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The Forrester Wave™: Agile Development Management Tools, Q2 2010

by Dave West and Jeffrey S. Hammond
for Application Development & Delivery Professionals

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Atlassian, CollabNet, IBM, Microsoft, MKS, And Rally Lead The Pack

by **Dave West and Jeffrey S. Hammond**

with Mike Gilpin and David D'Silva

EXECUTIVE SUMMARY

In Forrester's evaluation of Agile development management (ADM) tool vendors, we found that IBM and MKS led the pack with the best overall current feature sets. Atlassian, CollabNet, and Microsoft are also Leaders with capable products and aggressive strategies that will result in significant product improvements in 2010 and beyond. Rally Software Development is also a category Leader; it offers the best current balance of product capability and strategic outlook. HP, Serena Software, and VersionOne are Strong Performers offering competitive options. In the case of HP and Serena, their products are new introductions to the market and should improve as the vendors mature and gain customers. VersionOne is a stalwart in the Agile space that offers excellent planning capabilities but is less flexible than other products when it comes to reporting and integration with application life-cycle management (ALM) tools. And while the solution recently acquired by Micro Focus appeals to client-server and legacy developers, Micro Focus must clarify its future strategy for ADM before it can move into a leadership position.

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NOTES & RESOURCES

Forrester conducted lab-based product evaluations in October 2009 and interviewed 30 vendor and user companies including Atlassian, CollabNet, HP, IBM, Micro Focus, Microsoft, MKS, Rally Software Development, Serena Software, and VersionOne.

Related Research Documents

["Agile Development: Mainstream Adoption Has Changed Agility"](#)

January 20, 2010

["Software Configuration Management Tool Adoption Trends In The Americas"](#)

June 18, 2009

["Best Practices: Software Development Processes"](#)

April 15, 2009

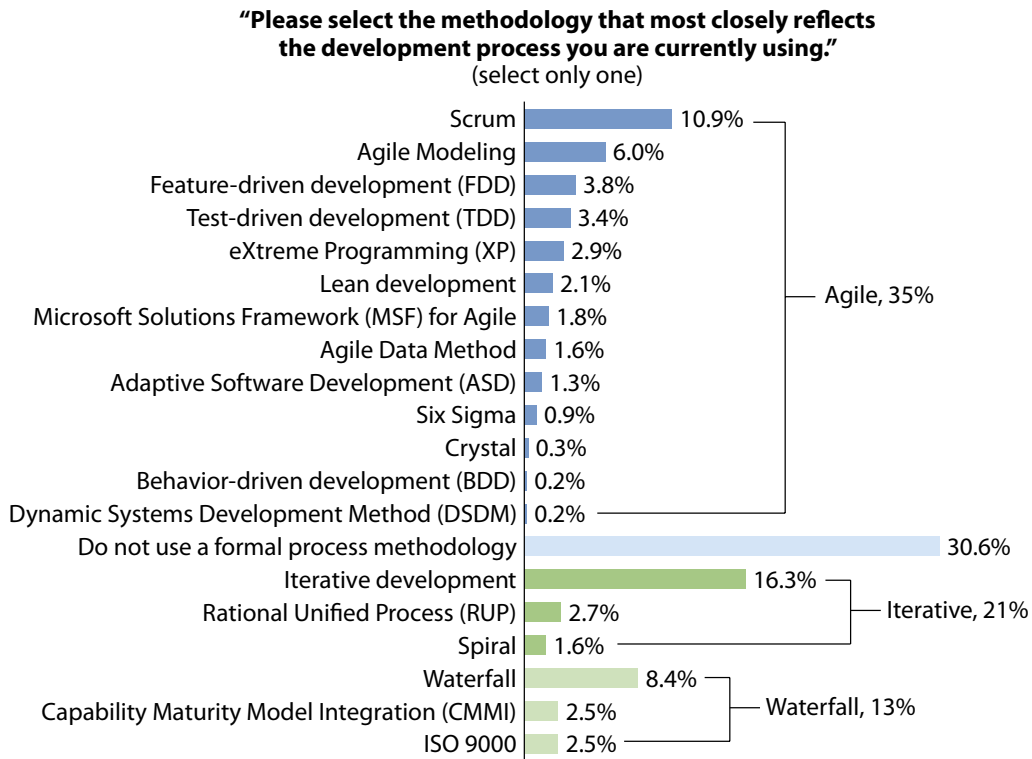
["Standardized Software Change And Configuration Management: Achievable Goal Or Wishful Thinking?"](#)

October 19, 2007

AGILE DEVELOPMENT IS RAPIDLY BECOMING THE NORM

In a recent survey, 35% of surveyed organizations described their primary development method as Agile; Scrum, at 11%, was the most popular Agile development approach (see Figure 1). In a different survey, we questioned the nature of Agile adoption and found that 39% of the organizations we surveyed consider their implementation mature (see Figure 2). The mainstream business press is even starting to get on the Agile bandwagon, referencing its use at eBay as crucial to the success of eBay’s business.¹ This increased level of adoption has serious implications for development organizations’ tool use, changing not only the process model being followed but also the very nature of work undertaken and who is involved in that work.

Figure 1 Agile Is Organizations’ Primary Development Approach



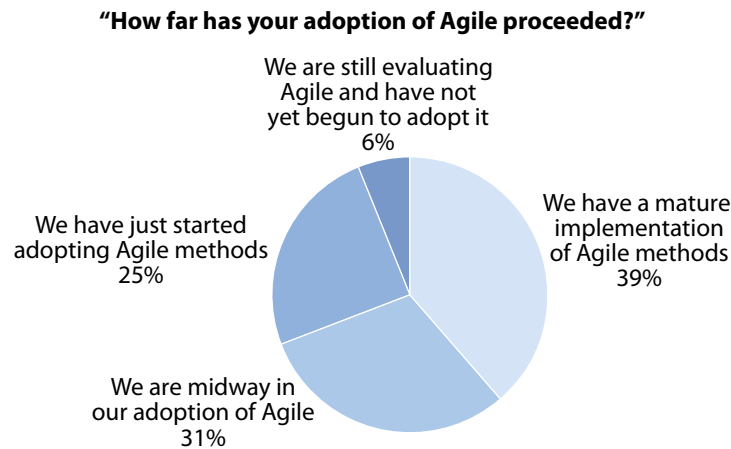
Base: 1,298 IT professionals

Source: Forrester/Dr. Dobb’s Global Developer Technographics® Survey, Q3 2009

56100

Source: Forrester Research, Inc.

Figure 2 Most Organizations View Their Agile Adoption As Mature



Base: 52 development professionals who have adopted Agile (percentages do not total 100 because of rounding)

Source: Q3 2009 Global Agile Adoption Online Survey

56100

Source: Forrester Research, Inc.

Scaling Agile Requires Automation

Our interviews with application development professionals revealed that *scaling* Agility is a common issue — and that scaling Agile practices requires implementing tools. The vice president of a large financial company described the need for automation: “When you have one project on a whiteboard with Post-its, it is fine, but when you have five or six projects, the whiteboard approach just does not cut it. We haven’t even got enough whiteboards.” Automation is required because:

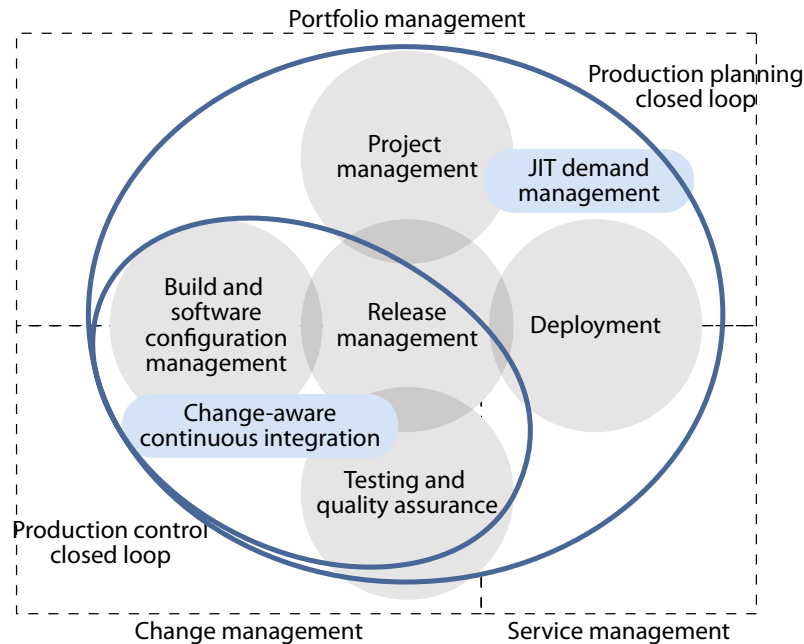
- **Sharing status is time-consuming.** This is particularly true when the team is spread across many locations and is working on many projects. The ability to quickly and easily share status information is crucial when the team self-selects work and changes direction based on that work’s results.
- **Many Agile practices require automation.** As Agile implementations mature, teams adopt more-sophisticated practices associated with testing, architecture, and build. To be effective, these practices require a sound automation foundation that supports automated test integration, code comparison, and integrated build management.
- **Retrospectives require information.** As teams work through sprints, team members can make and record many important observations. These observations help improve the process and are a key input to retrospectives. Without automation, it is very hard to remember the status of a project at a particular moment or to be able to do analysis to improve working practices.

Managing Agile Projects With Two Closed Loops

How can teams best automate Agile development at scale? In our research, Forrester has found that, to scale Agile, teams should focus on two key process best practices (see Figure 3):

- **Projects must implement change-aware continuous integration (CI).** Ask any ScrumMaster worth her salt, and she'll readily tell you of the importance of continuous integration — integrating, building, and testing source code changes early and often to reduce rework and integration issues. But continuous integration is not enough: Effective production control requires teams to track how source code changes are related to individual defect fixes or enhancement requests. And it's even harder to manage a basic CI loop if you're using parallel development techniques with source code changes propagated across multiple baselines. Effective integration between change management and build and release tools allows project managers to easily answer questions such as “In which release will defect 5479 be fixed?” or “How many user stories have we delivered in the current build, and how many source code files did we touch?”
- **Application delivery leaders must implement just-in-time (JIT) demand management.** As Agile projects increase their velocity, it becomes even more important to make sure that they are building what business sponsors need. This means that teams can't connect with the business only occasionally, as they might in a waterfall or iterative process. Rather, development and delivery leaders must implement a “just-in-time” planning loop that connects business sponsors to project teams at frequent intervals to pull demand and, if necessary, reprioritize existing project tasks based on the latest information available. This is easier said than done. Traditional budgeting processes and portfolio management tools tend to focus on high-level objectives and yearly project cycles that are poorly connected to an Agile project's task management burndown list.

Figure 3 Two Closed Loops Drive Agile Automation



48153

Source: Forrester Research, Inc.

Dashboards Enable Visibility And Progress

Measurement and software development have historically been poor bedfellows; heated debates abound about the value of measuring x or y on development projects.² Agile changes this with a clear focus on progress, quality, and status metrics. It also changes who is interested in measures, making measurement one of the team's key responsibilities. This increased focus on dashboards requires teams to provide:

- **Progress information on tasks.** The team creates tasks and selects them for work, with individuals committing estimates and reporting progress against this work. Tasks become the primary unit of discussion in daily Scrum meetings. Tasks are also linked with other artifacts such as builds and test results.
- **Linkage between project artifacts and status information.** Project status is greatly affected by the status of key project artifacts such as tests, builds, and code. Agile projects require that teams report this information in a timely manner in a way that shows both the status and state of these artifacts. For example, teams must report the status of the build and its relationship with completed tests. This information allows the team to see which tests are outstanding and which have been completed. By aggregating this information across the project, the team can understand the project's true status.

- **Real-time information accessible by all.** The development team wants to know status in order to steer the project, but team members are not the only stakeholders who care about status. Cross-project dependencies, customer visibility, and the requirements of other external groups also require project status to be available in many different forms.

“Scrum, But . . .” Requires Process Customization

“I am using Scrum, but . . .” is often the way application development professionals describe their Agile process. In fact, one of Agile’s strengths is that it encourages teams to select the Agile practices relevant to their particular situation. The result is that an individual process instance may look different from implementation to implementation, and teams can even combine traditional methods with more-Agile practices to create a hybrid approach. Hybrid approaches may impose more process rigor or control for certain activities. For example, a particular approach might dictate that a story cannot be marked done until a code review is undertaken or until test-coverage tools are executed. Hybrid approaches require:

- **Process-flow customization.** By adding control points in a task or story, it is possible to provide explicit control for a particular process flow. The type of story or task may also influence its process, with architecturally significant tasks having a different process flow than tasks associated with less-significant requirements.
- **Improved tool integration.** By tightly linking development tools such as those for code coverage, build management, and testing, it is possible to automate the process more explicitly and gather status information throughout its execution.
- **Customized reports and dashboards.** A Scrum-based, backlog-driven approach may form the basis of the daily reports, but many Agile teams augment standard burndown and velocity with other information associated with the process, such as milestones, build stability, and test coverage and status.

Frequent Planning Requires Integration

Planning within Agile projects happens on at least three levels: 1) product- or release-level planning; 2) sprint or iteration planning; and 3) individual planning. Planning also happens more frequently in Agile projects than in traditional ones, but differently. Mary Poppendieck describes the difference, explaining, “On Agile projects we like planning but do not like plans.”³ Frequent multilevel planning either pushes planning entirely out of traditional project management tools and into ALM tooling or else requires tight integration between project management and ALM tools. Agile project planning requires:

- **The ability to plan at many levels.** In addition to three levels of planning, many Agile projects extend the number of plans, adding program and product road maps. This requires many different views of planning elements and the ability to aggregate those elements into a high-level planning element.

- **Support for collaborative planning techniques.** Traditional planning is often done by one person who gathers input from subject-matter experts and then builds out the plan. Because of the frequency of planning activities, Agile techniques encourage a more collaborative approach to the planning discipline. Techniques such as “Planning Poker” may supplement traditional planning meetings.⁴
- **A frequently updated visual representation of the plan.** The traditional approach of printing out the Gantt chart and taping it to the wall does not work when the plans are constantly being updated. Instead, the updated plan should be visible to all parties involved in the project, enabling them to make decisions based on the most up-to-date view, which reflects what the team has learned so far.
- **Daily descriptions of tasks’ status from teams.** With Agile, actual effort is recorded and contributes to reports such as velocity and burndown. This requires integration between the planning tool and the work the team is doing and encourages teams to capture actuals within the context of the integrated development environment (IDE), testing tool, or requirements tooling.

AGILE DEVELOPMENT MANAGEMENT TOOLS EVALUATION OVERVIEW

To assess the state of the Agile development management tools market and see how the vendors stack up against each other, Forrester evaluated the strengths and weaknesses of the top 10 vendors. In performing our analysis, we found that the vendors came from two different places:

- **Historic ALM vendors that have moved into the Agile market.** As Agile adoption continues to increase, ALM vendors continue to expand their tools’ reach, adding explicit support for Agile and Agile-like processes.
- **Agile project management tools expanding their reach into the ALM space.** The Agile tools market has its share of vendors that provide explicit support for Agile team approaches. Increasingly, these vendors are taking their products in the direction of a broader ALM offering that can support pure Agile as well as hybrid approaches.

The Evaluation Criteria Focused On Managing, Executing, And Reporting On Agile Projects

After examining past research, user need assessments, and vendor and expert interviews, we developed a comprehensive set of evaluation criteria. We evaluated vendors against 152 criteria, which we grouped into three high-level buckets:

- **Current offering.** We evaluated the vendors against 117 criteria focused on core and advanced functionality, including project setup, project and portfolio planning, project execution, project reporting, and process customization.

- **Strategy.** To determine the vendors' vision, we assessed 20 strategy-related criteria, including the way in which enhancements are planned, vendors' own internal use of their tools, price, commitment, and history.
- **Market presence.** To evaluate the vendors' penetration in the current Agile development management market, we evaluated 15 market-presence-related criteria, including revenue, revenue growth, installed base, support, and regional focus.

Evaluated Vendors Have Healthy Growth Or Strong Market Presence And A Focus On Agile

Forrester included 10 vendors in the assessment: Atlassian, CollabNet, HP, IBM, Micro Focus, Microsoft, MKS, Rally Software Development, Serena Software, and VersionOne. Each of these vendors has (see Figure 4):

- **Healthy growth or strong market presence.** The vendors have disclosed either publicly or in confidence that their 2007 and 2008 revenue amounts showed a growing customer base or strong market presence.
- **Experience serving large enterprises.** To be included in the evaluation, vendors must have a strong focus on and track record with companies that have more than 1,000 employees and large endeavors or programs with teams of teams working on software development.
- **A focus on Agile/Lean development.** An Agile/Lean development process is the focus of this assessment; therefore, we vetted players with a strong focus on serving this process model. Tools show support for Agile processes by providing explicit support for Scrums, product backlog, and other Agile terms and/or by including a large amount of material describing how to use the tool in the context of an Agile process.

Figure 4 Evaluated Vendors: Product Information And Selection Criteria

Vendor	Product evaluated	Product version evaluated	Version release date
Atlassian	JIRA Studio	1.5	December 2008
	JIRA	3.13	September 2008
	GreenHopper	3.0	July 2008
	FishEye	2.0	June 2009
	Crucible	2.0	June 2009
	Bamboo	2.2	March 2009
	Clover	2.5	May 2008
	Atlassian IDE Connector for Eclipse	1.0	May 2009
	Atlassian IDE Connector for IntelliJ IDEA	1.5	June 2008
	Atlassian Crowd	1.6	December 2008
CollabNet	CollabNet TeamForge	5.2	April 2009
	CollabNet Enterprise Edition	5.3	May 2009
	CollabNet Subversion	1.6	March 2009
	CollabNet Lab Management	2.2	April 2009
HP	HP Quality Center Agile Accelerator	10.0	May 2009
IBM	Rational Team Concert	2.0	June 2009
Micro Focus	TeamFocus	2008	September 2008
	TeamDemand	2008	April 2009
	TeamInspector	2008	February 2009
	TeamAnalytics	2008 R2	March 2008
	StarTeam	2008 R2	September 2008
	CaliberRM	2008	March 2009
	SilkCentral Test Manager	2008	April 2008
Microsoft	Visual Studio Team System 2008 Team Foundation Server	2008	October 2007
	Visual Studio Team System 2008 Team Foundation Server Client Access License	2008	October 2007
	Visual Studio Team System 2008 Architect Edition	2008	October 2007
	Visual Studio Team System 2008 Development Edition	2008	October 2007
	Visual Studio Team System 2008 Database Edition	2008	October 2007
	Visual Studio Team System 2008 Test Edition	2008	October 2007
	Visual Studio Team System 2008 Team Suite	2008	October 2007
	Visual Studio Team System 2008 Test Load Agent	2008	October 2007
MKS	MKS Integrity	2009	July 2009
	MKS Integrity for IBM i	2009	July 2009
Rally Software Development	Rally Enterprise Edition	2009.3	June 2009
	Rally Community Edition	2009.3	June 2009
	Rally Quality Manager	2009.3	June 2009
	Rally Support Manager	2009.1	March 2009
	Rally Product Manager	2008.1	March 2008
	Rally Community Manager	2009.3	June 2009

Source: Forrester Research, Inc.

Figure 4 Evaluated Vendors: Product Information And Selection Criteria (Cont.)

Vendor	Product evaluated	Product version evaluated	Version release date
Serena Software	Serena Agile	2009 R3	July 2009
	Serena Business Mashups	2009 R1	July 2009
VersionOne	Agile Enterprise	9.1	July 2003
	Agile Team	9.1	May 2008
	Agile Platform	9.1	July 2006
	Agile Ideas	9.1	May 2009

Vendor selection criteria

The vendor shows healthy growth or a strong market presence.

The vendor has experience serving large enterprise vendors.

The vendor has a focus on Agile/Lean development.

Source: Forrester Research, Inc.

THE FORRESTER ADM WAVE REVEALS LEADERS AND STRONG PERFORMERS

Forrester's evaluation of Agile development management tools reveals a vibrant, competitive, and changing market consisting of six Leaders and four Strong Performers. The merging of traditional ALM features with Agile project management highlights that the Agile project portfolio management (PPM) market and ALM markets are consolidating. Many vendors continue to invest in program and project management as well as reporting and integration with development, testing, build, and deployment tools. The resulting solution provides a task-driven, Agile-oriented development management platform that consolidates planning, status, and real project metrics in one place. It also provides visibility into requirements, defects, and change requests for a system or product, allowing broader application life-cycle activities to be consolidated within the platform. The evaluation uncovered a market in which (see Figure 5):

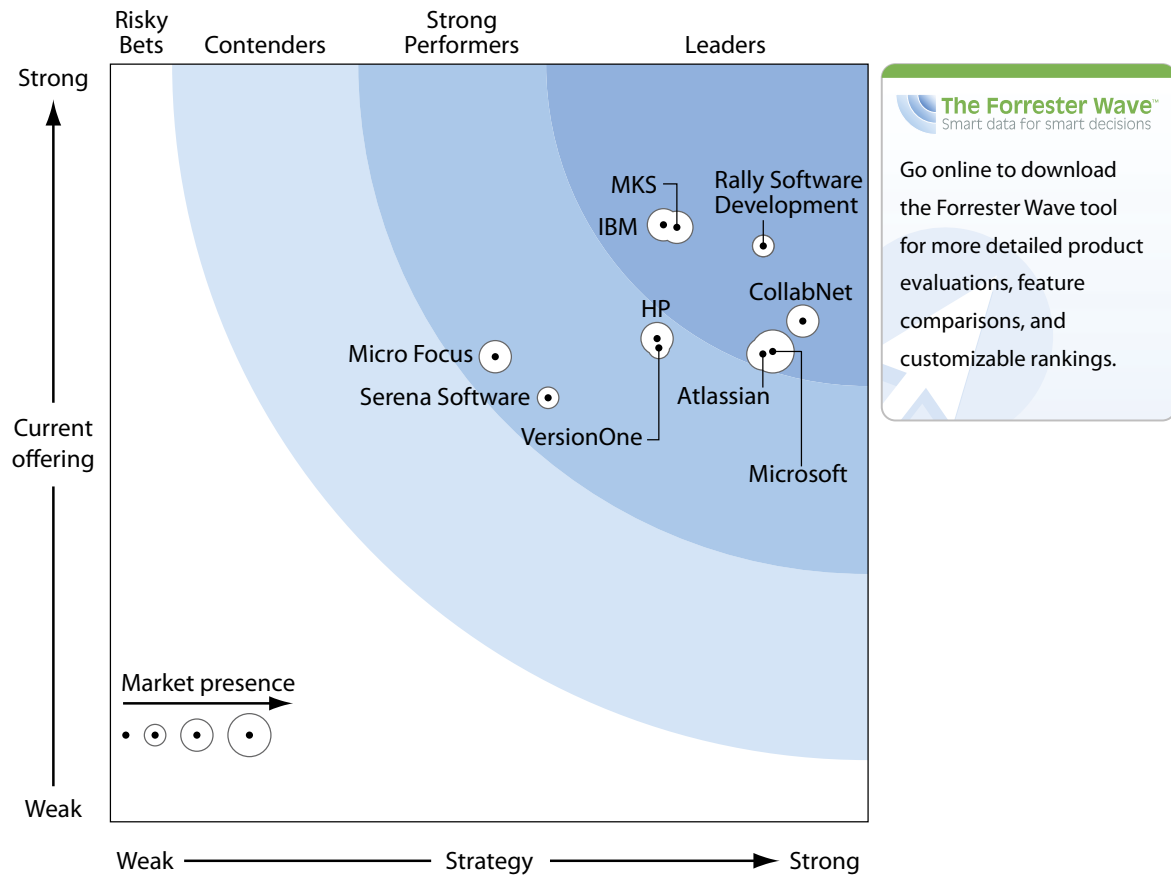
- **MKS and IBM provide strong current offerings.** MKS excels in process configuration, security, and integration, while IBM demonstrates strength in the areas of undertaking work and task management. Both companies excel in the area of reporting and analytics, an increasingly important focus for organizations that assign a high value to their ability to deliver software.
- **Atlassian, CollabNet, and Microsoft have strong strategy.** Despite their strong strategies, these three vendors have weaker current offerings. Atlassian continues to broaden its engineering-oriented portfolio, while Microsoft Visual Studio 2010 will add to an already strong application life-cycle management tool set with project templates specifically focused on Agile delivery.

CollabNet continues to broaden its management offering through both acquisition and development by providing stronger support for Agile project and portfolio management and better integration with development, testing, and build tools.⁵

- **Rally offers the best combination of capability and strategy.** In our evaluation, Rally provides Agile project teams the strongest combination of current offering and strategy. In the current offering area, Rally in particular shows strong support for Agile project and release management. Like MKS and IBM, Rally provides strong reporting and analytics.
- **HP and VersionOne offer competitive options.** VersionOne's current offering is as strong as many in this space, but the vendor's lack of a demonstrated strategy and customizable reporting to support Agile reduces its current offering scores. HP's current offering, based on the Quality Center platform, has many strengths; however, until it offers clear integrations with other engineering tools and a much-improved analytics and reporting capability, its offering cannot offer as much support for large-scale, complex Agile implementations.
- **Micro Focus and Serena could be very strong contenders.** A recent acquisition has supplied Micro Focus with many of the parts necessary to build a credible and market-leading product in this space. However, at the time of the evaluation, it was difficult to see what Micro Focus' post-acquisition strategy would look like. Micro Focus' current offering score reflects Borland Software's lack of clear strategy over the past two years. Serena a presented a new offering to the Agile marketplace, which, though providing good support for Agile teams, misses the mark in terms of breadth, supporting Agile in a broader context and depth by providing integrations with practitioner tools.

This evaluation of the application development management tools market is intended to be a starting point only. We encourage readers to view detailed product evaluations and adapt the criteria weightings to fit their individual needs through the Forrester Wave™ Excel-based vendor comparison tool.

Figure 5 Forrester Wave™: Agile Development Management Tools, Q2 '10



The Forrester Wave™
Smart data for smart decisions

Go online to download the Forrester Wave tool for more detailed product evaluations, feature comparisons, and customizable rankings.

Source: Forrester Research, Inc.

Figure 5 Forrester Wave™: Agile Development Management Tools, Q2 '10 (Cont.)

	Forrester's Weighting	Atlassian	CollabNet	HP	IBM	Micro Focus	Microsoft	MKS	Rally Software Development	Serena Software	VersionOne
CURRENT OFFERING	50%	3.09	3.30	3.17	3.93	3.07	3.10	3.92	3.80	2.80	3.13
Products included	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Platform support	5%	3.55	4.00	3.60	3.95	1.55	2.40	3.55	2.45	1.95	2.15
Management	15%	1.83	2.98	3.20	3.43	3.95	2.35	3.13	4.60	2.20	4.23
Running a project	25%	3.17	3.12	3.45	4.17	2.97	2.93	4.34	3.56	2.92	3.32
Administration	5%	3.50	4.00	4.50	4.00	4.50	4.50	3.50	5.00	5.00	4.50
Security	5%	3.94	3.79	3.21	3.63	3.40	3.04	5.00	3.11	2.30	2.94
Process configuration	10%	2.60	2.80	3.50	4.20	2.90	4.30	4.50	2.40	3.20	2.80
Analytics	15%	4.58	4.34	3.54	4.64	4.16	4.10	4.40	4.58	4.70	1.98
Life-cycle integration	20%	2.62	2.75	1.90	3.38	1.74	2.35	3.27	3.81	1.25	3.07
STRATEGY	50%	4.31	4.57	3.61	3.66	2.54	4.36	3.74	4.31	2.89	3.62
Product strategy	45%	4.40	4.40	3.60	3.60	2.30	5.00	3.70	4.40	3.00	3.00
Corporate strategy	20%	4.00	4.50	3.00	3.00	1.50	3.50	4.00	4.00	2.00	4.00
Price	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commitment	30%	4.60	4.80	3.80	4.80	4.00	4.20	3.40	4.60	3.80	4.40
History	5%	3.00	5.00	5.00	0.00	0.00	3.00	5.00	3.00	0.00	3.00
MARKET PRESENCE	0%	3.48	3.53	3.84	3.87	3.92	4.26	3.38	2.54	2.81	2.40
Installed base	20%	4.60	4.60	4.30	3.05	1.95	4.25	2.70	3.80	1.00	3.50
Financial strength	15%	3.00	2.50	3.00	3.00	4.00	2.50	1.50	3.00	2.50	3.00
Employees	5%	1.00	1.00	3.00	3.00	3.00	3.00	1.00	1.00	1.00	1.00
Support services	30%	2.80	4.60	4.60	4.60	5.00	4.60	4.60	2.20	4.60	2.20
Channel partnerships	10%	5.00	2.00	0.00	4.00	4.00	5.00	3.00	3.00	1.00	1.00
Global presence	20%	3.60	3.00	5.00	4.40	4.40	5.00	4.40	1.60	3.50	2.20

All scores are based on a scale of 0 (weak) to 5 (strong).

Source: Forrester Research, Inc.

VENDOR PROFILES

Leaders: Atlassian, CollabNet, IBM, Microsoft, MKS, And Rally Software Development

- **Atlassian adds to JIRA with comprehensive Agile project management capabilities.** JIRA provides a solid platform to extend change management into a more comprehensive Agile development management offering. Atlassian, via its acquisition of GreenHopper, added dashboards and planning capabilities to the very popular change management tool JIRA. By adding other Atlassian products to the mix, such as Confluence for collaboration and Bamboo for continuous integration, Atlassian provides a comprehensive development solution. Though the solution is aimed at software engineers, Atlassian continues to invest in this product family, adding additional capabilities for engineers while broadening the appeal of the products to a much wider software development audience.
- **CollabNet extends its platform with strong support for distributed Agile development.** Based on its experience with open source development and the Subversion configuration management tool, CollabNet has strong support for support for Agile project management and task management. Because of its distributed heritage, it offers a very secure platform with strong support for encryption and authorization. Its recent acquisition of Danube adds to its strategy for Agile development, providing additional thought leadership and development capability.
- **IBM, focusing on collaborative development, adds strong project management and analytics.** Based on the Eclipse and Jazz platforms, IBM Rational continues to raise the bar on building a complete development and delivery platform. With offerings for IBM System z and IBM System i, IBM's tool set has the most platform support. Its integration into Eclipse is very strong, providing comprehensive support for distributed Agile teams. IBM's focus on task management provides a great foundation for modern engineering practices, allowing integration into project management and engineering practices, as well as the ability to capture long-term metrics and analytics. In parallel with the development of IBM Rational Team Concert, IBM developed an open integration standard: Open Services for Lifecycle Collaboration (OSLC).⁶
- **Microsoft provides the most comprehensive platform for .NET development.** With extensive project support and comprehensive integration into the Visual Studio development environment, Team Foundation Server continues in the tradition of Microsoft products with an easy install and simple configuration. Out-of-the-box process configurations supporting Agile and other popular process models make adoption simpler. The VS2010 release, which was not evaluated, demonstrates a firm commitment to Agile with improvements to planning, reporting, and task management.
- **MKS provides a robust development management solution.** MKS provides extensive task and workflow management coupled with good life-cycle integration. The MKS Integrity platform is the most secure product we evaluated, offering comprehensive support for encryption, authorization, and electronic signatures, making it very attractive for industries where

compliance and audit are high priorities for developers. Scoring for MKS Integrity suffered a bit because MKS does not use a comprehensive Agile development approach. MKS uses an iterative approach for major releases and a Scrum-like Agile method for small or patch releases. MKS does offer an Agile, Scrum-like template out of the box, which, coupled with the very flexible and extendable workflow model, would provide strong support for organizations that follow a “Scrum, but . . .” or hybrid Agile approach.

- **Rally Software continues to extend its Agile heritage.** Coming from an Agile project management background, Rally continues to add functionality to extend the reach of its development management environment. This includes project and portfolio management with resource management and tracking; demand management with improved ways to capture and prioritize demand from customers; and life-cycle integration with strong integration with multiple configuration management tools. Rally continues to develop strong thought leadership around the practice of software delivery, and it has a strong services group with lots of experience around enterprise Agile adoption, benchmarking, and assessments.

Strong Performers: HP, Micro Focus, Serena Software, And VersionOne

- **HP builds on its heritage of testing with its Agile Accelerator configuration.** Built on the HP Quality Center product, the Agile Accelerator provides a configuration that enables Agile teams to quickly start work, providing out of the box a set of customizations for work management, workflow, task management, and reporting. Because of its deep roots in testing, the Agile Accelerator provides easy integrations into the testing discipline and with associated tools. Other integrations into portfolio management and service desk enable Agile teams to take advantage of application and product knowledge. Integrations with tools outside the HP stack were much weaker; HP scored the lowest of all evaluated tools in life-cycle integrations. However, tool integration is a key part of HP’s long-term strategy, and Forrester expects to see improved integrations, with a particular focus on source code and configuration management.
- **Micro Focus could build out an offering that appeals to client-server and legacy developers.** The paint of the acquisition was still wet when we evaluated TeamFocus, TeamDemand, TeamInspector, TeamAnalytics, StarTeam, CaliberRM, and SilkCentral Test Manager products, formerly of Borland but now part of the Micro Focus portfolio. The product set provides strong support for managing an Agile team and includes good reporting capabilities. The data warehouse aspect of the offering shows promise but lacks prebuilt integrations, relying instead on the team to build out its own information requirements. To support the evaluation, numerous products had to be combined, and integration between these products proved complex and sometimes nonexistent. This demonstrates a lack of strategy across the product line, which Micro Focus is in the process of resolving.

- **Serena enters the Agile market with a strong focus on Scrum team management.** By hiring a number of key people from the Scrum movement, Serena built from the ground up a product aimed at helping teams work more effectively in Scrum projects. Serena Agile's interface is easy to navigate and provides support for running a project. Because of its hosted nature, Serena Agile is easy for teams to set up. Analytics and reporting is another strong area for Serena Agile. The product lacks depth in the areas of life-cycle integration and planning. Serena Agile is a new product with a limited customer base; however, by combining its experience in change management with its business information mashup tool, Serena could build on its new-entrant product to move into a more favorable position in future comparisons.
- **VersionOne extends its Agile project management capabilities with improved integrations.** VersionOne delivered one of the first tools that supported Agile development projects, providing support for planning, reporting, and execution for distributed Agile teams. It continued to add to this thought leadership with a broader project/portfolio management offering coupled with improved integrations with other development tools. Its support for the Agile community extends into a very active community and key sponsorships for a number of face-to-face events. This provides clear feedback that it can apply to its product strategy to ensure that its products stay in line with current Agile thinking and best practices.

A Wide Range Of Product Pricing Indicates A Market In Transition

As ALM vendors add Agile capabilities and Agile planning vendors integrate more deeply with developers tools, it's clear that two market segments are collapsing into one. One classic hallmark of a market in convergence is that price/value ratios fluctuate as new vendors challenge existing market leaders for share. In the Agile development management space, these normal fluctuations are intensified by the complete commoditization of individual ALM tool segments such as software configuration management (SCM) and build. The result? The expected license and maintenance costs for a team that is just getting started vary wildly (see Figure 6). For example, a 10-person development team with 30 occasional users can get started for around \$6,100 per year over three years with Atlassian (or as little as \$10 a year if casual users can get away with read-only access), while it will cost the same team \$26,400 per year to use MKS.⁷ While the Forrester Wave methodology does not allow a solution's cost to factor into the evaluation process, we nonetheless believe that development teams should consider it when building a shortlist for further product evaluations. In particular, when evaluating Agile development management solutions:

- **Consider the impact of casual users.** Developers and testers tend to use ADM tools for hours every day and need a dedicated license. But other users, such as business sponsors or project managers, may need to access these tools far less frequently. These casual users can significantly add to the cost of deploying a project if each requires a dedicated license. If your organization has a lot of casual users, prioritize products that include floating license options or low-cost read-only licenses.

- **Note that pricing curves are not linear.** If you plot the prices of various ADM solutions across team size, you'll notice that they aren't strictly linear. The cost of additional server licenses or low-cost entry additions that top out at a dozen users can entice a small team but bring long-term higher costs to the entire organization. Also consider the impact that server-based pricing may have. If you can efficiently load up one large server, then you can limit your total licensing costs; however, this may not be possible if you have separate teams with their own development infrastructures.
- **Don't ignore application platform affinity.** The real price may vary depending on what tools and runtimes you already own. For example, if your organization already maintains Microsoft Developer Network (MSDN) premium licenses, then you already have client access licenses (CALs) that allow developers to access Microsoft Team Foundation server.

Figure 6 Annualized Costs For Three Years

Vendor (all prices per year)	Small team (10 daily, 30 casual users)	Medium team (50 daily, 80 casual users)	Large team (200 daily, 500 casual users)
Atlassian	\$6,100	\$12,800	\$22,300
CollabNet	\$5,894 (plus casual user licenses)	\$27,291 (plus casual user licenses)	\$158,275 (plus casual user licenses)
HP	Did not disclose	Did not disclose	Did not disclose
IBM	\$6,615	\$47,417	\$409,450
Micro Focus	Did not disclose	Did not disclose	Did not disclose
Microsoft	\$10,300	\$30,543	\$147,504
MKS	\$26,400	\$68,000	\$233,000
Rally Software Development	Free (plus casual user licenses)	\$15,000 (plus casual user licenses)	\$50,000 (plus casual user licenses)
Serena Software	\$6,300	\$51,840	\$409,860
VersionOne	\$13,920	\$45,240	\$243,600

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Source: Forrester Research, Inc.

SUPPLEMENTAL MATERIAL

Online Resource

The online version of Figure 5 is an Excel-based vendor comparison tool that provides detailed product evaluations and customizable rankings.

Data Sources Used In This Forrester Wave

Forrester used a combination of three data sources to assess the strengths and weaknesses of each solution:

- **Hands-on lab evaluations.** Vendors spent one day with a team of analysts who performed a hands-on evaluation of the product using a scenario-based testing methodology. We evaluated each product using the same scenarios, creating a level playing field by evaluating every product on the same criteria.
- **Vendor surveys.** Forrester surveyed vendors on their capabilities as they relate to the evaluation criteria. Once we analyzed the completed vendor surveys, we conducted vendor calls where necessary to gather details of vendor qualifications.
- **Customer reference calls.** To validate product and vendor qualifications, Forrester also conducted reference calls with two of each vendor's current customers.

The Forrester Wave Methodology

We conduct primary research to develop a list of vendors that meet our criteria to be evaluated in this market. From that initial pool of vendors, we then narrow our final list. We choose these vendors based on: 1) product fit; 2) customer success; and 3) Forrester client demand. We eliminate vendors that have limited customer references and products that don't fit the scope of our evaluation.

After examining past research, user need assessments, and vendor and expert interviews, we develop the initial evaluation criteria. To evaluate the vendors and their products against our set of criteria, we gather details of product qualifications through a combination of lab evaluations, questionnaires, demos, and/or discussions with client references. We send evaluations to the vendors for their review, and we adjust the evaluations to provide the most accurate view of vendor offerings and strategies.

We set default weightings to reflect our analysis of the needs of large user companies — and/or other scenarios as outlined in the Forrester Wave document — and then score the vendors based on a clearly defined scale. These default weightings are intended only as a starting point, and we encourage readers to adapt the weightings to fit their individual needs through the Excel-based tool. The final scores generate the graphical depiction of the market based on current offering, strategy, and market presence. Forrester intends to update vendor evaluations regularly as product capabilities and vendor strategies evolve.

Survey Methodologies

The Forrester/Dr. Dobb's Global Developer Technographics® Survey, Q3 2009, was fielded to 1,298 application development and program management professionals who are readers of Dr. Dobb's magazine. For quality assurance, respondents are required to provide contact information and answer basic questions about themselves. Forrester fielded the survey from July 2009 to August 2009. Respondent incentives included a summary of the survey results and a chance to win one of five \$50 gift certificates.

Forrester fielded its Q3 2009 Global Agile Adoption Online Survey to 60 technology professionals from our ongoing Technology Industry Research Panel. The panel consists of volunteers who join on the basis of interest and familiarity with specific technology industry topics. For quality assurance, panelists are required to provide contact information and answer basic questions about their firms' revenue and budgets. Forrester fielded the survey from August to October 2009. Respondent incentives included a summary of the survey results.

Exact sample sizes for the surveys used in this report are provided on a question-by-question basis. Surveys are not guaranteed to be representative of the entire application development population. Unless otherwise noted, statistical data is intended to be used for descriptive and not inferential purposes.

If you're interested in joining one of Forrester's Research Panels, you may visit us at <http://Forrester.com/Panel>.

ENDNOTES

- ¹ Agile's adoption at eBay was described in: Douglas MacMillan, "Can eBay Get Its Tech Savvy Back?" *BusinessWeek*, June 11, 2009 (http://www.businessweek.com/magazine/content/09_25/b4136048144243.htm).
- ² Forrester published a report that discusses this debate, highlighting the value in sizing but describing why it has been historically hard. The same problem occurs in many other aspects of development ranging from quality to architecture. See the July 27, 2009, "[Software Size Matters, And You Should Measure It](#)" report.
- ³ Mary Poppendieck describes the approach to planning her book: Mary Poppendieck and Tom Poppendieck, *Lean Software Development: An Agile Toolkit*, Addison-Wesley, 2003.
- ⁴ Planning Poker was invented by Mike Cohn and is described in some detail on the Planning Poker Web site (<http://www.planningpoker.com/>).
- ⁵ CollabNet recently acquired Danube. Danube provided training and tools for Scrum teams with its free and for-sale products ScrumWorks and ScrumWorks Pro. Due to the timing of the acquisition, no products or services from Danube were included in this evaluation.

- ⁶ Open Services for Lifecycle Collaboration (OSLC) is an open standard aimed at making it easier for tool vendors to interoperate by providing a standard set of interface standards based on a RESTful architecture. More details can be found at the Open Services for Lifecycle Collaboration Web site (<http://open-services.net/html/Home.html>).
- ⁷ In October 2009 Atlassian introduced its 10 for \$10 program, where license proceeds go to charity. Since the program's introduction, it has raised \$470,000 for Room to Read, Atlassian's designated charity. For more information, see <http://www.atlassian.com/starter/>.

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