Executive Summary:
Understanding the Business Value of IBM WebSphere Liberty

Arnal Dayaratna
Research Vice President,
Software Development, IDC

Megan Szurley
Senior Research Analyst,
Business Value Strategy Practice, IDC

Cloud-native development, or development that is optimized for the cloud, delivers a multitude of benefits to developers, development teams, and organizations. This optimization brings the automation of the cloud to applications and their associated development stacks. For example, cloud-native development stacks are exemplary of attributes of cloud infrastructures such as auto-scaling, high availability, and self-service provisioning. In addition, the support of cloud-native applications for microservices, containers, container orchestration frameworks, and DevOps processes increases development-related automation.

According to IDC research, organizations that use IBM WebSphere Liberty (Liberty), a cloud-native Java application server, have realized the following benefits:

Developer Benefits

- **Enhanced productivity:**
  The development-related automation specific to Liberty empowers developers to push code to production faster, thereby leading to faster release cycles and more rapid identification and remediation of development-related issues. With Liberty, developers can create and iterate on digital solutions more rapidly as a result of developer-friendly features and functionality such as fast start-up times, streamlined configuration, support for integrations with DevOps technologies, and an expansive ecosystem of extensions. These features collectively increase developer productivity and empower developers to enhance the digital solutions they build. Developers can perform more work in less time, which accelerates the execution of an organization's digital transformation initiatives.

Business Value Highlights

328%
three-year ROI

11.8 months
to payback investment

31%
more productive development teams

21%
greater developer satisfaction

40%
more applications released per year

- **Increased developer satisfaction:**
  Liberty amplifies developer productivity by allowing developers to spend more time working on higher-value development tasks such as conceptualizing and architecting applications. Moreover, Liberty provides opportunities for organizations to upskill developers on cutting-edge technologies, such as containers, Kubernetes, microservices, API gateways, and service mesh technologies. This upskilling of developers enhances developer satisfaction and lowers attrition because developers feel that they are augmenting their skill sets and keeping pace with developments in the industry.

- **Augmented DevSecOps capabilities:**
  Cloud-native development platforms augment the security of digital solutions due to the microservices architecture of cloud-native applications. The architecture mitigates against the proliferation of security threats and breaches throughout an application. Developers can leverage Kubernetes to swiftly deprovision containers suspected of having a security vulnerability, thereby accelerating the resolution of security incidents as they arise.
  In addition, cloud-native development platforms integrate with cloud-native security solutions that specialize in the identification and remediation of container-native security considerations.

Business Productivity Benefits:

- Liberty's support for cloud-native development, along with its ability to accelerate developer velocity and enhance developer agility, enables organizations to deliver innovation faster than they typically can when using other application servers. This accelerated innovation strengthens the ability of organizations to update digital solutions in response to relevant changes in the business and regulatory landscape. Consequently, organizations can remain competitive by delivering cutting-edge functionality that responds to the changing needs of their customers.

Application Performance Benefits:

- Liberty enhances application performance because its lightweight architecture translates into faster start-up times, reduced memory consumption, low latency, and high application throughput. In addition, the platform's dynamic resource allocation capabilities and self-healing qualities increase application resiliency and availability.

Reduced Costs:

- Organizations that use Liberty reported significant cost savings derived from reduced licensing and infrastructure-specific costs, such expenses related to cores, power and cooling, and colocation. Given Liberty's lightweight architecture, organizations use fewer cores to run the same workloads compared with other Java application servers. In addition, Liberty enhances the operational efficiency of infrastructure management due to the increased agility specific to provisioning and deprovisioning containers,

enabling organizations to optimize the use of hardware for their fleets of applications. As a result, organizations can run more workloads with fewer infrastructure resources and correspondingly save on infrastructure, licensing, and labor costs.

Sustainability Benefits:

- The reduced infrastructure costs related to the diminished use of cores, power, cooling, and colocation means that Liberty positions organizations for enhanced sustainability practices. As sustainability continues to increase in priority amongst business and technology leaders, adoption of sustainable software and practices will be critical. The combination of Liberty's lightweight architecture and dynamic resource allocation allows organizations to take advantage of fewer resources while still enhancing application performance and saving costs.

IDC conducted research that included a series of in-depth interviews with organizations using Liberty. The research examined the business value specific to the development and operational management of cloud-native applications. In addition to the benefits enumerated above, key findings showed that the use of Liberty results in enhanced application portability, granular application scalability, and improved resource consumption.

IDC calculates that these interviewed IBM customers will achieve benefits that amount to $28,000 or ~17% of a developer's salary for every developer in an organization. This will:

- **Optimize** the performance of application development teams, leading to more quality applications, features, and updates released to end users and customers

- **Enable** IT teams to deliver more value by reducing routine operational work, freeing up time for high-value IT projects and more effectively serving the needs of developers and development teams

- **Minimize** the unavailability of applications by reducing the frequency and duration of unplanned downtime events

- **Improve** business performance by optimizing analytics and other data-related business transactions

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