

The Forrester Wave™: Enterprise Insight Platform Suites, Q4 2016

The Seven Providers That Matter Most And How They Stack Up

by Brian Hopkins

December 7, 2016

Why Read This Report

Insight platforms that combine data management, analytics, and insight execution tools were 2016's top emerging technology priority according to enterprise architects. In our 30-criteria evaluation of enterprise insight platform suite providers, we identified, researched, analyzed, and scored the seven most significant vendors in the market — IBM, Oracle, Pivotal Software, SAP, SAS, TIBCO Software, and Teradata. These vendors have comprehensive suites of technology they position as a platform for data management, analytics, and insight execution. This report shows how each provider measures up and helps enterprise architects make the right choice.

Key Takeaways

SAS Leads The Pack, With TIBCO Software A Close Second

Forrester's research uncovered a market in which SAS leads the pack. TIBCO Software, Oracle, and Pivotal Software offer competitive options. SAP, IBM, and Teradata lag a bit but were also close to reaching our Strong Performer group.

Enterprise Architecture (EA) Pros Are Looking For Platforms They Can Trust

The enterprise insight platform suites segment is growing because customers have struggled with open source and a bevy of startups, and they need a platform they can trust with their most demanding enterprise applications.

High Performers Differentiate Themselves By Supporting Insight-To-Execution

SAS, TIBCO Software, and Pivotal Software differentiated themselves in our evaluation with a clear vision of offering an insight platform that supports the implementation of insight at the point of decision. Other vendors in the study exhibited some elements of this vision but focused primarily on offering a number of separate tools without a platform unification strategy.

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The Seven Providers That Matter Most And How They Stack Up



by [Brian Hopkins](#)
with [Srividya Sridharan](#), [Elizabeth Cullen](#), and Jun Lee
December 7, 2016

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Forrester conducted product evaluations in September 2016 and interviewed five vendor and user companies: Pivotal Software, SAP, SAS, Teradata, and TIBCO Software.

Related Research Documents

[The Insights-Driven Business](#)

[The Top Emerging Technologies To Watch: 2017 To 2021](#)

[Vendor Landscape: Insights Platforms, Q3 2016](#)

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Insight Platforms Are 2016's Top Emerging Tech Priority

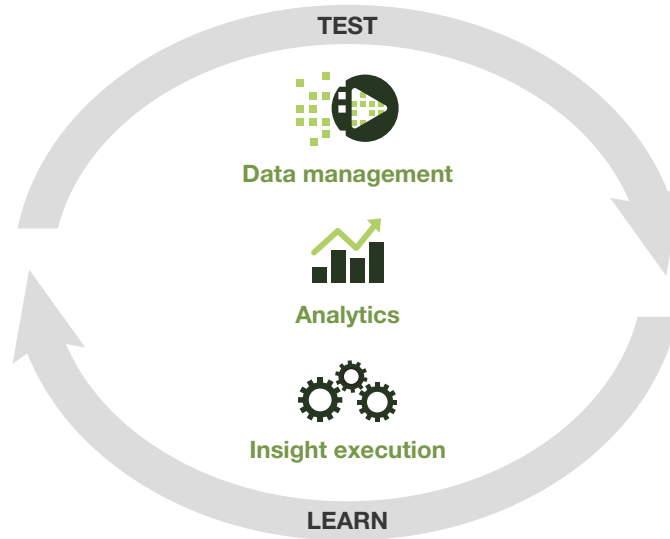
Your business is balancing many demands. Investors want revenue growth and cost reduction, and in response, business and technology decision-makers prioritize digital transformation to improve customer experiences, products, and services that satisfy customers' ever-increasing expectations.¹ They want insight from more data to drive outcomes that make a difference to balance sheets and profit/loss statements — they have little time for the complex reality of big data. Yet EA pros are embroiled in that reality. There are simply too many immature and partially integrated technologies required. Hadoop has already become a widely adopted platform to manage big data. But to get value, your firm will likely also need other tools like Spark, Kafka, MongoDB, streaming analytics, search and knowledge management, natural language processing (NLP), and a data science platform.

With so many technology choices, what you need is a simplified way to develop and deploy data analytics applications that meet your firm's thirst for insights at the moment of the most important customer and employee decisions. In other words, your business needs technology that lets it easily build and evolve systems of insight.² You need an insight platform, a term that has struck a chord with both enterprise architects and vendors (see Figure 1).

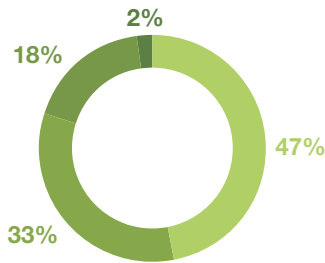
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FIGURE 1 Insight Platforms Are A High Priority With Buyers And Sellers

Insight platforms connect data, insights, and action . . .



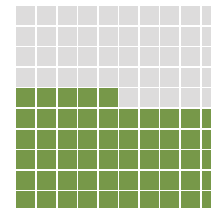
. . . buyers are embracing this emerging technology . . .



- Starting to invest in a platform
- Selecting insight platform for implementation
- Tracking how insight platforms are evolving
- Not interested in insight platforms today

Base: 163 enterprise architecture professionals

. . . and vendors are packaging insights platforms.



55%
of vendors report having data management, analytics, and insight execution capabilities.

Base: 143 data management and analytics vendors*

Source: Forrester's Q3 2016 Global State Of Enterprise Architecture And Portfolio Management Online Survey

*Source: Forrester's Q2 2016 Global Insight Platform Vendor Marketplace Online Survey

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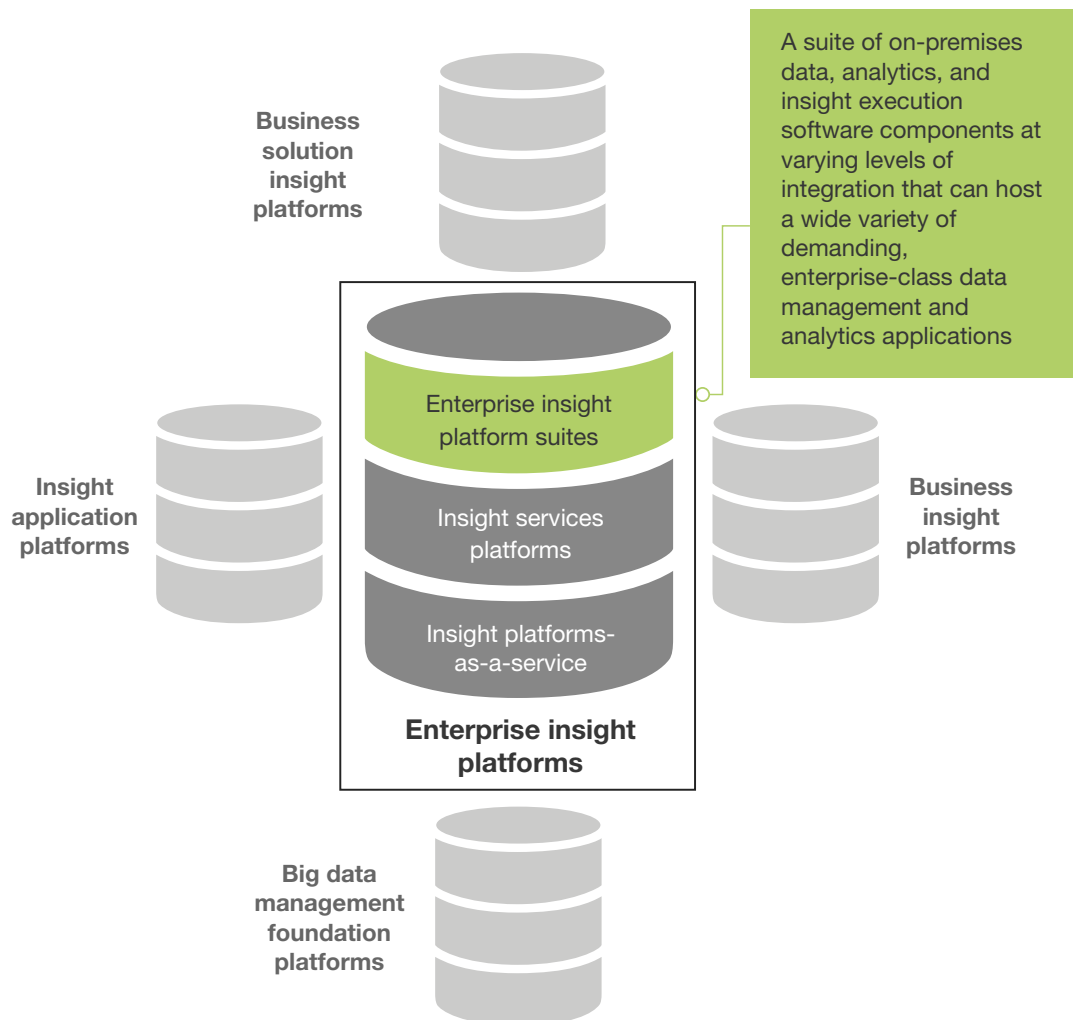
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Enterprise Insight Platform Suites Offer Capabilities For Business And Data Pros

In this Forrester Wave, we evaluated one important part of the overall insight platform market: enterprise insight platform suites, a segment of the enterprise insight platform (see Figure 2). Forrester defines enterprise insight platform suites as:

Integrated or partially integrated suites of data management, analytics, and insight execution components that require some integration and configuration to form a platform.

FIGURE 2 Enterprise Insight Platform Suites Are A Segment Of The Overall Market



Source: “Vendor Landscape: Insights Platforms, Q3 2016” Forrester report

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Enterprise Insight Platform Suites Evaluation Overview

To assess the state of the enterprise insight platform suites market and see how the vendors stack up against each other, Forrester evaluated the strengths and weaknesses of seven top vendors. After examining past research, user-need assessments, and vendor and expert interviews, we developed a comprehensive set of 30 evaluation criteria, which we grouped into three high-level buckets:

- › **Current offering.** Forrester scored each vendor's current data management and analytics capabilities, considering both breadth and quality capabilities and using past Forrester Wave evaluations and the results of a reference customer survey and interviews as inputs (see Figure 3).³ We further evaluated the vendor's ability to operationalize insight by hosting insight applications, caching insights for rapid access, and providing integration tools. Next we considered the vendor's capabilities for creating closed-loop, continuously optimized systems of insight. For example, we looked at the vendor's tools for running experiments, measuring and learning, and delivering in an agile, DevOps style.⁴ Finally, we considered how well the vendor's suite of components installed, operated, and scaled as a platform.
- › **Strategy.** Forrester scored each vendor's strategy first by assessing their vision for transforming their offerings into a platform, weighting heavily 2017 vendor commitments to reducing component sprawl, and simplifying installation, upgrades, scaling, security, metadata, and overall management (see Figure 4). We also evaluated the vendor's leadership, vision, and plans to improve critical capabilities around important trends. We considered big data, real time, hybrid cloud, systems of insight, and data security and privacy, adjusting scores based on reference customer surveys and interviews. We also considered the vendor's intellectual property, cost, and channel ecosystem.
- › **Market presence.** Forrester scored each vendor's market presence based on the installed base of customers, revenues, and global presence.

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FIGURE 3 Forrester Wave™ Evaluations That We Considered As Part Of Current Offering Scores

Forrester Wave title	IBM	Oracle	Pivotal Software	SAP	SAS	Teradata	TIBCO
The Forrester Wave™: NoSQL Key-Value Databases, Q3 2014		●					
The Forrester Wave™: Enterprise Data Virtualization, Q1 2015	●	●		●	●	○	
The Forrester Wave™: In-Memory Database Platforms, Q3 2015	●	●		●		●	
The Forrester Wave™: Enterprise Data Warehouse, Q4 2015	●	●	●	●		●	
The Forrester Wave™: Data Governance Stewardship Applications, Q1 2016	●						
The Forrester Wave™: Big Data Hadoop Distributions, Q1 2016	●	○	●			○	
The Forrester Wave™: Master Data Management, Q1 2016	●			●	●	○	●
The Forrester Wave™: Big Data Hadoop-Optimized Systems, Q2 2016	●	●				●	
The Forrester Wave™: Enterprise Business Intelligence Platforms, Q1 2015	●	●		●	●	○	●
The Forrester Wave™: Big Data Predictive Analytics Solutions, Q2 2015	●	●	○	●	●		

KEY

DATA MANAGEMENT

- Vendor's product
- OEM partnership

ANALYTICS

- Vendor's product
- OEM partnership

INSIGHT EXECUTION

- Vendor's product
- OEM partnership

The graphic represents vendor participation in prior Forrester Wave evaluations relating to data management, analytics, and insight execution.

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FIGURE 3 Forrester Wave™ Evaluations That We Considered As Part Of Current Offering Scores (Cont.)

Forrester Wave title	IBM	Oracle	Pivotal Software	SAP	SAS	Teradata	TIBCO
The Forrester Wave™: Agile Business Intelligence Platforms, Q3 2015	●	●		●	●	○	●
The Forrester Wave™: Cloud Business Intelligence Platforms, Q4 2015	●	●		●	●		●
The Forrester Wave™: Big Data Text Analytics Platforms, Q2 2016	●				●	○	
The Forrester Wave™: Geospatial Analytics Tools And Platforms, Q3 2016		●		●			
The Forrester Wave™: Native Hadoop BI Platforms, Q3 2016		●					
The Forrester Wave™: In-Memory Data Grids, Q3 2015	●	●	●				●
The Forrester Wave™: Big Data Search And Knowledge Discovery Solutions, Q3 2015	● ●						○ ○
The Forrester Wave™: Customer Analytics Solutions, Q1 2016	● ●			● ●	● ●	● ●	
The Forrester Wave™: Big Data Streaming Analytics, Q1 2016	● ● ●	● ●		● ● ●	● ● ●	○ ○ ○	● ● ●

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DATA MANAGEMENT

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The graphic represents vendor participation in prior Forrester Wave evaluations relating to data management, analytics, and insight execution.

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FIGURE 4 Forrester Wave™ Evaluations That We Considered As Part Of Strategy Scores

Forrester Wave title	IBM	Oracle	Pivotal Software	SAP	SAS	Teradata	S
The Forrester Wave™: NoSQL Key-Value Databases, Q3 2014		●					
The Forrester Wave™: Big Data Predictive Analytics Solutions, Q2 2015	●	●	○	●	●		
The Forrester Wave™: Big Data Search And Knowledge Discovery Solutions, Q3 2015	●						○
The Forrester Wave™: Big Data Hadoop Distributions, Q1 2016	●	○	●			○	
The Forrester Wave™: Big Data Streaming Analytics, Q1 2016	●	●		●	●	○	●
The Forrester Wave™: Big Data Hadoop-Optimized Systems, Q2 2016	●	●				●	
The Forrester Wave™: Big Data Text Analytics Platforms, Q2 2016	●				●	○	
The Forrester Wave™: Native Hadoop BI Platforms, Q3 2016		●					
The Forrester Wave™: In-Memory Data Grids, Q3 2015	●	●	●				●
The Forrester Wave™: In-Memory Database Platforms, Q3 2015	●	●		●		●	
The Forrester Wave™: Cloud Business Intelligence Platforms, Q4 2015	●	●		●	●		●

KEY

BIG DATA

- Vendor's product
- OEM partnership

REAL TIME

- Vendor's product
- OEM partnership

CLOUD

- Vendor's product
- OEM partnership

The graphic represents vendor participation in prior Forrester Wave evaluations of the vendor's strategy as it related to big data, real time, and cloud.

Evaluated Vendors And Inclusion Criteria

Forrester included seven vendors in this evaluation: IBM, Oracle, Pivotal Software, Teradata, TIBCO Software, SAP, and SAS, with IBM and Oracle as partially participating vendors (see Figure 5). Our inclusion criteria ensured that all of these vendors have a history of serving the largest, most demanding customers. In addition, we ensured the selected vendors' platforms:

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- › **Have data management and analytics components.** We looked for vendors that offer products or components for management and governance of both data at rest and data in motion. We further selected vendors that offer at least two different types of analytics, including visual analytics, reporting, decision support, predictive analytics, streaming analytics, customer analytics, text analytics, search, semantics, and cognitive.
- › **Have capabilities for insight execution, outcome measurements, testing, and learning.** The vendors all have tools for capturing insights and integrating them with other processes and applications that are part of systems of engagement and record. They further have capabilities that allow users to measure outcomes, experiment, learn, and deliver updates with agility.
- › **Are appropriate for a wide variety of use cases and enterprise stakeholders.** The vendors we selected are all general enough to support many different departmental and industry-specific solutions. They also offer tools for many different stakeholders, such as business managers, analysts, data professionals, security/risk/governance professionals, application developers, and technology managers.
- › **Can run on-premises.** The vendors all offer the ability to run most, if not all, of their products in customers' data centers. Additionally, all vendors also offer versions of most of their products that can be installed on public cloud infrastructure-as-a-service (IaaS); however, this was not an inclusion requirement.⁵

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FIGURE 5 Evaluated Vendors: Product Information And Selection Criteria

	Data management	Analytics	Insight execution	Big data foundation
IBM	Infosphere Information Server (with Master Data Management Edition, Federation Server, Big Insights), DB2 with Blue Acceleration, IBM Power Systems (Big Insights and IBM Data Engine for Analytics)	Watson Explorer, Watson Analytics, Cognos Business Intelligence, Streams, SPSS Suite, Predictive Customer Intelligence	Websphere Extreme Scale, Streams, Decision Optimizer, Predictive Customer Intelligence	Infosphere Big Insights, Streams, Power Systems
Oracle	Exadata Database Machine X5 (or Exalytics), Big Data Appliance X5, NoSQL Database, TimesTen In-memory Database, Integration Suite (Data Service Integrator, Bulk Data Integration and Transformation, Real-time Data Integration and Replication, Data Quality and Data Governance, Event Processor, Metadata Management, Integration Cloud Service)	Business Intelligence, BI Foundation Suite, Stream Explorer, Spatial, Big Data Discovery, Advanced Analytics, Real-time Decisions	Coherence, Big Data Discovery, Event Processor, Real-time Decisions	Big Data Appliance X5, Event Processor, Coherence, Exadata (or Exalytics)
Pivotal Software	Spring Cloud Data Flow, Pivotal Greenplum, Pivotal HDB (powered by Apache HAWQ), Alpine Data Labs (OEM), Pivotal HDP (OEM Hortonworks Data Platform)	Spring Cloud Data Flow, Pivotal Greenplum, Pivotal HDB (powered by Apache HAWQ), Alpine Data Labs (OEM), Apache MADlib (open source)	Pivotal GemFire, Pivotal Spring Cloud Data Flow, Pivotal Cloud Foundry	Pivotal Cloud Foundry, Pivotal HDB (powered by Apache HAWQ), Pivotal HDP (OEM Hortonworks Data Platform)
SAP	Hana Enterprise, Hana Vora, Agile Data Preparation, Event Stream Processor, Data Services, Hana Smart Data Access and Streaming, Information Steward, Replication Server	BusinessObjects Business — Business Intelligence, Lumira, Predictive Analytics (including Predictive Factory), Cloud, Event Stream Processor, SAP Business Suite, Hana R Integration	Event Stream Processor, Hana, Process Orchestration, Hana Smart Data Access and Streaming, SAP Business Suite	Hana, Hana Vora

Note: We did not evaluate all of these products individually, but we considered them as a part of the vendor's overall insight platform.

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FIGURE 5 Evaluated Vendors: Product Information And Selection Criteria (Cont.)

	Data management	Analytics	Insight execution	Big data foundation
SAS	Data Management, Access Interface to Hadoop, Data Quality Accelerator, In-database Code Accelerator, Federation Server, Data Loader for Hadoop, Event Stream Processing	Visual Analytics, Enterprise Miner, Office Analytics, Model Manager, Scoring Accelerator, Event Stream Processing, Customer Intelligence (and 360)	Decision Manager, Business Rules Manager, Event Stream Processing, Marketing Optimization, Customer Intelligence (and 360)	Grid Manager, Access Interface to Hadoop, Data Loader for Hadoop, Event Stream Processing
Teradata	Unified Data Architecture, Teradata Database, Unity, Viewpoint, Parallel Transporter, Reference Data Manager, QueryGrid, Logical Data Models, Data Mover, Listener, Protegrity Enterprise Security Administrator, Protegrity Data Protectors (OEM)	Aster Analytics, Customer Interaction Manager, Warehouse Miner, Analytics for SAP, Module for Python	Customer Interaction Manager, Real-time Interaction Manager, Aster App Center, REST Services	Integrated Big Data Platform appliance, Teradata Appliance for Hadoop, Teradata Database on AWS, IntelliFlex, Active System Manager, Virtual Storage, Intelligent Memory, Managed Cloud
TIBCO Software	StreamBase, Spotfire, Advanced Data Services (OEM), Attivio (OEM)	StreamBase, Spotfire, TIBCO Enterprise Runtime For R, Attivio (OEM)	StreamBase, Live Datamart and Live View, TIBCO Enterprise Runtime For R, Business Events	StreamBase, Spotfire, Hadoop/Spark connectors, Advanced Data Services (OEM), Attivio (OEM)

Note: We did not evaluate all of these products individually, but we considered them as a part of the vendor's overall insight platform.

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FIGURE 5 Evaluated Vendors: Product Information And Selection Criteria (Cont.)**Vendor inclusion criteria**

- The solution has data management and analytics components.
- The solution has capabilities for insight execution, outcome measurements, and testing and learning.
- The solution is appropriate for a wide variety of use cases and enterprise stakeholders.
- The solution can run on-premises.
- The solution is marketed to enterprise clients.

Vendor Profiles

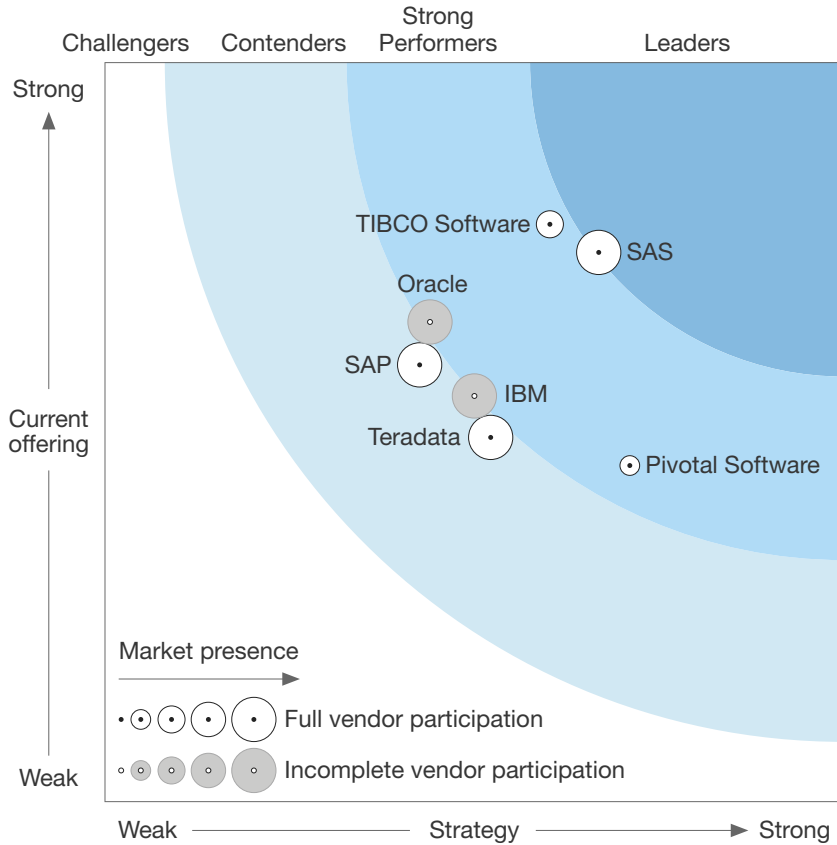
All of the vendors we evaluated participated and scored well in previous Forrester Wave evaluations for data management, analytics, or both. This makes any of these vendors a good choice for your data management or analytics needs. While we gave credit where it was due for these capabilities, our scoring methodology gave more weight to the vendor's ability to deliver a platform that is greater than the sum of its parts. Our evaluation focuses on matching the needs of buyers who need much more from their insights tools to serve demanding customers. Overall, we found that these experienced enterprise vendors, while strong in individual areas, have significant work to do to execute a true enterprise insight platform vision.

This evaluation of the enterprise insight platform suites market is intended to be a starting point only. We encourage clients to view detailed product evaluations and adapt criteria weightings to fit their individual needs through the Forrester Wave Excel-based vendor comparison tool (see Figure 6).

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FIGURE 6 Forrester Wave™: Enterprise Insight Platform Suites, Q4 '16



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

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FIGURE 6 Forrester Wave™: Enterprise Insight Platform Suites, Q4 '16 (Cont.)

	Forrester's weighting	Pivotal Software	SAP	SAS	Teradata	TIBCO Software
Current Offering	50%	2.26	2.94	3.70	2.45	3.89
Data management	10%	2.00	4.50	3.00	3.00	3.50
Analytics	25%	1.20	4.80	4.80	3.80	5.00
Insight execution	10%	2.20	3.00	5.00	3.60	4.40
Feedback loop (measure, test, and learn)	15%	3.20	3.20	4.80	2.60	3.60
Platform installation, management, and scale	25%	4.25	1.45	1.50	1.80	2.85
Customer satisfaction with current offering	15%	0.00	1.00	4.00	0.00	4.00
Strategy	50%	3.55	2.13	3.34	2.61	3.01
Overall platform vision	20%	5.00	2.00	3.00	2.00	3.00
Key platform strategy differentiators	50%	3.15	1.55	3.40	2.85	3.00
Intellectual property, R&D, and open source contribution	5%	3.00	3.00	5.00	5.00	3.00
Channel ecosystem	10%	1.00	5.00	5.00	3.00	3.00
Cost	15%	4.80	2.05	1.95	1.55	3.05
Market Presence	0%	2.00	5.00	5.00	4.33	3.00
Installed base	33%	0.00	5.00	5.00	3.00	3.00
Revenue	33%	1.00	5.00	5.00	5.00	1.00
Global presence	33%	5.00	5.00	5.00	5.00	5.00

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

SAS Was Our Only Leader

While no vendors scored deep into our Leader group, one vendor showed enough promise for its current capabilities and platform to make it past our Leader threshold.

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- › **SAS offers a balance between strength of current offering and a platform strategy.** SAS has best-in-class analytics coupled with a breadth of good data management for streaming, virtualization, and master data management. It has made progress simplifying its tools, and its recently launched SAS Viya offers promises to go even further in modernizing and simplifying its architecture.⁶ The vendor's platform features integrated metadata and tools for executing insights, including a customer analytics and decision management solution. Firms that are already using SAS for analytics or looking to simplify their heterogeneous data management and analytics architecture should consider embracing SAS Viya as an enterprise insight platform as more of it rolls out in 2017.

SAS's weaknesses stem from its strengths. For years, SAS built its own advanced tools because it was the only game in town. Now it's facing a huge modernization effort as its components age, competitors spring up, and customers demand better support for languages like Python. SAS 9 has several different analytic engines, a proprietary metadata repository, and grid infrastructure that can be tricky to install and manage. Reference customers also told us of complex and long-running installations and needing professional services just to install routine patches.

Strong Performers Go Beyond Big Data Analytics With Platform Innovations

Our Strong Performer group stood out from the Contender pack in several ways. TIBCO Software and Oracle have both performed superbly in previous Forrester Wave evaluations of individual product categories in data management and analytics. In this evaluation, TIBCO and Pivotal Software demonstrated strong strategies for simplifying and making their platform more flexible and easier to acquire, manage, scale, and upgrade.

- › **Oracle features top data management, analytics, and customer feedback.** Oracle fared extremely well in previous Forrester Wave evaluations for data management and advanced analytics for data at rest and in motion. The company also had exceptionally strong reference customer ratings in this evaluation, especially in areas like unified metadata, security, and governance where other participants were weak. Furthermore, its prebuilt business apps for business intelligence (BI) have no real competitors. Oracle has moved quickly to embrace managed, hybrid cloud, and highly virtualized components that are increasingly preintegrated and priced on a subscription or consumption basis. This gives Oracle a credible platform claim; however, the vendor has a ways to go to ensure its offering is simplified and works well with non-Oracle technology. Oracle was a partial participant this evaluation.
- › **Pivotal Software has the best platform strategy, which offsets some weaknesses.** Pivotal's vision of implementing a simplified and scalable big data platform, with both data-at-rest and data-in-motion capabilities, will appeal to tech managers, while its software is loaded with tools to help developers create flexible, microservice-oriented data analytics applications. Pivotal features a leading in-memory data grid for insight execution and OEM of Alpine Data Labs for data preparation and predictive analytics. It also has done significant integration work with Spring Cloud

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Data Flow and other components as well as added a GUI. Firms that want a flexible, scalable, and evolving big data platform for developers and that are willing to work through open source maturity issues should consider this vendor's offering.

Pivotal has significant gaps in its current offering, due in part to open source immaturity but also because of the vendor's primary focus on developers. It lacks many enterprise data management capabilities such as data governance and ETL, which buyers must plug in.⁷ It also relies on partners to supply traditional BI or visual analytic front ends. Customer references reported security issues between components and installation issues, even on EMC hardware. Furthermore, the vendor's tools work as a platform primarily when apps are managed via Cloud Foundry.⁸

› **TIBCO Software excels in insights-to-execution backed by positive customer feedback.**

TIBCO focuses on real-time insight execution coupled with leading streaming and agile BI components. Its platform features deep integration between streaming, visual, and predictive analytics that will only get better next year.⁹ Furthermore, its open source, fast-insights framework can help developers rapidly build solutions. TIBCO's OEM of Attivio provides excellent data lake, governance, and search tools as well. Finally, the vendor had good customer reference ratings relative to other participants, especially in areas like insight execution, analytics tools, and runtime components. Firms looking to build real-time systems of insight should consider TIBCO.

Like many enterprise vendors, TIBCO offers competing tools with some complexity; as one customer reference told us, the tools the vendor recommends depend highly on the sales and professional services teams you engage with.¹⁰ Streambase, its centerpiece of real-time insight to execution, is aging, but a new version rebuilt on a modern platform was released in November 2016. Also, many of the integrations that buyers will want, such as a federated authentication protocol between Streambase and Spotfire, are planned for release in the first half of 2017.

Contenders Are Evolving Their Components Into Platforms

IBM, SAP, and Teradata are Contenders in this evaluation. They all have similar scores, as they are all pursuing a similar strategy — modernizing their established but aging data management or full-stack BI suites by adding more real-time, big data, and advanced analytics capabilities. These vendors all have strong individual components; however, their current offerings are generally complex and their platform strategies are not as robust as those of the Strong Performers.

- › **IBM offers a leading set of components and a credible insight platform strategy.** IBM offers the most comprehensive set of data management, analytics, and insight execution tools of any vendor we looked at. Furthermore, it has long been a proponent of building closed-loop systems of insight, and it helped pioneer big data, streaming, and cognitive disciplines. However, IBM still depends on revenue from selling individual products, even though this is changing rapidly. Buyers of IBM's components should expect to make significant professional services investments in order

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to fashion an on-premises insight platform. This is because the vendor is shifting its focus from individual components to focus on its Bluemix platform-as-a-service and Watson offerings. IBM was a partial participant in this evaluation.

- › **SAP builds on its leading data and analytics components with S4/Hana and Hana Vora.** SAP provides leading individual components, scoring extremely well in Forrester's data management, BI, and streaming and predictive analytics Forrester Wave evaluations. Hana is the centerpiece of SAP's current offering, and Hana Vora will ultimately extend its platform capabilities further into the big data space through Spark and Hadoop. In addition, SAP's metadata, security, and governance technologies are well integrated. Firms with existing SAP components or that need blazing-fast analytics in real time or against structured data sets should consider SAP's platform.

SAP's weaknesses include some issues with ease of use, a late cloud strategy, and a philosophy that emphasizes one-way "BI-style" analytics over closed-loop, continuously optimized systems of insight. For example, years after acquiring BusinessObjects, it still has work to do in integrating components. And SAP just solidified its BusinessObjects cloud strategy in 2015. Customer references, not unexpectedly, said that some SAP tools were not designed with the customer in mind, and they were still somewhat overwhelmed by SAP's sales approach of pushing Hana in to every situation.

- › **Teradata is deep into a transformation journey from data to analytics and insight.** When it comes to pure data-crunching power, Teradata screams — but it does not want to be a just a database company. It has built a credible insight platform by adding Aster Analytics, Hadoop, and QueryGrid in its Unified Data Architecture. On top of this, it offers a solid customer analytics and interaction management solution and has a best-in-class professional services arm. Finally, Teradata has an exceptional list of resale agreements, where it provides first- and sometimes second-tier support for other vendors' analytics and data integration tools. Firms that want to transition their Teradata warehouse-based environment into big data should consider Teradata.

Teradata mastered data warehousing, but now it struggles to break out of this paradigm. Unlike its competitors, it has no general data-in-motion analytics capability (its answer to real time is a faster database). Customer references reported issues unifying diverse suites of products. Finally, our customer survey revealed some dissatisfaction with important insight platform capabilities like support for analytic DevOps, analytic runtime, and insight integration.

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Supplemental Material

Survey Methodology

Forrester's Global Business Technographics Priorities And Journey Survey, 2016, was fielded from December 2015 to January 2016. This online survey included 18,610 respondents in Australia, Brazil, Canada, China, France, Germany, India, New Zealand, the UK, and the US from companies with two or more employees.

Forrester's Business Technographics ensures that the final survey population contains only those with significant involvement in the planning, funding, and purchasing of business and technology products and services. Research Now fielded this survey on behalf of Forrester. Survey respondent incentives include points redeemable for gift certificates.

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The Seven Providers That Matter Most And How They Stack Up

Please note that the brand questions included in this survey should not be used to measure market share. The purpose of Forrester's Business Technographics brand questions is to show usage of a brand by a specific target audience at one point in time.

Forrester's Q3 2016 Global State Of Enterprise Architecture And Portfolio Management Online Survey was fielded to 179 tech management professionals involved in or familiar with EA from our ongoing tech management research panel and readers who have demonstrated an interest in EA research. The panel consists of volunteers who join on the basis of interest and familiarity with specific tech management topics. For quality assurance, panelists are required to provide contact information and answer basic questions about their firms' revenue and budgets. Forrester fielded the survey from July to August 2016. Respondent incentives included a summary of the survey results, research, and a complimentary webinar that discusses the survey results. Exact sample sizes are provided on a question-by-question basis. Panels are not guaranteed to be representative of the population. Unless otherwise noted, statistical data is intended to be used for descriptive and not inferential purposes.

Forrester's Q2 2016 Global Insight Platform Vendor Marketplace Online Survey was fielded to 143 vendors involved in or familiar with the data management, analytics, and insight execution market. Attendance at Strata-Hadoop 2015 in San Jose, California, widely considered the premier big data industry event, was a prerequisite for inclusion. The panel consists of volunteers who join on the basis of interest and familiarity with specific big data and insight technologies. For quality assurance, panelists are required to provide contact information and answer basic questions about their firms' revenues and budgets. Forrester fielded the survey in April 2016. Respondent incentives included a complimentary copy of a forthcoming Forrester report. Exact sample sizes are provided in this report on a question-by-question basis. Panels are not guaranteed to be representative of the population. Unless otherwise noted, statistical data is intended to be used for descriptive and not inferential purposes.

Online Resource

The online version of Figure 6 is an Excel-based vendor comparison tool that provides detailed product evaluations and customizable rankings.

Data Sources Used In This Forrester Wave

Forrester used a combination of three data sources to assess the strengths and weaknesses of each solution. We evaluated the vendors participating in this Forrester Wave, in part, using materials that they provided to us by November 16, 2016.

- › **Vendor surveys.** Forrester surveyed vendors on their capabilities as they relate to the evaluation criteria. Once we analyzed the completed vendor surveys, we conducted vendor calls where necessary to gather details of vendor qualifications.
- › **Product demos.** We asked vendors to conduct demonstrations of their products' functionality. We used findings from these product demos to validate details of each vendor's product capabilities.

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- › **Customer reference calls.** To validate product and vendor qualifications, Forrester also conducted reference calls with one of each vendor's current customers.

The Forrester Wave Methodology

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

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

We set default weightings to reflect our analysis of the needs of large user companies — and/or other scenarios as outlined in the Forrester Wave evaluation — and then score the vendors based on a clearly defined scale. We intend these default weightings to serve only as a starting point and encourage readers to adapt the weightings to fit their individual needs through the Excel-based tool. The final scores generate the graphical depiction of the market based on current offering, strategy, and market presence. Forrester intends to update vendor evaluations regularly as product capabilities and vendor strategies evolve. For more information on the methodology that every Forrester Wave follows, go to <http://www.forrester.com/marketing/policies/forrester-wave-methodology.html>.

Integrity Policy

We conduct all our research, including Forrester Wave evaluations, in accordance with our Integrity Policy. For more information, go to <http://www.forrester.com/marketing/policies/integrity-policy.html>.

Endnotes

- ¹ Source: Forrester's Global Business Technographics® Priorities And Journey Survey, 2016.
- ² Forrester defines a system of insight as the business discipline and technology to harness insights and consistently turn data into action. Systems of insight deliver insight from analytics to the moment of decision and create the closed loops for continuous learning and optimization. Insight platforms are a technology strategy for building systems of insight.
- ³ To avoid this evaluation being simply of measure of past performance, we gave vendors credit as if they were participating in a Forrester Wave if they resold another vendor's products through an OEM relationship.
- ⁴ DevOps: development plus operations.
- ⁵ Some vendors offer their platforms preinstalled and integrated in their own managed cloud service as well, but we focus this evaluation primarily on on-premises — where hybrid cloud capabilities are part of the scoring criteria. Pure public-cloud platforms like Microsoft Azure or IBM Bluemix are part of the enterprise insight platform-as-a-service segment, so they are not included in this evaluation.

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- ⁶ SAS Viya is SAS's newest version of its tools, ultimately replacing SAS 9. Viya is a platform play, featuring cloud-ready, pre-integrated components and a simplified architecture that features a single analytic in memory engine. SAS announced Viya in April 2016 and began rolling out parts of it. Not all of SAS Viya will be available until well into 2017, so at present it is available for clients to begin running in parallel with their product SAS 9 components. See the Forrester report "[Brief: SAS Bets Its Future On An Insight Platform.](#)"
- ⁷ ETL: extract, transform, load.
- ⁸ Cloud Foundry is an open source platform for application life-cycle development that works in conjunction with cloud-native application frameworks to simplify the management of applications on-premises and in the cloud.
- ⁹ For example, a 2017 release of TIBCO's tools will let users call the full functionality of data-in-motion management tools directly while working in Spotfire, its agile BI and data preparation tool.
- ¹⁰ For example, there is significant functional overlap between TIBCO's complex event processing/business rules product, Business Events, and its Streambase offering. Also, the company acquired Jaspersoft years ago, but its ETL and basic BI functionality were not included or mentioned in the vendor demonstration we did.

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