

Magic Quadrant for Enterprise Integration Platform as a Service

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VIEW SUMMARY

As organizations increasingly adopt the cloud, directors of integration must enable integration across on-premises and cloud applications and data sources. This Magic Quadrant evaluates providers of cloud-based integration platforms designed primarily, but not exclusively, to tackle this challenge.

Market Definition/Description

An integration platform as a service (iPaaS) is a form of platform as a service (PaaS; see Note 1) that provides capabilities to enable subscribers (usually referred to as "tenants") to implement integration projects involving any combination of cloud-resident and on-premises endpoints — data sources, applications, services (in the service-oriented architecture [SOA] sense of the word), APIs and processes. This is achieved by leveraging the iPaaS capabilities to develop, deploy, execute, manage and monitor integration flows (at times also referred to as "integration interfaces") linking multiple endpoints (see "What IT Leaders Need to Know About Integration PaaS for Cloud Services Integration (and More)").

iPaaS Functionality

An iPaaS provides a combination of some of the features found traditionally in on-premises integration platform software, such as enterprise service buses (ESBs), data integration tools, B2B gateway software, application service governance platforms and managed file transfer products.

Specifically, iPaaS functionality includes:

- Support for (and bridging between) a variety of connectivity protocols and data/message delivery styles
- Data/message mapping and transformation
- Data quality
- Routing and orchestration
- Adapters for cloud-based and on-premises applications, data sources and technology environments
- Adapter developer toolkits
- Integration flow development and life cycle management tools
- Integration flow management, administration and monitoring
- API management
- Reusable integration templates
- Prepackaged integration flows (cloudstreams)

Although the functionality of an iPaaS is implemented by the provider through software technology, the ultimate iPaaS deliverable is a service, not a software product. Therefore, this Magic Quadrant considers only companies that provide integration platforms in the form of public cloud services, not as software products for on-premises deployments. However, iPaaS providers' ability to deliver their integration functionality also in the form of equivalent on-premises middleware products may be a differentiating factor.

iPaaS Use Cases and Buying Centers

The most frequent use case for iPaaS is what Gartner refers to as "cloud services integration" (CSI), which is the problem of integrating a combination of on-premises applications and data, SaaS applications, and other cloud-services (see "What IT Leaders Need to Know About Cloud Services Integration: Proactively Address the Challenge"). However, iPaaS offerings increasingly are used to



NOTE 1 DEFINITION OF PAAS

"PaaS" is the term generally accepted by the industry to indicate application infrastructure (middleware) functionality, enriched with cloud characteristics and offered as a cloud service (encapsulating and hiding the underlying system infrastructure). Gartner refers to it more precisely as "cloud application infrastructure services" and has identified 15 classes of PaaS, each roughly mirroring a corresponding class of on-premises middleware products (see "Platform as a Service: Definition, Taxonomy and Vendor Landscape, 2013").

NOTE 2 IPAAS HISTORY

iPaaS offerings emerged six or seven years ago, primarily to support data synchronization between on-premises systems (SAP ERP, Oracle E-Business Suite [EBS], JD Edwards) and the early examples of SaaS offerings (predominantly salesforce.com). At that time, SaaS users primarily were, and still partially are, SMBs with minimal experience in integration technology and, in many cases, with even less interest (or available budget) to invest in building such skills. To appeal to this market, the iPaaS pioneers — Boomi (now Dell), Cast Iron Systems (now IBM), Informatica, Jitterbit and Pervasive Software (now Action) — focused their offerings on ease of use and minimal coding.

An element of this focus was the effort to accumulate large portfolios of cloudstreams, integration templates, transformation maps, adapters and other reusable integration artifacts, aimed at speeding time to deployment of the most common SaaS integration scenarios. In addition to these productivity-oriented capabilities, iPaaS offerings often provided tools such as self-service portals, marketplaces and other crowdsourcing capabilities oriented toward enabling community collaboration between users and/or partners to develop, share, reuse, sell and buy integration components.

This initial shaping of the market defines the present enterprise iPaaS competitive landscape. Some established middleware vendors (such as E2E Technologies, Informatica, MuleSoft and Tibco) have entered the market by offering cloud services renditions of their high-end and sophisticated on-premises integration platforms. Nonetheless ease of use, fast time to integration and, in some cases, focus on business (as opposed to IT) buying centers remain characteristics of most enterprise iPaaS offerings. However, at times, especially among new entrants, providers have not paid a lot of attention to functional depth and breadth and support only basic implementations of the cloud characteristics, such as elastic scaling, multitenancy, self-service and fine-grained resource tracking.

EVALUATION CRITERIA DEFINITIONS

support other scenarios, such as B2B integration, API publishing and management, and mobile app integration (MAI). The iPaaS offerings can also be used for certain types of on-premises integration projects, because providers introduced technologies and deployment models specifically targeting this use case (see "iPaaS Expands Beyond Cloud Service Integration Through Flexible Deployment Topologies").

Because of their historical characteristics of ease of use and rapid integration enablement (see Note 2), iPaaS offerings tend to be used to support integration issues requiring an agile approach focused on short time to deployment, and addressing informally and incrementally defined requirements, as opposed to traditional integration approaches that focus on enterprise consistency, quality of service (QoS) and long-term maintainability. These characteristics match small or midsize businesses' (SMBs') CSI and, in some cases, B2B integration and on-premises integration requirements. Therefore, iPaaS is currently a prevalent option for this market.

During the past two or three years, even large organizations have increasingly used iPaaS for line of business (LOB), subsidiary and/or departmental CSI, and, in some cases, MAI projects. In this context, use of iPaaS has been leveraged especially for projects where the use of a high-end, on-premises integration platform, even if already in place, would not be easy to justify, because of time to integration, cost, deployment complexity, lack of local skills, and lack of adapters for specific SaaS applications, among other reasons.

This implies that in large organizations, iPaaS buyers often are not central IT departments (typically through the enterprise integration competency center [ICC]). In these organizations, iPaaS buyers tend to be LOB managers, subsidiary directors or leaders of other decentralized organizational entities engaged in IT projects not under the control of the central IT department. In some cases, even individuals — not necessarily IT professionals working for some form of IT department — turn to iPaaS to address simple, often one-off personal integration issues (for example, loading Twitter feeds into Google Docs spreadsheets), thus assuming the role of "citizen integrators."

Most iPaaS providers target enterprise requirements (for example, integration between salesforce.com and SAP ERP). Some players (for example, CloudWork, elastic.io, IFTTT, Kevy, Zapier) instead concentrate on serving citizen integrators' needs. In this Magic Quadrant, we only consider iPaaS providers targeting enterprise integration challenges — hence, we call it Magic Quadrant for Enterprise iPaaS.

iPaaS Market Trends

The iPaaS market is poised to dramatically grow over the next five years due to several factors, including:

- The explosion of CSI, MAI, API and Internet of Things requirements.
- The emergence of the agile integration approach and citizen integrators, for which traditional integration platforms are unsuitable.
- Adoption by SMBs so far often unwilling to embrace integration middleware because of its high cost and complexity, but now interested in iPaaS offerings due to their low entry cost and ease of use.

This growth will attract investments from startup companies, established on-premises middleware players, providers of other forms of PaaS (for example, application PaaS [aPaaS], business process management PaaS [bpmPaaS] and business analytics PaaS [baPaaS]), and SaaS providers all eager to get a piece of the pie and, most importantly, to establish control in user organizations' crucially strategic next-generation integration infrastructure.

This will lead to an overcrowded and confusing market where differentiation will be difficult and competition will be fierce. Rapid appearance and disappearance of new providers, retrenching into vertical or geographic niches, mergers and acquisitions will be the norm over the next three to five years. Nonetheless, during the next 12 months, the net number of players in the market will grow considerably.

The inevitable process of market consolidation and the entry of large players imply that, increasingly, iPaaS will be delivered as an integrated functionality of broader PaaS suites, SaaS applications and cloud services brokerage (CSB) offerings. However, independent and stand-alone iPaaS offerings will remain in the market owing to users' requirements for neutral integration platforms bridging megavendors' ecosystems.

The versatility of iPaaS offerings will extend above and beyond support to CSI requirements. This will inevitably put iPaaS on a collision course with traditional on-premises integration middleware. It will initially create tensions inside user organizations between established ICCs (typically loyal to their incumbent on-premises integration platforms) and new LOB/departmental iPaaS buying centers (that are willing to adopt iPaaS for its greater agility and lower cost). During the next three to five years, this tension will gradually be resolved, because of the emergence of hybrid integration platforms and hybrid approaches, combining iPaaS and traditional integration middleware characteristics, enabling multiple deployment models, empowering agile and traditional approaches, and supporting a variety of requirements.

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

Magic Quadrant

Figure 1. Magic Quadrant for Enterprise Integration Platform as a Service



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.

Vendor Strengths and Cautions

Action

Action's iPaaS offering, DataCloud, leverages established data integration tooling, obtained through its acquisition of Pervasive Software in April 2013.

DataCloud operates on Amazon Web Services (AWS) to offer prepackaged integration services for integrating data on-premises, in the cloud or in a hybrid/distributed environment.

Strengths

- With traction of 2,000 users, including customers and partners, and continuing focus to capitalize on iPaaS since the acquisition, DataCloud harnesses Action's financial resource potential and market reach.
- DataCloud appeals to cloud developers who need to create on-demand data and application integration, with the provision of user- and application-level security, including the Statement on Standards for Attestation Engagements (SSAE) 16.
- Usage of DataCloud is characterized by high-performance data throughput, diverse data connectivity, support for granular and low-latency data capture and propagation, and centralized management of distributed integration processes.
- Consistent interfaces for DataCloud and Action's on-premises design environments provide users with a standardized experience and reuse of integrations between deployment options. The unified platform supports customizable role-based interfaces to serve nontechnical and technical users.

Cautions

- Experiences in business-oriented usage reflect uneven versatility in large-scale environments with initial concerns in ease of use, reliability due to incidences related to bugs and production deployment, and needs for self-service guidance for issue resolutions. Action stated that through partners, with an enterprise customer base doing thousands of iPaaS deployments, a

lot of these issues have been addressed.

- Customer demand for broadening cloud-based and hybrid deployment models of Actian's iPaaS is seeking enhanced performance optimization, management of ongoing scalability and throughput in operations, and availability of skills, which are cited as limitations. Actian's investment in developing a strong user community and partner certification programs aim to address such needs.
- Actian's iPaaS appeals predominantly to embedding integration functionality in other applications and architectures. Leveraging a partner ecosystem with a large number of enterprise customers, Actian's iPaaS design sets out to support enterprise-scale scenarios.

Attunity

Attunity is a provider of data integration technology that enables access, sharing and distribution of data across heterogeneous enterprise platforms, organizations and the cloud.

Attunity CloudBeam is a subscription-based iPaaS offering that facilitates loading and syncing data from on-premises DBMSs to Amazon Redshift, Amazon Simple Storage Service (S3) and Amazon Relational Database Service (RDS). Version 2 of CloudBeam has been available since August 2013.

Strengths

- As confirmed by clients, CloudBeam drastically reduces the time and resources required to reach a solution when data needs to be migrated (or needs to be synchronized) from on-premises DBMSs to Amazon Redshift, S3 and RDS.
- Attunity is a publicly traded company, in business for 25 years, and has a proven model of distributing its software through a network of partners.
- CloudBeam functionality can also be accessed through an API layer that users and development teams can embed in their applications.

Cautions

- Attunity only focuses on CSI needs between local DBMSs (the main ones being Microsoft SQL Server, Oracle DB, MySQL, IBM DB2 and SAP Adaptive Server Enterprise [ASE]) and Amazon Redshift, S3 and RDS. It is not applicable to generalized integration scenarios, such as composite application integration and multistep process integration.
- CloudBeam is a young offering, driven by current users' needs; however, the vendor's present offering strategy does not articulate a comprehensive vision to the iPaaS market.
- Attunity's iPaaS is at an early stage of brand recognition, with CloudBeam being mainly marketed by Amazon. User organizations' awareness of CloudBeam and penetration of the offering in the iPaaS market remain limited.

Dell Boomi

Dell Boomi is a Dell Software business unit providing Dell Boomi AtomSphere iPaaS and Dell Boomi master data management (MDM), a cloud MDM hub service. The business unit is part of the Dell Software Group and was formed after the November 2010 acquisition of Boomi, one of the pioneers in iPaaS.

AtomSphere provides data cleansing, validation and transformation; content-based routing; B2B protocols and formats; trading partner management; messaging, Web services and REST support; process orchestration; and API management.

Strengths

- AtomSphere's fast-growing installed-base accounts for approximately 1,600 midsize and large multinational organizations in multiple industries and geographies.
- AtomSphere provides several capabilities to support independent software vendors (ISVs) and SaaS providers, which helped Dell Boomi win strategic partnerships with many key SaaS players.
- The offering provides rich CSI, B2B, on-premises application integration, API and MAI functionality; capabilities to help user organizations reduce development, test and operation costs; support for distributed (on-premises plus cloud) deployment architectures and advanced cloud characteristics; and QoS support.
- Dell Boomi plans include geographic expansion, focus on healthcare and life science industry sectors via the Dell IT services organization, additional SaaS adapters, enhanced data quality, new developer portal and API registry, improved DevOps APIs, machine-to-machine and Internet of Things integration, and big data analytics.

Cautions

- A still small European sales and support operation and no direct presence in Asia/Pacific limit Dell Boomi's potential for growth in those regions.
- The delivery of the service from only two U.S.-based data centers may prove to be an obstacle for adoption in EMEA and Asia/Pacific for compliance, security or performance reasons.
- Areas needing improvement include monitoring, management and administration; native

support for message queuing; some inconsistency in the development tools; and functional limitations of the on-premises application adapters.

- AtomSphere is not proven in large-scale B2B integration or for initiatives requiring support for certain industry-specific native protocols and for advanced trading-partner community management.

E2E Technologies

Founded in 1996 and headquartered in Basel, Switzerland, E2E Technologies is represented worldwide through a network of partners. The E2E Bridge iPaaS (currently on release 6.0) is based on E2E's on-premises middleware offering, E2E Bridge.

E2E's primary focus for its cloud offering is to support integration requirements that occur in the retail, supply chain and logistics verticals, which often have use cases needing real-time integration. Other segments of the market are addressed in collaboration with partners.

Strengths

- The E2E Bridge Business Process Model and Notation (BPMN) and Unified Modeling Language (UML) model-driven development and execution environment (based on a UML virtual machine) do not require coding, as the documentation is the code. However, this type of modeling does not cater to citizen integrators, a rapidly growing base of iPaaS consumers.
- E2E Technologies has established a reseller agreement with No Magic, whose UML, BPMN and Systems Modeling Language (SysML) products are used by more than 500,000 engineers and can serve as entry points for the E2E Technologies' sales process. The adoption of such tools is primarily in aerospace, defense, medical and logistics verticals.
- Performance, scalability, a small footprint and the resulting minimal server requirements are notable strengths for E2E Bridge iPaaS.
- Clients are extremely happy with the speed at which integration can be provided, and the professional services and support that E2E Technologies offers.

Cautions

- E2E Technologies is a small company with, until recently, limited resources for R&D and marketing. Investments by the Scheer Group may remove some of the viability and resource concerns.
- E2E Bridge (on-premises version) has a reasonably sized installed base. However, there is low brand awareness for the iPaaS offering. It's usually introduced as an alternative payment option during price negotiations, which leads to its low adoption.
- Limited availability of UML modeling skills among Java programmers increases customers' perceived risk of adopting that technology.
- E2E Bridge iPaaS does not currently support collaboration or crowdsourcing of integration artifacts among tenants.

Flowgear

Flowgear, founded in 2010 and headquartered in South Africa, is partially owned by Global Micro Solutions, a South African managed service provider.

Flowgear iPaaS, available since 2011, is delivered on Global Micro Solutions' dual data centers infrastructure and on Microsoft Azure (in the Northern Europe site). Flowgear on Azure is used for disaster recovery and development.

Strengths

- Flowgear CSI and B2B integration capabilities, a rich set of adapters targeting local and international SaaS providers, local data centers, and partnership with Global Micro Solutions make it an attractive proposition for organizations in South Africa and neighboring countries.
- Clients praise Flowgear's ease of development, management, administration and monitoring, service reliability, smooth version transition, and the company's proactive and transparent customer relationship approach.
- The Flowgear road map includes API management, workflow tool improvements, security enhancements, activity monitoring via social networks, support for on-premises deployment, monitoring and administration from mobile devices, and Microsoft Visual Studio plug-ins, which will enable the provider to target a broader range of use cases.

Cautions

- Flowgear's customer base includes approximately 30 organizations, primarily SMBs in manufacturing, retail and financial services. This is a good achievement for a company operating only in one country, but also implies the platform has been proven in only a relatively limited set of use cases.
- The company is small, and platform developers are also engaged in user support and professional services. Until the recently established system integrator partners get up-to-speed, it will be difficult for the company to sustain rapid client growth, while at the same time delivering on the technical road map.

- Flowgear's current lack of dedicated marketing and sales and its small support organization will be obstacles to adoption by multinational organizations (that require globally delivered professional services), at least until partners activate international support for the platform.

Fujitsu

Fujitsu is a global IT vendor with headquarters in Japan and presence in 70 countries. It provides a broad portfolio of products and services, including hardware, network, software and services.

In April 2013, Fujitsu acquired RunMyProcess (RMP), a French company, to expand its PaaS offering. RMP is at the core of the Fujitsu PaaS and provides cloud-native bpmPaaS and iPaaS combined into a single platform.

Strengths

- The RMP platform supports human task-based business processes and composite application integration primarily in CSI scenarios with support for secure connections. This versatility will help Fujitsu propose RMP to organizations with diversified CSI requirements.
- In 2012, RMP grew its business (especially in EMEA and the U.S.) to more than 350 customers in 44 countries, which will help Fujitsu establish credibility for the platform among risk-averse user organizations.
- RMP supports full REST/Atom APIs, plans to provide machine-to-machine integration via the Constrained Application Protocol (CoAP) and offers a wide range of adapters for cloud-based and on-premises applications and DBMSs.

Cautions

- RMP is not designed for batch data integration, especially when requiring large-volume data transfer and complex transformation, and does not plan to provide such capability.
- RMP is not available as a software product for on-premises deployments and does not provide an ESB capability. Adapters for on-premises integration are basic with a few choices, and the platform is not designed to support traditional on-premises integration. Hence, RMP likely will not attract prospects with advanced integration needs or that require compatibility between cloud and on-premises integration platforms.
- Fujitsu doesn't have a consistent integration platform strategy, but provides multiple, at times overlapping, integration offerings, such as RMP for CSI, Interstage Business Operations Platform (Interstage BOP) for cloud-to-on-premises and Interstage Service Integrator for on-premises-to-on-premises integration.

IBM

IBM's iPaaS offering is WebSphere Cast Iron Live delivered through a shared-everything multitenant architecture deployed on multiple AWS zones. IBM is likely to move the service to the new SoftLayer infrastructure as a service (IaaS) platform.

The offering is also available as single-tenant on-premises software and hardware appliances, and derives from the May 2010 acquisition of Cast Iron Systems, one of the early providers of CSI technologies,

Strengths

- Cast Iron Live is suitable for a wide range of requirements because of its rich capabilities (data quality, transformation and mapping; orchestration; DevOps APIs and Web-based development/management); a vast portfolio of adapters and integration templates; compatibility with on-premises Cast Iron products; and numerous pricing options.
- Cast Iron Live was one of the first iPaaS offerings to deliver extensions for API management and MAI, thus favoring IBM's early entry in these emerging segments.
- Plans to strengthen Cast Iron's partner channel will improve IBM's ability to reach prospects outside its traditional clientele of large organizations.
- The planned availability of the multitenant Cast Iron Live software for on-premises deployments may help position IBM's iPaaS as a potential de facto standard available in compatible versions from multiple providers and for private iPaaS settings.

Cautions

- Despite a large number of nonpaid users, the Cast Iron Live paid-customer base is smaller than that of its leading competitors and of the on-premises versions of the platform, which may be a concern for risk-averse prospects.
- The platform awareness is still low. The mainstream IBM direct sales organization still has a reactive attitude, and marketing actions are not focused on Cast Iron Live, thus reducing opportunities for adoption growth.
- IBM has hinted that Cast Iron Live will be integrated in the new CloudFoundry-based PaaS offering (BlueMix, expected to be generally available sometime in 2014), but has not yet

provided details about how and when this will take place. The resulting uncertainty about the Cast Iron Live road map may confuse user organizations and partners, and may raise doubts about the future of the IBM iPaaS offering.

- Cast Iron Live clients mention Web-based support, subtle inconsistencies with the on-premises Cast Iron appliances Eclipse-based development tool, on-premises secure agent reliability and service availability as areas needing improvement.

Informatica

Informatica began to offer targeted iPaaS functionality — Informatica Cloud — in 2007 to integrate salesforce.com and on-premises applications for data loading, replication and synchronization.

The expansion of Informatica Cloud in 2012 broadened the range of adapters for its platform and enabled development of connector and templates for reusable integrations.

Strengths

- Informatica's iPaaS leverages its established on-premises data integration offering (PowerCenter) for SaaS integration and enables reusable integrations along with APIs to extend and embed the platform, which aligns well with demand trends. Proven functionality of PowerCenter, diversity of use cases and wide availability of skills appeal to enterprise buyers and Informatica's customers evaluating iPaaS.
- The iPaaS customer base, approximately 1,800, reflects traction with LOBs and midmarket enterprises, and growing usage and interest in large organizations.
- Balanced emphasis on business-user-oriented functionality and data integration infrastructure as organization standards resonate with enterprise-level needs. Portability of integration flows between Informatica Cloud and PowerCenter enables flexible deployment in cloud-based and hybrid usages.
- The 4Q13 addition of process and service integration capabilities enhances Informatica Cloud's positioning to capitalize on process-oriented iPaaS requirements. The ability to expose the service and process integration engine as a service and integrate it into Informatica Cloud supports integration workflow comprising batch and real-time scenarios.

Cautions

- Some clients cited business-oriented usage of Informatica's iPaaS as a challenge when business users, rather than integration developers, performed intermediate or complex data transformation activities.
- Deployment of Informatica's iPaaS does not broadly reflect advanced integration flows in a combination of CSI, on-premises application-to-application (A2A) and process optimization that spans data and application integration. Enhancements announced at Informatica Cloud Winter 2014 are expected to be applicable to these scenarios.
- Users of Informatica's iPaaS are raising expectations for greater out-of-the-box integrated use of the vendor's product set, such as debugging support, working with APIs, and managing separate user accounts and settings.

Jitterbit

In 2010, Jitterbit began providing Jitterbit Cloud Edition, an iPaaS rendition of its on-premises equivalent product offered via Amazon Elastic Compute Cloud's (Amazon EC2's) cloud infrastructure.

Announced in November 2013, with general availability planned for early 2014, the Harmony Integration Cloud Platform aims to enhance multitenancy support and extend applicability for integrating diverse cloud, mobile, social and on-premises environments.

Strengths

- Jitterbit's iPaaS ease of use appeals to IT leaders and business analysts who want to collaborate to integrate data involving on-premises and cloud sources in packaged applications, diverse DBMSs, Amazon S3 cloud storage, FTP server, and a wide range of popular SaaS applications. Rapid time to value and leveraging the shared artifacts from the vendor's Jitterpack community enhance productivity.
- Synergy between Jitterbit's iPaaS and process automation tooling enables business process or SaaS owners to connect and automate business processes between applications from vendors such as SAP, Oracle, salesforce.com, Autodesk and Microsoft (Dynamics).
- Users recognize quality of support services as value points, and reflect a positive perception of value relative to cost. Harmony's positioning for reusability of integrations across cloud, mobile apps and social environments aligns with market demand.

Cautions

- Users of Jitterbit Cloud were constrained in multitenancy for onboarding support, essential when Jitterbit customers are onboarding their customers by offering integration services using Jitterbit's iPaaS. Enhancement to cloud services provisioning in Harmony is expected to address these needs.
- Jitterbit deployments predominantly reflect usage constraints in terms of limited-scale support of

pragmatic or tactical demands in CSI scenarios. Jitterbit's new iPaaS release targets enhanced applicability.

- Industry mind share of Jitterbit and visibility in the iPaaS market remain limited, with a customer base for Jitterbit Cloud Edition of approximately 50 companies. Through ongoing expansion of connectivity to SaaS providers and partnering with resellers, system integrators and ISVs, Jitterbit seeks to increase market reach.

MuleSoft

MuleSoft's technology is used by numerous large organizations worldwide with references in several verticals, including social Web properties, high-tech manufacturing, airlines and automotive. The company had projected 171% growth during 2013.

Its Anypoint Platform offers on-premises integration through the popular open-source Mule ESB, iPaaS via the CloudHub platform, and API management capabilities via the Anypoint API Manager. MuleSoft launched its iPaaS offering (iON) in February 2011, to provide users with a competitive alternative to the rising costs of on-premises integration technology. That offering subsequently evolved into CloudHub, based on Mule ESB technology.

Strengths

- CloudHub services are built as shared multitenant APIs, and they use shared databases and servers. No tenant is allocated dedicated resources, which is true multitenancy.
- CloudHub and Mule ESB work with the same Anypoint Platform components, requiring minimal effort to port integration interfaces from one environment to another and a single set of developer skills for the cloud and on-premises platforms.
- Approximately 4,000 organizations are using CloudHub, including 170 paying enterprise customers. Thus, MuleSoft has strong visibility in the market, driven by aggressive marketing campaigns and significant investments in sales and marketing resources.
- MuleSoft's strong vision includes several opportunity areas that other vendors have not targeted. Examples include the large number of adapters for SaaS offerings (more than 90), and the use of CloudHub and its virtual private cloud (VPC) technology in forming a hybrid integration platform.

Cautions

- Although autoscaling is planned, scaling is still manual in the available CloudHub version.
- CloudHub has a minimal set of data integration features. The Batch Module, which can be used for extraction, transformation and loading (ETL), was released in December 2013.
- While users have integrated operational technology using CloudHub, MuleSoft does not currently provide specific capabilities for addressing such use cases.
- The MuleSoft marketing message focuses on the ability of its technology to support enterprise-scale (rather than departmental) use cases, which ignores the growing trend of business users adopting iPaaS for projects that must be completed quickly.

NEC

NEC's vast portfolio of products and services includes hardware, software and system integration services for various industry segments.

Enterprise Gateway is NEC's iPaaS offering. It supports CSI requirements by leveraging endpoint user interfaces or governance features to simplify and automate integration complexity. Enterprise Gateway runs in NEC's data centers or third-party IaaS platforms, such as AWS.

Strengths

- Enterprise Gateway targets SaaS-to-SAP integration in a noninvasive way via an advanced, Wizard-based visual integration design tool encapsulated in salesforce.com or Microsoft SharePoint development environments. This reduces development effort and cost for integration without requiring deep knowledge of SAP or SaaS APIs.
- NEC provides prepackaged content for salesforce.com/Microsoft Office SharePoint-to-SAP integration. This enables users to support a range of business requirements with little technical knowledge and limited development efforts.
- During the next 12 months, NEC plans to add support for social and mobile data integration. It will start a new business providing data brokerage among cloud services and on-premises applications based on a revenue-sharing model and the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) international standard.
- Enterprise Gateway provides secure data integration enabled by embedded partners' solutions, such as Salesforce Data Residency Option (DRO) or CipherCloud, in addition to its no-data-store-between-endpoints architecture.

Cautions

- Enterprise Gateway addresses simple data consistency integration patterns. Its road map does not mention support for complex-event processing, process integration and other, more-advanced integration requirements.

- Enterprise Gateway adapters and visual design tool are available for a limited choice of SaaS and on-premises applications. This makes Enterprise Gateway unattractive for projects integrating multiple heterogeneous endpoints.
- Enterprise Gateway has fewer than 50 customers. NEC's brand recognition as an iPaaS provider is still being developed, and the platform is supported only by a few partners. These characteristics reduce the company's opportunity to penetrate large, multinational organizations.

SAP

SAP Hana Cloud Integration (HCI), part of the broader SAP Hana Cloud Platform PaaS proposition, is SAP's iPaaS offering. It incorporates some components of SAP's on-premises integration technology, but also leverages open-source software and includes new technology to support elastic scaling and self-service capabilities.

The platform leverages the leading-edge SAP Hana in-memory DBMS as an integrated feature. HCI will play a critical role in SAP's cloud strategy by enabling integration between its SaaS and on-premises packages.

Strengths

- HCI is delivered as an embedded component of multiple SAP cloud offerings, thus making the platform the default option for clients of those offerings. The planned (1H14) stand-alone HCI offering targeting any-to-any integrations will potentially appeal to organizations needing an iPaaS for a range of CSI use cases.
- SAP plans to release more than 500 cloudstreams (roughly one-third are available), which will potentially make SAP HCI appealing to user organizations looking for an iPaaS to enable rapid, SAP-centric CSI projects.
- The HCI road map includes dynamic autoscaling; on-premises deployment of the platform; support for REST and OData; data quality; governance/API management; B2B, MAI, Internet of Things and big data integration; intelligent mapping suggestions; crowdsourcing/collaboration; extension of the adapter portfolio; and deeper integration with the underlying SAP Hana in-memory DBMS.
- SAP HCI strengths cited by clients include its effective and responsive support, easy-to-use tooling, smooth version upgrade, reliability and integration with the SAP security environment.

Cautions

- SAP HCI current functional and nonfunctional limitations (e.g., lack of autoscaling) make it suitable only to address core, SAP-centric integration use cases, at least until these limitations are addressed as the offering road map is implemented.
- Although adoption is growing fast, the offering still has a relatively small installed base, which implies it has been proven only in a few different scenarios. Risk-averse user organizations may be reluctant to adopt SAP HCI for this reason.
- Despite the planned marketing initiatives, SAP HCI awareness is still low, and positioning against the well-established, on-premises SAP NetWeaver Process Orchestration and SAP Data Service is not yet well-understood by the industry.
- The SAP HCI portfolio of adapters is limited, and the platform cannot yet be deployed on-premises, which limits its appeal to organizations looking at iPaaS to support traditional on-premises integration, in addition to CSI.

Skyvva

Skyvva focuses on simplifying and accelerating the integration between salesforce.com (and the applications that ISVs develop on it) and on-premises, third-party systems and business applications.

Skyvva has developed an iPaaS on top of Force.com, salesforce.com's aPaaS, to integrate salesforce.com with multiple applications and services (or several organizations within salesforce.com). Skyvva's platform is available as a stand-alone iPaaS or through separately packaged cloudstreams.

Strengths

- Skyvva offers an inexpensive cloud-based approach to address the widespread problem of integrating salesforce.com with SAP on-premises. Owing to a deepening collaboration with SAP, SAP Hana Cloud Integration (SAP's iPaaS) is consumable by end users, ISVs and CSBs through the Skyvva platform.
- Skyvva operates under a CSB business model: Its customers take immediate advantage of its flexibility.
- Skyvva leverages salesforce.com's powerful cloud infrastructure, vision and application ecosystem.
- Skyvva currently serves 52 paying customers globally. This is not a huge number, but clients indicate a good level of satisfaction.

Cautions

- Skyvva is a young and small company, which generally comes with viability concerns.
- Skyvva mainly markets its iPaaS to meet needs between salesforce.com and SAP, but is not the only or the largest provider doing that. The Skyvva platform is not applicable to generalized integration scenarios, not involving SAP or salesforce.com.
- Implementation of Skyvva's marketing capabilities is in the early stages and they are of limited global effectiveness.
- Skyvva's vision is still a work in progress and heavily leverages salesforce.com's vision for the core platform. Firm and more detailed development plans will be essential to Skyvva.

SnapLogic

SnapLogic Integration Cloud is a multitenant iPaaS.

SnapLogic has established its presence in the integration market with on-premises integration software that is being replaced by a cloud service, using the same technology as the starting point.

Strengths

- SnapLogic advanced architecture, consisting of custom-extensible endpoint adapters (Snaps) and on-cloud and on-premises execution, delivers an easy-to-use integration platform, productive enough for LOB integration projects and powerful enough for IT integration specialists using programmatic APIs and software development kits (SDKs).
- Support for a variety of communication protocols and data formats, and the wide-ranging library of prebuilt endpoint adapters for popular websites, cloud services and on-premises applications, improve productivity for most integration projects.
- In-cloud management of integration metadata, combined with an in-cloud or on-premises integration flow execution option, supports a hybrid integration environment, meeting the typical mainstream enterprise's requirements.
- Investment in integration against the variety of big data sources and formats, and some business analytics capabilities in the platform track the advanced requirements of modern integration initiatives, and will differentiate SnapLogic from most competing iPaaS offerings.

Cautions

- The focus on modern application and service endpoints leaves SnapLogic with a limited base of experience and mind share necessary to compete with established on-premises integration solutions.
- Lack of direct support for the B2B community management, programmable rule engines and business process modelers create dependence on third parties to complete the solution for demanding integration initiatives. This limits the company's ability to compete as the more-advanced enterprise integration projects reach for the cloud.
- A small iPaaS installed base, especially outside the U.S., constrains the company's ability to generate profits and invest in aggressive marketing and sales initiatives to build up its limited name recognition.

TerraSky

TerraSky is a Japan-based company formed in 2006 to provide professional services to Japanese salesforce.com customers. It has a small, but growing, presence in the U.S. market, as well.

In 2008, the company released SkyOnDemand, an iPaaS based on its DCSpider software and deployed on Amazon's data center in Japan. SkyOnDemand also includes data integration software licensed from Appresso, a notable data integration vendor in Japan. SkyOnDemand specializes in integration and data migration between salesforce.com and on-premises or cloud (that is, Amazon, Google and Azure) endpoints. SkyOnDemand operates entirely as a cloud service, with no on-premises components or proxies.

Strengths

- A "good enough" set of functionality at a low cost attracts users that have modest demands on complexity or volume of integration traffic. At the early stages of iPaaS adoption, most projects are not very demanding and fit well with the TerraSky offering.
- Advanced graphical design via more than 900 modeling icons frees subscribers from the need to learn a new programming language, reducing the cost of entry.
- TerraSky is the leading integration solution for salesforce.com in Japan and continues to innovate for this use scenario. Considering the wide popularity of salesforce.com worldwide, TerraSky has a promising foundation to expand into new geographies.

Cautions

- SkyOnDemand uses an isolated tenancy model of multitenancy. This least-elastic approach will be expensive for TerraSky (and consequently its customers).
- Most of the company's 130 to 150 paying customers are in Japan. The company is beginning to expand to other markets, where it will have to develop brand recognition and a solid reputation before it can gain notable market share.

- Focused mostly on CSI, TerraSky will likely not attract prospects that need to combine CSI with B2B, MAI, machine-to-machine or on-premises integration. Demand for these capabilities are likely to increase, challenging the company's ability to compete.

Tibco Software

Tibco's iPaaS offering, Cloud Bus, is based on the popular Tibco ActiveMatrix BusinessWorks (AMBW) integration platform. The offering includes ready-made integrations currently targeted at SaaS-to-on-premises integration use cases. Tibco is also positioning Cloud Bus as a way for connecting to social networks by enabling the platform to automatically scale as loads from social networks fluctuate.

To support the cloud characteristics, Cloud Bus uses Tibco Silver Fabric, a platform that supports elastic scaling of Tibco or third-party software platforms on a physical, virtual or cloud infrastructure. Silver Fabric provides Web-based interfaces for the provisioning and administration of Cloud Bus.

Strengths

- Cloud Bus is based on, although not equivalent to, AMBW, Tibco's popular, well-proven and powerful on-premises application integration offering.
- Tibco iPaaS offerings include Cloud Marketplace, which enables users to discover and subscribe to Cloud Bus-based solutions. Tibco's PaaS features also include Formvine, Cloud Compute Grid, Spotfire Cloud, Clarity and Cloud MDM.
- Tibco is again investing in the marketing of integration by refreshing its websites and via an interactive integration maturity model tool based on Tibco users' experiences. In this context, Cloud Bus is promoted with AMBW and the new AMBW Express, an offering targeting Web and MAI requirements.
- The autoscaling of Cloud Bus is provided by its proven Silver Fabric platform.

Cautions

- Cloud Bus has only been available since May 2013, and few companies have adopted it thus far. Tibco was unable to provide reference customers.
- Cloud Bus pricing is not tiered. Its published price is \$4,500 per month for four connections, with an additional connection priced at \$1,000 per month or a package of four connections at \$3,000 per month, which is competitive for enterprise-class users needing the entire set of Cloud Bus functionality. However, this pricing is not appealing to prospective SMB and LOB users that don't need the full set of sophisticated Cloud Bus functionality.
- Cloud Bus has the same general look and feel as AMBW. This will present Tibco with challenges in a market where many of the competing offerings are HTML 5.0-based and are targeted toward users with limited integration experience. Using experienced AMBW developers is more expensive than relying on integration developers with basic experience.
- Cloud Bus currently does not support classic B2B integration (for example, interactions conducted via electronic data interchange [EDI] documents).

Vigience

Vigience was founded by former SAP Labs engineers. Headquartered in Tokyo, the company has offices in Zurich, Switzerland, and operates with an international focus.

Available since 2008, Vigience's iPaaS offering (Overcast) targets visual integration between on-premises databases/applications (especially SAP ERP and SAP CRM, including SAP Hana) and popular SaaS applications (e.g., Microsoft Office 365 and salesforce.com). Vigience can offer consulting services due to its deep SAP application and infrastructure knowledge.

Strengths

- Overcast extends the back-end systems into cloud front-end applications in a noninvasive, point-to-point fashion. Overcast offers an advanced wizard-based visual tool that fully leverages endpoint user interface features. This reduces total integration steps and costs, risks of security breach, and dependency on complex technology (e.g., ESB suite), and it avoids single point of failure.
- Vigience's go-to-market strategy is to expand its partner channel by leveraging the Microsoft SharePoint (and Microsoft Office 365), salesforce.com and SAP ecosystems, and by targeting vertically focused ISVs. It plans to further strengthen its business coverage in EMEA.
- Overcast supports CSI, A2A and MAI via asynchronous and real-time synchronous callouts to be invoked by any system, as well as scheduled runs and high-speed mass data transport features.
- Vigience plans to significantly extend its integration template portfolio with additional SaaS applications, industries, business processes and use cases, including MAI and analytics integration.

Cautions

- Because of its primary focus on front-end to back-end extension, Overcast is not yet proven at addressing complex integration scenarios with numerous endpoints.

- Although Overcast enables integration with other SaaS endpoints via Web services connectivity, only a few SaaS applications are supported by the platform through its rich front-end design time, field mapping and user interface capabilities.
- Vigience and Overcast brand recognition is low, as is the number of Overcast customers and partners. These characteristics reduce the company's opportunity to penetrate the large, multinational organization market.

Vendors Added and Dropped

We review and adjust our inclusion criteria for Magic Quadrants and MarketScopes as markets change. As a result of these adjustments, the mix of vendors in any Magic Quadrant or MarketScope may change over time. A vendor's appearance in a Magic Quadrant or MarketScope 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.

This is the inaugural edition of the Magic Quadrant for Enterprise iPaaS. We plan to refresh this Magic Quadrant annually and, each time, we will update the market definition, the inclusion and evaluation criteria, and the criteria weights to reflect evolving market conditions. As a result, some vendors that are featured in this research may no longer qualify, and others that did not meet the inclusion criteria this time may then be included.

Inclusion and Exclusion Criteria

To be included in the Magic Quadrant for Enterprise iPaaS, a provider must deliver an integration platform service with the following characteristics:

- It has to be a cloud service — i.e., a service:
 - Available by subscription and accessible over Internet technologies
 - Available uniformly to all qualified subscribers
 - Supporting some sharing of physical resources between logically isolated tenants
 - Enabling some form of capabilities for self-service provisioning and management by tenants
 - Supporting bidirectional (out and back in) scaling of resources without interruption of activities and with some automation
 - Providing some instrumentation for tracking of operations
- It has to be a PaaS — i.e., a service encapsulating the underlying virtual or physical machines, their procurement, management and direct costs, and does not require tenants to be aware of them.
- It has to provide a minimal set of iPaaS capabilities:
 - Support for multiple connectivity protocols and data/message delivery styles; data and message validation, mapping and transformation; routing; orchestration and adapters to SaaS and on-premises packaged applications, data sources and technology environments.
 - Tools to develop, test, deploy, execute, administer, monitor and manage integration flows, and manage the life cycle of the relevant artifacts (transformation maps, routing rules, orchestration flows, adapters configurations, etc.).
- It has to be enterprise-grade by:
 - Providing some high availability and disaster recovery capability
 - Providing some technical support to paying subscribers
 - Including provisions for securing access to endpoints and to the platform functionality
- It has to be provided as a stand-alone service (to use the platforms, clients can subscribe only to the iPaaS capability and not to some other cloud service — for example, a SaaS application or another form of PaaS, such as aPaaS or bpmPaaS — of which the iPaaS capabilities are an embedded subset).
- It had to be generally available as of 31 July 2013.

Evaluation Criteria

Ability to Execute

Ability to Execute criteria aim at rating providers' ability to deliver an iPaaS that meets the expected set of functionality, ensuring customers' integration projects succeed, while growing in revenue and market share.

At this stage, directors of integration often look at iPaaS primarily to support point projects, rather than as a strategic integration platform. Therefore, the most important factors in their iPaaS evaluations usually are:

- The platform's ability to suit their functional requirements (product or service criterion)
- The provider's proven track record of enabling integration projects to succeed through

responsive support, adequate pricing and the ability to establish positive commercial relationship (customer experience)

Other important elements for success in this market are:

- Efficient and effective installed-base expansion through aggressive sales strategies (sales execution/pricing)
- A proven provider's track record in keeping pace with evolving market requirements (market responsiveness/record)
- Providers' effectiveness in generating brand awareness and stimulating prospect interest through sound marketing campaigns (marketing execution)
- Providers' ability to build up a credible and long-term business (overall viability)

Having a strong global sales and marketing structure and support/professional services operations, a vast partner network, and multiple, geographically distributed data centers is not a key factor at this stage of the market (operations).

In the evaluation process, we paid particular attention to the functional capabilities of providers' iPaaS offerings (product or service criterion). Therefore, we examined each provider's available services and its record in the market for:

- **Degree of cloudiness:** How extensively cloud characteristics are implemented. These include tenant isolation; resource sharing; elasticity; scaling; self-service; and instrumentation for tracking, scaling and billing. (Weighting: Standard)
- **Enterprise worthiness:** The depth and breadth of support for enterprise requirements, including high availability, disaster recovery, technical support and secure access. (High)
- **Functional completeness (breadth of offering):** How effectively the provider implements the iPaaS functionality: core integration capabilities (multiprotocol support and bridging; multiple data/message delivery styles; data/message validation, transformation and routing), adapters, data quality, development tools, administration, monitoring and management environment, support for secure communication, governance/API management. (Standard)
- **Openness:** How open, in terms of extensibility and skills portability, the offering is via support for open standards and open-source technologies; how it enables access to the iPaaS functionality via open APIs (DevOps capabilities); how it supports on-premises deployment of the platform and compatibility with on-premises integration platforms. (Standard)
- **Developers' productivity and ease of operation:** What are the provisions for integration developer's productivity (model-driven design, integration flows metadata discovery and repository, reusable integration templates, cloudstreams and comprehensive, easy-to-understand documentations and examples) and for integration flows monitoring and management. (High)
- **Community collaboration/crowdsourcing:** What are the capabilities enabling community collaboration and/or crowdsourcing among clients and/or partners to share, reuse, sell and buy integration components/metadata (including cloudstreams). (Standard)
- **Versatility:** In addition to CSI, support for use cases, such as integration across on-premises applications/data sources, B2B integration, process integration, composite applications, integration of mobile apps and machine-to-machine/Internet of Things integration. (Low)

The weightings applied to the product or service subcriteria reflect the current buying patterns, which favor ease of use and enterprise characteristics (such as security, high availability and technical support) over other technical considerations, such as functional completeness, openness and degree of cloudiness. For the most part, organizations look at iPaaS to address specific CSI requirements; therefore, platform versatility is not a priority in most organizations' selection process.

Table 1. Ability to Execute Evaluation Criteria

Evaluation Criteria	Weighting
Product or Service	High
Overall Viability	Medium
Sales Execution/Pricing	Medium
Market Responsiveness/Record	Medium
Marketing Execution	Medium
Customer Experience	High
Operations	Low

Source: Gartner (January 2014)

Completeness of Vision

Completeness of Vision criteria aim at assessing providers' ability to meet emerging requirements and drive enterprise iPaaS adoption beyond the current comfort zone (CSI), while at the same time growing a profitable and self-sustaining business. During the next 12 months, success in this market will depend on:

- The ability to understand the iPaaS market evolutions — for example, emerging use cases, such as MAI, and a growing user organization's focus on more agile approaches to integration projects (market understanding criterion).
- A road map capable of addressing new functional and nonfunctional requirements (offering [product] strategy).

Also significant will be factors such as:

- Articulating differentiating value propositions and marketing positioning (marketing strategy)
- Devising an effective and efficient sales strategy (sales strategy)
- Introducing technical and business innovation (innovation)
- Formulating a geographic expansion strategy (geographic strategy)

Addressing these challenges is important for enterprise iPaaS providers to get ahead of the competition, expand the installed base, and grow market share and revenue; but it is not more critical in enterprise iPaaS than in several other markets.

Differentiation in terms of a business model is not particularly critical at this stage. As long as their business model supports fast growth and even modest profitability, it will be sufficient for enterprise iPaaS providers to survive and possibly thrive as long as the competitive scenario remains as fragmented as it is today (business model).

Throughout 2014 (and probably for at least another year), the enterprise iPaaS market will remain primarily driven by SaaS adoption and, increasingly, by MAI, not by industry-specific requirements. Therefore, defining a specific vertical sector's strategy is not particularly important, although this likely will change in the not-too-distant future (vertical/industry strategy).

We paid particular attention to the providers' strategies for their iPaaS functional capabilities (offering [product] strategy). The relevant subcriteria are the same ones considered to rate the product/service criterion in the Ability to Execute dimension, because we don't expect technical requirements to change significantly over the next 12 months. However, the weightings applied are different, thus reflecting Gartner expectations regarding the evolution of buying patterns in that time frame. As the iPaaS scope expands to cover multiple and varied use cases, and as the iPaaS role becomes increasingly strategic, user organizations' main concerns will be versatility, functional completeness and openness (including support for multiple deployment options and compatibility with established on-premises integration platforms), as well as security, high availability and support characteristics.

To rate providers' offering (product) strategy, we examined their available road map and credibly committed initiatives for:

- **Degree of cloudiness:** How extensively cloud characteristics will be improved. These include tenant isolation; resource sharing; elasticity; scaling; self-service; and instrumentation for tracking, scaling and billing. (Weighting: Standard)
- **Enterprise worthiness:** How the provider will improve the depth and breadth of support for enterprise requirements, including high availability, disaster recovery, technical support and secure access. (High)
- **Functional completeness (breadth of offering):** How the offering evolution expands the iPaaS functionality: core integration capabilities (multiprotocol support and bridging; multiple data/message delivery styles; data/message validation, transformation and routing), adapters, data quality, development tools, administration, monitoring and management environment, support for secure communication, governance/API management. (High)
- **Openness:** How strongly will the road map enhance platform openness, in terms of extensibility and skills portability, via support of open standards and open-source technologies, how will it extend access to the iPaaS functionality via open APIs (DevOps support), and how will it improve support for on-premises deployment of the platform and compatibility with on-premises integration platforms. (High)
- **Developers' productivity and ease of operation:** How is the provider planning to enhance the platform provisions for integration developer's productivity (model-driven design, integration flows metadata discovery and repository, reusable integration templates, cloudstreams) and for integration flows monitoring and management. (Standard)
- **Community collaboration/crowdsourcing:** How effective is the provider's vision to enable community collaboration and crowdsourcing between clients and/or partners to share, reuse, sell and buy integration components/metadata (including cloudstreams). (Standard)
- **Versatility:** In addition to CSI, what are the planned functional extensions to support other use cases, such as integration between on-premises applications/data sources, B2B integration,

process integration, composite applications, integration of mobile apps and machine-to-machine/Internet of Things integration. (High)

Table 2. Completeness of Vision Evaluation Criteria

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

Source: Gartner (January 2014)

Quadrant Descriptions

Leaders

Leaders in this market have several hundred or thousands of users for their iPaaS. They have a solid reputation and notable market awareness, a proven track record in supporting a variety of use cases (often business-critical) and a notable network of partners, especially among SaaS providers. Their platforms, typically based on technology that's been in the market for years, are functionally and nonfunctionally (QoS, security, etc.) rich and mature.

None of the Leaders is a pure enterprise iPaaS player; but in all cases, iPaaS for them is a fast-growing and sizable (relative to the market dimension) business, complementary and synergistic with other businesses (traditional on-premises integration platforms, packaged applications, professional services, etc.).

A Leader's vision is typically progressive, although not revolutionary compared with other players in the market, and focused on incrementally improving the platform's capabilities, addressing emerging requirements and opportunities, and rapidly expanding market share and the installed base with a degree of comprehensiveness that is usually superior to most other players. Leaders understand what is required to drive the enterprise iPaaS market in terms of technology, adoption patterns, use cases and industry impact. Most of them have already demonstrated these abilities by playing, along with other pioneers, a crucial role in shaping the market into its present form.

Given the dynamic, rapidly changing nature of this market, we expect other players to enter the Leaders quadrant during the next 12 months. All the current Leaders have the potential, but not a guarantee, to maintain their positions.

However, Leaders are not necessarily always the best option. In many cases, other providers may prove more suitable to a given user organization's needs for a variety of reasons, including geographic coverage, technical compatibility with the established technology environment, affinity with the current and/or evolving application portfolio, levels of support and responsiveness, and already established commercial arrangements.

Challengers

Challengers in enterprise iPaaS have been in the market for several years and, in some cases, have played a pioneering role in the formation of the current iPaaS landscape. They have notable installed bases of multiple hundreds of clients, and their offerings are mature and proven in multiple integration scenarios. Consequently, they often offer competitive platforms, at least for certain use cases.

However, Challengers have a somewhat limited perspective on how the enterprise iPaaS market will evolve and what user expectations will be. This typically results in their offerings being narrower in scope than those of the Leaders, and on a relatively conservative technical road map. Their sales and marketing strategies are somewhat constrained by the provider's overall strategy or by an only partial focus on the enterprise iPaaS market.

There are only two providers rated as Challengers in this Magic Quadrant, which is a consequence of the still rather fluid state of the market. Well-established players are relatively few, whereas the majority of providers just recently entered the arena. In such a context, Challengers have the potential to make the transition into leadership positions by putting extra sales and marketing focus on the enterprise iPaaS space, and by articulating a more aggressive and ambitious road map. They will have to carefully monitor the competition, as some of the most well-executing Visionaries and

Niche Players may evolve into more threatening competitors during the next 12 months.

Visionaries

Only three vendors are rated as Visionaries in this Magic Quadrant, indicating a market where differentiation and innovation are quite difficult to achieve.

Although all the Visionaries in enterprise iPaaS have a background in traditional on-premises integration middleware, they have entered the market through acquisitions, by significantly re-engineering their on-premises products for the cloud or by developing a new iPaaS technology. They understand the specific requirements of this market and are innovating through a combination of technology, delivery models and go-to-market strategies. In some cases, Visionaries see their iPaaS offering as a key element of a broader cloud (whether SaaS- or PaaS-centric) strategy.

Visionaries' Ability to Execute is lower than that for Leaders, because of a small installed base and a certain immaturity of their offerings (due to a recent entry in the market), or because of timid marketing and unaggressive and reactive sales operations.

Some of the Visionaries are well-positioned to make the transition into the Challengers quadrant or even climb to leadership over the next few years, if they diligently execute on their vision, and gear up their sales and marketing machines.

Niche Players

More than 50% of the providers in this Magic Quadrant are rated as Niche Players, reflecting the situation of a market where, even if differentiation is difficult, the barriers to entry are quite low. Several Niche Players are small companies, often startups, entering the market during the past few years. Often, Niche Players have a relatively narrow focus in terms of the use cases they support or the geographies they serve.

Some of the Niche Players (for example, providers with a background in traditional application or data integration) are in the market experimentation phase. Their current iPaaS offerings are primarily a way for them to better understand the dynamics of this market, check the business model and learn about the go-to-market implications. Therefore, their vision is held back by their limited understanding of the market, by a prudent and conservative sales and marketing strategy, and by a timid technology road map. Nevertheless, in many cases, Niche Players' offerings can be the appropriate option for user organizations sensitive to local support that want a close relationship with a provider, seek a vendor with ability to address specific requirements or other reasons.

Given the limited number of Visionaries that can be targets for an acquisition, several Niche Players are likely to disappear or be acquired by more powerful vendors that want to enter the market. A few have the potential of substantially growing their market share and moving to the Challengers quadrant and/or significantly improving their vision and move into the Visionaries quadrant.

Context

Trends and drivers leading to enterprise iPaaS adoption will affect virtually every organization using cloud-based applications. By 2017, the majority of them will have some iPaaS functionality in place (see "Predicts 2014: The Diverse Spectrum of PaaS To Match the Diverse Cloud Business"). Support for relatively infrequent, but rapidly emerging, use cases like API publishing and management, and MAI are typically targeted in the road map of many enterprise iPaaS providers, in some cases along with the Internet of Things, big data analytics and social network integration.

During the next 12 months, directors of integration and other IT leaders who need to tackle a variety of integration requirements should look at the providers in this Magic Quadrant when it comes to:

- Supporting LOB/departmental agile CSI, B2B, APIs and MAI projects, as well as other emerging use cases.
- Looking for rapid and low-cost resolution of simple integration requirements.
- Reducing capital investments in, and ongoing operation cost for, integration technology.
- Complementing their established on-premises integration middleware with platforms targeting CSI, MAI and API requirements in the context of an integration strategy holistically supporting traditional systematically oriented and agile integration requirements.

When evaluating enterprise iPaaS providers, IT leaders will have to realize that the competitive landscape is varied and differentiated:

- Some offerings are mature and tested in hundreds of real-life projects, whereas most providers have a minimal installed base and fledgling field experience.
- Certain offerings cover a wide spectrum of use cases, supported by a rich portfolio of integration content (adapters, templates, cloudstreams, etc.). Some players are instead narrowly focused on a few, well-defined requirements.
- Some providers have global ambitions, while others target only well-identified geographies.
- Most providers concentrate on iPaaS, but a certain number of players come to market with a broader PaaS proposition.
-

- Some offerings are neutral with respect to the SaaS landscape, whereas certain platforms are biased toward a specific, narrow set of SaaS offerings.
- Some are cloud-native and available only as cloud services; others are enterprise-native and export established enterprise software to the cloud.

A common trait across most providers is a horizontal approach when it comes to industry sectors. Rarely are iPaaS offerings focused on serving the requirements of a specific vertical. Instead, most providers' value propositions and go-to-market strategies are built around SaaS and packaged application providers' ecosystems.

Therefore, at this stage of the market, to choose the optimal enterprise iPaaS, IT leaders should consider factors such as:

- Nature of the integration project (traditional versus agile)
- Rapid integration versus advanced functionality requirements
- Scope of the project (single use case [e.g., CSI] versus multiple requirements)
- Platform fitness to the established and evolving technology and application environments
- Ability of the iPaaS to support emerging integration requirements the client organization deems relevant for the business strategy
- Ability to federate the iPaaS with the established on-premises integration platform
- SLA and QoS requirements
- Security and regulatory compliance needs
- Geographic location of the iPaaS data centers and support centers
- Level of integration competencies available in-house
- Availability and cost of iPaaS skills from the provider and external service providers
- Cost expectations and available budget

Given the degree of differences among offerings in this relatively early and immature market, IT leaders should select enterprise iPaaS offerings after having developed a good understanding of their requirements and priorities. They should expect continuing consolidation and change in the market, leading to some disruptions in iPaaS technologies and practices in the next two years.

Market Overview

In the enterprise iPaaS market, organizations are adopting a semi-outsourced approach to integration, whereby responsibility for integration projects is maintained in-house (or delegated to a trusted system integrator). The implementation, provisioning, operation, monitoring, management and maintenance of the enterprise-grade integration platform are instead delegated to an external service provider delivering the platform as a cloud service. An integration platform in the form of a cloud service is indeed an enterprise iPaaS.

Gartner estimates that the worldwide PaaS market exceeded \$1.2 billion in revenue in 2012. Within this market, iPaaS is the second-largest segment, with \$190 million in revenue. We expect the iPaaS segment to grow faster than the PaaS market average, with a compound annual growth rate (CAGR) of almost 30% between 2012 and 2017 (see "Who's Who in Integration Platform as a Service"). At the same time, markets delivering application integration capabilities as on-premises software (primarily ESB suites and B2B gateway software) will show only about 7% CAGR, whereas the on-premises data integration tool market will show 9% CAGR.

We estimate that most enterprise iPaaS providers generate less than \$10 million from their offerings, with only a few collecting higher amounts, and none exceeding \$50 million. What makes enterprise iPaaS so attractive for technology providers are expectations about its growth, rather than the current size of the market.

Adoption may be hampered by the lack of standards and skills, incomplete offerings, the nuisance of federating enterprise iPaaS with classic on-premises integration platforms, and concerns about security and privacy. Finally, questionable viability of some providers is a problem, as several players are extremely small and vulnerable to short-term market shocks and to the initially low profitability of the subscription business model.

Nevertheless, our strong enterprise iPaaS market growth rate estimates for the next five years are based on the assumption that virtually all user organizations must integrate applications, and at least some of these applications are, or will be, in the cloud. Other powerful drivers for enterprise iPaaS adoption will be MAI and API publishing and management, which will determine growing overlap and convergence with API management and mobile back-end as a service (mBaaS) offerings.

Fast growth of the enterprise iPaaS market, combined with the rapidly expanding penetration of public cloud services in large enterprises, not only appeals to newcomers, but also attracts investments from the traditional integration middleware powerhouses. These vendors see their entry in the enterprise iPaaS market as a way to:

- Address SMBs (a segment most of them have neglected)

- Cross-sell to their established clientele
- Counter the penetration of enterprise iPaaS pure-play providers in large enterprises, especially at the LOB/departmental level

The more visionary of the established integration vendors understand that enterprise iPaaS is an opportunity to start fresh and build a new modern integration infrastructure, replacing the function-rich, but expensive and aging, technology.

Software megavendors feel compelled to articulate a PaaS strategy, including enterprise iPaaS, as an obvious and required extension to their evolving SaaS offering.

Typically, startup companies try to differentiate themselves by targeting specific use cases, such as integration of salesforce.com with on-premises SAP, or by serving specific geographies. Established integration middleware vendors, instead, usually integrate their enterprise iPaaS offerings into broad value propositions aimed at covering a large spectrum of traditional and emerging integration requirements.

Because of its expanding versatility, enterprise iPaaS offerings increasingly compete with classic on-premises integration platforms. However, especially in large organizations, enterprise iPaaS offerings often cooperate with established integration middleware. This will lead to the emergence of hybrid integration platforms, combining enterprise iPaaS characteristics with those of traditional on-premises integration platforms, enabling public and private cloud deployment models and serving a variety of requirements: traditional systematically oriented, ICC-driven integration initiatives; agile/rapid integration, LOB-level projects; and individual, simple integrations carried out by citizen integrators who are not part of IT teams.

Enterprise iPaaS capabilities are increasingly provided as embedded features in a variety of cloud services (for example, SaaS applications or broad PaaS suites) and IT outsourcing offerings — for example, integration brokerages and CSBs (see "Benefits and Drawbacks of iPaaS as an 'Embedded' Feature of Cloud Services").

Primarily due to the entry of powerful and ambitious players, enterprise iPaaS will be increasingly delivered as distinct or integrated functionality of broader PaaS suites, often aligned with the SaaS offering from the same vendor. This process, to a certain extent, mirrors what happened in the traditional on-premises middleware market, where integration technology is now offered primarily as a component of large suites of application infrastructure capabilities. However, independent and stand-alone enterprise iPaaS offerings will remain in the market owing to users' requirements for neutral integration platforms bridging megavendors' SaaS ecosystems.

This Magic Quadrant identifies 17 vendors that met the inclusion criteria. Some providers released enterprise iPaaS offerings after the cutoff date of 31 July 2013 for this research. For example, Microsoft announced general availability of its Microsoft Azure BizTalk Services in November 2013. Other traditional integration vendors (for example, Red Hat and Software AG) formally or informally expressed intentions to enter the enterprise iPaaS market during 2014. Gartner expects several other vendors (for example, Apigee, Axway, Oracle, salesforce.com and Talend) to release enterprise iPaaS during the next 12 to 18 months. Some providers (for example, LogMeIn, Mykoots and Eurotech) that focus on the integration of operational technology (such as sensors, actuators and embedded systems) with enterprise business systems have adopted an iPaaS model to deliver their technology to support machine-to-machine and Internet of Things scenarios.

Consequently, the already crowded vendor landscape will become more confusing and fragmented over the next 12 to 18 months. Leadership positions will change, many players will be acquired or simply disappear from the market, and new, powerful providers will emerge.

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