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Magic Quadrant for Application Release Automation

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Analyst(s): Colin Fletcher, David Paul Williams, Laurie F. Wurster

Enterprise I&O leaders looking to expand on hard-won agility gains from DevOps and other automation initiatives find that application release automation solutions provide the right mix of task automation, environment modeling and coordination capabilities.

Strategic Planning Assumption

By 2020, 50% of global enterprises will have implemented at least one application release automation solution, up from less than 10% today.

Market Definition/Description

Application release automation (ARA) tools enable best practices in moving application-related artifacts, applications, configurations and even data together across the application life cycle. To do so, ARA tools provide a combination of automation, environment modeling and release coordination capabilities to simultaneously improve the quality and velocity of application releases. These tools are a key part of enabling the DevOps goal of achieving continuous delivery with large numbers of rapid, small releases.

Approximately six years old, the ARA solution market reached an estimated $219.7 million in 2015, up from just $20 million in 2010. The market is currently expected to grow at an estimated 20% compound annual growth rate (CAGR) through 2020. This growth, in part, represents continued investment in DevOps initiatives as ARA solutions continue to be sought after by enterprises looking to expand on their hard-won agility gains without forcing instantaneous companywide transformation (see Note 1).

Magic Quadrant

Figure 1. Magic Quadrant for Application Release Automation

Source: Gartner (August 2016)

Vendor Strengths and Cautions

Automic

Founded in 1985, Automic (formerly UC4) is a privately held company with headquarters in Bellevue, Washington, and Vienna, Austria. Building on its job scheduling and workload broker

portfolio, Automic entered the release automation space in 2012 with the acquisition of Ventum Solutions. The addition of Ventum's products allowed Automic to create an ARA product and form a business unit focused on DevOps. Automic has successfully navigated the automation market for over 30 years with over 600 employees worldwide and a large customer base.

Automic's ARA product, Automic Release Automation 11.2, is built on the Automic automation platform, which is composed of an automation engine, deployment manager, agents and application management database. While the ARA solution can be acquired and adopted independently, to date, the majority of client adoption has been as an add-on to existing Automic implementations. The licensing of Automic's solution is based on the number of automation engines and deployment targets required.

The Automic Release Automation product continues to be enhanced, with the latest release providing rapid installation, single sign-on, single role-based user interface (UI) and a number of integrations with other DevOps toolchain products. Automic also offers a multitenant cloud-based sandbox, giving prospective customers the opportunity to preview what's possible with Automic's application release, workload automation and service orchestration capabilities. To support customers' realization of automation value, Automic has developed an implementation methodology, the Automic blueprint, delivered through consulting services and a DevOps maturity assessment to help its clients assess current state and plan a progress path. Automic's ARA support of commercial off-the-shelf (COTS) applications has been an effective differentiator for the company to date.

Automic's ARA revenue is estimated to be between $10 and $25 million per year.

Strengths

- Automic's mature Automation Engine serves as a reliable foundation for the ARA solution.
- Calendaring views, environment reservations, load balancer integrations, and container and cloud provisioning support are additions in-line with evolving market demands, supported by a continuous monthly delivery of content and plug-ins.
- Automic offers support for COTS applications.

Cautions

- Implementation services will likely be needed and should be planned for, given client experience.
- Automic's solution complexity makes it unsuitable for smaller organizations' simpler ARA needs.
- Leverage of existing automation engine deployments requires extra consideration, so particular scrutiny should be given to proposed architectures.

BMC

Founded in 1980, BMC is a privately held company headquartered in Houston, Texas. The company was one of the first ARA market entrants in 2010 with the first of what would become three acquisitions — Phurnace Software, followed by StreamStep and VaraLogix, the latter two of which comprise BMC's current ARA offering. BMC is a large IT operations management (ITOM) software vendor offering several solutions aimed at different markets, but is best-known for its IT service desk and IT automation products. The company has historically focused on IT operations buyers and their challenges.

With the latest release (v.4.8) of its ARA solution, Release Lifecycle Management, BMC focused on adding features critical to broader enterprise adoption. Specifically, v.4.8 adds multiple language support for automations, a capability key to diverse teams' productivity. This release also added support for deploying Docker containers, whose use continues to grow in DevOps initiatives. While the company's addition of Docker support is an important addition, more work is needed to extend the solution's ability to address modern, cloud-first, microservice-based application architectures. The company also needs to improve UI consistency across the solution, particularly as it looks to build on its combined use with other BMC solutions, such as Cloud Lifecycle Management.

BMC primarily markets and sells its solutions directly via a global sales force. This direct-selling emphasis supports larger, multiple product agreements where the ARA solution can be attached to adjacent tooling (such as IT service desk or cloud management platform). Unfortunately, this approach is problematic in a market initially shaped and strongly influenced by application developers, whose purchasing patterns are quite different. This go-to-market challenge is compounded by the company's ongoing transformation following its privatization in 2014, which resulted in ARA-associated DevOps visibility vanishing in Gartner ARA inquiries in subsequent years. The company will need to continue carefully calibrating its product and its marketing, selling and pricing strategies to balance maximizing its installed base opportunity while avoiding being shut out of emerging buying patterns.

BMC's ARA revenue is estimated to be between $1 and $5 million per year.

Strengths

- BMC's ARA solution's integrations with BMC BladeLogic Server Automation, Cloud Lifecycle Management and BMC Remedy IT service management (ITSM) make it attractive to operations teams looking to extend those tools to support DevOps initiatives.
- BMC's global customer base, spanning multiple operations disciplines, remains a significant selling opportunity for the ARA solution.
- Release Lifecycle Management's ability to restart and/or modify release steps during an in-process release is particularly useful for complex releases where a rollback is unfeasible.

Cautions

- Clients are advised to require production customer reference conversations in their evaluations.

- The evaluated BMC ARA solution's user experience is dated and inconsistent across its component products, hindering usability.
- Evaluation and purchasing options are limited to direct selling.

CA Technologies

Founded in 1976, CA Technologies is a publicly traded company headquartered in New York City. The company solidified its ARA offering with the acquisition of Nolio in April 2013, which developed one of the first ARA products released in 2006. CA Technologies is a large ITOM software vendor offering several solutions aimed at different markets. The company has historically focused on IT operations buyers and their challenges. However, it has been actively shifting investments to better address developer and DevOps market needs as well.

The major milestone of CA Release Automation v.6.0 was the delivery of CA Release Automation Continuous Delivery Edition (CDE), which provides advanced capabilities to help customers manage a complex and maturing continuous delivery pipeline. This edition provides a configurable, visual and strategic control point for managing, orchestrating and optimizing the pipeline. In the most recent release (v.6.1), the company focused on supporting export and import of shared components between different systems to improve collaboration between teams. In addition, plug-ins for both Atlassian Jira and CA Agile Central were released to allow users to associate user stories, features and defects with specific releases and deployments by environment. The July 2015 acquisition of Rally represents a significant increase in CA's capabilities for agile life cycle management tools. The resulting expectation would be a deeper integration between the two product sets that broaden the ARA offering to support continuous configuration, integration and quality, as well as delivery to hasten user time to value in future releases.

CA Technologies primarily uses a direct sales channel, but also maintains multiple technical, sales and integration partnerships.

CA Release Automation revenue is estimated to be between $10 and $25 million per year.

Strengths

- CA Technologies has a large existing global customer base — specifically in North America and Western Europe — coupled with strong brand equity as a software provider that creates a big upsell opportunity.
- CA Technologies' ARA product provides out-of-the-box support for the variety of vendors, platforms, middleware and operating systems likely needed by enterprise release teams.
- The ARA product has multiple, flexible deployment models, giving customers additional licensing flexibility to match changing business requirements.

Cautions

- User interfaces vary significantly across the products comprising the CA ARA solution.

- The company's ARA and Rally Software offerings are delivered via separate organizational units.
- Some of the UI do not emphasize the feedback capabilities available in the solution.

Clarive Software

Founded in 2010, Clarive Software is a privately owned company headquartered in Madrid, Spain. The company started as a consulting services company helping large telecommunications providers and financial institutions with application development life cycle management (ADLM) and change management transformation projects, where the challenges of skill, technology and methodology diversity at scale are keenly felt. Solely focused on providing a platform to support this type of transformation, Clarive has built a product designed to leverage existing investments in multiple forms of automation and service management.

The company has focused on enhancing the orchestration capabilities of the product with the release of Clarive v.6.4. In particular, the workflow engine has been extended to support the application of rules to any of the tool's constructs. Also, JavaScript has been added to the list of domain-specific languages (DSLs) that can be used to utilize the product's capabilities in a purely programmatic fashion. While the product's release coordination capabilities — particularly its dashboards — have improved in the latest release, further integration of more social and collaboration features is needed to reinforce the product's platform value going forward. The company also needs to make even more use of the product's "big data" underpinnings that are currently underutilized, but have the potential to inform the analysis and optimization of code development, release and operational performance.

In 2016, Clarive Software has expanded its geographical support through establishing new reseller partnerships across EMEA and in India. The company also recently opened a U.S. office in New York to capitalize on its experience in the financial services industry. While the company is relatively small, it is growing at a significant pace: approximately 100% year over year in both customer and revenue terms.

Clarive Software's ARA revenue is estimated to be between $1 and $5 million per year.

Strengths

- The product is designed to automate application releases spanning multiple generations of technology and supported by users with diverse skill sets.
- Big data underpinnings support future analytical demands of ARA solutions.
- Clarive's user experience is modern and extremely flexible.

Cautions

- The company is young and small, making it difficult to gain needed enterprise market awareness.

- The product's flexible, extensible platform architecture could lead to challenges in managing implementation "scope creep" and associated costs.
- The current product's collaboration capabilities (such as commenting and posting) are useful, but only within the tool itself, which limits their value.

Electric Cloud

Founded in 2002, Electric Cloud is a private company headquartered in San Jose, California. The company's ARA history began in 2012 with the release of ElectricDeploy. By 2014, Electric Cloud had added to and combined the capabilities of its developer workflow automation product ElectricCommander and ElectricDeploy into a single product built on the ElectricCommander platform, now known as ElectricFlow. ElectricFlow v.6.3, released in April 2016, is an ARA product designed to enable and simplify provisioning, build and release of multitiered applications in a model-driven way. The company targets large enterprises across all verticals where software is mission-critical (including financial services, retail, government, automotive and aerospace/defense).

The company is focused on supporting DevOps and continuous delivery processes. ElectricFlow v. 6.3 builds on driving release automation on a single platform, rather than as siloed products. The focus for the current release included scalability and performance improvements, artifact staging to reduce production maintenance windows, native rollback support for ease of authoring, manual steps with parameters to enforce compliance, and utility steps to promote faster time to value. The product is primarily delivered as an on-premises product, but is also available as a hosted solution via a partner.

In North America, Electric Cloud's sales and marketing model is direct, using territory development and inside sales representatives while leveraging partners for global reach. The company is putting more emphasis on its freemium offering (Community Edition) to broaden user adoption of small or midsize business (SMB) customers. Moving forward, the company needs to balance existing channel strategy as well as develop new routes to market through resellers, system integrators and large independent software vendor (ISV) OEMs.

Electric Cloud's ARA revenue is estimated to be between $10 and $25 million per year.

Strengths

- An easy-to-use interface accelerates team and application onboarding across multiple user types, while the solution's DSL can also be used to model and execute any object (e.g., application, environment, pipelines, processes and releases).
- Product enhancements and their cadence as well as client interactions demonstrate a strong ability to commit and deliver on customer needs and requests.
- The company has been able to build a diverse customer base emphasizing its offerings' competitive total cost of ownership.

Cautions

- Currently, no SaaS deployment option is available, although a hosted option is available from a partner.
- Plans to offer a freemium edition to capture broader adoption may require additional investments in inside sales and support teams that need to refocus efforts from qualified sales to assist with converting freemium users to paying customers.
- The company has limited presence (through channel partners) outside the North American and Western European markets, where the ARA solution will continue to see the highest level of competition.

IBM

IBM was founded in 1911 and is based in Armonk, New York. The company entered what would become the ARA market with the introduction of SmartCloud Continuous Delivery in 2012, which was then in turn followed by the acquisition of UrbanCode in 2013. Focused on addressing the application release challenges for the highly complex enterprise, the IBM solution is a combination of the UrbanCode Deploy and UrbanCode Release products. IBM is not alone in splitting deployment and release; however, a growing number of ARA tools combine these functions, so it is important to understand the ARA role IBM assigns to each tool. IBM UrbanCode Deploy orchestrates and automates the deployment of applications, middleware configurations and database changes into development, test and production environments. This tool offers self-service functionality to help teams to deploy either on demand or on a schedule. IBM UrbanCode Release manages the release of complex interdependent applications, infrastructure changes and simultaneous deployments of multiple applications. This tool provides the ability to plan, execute and track a release through each release stage. The solution comprises a management server and database instance (inclusive of repository, web server and plug-ins) for each product, and agents.

IBM continues to invest in its ARA solution, with a claimed four times the head-count resources originally acquired with UrbanCode. This investment is realized in the latest 6.2 release, which includes new integrations and plug-ins with tools, middleware, platforms and infrastructure components; relationship visualization to understand the application environment for complex deployments; blueprint design to aid in deployments into the cloud; and mobile access to allow users to view application release status while on the move. We find many clients adopt IBM UrbanCode Deploy and then include UrbanCode Release when ready, or if the additional management is needed to manage the application release sophistication.

Gartner client inquiry indicates that IBM's ARA solutions are most commonly sold to application support and application operations groups. Postacquisition, Gartner client inquiry indicates IBM UrbanCode solutions being frequently included in larger sales and renewals that include other IBM solutions.

IBM's ARA revenue is estimated to be greater than $25 million per year.

Strengths

- Performance, scalability, usability and management of the complexities of large enterprises are positive attributes cited by Gartner clients.
- Recently added configuration management, enterprise release calendaring, Docker support and support for z/OS (mainframe) deployment scenarios provide additional differentiation.
- Clients with a heavy investment in IBM software (e.g., WebSphere) and platforms (e.g., z/OS) will find the IBM UrbanCode solution particularly compelling, as the integration and support strategies are closely aligned to support and augment bigger IBM initiatives (e.g., IBM Bluemix and IBM Cloud).

Cautions

- IBM's UrbanCode continues to be positioned and leveraged to support bigger IBM initiatives. That directly impacts investment patterns and roadmaps, which we recommend regularly monitoring.
- IBM's UrbanCode capabilities are also offered as a peripheral component of the company's IBM Bluemix DevOps Services SaaS offering; however, these are separate products and should be evaluated independently.
- Compared with IBM's support for other cloud platforms and services (AWS, IBM SoftLayer, etc.), support for Microsoft Azure public cloud resources is a recent addition and should be evaluated to ensure proper fit to current and future needs.

Inedo

Inedo was founded in 2007 and has its headquarters in Berea, Ohio. It started as a custom software and development training company. In 2010, Inedo launched its BuildMaster. Understanding that application releases can be highly diverse with many unique attributes, Inedo developed BuildMaster to provide a framework to manage and integrate the different tools and components needed to support a delivery pipeline. It is a tool that exhibits attributes of a continuous configuration automation (CCA) tool (scripting language/toolkit-driven) and tools that provide a pipeline framework (drag-and-drop menus, workflows and orchestration). In the latest release of the BuildMaster product, the company focused on refreshing the user experience, enabling the definition of "pipelines as code," and enhanced the tool's execution engine.

BuildMaster is an ARA solution that is intuitive and does not require extensive training or professional installation. It achieves this through the creation of deployment models that are then used in a repeatable way. BuildMaster's deployment models can be deployed to any environment, removing the need for creating multiple custom deployments. BuildMaster supports the management of multiple release pipelines, which can consist of a single line of patched code or a sophisticated, layered application stack requiring multiple quality control checks, database changes and specific server configuration. BuildMaster has integrations with many tools (such as Jenkins, GitHub, Amazon Web Services [AWS], Team Foundation Server [TFS] and TeamCity) used to

support the build through the production pipeline, allowing it to both coordinate and execute the release activity.

Even though this analysis focuses on BuildMaster, Inedo provides other tools that address broader release capabilities, including ProGet for package management, and Otter for server configuration and infrastructure automation. Inedo sells BuildMaster directly from its website.

Inedo's ARA revenue is estimated to be between $1 and $5 million per year.

Strengths

- Inedo offers an easy-to-use alternative to several established ARA vendors' solutions.
- Inedo's ARA solution is cost-effective for SMBs.
- BuildMaster will appeal to IT organizations wanting greater involvement in the creation of the deployment model.

Cautions

- Inedo is a small company that is already competing with much larger vendors selling products specifically focused on ARA, and has recently started competing with well-established, open-source CCA vendors as well.
- The product is less-suited for large enterprises with highly complex applications requiring sophisticated workflows and massively parallel release scalability requirements.
- The company's Windows platform focus may limit enterprise appeal.

Micro Focus (Serena Software)

Founded in 1980 and headquartered in San Mateo, California, Serena Software is a fully owned subsidiary of Micro Focus as a result of the May 2016 acquisition of Spartacus Acquisition Holdings. Serena's 14-year history as a release management solution provider began with System z, and evolved to coordinate releases across both distributed and mainframe environments. It offered ARA solutions first through a reselling partnership with Nolio (which was later acquired by CA Technologies), then in 2012 with its own product, built using a combination of acquired and organically developed technologies. For 35 years, Serena has targeted large, highly regulated enterprises with software development life cycle tools.

The company focused on developing a new user interface and deployment pipeline management capabilities with the 2015 release of Serena Release Control and Deployment Automation (v.6.0), and persisted to simplify implementation, ease customer adoption and increase visibility into extended release processes. Client requests for enhancements and/or bug fixes were collected through a customer support portal and community forums, with the emphasis of the May 2016 (v. 6.1) update on customer experience improvements. While the revamping of the customer experience is an important move forward for Serena, a continued focus on integration into associated areas, such as project and portfolio management and IT service management, as well as

release-centric analytics, will provide users with a more holistic business view that supports both DevOps and digital transformation initiatives. Multiple delivery options indicate the company understands the market demand for flexibility.

Serena Software uses direct sales, and has also focused on building both technical and co-marketed partner relationships focused on ARA toolchain integrations. Serena also has strategic partners targeted by geographic region who recommend, co-sell and develop the solution architecture to reach a large diverse customer base. Serena is strategically poised to target existing application life cycle management (ALM) customers.

Serena Software's ARA revenue is estimated to be between $5 and $10 million per year.

Strengths

- Serena Software's ARA solution supports multiple deployment models.
- The solution clearly segregates process/human-centric activities from artifact interaction in a way that provides needed flexibility while maintaining audit visibility.
- The solution has a quality user interface coupled with a strong ability to commit and deliver on customer-requested enhancements.

Cautions

- Customer survey results indicate historical reporting and exporting capabilities could be improved.
- Some end users report that it is not easy to upgrade the product, and also find the annual maintenance fees less than satisfactory.
- The impact of Serena's recent acquisition by Micro Focus on product delivery and market execution is yet to be determined.

Microsoft

Founded in 1975, Microsoft is a public company headquartered in Redmond, Washington. The company entered the ARA market through its acquisition of a partner's business unit (InRelease, from InCycle) in 2013. Microsoft's ARA solution is now known as Visual Studio Release Management. Microsoft offers consumer and enterprise technology solutions spanning many markets, including application development and IT operations management.

In its latest releases, the company has focused on further integration (technical, pricing, packaging) with the Visual Studio and Team Foundation Server (TFS) offerings. In addition, the Release Management capabilities are now included as part of Visual Studio Team Services (VSTS) as a subscription and are accessed via a common UI. Microsoft also added a number of release coordination features that enterprises need to successfully manage complex releases. The company has worked to enhance the extensibility of the solutions' architecture in order to better address the

platform diversity needs of release automation. However, continued investment in broadening its support is needed.

In 2016, Microsoft continues its "cloud first, mobile first" transition with resulting investment shifts into supporting features and functions. Application development and DevOps play key roles in all facets of this transformation, which strongly values platform agnosticism, diversity and flexibility — attributes that the company is not colloquially known for, but is actively working to address. Success in doing so will only enhance the company's competitive position in the ARA market.

Microsoft's ARA revenue is estimated to be between $5 and $10 million per year.

Strengths

- Integration and interoperability with Visual Studio and Team Foundation Server on multiple levels make the solution attractive to enterprises and teams looking to extend the value of investments in those platforms.
- Microsoft's global ecosystem of products, platforms, services, partners and customers represents a powerful selling engine that is marketing to a massive potential customer base.
- Visual Studio Release Management's ability to be consumed in on-premises, SaaS and hybrid delivery models is appealing to enterprises looking for flexibility.

Cautions

- While the solution supports use with both Microsoft and third-party tools, the majority of its packaging options (as part of Visual Studio subscriptions, etc.) emphasize the value of using its capabilities within the Microsoft ecosystem.
- ARA solution capabilities are incorporated in offerings designed primarily around application developer needs, and may not appeal to IT operations specialists or their skill sets.
- Historical reporting capabilities are relatively weak.

MidVision

Founded in Europe in 2008, MidVision is a privately held company with its headquarters in London and New York City. MidVision is focused on selling tools and consulting services for application release automation. MidVision's ARA product, RapidDeploy, was released in 2010. It provides provisioning, deployment, release automation and a configuration management functionality. MidVision supplies tooling and consulting for the enablement of enterprise continuous delivery workflows, agile development practices, operations practices and cloud infrastructure hosting. RapidDeploy v.4.0 (released January 2016) focused on usage simplification, support for linked deployments, orchestration for specific environments and more plug-ins to tools that support the continuous delivery.

MidVision has experienced revenue growth in recent years by delivering RapidDeploy with flexible licensing options and good integration with third-party tools that support RapidDeploy in the

continual delivery pipeline (e.g., Docker). RapidDeploy can be downloaded for a 30- or 90-day trial period and used on-premises or hosted off-premises. MidVision continues to expand sales through an increase in indirect channels and expansion of direct sales in the U.S. MidVision's customer base is spread through a diverse range of industries that is continuously growing, including financial services, pharmaceutical, healthcare, insurance, government and retail.

MidVision continues to focus on and invest in ARA. However, its strategic decision making requires careful execution, as it will continue to face increased direct competition: from below from open source, and above from larger vendors with far greater investment potential.

MidVision's ARA revenue is estimated to be between $1 and $5 million per year.

Strengths

- MidVision's RapidDeploy has strong IBM WebSphere support, which should be of particular interest to those with significant IBM WebSphere investments who are looking for a non-IBM alternative.
- The broad range of adoption options available allows IT organizations to get a full-featured ARA solution at a cost for all budgets.
- MidVision has a strong customer base, and expertise in the financial and pharmaceutical industries.

Cautions

- Out-of-the-box application coverage may not fit all enterprise client needs, so these should be specifically evaluated.
- MidVision faces increasing competition from open source, development tools and operation tool vendors focused on automating the continuous delivery pipeline.
- MidVision has a limited presence outside Europe.

OpenMake Software

Founded in 1995, OpenMake Software is a privately held company headquartered in Chicago. While the company has offered an ARA product (currently known as Release Engineer) for the last five years, it is probably best-known for its initial offering, the build automation product Meister. With a heritage in building tools for developers, the company has been actively working to arm its customer base with capabilities that address the very real operational challenges associated with environment management and release coordination.

The company has focused on improving the breadth of its product in the latest release (v.7.6), driven by customer needs to manage more of the environmental aspects supporting multiple release pipelines. In particular, v.7.6 brings an important integration with Ansible, enabling the ability to deploy environmental infrastructure together. The latest release also importantly brought Lightweight Directory Access Protocol (LDAP) integration to leverage existing role and access policy definitions,

in addition to several other features. While the company's addition of Ansible integration is an important step forward, its continued focus on improving its integrations to other CCA tools and adding support for containers remains a strategic priority. The company also needs to address the demand for additional delivery options in future releases.

For most of its life, OpenMake has relied on partners (such as CA Technologies) to effectively market and sell its offerings. However, recent years have seen the company increase its direct selling capabilities in the U.S. and EMEA, while leveraging partners for global reach. The company will need to continue carefully managing this balance of channels, particularly as it introduces additional delivery options to market.

OpenMake's ARA revenue is estimated to be between $1 and $5 million per year.

Strengths

- The ARA product's low price is attractive to DevOps teams looking to get started with ARA.
- OpenMake's emphasis and credibility in linking the issues associated with managing both code and deployment dependencies help it position itself to developers taking on increased operations responsibility.
- Release Engineer's "version jumping" support provides unique flexibility of both forward and backward release activities at scale, without having to perform iterative intermediate releases.

Cautions

- The company's market visibility remains low, making it challenging to acquire new customers at the pace needed to sustain continued investment.
- Out-of-the-box integrations to the most popular CCA tools (Chef, Puppet) are not as robust as with Ansible, and container support (Docker) is not yet available.
- Release Engineer's user experience is best described as functional.

Puppet

Founded in 2005, Puppet is a privately held company headquartered in Portland, Oregon. While the company has offered products for the last 11 years, the initial technology was entirely open-sourced. As adoption increased, the demand for commercially supported offerings also increased, prompting the company to release Puppet Enterprise, the first version of its enterprise platform, in 2011. The company continued to provide commercial and open-source capabilities that automate the provisioning and operations of infrastructure, middleware and applications.

In the latest release (2016.1), the company focused on improving application release automation across multiple delivery models (on-premises or hosted off-premises). Release milestones included application orchestration, Azure provisioning and enhancements to code management. Although these milestones are important steps in Puppet's commercial offering evolution, it needs to continue to focus on enhancing and simplifying the customer experience across multiple user and skills

levels to more effectively compete in the ARA market. The company continues to recognize the value of hybrid delivery models and open source as key differentiators.

For the past four years, Puppet has relied on the "land and expand" direct sales model by converting open-source users to its commercial enterprise offering and through strategic channel, technology and service partners. Although the focus will continue on converting a larger percentage of OSS customers, moving forward the company will need to balance the current strategy with attempts to scale to new geographies, including adding more partner resources in EMEA and Asia/Pacific (APAC), and segmented sales models that support reps working with strategic accounts. Puppet is strategically positioned to upsell to existing open-source users of its products.

Puppet's ARA revenue is estimated to be between $5 and $10 million per year.

Strengths

- Puppet's open-source freemium version provides a unique opportunity to infiltrate organizations of all sizes with a highly functional, proof-of-concept ARA product.
- Puppet Enterprise provides a common language for managing both applications and infrastructure, with orchestration capabilities that deliver and operate applications in a common way.
- The product's model-driven approach allows users to model the applications and underlying infrastructure once, and then the code can be tested, shared and reused across environments.

Cautions

- The solution's primary user experience paradigm is programmatic.
- The company's ability to convert freemium users to Puppet Enterprise is low — generally less than 5% of all users.
- Limited channel partners outside North America and Western Europe may hurt Puppet's ability to convert freemium customers and capture new customers in rapidly developing regions.

XebiaLabs

Founded in 2008, XebiaLabs is a privately held company with its headquarters in Boston. XebiaLabs was a spinoff from the IT services and consulting firm Xebia. XebiaLabs was one of the first ARA solution vendors, making an early name for itself with its agentless approach to managing deployments, and with its support of both Java and .NET applications. The XebiaLabs ARA solution comprises two products: XL Deploy (released in 2009), used for application deployment automation and environment management; and XL Release (released in 2013), used for orchestrating, automating and providing visibility into the release pipeline. XebiaLabs' products are focused on enterprises with a diverse set of application release needs, including legacy platforms, cloud environments and DevOps practices. XebiaLabs has specifically targeted the financial services,

retail, telecom, technology and transportation industries; however, Gartner receives client inquiries on XebiaLabs from a broad range of companies in many industries.

XebiaLabs' products have clean, easy-to-use interfaces. The process for building a release flow is logical and well-designed (components, linkages and integrations), while a grid display provides a scalable way to understand the progress and status of all active releases with a clear, uncluttered view. The XL Deploy v.5.5 and XL Release v.5.0 releases focused on a number of key enhancement themes, including visibility, scalability and integration. This resulted in a customizable XL Release dashboard with status indicators, release metrics (showing progress and compliance) and information from other tools used in development, service management and deployment. The Advanced Release Pipeline Orchestration capability enables the management of interconnected delivery pipelines, allowing pipeline linkages and orchestration visualization across multiple related releases.

XebiaLabs has direct sales in North America, Western Europe and India, with partners in regions without direct sales presence. The products are offered on a term basis with on-premises delivery and a subscription business model. It also offers a 30-day trial for a full-function version.

XebiaLabs' ARA revenue is estimated to be between $10 and $25 million per year.

Strengths

- 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.
- Large organizations may find the model-based deployment plans easier to implement and maintain than workflow-based deployments.

Cautions

- Some clients report experiencing increased functional complexity when needing to make significant changes to deployments.
- The ARA solution's model-driven approach may not appeal to those looking to drive deployments via a workflow paradigm.
- Agentless deployment may present challenges for organizations looking for remote, endpoint or triggered release methods.

Vendors Added and Dropped

We review and adjust our inclusion criteria for Magic Quadrants as markets change. As a result of these adjustments, the mix of vendors in any Magic Quadrant may change over time. A vendor's appearance in a Magic Quadrant one year and not the next does not necessarily indicate that we

have changed our opinion of that vendor. It may be a reflection of a change in the market and, therefore, changed evaluation criteria, or of a change of focus by that vendor.

Added

None; this Magic Quadrant is in its first release.

Dropped

None; this Magic Quadrant is in its first release.

Inclusion and Exclusion Criteria

Vendors were required to meet the following criteria to be considered for the 2016 Magic Quadrant and Critical Capabilities for ARA (see Note 2 for additional vendors in this space).

Product-Related Criteria

- The ARA solution must include automation, environment modeling and release coordination functionalities across *no more than three* individual products.
- The ARA solution must provide the ability to use its automation, environment modeling, and release coordination functionalities in a coordinated, integrated, and consistent manner supporting the entire delivery pipeline.
- The ARA solution or any of its components *must not* have a functional or commercial dependency on other products or services provided by the vendor itself or other vendors (for example, ARA functionality provided as a feature of a public cloud service or PaaS offering).
- Automation:
  - The solution must provide a set of customizable content (tasks, components and functions) that is intended to reduce the dependence on or, in many cases, eliminate homegrown scripts or manual efforts used in the course of an application release.
  - The solution must provide the ability to utilize this content to fully automate the tasks associated with an application release.
    - Example: An application release can be automatically performed upon a developer's code commit.
- Environment modeling:
  - The solution must have the ability to discover, use, create, and maintain models of existing or planned environments, composed of multiple application and infrastructure resources, and used to support all application life cycle/delivery pipeline stages.

    - The solution must have the ability to deploy application binaries, packages or other artifacts to target environments.
- Release coordination:
    - The solution must provide workflow engines that assist in documenting, automating, coordinating and tracking activities (human and machine) across the various tasks associated with application deployment and governance.
    - The solution must support planning, communication and analysis while enforcing segregation of duties.
    - The solution must provide project, calendar and scheduling management capabilities.
    - The solution must allow release management activity tracking by role and individual.
    - The solution must integrate with change control and/or IT service support management (ITSSM) tools.

Non-Product-Related Criteria

- The ARA solution vendor must have at least $1 million in annual revenue derived solely from ARA products.
- The ARA solution vendor must have sales or partner network presences that span at least two of the following regions: North America, South America, Europe, Middle East, Asia, Africa and Australia.
- The vendor must have at least 20 paid customers that use its ARA solution in a production environment:
    - The ARA solution must be paid for by the customer and used to automate the release of two or more production applications across two or more production environments that are delivering revenue-generating or cost-reduction business value.
    - The ARA solution must concurrently use at least two of the three core ARA functions (automation, environment modeling, release coordination).
    - The customer must use the ARA solution to automate the production deployment of an application across a minimum of 100 nodes.

Evaluation Criteria

Ability to Execute

Product or Service: Gartner makes judgments from a variety of inputs to evaluate the capabilities, quality, usability, integration and feature set of the solution, including the following functions:

- Automation of the release:

  - Customizable content (tasks, components and functions)
  - Utilization of content to fully automate tasks associated with an application release
- Environment modeling:
  - Discover, use, create, and maintain models of existing or planned environments composed of multiple application and infrastructure resources used to support all application life cycle/ delivery pipeline stages
  - Deploy application binaries, packages or other artifacts to target environments
- Release coordination:
  - Workflow that assists in documenting, automating, coordinating and tracking activities (human and machine) across the various tasks associated with application deployment and governance
  - Support of planning, communication and analysis while enforcing segregation of duties
  - Project, calendar and scheduling management capabilities
  - Release management activity tracking by role and individual
  - Integration with release planning, change control, IT service support management and development tools (build and test)

Overall Viability: We consider the vendor's company size, market share and financial performance (such as revenue growth and profitability). We also investigate any investments and ownership, and any other data related to the health of the corporate entity. Our analysis reflects the vendor's capability to ensure the continued vitality of its ARA offering.

Sales Execution/Pricing: We evaluate the vendor's capability to provide global sales support that aligns with its marketing messages; market presence in terms of installed base, new customers and partnerships; and flexibility and pricing within licensing model options, including packaging.

Market Responsiveness/Record: We evaluate the execution in delivering and upgrading products consistently, in a timely fashion, and meeting roadmap timelines. We also evaluate the vendor's agility in terms of meeting new market demands, and how well the vendor receives customer feedback and how quickly the desired features are built into the product.

Marketing Execution: This is a measure of brand and mind share through client, reference and channel partner feedback. We evaluate the degree to which customers and partners have positive identification with the product, and whether the vendor has credibility in this market.

Customer Experience: We evaluate the vendor's reputation in the market, based on customers' feedback regarding their experiences working with the vendor, whether they were glad they chose the vendor's product and whether they planned to continue working with the vendor. Additionally, we look at the various ways in which the vendor can be engaged, including social media, message boards and other support avenues.

Operations: The ability of the organization to meet goals and commitments. Factors include quality of the organizational structure, skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently.

Table 1. Ability to Execute Evaluation Criteria

Evaluation Criteria	Weighting
Product or Service	High
Overall Viability	Medium
Sales Execution/Pricing	Medium
Market Responsiveness/Record	High
Marketing Execution	Medium
Customer Experience	High
Operations	Not Rated

Source: Gartner (August 2016)

Completeness of Vision

Market Understanding: This criterion evaluates vendor capabilities against future market requirements. The market requirements map to the market overview discussion and look for the following functionality:

- Automation of the release process
- Environment modeling
- Release coordination
- Scalability and performance
- Usability and access

Marketing Strategy: We evaluate the vendor's capability to deliver a clear and differentiated message that maps to current and future market demands, and, most importantly, the vendor's marketing effectiveness to the ARA market through its website, advertising programs, social media, collaborative message boards, tradeshows, training and positioning statements.

Sales Strategy: We evaluate the vendor's approach to selling ARA in the appropriate distribution channels, including channel sales, inside sales and outside sales.

Offering (Product) Strategy: We evaluate product scalability, usability, functionality and delivery model innovation. We also evaluate the innovation related to the delivery of products and services.

Business Model: This is our evaluation of whether the vendor continuously manages a well-balanced business case that demonstrates appropriate funding and alignment of staffing resources to succeed in this market. Delivery methods will also be evaluated as business model decisions, including the strength and coherence of on-premises and SaaS solutions.

Vertical/Industry Strategy: We evaluate the targeted approaches in marketing and selling into specific vertical industries.

Innovation: This criterion includes product leadership and the ability to deliver ARA features and functions that distinguish the vendor from its competitors. Specific considerations include resources available for R&D and the innovation process.

Geographic Strategy: This is our evaluation of the vendor's ability to meet the sales and support requirements of IT organizations worldwide. In this way, we assess the vendor's strategy to penetrate emerging markets.

Table 2. Completeness of Vision Evaluation Criteria

Evaluation Criteria	Weighting
Market Understanding	High
Marketing Strategy	High
Sales Strategy	Medium
Offering (Product) Strategy	High
Business Model	High
Vertical/Industry Strategy	Low
Innovation	Medium
Geographic Strategy	Low

Source: Gartner (August 2016)

Quadrant Descriptions

Leaders

The Leaders quadrant represents those vendors that are pushing the ARA market forward, including those that are comprehensively investing in all major ARA capabilities, which, when taken as a whole, reflects the diversity of enterprise needs. All Leaders offer the high degree of flexibility, scalability and support critical to enterprise-level ARA investment success.

Challengers

Challengers consist of vendors with a significantly large installed base of customers using their solutions to automate application releases. Established ITOM vendors, Challengers actively invest to improve their solutions' appeal to both their existing installed base and competitiveness with other vendors' offerings.

Visionaries

Visionaries have built a compelling strategy to address current and future ARA customer needs, but currently lack a critical mass of market awareness needed to leverage their differentiation. The Visionaries incorporate advanced algorithmic IT operations (AIOps) technologies that will become critical to the ongoing optimization of both human and machine efforts supporting the release process.

Niche Players

Niche Players are those vendors with solutions that cater to specific use cases, skill sets, budgets or regions. While they all provide an ARA solution's core capabilities, their offering's appeal will typically emphasize one of those capabilities over the others. With the right investments, any of these vendors could further exploit their differentiation to address market needs in ways that today's Leaders may find difficult to match.

Context

In the course of this research, several key observations emerged from the providers' strategies that should be carefully considered during an organization's ARA strategy formulation and solution selection, including:

- Several ARA solutions are composed of multiple products, which can enable modular adoption of ARA capabilities, but can likewise complicate procurement, implementation, training and ongoing operational maintenance.
- Ironically, while ARA solutions are used to automate the release of application updates, the complexity and effort required to update new releases of the ARA solutions themselves can vary significantly by vendor.
- User interface consistency and general visual appeal have improved significantly, but remain an opportunity for many vendors to improve.
- Out-of-the-box integration coverage continues to improve; however, it remains variable across ARA solutions.
- There is a growing demand to use ARA solutions to automate the release of COTS applications; however, suitability and capability to do so vary significantly across vendors.

- While the use of role definitions to manage access to information, and the ability to create and initiate actions are pervasive across ARA solutions, the use of the role as a frame to optimize a user's individual efficiency and effectiveness is minimal.
- Reporting and other analytic capabilities are perfunctory across several ARA solutions.
- Appropriately, most ARA solutions are updated on a quarterly, if not more frequent, basis.
- Pricing and packaging (capability and units of measure) of ARA solutions vary significantly from vendor to vendor, making comparisons challenging.

Organizations should not utilize the Leaders quadrant as a shortlist of appropriate vendors, but instead should build a list of criteria that describes their current and future needs, and then select from vendors that best meet those requirements. Organizations should select a vendor that has both a history of and future plans for focusing on this market. Careful consideration should be given to required skills, training, process and deployment investments, because these factors will have a much greater impact on the overall value realized from an ARA solution investment than any specific functional capability found in a given tool.

Market Overview

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 application's 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.

The tumultuous and transformative nature of enterprise adoption of DevOps has, unsurprisingly, resulted in multiple buying centers for ARA solutions. Over the past six 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.

Gartner Recommended Reading

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

"Cool Vendors in DevOps, 2016"

"Avoid Failure by Developing a Toolchain That Enables DevOps"

"How to Build a DevOps Release Team"

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

"How Markets and Vendors Are Evaluated in Gartner Magic Quadrants"

Evidence

The Magic Quadrant is a reflection of a broad-based research effort:

- Over 300 inquiries with Gartner clients inquiring about ARA solutions during the past 18 months.
- Many in-person discussions and other interactions with the vendors within this Magic Quadrant.
- A detailed vendor survey requiring responses to more than 150 questions.
- As part of the Magic Quadrant process, Gartner conducted a survey of organizations using online tools in May 2016. The survey participants were customer references nominated by each of the vendors in this Magic Quadrant. These surveyed customers were asked 45 questions about their experiences with the vendors and their solutions. The results were used in support

of the assessment of the ARA solution market. We obtained 55 full responses representing companies headquartered across several different geographic regions.

- A live product demonstration from each of the 13 participating Magic Quadrant vendors, where each was requested to demonstrate its ability to support specific functions (more detail is available in "Critical Capabilities for Application Release Automation Solutions").
- Other data and insight gathered via publicly available means.

Note 1 Gartner DevOps Survey Indicates ARA Is the Most Important Technology to DevOps Adoption

In a 2015 survey of Gartner Research Circle Members — a Gartner-managed panel composed of IT and business leaders — application release automation was the technology most frequently identified as having been "most important to your organization's adoption of DevOps." ARA was selected as "most important" by 60% of question respondents.

Note 2 Additional Vendors Offering Some or All ARA Capabilities

The following sample vendors were unable to meet the inclusion criteria to be included in this research, but do come up in ARA-related inquiries:

- Ansible
- Atlassian
- CollabNet
- Chef
- Hewlett Packard Enterprise
- HashiCorp
- Octopus Deploy
- VMware

Evaluation Criteria Definitions

Ability to Execute

Product/Service: Core goods and services offered by the vendor for the defined market. This includes current product/service capabilities, quality, feature sets, skills and so on, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria.

Overall Viability: Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood that

the individual business unit will continue investing in the product, will continue offering the product and will advance the state of the art within the organization's portfolio of products.

Sales Execution/Pricing: The vendor's capabilities in all presales activities and the structure that supports them. This includes deal management, pricing and negotiation, presales support, and the overall effectiveness of the sales channel.

Market Responsiveness/Record: Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness.

Marketing Execution: The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional initiatives, thought leadership, word of mouth and sales activities.

Customer Experience: Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary tools, customer support programs (and the quality thereof), availability of user groups, service-level agreements and so on.

Operations: The ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

Completeness of Vision

Market Understanding: Ability of the vendor to understand buyers' wants and needs and to translate those into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those with their added vision.

Marketing Strategy: A clear, differentiated set of messages consistently communicated throughout the organization and externalized through the website, advertising, customer programs and positioning statements.

Sales Strategy: The strategy for selling products that uses the appropriate network of direct and indirect sales, marketing, service, and communication affiliates that extend the scope and depth of market reach, skills, expertise, technologies, services and the customer base.

Offering (Product) Strategy: The vendor's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature sets as they map to current and future requirements.

Business Model: The soundness and logic of the vendor's underlying business proposition.

Vertical/Industry Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including vertical markets.

Innovation: Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.

Geographic Strategy: The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries as appropriate for that geography and market.

GARTNER HEADQUARTERS

Corporate Headquarters
56 Top Gallant Road
Stamford, CT 06902-7700
USA
+1 203 964 0096

Regional Headquarters
AUSTRALIA
BRAZIL
JAPAN
UNITED KINGDOM

For a complete list of worldwide locations,
visit http://www.gartner.com/technology/about.jsp