CI/CD Optimization Assessment

Realizing the Full Potential of Your Continuous Integration / Continuous Delivery & Deployment Pipeline

ACCELERATE: Jumpstart your CI/CD efforts with expert guidance, planning, and design tailored to your specific environment.

VALIDATE: Perform a 'checkup' on your existing automation strategies and tools to identify opportunities for additional efficiency.

IMPROVE: Break through existing automation and quality challenges with third party expertise and detailed recommendations.

Increasing Automation to Gain Competitive Advantage

Automating the software production pipeline can deliver significant benefits to the business. Continuous Integration / Continuous Delivery (CI/CD) represents a practical benchmark for the level of automation desired by companies that create software, which is growing every day. An organization leveraging CI/CD can produce software faster, with higher quality, and release it to its users more quickly, which in turn delivers competitive advantages over companies still struggling with automation. Continuous Deployment represents an even higher state of automation but most organizations are quite content in getting to CI/CD and tackling Continuous Deployment as a follow on.

Leveraging CI/CD, development groups can get new features out to customers at a faster rate, which pleases existing customers and attracts new ones. CI/CD also allows more of the code to be tested, and more rigorously at that, through testing automation. The resulting quality can become a symbol of the company and improve its brand and its market share. Modern development practices like CI/CD can also drive employee retention. Developers are happy working in modern development environments where they can focus on coding and are free from fixing recurring problems that the CI/CD practices have eliminated.

Automation is Everywhere (But Not Everything is Automated)

Automation techniques and tools can be found throughout any modern enterprise environment. Automaton, whether applied to system engineering or operations, is intrinsic to delivering quality IT services. Nowhere is this more applicable than in software development. If a step can be repeated, then it can be automated, and this 'mantra' often serves as a challenge for most developers. So why then, does full automation of the software production pipeline elude most organizations? Our **CI/CD Optimization Assessment** service helps companies struggling with CI/CD adoption or with fine-tune existing CI/CD environments.

How the CI/CD Optimization Assessment Can Help You

Our CI/CD Optimization Assessment is designed to help organizations mature their software development practices through mentoring and guidance on CI/CD concepts, best practices, patterns, etc. for either introducing new techniques or optimizing existing ones. The service focuses on the components and stages that make up the CI/CD pipeline itself as well as the practices that feed the pipeline (pre) and the operations activities (post) to provide a true end-to-end assessment.

Accelerating the CI/CD Journey

Most organizations have introduced some level of automation and process standardization throughout the software development, testing, and operations groups. However, many enterprises have yet to converge those groups into a cohesive DevOps team and fewer still have integrated InfoSec into that team. These organizations aspire to implement and adopt CI/CD and DevOps alignment but have not yet successfully made the transformation. The CI/CD Optimization Assessment service helps these organizations by examining existing automation, processes, and organizational alignment to provide a strategy, recommendations, and a design to accelerate their CI/CD pipeline implementation efforts.

accelerate

Validate Existing CI/CD Environments

Lastly, there are an even smaller number of organizations that have achieved a fully automated CI/CD pipeline, especially one where builds are automatically deployed and released into production. But even these organizations seek an outside opinion to audit and identify additional opportunities for automation should anything have been overlooked in their own efforts. The CI/CD Optimization Assessment service can serve as a health check for those CI/CD-enabled customers and, applying that agnostic, 3rd party perspective, may offer fresh ideas, strategies, and practices for advancing those well-established environments even further.

validate

Breaking Through CI/CD Challenges

Some organizations have begun to automate and standardize towards enabling full CI/CD but face challenges that have impeded their ability to realize their pipeline goals. The assessment service will comprehensively examine those environments while applying additional focus to those areas identified by the customer that have posed challenges. Leveraging our continuous delivery expertise, we aim to identify new methods and practices to break through those challenges to enable the desired pipeline automation.

improve

Inside the CI/CD Optimization Assessment Service

The service is highly dependent upon good quality discovery performed by being embedded in the customer development environment and structured information gathering facilitated by collaborative workshops. The formal writeup up findings, recommendations, strategy, and updated designs are executed remotely and formally presented in the conclusion phase of the engagement.

Business Factors

The assessment considers the non-technical aspects of CI/CD that can affect its adoption and effectiveness. This includes properly defined and measurable objectives and metrics as well as organization alignment and culture, which may act as enablers or inhibitors depending on the environment.

CI/CD Pipeline

The assessment includes a logical representation of the existing software integration and delivery workflow. The visualization of the current environment serves as a baseline from which to show the changes needed to achieve the desired state per the recommendations located throughout the report.

Code Creation & Organization

An efficient CI/CD pipeline starts with good code preparation. The assessment looks at technologies, activities and strategies that prepare code for the CI/CD pipeline organized by code review, pre-commit checks, and code organizations in the version control system.

- Code Review Tool(s) | Code Review Approach
- Static Code Analysis Tool(s)
- Unit Test Coverage
- Version Control Tool(s) | Branching Strategy

Build & Package

The software build and packaging steps are analyzed and assessed by looking at the build automation, artifact management, and packaging techniques. The assessment considers items such as build triggers, artifact types and versioning, unit test coverage, etc.

- Build Automation Tool | Build Automation Triggers
- Unit Test Coverage | Integration Test
- Repository Tool | Artifact Storage | Artifact Types | Artifact Versioning
- Packaging Approach

Testing

The single greatest opportunity and business benefit for automation exists in the testing stage where the most significant amount of time and effort are spent in preparing the build for delivery. The testing stage can also have a dramatically positive effect on the quality of the software being produced. The assessment service examines the testing practices, tools, and coverage in detail to identify where quality and efficiency opportunities may exist.

- Test Automation Coverage
- Test Integration
- Test Data Generation (method | types | quality)
- Testing Details by Type (functional | performance | load | security | etc.)

Deployment

The assessment looks at the current processes, practices and capabilities for performing efficient and reliable software deployments across the different test environments and production, including the preparation of the infrastructure to which the software is deployed.

- Deployment Automation Method(s) | Infrastructure | Details by Type
- Post Deployment (validation | rollbacks | canary releases)

Database Updates

A critical step in enabling CI/CD and continuous deployment lies in the ability to reliably update the required database schema with the new code that requires it. The assessment examines the current strategies leveraged to update the database as part of the delivery pipeline.

- Source Control & Versioning
- Database Update Automation | Integration | Details by Type

Operations

A key concept in Agile development and DevOps is to build telemetry into the software and infrastructure to provide real-time, on-demand feedback to the developers in addition to supporting traditional operations activities. The assessment inspects the methods, tools, and capabilities around service monitoring as well as the availability and usage of those metrics across the different teams.

- Monitoring, Alarms & Notification
- Logging & Dashboards

Strategy

The assessment includes our vision of your future, optimized CI/CD pipeline, based on our findings and recommended changes. The strategy describes what optimizations can be applied and how they will benefit the environment. The strategy may also include, where warranted, a visual representation of the updated CI/CD pipeline where recommended workflow changes are illustrated for simplified per/post context and comparison.

Roadmap & Next Steps

The assessment concludes with our suggested steps for applying the detailed recommendations towards achieving your goals for software development automation and CI/CD based on identified use cases, environmental factors, and requirements. The Roadmap and Next Steps are sequenced to give our customers a clear path for applying the suggested changes and serve as a starting point for developing a formal project plan.

How the Assessment Service Works

The **CI/CD Optimization Assessment** uses our proven engagement methodology to ensure a high-value result. The detailed discovery is performed at our customer site via a series of collaborative workshops with subsequent analysis and report development performed remotely. The interactive readout of our findings and recommendations may be delivered either at our customer's site or performed remotely via a web conferencing session. The duration of the engagement is generally 3-4 weeks but can vary depending on the complexity of the environment being assessed.

DISCOVER — ANALYZE — ASSESS — RECOMMEND — DELIVER

Optimize Your Software Delivery Pipeline

Whether you're just starting your CI/CD transformation or well on your way, our **CI/CD Optimization Assessment** service can help. Customers new to CI/CD can accelerate their transformation efforts with implementation strategies aligned to your business goals that factor in existing practices, tools, and processes. Those that have started their CI/CD journey often make some measure of progress but then meet a challenge that requires a 3rd party perspective. Our optimization service is perfectly suited to such situations with pinpoint analysis on those blockers and targeted recommendations. Lastly, for those organizations successfully leveraging CI/CD practices today, we can provide an objective 'checkup' and identify areas where opportunities may exist or certify the environment as already being optimized but either way, our assessment can offer peace of mind in that nothing was overlooked in your implementation.

Next Steps

To learn more about how InterVision can help you successfully deploy and manage your Private Cloud Platform, visit www.intervision.com or contact your InterVision sales representative.

InterVision helps customers optimize IT infrastructure, better manage risk, & gain a competitive advantage with IT integration and broad capabilities.