



BROCHURE

Building Business Resiliency with Aras DevOps

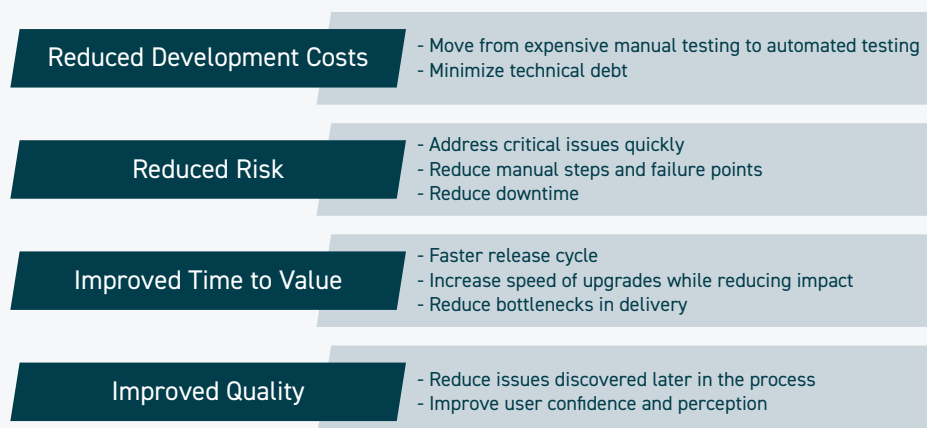
WHAT IS DEVOPS AND HOW DOES IT DRIVE BETTER BUSINESS OUTCOMES?

Technology professionals often discuss new concepts at a high level that resonate well with executives and strategists. However, as these concepts progress into the physical world of actual business processes and software products, the terminology used to describe the concepts and deliverables can get hazy, leading to confusion among industry specialists. This confusion can create misalignment between key people in an organization.

While this ambiguity can create a considerable amount of debate, connecting the strategy with the tactical deliverables is not complicated when the right teams and processes are in place. A good example of this is the concept of DevOps. **DevOps refers to a change in IT culture that merges software development (Dev) and IT operations (Ops) to improve the software development process within an organization.** The objective of a DevOps culture is for the operations and development teams, which have historically functioned in silos, to participate together across the entire software development lifecycle, from design through to support, using a set of lean and agile practices that automate and integrate the processes between them.

Through the combination of lean practices and cultural philosophies, utilizing a DevOps approach increases an organization's ability to deliver applications and services faster and more reliably than their existing processes, with higher quality results. Companies can innovate, evolve, and improve products at a more rapid pace than organizations using traditional software development and infrastructure management processes.

DevOps enables formerly siloed roles—software development, system administrators, IT operations groups, quality assurance, and security teams—to coordinate and collaborate to both shorten the software development lifecycle and to produce better, more reliable products. Above all, DevOps emphasizes the people—truly engendering a culture based on collaboration—which can better utilize and implement the technology and tools to build their products, respond to customer needs, and achieve business goals.



How DevOps creates value for the consumer.

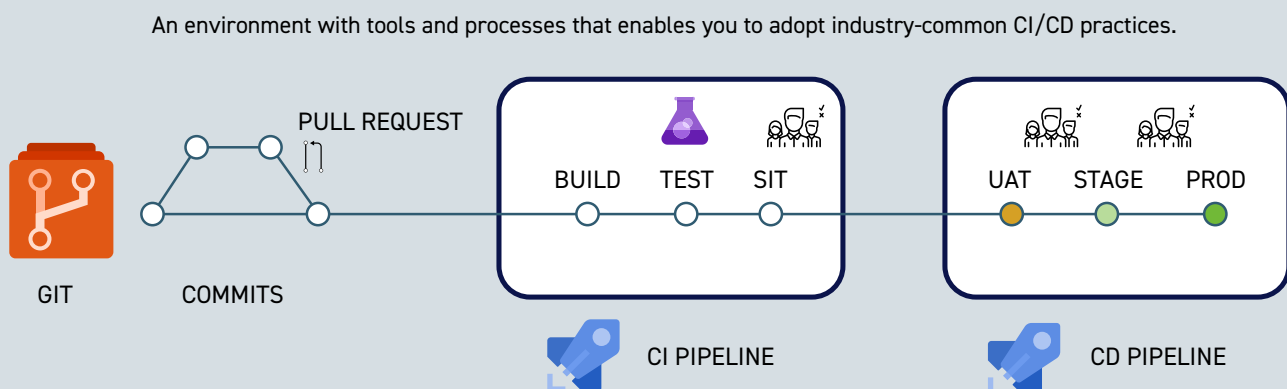
DEVOPS AND CONTINUOUS INTEGRATION/CONTINUOUS DELIVERY (CI/CD)

When a DevOps culture is established within an organization, new practices and software can be utilized to improve the software development process. These activities optimize cross-functional teams by improving collaboration and automating workload to streamline important tasks. Some of the more critical strategies being implemented across industries today are the use of continuous integration, increased automation, and continuous delivery.

Continuous Integration (CI) is a practice where all developers merge their development work into a shared repository. The individual efforts are merged to create a build every day, or often several times a day, allowing issues to be captured early and corrected quickly. The CI process includes the build stage where code is built for testing purposes, the test stage where developers iteratively test changes and system integration testing (SIT) to ensure all components are correctly working together.

Automation tools to build and test new code have become increasingly sophisticated and effective in the development process. These tools are now commonplace in DevOps environments and help to improve the speed and quality of the development process while optimizing the use of expensive resources necessary to fully test applications and move the code base through the pipeline.

Once the testing on a code base is completed, the **Continuous Delivery (CD)** picks up the process by automatically managing the release process and preparing it for deployment. The CD process includes user acceptance testing (UAT) for end users to test the features and functionalities, staging (STAGE) to provide a nearly exact replica of a production environment for further software testing and the production environment for final release of the business-ready code.



Source Code Control system to keep track of all changes

Automated Build procedure to generate delivery artifacts

Automated Testing to ensure your software is working as you expect it with every change/build

Automated Delivery procedure to reduce/remove costly manual steps

Aras DevOps

Standard Development
Environment (SDE)



Projects/Boards



Git Repository



Pipelines



Test Automation
Framework



Environment



Continuous
delivery of
certified builds
to these
environments



**Supports seamless and low
risk production deployment**

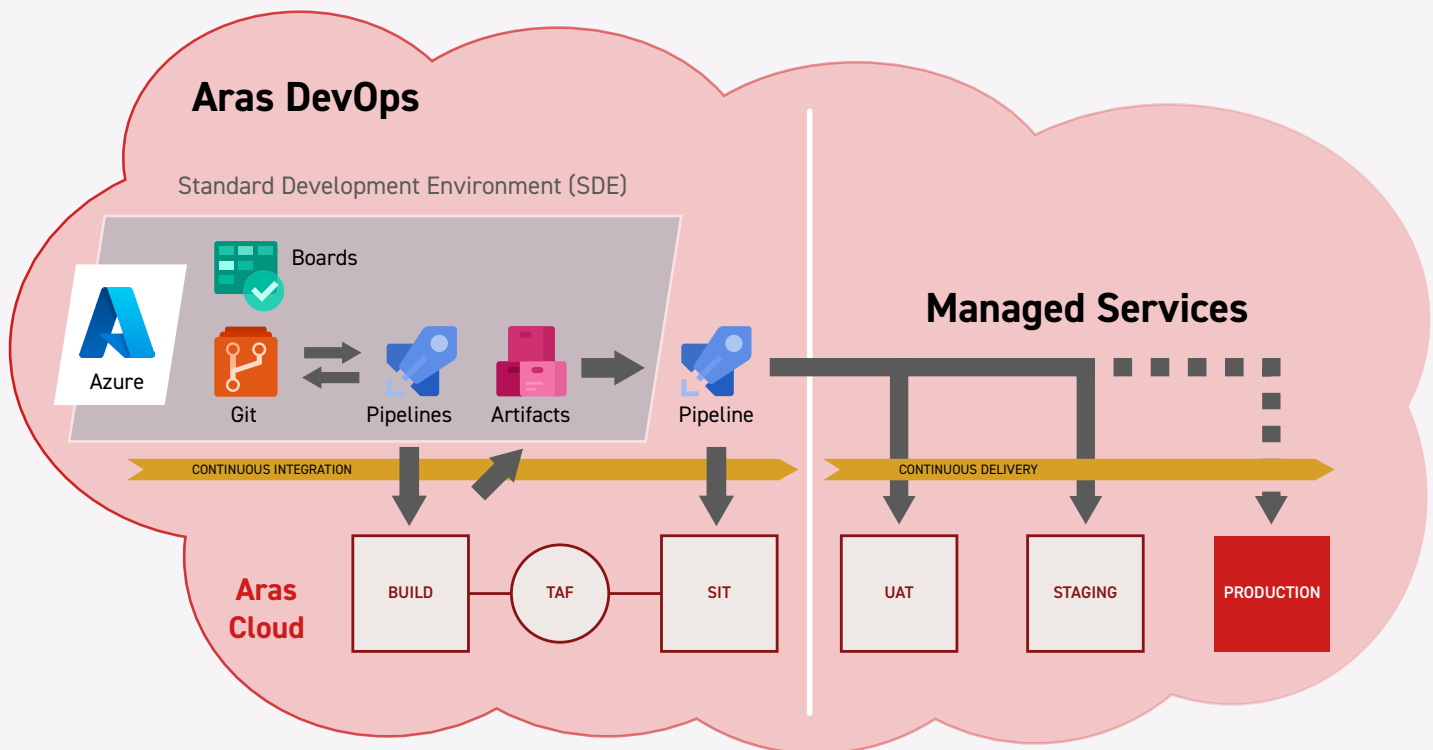
WHAT DOES ARAS DEVOPS DELIVER?

Aras has been operating within a DevOps culture for many years. We utilize collaborative internal processes and leverage contemporary software to optimize our Aras Innovator software development process. This framework has allowed Aras to maintain an aggressive deployment schedule and minimize our time to market.

To help companies achieve the same level of efficiency as our own DevOps culture, **we provide the Aras DevOps framework as part of our [Aras Innovator SaaS](#) offering.** The use of Aras DevOps positions companies to adopt a DevOps culture and drastically improve their system development process.

We understand that our large, complex customers require the capability to sustainably customize their PLM system, and this will necessitate disciplined processes to manage their development efforts. Unlike other PLM SaaS offerings, we encourage our customers to customize our applications to meet their specific requirements, and we provide the resilient platform and DevOps framework to enable it.

Regardless of the type of subscription the subscriber has, the continuous integration component of Aras DevOps supporting the build, automated testing, and QA process is deployed by Aras on the Aras Cloud. Customers will utilize the Standard Development Environment (SDE) leveraging Azure tools to manage the code base, pipelines, and artifacts. For Aras Innovator SaaS and Standard subscribers utilizing Aras Managed Services, the Aras team will also manage the continuous delivery part of the process. Companies subscribing to the Standard Edition, but not utilizing Aras Managed Services, will be responsible for managing the delivery process.



Part of an all-inclusive CI/CD process within the same Aras Cloud environment, in Azure.

ARAS DEVOPS FOR ARAS INNOVATOR SAAS

For Aras Innovator SaaS customers, Aras DevOps delivers a turnkey, continuous integration environment, that is entirely hosted and supported by Aras on the Aras Cloud. There are no setup tasks for the customer. Once the dedicated environment is established, users will access their Aras DevOps environment through a web browser.

The environment consists of the Standard Development Environment (SDE) utilizing Azure products, environments to support the pipeline process, and Aras' Test Automation Framework (TAF). Customers and their development partners have access to the SDE as part of the continuous integration component in the DevOps framework. The Aras Global Cloud Services team will be the only people accessing the continuous delivery part of the process as dictated by the managed services agreement. This process ensures that the development work follows a structured and disciplined methodology through all phases of the process.

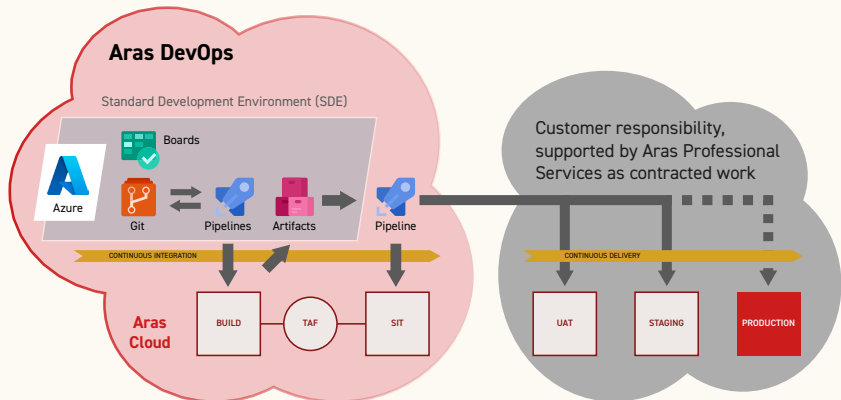
ARAS DEVOPS FOR THE STANDARD EDITION

Aras DevOps is also available to Standard Edition subscribers. For these customers, the continuous integration component of the framework is the same as the Aras Innovator SaaS subscription as described above. The software and the processes are the same.

Since different customers have different requirements for the continuous delivery part of the process, there are different configurations available to satisfy those needs. Examples of these configurations take into account who will be managing the deployment and the location of the production system.

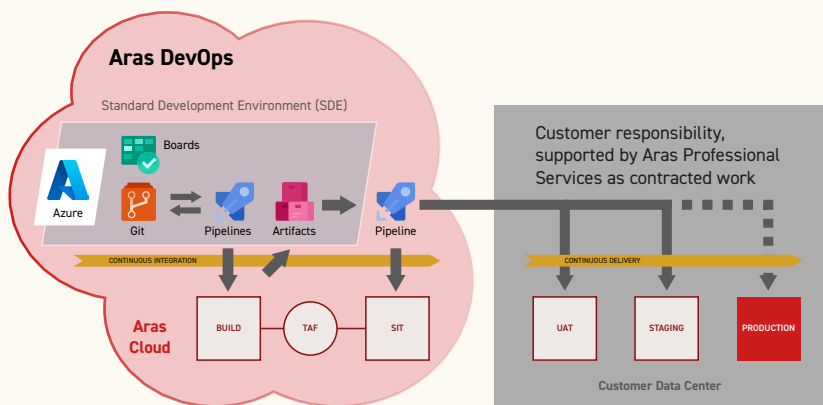
Aras DevOps in Standard Subscription (Cloud)

CD is in a customer cloud instance.



Aras DevOps in Standard Subscription (On-Premise)

CD is in a customer on-premise data center.

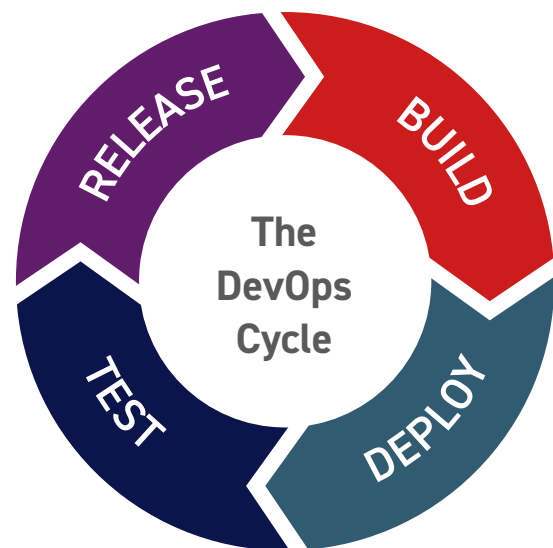


KEEP PACE WITH CHANGE WITH ARAS DEVOPS

One of the most important features of any enterprise platform is for the system to support resiliency. Being able to meet new and unexpected requirements over time, as business needs evolve, is critical for the long-term value of the investment. The issue with most PLM SaaS offerings is that they have limited ability to customize and build new applications, forcing customers to wait until new functionality is available. **Aras Innovator SaaS is different.** We expect and encourage customers to customize the applications to meet their unique needs immediately—even in a SaaS environment. To support these customizations, we provide the Aras DevOps product as part of the Aras Innovator SaaS subscription. Aras DevOps creates disciplined processes ensuring maximum speed and quality is built right into the development process.

When using Aras DevOps as part of Aras Innovator SaaS, customers achieve benefits in several ways:

- Automated testing using Aras' Test Automation Framework (TAF)
 - Critical business users spend less time testing and re-testing application changes
 - Standard test scripts are provided by Aras to identify issues early in the process
 - Cost of test automation software included with subscription
- Managed Services reduces internal IT responsibilities
 - IT workload to create and manage the Standard Development Environments is moved to Aras as part of the subscription
 - IT workload to create and manage testing environments is moved to Aras as part of the subscription
 - Reduce the number of internal, highly-technical resources minimizing recruitment and training
- Process improvement
 - Improved quality through automated testing
 - Improved speed to market with automated processes through the pipeline
 - Disciplined processes for code base management and deployments
 - Procurement of all related software and infrastructure included with Aras Innovator SaaS Subscription





Aras provides the most powerful low-code platform with applications to design, build, and operate complex products. Our technology enables the rapid delivery of flexible, upgradeable solutions that build business resilience. Aras' platform and product lifecycle management applications connect users in all disciplines and functions to critical product data and processes across the lifecycle and throughout the extended supply chain. Airbus, Audi, DENSO, Honda, Kawasaki, Microsoft, Mitsubishi, and Nissan are using the platform to manage complex change and traceability. Visit www.aras.com to learn more and follow us on Twitter and LinkedIn.

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