Shifting investments to innovations
with HP Application Lifecycle Intelligence.

Intelligence for application teams
HP Application Lifecycle Intelligence (HP ALI) allows application teams to shift investments to innovation. By tightening collaboration between the application teams, providing visibility into the development work across multiple tools and ecosystems, adding intelligence and analytics, HP ALI allows application teams to keep up with major market disruptions such as mobile, cloud, and composite applications. It also allows you to keep up with the increasing demand from the business to innovate more at an accelerated pace.

HP ALI provides an action-oriented decision support system that’s embedded in HP Application Lifecycle Management (HP ALM). This innovative technology allows application teams to shorten the release cycles and shift investments spent today on the build and test phase toward innovation. HP ALI aggregates information from diverse resources to expend the ALM traceability to source code change management systems and build management systems providing appellation teams with predictability into upcoming builds that are about to be transitioned from the development team.

Addressing obstacles to application delivery
Under the constant pressure to compete, businesses of all sizes are driven to pursue growth—a pursuit that hinges upon innovating faster than competitors while controlling costs, managing risks, and maintaining agility. High-quality applications make it possible to meet these business objectives, but development managers and quality assurance (QA) managers are finding it increasingly challenging to deliver modern applications.

In fact, a range of obstacles to rapid application delivery has emerged across a number of fronts. Outsourcing presents challenges, including inefficient work streams, poor collaboration, and unmanaged changes resulting in software defects.

Another obstacle that increases complexity in delivering applications results from distributed development teams that may be working with a variety of tools, systems, and technologies. As these teams combine applications with their independent toolsets, the result is a lack of visibility and traceability for stakeholders as they engage in their work across the application lifecycle.

HP ALI, an extension of HP ALM, is designed to address the complexity and resulting obstacles of modern application delivery, providing users—across distributed teams—with real-time visibility into the health, risk, and stability of a new build including change impact analysis and risk assessment. It also allows users to automate release tracking, plan effective testing based on the principle that risk comes first, and optimize the transition of a new build to either testing or production.

Figure 1: The HP ALI build report provides visibility into the build health, risk, and stability with drill-down capabilities.
The age of application adversity

Lack of a quick decision mechanism—Application teams should have multitasking capabilities and a quick decision-making mechanism. Informed decisions should always be based on risk. In a world of increasing demand from the business to accelerate innovation while cutting costs, risk should always come first through out-of-the-box and real time updated measurements.

Insufficient end-to-end traceability—Most ALM solutions today provide traceability of defects to requirements and tests. But these solutions lack the linkage to code changes. Application teams must be able to understand what was changed in the code to focus their testing resources on the right priorities.

Application teams are working in the dark—Testers should be able to understand what is about to be transitioned from development to testing, what's the content of the new build, what functionality the new build is supposed to deliver, its stability, and coverage. Based on that, testers can better plan their testing, project managers and development managers can better track the release progress and adjust resources and priorities.

Application teams should implement continues delivery mechanism—By aiming to shorten release cycles, application teams should be able to assess rapidly whether the build is ready to move on to either testing or production. To facilitate that, out-of-the-box metrics such as average success rate of unit test, average build success rate, defect remediation, and requirement coverage should be automatically updated and accessible in real time. Once application teams have the metrics in place, they can easily compare preset SLAs to performance and make the right decisions for the business.

Empowering application teams

HP ALI for complete traceability—ALM solutions should ensure that new builds will be validated and deployed as quickly as possible to keep the project moving. HP ALI facilitates that by linking code changes to ALM artifacts, allowing testers to focus their testing efforts on changes in the code only, dramatically cutting testing time. This outstanding traceability is provided while allowing application teams to work with heterogeneous source code change management (SCM) and build management tools. While allowing developers this freedom of choice, HP ALI aggregates the relevant data and provides visibility into everything that matters across disparate teams.

Dashboards for informed decisions—HP ALI empowers the application teams to make informed decisions based on an intelligent understanding of the health, stability, and risk of new builds, thanks to various metrics that are generated automatically by HP ALI and are constantly updated. Metrics include: unit test coverage, success rate of unit test, defect trend, amount of code changes per each requirement, defect, and build content and coverage.

Development management made easier—HP ALI simplifies release tracking, resource management, and clarifies change impact analysis. The development manager can clearly view multiple projects across disparate teams and heterogeneous environments at any given time and adjust resources and assign tasks.

Apply best practices—With HP ALI, application teams can standardize development teams across best practices and business policies to increase efficiency.

Connection to production—Make informed decision with regard to the transition of the build to either testing or production. Choose the measurements to track, define your SLAs, and automate the transition phase of the build to either testing or production.
New with HP ALI 2.5: Minimizing overhead for developers

Auto-provisioning of development environments

Developers are constantly being asked to update and make changes to previous projects in order to ensure business continuity and customer satisfaction. Each iterative update requires developers to provision an environment for the specific project—whether new or old—repeatedly. Manual setup of their source code change management tool, build management tool, and (Integrated Development Environment) IDE is usually time consuming and may end up costing a few working days delay in many cases.

Unfortunately, we see a dichotomy between the desire of application teams to quickly respond to change and the time involved in the provisioning phase whenever a new project setup is required. Especially in agile environments, where teams work iteratively to accelerate delivery by shifting long projects to short, task-based streams of work, delays caused by administrative work, such as setup and provisioning must be minimized and optimized.

Now with HP ALI 2.5, developers can minimize time consuming tasks and start coding in three mouse clicks or less! Once developers identify the release they are working on, HP ALI will automatically setup the development environment for them (IDE, SCM, and build management tools), aggregate all ALM attributes and code change sets related to the specific release and populate it in their IDE. The overall environment will be aggregated based on the structure of the project in HP ALM.

With auto-provisioning, HP ALI can cut setup time by up to 70 percent, allowing developers to focus on what really matters—adding functionality and increasing quality. HP ALI Dev—bringing developers to the ALM, fold HP ALI minimizes reporting tasks for developers by providing bi-directional connectivity to HP ALM through HP ALI Dev.

HP ALI Dev connects to the developer’s IDE, and automatically captures developer task progress and completion information in HP ALM, freeing developers from administrative reporting obligations. All the information about the developers’ activity automatically flows to HP ALM and vice-versa. Information that is stored in HP ALM automatically flows to the developers’ IDE.

Context-driven development

ALM solutions should enable developers to apply context-driven development by providing developers with the ability to view ALM artifacts while coding. After reviewing ALM artifacts related to their tasks, requirements, defects, or test results, developers can better understand the use case, defect, or functionality that their code should deliver and fix. If they are able to view the latest code changes related to their tasks, developers gain a better understanding of what was already done and can better estimate what should be added going forward. Developers can view the overall stream while fixing defects, which significantly accelerates bug replication and remediation.

To increase productivity, this contextual information should be available to developers directly from their IDE. With HP ALI, this is now possible.
Context-driven reporting
The entire application team has better visibility about their project’s real-time status and health when the ALM system is automatically updated as developers perform their tasks. From the developer’s perspective, a task should be presented in the IDE in a way that can free developers from the administrative need to report progress, update status, and add a description of their work so they can focus on the key goal—the code. The integration between the developer’s IDE and the ALM system enables auto-capturing of task progress and completion. The project manager, scrum master, and development manager all get accurate, real-time updates about the progress of the individual developer’s coding tasks, the progress of the whole project team, and the status of the iteration or the release. As a result, development managers and project managers gain transparency, can facilitate efficiency, reduce latency and overhead of inter-team communications, and ultimately increase application code quality. In addition, since all this development and change data is available to QA teams in real-time, they can also better plan their testing, accelerate testing time, and identify defects earlier in the lifecycle when they are easier and less costly to fix.

Figure 4: The HP ALI change impact report provides risk assessment for each ALM artifact.

A closer look at HP ALI

Key features of HP ALI:

- Open software development kit and hot-pluggable framework
- Rich partner ecosystem integration to various SCM and build management tools
- IDE Plug-Ins for Eclipse, Visual Studio, IntelliJ
- Auto-provisioning of development environments
- Technology- and platform-agnostic integrations
- Dynamic traceability reports with drill-down capability
- Real-time change impact analysis

- Actionable information to HP ALM stakeholders
- Various metrics with regard to build health, risk, and stability
- Measurements to track team velocity, release progress, and resource allocation

For more information
Collect information, improve application quality, collaboration, and productivity to deliver complete application lifecycle traceability; visit: [hp.com/go/ali](http://hp.com/go/ali), [hp.com/go/almdev](http://hp.com/go/almdev).

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