Continuous Delivery with the CloudBees Jenkins Platform

**Continuous delivery (CD) is a methodology that applies automation technology and principles from lean manufacturing theory to the software delivery lifecycle to help organizations deliver better software faster.**

**Why CD?**
Continuous delivery is rapidly becoming mainstream. Here’s why:

Today almost every organization is a software development organization. We live in an application economy. Applications and software power everything from our bank accounts to our cars to our restaurant reservations to our thermostats. Thus, it has become mission-critical for enterprises and government agencies to deliver applications quickly. Application delivery has become key to an organization’s ability to meet its goals whether those goals are to grow revenue, market share or constituent base, or perhaps to be nimble to react to market conditions, competitive threats or new technology developments. The fact is that IT organizations need to deliver better software faster. CD enables that goal.

- **Smaller incremental deliverables reduce schedule risk** and produce better visibility into work-in-progress. Experimentation and failure are cheap, unlocking new ideas and giving you faster feedback to guide investments.
- **Opportunistic projects, such as those driven from mobile channels, can be initiated and proceed at a higher pace than those that are tied directly to systems of record.**
- **DevOps initiatives to treat configuration as code** and to deliver as-a-service naturally augment existing CI investments and agile practices in development.
- **Company initiatives in the cloud**—both private and public cloud—become a natural means to get access to on-demand resources and to streamline testing and staging processes.

**What is CD?**
Continuous delivery (CD) automates the full software delivery lifecycle by using an orchestration engine to define and execute CD pipelines which marshall application code changes through their build/test/deploy lifecycle including production deployment if desired. CD both accelerates application delivery and reduces errors in the process by eliminating manual procedures and using automation to create an assembly line for delivering software. CD allows the complex workflow process of building, scanning, testing and deploying software to be automated, monitored and managed. CD automation can also capture the definition of the application environment as code. The configuration code can then be propagated with the application throughout its lifecycle, helping to ensure consistency and deployment success.

Continuous delivery is the foundation for the popular cultural, organizational and process transformation known as DevOps. DevOps requires more than just a technology or process, but the adoption of CD is critical in most DevOps transformations. CIO’s that are looking to institute a DevOps culture or simply to accelerate application delivery, are starting with CD adoption.

**CloudBees for Continuous Delivery**
Choosing a toolchain to support CD is an important strategic choice. Many companies have already made a good start by using open source Jenkins. Building on the power of the Jenkins automation technology, CloudBees®, the Enterprise Jenkins Company, enables you to adopt CD incrementally or organization-wide, supporting both on-premise and cloud-based activities in ways that help you to take advantage of your existing investments and delivery processes. The CloudBees Jenkins Platform™ provides a rich set of resources to support CD, from coding activities to testing, staging and production deployments.

The CloudBees Jenkins Platform brings it all together to help you deliver on your CD and DevOps goals.
CLOUDBEES OFFERINGS FOR CI/CD

Jenkins is at the core of our CD solutions, providing a consistent experience whether workloads are on-premise or in the cloud.

> CloudBees Jenkins Platform provides commercial support and additional enterprise functionality for Jenkins. The functionality is delivered via a suite of advanced enterprise features designed to meet requirements for high availability, security, continuous delivery, resource optimization and management of large Jenkins implementations. The CloudBees Jenkins Platform is an on-premise Jenkins subscription.

> DEV@cloud, or Jenkins in the cloud, is hosted and fully managed by CloudBees using a large-scale elastic pool of servers, in a secure, multi-tenant environment. You can make use of our cloud-hosted slave pools to instantly extend your on-premise Jenkins footprint, whether from open source Jenkins or the CloudBees Jenkins Platform. Enterprises can also connect securely via VPN from the cloud to their on-premise resources, such as source code repositories and databases. This connectivity enables you to move or share your build/test environment in the cloud, but deliver continuously on-premise or to a non-CloudBees production target. Our SAML support ensures you can retain full authorization and access control using your own systems.

CONTINUOUS DELIVERY AS THE FOUNDATION FOR DEVOPS

You’re not doing CD if you’re not deploying code somewhere. With the CloudBees Jenkins Platform, you can deploy code to on-premise environments or to popular cloud platforms, such as Google App Engine, Pivotal Cloud Foundry and AWS Elastic Beanstalk.

You can also use deployment tools such as Chef and Puppet. These tools are used to track configuration as code, driving deployment operations not just as application artifacts change, but also as configuration artifacts change.

Sophisticated deployment engines like those from MidVision and XebiaLabs can also be used to deploy applications on top of existing middleware offerings such as those provided by IBM and Oracle.

Deploying CD with end-to-end pipelines orchestrated by the CloudBees Jenkins Platform and leveraging best-of-breed lifecycle tools is the first step in a DevOps transformation.

THE CLOUDBEES ECOSYSTEM

The diagram, above, illustrates the breadth of the CloudBees offering, including:

> The use of Jenkins, and the CloudBees extensions to it, to access both on-premise and cloud-resident resources and services throughout the software development lifecycle.

> Ability to integrate with existing investments, tools, technologies and software systems, in secure environments.

> Ability to move and track work across delivery stages, from build and test, to staging and deployment, connecting to existing systems using native and integrated partner-supplied capabilities.

> Ability to deploy applications to test, staging and production environments using the environment of your choice.

Our products are available as a software subscription for on-premise use or as a fully managed cloud service.

Because there is no one-size-fits-all approach to continuous delivery, the breadth and depth of a supporting ecosystem is important. Jenkins itself brings over 1,000 community plugins, connecting to virtually every existing system within the software development lifecycle.

CLOUDBEES CUSTOMERS

CloudBees has a deep roster of customers successfully realizing business value from CI and CD practices based on Jenkins. Learn more about our customers by visiting www.cloudbees.com/customers.

In the cloud or on-premise, CloudBees and Jenkins are strategic choices for global brands who know their business depends on delivering better software, faster, continuously.