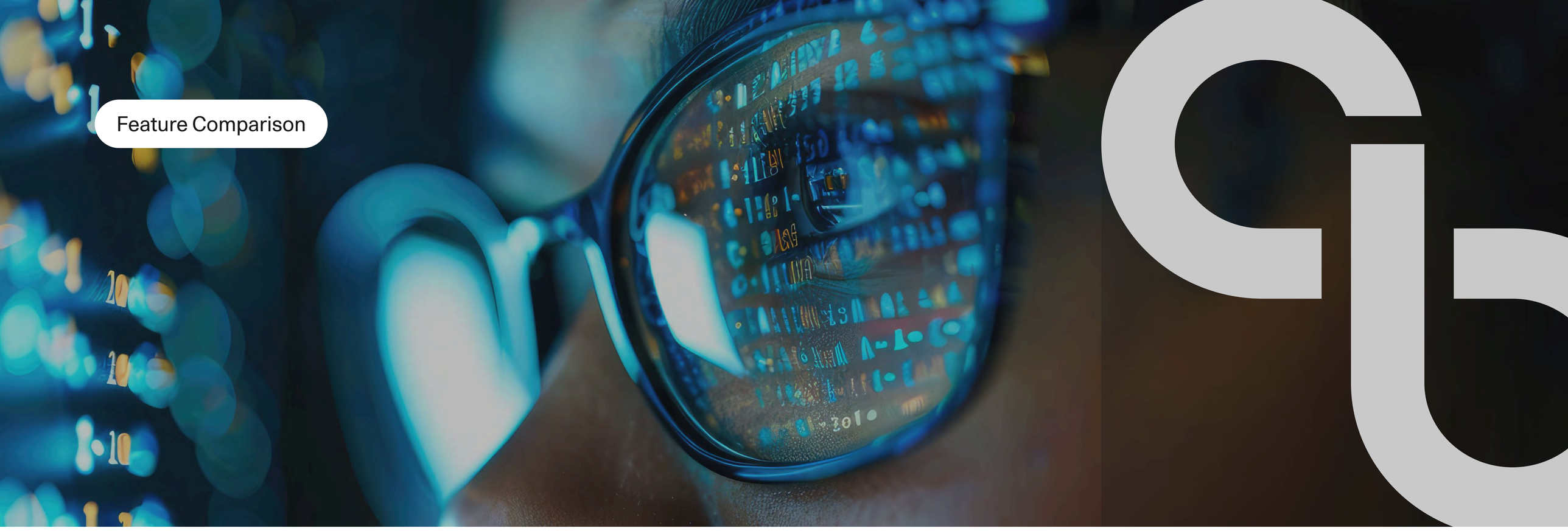


Feature Comparison

CloudBees CI: Enhancing Jenkins for Mission-Critical Environments

Managing enterprise-wide software delivery is a balancing act between maintaining operational stability and driving innovation. Heads of Shared Services have to ensure the stability of the CI/CD infrastructure development teams rely on, while also meeting demands for speed. But when your Jenkins® infrastructure becomes more complex to manage, scale, and secure, how do you evolve without disrupting the workflows your teams depend on?

This is where CloudBees CI offers an advantage. Tailored for enterprise needs, CloudBees CI enhances Jenkins by simplifying scalability, improving security, and providing the robust governance necessary for mission-critical environments. In this asset, we'll explore why upgrading from Jenkins to CloudBees CI is the strategic choice for organizations looking to accelerate software delivery without compromising on quality or security.

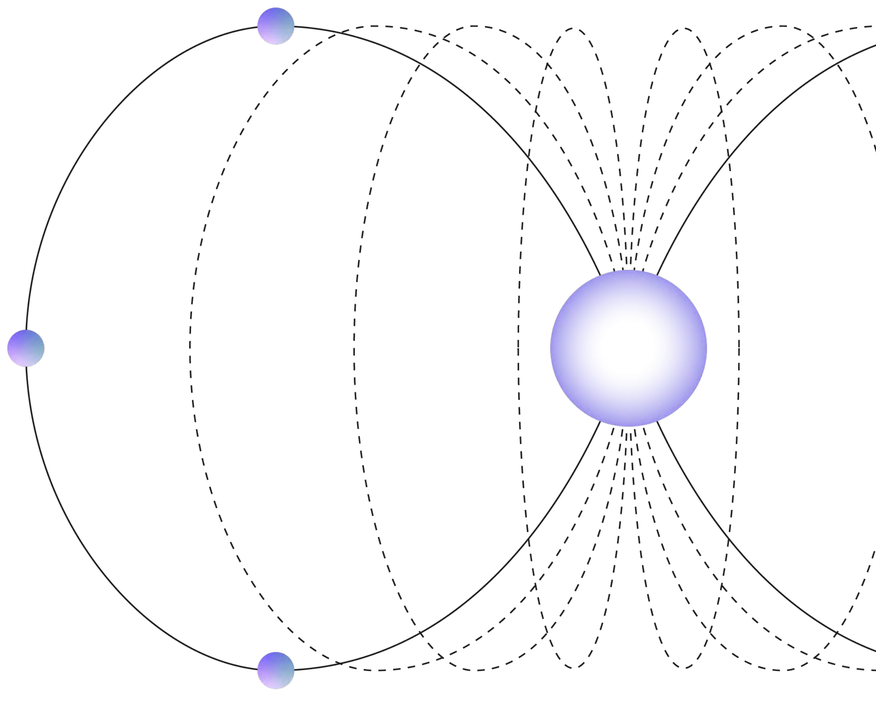
Overview of Jenkins and CloudBees CI

Jenkins

Jenkins, one of the most popular tools in the CI/CD space, offers automation features to build, test, run, and deploy software applications. With over 1,900 plugins, Jenkins can be extended to a wide range of tools and technologies, making it adaptable to different workflows and environments.

CloudBees CI

CloudBees CI enables development teams to build reliable, scalable, and secure software at a higher velocity. CloudBees CI builds on the foundation of Jenkins, offering a comprehensive way to manage Jenkins instances at scale. CloudBees CI is designed specifically for large enterprises—think Salesforce, HSBC Bank, and Autodesk—that leverage Jenkins but require additional functionality in governing, scaling, and using Jenkins.



Key Enhancements CloudBees CI Brings to the Jenkins Experience

1. Centralized Jenkins Management with Operations Center

Managing multiple Jenkins controllers across teams can be overwhelming, requiring separate configurations, plugin updates, and user management. This decentralized approach increases maintenance and can create inconsistencies. CloudBees CI's Operations Center addresses these challenges by offering a centralized platform for managing Jenkins instances at scale.

From one interface, you can deploy and manage controllers across clusters, monitor all Jenkins instances, and apply security policies uniformly. This unified dashboard enables efficient configuration, monitoring, and a consistent CI pipeline experience.

2. Shared Agents for Optimized Resource Utilization

Traditional Jenkins setups often result in under or over-utilized resources, with some agents idling while others are overwhelmed. CloudBees CI allows for shared agents across multiple Jenkins controllers, optimizing resource allocation. Instead of each team/project having dedicated agents that may remain idle while others are overwhelmed, shared agents can dynamically allocate resources based on current demand. When one project's instance has idle agents, those can be utilized by another project experiencing high build volumes, enhancing efficiency and reducing infrastructure costs.

3. Dynamic Scaling to Meet Workload Demand

Workloads in software development fluctuate frequently, necessitating an adaptable Jenkins environment. CloudBees CI simplifies this with automated agent provisioning and horizontal scaling capabilities. Administrators can configure Jenkins controllers to adjust resources in real time based on demand, ensuring that the supply matches workload requirements. Additionally, predictive scaling can anticipate changes based on historical data, allowing for proactive resource management.

4. Active-Active High Availability

Ensuring high availability (HA) is crucial for CI pipelines, as downtime can impact development velocity and release schedules. Traditional Jenkins setups often face challenges with HA due to their architecture. CloudBees CI addresses this with an active-active HA model, allowing all controller replicas to share the workload simultaneously. If one controller fails, another automatically continues the pipeline builds without downtime, ensuring uninterrupted service.

5. Granular Role-Based Access Control

Effective access control is essential in maintaining security within CI environments. While managing Role-Based Access Control (RBAC) in a single Jenkins instance is straightforward, it becomes complex as the number of instances increases. CloudBees CI enhances RBAC with features such as granular permission settings and centralized policy management through the Operations Center. Administrators can set granular permissions, from system-wide settings to specific jobs or pipelines, and assign roles based on job functions. This centralized management ensures consistent security policies across all Jenkins instances, reducing administrative effort and enhancing overall security.

Transitioning From Jenkins to CloudBees CI

Here are the essential steps to ensure a smooth and successful migration to CloudBees CI:

- Create backups of your Jenkins data, such as job configurations and pipeline scripts.
- Perform migration in a test environment.
- Ensure the Jenkins instance you want to migrate uses a supported Java Development Kit (JDK).
- Install the necessary plugins for your configurations. CloudBees recommends using the plugin versions in the CloudBees Assurance Program.
- Install the Jenkins Health Advisor By CloudBees.
- Transfer jobs from Jenkins and import them into CloudBees CI.
- Run sample jobs to ensure they work correctly, then monitor that the system uses resources optimally and efficiently.
- Plan a fixed time for the final migration to reduce disruptions during the final data synchronization between Jenkins OSS and CloudBees CI.

Make the Change

If you're ready to transform your Jenkins infrastructure into a more manageable, secure, and scalable CI/CD platform, now is the time to explore CloudBees CI. Contact us for a personalized demo or schedule a consultation to learn how we can tailor CloudBees CI to meet your organization's unique needs and goals.

CloudBees, Inc.

4 North Second Street, Suite 1270
San Jose, CA 95113
United States
cloudbees.com
cloudbees@cloudbees.com