

Hybrid CI/CD

Scalability and Efficiencies

Produced By **Techstrong** | Research

CI/CD infrastructure is essential for deploying and running applications, and the developer’s role and needs are critical in this process. When selecting tools and platforms for CI/CD scalability, DevOps can choose from a wide range of open-source and proprietary options, as well as decide between self-hosted and cloud-managed CI/CD platforms for deployment.

According to DORA metrics, a hybrid approach combining self-hosted and managed CI/CD platforms is preferred for optimal efficiency. This conclusion is based on the 2024 [CDF State of Continuous Delivery](#) report, which analyzes both managed and self-hosted CI/CD platforms. Each approach has its advantages; managed CI/CD platforms enhance automation, which reduces manual tasks associated with managing infrastructure allowing developers more time to devote to development. Conversely, self-hosted CI/CD platforms offer customization to meet specific needs, which some developers may find beneficial.

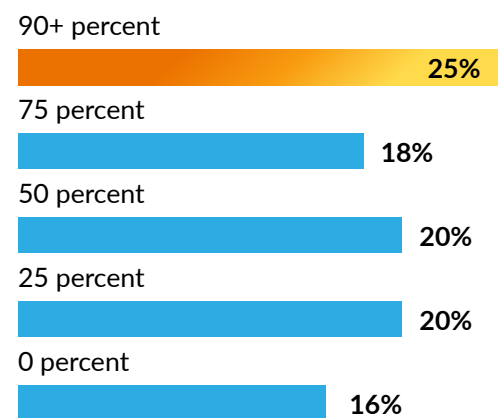
In 2024, CloudBees, in collaboration with Techstrong Research, conducted a series of poll questions about CI/CD among Jenkins users. The analysis evaluates to what extent CI/CD workloads are performed in the cloud and the benefits respondents see from cloud-hosted CI/CD.

The research shows that cloud-hosted CI/CD is relatively common, with 43% of respondents placing between 75% and 100% of their CI/CD workloads in the cloud. Additionally, 20% of respondents run a 50-50 mix of self-hosted and cloud-based CI/CD workloads. The trend toward cloud-hosted CI/CD is expected to continue, with 56% indicating plans

“Using CI/CD tools is associated with better deployment performance across all DORA metrics, but is greatest among those simultaneously using both [cloud] managed and self-hosted CI/CD tools.”

– [CDF State of CI/CD Report, 2024](#)

Figure 1: What percentage of your current CI/CD workloads are in the cloud?



➔ The cloud revolution has not entirely replaced on-premises CI/CD workloads. While 25% of respondents manage 90% or more of their workloads in the cloud, many organizations (20%) rely on cloud support for 50% of their CI/CD workloads, and another 20% indicate that a quarter of their CI/CD workloads run in the cloud.

to move additional CI/CD workloads to the cloud. The leading benefits of the cloud-based CI/CD include reduced administrative costs, scalability, security and performance.

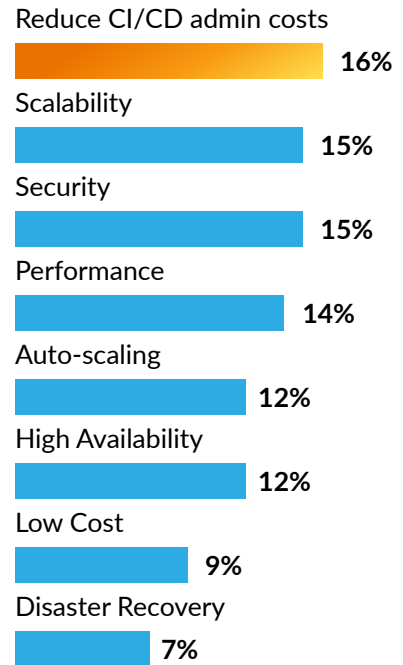
Techstrong Research Analyst View

The cloud revolution offers options for migrating development resources like CI/CD processes, similar to how we've transitioned source control, test environments, and testing tools. However, migrating CI/CD to the cloud only gains partial benefits if developers, platform engineers, and DevOps teams still expend resources setting up, updating and maintaining their own cloud CI/CD infrastructure.

A managed cloud CI/CD offering can automate many of the arduous and repetitive manual tasks that developers typically prefer to avoid. In the case of Jenkins users, a self-hosted platform may be ideal for specialized internal development, experimental projects, and other scenarios specific to on-premises infrastructure. That said, the migration of many on-premises CI/CD implementations has not been prioritized or remains local due to technical debt and sheer inertia. CloudBees, as the primary custodian of and contributor to Jenkins open source, can deliver a commercial CI/CD platform designed for scalability and improved automation, leveraging the expertise of skilled Jenkins administrators.

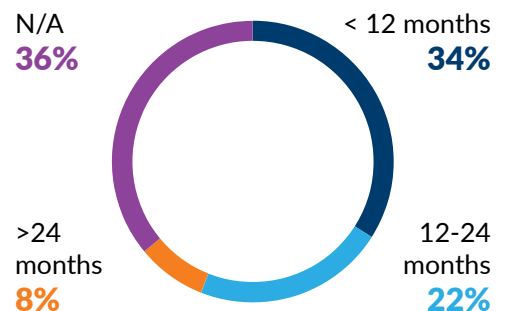
A hybrid mix can offer the best of both worlds, such as using a managed platform for deploying, managing, and maintaining CI/CD pipelines in cloud environments. The reduced costs and enhanced automation provided by a managed platform can be advantageous. Organizations should consider adopting hybrid approaches to CI/CD. This combination tends to offer the highest productivity metrics, including improved time-to-deployment, release frequencies, and service restoration.

Figure 2: What do you see as the value of moving workloads to the cloud?



🔍 The top value of moving workloads to the cloud is the reduction in administration costs for CI/CD, cited by 16% of respondents. This reflects the cost-saving potential of managed alternatives. Scalability and security are also highly valued, each noted by 15% of respondents as key advantages.

Figure 3: What is your timeline for moving additional CI/CD workloads to the cloud?



🔍 Most Jenkins users in the survey have no plans to move more CI/CD workloads to the cloud within the next year, with only 34% planning to do so in 12 or fewer months. For those planning a shift, the timeline is longer-term: 22% plan to move additional workloads to the cloud within 12 to 14 months, and 8% have a timeframe of more than two years.

Key Takeaways

- 1. According to DORA metrics, developers are less efficient on self-hosted CI/CD systems compared to managed CI/CD systems.
- 2. Managed and self-hosted CI/CD platforms deliver optimal results when used together in a hybrid approach.
- 3. Self-hosted CI/CD platforms provide developers greater flexibility and control to configure CI/CD pipelines to meet specific needs and local infrastructure requirements.

Figure 4: What is your role within your organization?

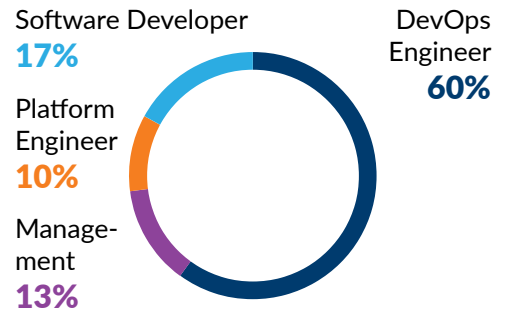


Figure 5: How many people are at your company?

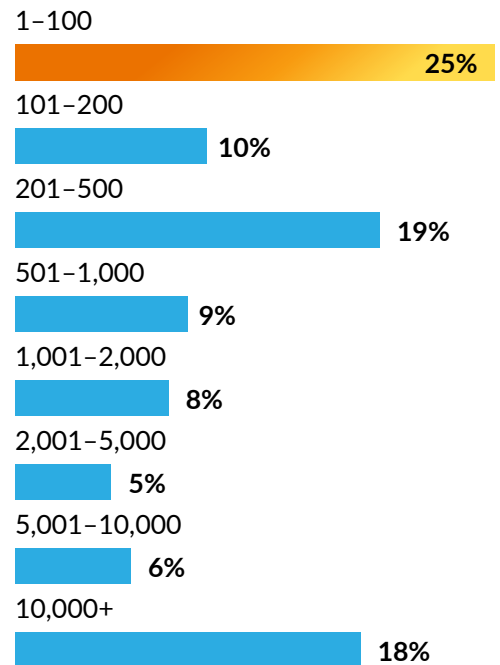
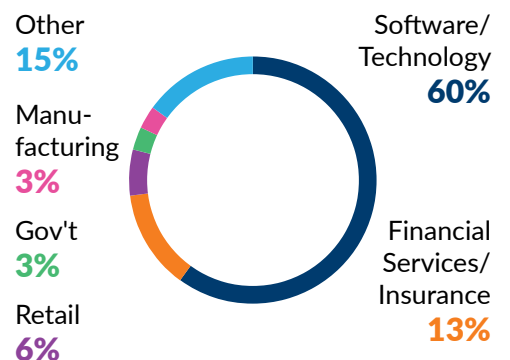


Figure 6: What industry do you work in?



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