DevOps Solutions for IBM LinuxONE

Accelerate delivery and software innovation

Highlights

- Learn why DevOps solutions for LinuxONE are a win-win combination for the digital enterprise

- Enable developer productivity across platforms, languages, and operating systems

- Understand the ease and strength of integration capabilities between IBM DevOps solutions and open source technologies

Linux is growing at an astounding rate. Organizations see the value of consolidating their applications on the world's most scalable Linux platform, with direct access to their core applications.

LinuxONE is: Linux, only better! There is growing interest in using DevOps practices to drive software innovation and accelerate time to value. LinuxONE allows users to innovate with DevOps, by providing purpose-built cutting-edge solutions. Whether you love the comfort of the command line with *vi* and *emacs*, an *eclipse* rich client, prefer a flexible web-based tools environment, or require the latest DevOps processes and tooling, they are all available for you on the LinuxONE platform.

Today, applications are comprised of components that run on many operating systems. A typical application may consist of tablet, phone, web-browser, application server, and transactional components running across Android, iOS, Linux, zOS and other operating systems. Utilizing cross-platform tools is essential for optimized software delivery, given that applications can span OS and technology boundaries. This in turn allows organizations to adopt DevOps processes and continuously improve, while being very responsive to customer needs. Having disparate tools across these components, leads to increased complexity and delays in application delivery. Furthermore, application numbers are growing rapidly and many organizations are consolidating their Linux application portfolio onto the secure and scalable LinuxONE platform.

IBM recognizes this problem and has focused on providing cross-platform tools covering all these operating systems (and more) so that development, quality assurance, operations and management can work transparently on the entire application, eliminating component and job silos. Furthermore, application numbers are growing rapidly, providing a compelling reason for organizations to consolidate their Linux application portfolio onto the secure and scalable LinuxONE platform, which provides industry-leading support for delivering efficiently in this fast evolving environment.
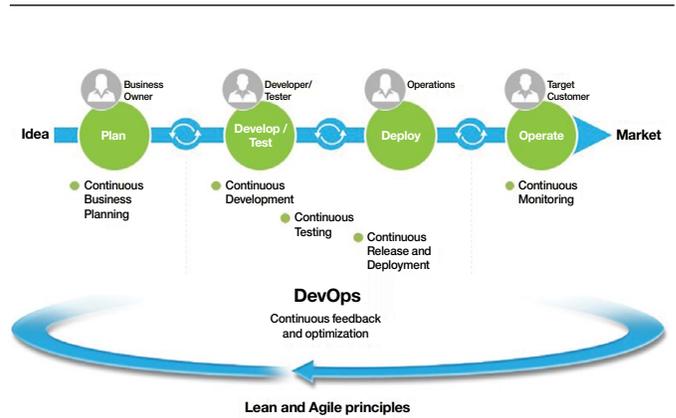
DevOps is the future of Software Development

DevOps is about bringing the principles of Agile or Lean IT to the entire enterprise; from the initial business users, to development and test, through to operations. The term DevOps comes from the merging of Development and Operations, but it's important to understand it's more than that. DevOps is about an organizational strategy to manage the entire lifecycle. DevOps is as much about the people and as it is about the process. Tools are a means to an end and help support the process and people as they make this transformation.

DevOps includes such practices as continuous planning, collaborative development, continuous testing, continuous integration, continuous delivery, and continuous feedback. DevOps is all about bringing automation, transparency, and collaboration to the entire organization. DevOps is changing the way all application development is done, from building applications in the cloud, to building applications on LinuxONE Systems.

"Fidelity Worldwide Investment's application release process has been fully automated with IBM UrbanCode Deploy. Applications that took days to release now take just an hour."

—Tony Green, Technology, Architecture and Engineering, Fidelity Worldwide Investment

DevOps and Collaborative Lifecycle Management for LinuxONE Development

IBM offers a complete multi-platform DevOps solution from idea capture through to solution delivery. Using the Collaborative Management Lifecycle (CLM) solution, organizations can:

- Rapidly capture, manage and prioritize requirements
- Raise and plan work against these requirements for continuous delivery
- Develop and manage tests early in the development cycle for continuous testing
- Work with the latest AGILE and Lean processes and practices
- Manage source and other artifacts safely and securely at scale across all platforms

This means developers can build and test their applications for deployment to environments like IBM Bluemix and also to Liberty running on LinuxONE systems. In fact the CLM suite supports the development of any application targeted toward the LinuxONE Systems environment, including Java for WebSphere Liberty. To complete the developer experience CLM can be used with commercial or open source tools to provide the full Linux development environment.

IBM DevOps and SAFe

IBM's DevOps approach supports the continuous delivery model through an open, standards-based tooling platform to help drive organizational efficiency and effectiveness. The Scaled Agile Framework (SAFe) is the market-leading process framework for scaling lean and agile across the enterprise, providing guidance and best practices to help organizations realize success. IBM DevOps combined with SAFe provides a comprehensive process and tooling framework that enables an optimized end-to-end lifecycle that synchronizes teams in heterogeneous environments and enables collaboration of all roles. The result is a solution that is unmatched in its ability to support enterprises, from the small IT shop to the large, regulated IT environment, in addressing their critical business imperatives.

Extensive case studies provided by Scaled Agile, Inc. point to the effectiveness of applying lean and agile principles to the enterprise to deliver business results:

- 20 - 50 percent increase in productivity
- 30 - 75 percent faster time to market
- 50+ percent defect reduction
- Increase in employee engagement.

In IBM, we are realizing the benefits of adopting a SAFe approach first-hand: our IBM Software development teams are currently on a SAFe transformation journey, embracing lean and agile principles and using our own tools to deliver those same capabilities to the marketplace.
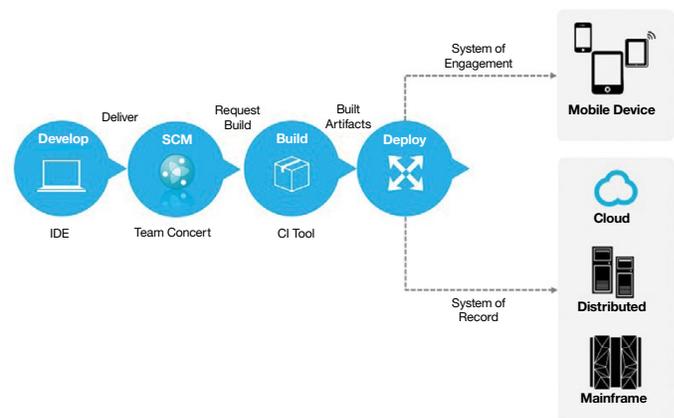
DevOps and Deployment

Extending CLM with UrbanCode™ Deploy (UCD) means applications can be deployed to many platforms including Bluemix and LinuxONE Systems. Modern applications may need deliveries to be synchronized and orchestrated on many platforms, and to many targets. UCD automates and manages all these deployment complexities. By using UCD for each environment, you can ensure the deployment is consistent across development, test, and production. CLM and UCD are tightly integrated, allowing successful application builds to be distributed at will.

Once deployed, IBM provides application monitoring through Application Performance Management to clearly understand performance characteristics as it flows through the development and test phases. UCD provides specific support for deploying into the middleware running on LinuxONE Systems such as WebSphere Liberty, and can be used to configure application performance monitoring capability for each of the environments.

Application Deployment to Multiple Environments

Summary

The IBM DevOps Solution on LinuxONE Systems provides complete management and automation of the software development cycle, from requirements capture, through application development and testing, then onwards to delivery and monitoring of the executing applications. More importantly, these solutions enable porting of Linux applications from other platforms, allowing application development, testing, and execution to be consolidated on LinuxONE Systems with minimal effort. Choosing common tools does not mean being forced into using a single vendor's technology. Whether it is Linux, Eclipse, Java, Docker or many other open source technologies, you will find them on LinuxONE.

Why IBM?

IBM's unique cross-platform DevOps solutions aid and assist in application development, testing, and execution for LinuxONE. DevOps for LinuxONE Systems combines the qualities of service of the platform (availability, reliability, security) with the capability to drive software innovation via DevOps processes, tools, and culture – a win-win for the digital enterprise.

For more information

To learn more about the DevOps Solutions for Enterprise Systems, please contact your IBM representative or IBM Business Partner, or visit the following website:
ibm.com/linuxone

IBM Systems Lab Services will help connect LinuxONE clients to the appropriate service offerings and associated IBM service teams for their overall LinuxONE services needs. Contact us at stgls@us.ibm.com

IBM also helps smooth implementation through access to complete DevOps services that can accelerate team productivity, thereby realizing quicker time to value, visit http://www-01.ibm.com/software/rational/services/devops/

For specific training needs including training paths, certification, details on our technical training events, and access to our Global Training Partners, visit **ibm.com**/training

Additionally, IBM Global Financing can help you acquire the IT solutions that your business needs in the most cost-effective and strategic way possible. For credit-qualified clients we can customize an IT financing solution to suit your business requirements, enable effective cash management, and improve your total cost of ownership. IBM Global Financing is your smartest choice to fund critical IT investments and propel your business forward. For more information, visit:
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