

CIMdata®

Aras DevOps

## Further Accelerating Time to Value for Aras Innovator Subscribers

### Key Takeaways

DevOps is a methodology that improves the performance of the software development lifecycle (SDLC) by tightly integrating solution development and operation in cloud-based and on-premises solutions.

To achieve process efficiency all the steps in SDLC from solution planning through deployment and operation must be integrated as a continuous, repeatable workflow. Creating and maintaining the toolchain to support the workflow is complex due to the heterogeneous mix of tools and a lack of standards from a variety of software providers.

Aras Innovator is well-known for its low code model-based approach to solution configuration and customization. Using this approach, Aras achieves capabilities via configuration that typically require customization in competing solutions.

The low code configuration data is stored in model elements that need to be managed and configuration controlled. Aras DevOps ensures that low-code data follows the SDLC resulting in shorter time to value and fewer regressions.

### Introduction

In today's fast-paced global marketplace, Product Lifecycle Management (PLM) solutions are becoming increasingly important for organizations to manage product-related information throughout the product lifecycle. However, implementing and operating PLM solutions can be a complex task due to their many capabilities, interdependencies, and integrations and how they interact with product information and business processes.<sup>1</sup> There are many options to configure and often customize, including the data model, workflows, integrations, and business logic. Despite the complexity of PLM solutions, the benefits of a well-implemented system are numerous: including better collaboration across the extended enterprise, improved product quality, more confidence in data accuracy, and shortened time to market. DevOps is a recent innovation to the SDLC that is common in cloud-based SaaS solutions. It manages development complexity and improves software operations in production, although customers typically don't customize multi-tenant solutions. Interest in DevOps is growing in on-premises solutions, including PLM,

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<sup>1</sup> Research for this commentary was partially supported by Aras

but is limited to very sophisticated IT environments since maintaining a DevOps toolchain is complex. CIMdata is starting to see clients extend their agile software development environments into an integrated DevOps approach. In this commentary, we will discuss the challenges of implementing and operating PLM solutions and how organizations can leverage DevOps to improve their product development processes.

## DevOps

DevOps has become a critical practice for organizations that want to increase the velocity of their software development lifecycle. It is a methodology that brings together development and operations teams to work together seamlessly throughout the entire SDLC. DevOps complements the agile software development approach, which focuses on delivering working software in short cycles. By integrating DevOps into their processes, organizations can shorten their software development cycle times, increase collaboration, improve software quality, achieve faster time-to-market, increase efficiency, and reduce cost.

However, implementing and maintaining a DevOps-based SDLC can be complex and require a wide range of tools and technologies ranging from requirements management, application lifecycle management (ALM), code generation, debuggers, build management, manual and automated test management, deployment, and issue management. Companies often require focused teams to develop and maintain the DevOps environment and toolchains which can be time consuming and costly, especially considering the growing cost of technology professionals.

To apply DevOps principles to PLM, organizations commonly use an agile method to develop solutions that define and execute business processes. The business processes are represented by data models, workflows, business logic, and integrations to other enterprise solutions. The agile tool chain used to develop, manage, and test the software configuration feeds the tools that the operations team uses to deploy and operate the solution. The DevOps process ensures the solution is efficiently created and properly tested and validated throughout the iterative development effort, delivering all requirements without quality regressions into production. Telemetry, the instrumentation of software in production, is often used to ensure the solution is meeting performance and quality requirements during operation and provides feedback for continuous improvement. While most often used in cloud-based SaaS environments, DevOps is also applicable to on-premises environments.

## Aras' Approach to DevOps

Aras Innovator is a modern, flexible, and scalable PLM solution that is built with an open architecture on the Microsoft technology stack. The solution is available both on-premises and on Azure as a SaaS solution. Customer configurations are 100% compatible between the two environments. Aras Innovator is well-known for its ability to meet customer's unique and complex requirements using low code configuration technology to tailor solutions. Aras continues their long-standing differentiator of upgrading customer implementations within their subscription contract at no extra charge no matter how much customization has been done. Please review this [CIMdata commentary](https://www.cimdata.com/en/resources/complimentary-reports-research/commentaries/item/10115-aras-plm-platform-redefining-customization-upgrades-commentary)<sup>2</sup> to better understand how Aras accomplishes this.

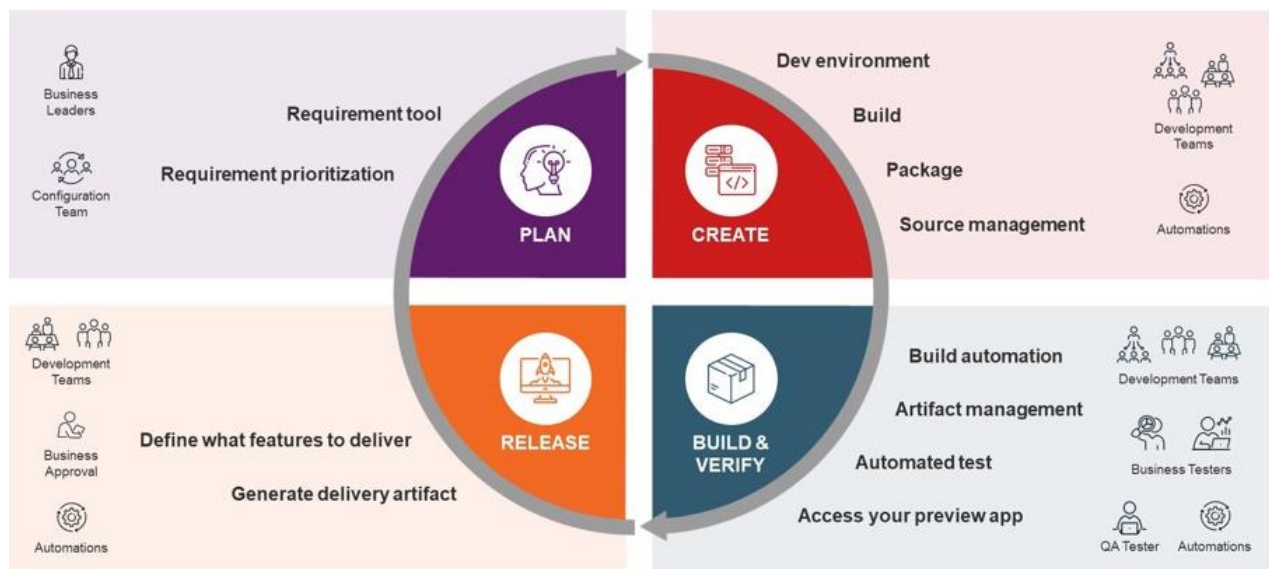
Aras Innovator's on-premises DevOps solution is a turnkey continuous integration (CI) toolchain that includes all the necessary software for CI and testing (via Aras' Test Automation Framework) and is

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<sup>2</sup> <https://www.cimdata.com/en/resources/complimentary-reports-research/commentaries/item/10115-aras-plm-platform-redefining-customization-upgrades-commentary>

maintained by Aras. Furthermore, unlimited DevOps training is also included with the subscription. In addition to providing a major improvement to the customer's Aras Innovator SDLC, Aras DevOps delivers a major financial benefit in that it is provided at a single subscription cost, works within a single toolchain designed specifically for Aras Innovator, and users will never need to invest their own resources to maintain or add new functionality to their CI solution.

Aras DevOps supports planning, creating, building, and verifying, solution configurations as shown in Figure 1. The plan stage includes defining and managing requirements, which define the scope and needed solution capabilities. The create stage is at the core of Aras Innovator's low-code development environment, which supports item and relationship configuration management and method code management. The build and verify stage focus on repeatability and testing, with automated testing to validate use cases with customer specific test scripts. Within the release stage for Aras Enterprise SaaS customers, Aras DevOps manages the continuous delivery (CD) process. For Aras Innovator on-premises customers, Aras DevOps generates the delivery artifacts for the customer. The customer can integrate to their production environment to create a complete continuous integration/continuous deployment (CI/CD) solution.



**Figure 1—Aras' DevOps Environment Processes and Tools**  
(Courtesy of Aras)

The Aras Services team has also adopted a DevOps culture to manage customer configurations and on-premises customers can add the DevOps solution as an option to their subscription. Aras DevOps is now available to end-users for managing their configurations and customizations. The benefits for on-premises customers using the DevOps solution are the same as for any DevOps solution—shortened time to value and improved solution quality. Beyond the basic benefits, Aras Innovator customers receive a solution that is specifically designed to allow the types of customizations that may be required from a PLM solution. The tool is built around a set of practices established through years of configuring solutions for customer implementations. Finally, if on-premises customers migrate to Aras Enterprise SaaS, their solutions and configurations are more easily imported.

In summary, Aras Innovator's approach to DevOps is a comprehensive DevOps solution that is designed to provide customers with a complete CI environment and toolchain for managing their configurations and customizations. One that is flexible enough to adapt to on-premises deployment requirements. The company's investment in DevOps ensures that its PLM solution is modern, flexible, and scalable, enabling customers to manage their configurations with ease while reducing errors and improving overall quality.

## Conclusion

DevOps is a modern approach to managing the SDLC. It tightly couples software development and configuration with operations and solution execution. Integrating these capabilities improves solution quality, time to value, and return on investment. The Aras approach to DevOps is a great choice for companies looking to modernize their approach to Aras Innovator solution configuration management. The Aras DevOps toolchain is created and maintained by Aras allowing customers to focus on adding capabilities to their PLM solution rather than developing and maintaining a custom software development environment. Additionally, configuration done on-premises using DevOps is fully compatible with Aras Enterprise SaaS, making it a great choice for companies that are considering a future migration to the cloud. By adopting the Aras DevOps solution, companies can benefit from faster development times and higher-quality configurations, making it a great choice for companies looking to modernize their approach to solution configuration management. Aras customers with on-premises implementations should check out DevOps to improve their SDLC processes.

## About CIMdata

CIMdata, an independent worldwide firm, provides strategic management consulting to maximize an enterprise's ability to design, deliver, and support innovative products and services by identifying and implementing appropriate digital initiatives. For forty years, CIMdata has provided industrial organizations and providers of technologies and services with world-class knowledge, expertise, and best-practice methods on a broad set of product lifecycle management (PLM) solutions and the digital transformation they enable. CIMdata also offers research, subscription services, publications, and education through certificate programs and international conferences. To learn more, visit [www.CIMdata.com](http://www.CIMdata.com) or email [info@CIMdata.com](mailto:info@CIMdata.com).