

Market Guide for Application Release Automation Solutions

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Growing demand for faster and even continuous delivery of new and better applications is driving investment in ARA solutions that reduce friction across the entire application development life cycle. Prioritizing automation, environment management and release coordination needs is imperative.

Key Findings

- Release coordination has rapidly become a critical capability of application release automation (ARA) solutions as DevOps initiatives mature, grow and increasingly integrate with traditional operations release processes.
- ARA solutions continue to be evaluated and acquired by a wide variety of buyers, resulting in continued entry and exit of products and vendors in search of underserved segments.
- Most ARA implementations continue to be tactical or project-related (versus strategic).
- ARA solutions are among the first automation tools selected and implemented in a strategic DevOps project.

Recommendations

- Prioritize automation, environment management and release coordination capabilities based on an assessment of your current and planned deployment processes.
- Evaluate solutions from smaller, independent vendors as well as those from large IT operations management (ITOM) software vendors to compare best-of-breed innovation with broader DevOps tool portfolios.
- Require time-to-value requirements of three months or less in vendor evaluation.
- Require use-case-oriented proofs of concept (POCs) and active customer references.

Strategic Planning Assumption

By 2018, 50% of global enterprises will implement application release automation as part of a DevOps initiative, up from less than 10% today.

Market Definition

Driven by growing business demands for rapid (if not continuous) delivery of new applications, features and updates, enterprise infrastructure and operations (I&O) leaders invest in ARA solutions to simultaneously improve both the quality and the velocity of application releases. ARA solutions reduce friction across the entire application development (AD) life cycle by codifying best practices in consistently moving together related artifacts, applications, configurations and even data. To do so, ARA solutions provide a combination of automation, environment modeling and release coordination capabilities (see Glossary Terms section).

While these tools play a critical role in enabling the DevOps goal of achieving continuous delivery with large numbers of highly automated, rapid, small releases, they also are used to enhance agile development initiatives and serve as the foundation of a release management practice that spans both development and operations teams.

ARA solutions are provided by a growing number of vendors large and small, supported by a similarly growing and evolving ecosystem of continuous configuration automation (CCA), software infrastructure and application development vendors.

Market Direction

Demand for new applications and features delivered at an increasingly faster pace to support business agility will continue to drive investment in DevOps initiatives for the foreseeable future (see "Market Trends: DevOps — Not a Market, but a Tool-Centric Philosophy That Supports a Continuous Delivery Value Chain"). In particular, DevOps-ready (ARA and CCA) tools are recognized as providing the capabilities required to manage the application release process consistently (in the form of a "minimally viable process") across the entire life cycle, without introducing additional speed-killing complexity.

In re-examining all activities associated with a particular applications' release, many teams find a reliance on inconsistent and often manual methods in all stages (build, test/quality assurance [QA], preproduction and production), spanning code, environments and infrastructure. These efforts can be led by operations, development or combined DevOps teams, so prioritizing where to start a release initiative and, consequently, what specifically to evaluate can vary significantly by enterprise. Therefore, ARA vendors are adding more capabilities and specific integrations to accommodate the three most common, key evaluation requirements: automation, environment modeling and release coordination.

The solutions are typically targeted to replace and/or incorporate a combination of manual processes, homegrown scripts, CCA tools, and overextended build/continuous integration systems.

The agility and quality benefits of ARA solutions become increasingly obvious as DevOps initiatives scale beyond a handful of applications. The tools themselves have reached adequate maturity to support the code movement and environmental management of very large implementations (hundreds of applications across thousands of infrastructure elements). However, tools vary greatly in approach. Innovation from vendors is still needed for aspects of release coordination (interdependencies, capacity and performance planning, communications, and so on) at scale.

ARA solutions continue to arrive as new, organic offerings and as extensions of existing product offerings by both new and established vendors. Acquisitions of ARA and adjacent ecosystem technologies are expected to continue in response to emerging technology adoption (containerization and other isolation technologies), increased investment in automation technologies and evolving customer needs.

Market Analysis

The tumultuous and transformative nature of enterprise adoption of DevOps has, unsurprisingly, resulted in multiple buying centers for ARA solutions. Over the past five years, small startups have emerged that focused on core Java and .NET automation functions. Many of these startups were later acquired by large vendors. Postacquisition, we are seeing new functionality added to the acquired products. This progress, however, is balanced by the usual stumbling blocks associated with integrating the acquired teams and technologies, impacting the rate of innovation and quality of client attentiveness that previously made them stand out. There are, of course, resulting advantages for clients seeking most of their toolchain components from a single strategic vendor. This approach to tool sourcing, however, is contrary to the promise of a DevOps toolchain philosophy, where tools from any vendors can be plugged together to form the continuous integration/continuous delivery (CI/CD) toolchain.

The ARA solutions market is segmented into the following three categories:

- Established and active vendors
- Evolving vendors
- Emerging vendors

Established and active vendors include those (CA Technologies, IBM) that have, for the most part, successfully integrated acquired companies and continue to visibly compete in the market. Also included in this segment are vendors (Automic, XebiaLabs) remaining independent that have also enhanced and added environment management and release coordination in response to demands for best-of-breed ARA solutions designed to support continuous delivery pipelines.

During the same period, organic product development, acquisition and business integration success have also been inconsistent with some *evolving* vendors that have re-entered the market by replacing previous ARA offerings, sometimes multiple times, with effectively "new" products, product combinations, capabilities and brands (BMC Software, Electric Cloud, HP, Serena and VMware). Others have been weathering transitional business activities including financial, leadership

and organizational restructuring that have naturally and notably affected market visibility (BMC Software, MidVision).

Of increasing interest are the *emerging* vendors who are addressing underserved ARA buyer needs directly (Clarive Software, Inedo) via alternative channels and product strategy.

The market continues to expand, with players from adjacent markets, such as application development and automation (see Note 1 for sample vendors), sometimes found in the mix of shortlists due to extensibility of their tools to address application release, typically via custom scripting functionality. Most prominent in this use case are some specific continuous configuration automation tools (see Note 2). Due to the pace of change in this market, even vendors in adjacent markets may be relevant for evaluation, but should be viewed with caution until reference clients can demonstrate production adoption.

Representative Vendors

The vendors listed in this Market Guide do not imply an exhaustive list. This section is intended to provide more understanding of the market and its offerings.

Established and Active ARA Solution Vendors

Automic

Automic provides a number of automation (workload, IT process automation, ARA) and network (network performance monitoring and diagnostics [NPMD], WAN optimization) solutions. Automic's ARA solution is composed of an automation engine, deployment manager, agents and application management database. While the ARA solution can be and has been adopted independently by some enterprises, the majority of client adoption to date has been as an add-on to existing Automic Automation Engine implementations. The licensing of Automic's solution is based on the number of automation engines required and deployment targets.

Highlights

- Automic's mature Automation Engine serves as a strong foundation for the ARA solution.
- New calendaring views, environment reservations, load-balancer integrations, and container and cloud provisioning support are additions in-line with evolving market demands.

Considerations

- Gartner clients report that implementation services will likely be needed and should be planned for.
- Leverage of existing automation engine deployments can vary based on current capacity and customization, so particular scrutiny should be given to proposed architectures.

CA Technologies

CA Technologies entered the ARA market via its acquisition of Nolio in 2013, adding to its much larger portfolio of IT operations management offerings. CA's ARA solution, named CA Release Automation, comprises a management server, repository, execution server(s) and agents. The licensing of CA's solution is based on the number of managed systems.

Highlights

- CA's operations-friendly user interface (UI) and large library of included content (actions and templates) continue to be a frequently cited positive attribute evaluated by clients.
- CA has recently incorporated needed scalability, performance, artifact repository and planning enhancements.

Considerations

- Gartner clients report challenges in getting adequate and appropriate support during solution evaluation.
- Release coordination capabilities are frequently supplemented through integration with service desk or other release management tools.

IBM

IBM officially entered the ARA market with its acquisition of UrbanCode in 2013. Prior to that, it attempted to adapt other AD solutions for ARA with limited success. The IBM solution is the combination of the UrbanCode Deploy and UrbanCode Release products. The solution is composed of a management server and database instance (inclusive of repository, Web server and plug-ins) for each product, and agents. IBM offers multiple licensing options, including management server/agent perpetual models and consumption-based pricing.

Highlights

- IBM's pipeline-oriented workflow UI and tight integration of the Deploy and Release products continue to be frequently cited positive attributes by Gartner clients.
- Recently added configuration management, enterprise release calendaring, Docker support and support for z/OS (mainframe) deployment scenarios provide additional differentiation.

Considerations

- While UrbanCode technology is a component of the company's IBM Bluemix DevOps Services SaaS offering, they are, in fact, separate products and should be evaluated independently.
- Ensure that IBM's support for public cloud resources matches your current and future needs.

XebiaLabs

XebiaLabs was one of the first ARA solution vendors, making an early name for itself with its uniquely agentless approach to managing deployments and its significant support of both Java and .NET applications. The XebiaLabs ARA solution is composed of two products: XL Deploy for automation and environment management and XL Release for release coordination capabilities. The XL Deploy product is licensed either on a per-application or per-managed-target basis, and the XL Release product is licensed by user.

Highlights

- Ease and speed of implementation due to agentless design are frequently cited by Gartner clients as key positive attributes.
- The XL Release product's modern UI and project planning orientation are useful for customers looking to start their ARA initiatives with release coordination.

Considerations

- Clients experience more complexity when deployments change significantly, requiring redeploying to the targets.
- The solution's model-driven approach may not appeal to those looking to drive deployments via a workflow paradigm.

Evolving ARA Solution Vendors

BMC Software

BMC Software was one of the first entrants into the ARA market, through its initial extension of its BMC Server Automation for .NET deployment capability and purchase of Phurnace Software to address Java-based applications. BMC later acquired StreamStep and VaraLogix, which now form the core of BMC's current ARA solution, BMC Release Lifecycle Management (RLM). RLM can be leveraged by and integrated with other BMC ITOM solutions, as well as with application development life cycle management (ADLM) tools.

Highlights

- BMC's RLM solutions offer mature release coordination capability.
- BMC's ARA solution integrates to its Cloud Lifecycle Management solution for full stack deployment (IaaS+ application) when complemented by its middleware automation solution.

Considerations

- To date, Gartner clients have experienced confusing messaging during evaluations and POCs.

- Clients report significantly higher pricing than competing solutions, in addition to a BladeLogic base licensing requirement.

Electric Cloud

Electric Cloud was an early ARA solution vendor building on its build/test acceleration heritage with its ElectricCommander product, which now serves as the foundation of the company's rearchitected current solution, ElectricFlow. The ElectricFlow solution includes an automation platform server with domain-specific capabilities to handle release and deployment automation, a Web server front end, shared database and agents. A built-in optional artifact repository is also included. The licensing of ElectricFlow is based on the number of management servers and deployment targets.

Highlights

- ElectricFlow's modern, mobile-centric, "cards"-based UI is a frequently cited positive attribute by Gartner clients.
- New wizards that simplify using cloud resources and a new ability to describe "process as code" are important improvements.

Considerations

- Release coordination and planning capabilities remain areas for enhancement. Some clients may require supplementation via service desk tool integration.
- While the platform supporting ElectricFlow is functionally mature, the user experience is new and evolving.

HP

HP entered the ARA market in 2010 with a free extension to its Server Automation solution, with Application Deployment Manager to provide basic modeling capabilities. In 2011, HP added the requirement of HP Operations Orchestration to provide scripted automation. In late 2012, HP introduced Continuous Delivery Automation, which offered a framework for building dynamic environment pipelines. HP's most recent and current ARA offering, Codar, was introduced in late 2014. It requires a physical or virtual management server, database and HP Operations Orchestration. Codar 1.0 is sold as a single solution (with multiple components) with a perpetual license.

Highlights

- Codar has a capable UI for visual design of a declarative application model.
- Codar is built on a platform designed to be leveraged by HP's Cloud Service Automation solution for full-stack support.

Considerations

- Codar's release coordination capabilities are a recent addition.
- To date, Gartner clients considering Codar have found it lacking adequate out-of-the-box content to support common ARA use cases.

MidVision

MidVision, founded in 2008, is singularly focused on ARA solutions. Its RapidDeploy offering can be used independently or as part of a DevOps toolchain. The company acquired Crane, a container life cycle management technology, in 2Q15, and is in the process of integrating its Harbormaster microservices technology into the MidVision platform. The licensing of MidVision's product is based on the number of plug-ins and targets with enterprise licensing options that provide additional flexibility.

Highlights

- MidVision has added customers from several industries, building on a strong customer base and expertise in the financial and pharmaceutical industries.
- MidVision's RapidDeploy is a full-featured ARA solution that should be of particular interest to those with significant IBM WebSphere investments who are looking for a non-IBM alternative.

Considerations

- Out-of-the-box application coverage should be evaluated to ensure that it's a fit with client needs.
- The company has seen recent leadership changes.

Serena Software

Serena Software has been participating in the ARA market for over six years, first with a reselling partnership with Nolio (which was later acquired by CA), then with its own product released in 2012, which was built on top of a different ARA competitor's platform, enabling a faster time to market. The Serena ARA solution is named Serena Deployment Automation, and comprises a management server (inclusive of repository, Web server and plug-ins) for each product, shared database instance and agents. The licensing of the Serena solution is based on the number of management servers, agent endpoints and optional plug-ins.

Highlights

- Integration with other Serena offerings (application life cycle management [ALM] and business management) can prove valuable to existing Serena customers.
- Improved solution performance, new reporting and log-file-parsing capabilities are useful enhancements.

Considerations

- Despite generally well-received UI and solution design, expect to require at least some training and professional services for successful implementation.
- Serena has gone through a significant business transition in the last year, having been acquired by an investment firm (HGGC) in partnership with its founder.

VMware

VMware's initial offering to support ARA use cases was vFabric Application Director. It provided modeling and deployment capabilities for new applications. In late 2014, in addition to rebranding and bundling its cloud offerings under the vRealize moniker, VMware introduced a new solution for ARA, Code Stream. While it is tightly integrated to vRealize Automation (its rebranded cloud management platform), with shared models, blueprints and UI, it can run independently. vRealize Code Stream 1.0 is a virtual appliance, including PostgresDB and Artifactory instances. The latest version of the product has added support for NSX and OpenStack configuration as part of the flow, and integrations with their social collaboration tool, Socialcast. vRealize Code Stream is sold as a stand-alone offering.

Highlights

- Code Stream has a comprehensive integration to vRealize Automation (cloud management platform), providing full-stack automation.
- The product's UI intuitively spans the development and modeling of the environments of both new and existing applications.

Considerations

- Code Stream is a new product, therefore sufficient client validation was not possible.
- Code Stream is focused primarily on virtual and cloud environments.

Emerging ARA Solution Vendors

Clarive

Clarive is a new ARA market entrant. It differentiates itself by providing a platform leveraging MongoDB and Git that can either integrate with existing development tools via orchestration and API integration, or it can completely automate the application development life cycle. Clarive requires a Clarive Web server, MongoDB and Git servers in addition to a dispatching server. Endpoints can be managed via agents, agentless methods or Web services, depending on functionality required. Clarive 6.2 is available directly in on-premises and hosted models, as well as through distribution partners.

Highlights

- Clarive comes with Git and offers an intuitive UI. Early adopters have leveraged it for both DevOps (agile) application release automation as well as traditional deployment use cases (e.g., for SAP transports).
- Clarive has a built-in collaboration capability, including activity stream, forums and chat.

Considerations

- Clarive is headquartered in Spain and is just beginning its global expansion.
- Gartner clients have expressed concern about time and services required to implement the solution, particularly in large and complex initiatives where additional discovery and documentation may be required.

Inedo

Inedo is a new entrant into the ARA market. It combines build management and ARA capabilities into one solution. It can also be integrated across multiple repositories and tools. Inedo BuildMaster requires a management server to host both the Web application and database. Its node support is agent-based for Windows and agentless for Unix/Linux. Inedo's solutions are effectively in their third generation, but the current solution is known as version 4 (v4). The BuildMaster product is licensed on a "per team" (tiered quantities of user licenses), annual subscription basis, and is sold predominantly online.

Highlights

- Inedo has a simple, wizard-driven interface that enables quick and intuitive implementation.
- Gartner clients are using BuildMaster find it has strong support for .NET applications.

Considerations

- Inedo is a small, privately held company that is self-funded.
- The build tool market is mature, with most organizations having what they need, so current product branding and build capability may present as redundant.

Market Recommendations

Assess your application life cycle management maturity — specifically around your deployment processes — and seek tools that can help automate the implementation of these processes as they are now, and as you intend them to be across multiple development and operations teams and platforms. Processes for ARA are not, and are unlikely to become, highly standardized. Organizational and political issues remain significant and can't be addressed solely by a tool purchase. Additionally, the better understanding you have of your current workflows for application

release (especially if it is done manually), the easier the transition will be to an automated workflow, which will increase time to value for the tools.

Establish requirements for applications to narrow the scope of evaluation targets and to determine whether one tool or multiple tools will be required. Although most vendors provide a combination of automation, environment modeling and release coordination, the strengths, scope (application, platform and version support) and packaging of these respective capabilities vary significantly across vendors. While we expect this gap to continue to shrink, it is important to understand current support and future roadmaps.

Prioritize integrations with existing development and ITOM tooling (especially cloud infrastructure or cloud management platform tools) in product evaluation criteria, with an eye toward using these tools in your broader provisioning and configuration environment. Organizations that want to extend the application life cycle beyond development to production environments using a consistent application model should evaluate development tools with ARA features, or ARA point solutions that provide out-of-the-box integration with development tools.

Target short time-to-value requirements (three months or less), with significant ROI being measurable within a nine-month time frame. This is due to rapidly changing functional requirements and market dynamics that render planning for a 12-plus month ROI — a risky proposition.

Acronym Key and Glossary Terms

Automation	A set of customizable automation content (tasks, components and functions) that is intended to reduce the dependence on or, in many cases, eliminate homegrown scripts or manual efforts.
Environment Modeling	The ability to discover, create and maintain "models" of existing or planned environments composed of multiple application and infrastructure resources used or intended to support one or more application life cycle stages.
Release Coordination	Workflow engines that assist in documenting, automating, coordinating and tracking human activities across the various tasks associated with application deployment and governance. Supports planning and communication while enforcing segregation of duties.

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"Cool Vendors in DevOps, 2015"

"Cool Vendors in DevOps, 2014"

"To Avoid Costly Tool Mistakes, Understand Application Release Automation Market Dynamics"

"Know the Application Release Automation Vendor Landscape to Shortlist the Best Vendors for Your Organization"

"Market Trends: DevOps — Not a Market, but a Tool-Centric Philosophy That Supports a Continuous Delivery Value Chain"

"Know the I&O Automation Tool Categories to Drive Efficiency Across Your Data Center and Cloud"

"Web-Scale IT Is Closer Than You Might Think"

"Predicts 2015: Application Development"

"Improve Release Management Effectiveness by Linking to Other Key IT Operations Processes"

"Seven Steps to Start Your DevOps Initiative"

Evidence

Data for this research was drawn from approximately 100 client inquiries taken over the past six months.

Note 1 Adjacent Markets

Application Development Vendors

Atlassian

CollabNet

Microsoft

OpenMake Software

ThoughtWorks

Automation Vendors

Continuous Configuration Automation:

Ansible

CFEngine

Chef

Puppet Labs

Salt

Release Coordination:

Agenor (ICEFLO)

Plutora

Note 2 Continuous Configuration Automation Tools

Ansible — Ansible is the latest open-source configuration automation solution to actively market a commercial management offering, Ansible Tower, in addition to offering paid support options. Its primary differentiators from its competitors in CCA are its ease of use and agentless architecture.

Chef — While the dominant use case for Chef is infrastructure provisioning and configuration, it is also used for provisioning application servers and middleware binaries. Chef has strong visibility in DevOps projects and therefore has a natural extensibility to the ARA use case.

Puppet Labs — The primary use case for Gartner clients using Puppet Enterprise is infrastructure provisioning and configuration, with occasional use for provisioning application servers and middleware binaries. When used in this scenario (app servers, binaries and infrastructure provisioning/configuration), it is only recently being leveraged for application release primarily as an execution (versus orchestration) engine.

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