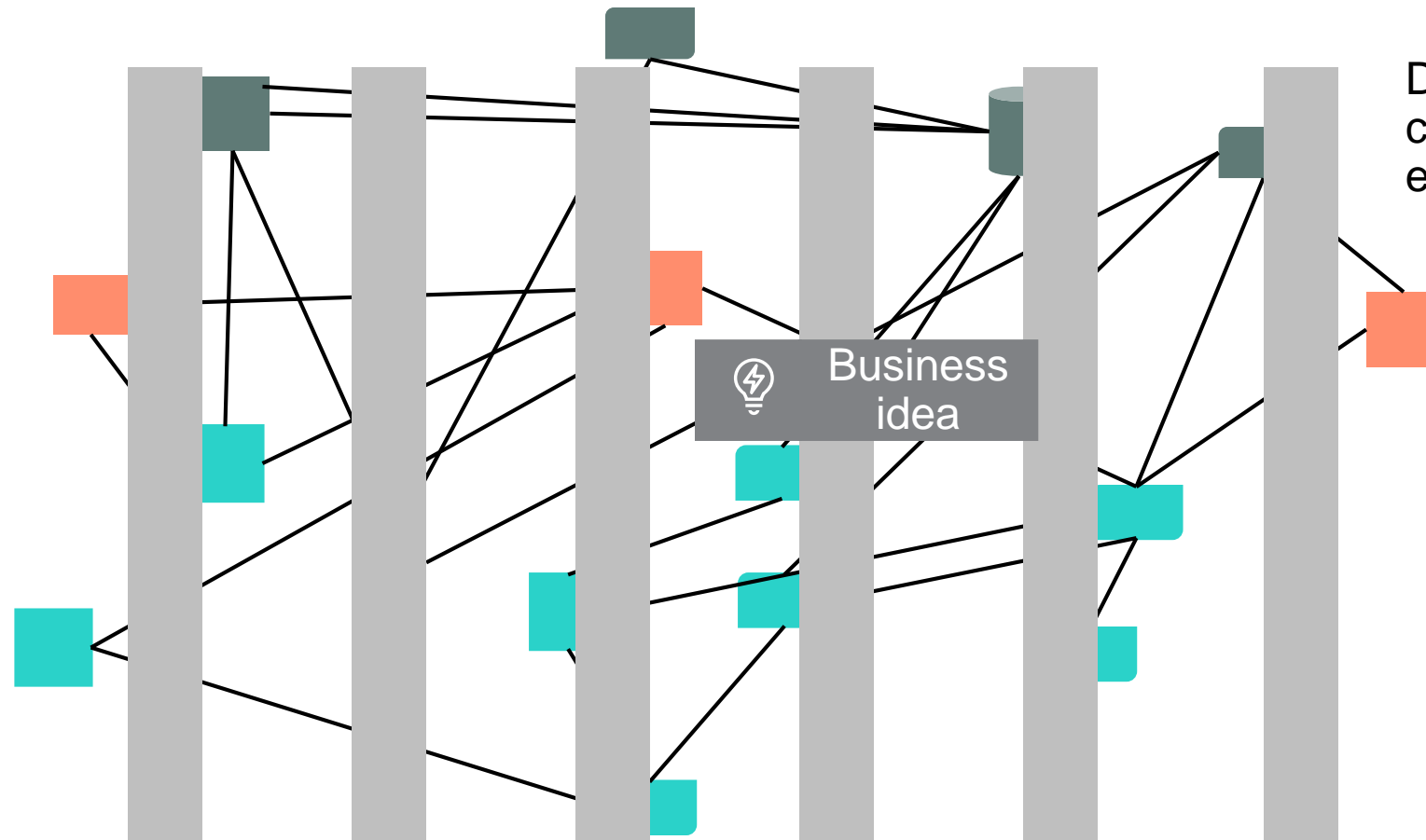
Each plays a vital role in running IT

Work typically flows from team to team

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PMO   Requirements   Dev   Test   Security   Production
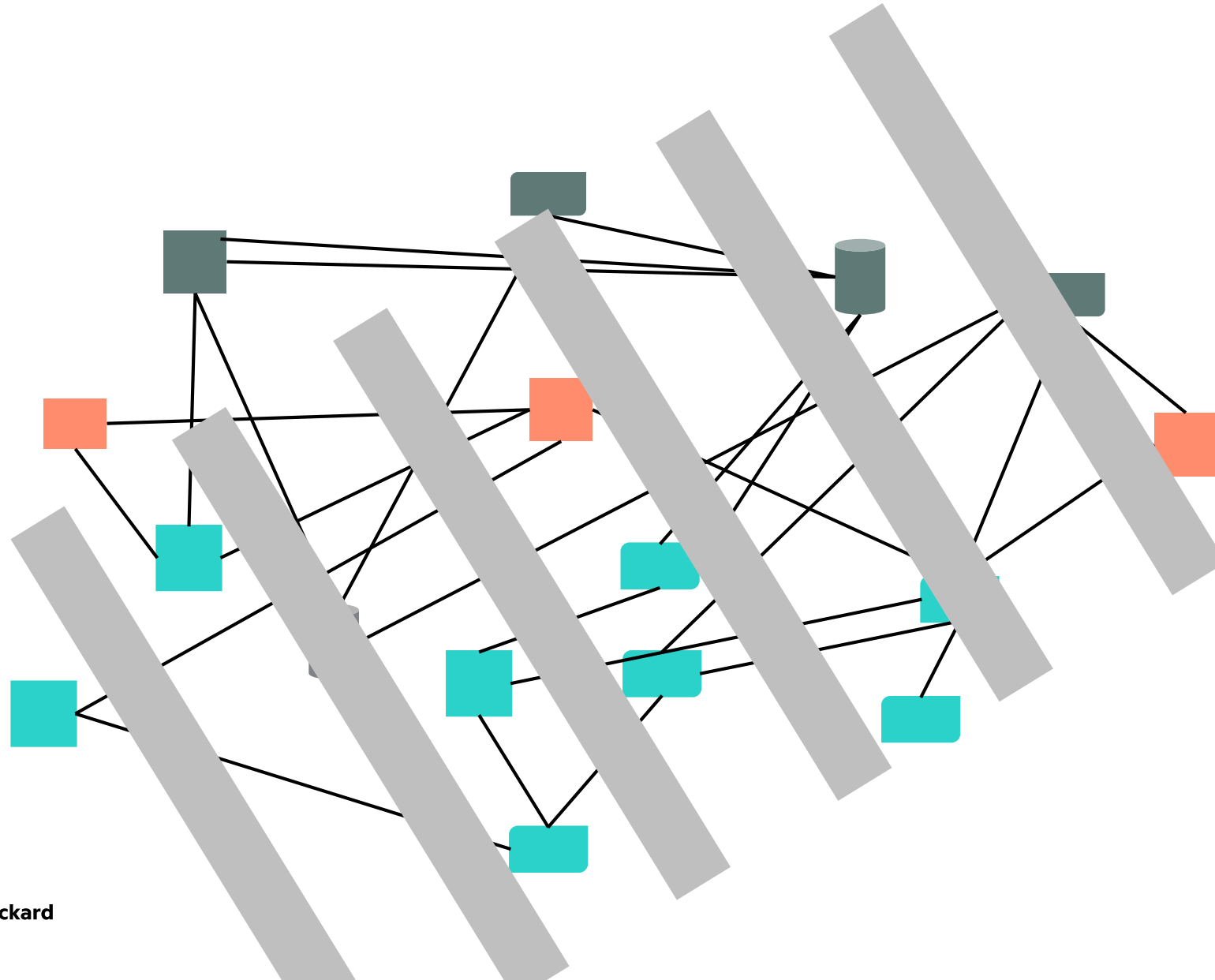
PMO   Requirements   Dev   Test   Security   Production
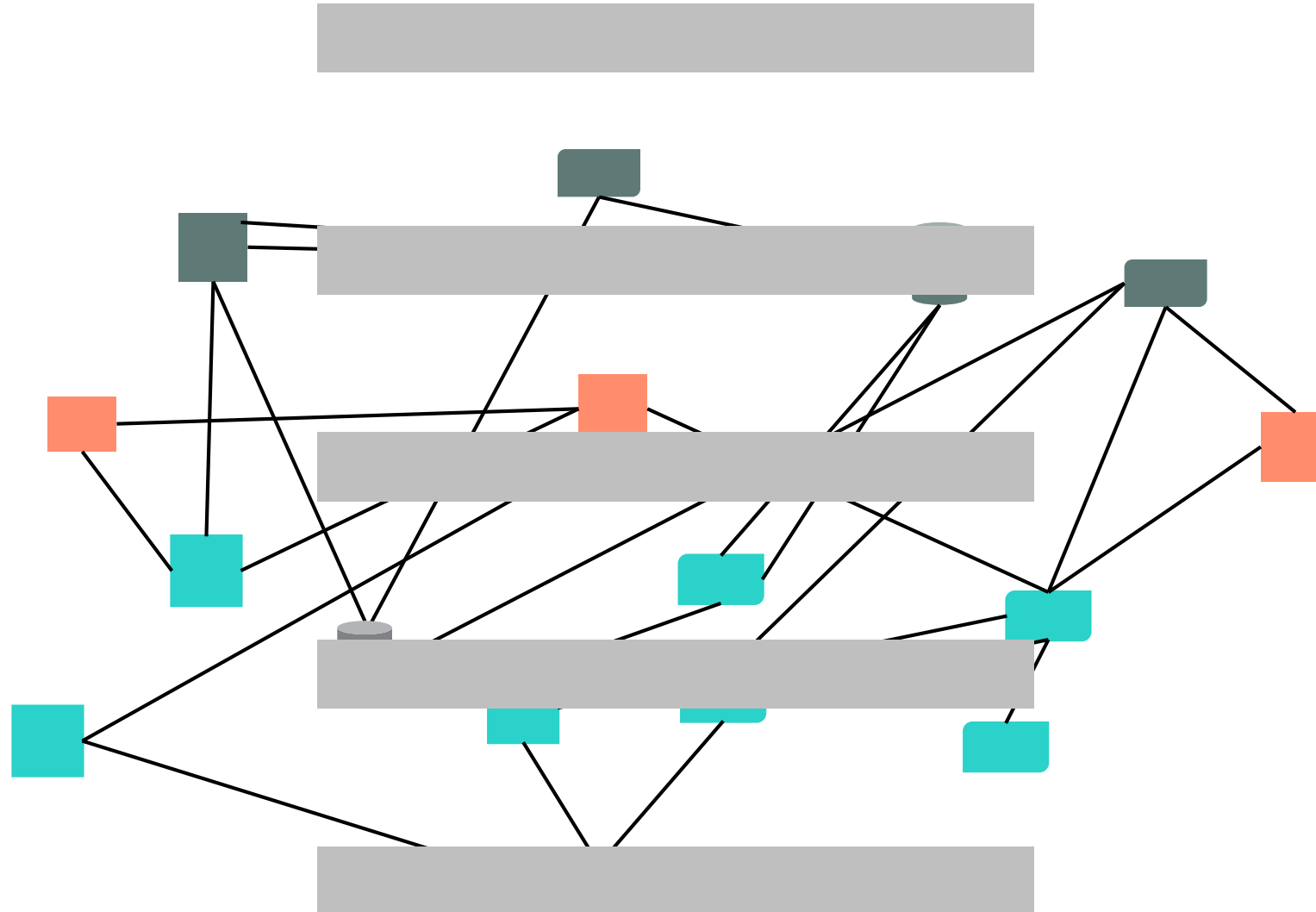
Business
idea

Delivering a new business idea
can be very, very, very, very
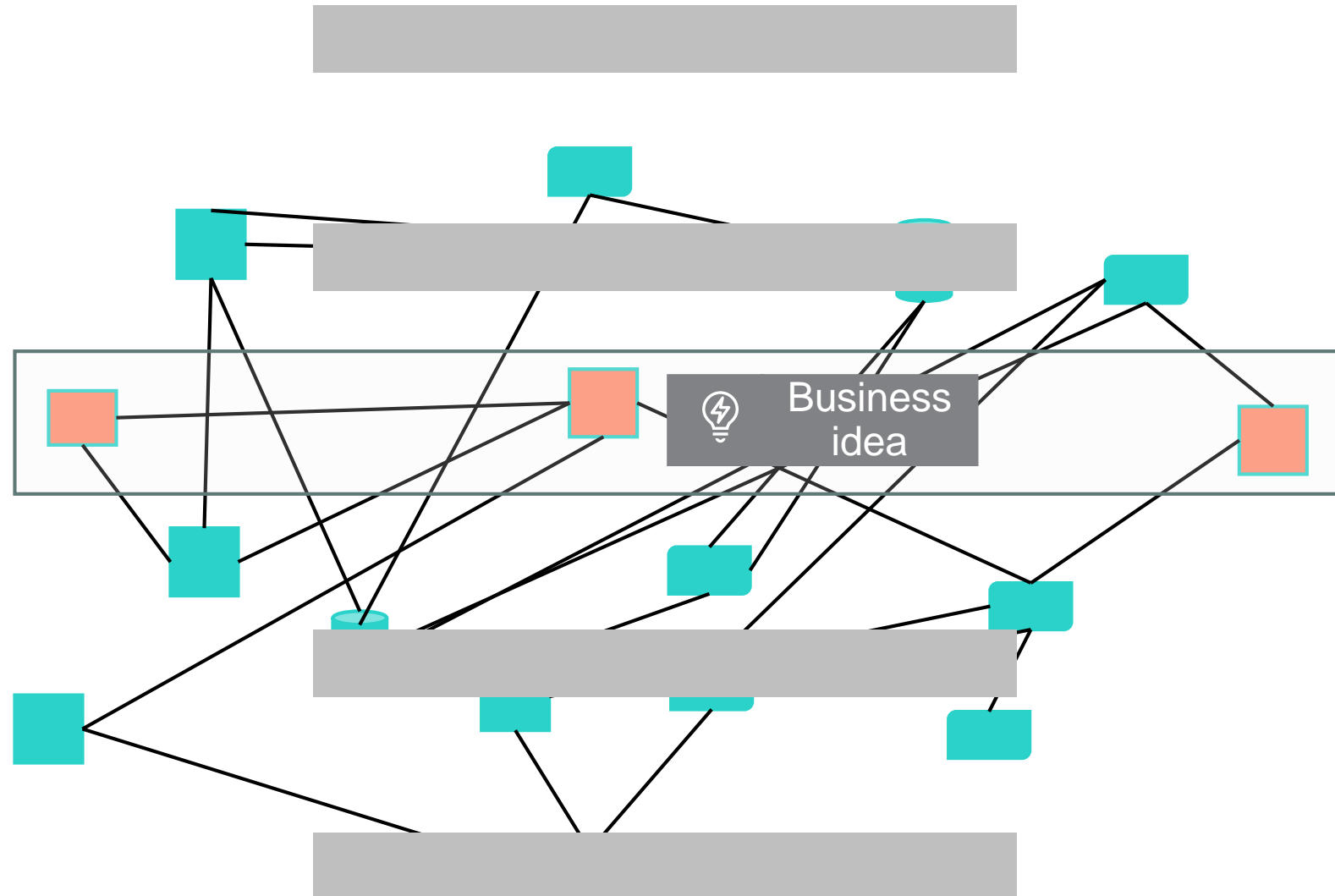expensive, slow and hard

We need to think about flow…pipelines

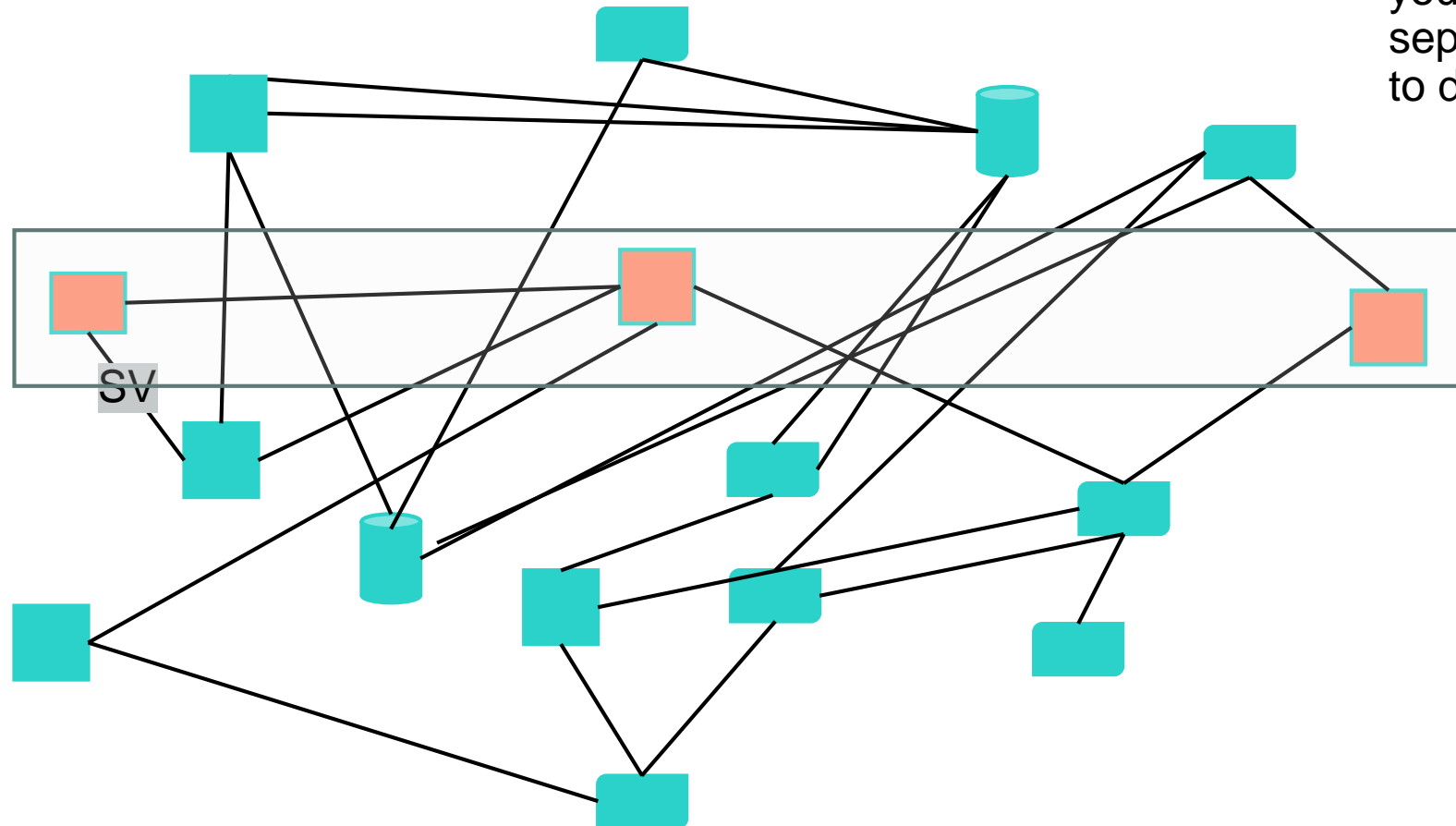# To build a pipeline, you have to think end to end and isolate

Consider this function. There is a pipeline of related systems

Business idea

To isolate the pipeline, virtualization is a key concept

With everything interconnected you have to create some separation between systems to develop and test the idea.

SV

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Now, we can introduce change, test it and isolate our change from the rest of the systems… (at least in dev and early test)
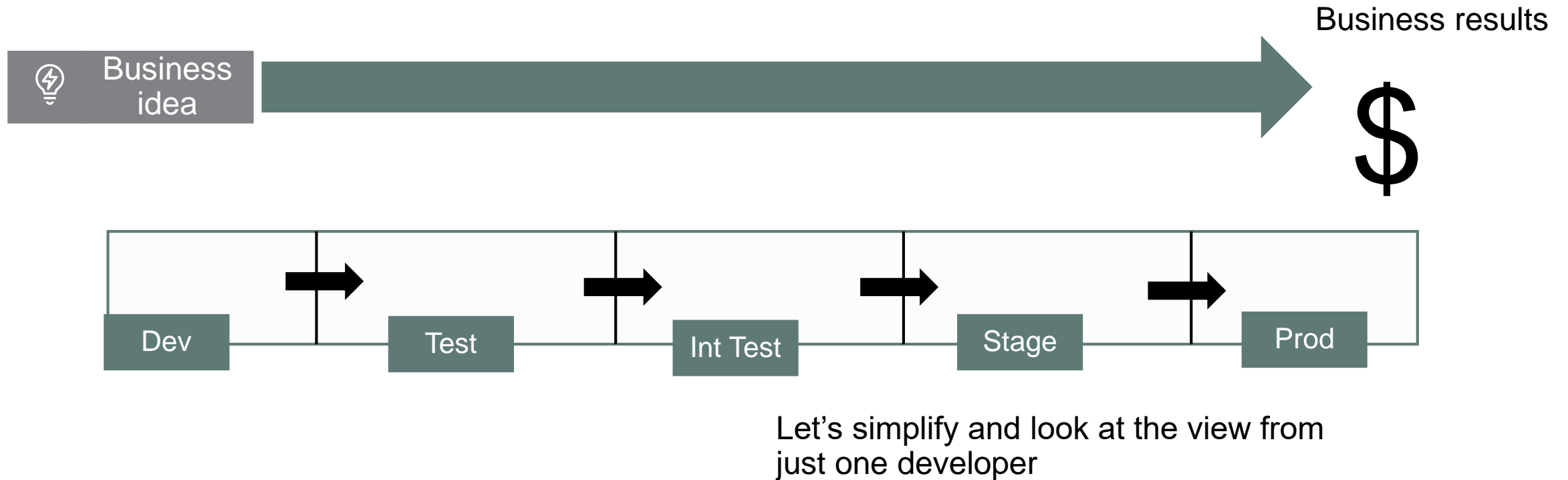
Creating virtual endpoints for other systems and services is a key strategy….

But it's not everything.

SV

SV

SV

SV

SV

SV

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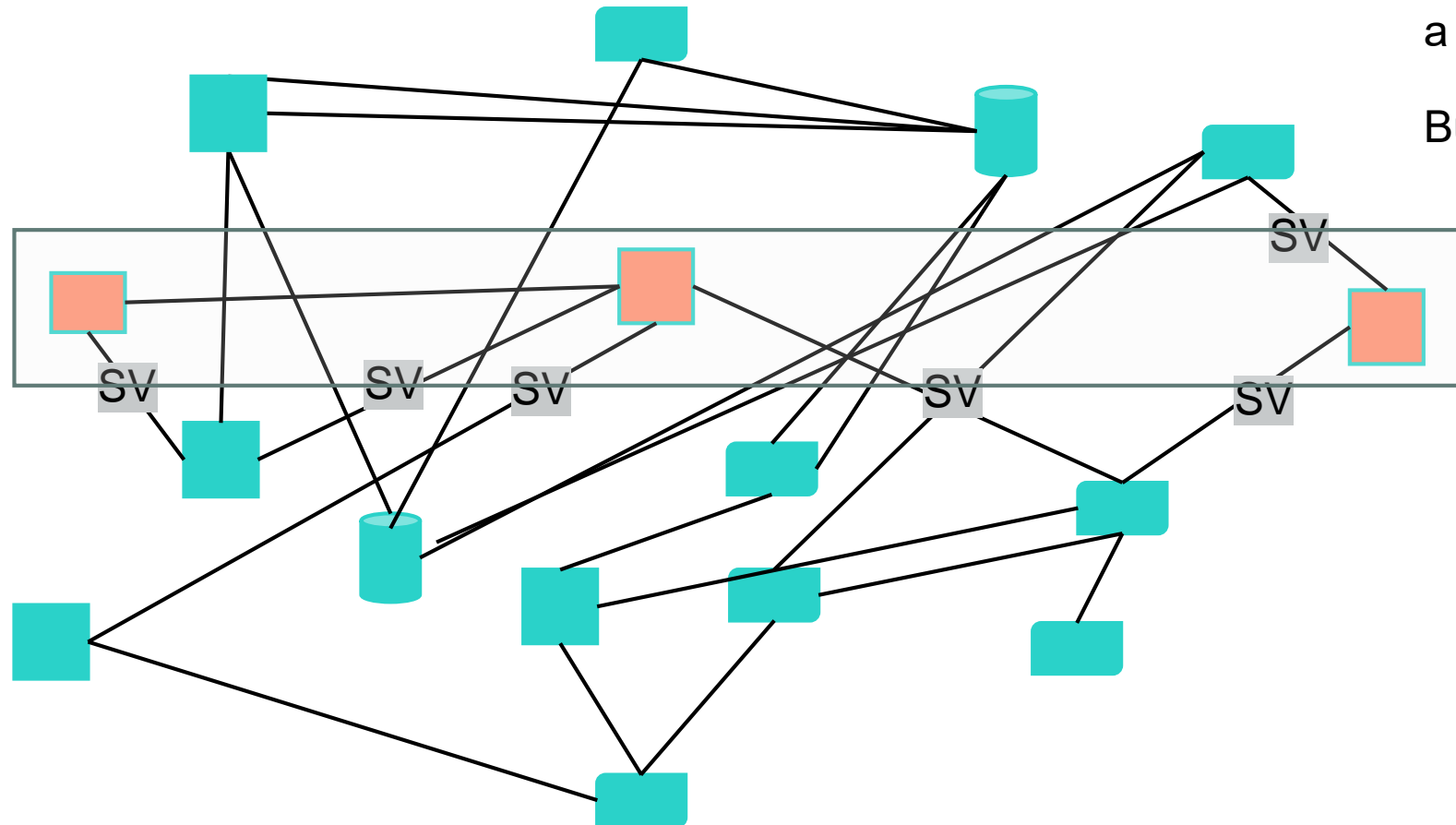
On the topic of Dev, Test, etc. Remember the silos? The idea and the pipeline has to go through the silos

Business results

Business idea

$

Dev → Test → Int Test → Stage → Prod

Let's simplify and look at the view from just one developer

Treat the pipeline like a factory and focus on flow, eliminate waste, rework and bottlenecks. Automate wherever you can

Automate
Build & Integration

Business idea

| Dev | Test | Int Test | Stage | Prod |
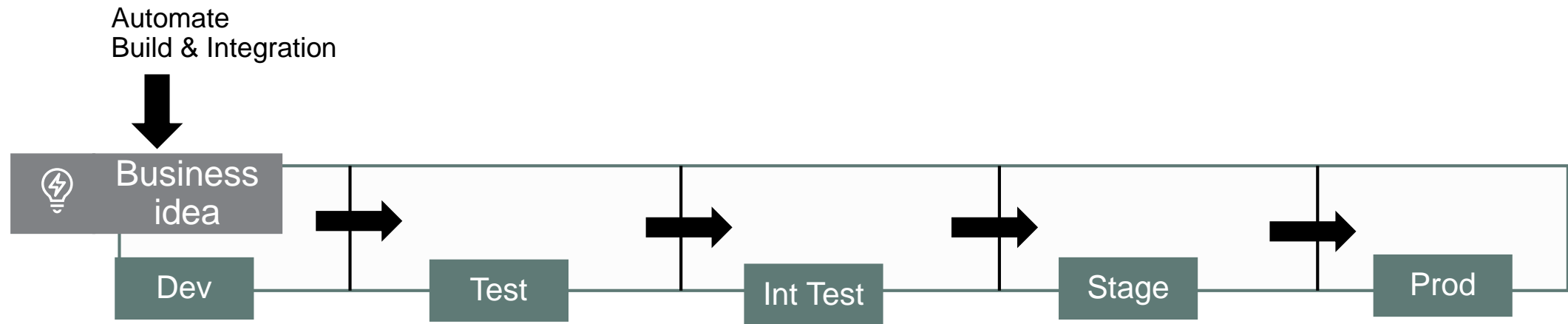
Automate builds and integration of code changes.
Developers should work on the same code base
Share their changes every day
and always keep their code integrated and ready to deploy.   Continuous Integration

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Enterprise

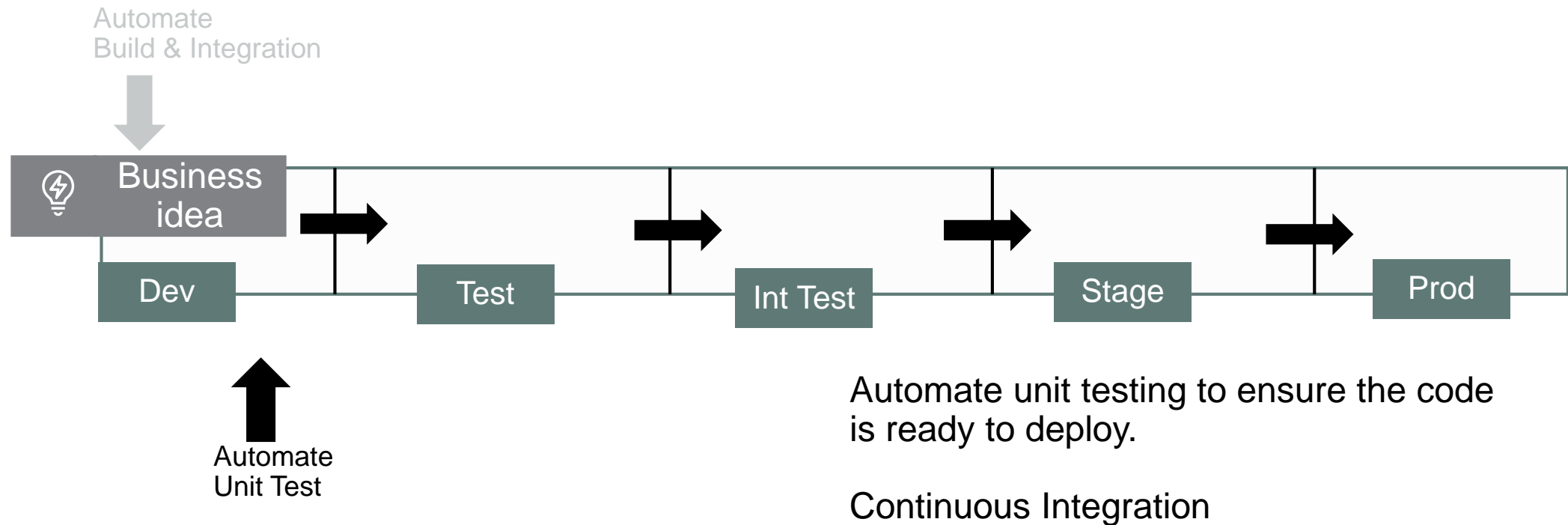# Treat the pipeline like a factory and focus on flow, eliminate waste, rework and bottlenecks

Automate Build & Integration

Business idea

Dev

Test

Int Test

Stage

Prod

Automate Unit Test

Automate unit testing to ensure the code is ready to deploy.

Continuous Integration

Hewlett Packard Enterprise

Treat the pipeline like a factory and focus on flow, eliminate waste, rework and bottlenecks

Automate
Build & Integration

Automate
Delivery

Business
idea

Dev

Test

Int Test

Stage

Prod
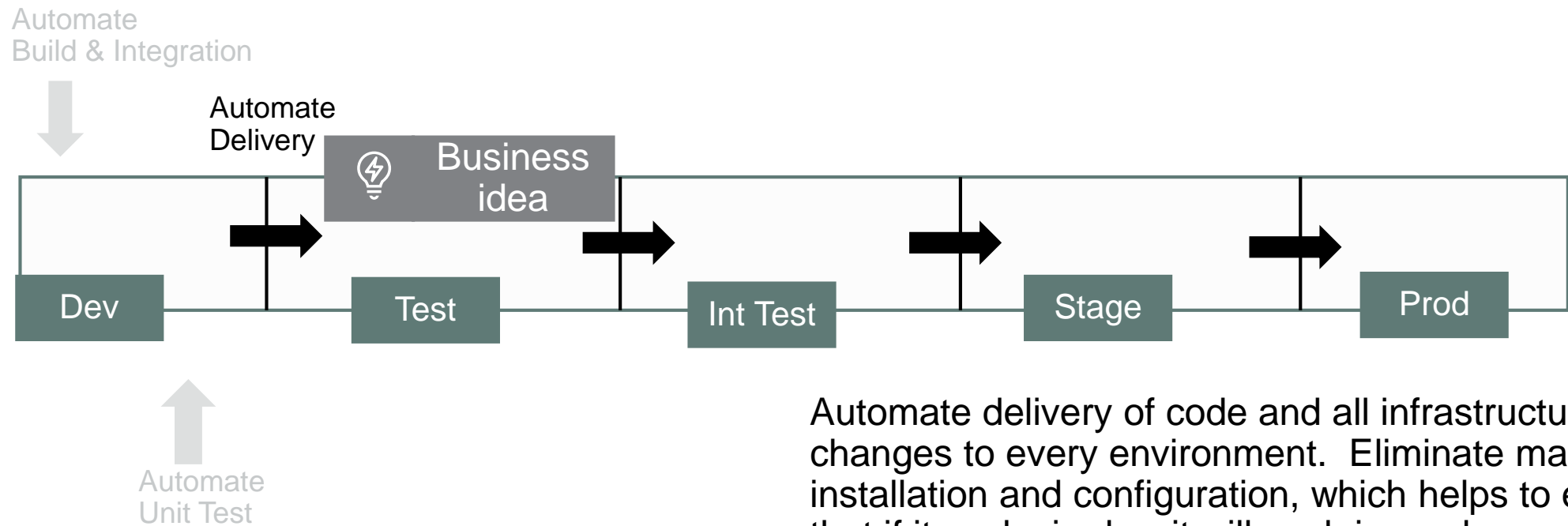
Automate
Unit Test

Automate delivery of code and all infrastructure changes to every environment. Eliminate manual installation and configuration, which helps to ensure that if it works in dev, it will work in prod.
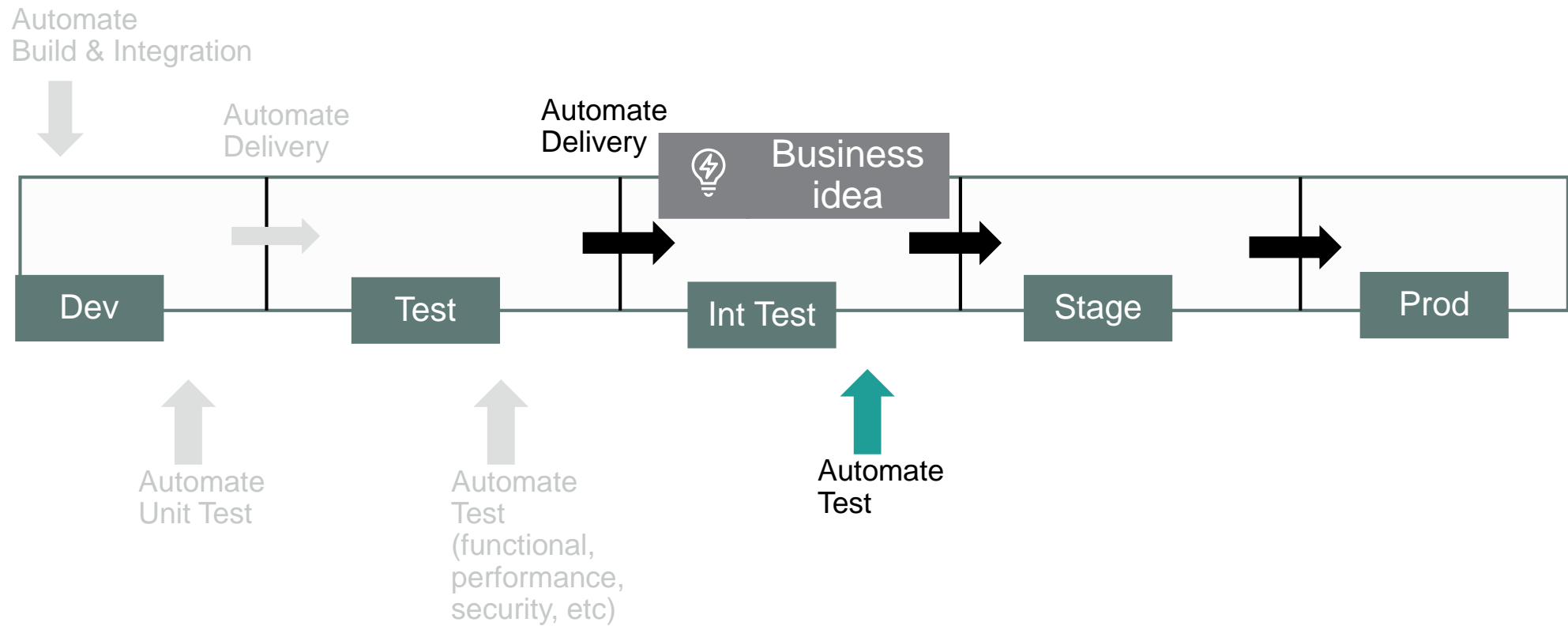Each Delivery is a rehearsal for Production Deployment
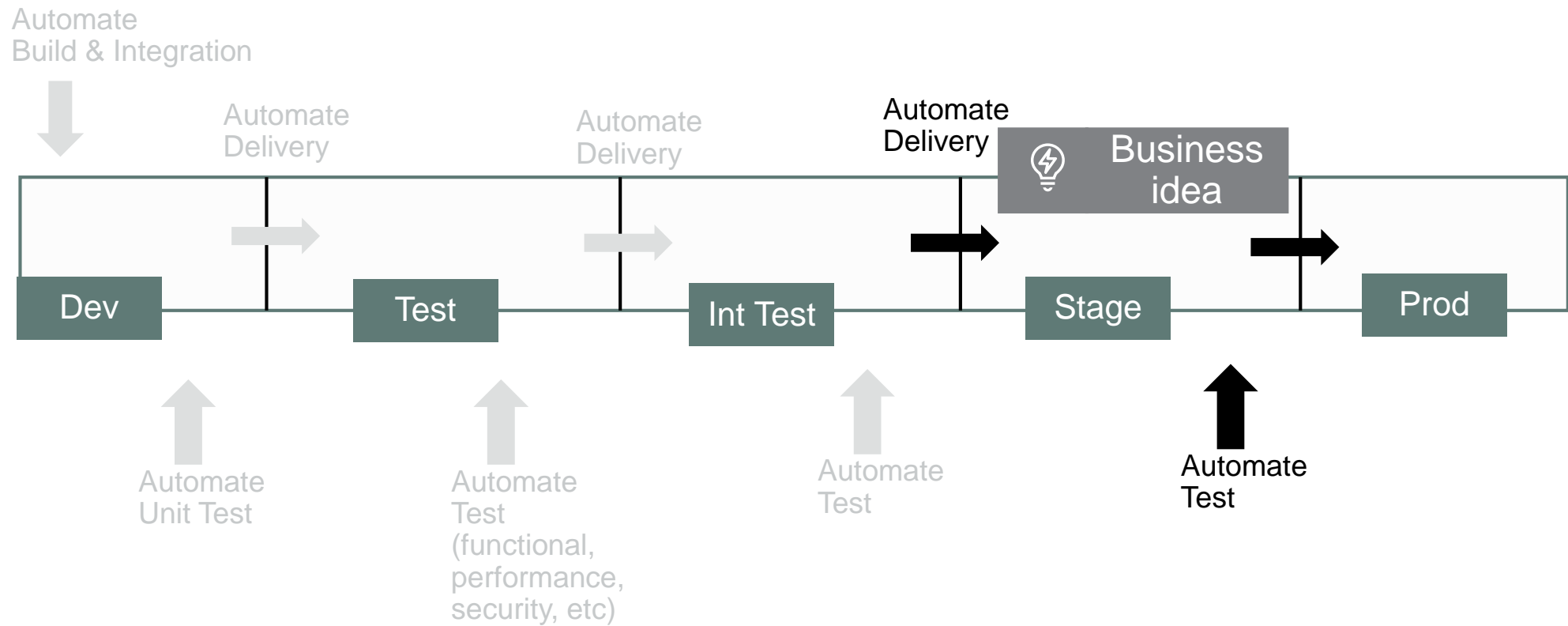Continuous Delivery

Treat the pipeline like a factory and focus on flow, eliminate waste, rework and bottlenecks

Automate
Build & Integration

Automate
Delivery

Business idea

Dev

Test

Int Test

Stage

Prod

Automate
Unit Test

Automate
Test
(functional,
performance,
security, etc)

Automate functional, performance and security testing. Extensive automated testing is the goal, save your talented testers from the drudgery of repetitive testing, rather let them explore. Always keep the code integrated and ready to deploy.
Continuous Testing

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Continue to test, deliver and validate the code…

Automate Build & Integration

Automate Delivery

Automate Delivery

Business idea

Dev

Test

Int Test

Stage

Prod

Automate Unit Test

Automate Test (functional, performance, security, etc)

Automate Test

Hewlett Packard Enterprise

Continue to test, deliver and validate the code…

Automate
Build & Integration

Automate
Delivery

Automate
Delivery

Automate
Delivery

Business
idea

Dev

Test

Int Test

Stage

Prod

Automate
Unit Test

Automate
Test
(functional,
performance,
security, etc)

Automate
Test

Automate
Test

Hewlett Packard
Enterprise

Continue to test, deliver and validate the code…
Designed for quality and speed

Automate
Build & Integration

Automate
Delivery

Automate
Delivery

Automate
Delivery

Automate
Delivery

Business
idea

Dev

Test

Int Test

Stage

Prod

Automate
Unit Test

Automate
Test
(functional,
performance,
security, etc)

Automate
Test

Automate
Test
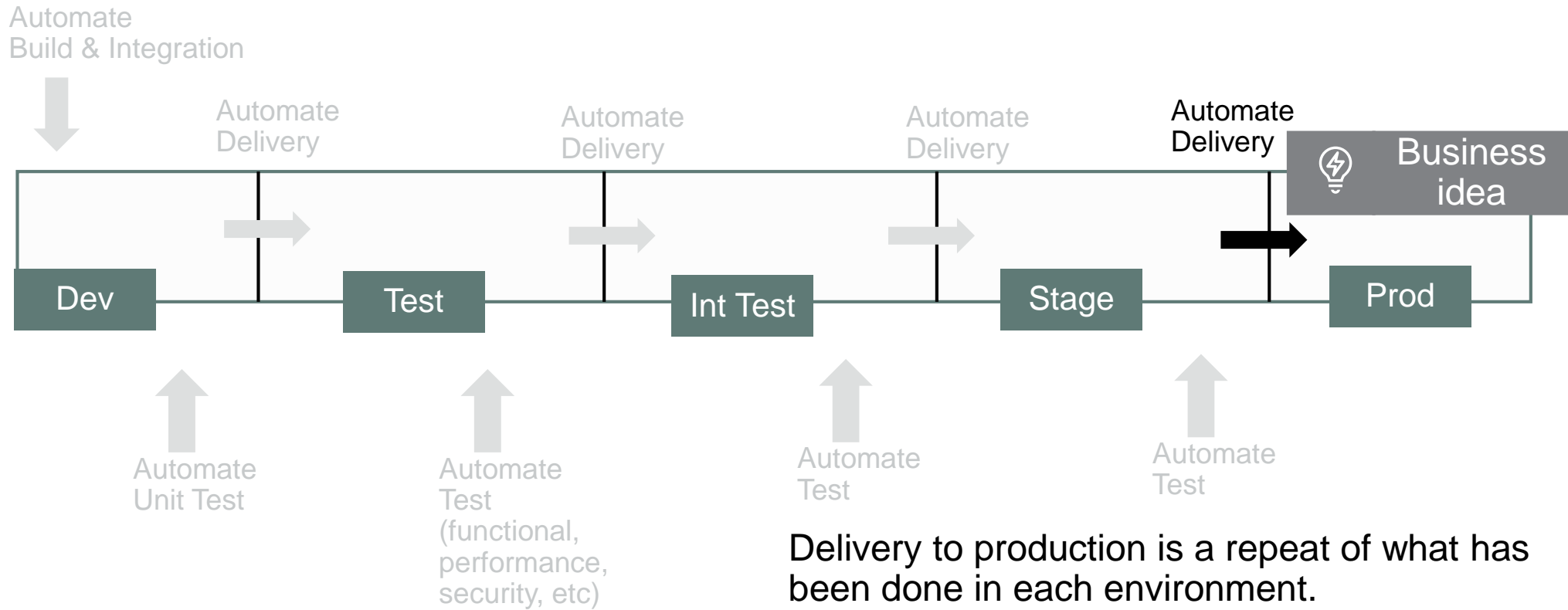
Delivery to production is a repeat of what has
been done in each environment.
It should be a non event.
Continuous Delivery

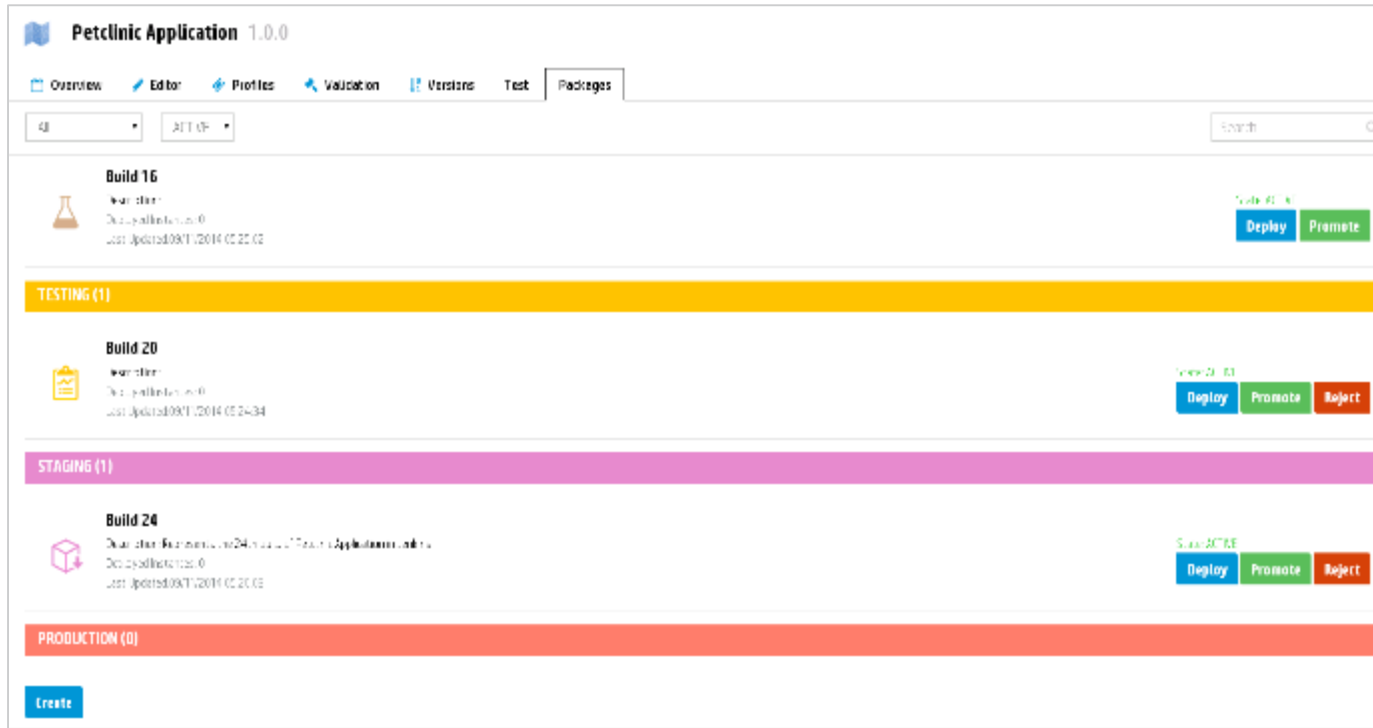**Hewlett Packard**
Enterprise
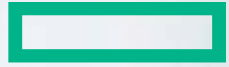
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Deliver amazing apps with confidence.

Continuous delivery and deployment
HPE Codar

Model Based Deployments

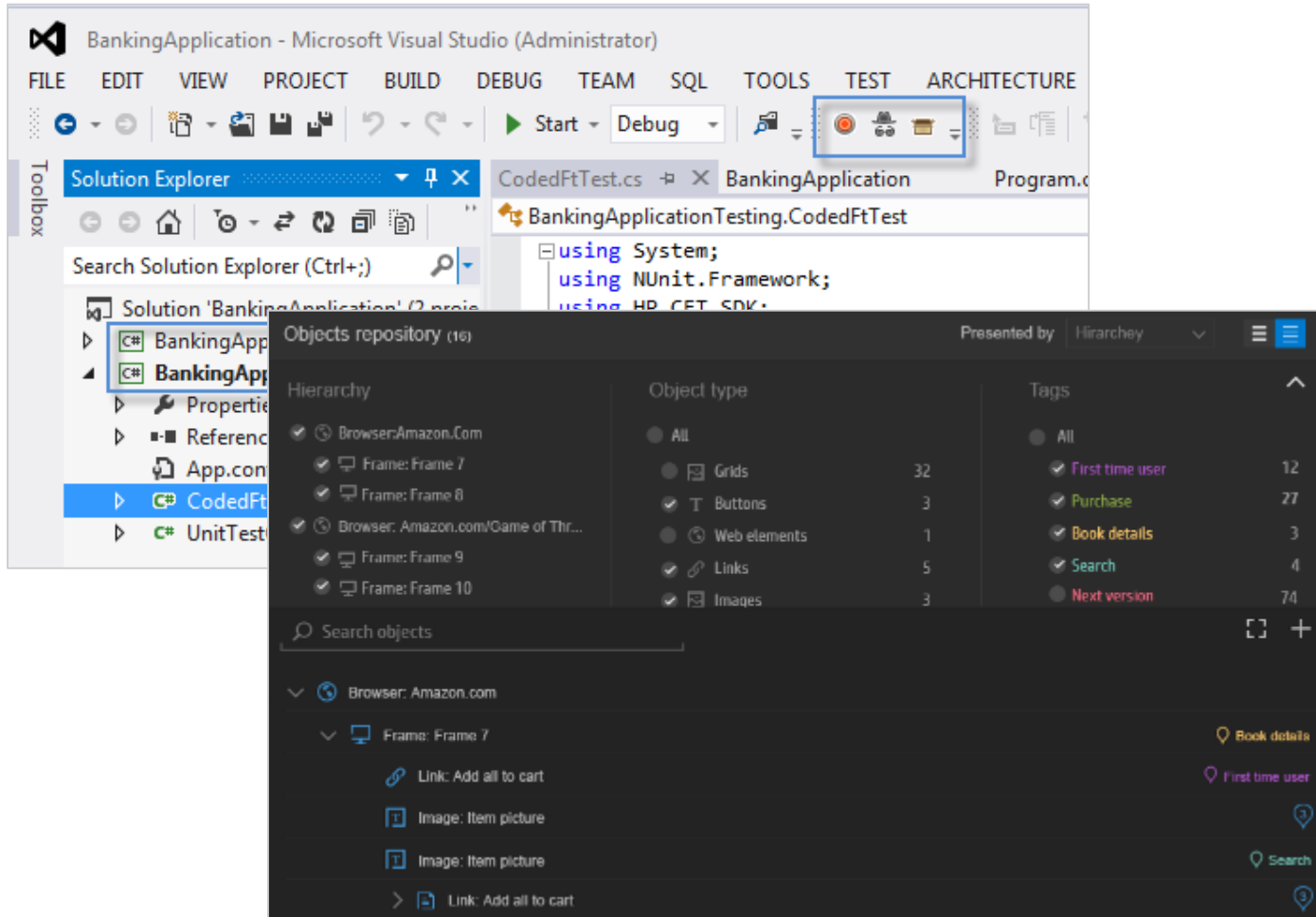Infrastructure as Code

Increased visibility

Pipeline Management

Quick time to automate

Topology App Designs

Integrated to DevOps Tool Chain

Open APIs & Jenkins integ.

Continuous integration and testing
HPE LeanFT

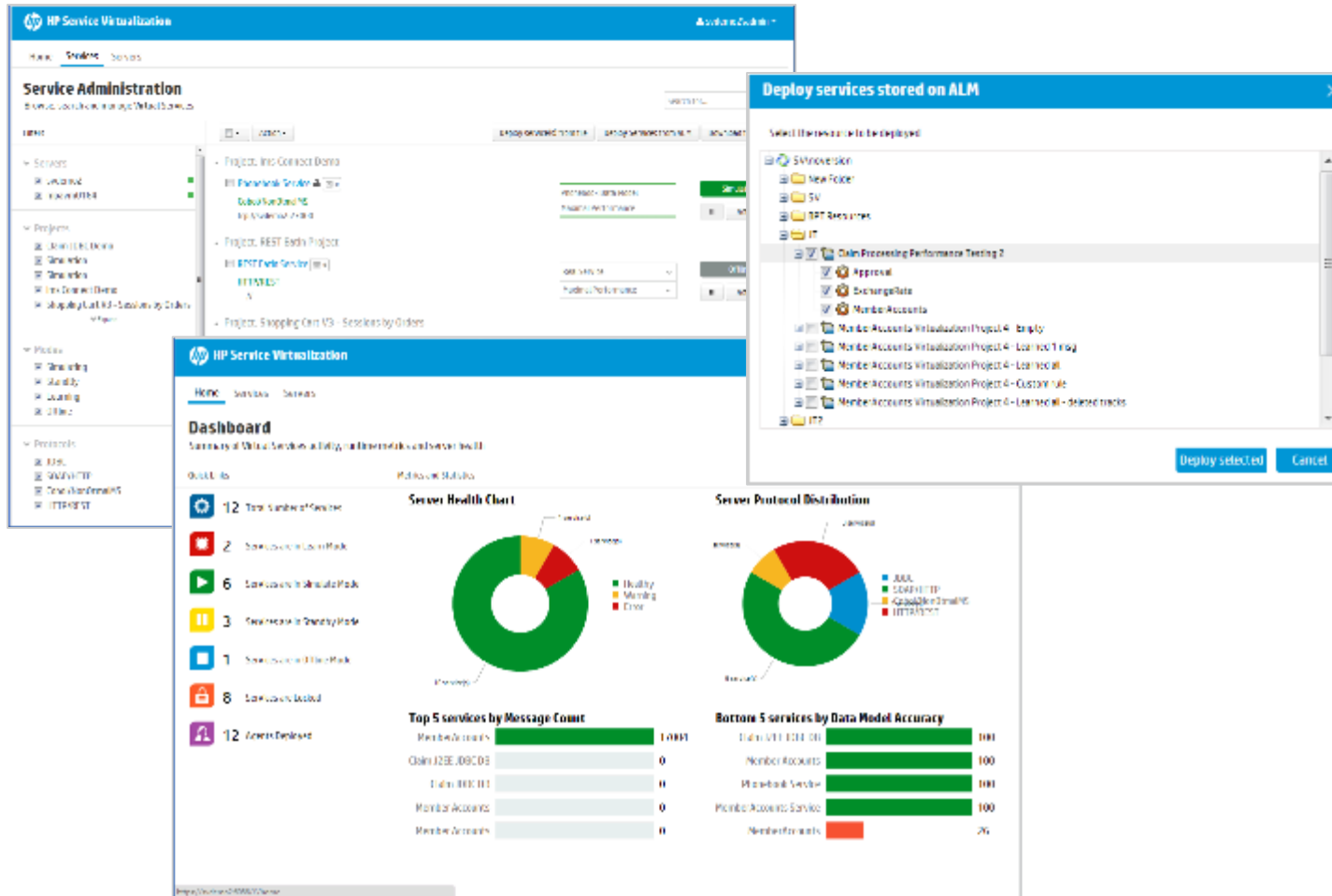

Scripted functional testing

Visual Studio / Eclipse (C# or Java)
Nunit/Junit

UFT Object Recognition

Small footprint

Purpose built for test-driven
development (TDD), Behavior
Driven Development (BDD), Agile
Testing, CI integration

Continuous integration and testing
HPE Service Virtualization

Quickly 'learn' and configure virtual services.
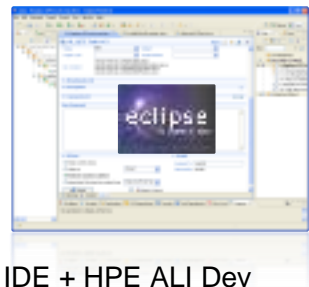
Simulate services, and system components as needed

Eliminate delays or availability of services or components (Dev, Test)

Integrated to DevOps Tool Chain Open APIs, Jenkins, Release and Lab Automation

Continuous integration and testing
HPE ALM and Agile Manager

Developers

IDE + HPE ALI Dev
Implement requirements defined in
HPE ALM
HPE DevInspect's Security Assistant
scans as code is written within IDE

Req/Tasks/Defects
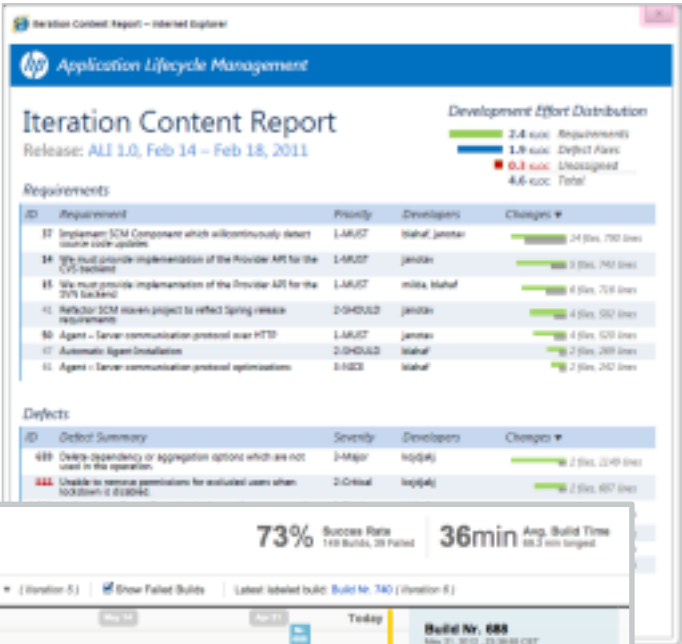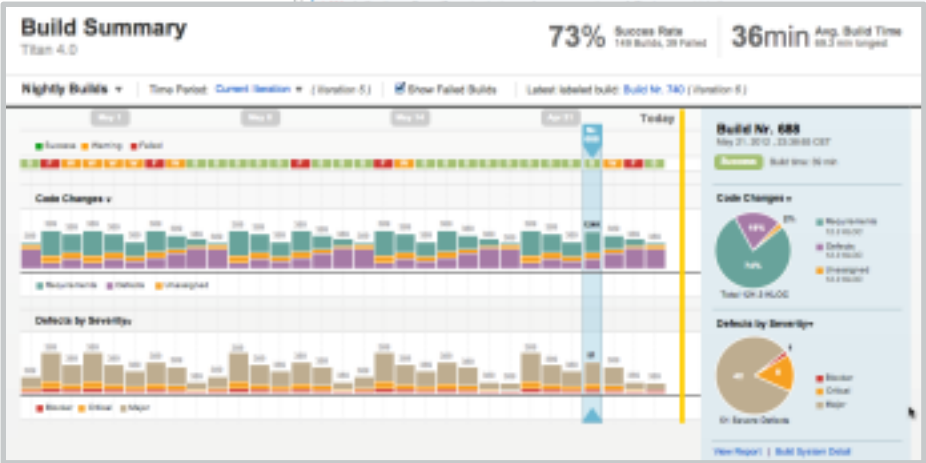
HPE ALM
and
HPE AGM

ALI Reports

Change sets

Builds

Check-in
Check-out

SCM System

Source code is
stored in SCM

Build System

Continuous
Integration

Hewlett Packard
Enterprise
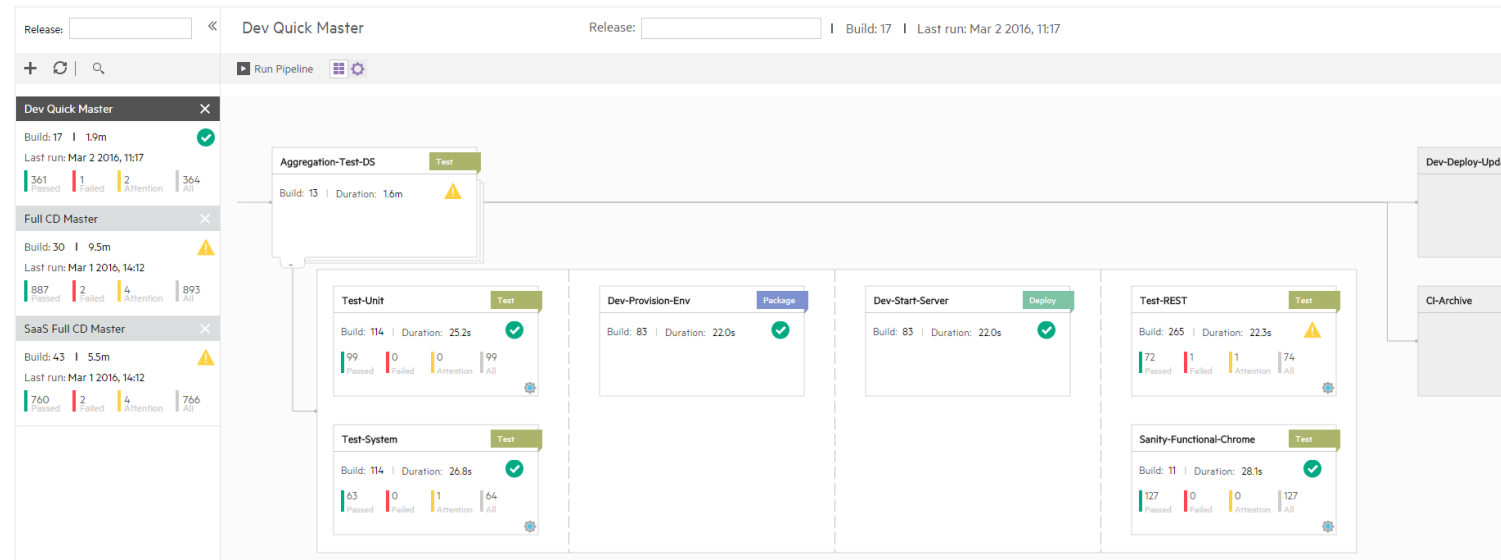
HPE ALM Beta
Try it today!

– Supports Agile and Non-Agile Teams

– A simplified user experience; accessible on any platform or browser

– Open architecture, Integrated and Extensible (REST API, documented with Swagger.io)

– Easily share and re-use asset - adding velocity, reducing technical debt

– Tightly integrated quality ensures teams address issues sooner, saving time and money

– Built with a DevOps design center – Enabling lean, continuous process and pipeline management

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Enterprise

Public beta is live on SaaS

https://saas.hpe.com/signup/try/alm-beta

Products and Svcs

Continuous assessment

HPE PPM   HPE APM

HPE AGM   HPE BSM

HPE AppDefender HPE App Pulse

Continuous assessment

Continuous integration and testing
– **HPE AGM**
– **HPE ALM & ALI**
– **HPE LeanFT**
– HPE Fortify
– HPE DevInspect
– HPE LR, PC, SRL
– HPE Mobile Center
– **HPE Service Virtualization**
– HPE Network Virtualization
– **Verigreen**

Build

Continuous integration and testing

Test

Release

Continuous delivery and deployment

Deploy

Operate

Continuous operations

Monitor

Continuous operations
– **HPE OO**
– HPE SAW
– HPE Propel
– HPE App Defender

Continuous assessment

Continuous delivery & deployment
– **HPE CODAR   HPE Helion**
– HPE SA   Synergy / Composable Infra
– HPE OO   HPE App Defender

Transformation Services

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Enterprise

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Continuous innovation practices

A/B testing

Feature toggling

Real time **market insight**

Smarter **releases**

Improved **user experience**

DevOps upcoming highlights

DevOps track
DevOps CAC

Next Vivit DevOps web event – May 17
**Enterprise DevOps: What Ops Teams
Need to Consider for Faster App Releases**

Forum
- Portland
- Apr 27-28

DevOps Enterprise Summit

EMEA
- London
- June 30 – July 01
- HPE – Premier Sponsor

AMS
- San Francisco
- Nov 7 – Nov 9
- HPE – Diamond Sponsor

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Discover overview – DevOps track

- DevOps CAC
- 11 breakout sessions
- 3 Discover Theatre sessions
- 4 Discover Forum sessions
- 1 Digital Session
- 2 Demos in Discover Zone Showcase
- Demo Self guided tour
- Including speakers:
  - James Governor
  - Gary Gruver
  - Gene Kim

Hewlett Packard Enterprise DevOps Monthly Online Meetup

Learn from and Share with your peers

40+ members

Knowledge Sharing

YOUR agenda!

Roundtable Topic

LinkedIn Group coming soon

Send email to drdevops@hpe.com to join

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Enterprise

Thank you

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