While Jenkins is a leading automation platform for Continuous Integration (CI), enterprise businesses have requirements beyond the individual user or small team. Organizations with large Jenkins environments need to:

- Scale to support a multitude of teams without increasing administrative burden.
- Ensure security and compliance without inhibiting developer productivity.
- Enable development consistency across legacy and cloud native applications.

The solution for these requirements is CloudBees CI—a CI automation engine which meets these enterprise requirements by enabling manageability, scale, governance, and security for massive Jenkins environments and any application type—from monoliths to microservices. Based on Jenkins, CloudBees CI extends Jenkins with functionality that embeds best practices, rapid onboarding, security and compliance. It provides a shared, centrally-managed CI/CD service but delivers a self-service experience for engineering teams.

CloudBees CI can be deployed on-premise or hosted on a cloud service provider. CloudBees CI on traditional platforms is intended for on-premise deployment and is a great fit for organizations with tight regulatory requirements or have not adopted Kubernetes and Docker. CloudBees CI on modern cloud platforms leverages Kubernetes and includes an elegant UX for rapid onboarding and configuration. Customers benefit from the ability to run workloads for a range of application types on a scalable and highly available CloudBees CI cluster. Regardless of your deployment destination, utilize one CI solution for all your needs.

Jenkins Dominates the CI and DevOps Space

- Over 70% of Java professionals surveyed use Jenkins*.
- Over 1,400 Jenkins community plugins provide integrations with third-party technologies or add new capabilities.

As with all business-critical infrastructure, you need technical support and enterprise features to ensure on-time delivery with minimal risk.

* Global Market Insights, BusinessWire, Evans Data, Continuous Delivery Foundation, ASG Survey

Figure 1. On-board teams and configure controllers in a few clicks.

"We now see release frequencies daily. We’re seeing lead times in hours. This is what I always believed Autodesk is capable of doing, and now we can show it."

George Swan,
Former Director Engineering Solutions
Autodesk
Architectural Overview
CloudBees CI on modern cloud platforms runs natively inside a Kubernetes namespace. Controllers and agents are managed within CloudBees Operations Center. They are provided as Docker images and deployed in pods, are failure resistant and can be dynamically scaled. Deep integrations with cloud service providers (Amazon EKS, Azure AKS, Google Anthos, Anthos on Prem and Red Hat OpenShift Container Platform) allow IT teams to follow standard protocols to deploy and manage CloudBees CI like any other operations-critical application. IT operations teams can provision a CloudBees CI cluster in seconds and configure tight access controls to conform to IT security standards.

![Architecture Diagram]

<table>
<thead>
<tr>
<th>Key Features</th>
<th>Key Benefits</th>
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<tr>
<td><strong>Operations Center</strong></td>
<td><strong>Simplified Management</strong></td>
</tr>
<tr>
<td>» Single Jenkins view over the</td>
<td>» Centrally manage credentials on</td>
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<tr>
<td>entire Jenkins infrastructure</td>
<td>all controllers/agents</td>
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<tr>
<td>» Acts as a backbone for all</td>
<td>» Provides organizational structure</td>
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<td>controllers and supports</td>
<td>to teams</td>
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<tr>
<td>cross-pipeline collaboration</td>
<td>» Instant controller provisioning</td>
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<tr>
<td>» Centralized Plugin management</td>
<td>» Easily create shared agents</td>
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<tr>
<td>with CAP (CloudBees Assurance</td>
<td></td>
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<tr>
<td>Program)</td>
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**Configuration as Code (CasC)**
» Create custom controller configuration templates
» Managed as a first class revision-controlled artifact
» Holds controller configuration as well as items (jobs/folders), security like RBAC, and plugins for each controller template

**Security and Compliance**
» CloudBees Role-Based Access Control
» Folders Plus (limit agents to only execute jobs within specific folders)
» Pipeline templates
» Curated plugins
» Secure Jenkins build
» Security hardened container image

**Rapid Onboarding of New Teams**
» Manage controllers at scale with reproducible configurations
» Reduce the scope of security, controller maintenance, and exceptions to patterns
» Benefits of GitOps code storage for controller configuration templates
» Manage and apply to any controller from a single location
» Standardize team onboarding with templates

**Secure and Powerful Control**
» Develop a sophisticated authorization and authentication strategy
» Restrict jobs to specific Jenkins agents so credentials are not misused
» Standardize governance and security with pipeline templates and curated plugins
» Build secure with a trusted, validated version of Jenkins and a curated batch of plugins tested for stability and security for use with the Jenkins build

**Leverages Kubernetes and Docker**
» Autoscales up and down, on demand, with elasticity at the cluster level
» Self-healing, continuous health checks identify failing pods and spin up replacements as needed
» Dockerized components run natively in a Kubernetes namespace

**Scalability in Infrastructure**
» Access an unlimited number of Jenkins controllers and agents to run any number of tests, builds and orchestrations
» Hibernate or scale down automatically to realize resource cost savings
» Maintain failure resiliency and availability of CI critical pipelines

Schedule a Demo Today
Get started right away with a free trial of CloudBees CI: www.cloudbees.com/products/continuous-integration