In today’s competitive marketplace, successful companies delight their customers with innovative digital capabilities and applications. Agile practices and DevOps culture are breaking down traditional silos, allowing organizations to reach heightened levels of collaboration and efficiency. New functionality is delivered in hours or days, not weeks or months. Continuous delivery—which increases release volume, velocity and quality—is the chosen methodology. Application release automation (ARA) solutions provide the transformative toolset to achieve those DevOps and continuous delivery goals.

Where are you in your continuous delivery journey? Maybe you’re early on the maturity curve, with some automation of tasks in disconnected teams. Or maybe you’re further along, at the point of optimizing the toolchain in the ongoing effort of continuous improvement. Typically, companies realize that automated deployment and release management (typically provided in the form of ARA solutions) are critical steps to advance an ongoing DevOps and continuous delivery journey.

An enterprise-scale ARA solution will provide the functionality you need to move forward to achieve the competitive advantage, ROI, cost reduction and streamlined application delivery that continuous delivery provides.
Continuous Delivery Needs Some Definition

There is a lot of confusion in terminology in the continuous delivery and ARA space, so let’s begin with some definitions.

**Code pipelines** (also referred to as release pipelines) represent the workflow associated with the deployment of code or an application from deployment through production.

**Application release automation (ARA)** refers to the process of packaging and deploying an application, or update of an application, from development across various environments and ultimately to production. ARA solutions combine the capabilities of deployment automation with environment modeling and release orchestration to provide the repeatable, auditable functionality to package, deploy and orchestrate multiple, concurrent applications between multiple teams in various stages across multiplatform environments throughout the application release toolchain. ARA solutions are key to supporting continuous delivery at enterprise scale.

**Continuous delivery** is the ability to get changes of all types—including new features, configuration changes, bug fixes and experiments—into production, safely and quickly in a sustainable way. Instrumental in transforming culture, processes and tools, continuous delivery encompasses the notion of accelerating feedback loops across the application lifecycle to make informed decisions and continually improve processes and teams. By coordinating teams across the application lifecycle in scalable, repeatable, model-based processes, organizations can realize dramatic results, including ROIs of almost 400 percent, a 98 percent reduction in errors, and 20x improved deployments. Whereas continuous delivery is a methodology, ARA solutions provide the toolset to support the practice.
To support your continuous delivery objectives, your chosen ARA solution must deliver in five critical areas:

**Standardized automation of the entire toolchain**
End-to-end automation is key to realizing the transformative benefits of continuous delivery. Tools that support only part of the application delivery chain reinforce departmental silos and limit productivity because they necessitate manual/sequential handoffs between teams, lack cross-team coordination and visibility and don’t provide for standardization of tools and processes. In addition, disjointed toolsets do not support the comprehensive analytics that help organizations identify bottlenecks and opportunities for release cycle optimization.

**Environment modeling and management**
ARA solutions must be able to maintain and manage not only what is deployed but where it is deployed. This includes integrating with your existing infrastructure provisioning and configuration tools to ensure those environments—whether on-premises, cloud-based or combination—are properly provisioned and configured. This functionality is important for end-to-end automation.

**Release planning and orchestration**
Imagine a typical enterprise with multiple teams spread throughout the world, managing hundreds of complex applications deployed in environments ranging from mainframe to mobile, with thousands of releases per year. Even more, these releases are running concurrently, in disparate stages with specific dependencies, and relying on the same resources. Release managers must orchestrate all of these demands—and fit releases into available maintenance windows. The complexity is immense.

Organizations need a platform to define, manage and coordinate hundreds of complex release pipelines. This platform should abstract the release artifacts (the what) from the deployment logic (the how) and the environments (the where) in order to provide a consistent, repeatable and auditable push-button release process. It must also take into account the who (applying role-based governance) and the when (managing dependencies and conflicts).

A dashboard with real-time metrics and robust reports with historical analytics provides the data to identify bottlenecks, spot additional adoption opportunities and select areas for continuous improvement. Without this coordination, it’s easy to see how disconnected teams and disjointed processes can lead to inefficiencies and errors.

What Should You Look for in an ARA Solution?

“**The automation of the development, test, and release processes has a profound impact on the speed, quality, and cost of releasing software.**”

—Jez Humble and David Farley, “Continuous Delivery”
Customizable content: depth and breadth of integrations
The ideal ARA solution provides a complete, single vendor application toolchain with the option of using out-of-the-box integrations for specific tasks. An open, integrated ARA architecture provides the utmost flexibility and adaptability when implementing an end-to-end, continuous delivery toolchain: speeding implementation and time-to-value, while providing flexibility and choice. These integrations, which should be robust and fully functional out of the box, should also be easily customizable to meet an individual organization’s requirements.

Vendor expertise in DevOps, agile and continuous delivery
While the benefits of ARA solutions are huge, continuous delivery depends on a transformation in culture, processes and tools across the application delivery toolchain. Organizations need a trusted advisor with a solid track record of helping organizations transition to DevOps methodologies by providing experience, best practices and world-class products that fit organizational needs. Not every continuous delivery journey is the same, but each will have challenges. Ensure your vendor can help you speed adoption and achieve the expected results.

Surveying the ARA Component Landscape

Many vendors claim to support continuous delivery, and while they do support some aspects of the application toolchain, many lack comprehensive ARA solution functionality.

Continuous integration (CI)/continuous configuration automation (CCA) tools
These tools have traditionally focused on a specific phase of the pipeline such as build or infrastructure management, and are very well-suited for their intended use cases. Several of these vendors have introduced extended capabilities to support simple release automation/code pipeline use cases but still lack end-to-end continuous delivery functionality.

Pros

• Well-suited for intended use cases (build, infrastructure automation, etc.)
• Simple pipeline functionality is suitable for companies with a very small number of applications, few team members and minimal complexity
Cons

- Not intended for use across entire continuous delivery toolchain
- No visibility across multiple releases
- Lack key ARA solution features such as multirelease coordination, calendaring, analytics
- Developer-focused: can impede adoption of DevOps by excluding other teams
- High level of complexity; difficult to set up and maintain

**PaaS, IaaS cloud deployment code pipelines**

A handful of PaaS and IaaS vendors have built code pipeline functionality, allowing dev teams to automatically check in and deploy code to the vendor’s cloud platform. These tools are use-case optimized, and may be suited for organizations with a few applications and all their environments at one cloud vendor. However, these solutions are unlikely to serve most enterprise organizations, which typically have applications running in multiple environments with hundreds of concurrent and complex release cycles.

Pros

- Optimized for developers, the specific vendor and the cloud
- Will have key (if somewhat limited) toolchain integrations
- Modern, simple UIs
- Often free, provided as a value-add by the vendor

Cons

- Only applicable to cloud deployments
- Vendor-specific
- Difficult to change vendors, will require ramp-up time
- Designed for use by one team; lacks separation of duties
- Focus in on the deployment pipeline (velocity), rather than on application lifecycle (planning, audit, continuous improvement, eliminating silos, feedback loops, etc.)
ARA solutions
While many vendors offer automation of some of the tasks in an application delivery pipeline, only a purpose-built ARA solution will provide enterprise-scale release automation and orchestration across all teams and environments. End-to-end orchestration and visibility is key to achieve velocity and volume while improving quality and reducing risk.

Pros
• Provides full set of enterprise-level features for continuous delivery
• Supports multiple teams, delivers common platform for collaboration and enforces roles
• Tracks release content throughout the release process
• Multiplatform: on-premises, cloud, mainframe
• Standardizes tools and processes—connecting into the full toolchain for end-to-end orchestration, including application lifecycle management, continuous integration, testing, configuration management and change management

Cons
• Requires culture shift to standardize around common processes and toolset
• Vendor messaging can be confusing and some vendors over-promise; ensure your vendor can deliver on their vision

CA Release Automation provides the full suite of ARA solution capabilities as part of the comprehensive, integrated and open CA continuous delivery ecosystem. With CA Release Automation, operations teams can focus on releasing via agile practices without compromising compliance and stability. Development teams can focus on application innovation instead of script maintenance and troubleshooting deployments. And release managers can focus on managing an agile pipeline with added visibility and insights. With CA Release Automation, companies can potentially realize an ROI of 389% within 2.8 months.5

Ranked a Leader by Gartner in the 2016 ARA Magic Quadrant, CA Release Automation is a market leader with a proven track record of customer successes.

“With CA Release Automation, we can deliver outstanding quality, customer service, and software solutions to our customers while optimizing resources and reducing overall budgetary requirements.”

—Mandi Haas, Director, Molina Medicaid Solutions
Value of CA Release Automation to IT Organization

Customer Feedback

- Significantly speed up release cycles: 67%
- Able to reliably release applications on demand: 63%
- Improved visibility, consistency, and reliability of release processes across the pipeline: 58%
- Efficiently manage deployment environments and dependencies: 56%
- Reduced or eliminated downtime: 56%
- Increased volume of releases: 53%
- Improved collaboration and accountability between the Development and Operations teams: 37%
- Ability to easily integrate with existing environment and tools: 35%
- Get customer feedback faster: 19%


To find out about the potential financial benefits CA Release Automation can bring to your organization, use our Estimated Benefits Calculator.

Read about customers who are realizing continuous delivery results with CA Release Automation.

CA Technologies (NASDAQ: CA) creates software that fuels transformation for companies and enables them to seize the opportunities of the application economy. Software is at the heart of every business, in every industry. From planning to development to management and security, CA is working with companies worldwide to change the way we live, transact and communicate—across mobile, private and public cloud, distributed and mainframe environments. Learn more at ca.com.

1 https://en.wikipedia.org/wiki/Application_release_automation#cite_note-1
2 https://continuousdelivery.com/
4 Colin Fletcher; David Paul Williams; Laurie F. Wurster, Gartner, Inc., “Magic Quadrant for Application Release Automation,” Aug 1 2016
5 Ibid

Figure A.
TechValidate, Survey of 43 users of CA Release Automation, Aug 9, 2016, TVID 303-2A6-336