EMA Radar™ for Integration Technologies for Hybrid Cloud: Q4 2012

Report Summary & IBM Cast Iron Profile

By Julie Craig
ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) Radar Report

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Introduction

Enterprise Management Associates (EMA) has conducted extensive research investigating the integration and management challenges created by the convergence of on-premise and public Cloud-hosted applications. Research conducted in mid-2012 uncovered some compelling statistics about the role of Cloud integration in today's companies:

- Nearly 50% of the companies surveyed have already deployed tiered transactions spanning public Cloud and on-premise computing environments (one form of "hybrid Cloud")
- Approximately 35% have integrated (or are in the process of integrating) multiple Software as a Service (SaaS) applications.

As one IT professional put it, "Everything is connected to everything." Because of this fact, any discussion of public Cloud as a standalone technology is outmoded. Few modern on-premise applications exist as "silos," and the same is true of Cloud-delivered applications.

While the topic of integration has become newly relevant as Cloud gains momentum, the word "integration" has traditionally been associated with complex middleware platforms, such as Enterprise Service Bus (ESB), messaging, and Enterprise Application Integration (EAI) technologies. These technologies require highly specialized skills to deploy and support, and many smaller companies lack and often can't afford employees with these skillsets. Cloud has generated a new set of integration requirements to support new use cases.

Today's companies are increasingly "integrating the Cloud." SaaS to SaaS, on-premise to SaaS, and multi-platform integrations are commonplace. This EMA Radar examines the technologies companies are using to accomplish these integrations, as well as the scenarios, roles, and processes that are driving this evolution.

This research represents a new "take" on integration that goes beyond traditional on-premise integration products in terms of versatility and ease of use. Readers should note that this is less a head-to-head product evaluation than a buying guide aimed at helping companies make product choices that are in line with their specific requirements.

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The products in this EMA Radar are diverse, yet share common functionality addressing hybrid Cloud integration and governance. For example, they vary considerably in terms of the types of integrations and platforms they support, ideal users, breadth of technology coverage, manageability, and cost efficiency.

What they do have in common is that they provide the underlying "glue" supporting hybrid Cloud implementations in a variety of permutations. While most focus on data- or application-level integration for Software as a Service (SaaS), several also have some level of support for Platform as a Service (PaaS) and/or Infrastructure as Service (IaaS) integrations as well. The goal is to enable readers to make more informed choices in developing a "short list" of vendors to evaluate, regardless of what types of Cloud integration projects they have in mind.

In the interest of conciseness, the details regarding the functional categories underlying the scoring for this research are detailed in Appendix A. The methodology supporting all of Enterprise Management Associates' Radar Reports is explained in Appendix B.

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Key Findings

A few key findings summarize the current state of the Cloud integration market:

- *Small to medium-sized businesses grapple with hybrid Cloud integration challenges more often than large companies:* One reason is because larger companies use public Cloud for production to a far lesser extent; however, skills gaps are also a factor.
- *Different buyer, different user:* Cloud integration products are attracting a new breed of buyer and user. The majority of customers interviewed for this study anticipate that technically skilled Line Of Business (LOB) "power users" will be the "resident experts" responsible for Cloud integrations.
- *Workflow support almost as important as integration capabilities:* End users report that Cloud integrations are often part of larger, long-running transactions and processes. Tools that combine integration capabilities with workflow management enable businesses to track the health of the end-to-end transaction as well as the effectiveness of employees and business processes. Adeptia, Dell Boomi, and Scribe Software are notable examples of vendors which have invested significantly in building workflow-related capabilities
- *The most frequent functional criticism leveled by customers against Cloud integration toolsets is "lack of integration to management tools"*: When integration errors occur, customers want error messages to be sent to production monitoring platforms. This confirms current thinking elsewhere in the industry about the value of "breaking down silos" by sharing cross-silo data with centralized management platforms. Integration vendors vary considerably in their ability to support this capability, and the survey underlying this report assessed vendors for support for third-party event management solutions, configuration management systems, and software configuration management products. Only two vendors (Adeptia and IBM Cast Iron) support all three.
- *SaaS and/or PaaS form factors distinguish the leading vendors in this market:* Of the thirty vendors invited to participate in this study, the seven that did participate all had one thing in common: all seven deliver their products in either a PaaS or SaaS form factor. While some deliver additional form factors as well (physical or virtual appliance or as on-premise software), the public Cloud form factor contributes to cost efficiency, large-scale adoption in the mid-market, cost efficiency, and ease-of-use-related customer satisfaction.
- *Support for integrating to mobile endpoints is at the "leading edge" and gaining momentum:* Mobile technologies are starting to make an appearance in hybrid Cloud discussions. Of the vendors in this study, only IBM currently integrates to mobile platforms. However, as applications increasingly extend to mobile devices, the need to integrate the mobile endpoint will become more pressing for both vendors and customers.
- *In terms of Cost Efficiency, maintenance costs should be as much a consideration as price:* EMA found significant variations in annual maintenance fees ranging from "more than 22%" (20 to 25% is the industry norm for maintenance and support for on-premise software products) to "free." While annual support fees can significantly increase overall cost, they also ensure that the vendor has a stake in extending the value proposition of the product over time with ongoing product updates. Prospective customers should weigh all costs up front and assess fees against the levels of support they actually need. "Hidden" fees, training costs, and startup costs (professional services, etc.) can double the initial price of deployment and dramatically impact overall cost of ownership.

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- *Support for high-speed and "Big Data" processing capabilities are becoming key differentiators:* Businesses never have enough information. As demand continues to escalate, integration and analytics technologies become fundamental competencies supporting business growth. Led by Business Intelligence (BI) and Operational Intelligence (OI) initiatives, support for processing and transferring massive volumes of data has become a key requirement. However many integration solutions are, as yet, unable to process Big Data, Machine to Machine (M2M), and other high speed data requirements. This is one reason why this survey assessed support for Big Data and Hadoop, with Pervasive Software scoring a strong showing in this regard.

New Requirements Driving a New Breed of Products

One key factor driving the growth of the Cloud integration market is the fact that SMBs in particular are flocking to the Cloud to deliver production applications. With SaaS adoption rates (for production applications) of approximately 60% (versus 45% for enterprise-sized companies), smaller companies have embraced public Cloud because it eliminates the long ramp up times, high costs, and ongoing need for administration "experts" which are so characteristic of on-premise application deployments.

At the same time, many smaller businesses lack the specialized integration teams that large companies have in place. Yet they still need the combined power of data stored in SugarCRM and Marketo, for example.

These factors are driving requirements for a new breed of solutions with a very different set of characteristics and features than those found in traditional Enterprise Service Bus (ESB), Enterprise Application Integration (EAI), and messaging systems.

- Fully half of the customers interviewed for this study indicate that they expect LOB "power users," versus IT specialists, to implement and/or maintain their Cloud integrations. As one customer stated, "We were using (Product), but found that you needed an IT background to understand and use it. We needed ease of use so our people can focus on our business—insurance—not on IT."
- Support for applications running in virtual environments becomes more important, as companies seek to integrate across private Clouds and into IaaS platforms.
- Workflow functionality is in high demand as a capability supporting integration-driven businesses processes. Workflow functionality that includes status reporting and state control has become a key differentiator.

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- As integrations move out of IT and into the business, requirements for scripting, SQL, and coding skills put many existing products beyond reach of potential customers. This new breed of solutions supports "codeless" calculations, triggers, and "drag and drop" field mapping and reporting—which traditional toolsets may lack.
- Manageability is a key design point. Information sharing between integration platforms and event management platforms, for example, makes it easier to centrally manage and address error messages and log notifications.

These new requirements are impacting businesses, users, and vendors, often making selection of the "right" solution a confusing and error-prone process.

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Landscape and Methodology

Logistics

This EMA study was open to integration products that support the delivery of hybrid Cloud transactions, applications, and/or services. There was no charge to vendors to participate. For the purposes of this study, the following definition of the term "hybrid Cloud" was used.

"The term "hybrid Cloud" covers a broad range of integration scenarios, all of which include integration to an external service (typically a WAN-connected integration). Examples may include:

- *Integrations between on-premise applications and any "flavor" of generic public Cloud, including Infrastructure as a Service (IaaS), Platform as a Service (PaaS), or Software as a Service (SaaS).*
- *Public Cloud integrations, such as SaaS-to-SaaS or connections between multiple IaaS regions.*
- *Integrations between on-premise applications (including private Cloud) and those hosted on a public or private Cloud by a supplier, partner, or industry-specific Cloud provider.*
- *Similar connected, distributed applications that execute beyond the reach of the traditional private data center."*

As a result of this broad definition, a wide range of vendors were invited to participate and, for that reason, the products in this study vary widely in their capabilities. Readers should bear in mind that any assessment of this nature evaluates a set of vendors according to preset criteria. Since many of the products here are subsets or supersets of these criteria, scoring results can be deceiving.

For example, vendors with lower scores on the "Product Strength" category can be very strong in specific areas. RightScale, for example, has strong capabilities supporting IaaS but was not designed or intended for SaaS to SaaS integrations.

On the other hand, several products exhibit unique capabilities beyond the base criteria. The "Vendor Profiles" section of this paper provides a more complete look at each product, while vendors whose showings were exceptional in a key area are cited in the "Exceptional Characteristics: Awards" section.

Vendor Selection Process

The vendors in this study run the gamut from production-grade real-time application integration suites to products designed primarily for ease of use for line of business users. While RightScale's IaaS-focused integration capabilities are noteworthy, the remaining vendors in the study—Dell (Boomi), IBM (Cast Iron), Adeptia, Informatica, Pervasive, and Scribe Software—can more accurately be classified as "application" or "data" integration solutions. All, however, are Cloud-relevant at a high level, and hybrid Cloud-relevant in particular.

More than thirty vendors were initially contacted and briefed in preparation for this study. In the end, approximately twenty were invited to participate and eight actually accepted. Of those eight, one vendor (Elastic Intelligence Connection Cloud) was ultimately dropped from the final report, primarily because the product was still in Beta on the date of publication.

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Two significant factors typically impact a vendor's decision to participate:

- *Willingness to make the resource investment:* A study of this nature is a resource intensive activity as it requires multiple steps with input at each step.
  - *Survey:* The first step is the completion of a survey that often requires the input of multiple team members.
  - *Vendor briefing and demo:* Once the survey is complete and an initial assessment is made by the analyst, an extensive briefing includes a product update, a demo, and Q&A session.
  - *Customer interviews:* Next, the vendor makes arrangements for EMA to interview two customers.
  - *Review and comment:* Finally, the vendor provides review and comment for the initial drafts of the vendor-specific profiles (final versions included in "Vendor Profiles" section below) and the final "bubble chart" depicting each vendor's placement.
- *Perceived Product Strength:* Several non-participating vendors expressed concerns over how well their products would measure up to the field of vendors included in the study.

Because of these factors, it has been the experience of EMA analysts that participation in a study of this nature is, in effect, a self-selecting process. Vendors that do not choose to participate are typically either apprehensive about how well their products stack up to the competition, OR they don't choose to make the time investment. For that reason, EMA believes the vendors that did participate in this study represent the "best of the best" in this category.

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The vendors and products included in this study are:

- **Adeptia:** Adeptia Enterprise Business Integration Management Suite (EBIMS), described by the vendor as "a holistic enterprise-class middleware platform that takes a process-centric and service oriented approach to data and application integration."
- **Dell Boomi:** Boomi AtomSphere, described by the vendor as "a fully on-demand, single-instance, multi-tenant integration-Platform-as-a-Service (iPaaS), connecting any combination of Software-as-a-Service (SaaS), Cloud, and on-premise applications without the burden of installing and maintaining software packages or appliances."
- **IBM Cast Iron:** WebSphere Cast Iron Cloud integration, described by the vendor as enabling "companies to rapidly connect their hybrid world of public Clouds, private Clouds, and on-premise applications, delivering Cloud integration projects in days to achieve higher return on investment in software as a service (SaaS) and Cloud models."
- **Informatica:** Informatica Cloud platform which, per Informatica, "delivers purpose-built data integration and data quality applications, enterprise-grade administration and security functions, and an integration Platform-as-a-Service (iPaaS) to allow business users, integration architects, and developers to integrate data across Cloud-based applications, social feeds, on-premise systems and databases."
- **Pervasive Software:** Pervasive Data Integrator™, described by the vendor as providing "cost-effective extraction, transformation and flow of nearly any kind of data between sources throughout the organization—on a continuous, event-driven or scheduled basis in a full range of usage scenarios."

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- **RightScale:** RightScale Cloud Management, described as "a Cloud management platform that links public and private Clouds. The MultiCloud Platform provides a universal remote to access public, private, and hybrid Cloud resource pools from one dashboard and API."
- **Scribe Software:** Scribe Insight, described as delivering "comprehensive integration for business systems such as Salesforce, SAP, and many other popular applications no matter where they reside—premise, hosted, or Cloud."

Other vendors invited to participate included:

Attunity (Product in Development)	Jaspersoft (Declined)
Composite Software (Declined)	Microsoft (No Interest)
Connection Cloud (Still in Beta)	Oracle (Declined)
HP (Declined)	SAP (No Interest)
Hubspan (Declined)	Talend (Declined)

Evaluation Criteria

The major challenge of this type of market evaluation is to avoid creating a simple feature comparison. EMA is aware that in order to be valuable to the reader, any analyst report must thoroughly research and consider the client perspective. For this reason, each product feature is only relevant for this report if it solves a specific and important business problem.

All topics and survey questions used for this research were developed pursuant to survey-based research conducted throughout 2011 and 2012 AND discussions with vendors and customers. Readers should bear in mind that in the area of integration, as well as in every other enterprise management product category, no one product is the best option for every customer. Complete descriptions of the scoring categories underlying each functional area of this study are included in Appendix A. A complete description of EMA's Radar methodology is included in Appendix B.

Minimum Criteria

For the purposes of this study, the term hybrid Cloud comprises multiple scenarios, all of which include integration between multiple transactions, applications, or services. To be considered for this research, the product must support at least one of the following four use cases:

- Integrations between on-premise applications and any "flavor" of generic public Cloud, including IaaS, PaaS, or Software as a Service.
- Public Cloud integrations, such as SaaS to SaaS or IaaS to IaaS connections.
- Integrations between on-premise applications and those hosted on a public or private Cloud by a supplier, partner, or industry-specific Cloud provider.
- Similar connected, distributed applications that execute beyond the reach of the traditional private data center.

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Ideal Criteria

Ideally, a product goes beyond the base criteria and all of the products included here do so to some degree:

- Holistic view of integration point as part of a transaction and/or business process.
- Price commensurate with functionality.
- Simple deployment, ideally with minimal implementation consulting required .
- Multiple levels of customer support and commensurate support costs.
- Clear avenues of communication between vendor and customer.
- Pre-built connectors for the most popular SaaS, PaaS, and IaaS vendors (more connectors yields higher score).
- Support for popular virtualization technologies (which in turn support applications running in private Cloud and IaaS).
- Connectors and proven integrations with third-party event/fault management, CMDB/CMS, and software configuration management solutions (to support centralized management of processing errors, transaction/service models, and change management respectively).
- Security-related features.
- Support for near real-time data updates.
- Support for evolving capabilities such as high-speed data transfers, machine to machine (M2M), Big Data, and Hadoop.
- Strong partnerships with public Cloud vendors (to promote cross-vendor communication as requirements for API and connector configurations change).

Weightings

Because the topic of this research study was "hybrid Cloud integration" instead of simply "integration," several characteristics were weighted more heavily than others:

- Breadth of Cloud environments supported: This was the most heavily weighted category as it covers the key components that make up today's Cloud deployments. These questions addressed:
  - Specific support (connectors or APIs) for fourteen popular SaaS and PaaS vendors.
  - Specific support (connectors or APIs) for five popular IaaS vendors.
  - Specific support (connectors or APIs) for five popular virtualization vendors.
- Other areas of higher weighting include: customer support options, overall level of automation (such as GUI-based setup versus scripting, etc.), price and licensing options, product design factors, and ease of use.
- To be fair to the vendors in the study, actual integration capabilities were more heavily weighted than "outlier" functionality such as monitoring and management features, even though EMA views such features as being essential to a well-rounded integration platform.

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Scoring Outcomes

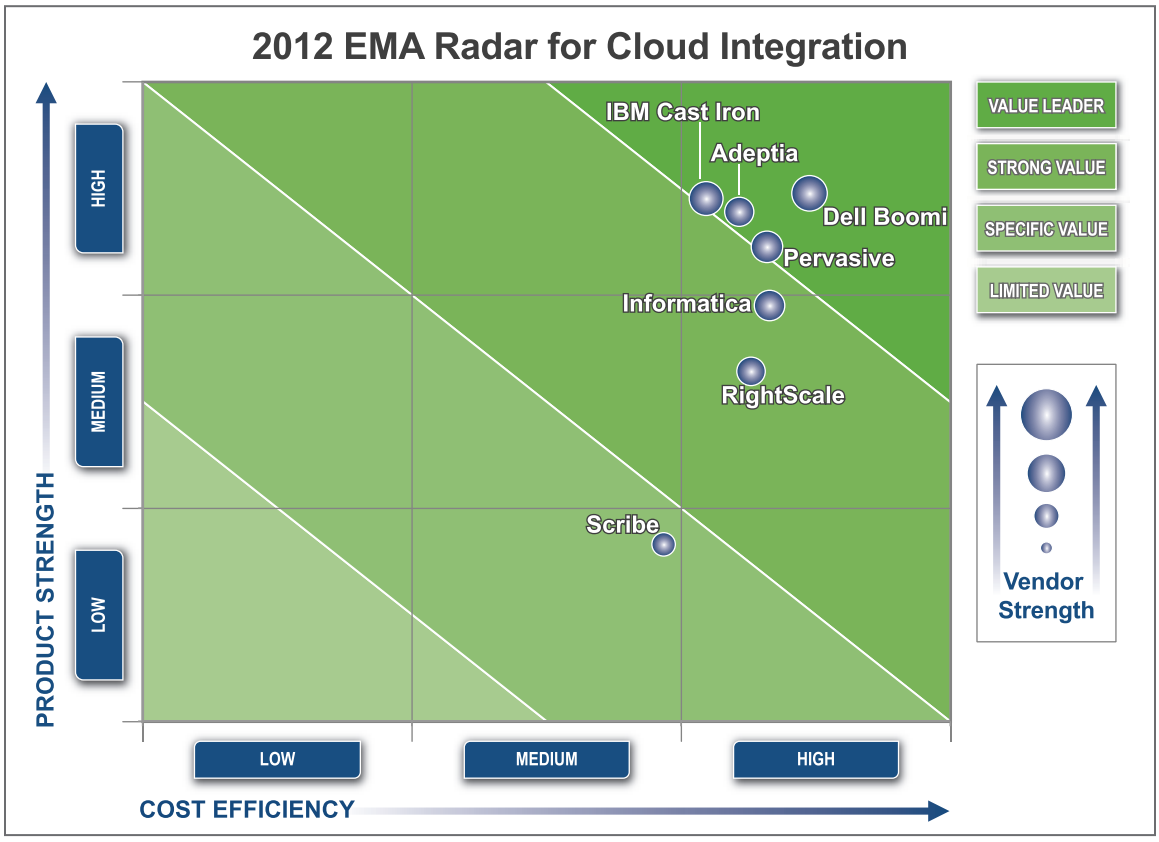

Figure 1: EMA Radar Map for Hybrid Cloud Integration Solutions (AKA "Bubble Chart")

Value Leader: IBM Cast Iron

Cast Iron was also "born on the Cloud," focusing from its inception on production-grade integration of public Cloud applications. Cast Iron integrations can be provisioned in the public Cloud, behind the firewall, or in private Cloud virtual environments. A key differentiator is its suitability for production grade integrations, such as applications requiring real time data access and/or federation across multiple data sources.

IBM Cast Iron: Best Support for the "Extended Enterprise"

Cast Iron is noteworthy for its focus on the "extended enterprise." Defined by EMA as "integrating beyond business applications into embedded and other technical integrations external to the data center," this is a theme across the entire IBM Software portfolio.

IBM has extended the reach of IBM Software beyond the data center and into business verticals. Examples are IBM's moves into "smart cities" and into industry-focused expert systems with Watson, embedded software technologies, and advanced analytics. As part of this strategy, IBM is also extending its integration capabilities to both mobile and industry specific software systems such as hybrid vehicles.

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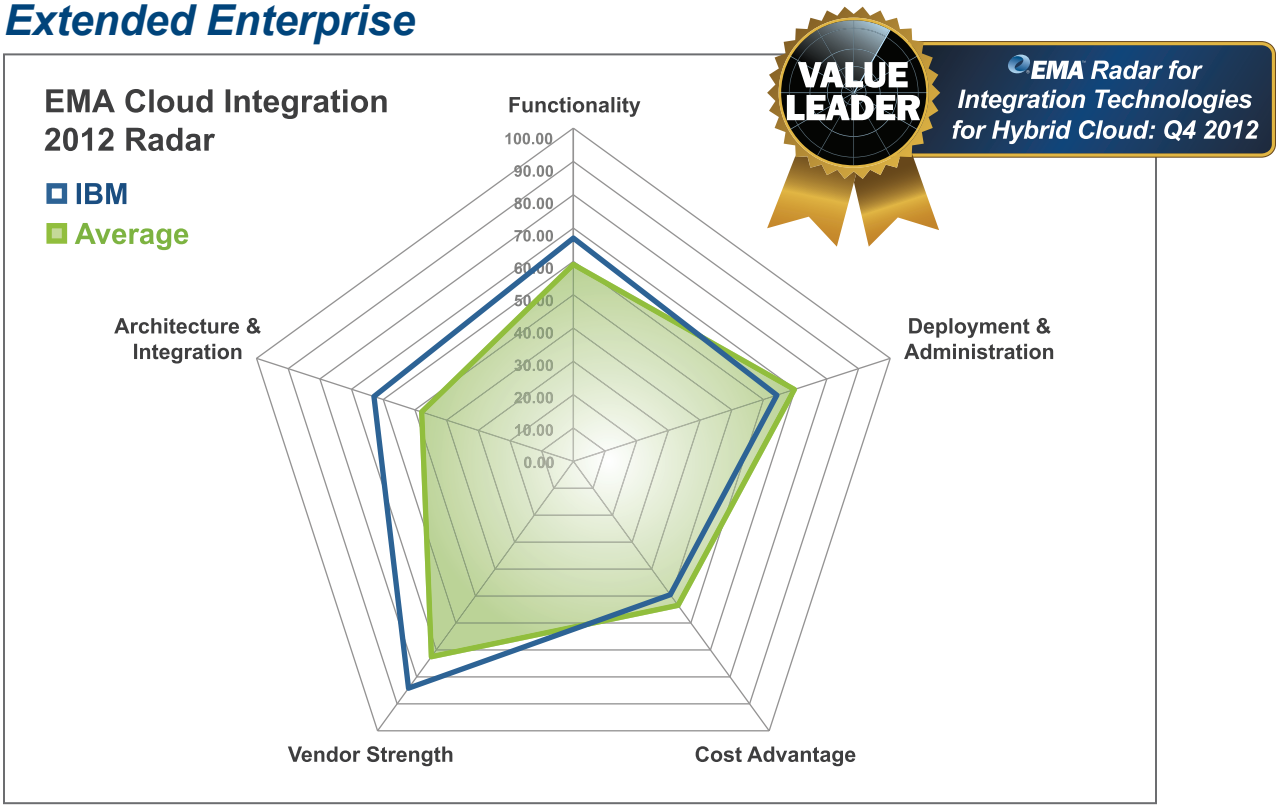
IBM Cast Iron: Integrating the Extended Enterprise



Overview

The product featured in this research is IBM WebSphere Cast Iron Cloud Integration.

Cast Iron Systems was founded in 2001, and acquired by IBM in 2010. Cast Iron was "born on the Cloud," focusing from its inception on production-grade integration of public Cloud applications. Initially delivered as an appliance, Cast Iron is now available in multiple form factors, including Software as a Service (SaaS), Platform as a Service (PaaS), virtual appliance, and hardware-based appliance. As a result, integrations can be provisioned in the public Cloud, behind the firewall, or in private Cloud virtual environments.

Cast Iron's differentiators are significant and noteworthy. A primary differentiator is its suitability for production grade integrations, such as applications requiring real time data access and/or federation across multiple data sources. Another is IBM's focus on manageability. IBM is one of only two vendors in this study (the other is Adeptia) with rich management APIs for integration with management platforms, CMDB/CMS systems, and Software Configuration Management products.

Cast Iron's leading edge support for integrations to mobile platforms is distinctive. IBM's mobile capabilities work in conjunction with the IBM Worklight Mobile Application Platform, a secure container that runs on the mobile device. Via a mobile gateway, enterprise applications can interact with the container (similar to a virtual environment) on the mobile device.

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IBM also supports metadata-driven data virtualization "integrations," which federates data, versus transferring it across platforms. This delivers the ability to embed real time data access within applications and scripts, improving performance and reducing the errors and risks involved in actually moving data across the network.

EMA Recognition Award: Best Support for the "Extended Enterprise"

Perhaps IBM's most unique differentiator is the focus on the "extended enterprise," i.e., integrating beyond business applications into embedded and other technical integrations external to the data center. This is a theme across the entire IBM Software portfolio of products.

Over the past few years, IBM has extended the reach of IBM Software beyond the data center and into business verticals. Examples are IBM's moves into "smart cities" and into industry focused expert systems with Watson, embedded software technologies, and advanced analytics. As part of this overall strategy, IBM is also extending its integration capabilities to both mobile and industry specific software systems such as hybrid vehicles.

EMA sees integration of business applications, the data center, and the "extended enterprise" as ushering in a new era of data-driven decision making and business growth. IBM is the only major vendor focusing on this leading edge capability at this point in time.

Functionality

IBM's strengths are in the areas of monitoring and analysis of integration execution, breadth of integration connectors, and security features. At this point, Cast Iron does not support extreme scale, such as would be required for processing Big Data.

Architecture & Integration

Cast Iron's *Architecture & Integration* score was boosted by a variety of factors. One is IBM's extensive line of related products, such as ESB, EAI, and analytics. Another is the breadth of use cases supported compared to competing vendors. For example, Cast Iron supports integrations across multiple form factors such as physical, virtual and Cloud hosting. This delivers the flexibility to support a breadth of use cases including synchronizing data between SaaS and on-premise applications and extending integration to user interfaces and mobile scenarios. The score was adversely impacted by a lack of connectors for "up and coming" SaaS vendors such as Intacct, Zoho, and Serena or for popular IaaS vendors (Amazon only).

Deployment & Administration

This is an area of strength, with scoring driven by the breadth of form factors, the all-inclusive nature of the product, the breadth of training options, and low training costs. Particularly for the SaaS/PaaS version of this solution, the cost of deployment and ongoing administration costs are low compared to much of the competition.

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Cost Advantage

IBM was in the mid-range of the products in this study, scoring at or near the average range. This score was positively impacted by the fact that there is no additional charge for individual connectors. Start-up costs are low (less than $1000 for the typical initial deployment), although enterprise-level pricing would be considerably more expensive. IBM has a range of flexible pricing options and the entire product is available as a service (SaaS/PaaS). IBM's score in this area was adversely impacted by relatively high maintenance fees compared to some of the other vendors in this study.

Vendor Strength

Clearly, with IBM's history and industry clout, this is a very high score for IBM. Vision and strategy, financial strength, and market credibility are stellar.

Strengths and Limitations

Key Strengths

- "Born in the Cloud," the Cast Iron team understands this space and has evolved the product in parallel with the evolution and growth of public Cloud.
- Best "extended enterprise" and mobile application coverage of any vendor in this study.
- Breadth of support for sharing data with other enterprise management products through rich Management APIs, including event management, CMDB/CMS, and Software Configuration Management solutions.

Limitations

- API/connector support for VMware only, although Cast Iron will run on Citrix Xen or VMware.
- Lack of API/connector support for some common Cloud platforms such as OpSource, Serena, and Zoho.

Customer Quotes

"We looked at a number of products prior to purchasing Cast Iron. (Solution X) was "very complex"--you could probably put a man on the moon with it, it had so many capabilities we really didn't need. Cast Iron is not complex and it is simple to use. It gave us exactly what we needed. It was also significantly cheaper than the other product we considered."

"The value that Cast Iron provides me is that it enables our Salesforce.com implementation to fly. If I didn't have an integration tool with Salesforce, I could still use Salesforce, but the real power lies in moving data across multiple systems and delivering it to end users in their own tool (Salesforce). This is invaluable."

"We couldn't be happier. Cast Iron makes Salesforce reach its full potential." *~ Director of Business Applications, Telecommunications vertical*

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Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that provides deep insight across the full spectrum of IT and data management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help its clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise line of business users, IT professionals and IT vendors at www.enterprisemanagement.com or blogs.enterprisemanagement.com. You can also follow EMA on Twitter or Facebook.

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Corporate Headquarters:
1995 North 57th Court, Suite 120
Boulder, CO 80301
Phone: +1 303.543.9500
Fax: +1 303.543.7687
www.enterprisemanagement.com

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