The Importance of Being First to Market With “The Next Big Thing”

Regardless of the industry in which they operate, all companies today are in the software business. Banks develop mobile apps customers can use to check balances, pay bills and transfer funds on the go. Hospitals build online portals where patients and their families can learn about, and engage in, the care process. Even brick-and-mortar retail shops develop loyalty programs that track customer purchases and provide incentives, such as discounts or reward points, to encourage repeat visits.

While these are different examples across different industries, a common thread remains: organizations are building new and unique services to satisfy customer demands and differentiate themselves in the marketplace – and they rely on software to drive this innovation. It’s a fact that most enterprises today resemble software companies, and nearly all of them are currently hard at work developing “the next big thing.” In such an environment, what can executives do to ensure that their revenue-generating services get to market faster and at a higher quality than competitive offerings? And can this be done without adding headcount or going over budget?

Speed, quality and cost have long been interdependent factors in software development, so any adjustment to one can sacrifice the others. For example, if an organization wanted to increase the speed of development and improve the quality of the final product, it would have to allocate more budget to fund the additional resources required for the project. However, best-practice application delivery methods that improve communication, integration and collaboration between development and operations (a.k.a., DevOps) can change the playing field, so those trade-offs are no longer necessary. Now a business can accelerate development, enhance software quality and reduce costs all at once by leveraging the power of the right application delivery solutions.

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How can this be true? Think about a development environment where testers fill half of their days with solitaire or break-room foosball while they wait for developers to send the next round of code. Or one where development and IT operations are constantly pointing fingers, blaming delays and bottlenecks on the other party. Environments like these are riddled with wasted time and resources that could be better spent speeding new applications through the pipeline. Application delivery solutions enable these teams to simulate environments, so they can work concurrently and create a more efficient and productive DevOps environment.

In an infinitely connected, social-media world where brand awareness can spread like wildfire, it is the trend-setters bringing innovative services to market first who have the most to gain. The good news is, organizations can position themselves to capitalize on this opportunity.

Here is how application delivery can help you start your DevOps journey:

- Remove development constraints with service virtualization.
- Accelerate time to market with continuous delivery.
- Enhance application testing and quality with production data mining.
Remove Development Constraints With Service Virtualization

In a traditional software deployment life cycle (SDLC), it’s common for developers and testers to spend a significant portion of their time simply waiting for resources to become available. Whether a needed mainframe is off limits for numerous hours a day or a third-party service is still under development, such constraints equate to “idle time” that halts development efforts and pushes out the end delivery date for the application.

The main reason for this abundance of idle time is that traditional SDLCs must proceed in a linear fashion, with later steps in the life cycle (e.g., performance testing) unable to get started until prior steps (e.g., integration testing) are completed. Service virtualization removes this linear constraint by simulating the necessary development or testing environment required for each step, so the different phases of the SDLC can be performed independently of – and concurrently with – each other.

A good analogy for how service virtualization works is the development of an airplane. Engineers don’t wait until a plane is fully assembled to test it. They model each individual component in a computer simulation and test its viability in a controlled environment, so by the time the first physical prototype is assembled, its component parts have been validated to operate as expected. Swap the plane parts for stages in the SDLC, and it becomes easy to see how service virtualization can drastically improve the software development process.

When the SDLC stages are proceeding concurrently, the delivery date for the application can be pulled in, which speeds time to market and time to revenue. What’s more, because more comprehensive testing is occurring earlier in the SDLC, bugs and defects can be more quickly and easily weeded out, leading to a higher-quality end product. And as “touch time” on the software increases so does productivity, which reduces the overall cost of development and enables the same number of developers and testers to work on a larger number of projects.

According to voke Research, 51 percent of survey participants experienced regular or frequent delays of testing cycles due to unavailable dependencies.¹
**Accelerate Time to Market With Continuous Delivery**

As the popularity of agile development has increased and IT environments have evolved into complex, hybrid infrastructures comprised of virtualized, cloud and legacy systems, the act of moving an application from design through to production can be a rollercoaster of changing hardware, environments and requirements. When this is the case, the transition to each stage in the SDLC often requires manual intervention that can cause errors and delays and push out application delivery.

With continuous delivery enabled by release automation, organizations can accelerate the SDLC, so complex deployments occur in hours or minutes, not weeks or days.

Instead of manual, error-prone release cycles, release automation enables organization to achieve continuous delivery by orchestrating each step in the application-delivery process and deploying the right component at the right time. Continuous delivery simplifies provisioning and management of the system assets and configurations of the infrastructure each team needs within the SDLC – whether the hardware lives in an on-premise data center or a private, public or hybrid cloud environment.

With continuous delivery enabled by release automation, organizations can accelerate the SDLC, so complex deployments occur in hours or minutes, not weeks or days. And because consistency improves and error rates drop, higher-quality applications can reach the market more quickly and development and testing teams can stay focused on more strategic, value-added activities – like pushing more projects through the pipeline.

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**Enhance Application Testing and Quality With Production Data Mining**

In order to conduct comprehensive regression testing on applications in development, organizations need accurate, real-world data from production systems so they can test in like environments. On top of that, they must be able to quickly adjust the parameters of their test environments, so they can mimic demanding scenarios (e.g., peak season or year end) and monitor how the application performs when strained.

A production data mining solution simplifies this process by automatically harvesting data and performance profiles from production environments, and creating virtual services and regression test suites based on that data. While this type of activity would normally require the services of a developer, production data mining automates the process – enabling developers to stay focused on creating innovative new functionality.

The right production data mining solution will also provide the ability to capture and report on defects for swift resolution, and provide insight into application architectures with performance data that can be used to identify bottlenecks and tune performance. Together, these features support “early and often” testing, speeding applications through development, enhancing their quality and reducing the resource costs of testing and remediation.

According to Coleman Parkes Research, 36 percent of survey participants found defects in new releases that had gone into production.²
About the Solutions From CA Technologies

At the end of the day, the one true key to bringing high-quality applications to market as quickly as possible is complete collaboration between development and IT operations teams. The Application Delivery suite from CA Technologies helps organizations achieve collaborative DevOps with innovative technology for optimizing application development and testing, increasing the velocity of enterprise application delivery, while simultaneously driving quality and reducing the cost of innovation.

Application Delivery solutions from CA Technologies include:

- **CA Service Virtualization** eliminates constraints by modeling and simulating the behavior, data and performance characteristics of dependent systems and services. As a result, organizations can move development and test tasks earlier in the software lifecycle, resulting in reduced time-to-market, lower infrastructure costs, reduced contention for labs and better overall application quality.

- **CA Release Automation** automates the complex changes required for code movement, deployment and provisioning tasks between development, test and production environments. This enables organizations to reduce manual errors and reliably accelerate software delivery cycles from weeks or days to hours or minutes.

- **CA Data Mining** captures real-world data from production and staging environments and intelligently uses CA Path Finder to generate “life-like” assets, such as virtual services, regression test suites, performance scenarios and test data sets – improving collaboration among teams with realistic data that does not create scheduling conflicts.

> "With CA Release Automation we can deploy with a high state of reliability in 15 minutes with few adverse after-effects. This very definitely improved interactions with Dev and Ops, as they now can speak the same language."

Principal Software Engineer, Consumer Electronics Company

To learn more, visit ca.com/us/products/application-delivery