



Deliver Better Software Faster with the CloudBees Jenkins Platform

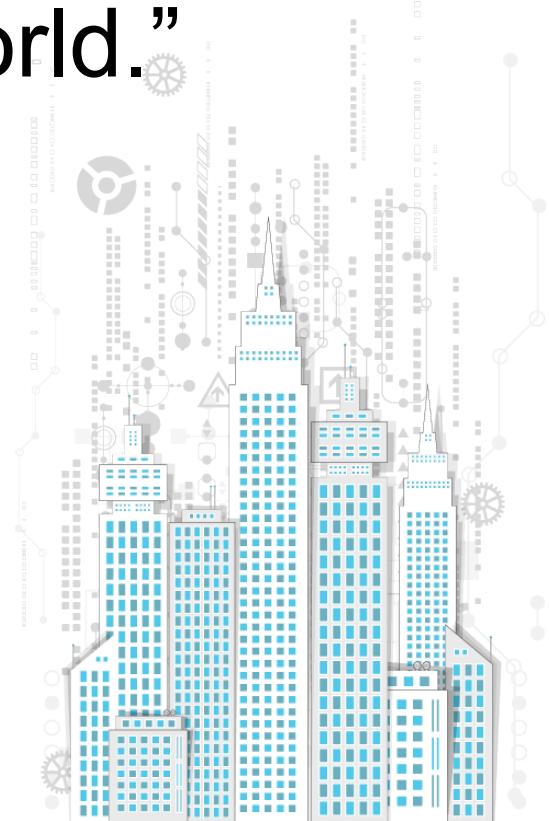
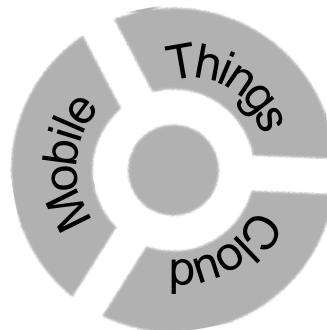
14 Jan 2015

Dan Juengst

“Software is eating the world.”

“Every business is in the software business.”

“It’s an application economy.”





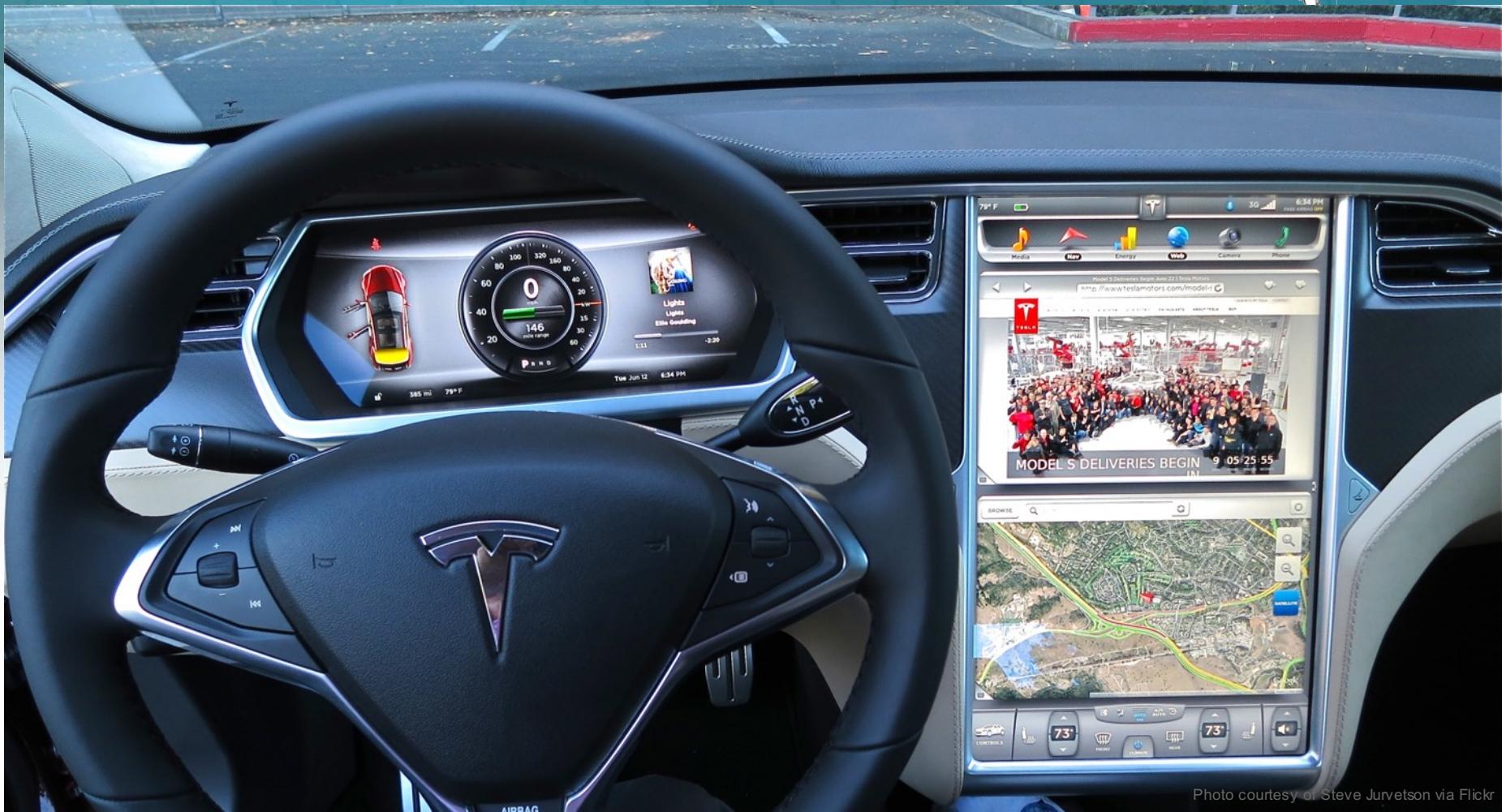
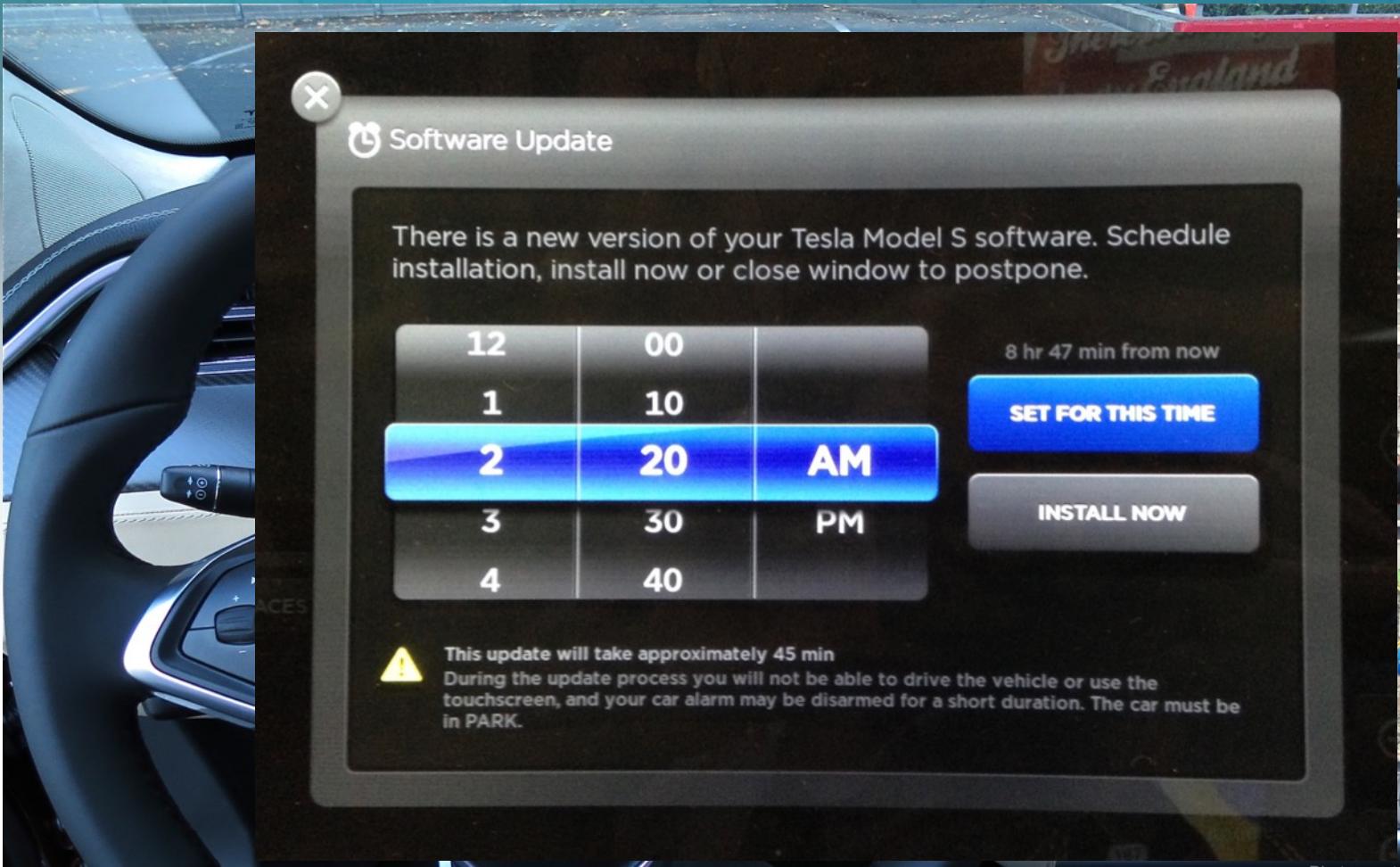
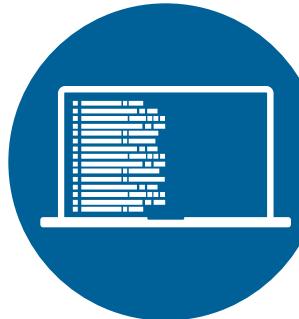


Photo courtesy of Steve Jurvetson via Flickr

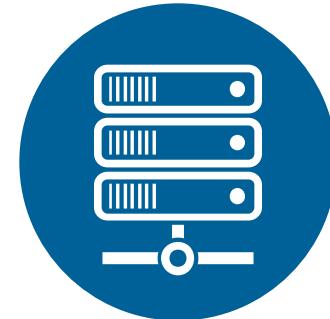


How Do You Deliver Better Software Faster?

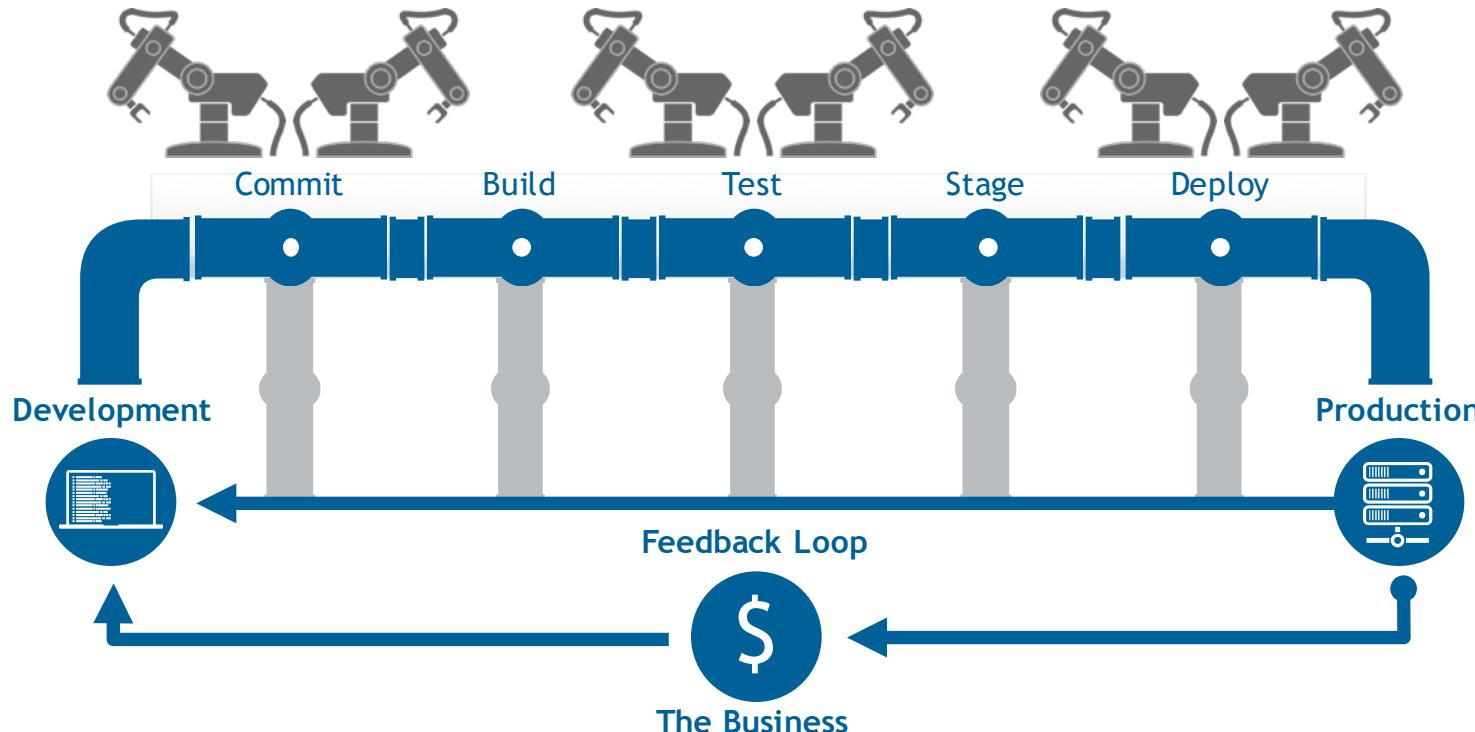
Development



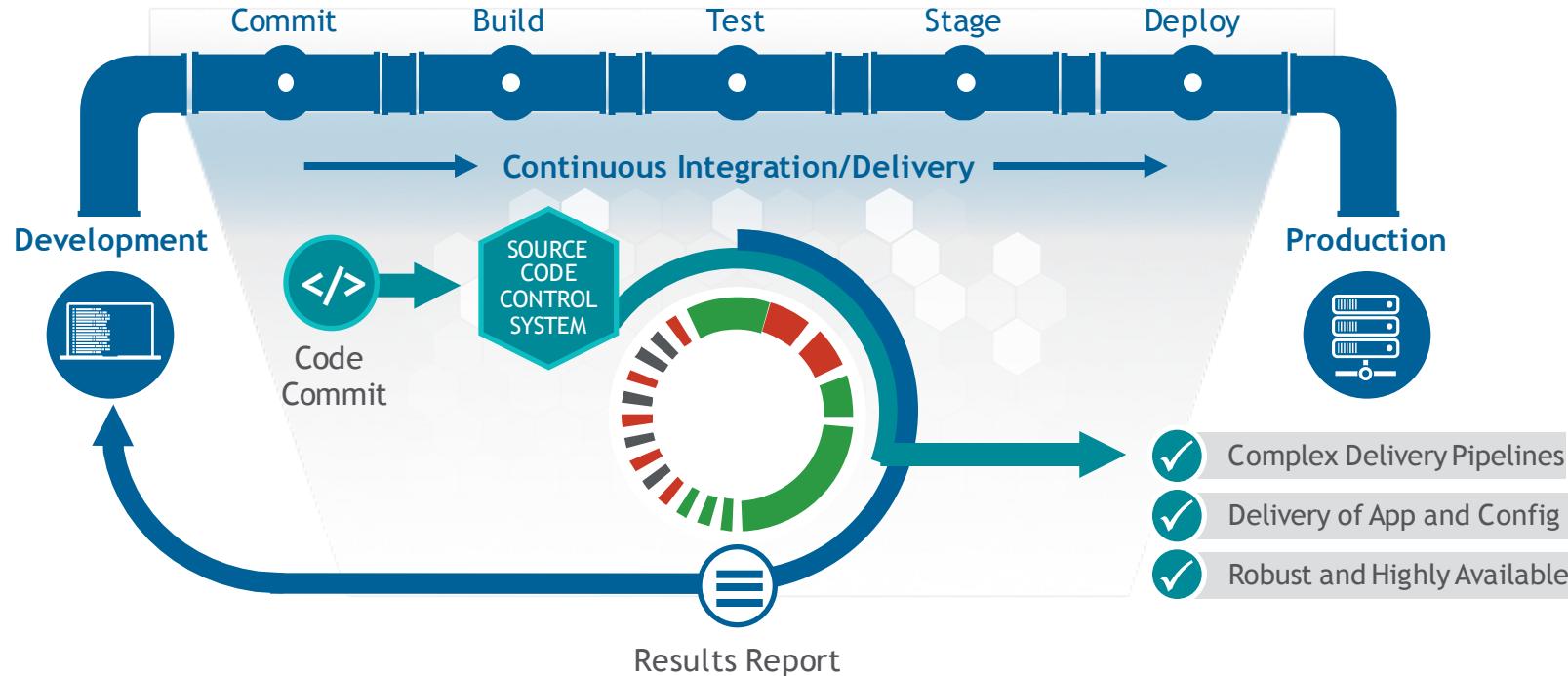
Production



Continuous Delivery and Automation are Key



Continuous Delivery Needs an Automation Engine





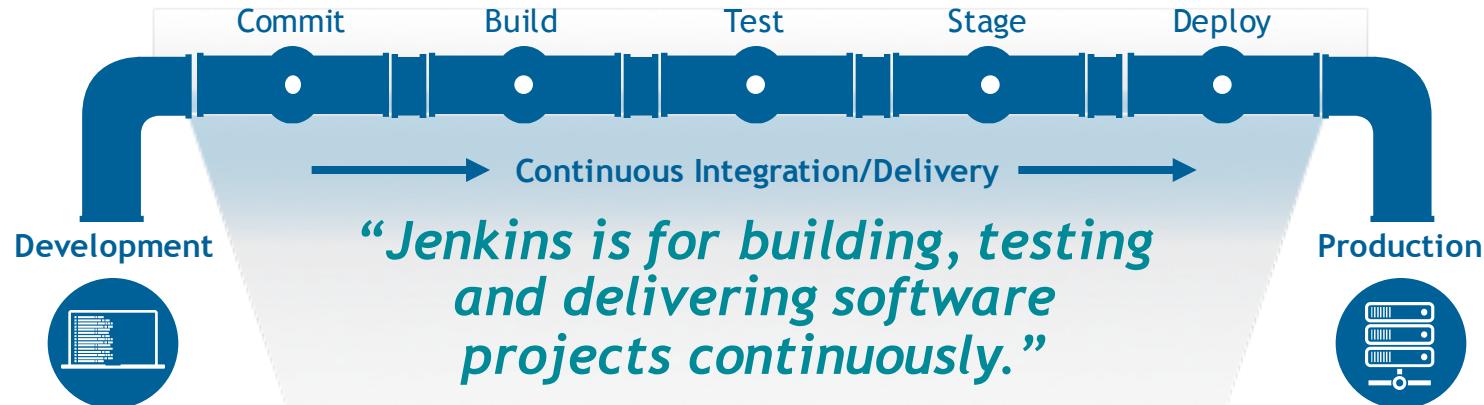
CloudBees



Jenkins

The *de facto* Engine for CI/CD

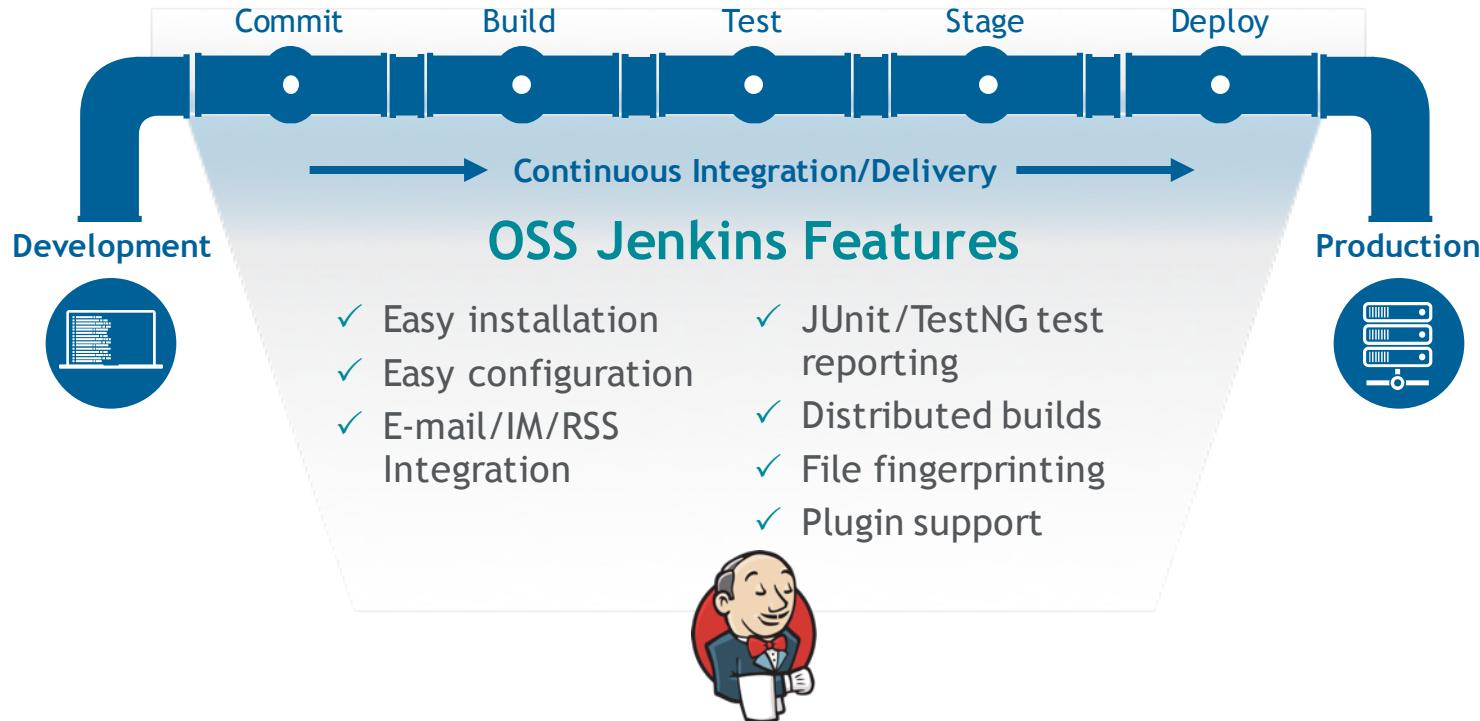
Jenkins – #1 Automation Platform for CI/CD



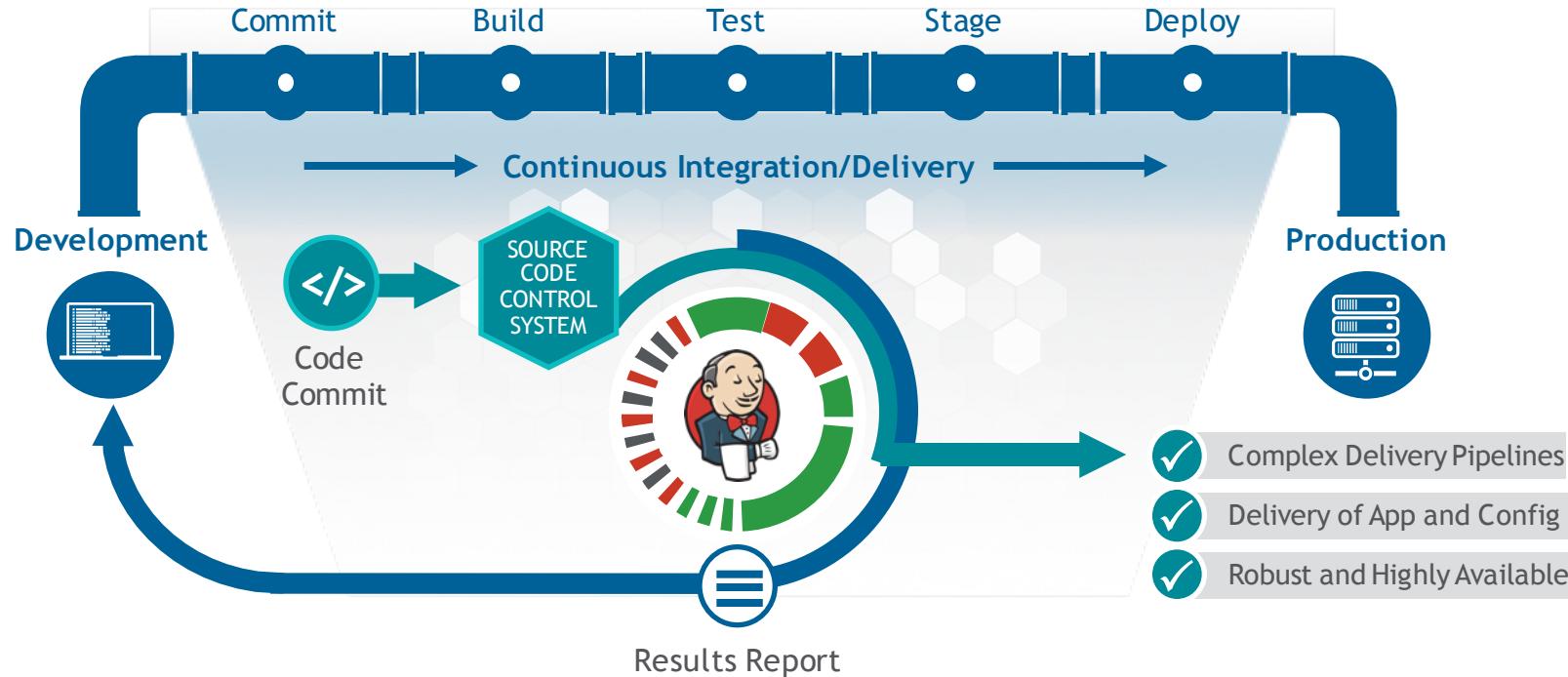
10 Years of Open Source Innovation
<http://www.jenkins-ci.org>



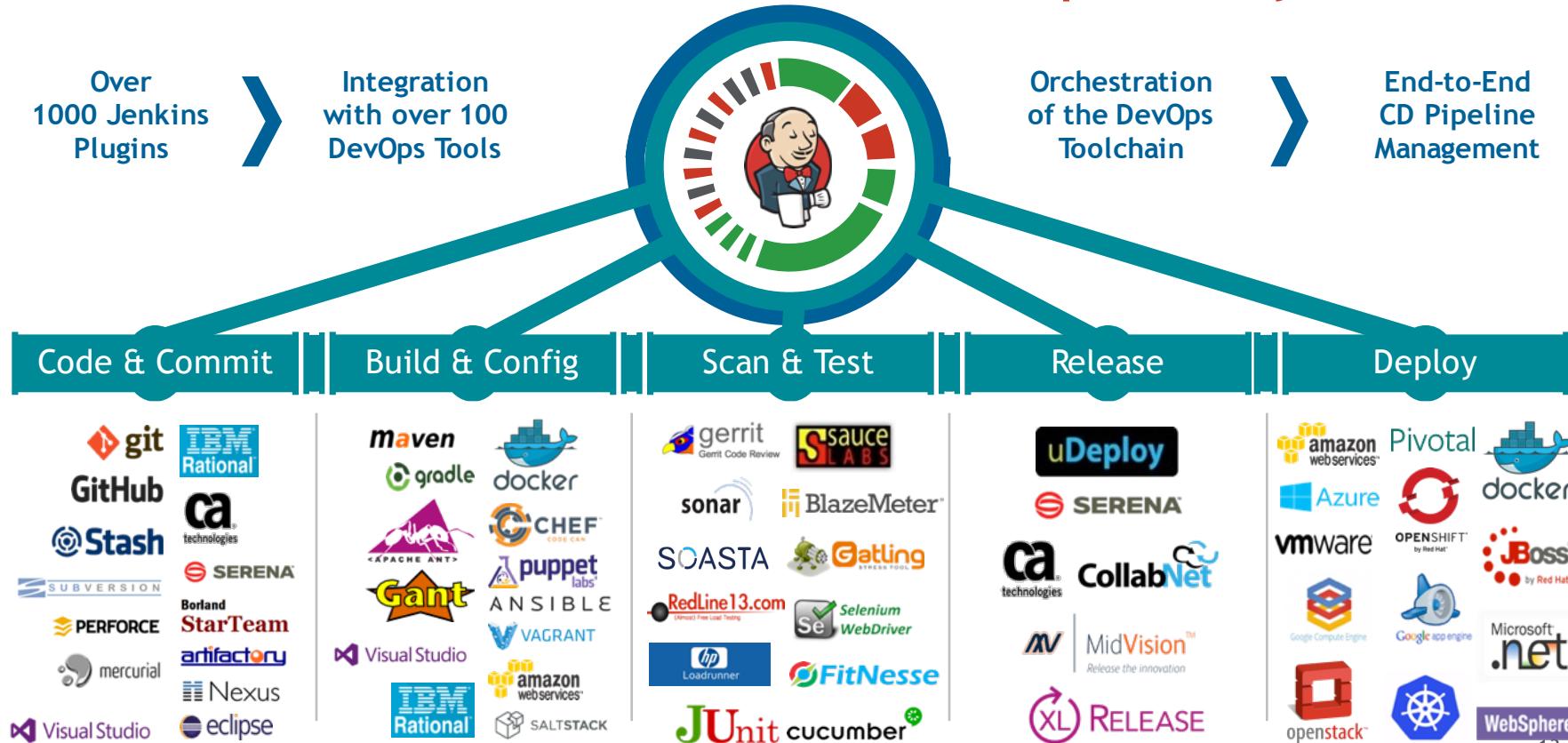
Jenkins – #1 Automation Platform for CI/CD



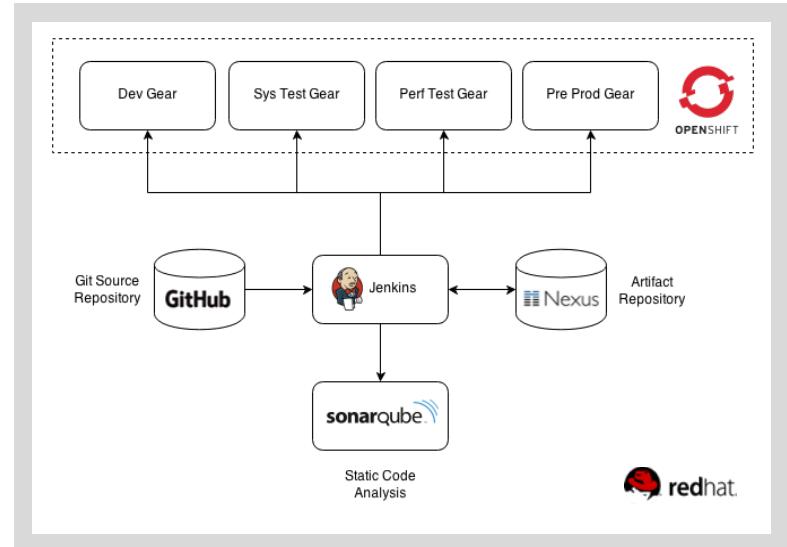
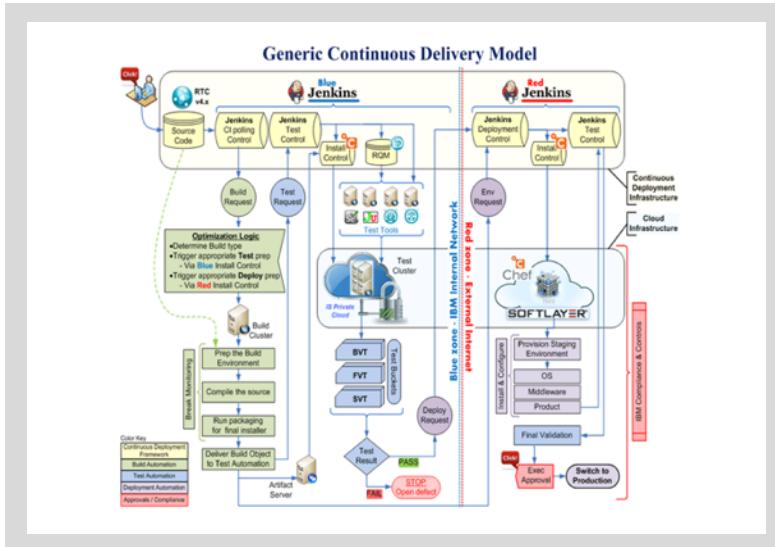
Jenkins – the #1 Automation Platform for CI/CD



Jenkins is the Hub of the CD/DevOps Ecosystem



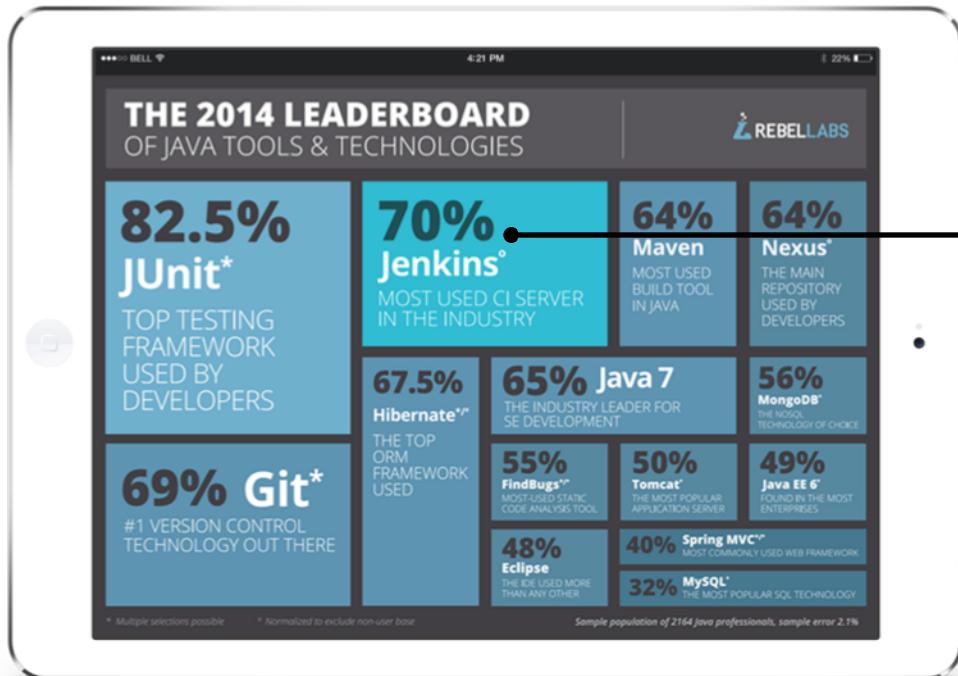
31 of 40 DevOps Reference Architectures Include Jenkins



<http://www.slideshare.net/SonatypeCorp/nexus-and-continuous-delivery>



Java Professionals Love Jenkins

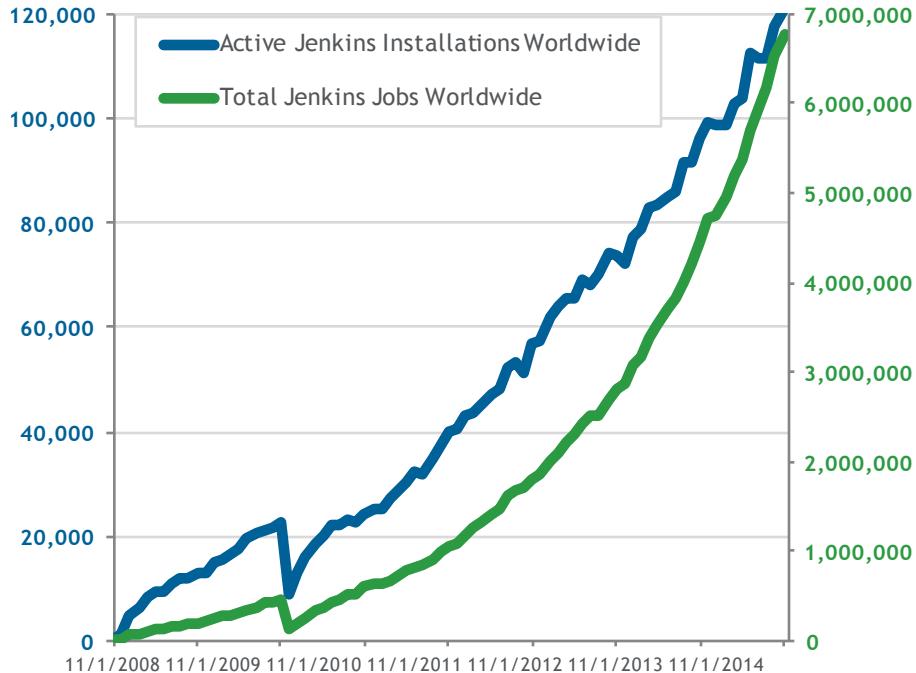


70%
Jenkins
Most used CI server
in the industry

Jenkins Popularity is Through the Roof



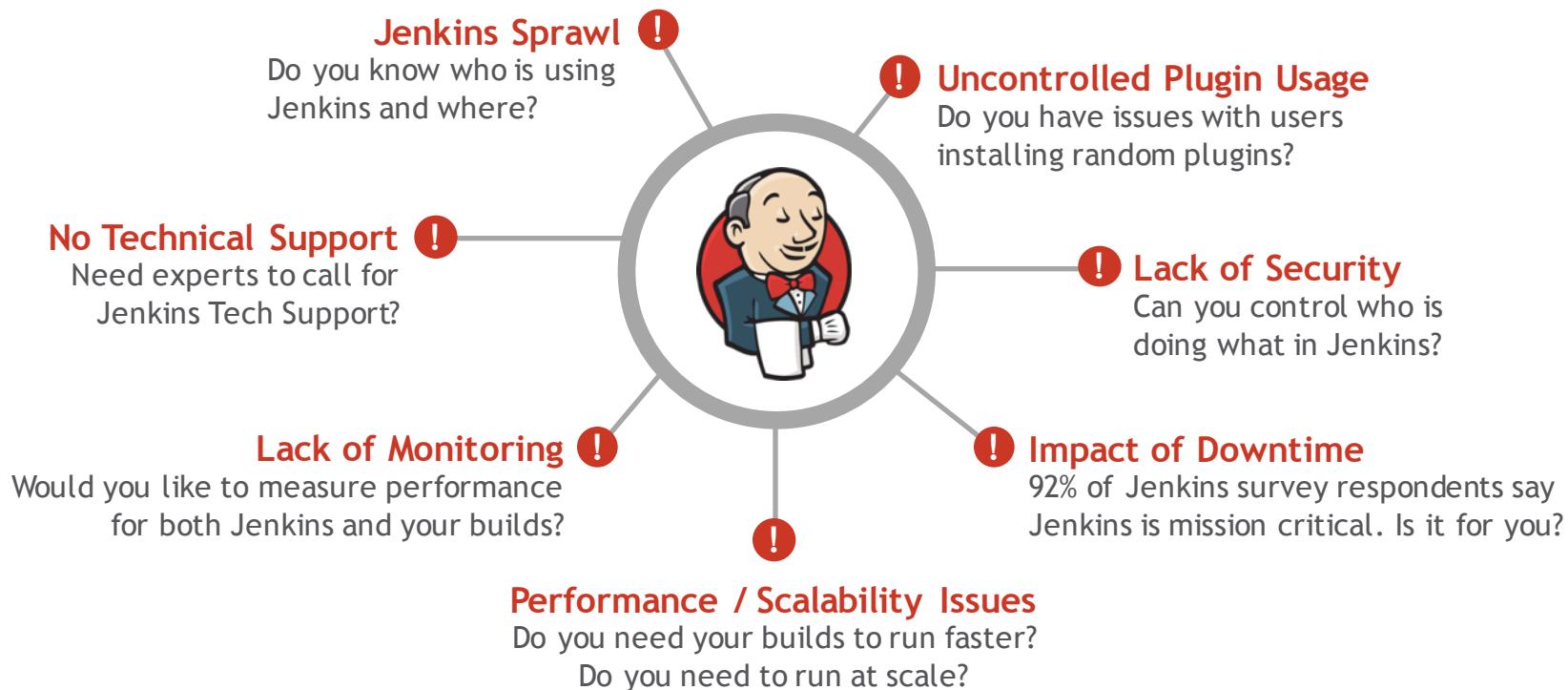
<http://www.infoq.com/research/ci-server>



<http://stats.jenkins-ci.org/jenkins-stats>

Industrializing Jenkins

Common Challenges as OSS Jenkins Usage Grows

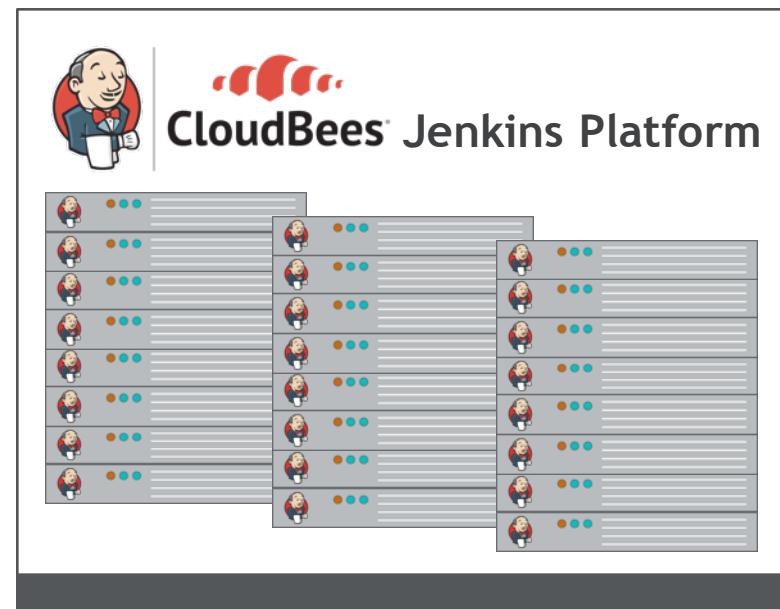


Open Source Innovation Meets Enterprise Strength

Community Powered
CI/CD Innovation



Jenkins for the Enterprise



CloudBees and the CloudBees Jenkins Platform

About CloudBees

WE ARE

The Enterprise Jenkins Company



OUR GOAL

To be the automation leader helping organizations develop and deliver better software faster.

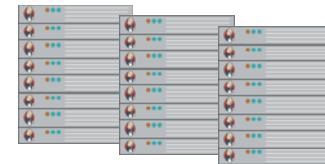
WE OFFER

Continuous delivery solutions powered by Jenkins at enterprise scale with enterprise support.

OUR BUSINESS VALUE

We enable IT to deliver better software faster by optimizing their use of Jenkins on premise or in the cloud.

What is the CloudBees Jenkins Platform?



Management,
Monitoring &
Alerting

Cluster Management
Analytics
Shared Resources
Dashboards

User Management
RBAC/SSO/Security
Team Mgmt
Organization Mgmt

CD Pipeline Orchestration & Execution
Jenkins workflow with checkpoint, stageview, branching & restarts

Advanced Jenkins Performance
High availability, security, optimized performance

Open Source Jenkins Plugins



OSS Jenkins Core

Next Generation Infrastructure Support
Docker, AWS, Azure, Pivotal, OpenShift

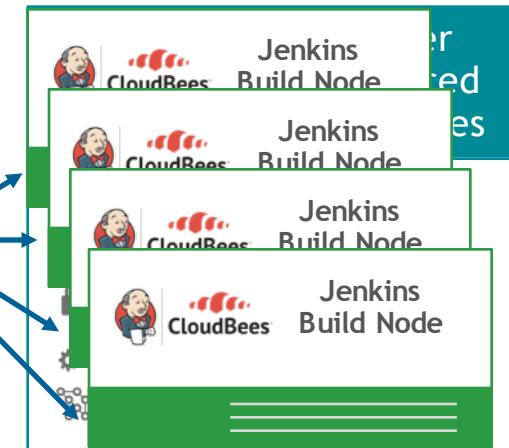
Expert Technical Support

Platinum
Gold
Silver
TSM
Customer Success

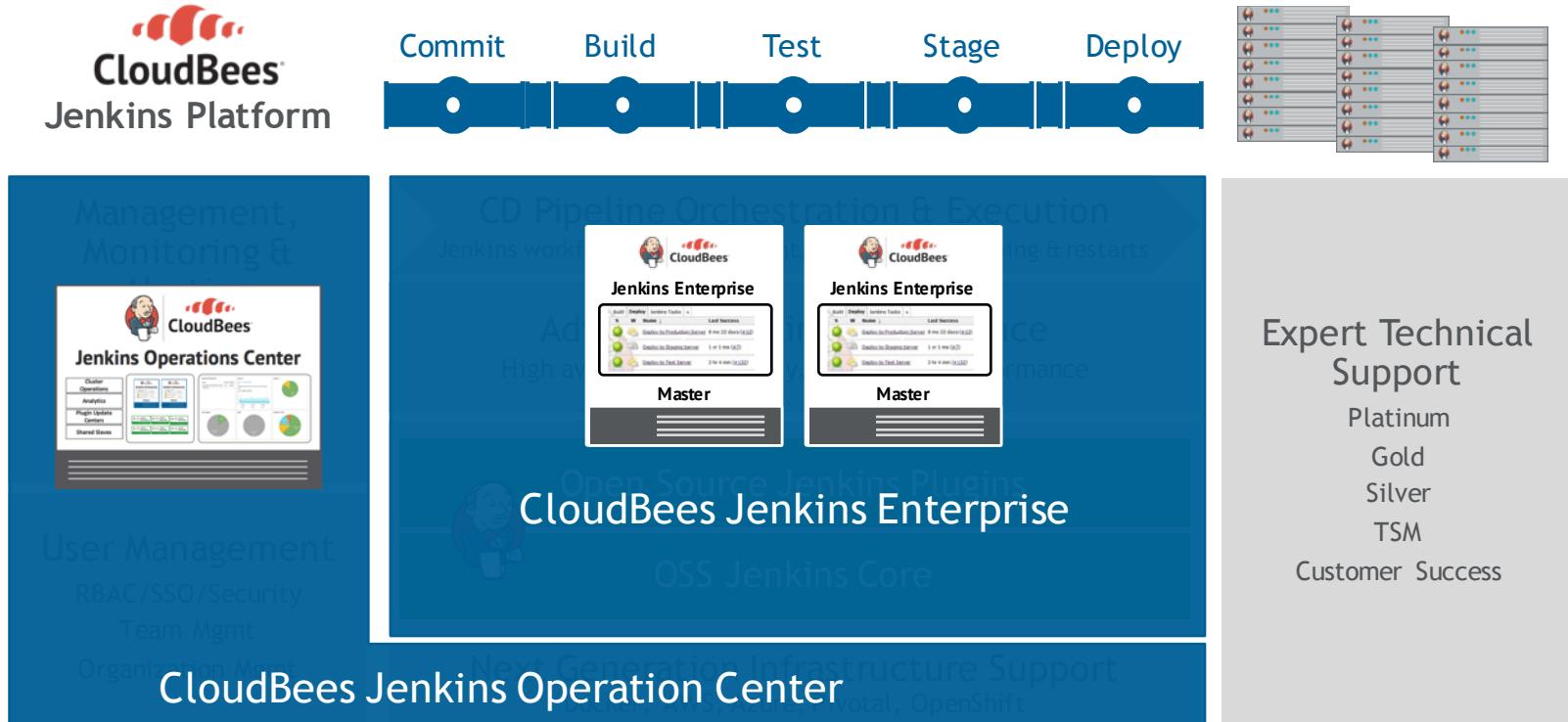
CloudBees Jenkins Platform Features

Overview

Components of the CloudBees Jenkins Platform

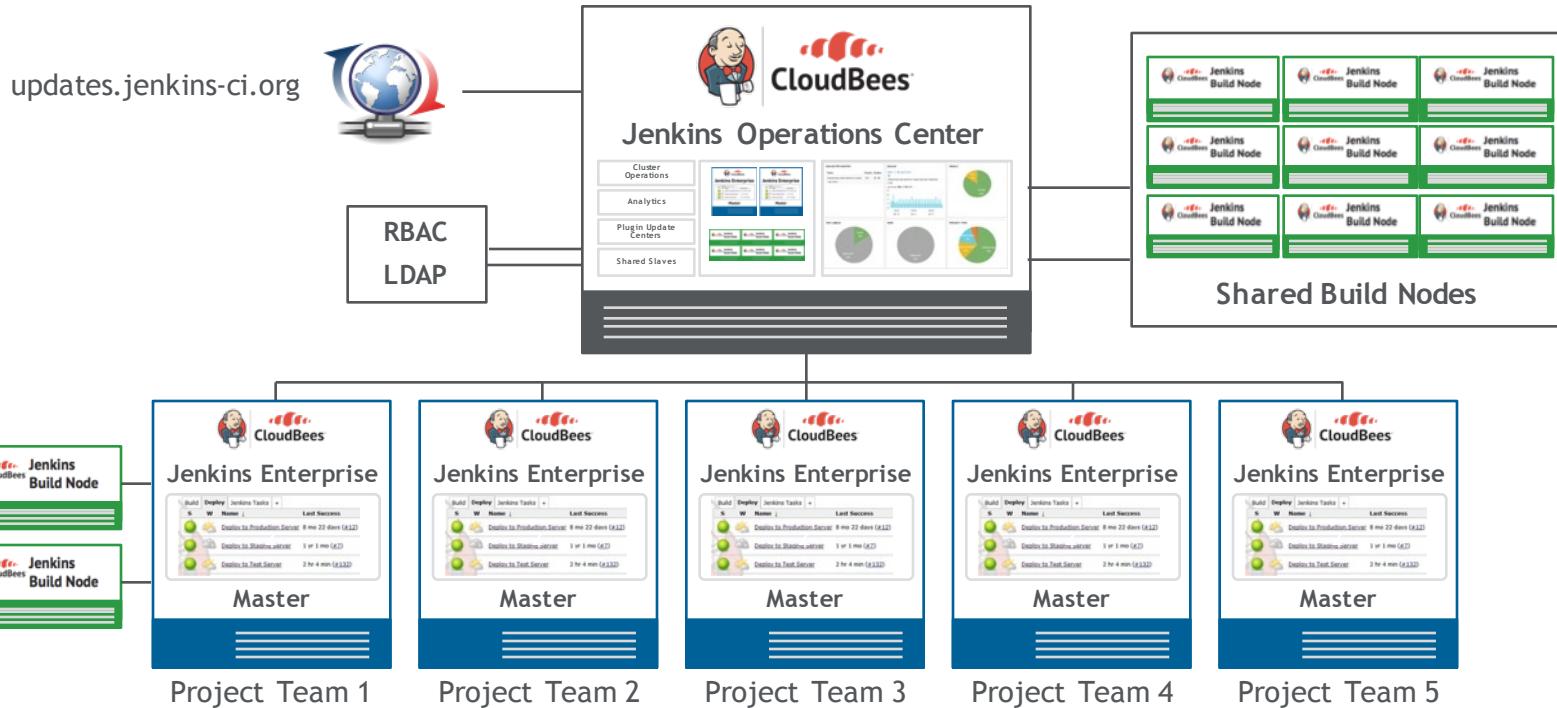


What is the CloudBees Jenkins Platform?





CloudBees® Jenkins Platform Architecture





CloudBees

CloudBees Jenkins Platform Features

The screenshot shows the Jenkins Enterprise interface. At the top, there's a CloudBees logo and the Jenkins Enterprise title. Below that is a navigation bar with tabs: Build, Deploy, Jenkins Tasks, and a plus sign. Under the Deploy tab, there's a table listing three deployment tasks:

S	W	Name	Last Success
1	green	Deploy to Production Server	8 mo 22 days (#12)
2	green	Deploy to Staging server	1 yr 1 mo (#7)
3	green	Deploy to Test Server	2 hr 4 min (#132)

Below the table, the word "Master" is displayed. At the bottom of the interface, there are four horizontal bars.

CloudBees Jenkins Enterprise

Features in CloudBees Jenkins Enterprise

(Not available in OSS Jenkins)

Jenkins Management	Jenkins Performance	Build & Master Resilience	Workload Distribution
<ul style="list-style-type: none"> ✓ Organize teams with folders ✓ Reusable job templates ✓ Easily backup Jenkins 	<ul style="list-style-type: none"> ✓ Faster builds across geographically distributed build nodes ✓ Improved master performance with NIO SSH build nodes 	<ul style="list-style-type: none"> ✓ Automatic failovers to recover from master failures ✓ Builds that survive master and build node failovers 	<ul style="list-style-type: none"> ✓ vSphere build nodes ✓ Docker build nodes ✓ Cloud build nodes - elastic
Developer Productivity	Security	Continuous Delivery	Support Module
<ul style="list-style-type: none"> ✓ Validate Git merges ✓ Monitor GitHub pull requests 	<ul style="list-style-type: none"> ✓ Role-based access control ✓ Isolate team-sensitive slaves ✓ Secure inter-master artifact exchange 	<ul style="list-style-type: none"> ✓ End-to-end CD pipelines with Workflow ✓ CD pipelines for Dockerized apps ✓ Pipeline performance visualization ✓ Restart pipelines from check points 	<ul style="list-style-type: none"> ✓ Faster diagnosis for production issues

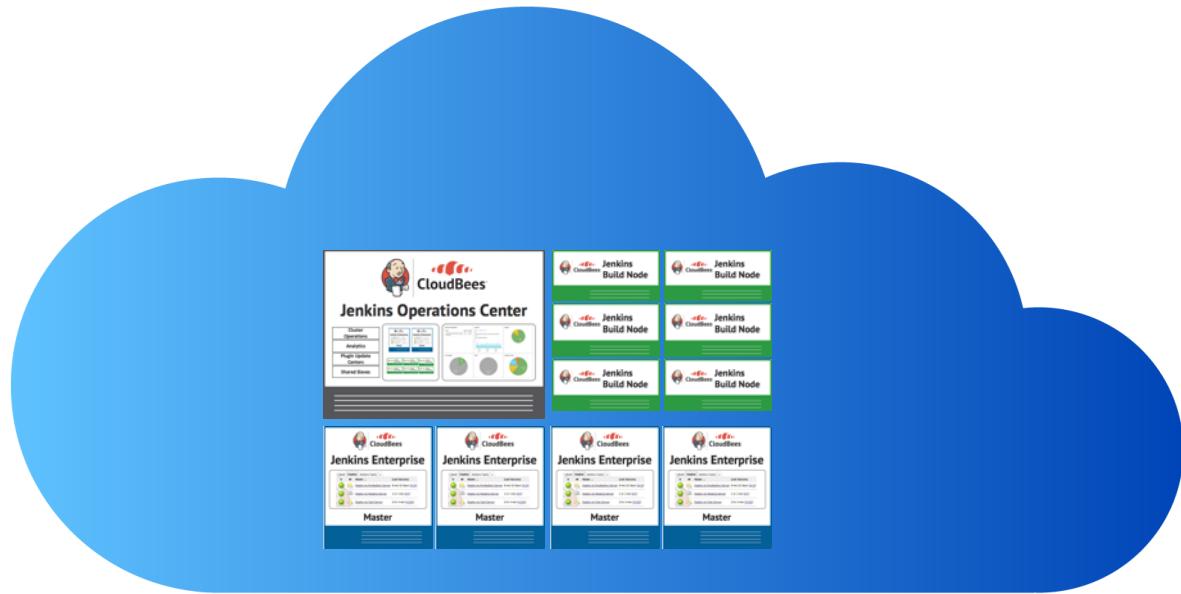
CloudBees Jenkins Platform Features



Cloud & Containers
Next Generation Infrastructure Support

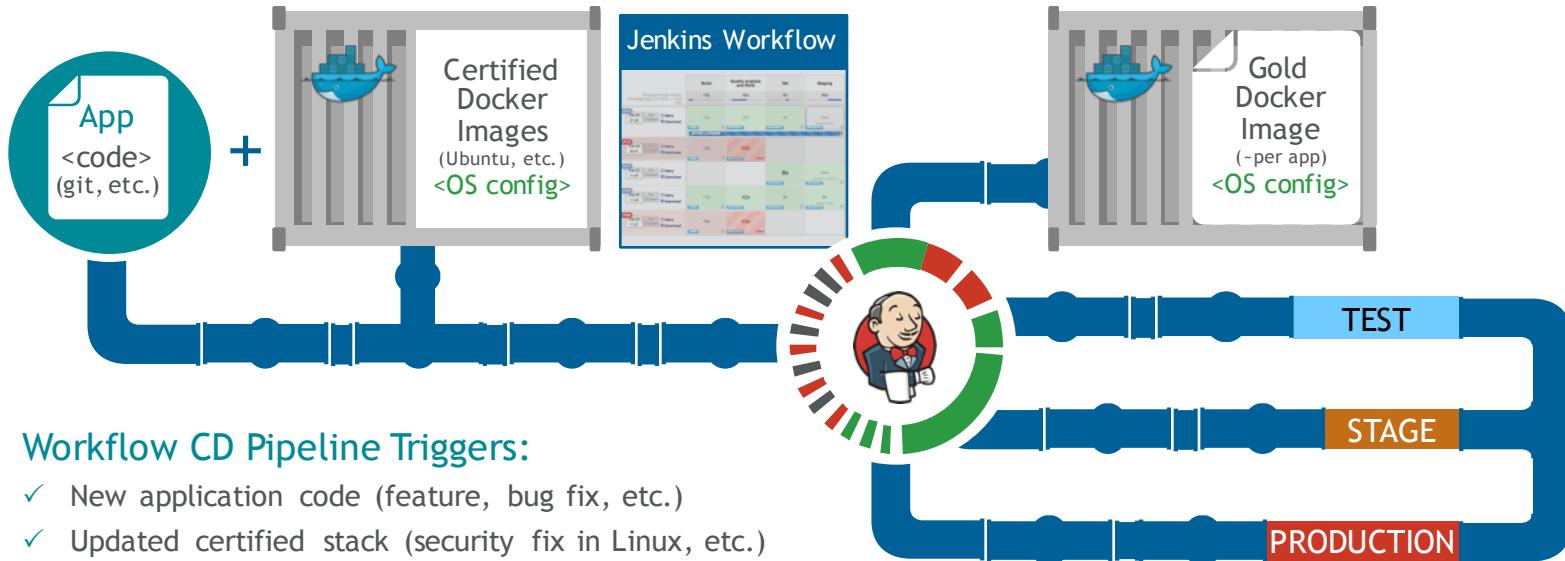
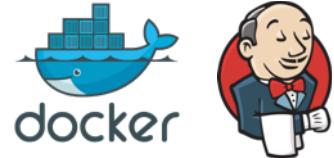
CloudBees Jenkins Platform: In Cloud of Your Choice

Images available today:



- ✓ Installers
- ✓ Elastic build node pools
- ✓ Cloud CLI support

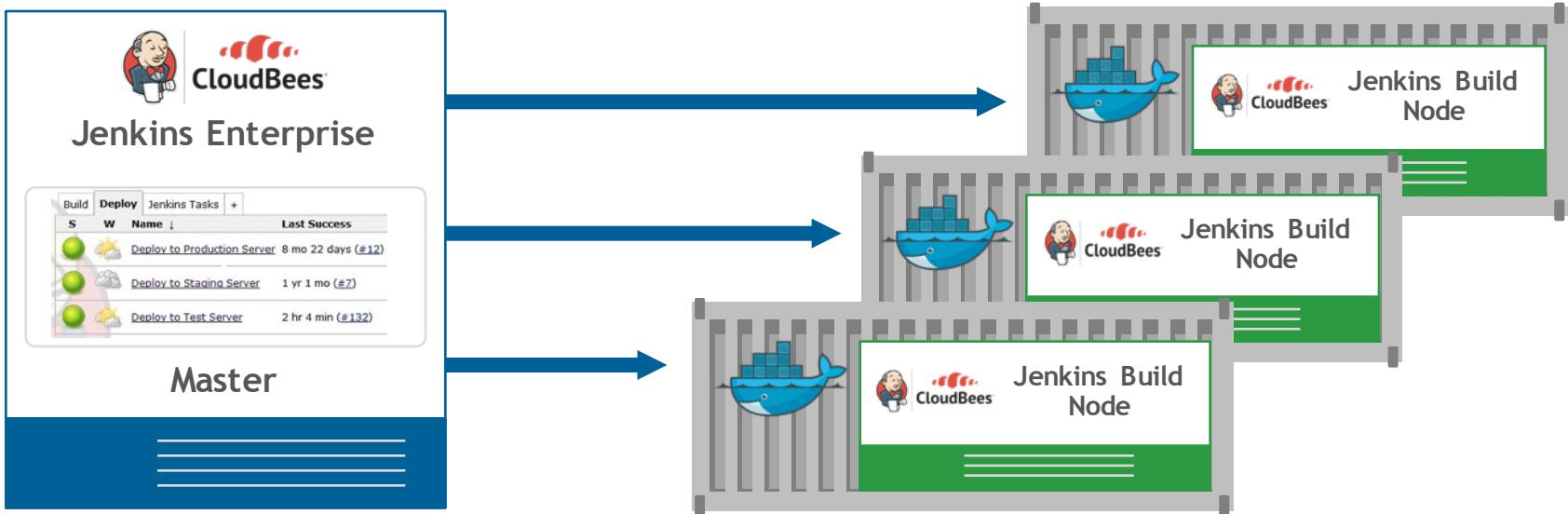
Accelerating CD with Containers



Workflow CD Pipeline Triggers:

- ✓ New application code (feature, bug fix, etc.)
- ✓ Updated certified stack (security fix in Linux, etc.)
- ✓ Will lead to a new gold image being built and available for ... TESTING ... STAGING ... PRODUCTION
- ✓ All taking place in a standardized/similar/consistent OS environment

Gartner: “Using Docker to Run Build Nodes is Ideal.”



CloudBees: Leading the Way for Docker and CD

Docker Workflow
Build and Publish
Docker Hub Notification
Docker Traceability
Docker
Docker Custom Build Environment

Provides first-class support for Jenkins Workflow to build real world CD pipelines for containerized applications using Jenkins and Docker

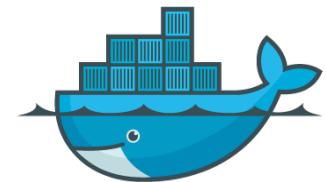
Builds projects that have a Dockerfile and pushes the resultant tagged image to Docker Hub

Triggers downstream jobs when a tagged container is pushed to Docker Hub

Identifies which build pushed a particular container that is running in production and displays that on the Jenkins builds page

Uses Docker containers as *standardized* build environments to improve isolation and elasticity - Dockerized build nodes

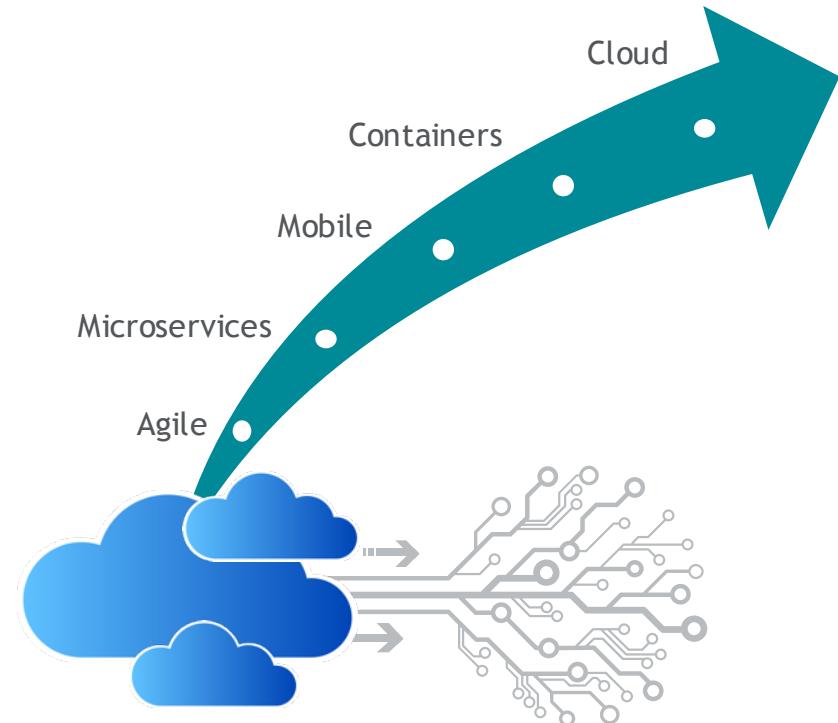
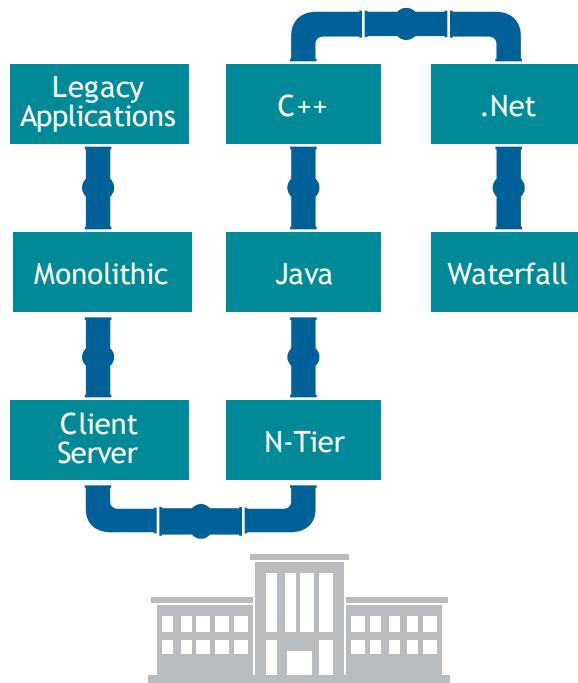
Specifies *customized* build environments as Docker containers



docker

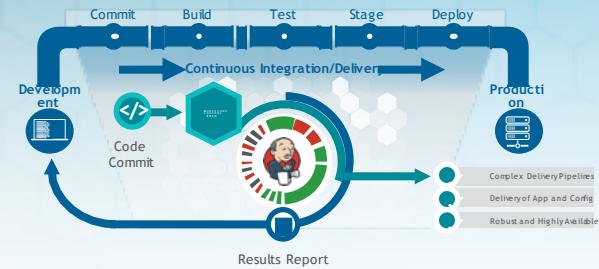


CloudBees Jenkins Platform: Perfect for Bi-Modal IT

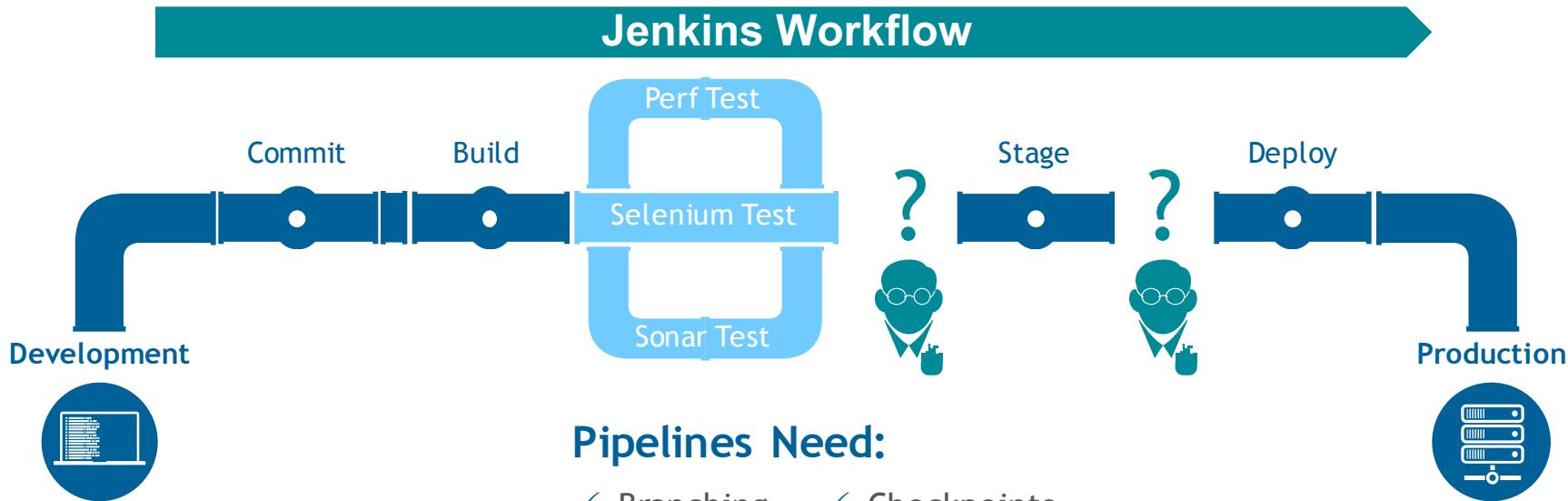


CloudBees Jenkins Platform Features

In-Depth Continuous Delivery Support



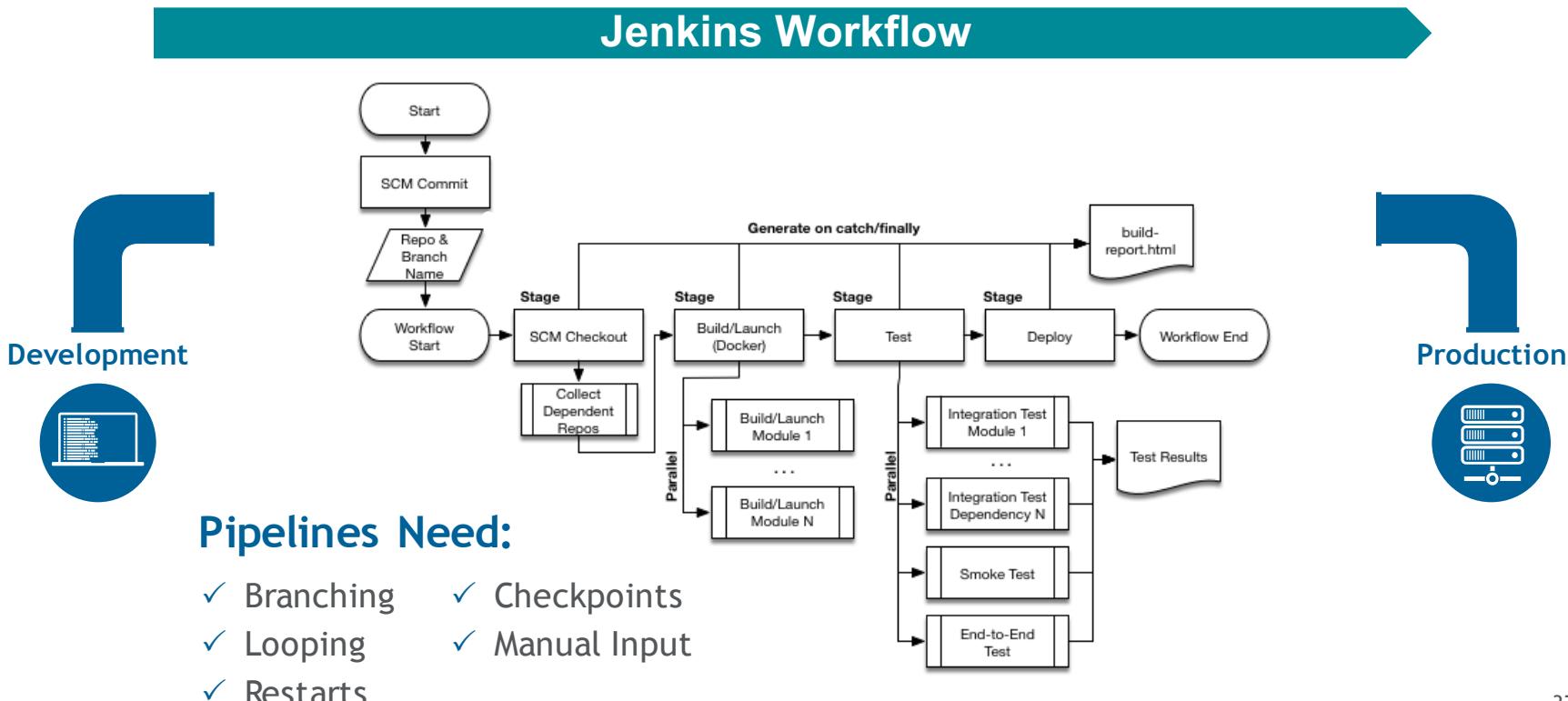
Jenkins Powered CD Pipelines: Jenkins Workflow



Pipelines Need:

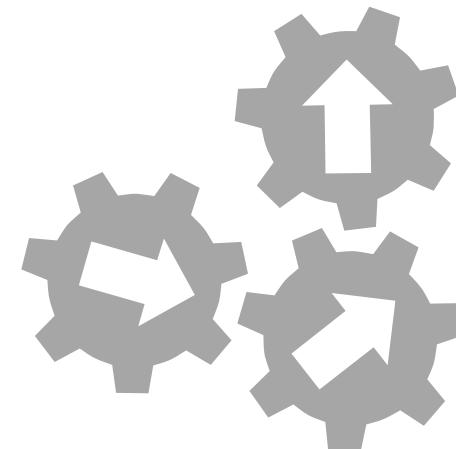
- ✓ Branching
- ✓ Checkpoints
- ✓ Looping
- ✓ Manual Input
- ✓ Restarts

A Real-world CD Pipeline with Jenkins Workflow



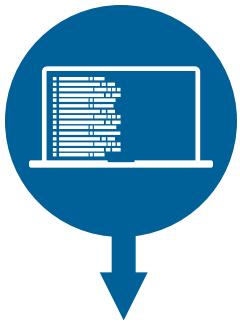
Key Workflow Features

- Entire flow is one concise Groovy script using Workflow DSL
 - For loops, try-finally, fork-join, etc
- Can restart Jenkins while flow is running
- Allocate build nodes and workspaces
 - As many as you want, when you want
- *Stages* throttle concurrency of builds
- Human input/approval integrated into flow
- Standard project concepts: SCM, artifacts, plugins



CloudBees Jenkins Workflow Stage View

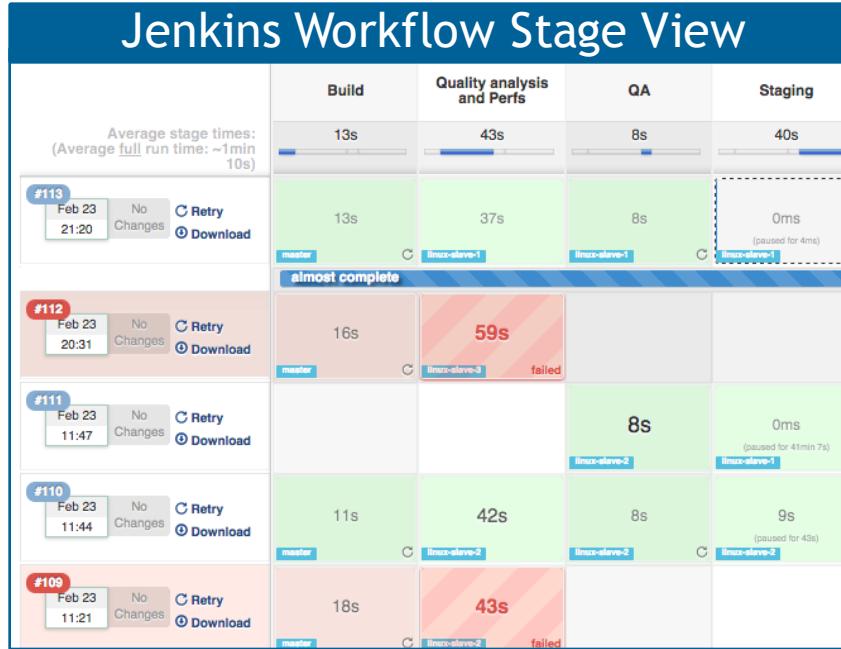
Development



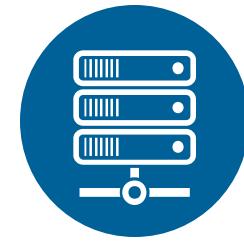
Code Commit

SOURCE CODE
CONTROL
SYSTEM

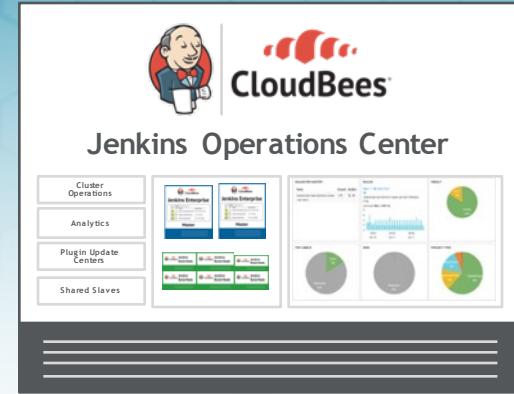
Jenkins Workflow



Production



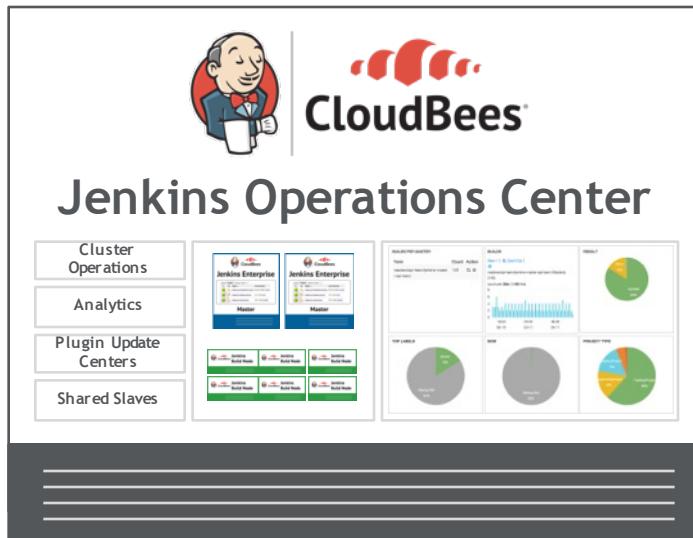
CloudBees Jenkins Platform Features



CloudBees Jenkins Operations Center

CloudBees Jenkins Platform: Managing Jenkins at Scale (Not available in OSS Jenkins)

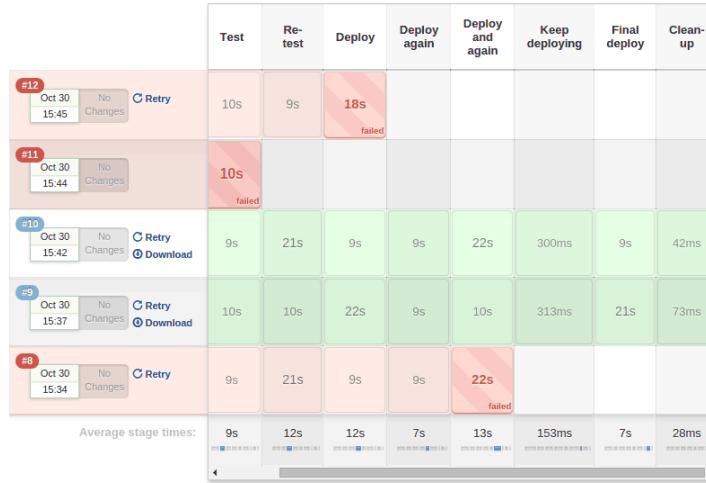
Operations/Monitoring/Management for Your Jenkins Environment



- ✓ Manage Connected Client Masters
- ✓ Jenkins Analytics and Monitoring
 - CloudBees Performance Analytics
 - CloudBees Build Analytics
- ✓ Cluster Operations
- ✓ Centralized Security - SSO & RBAC
- ✓ Private Cloud of Shared Build Nodes
- ✓ Custom Update Centers
- ✓ Shared Cloud Configurations
- ✓ Shared Docker Configurations

CloudBees Jenkins Platform: Monitoring, Visualization and Analytics

Jenkins Workflow Stage View Visibility into Pipeline Status



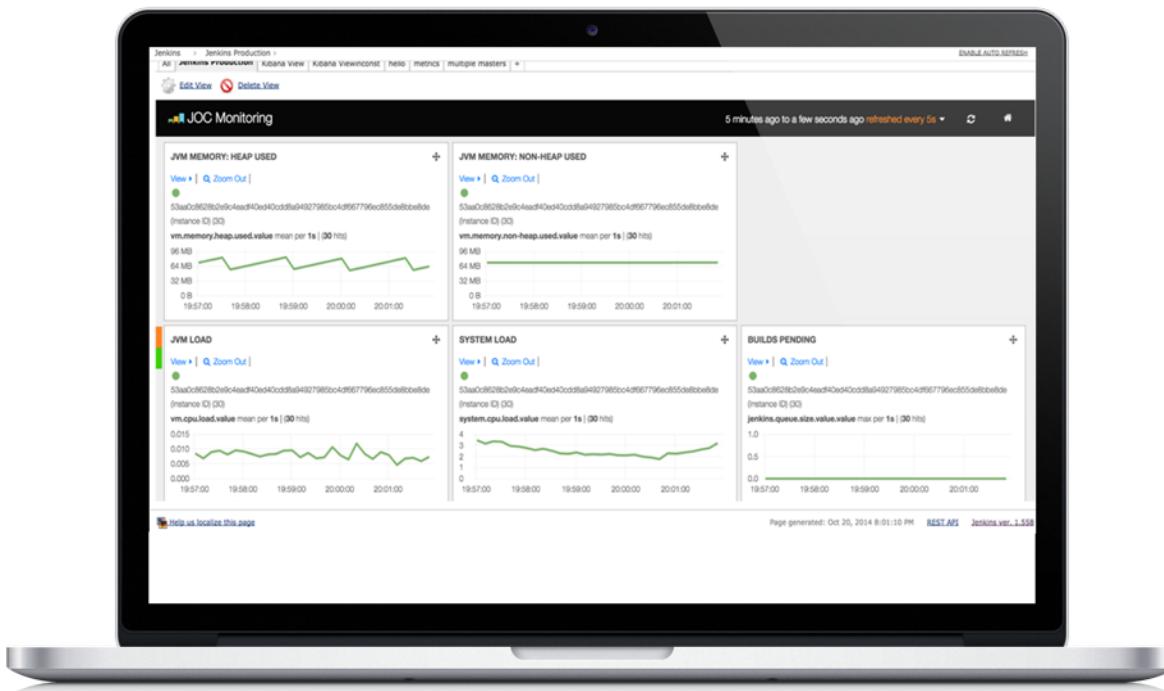
Jenkins Analytics Cross-Team Build Analytics



... among many other features, tailored for enterprise organizations using Jenkins @ scale

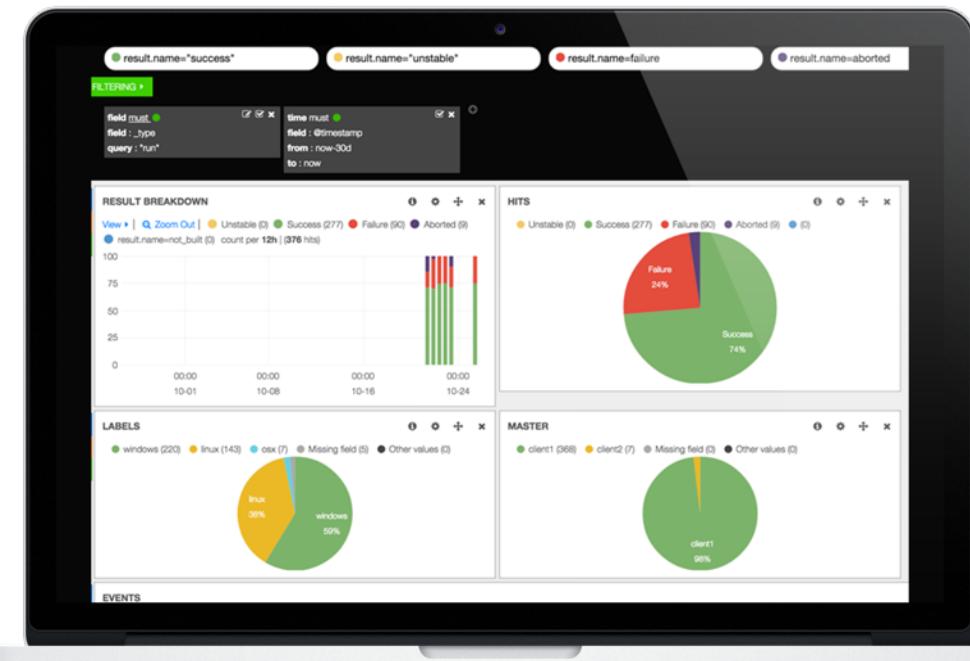
CloudBees Performance Analytics

Jenkins JVM and Jenkins Queue Monitoring



CloudBees Build Analytics

Build, Job Growth Across Masters



CloudBees Build Analytics

Build Statuses



Getting Jenkins Support from the Experts

Getting Jenkins Support from the Experts

CloudBees Knowledge

Technical Support

Technical Success Management

Knowledge-centered support

- ✓ Solving once, for many, and captured in support portal
- ✓ Knowledge created from every customer interaction
- ✓ Leveraged by customers *and* CloudBees support

Continuous delivery of support

- ✓ Article suggestions while typing a new ticket title
- ✓ Integrated search on support portal



Getting Jenkins Support from the Experts

CloudBees Knowledge

Technical Support

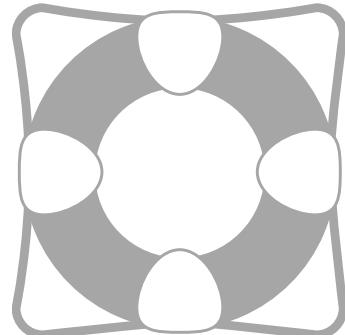
Technical Success Management

Engineer-to-engineer support

- ✓ Focus on a “right resource, right time” model
- ✓ From the whole CloudBees technical community
- ✓ Built from seasoned developers and contributors to both the Jenkins core and plugins

Pragmatic engagement model

- ✓ Web-based ticketing system
- ✓ Full leverage of the CloudBees Support plugin
- ✓ Screensharing sessions when needed



Getting Jenkins Support from the Experts

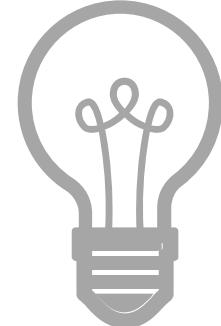
CloudBees Knowledge

Technical Support

Technical Success Management

Proactive technical collaboration

- ✓ A dedicated, named technical resource
- ✓ Reviews, assessments and recommendations
- ✓ Link to product management and engineering
- ✓ Issue resolution and feature requests

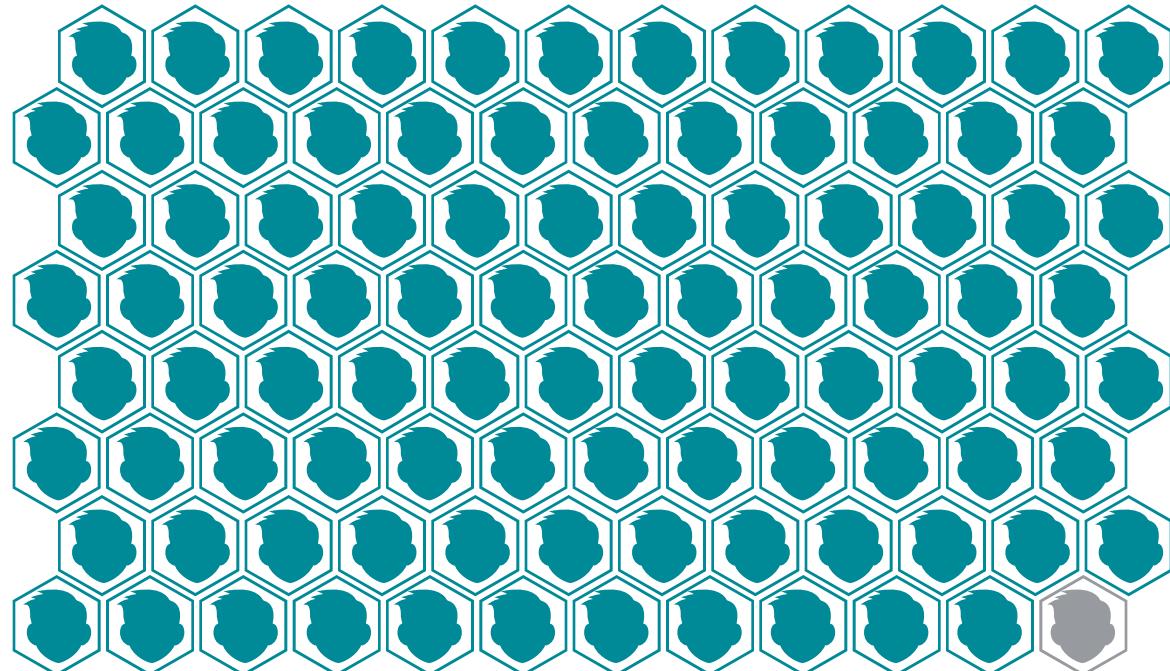


CUSTOMER SATISFACTION

99%

Customer
Satisfaction

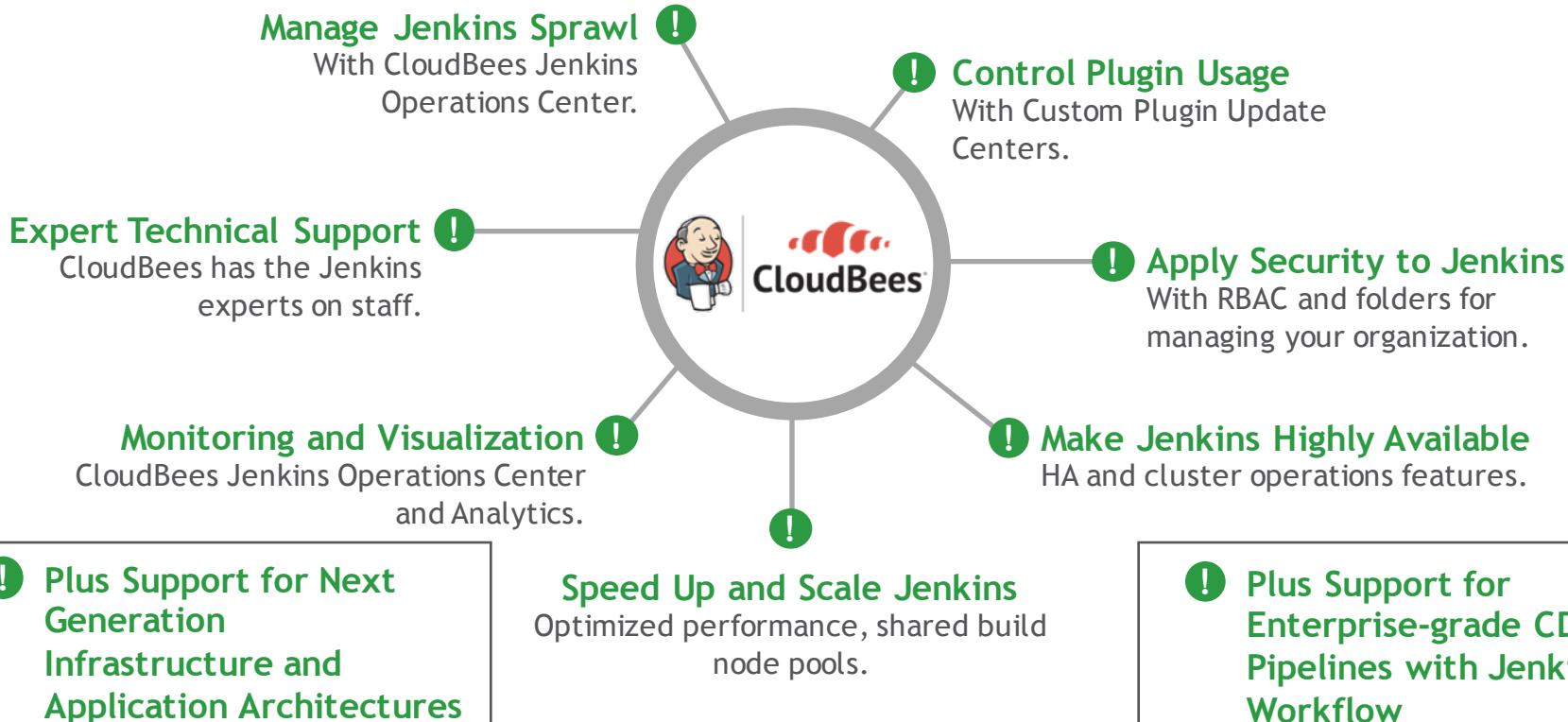
Based on a 30% response
rate on all tickets



CloudBees Jenkins Platform Features

Summary and Offerings

How CloudBees Jenkins Platform Makes Life Better





CloudBees® Jenkins Platform

updates.jenkins-ci.org



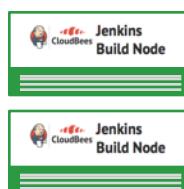
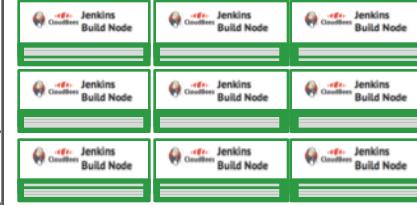
RBAC
LDAP



Jenkins Operations Center



Shared Build Nodes



Project Team 1



Project Team 2



Project Team 3



Project Team 4

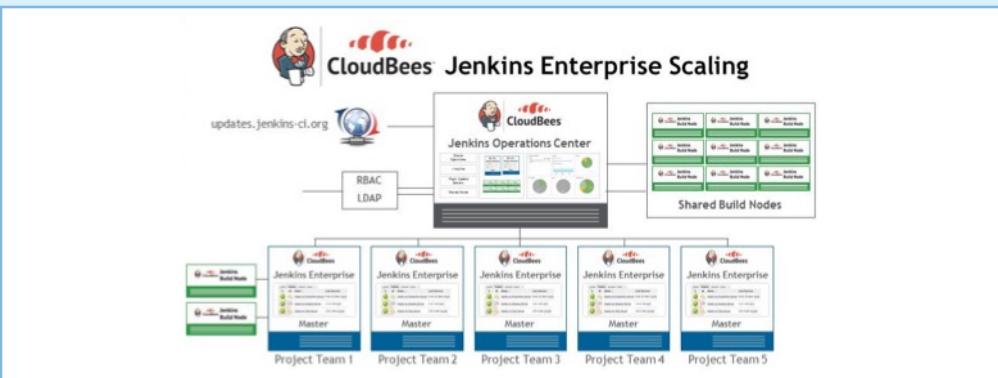


Project Team 5

CloudBees Jenkins Platform

Enterprise Edition

Support and features for running Jenkins@enterprise scale



The diagram illustrates the CloudBees Jenkins Enterprise Scaling architecture. At the top, the CloudBees logo is shown next to the text "CloudBees Jenkins Enterprise Scaling". Below this, the Jenkins Operations Center is depicted as a central hub connected to five Jenkins Enterprise instances, each labeled "Master" and associated with a "Project Team" (Team 1 through Team 5). Each Jenkins instance is connected to a set of "Jenkins Build Nodes". Above the Jenkins instances, an "updates.jenkins-ci.org" icon is connected to the central hub via "RBAC" and "LDAP" protocols. To the right of the central hub, a "Shared Build Nodes" section shows a grid of build nodes, with some nodes labeled "jenkins-build-node".

Cloud/Container Support

Pivotal CF, amazon web services, Azure, docker

Platinum Support Gold Support

Additional Jenkins Services from CloudBees



Jenkins Certified Training

- Delivered via CloudBees partners



Jenkins Professional Services Consulting

- Delivered via CloudBees Professional Services Team



Jenkins Newsletter

- Community news and expert tips



Jenkins User Conferences

- Learn from other community members

Netflix, Inc

Netflix Builds Its Open Sourced Cloud Technologies on the CloudBees Platform

CHALLENGE

Support and promote contributions to the open source development of cloud technologies for video streaming and large-scale cloud deployments

SOLUTION

Use the CloudBees Platform, with Jenkins in the cloud, to streamline development, provide immediate build feedback to the community and minimize maintenance overhead and costs

BENEFITS

- Immediate feedback on builds
- Minimal maintenance overhead
- Cost-effective pricing



“The CloudBees Platform is helping us achieve our goals to open source our code by making it easier for developers to contribute, give rapid feedback on pull requests, provide the current status of projects and support low cost public builds. This spurs an increased pace of innovation that benefits not only Netflix and our customers, but the entire community.”

Gareth Bowles, Netflix

Orbitz

Orbitz Moves to Continuous Delivery



CHALLENGE

Shorten delivery times for more than 180 applications that power 13 different Web sites

SOLUTION

Refine software delivery processes and implement open source Jenkins and CloudBees solutions for continuous delivery to automate tests, ensure reliable builds and increase build consistency across the organization

BENEFITS

- Release cycles cut by more than 75%
- Teams focused on high-value tasks
- User experience enhanced through increased multivariate testing

“At Orbitz, we are encouraged to ‘Mind the Store’ - to do what is right in our jobs and deliver as best we can for our customers. From that top-down vision, the goal of continuous delivery started as a bottomup initiative from developers who knew it was the right way to go. With Jenkins and CloudBees, we have achieved several milestones on our way to that goal that have already enabled us to innovate faster.”

Jacob Tomaw, Orbitz

Deliver Better Software Faster With...



Continuous Delivery Powered by the CloudBees Jenkins Platform

Thank You!!

www.cloudbees.com



CloudBees®

The Enterprise Jenkins Company