

The Forrester Wave™: Data Quality Solutions, Q4 2015

The 13 Providers That Matter Most And How They Stack Up

by Michele Goetz
December 14, 2015

Why Read This Report

In Forrester's 30-criteria evaluation of data quality solution vendors, we identified the 13 most significant software providers — BackOffice Associates, Experian, IBM, Informatica, Information Builders, Oracle, Pitney Bowes, RedPoint Global, SAP, SAS, Talend, Tamr, and Trillium Software — in the category and analyzed and scored them. This report details our findings about how well each vendor fulfills our criteria and where they stand in relation to each other to help enterprise architecture (EA) professionals select the right partner for their data quality needs.

Key Takeaways

SAP, IBM, Informatica, SAS, Oracle, And Trillium Software Lead The Pack

Forrester's research uncovered a market in which SAP, IBM, Informatica, SAS, Oracle, and Trillium Software lead the pack. Pitney Bowes, Tamr, Experian, Talend, and BackOffice Associates offer competitive options. RedPoint Global and Information Builders lag behind.

Enterprise Architecture Pros Are Looking For Data Quality Solutions

The data quality solutions market is growing because more enterprise architecture professionals see data quality as a way to address their top challenges. In large part, this market growth is due to the fact that EA pros increasingly trust data quality solution providers to act as strategic partners that advise them on top data management and business decisions.

Cloud, Big Data, And Machine Learning Are Key Differentiators

As older technology becomes outdated and less effective, improved support for cloud, big data, and machine learning will dictate which providers will lead the pack. Vendors that can provide these advanced capabilities position themselves to successfully deliver value to their customers.

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Forrester conducted lab-based evaluations in September 2015 and interviewed 12 vendor companies: BackOffice Associates, Experian, IBM, Informatica, Information Builders, Oracle, Pitney Bowes, RedPoint Global, SAP, SAS, Tamr, and Trillium Software.

Related Research Documents

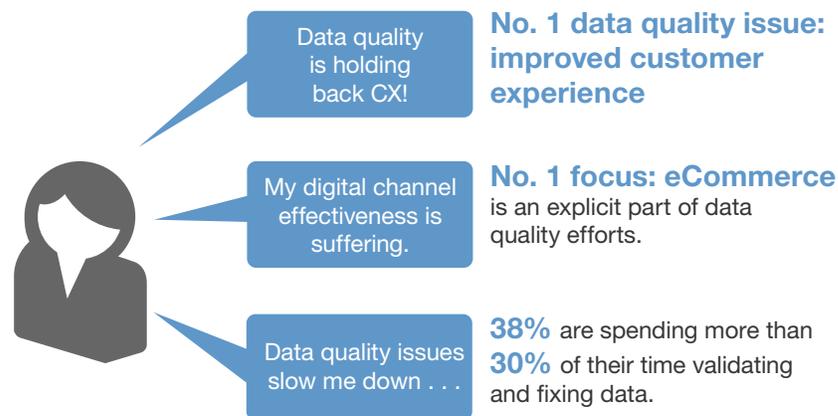
- [Cloud Data Management Is Still Risky For Trusted Business Data](#)
- [Data Quality Market Overview: Trust Your Data To Succeed With Customers](#)
- [Do Data Quality The Big Data Way](#)

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Bad Data Is A Customer Experience Killer

Marketing pros and customer insights professionals know that the No. 1 risk of poor data quality is that it will negatively affect the customer experience, and enterprise architects see data quality as a top challenge (see Figure 1).¹ Without an accurate view of the customer, businesses are unable to tailor relevant offers, resolve customer support issues quickly and effectively, and optimize customers' experiences throughout the customer life cycle. As customers are increasingly independent and informed about their product and service choices, organizations that are unable to recognize their customers, understand their needs and intents, and serve them beyond their shopping cart purchases will become irrelevant to customers and the market overall.²

FIGURE 1 Fix Data Quality To Get Better Customer Experience



Base: 235 data management professionals

Source: Forrester's Q4 2014 Global Data Quality And Trust Online Survey

Solving For Bad Customer Data Requires An Ecosystem Strategy

Taking on the improvement of data quality to create great customer experiences encompasses more than knowing who customers are or even what they purchased. Customer experience pros are increasingly reaching into noncustomer engagement systems, purchasing external consumer and business data, bringing in partner information, and opportunistically scraping social networks and competitive websites to better know their customers.³ This data is coming from a wide ecosystem of applications, data warehouses, big data environments, devices, and the cloud (see Figure 2). The implication of this diverse customer data ecosystem is that data quality tools have to account for more complex and sophisticated data quality challenges at scale and on demand and address data extremes such as:

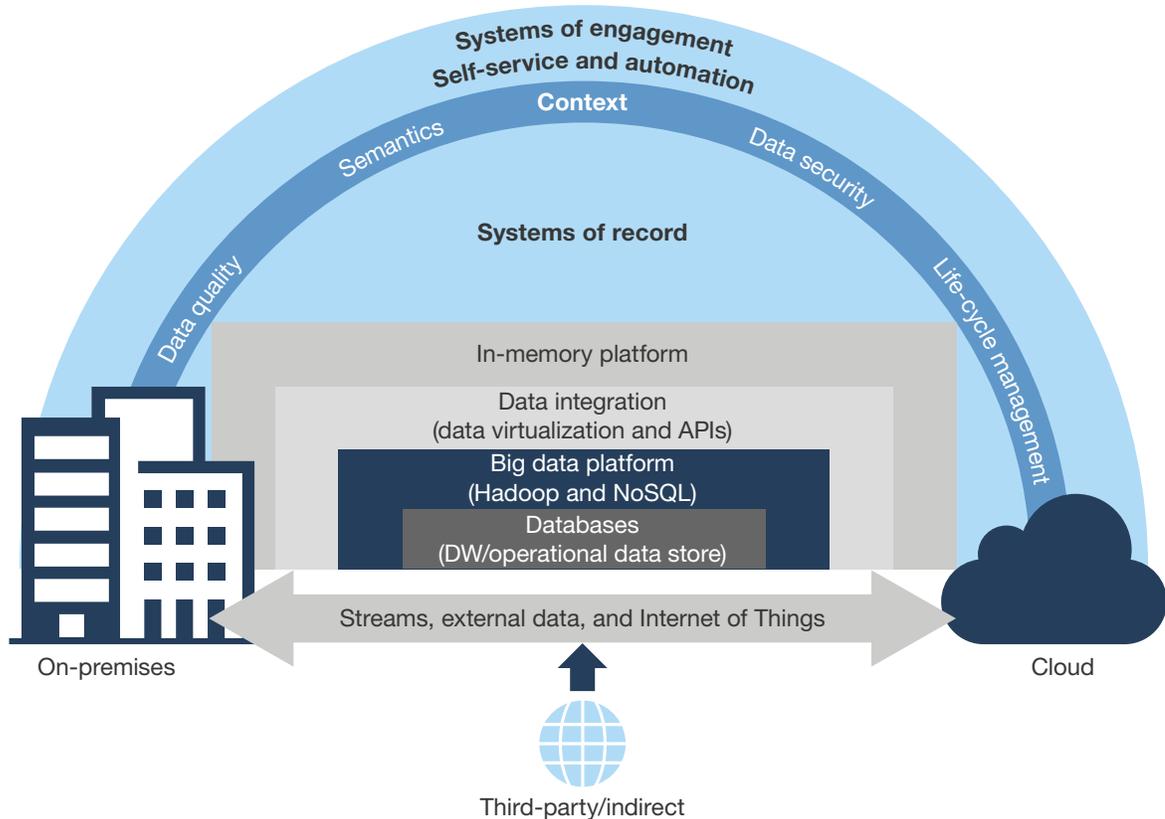
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- › **Data volume.** Global data volume will grow over the next six years, from 4.4 zettabytes to 44 zettabytes. Organizations will generate this growth by focusing on data beyond application and transactional data to include Internet, mobile, and other sensor/machine data to better understand customers.⁴
- › **A variety of data types and formats.** The increase in volume from a variety of sources creates a greater variety of data types and formats. Data and analytics pros cite the growth of data volume and variety as their second-largest challenge when orchestrating their business intelligence strategy.⁵ Forrester expects this to increase as organizations show increased adoption in nonrelational databases such as graph, NoSQL, and Hadoop. To address this growth in variety, data quality tools will have to address performance and workload management at greater scale.
- › **Cleansing data at rest and in motion.** To meet customers at the right moments in their journeys and in their channels of preference, data has to be ready.⁶ Customers won't wait for businesses to clean their data first to ensure that product information is accurate and complete or their account information is up to date. Data quality processes have to be responsive to data demand, through real-time cleansing services as well as batch processes.
- › **Validating external data.** Forty-seven percent of data and analytics decision-makers say their firms are expanding or implementing the use of external data sources or will begin to bring in external data.⁷ In organizations that rely on external data to enrich, validate, and standardize customer and business information, data services can cost millions of dollars. Financial services organizations are demonstrating how data quality tools can act as evaluation points to verify the quality and value that external data provides to the business and customer experience outcomes.
- › **Hyperhybrid environments.** Sixty-six percent of data and analytics decision-makers say their firms have implemented, are expanding, or are planning to implement big data.⁸ Additionally, 72% of infrastructure decision-makers note that their organizations have implemented, are expanding, or are planning to implement cloud, whether public, privately hosted, or internally private.⁹ Data quality tools not only need the ability to integrate and connect across a diverse ecosystem but also must orchestrate and synchronize cleansing for consistent quality levels where data is shared and dependent across customer channels.

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FIGURE 2 Match Data Quality Services To Your Customer Data Ecosystem



Data Quality Solutions Evaluation Overview

To assess the state of the data quality solutions market and see how the vendors stack up against each other, Forrester evaluated the strengths and weaknesses of top data quality vendors.

Evaluation Criteria Focus On Data Stewardship While Addressing Data Quality At Scale

After examining past research, user needs assessments, and interviews with vendors and experts, we developed a comprehensive set of evaluation criteria. We evaluated vendors against 30 criteria, which we grouped into three high-level buckets:

- › **Current offering.** We assessed each vendor's current offering by considering all of the features and capabilities reviewed in the evaluation criteria. We also evaluated a lab-based demonstration by each participating vendor, outlining its key capabilities.

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- › **Strategy.** We reviewed each vendor's strategy and considered how well each vendor's plans for product enhancement position it to meet future customer demands. We also looked at each participating vendor's platforms and partner strategy, market development strategy, and company investments priorities.
- › **Market presence.** To determine vendors' market presence, we evaluated each vendor's 2014 product revenue, installed base, and global presence.

Included Vendors Demonstrated Breadth Of Capabilities And Global Execution

Forrester included 13 vendors in the assessment: BackOffice Associates, Experian, IBM, Informatica, Information Builders, Oracle, Pitney Bowes, RedPoint Global, SAP, SAS, Talend (which declined to participate), Tamr, and Trillium Software. Each of these vendors has (see Figure 3):

- › **Breadth of functionality.** Each evaluated vendor includes specific functionality to provide batch and real-time data quality processes for multiple data domains (customer, product, financial, etc.). The solution provides strong capabilities surrounding and managing data quality.
- › **Leadership in data quality.** Selected vendors demonstrate the ability to shape the direction of the market, either through innovate delivery models or through dominant market presence.
- › **Broad market presence.** Selected vendors have a market presence across North American, European, and Asia Pacific markets, with at least 10 large-scale implementations in each market.
- › **Interest from Forrester clients.** Clients mentioned the data quality solution as a primary data quality tool in Forrester's Q4 2014 Global Data Quality And Trust Online Survey in at least 2% of responses, or Forrester clients have mentioned the vendor as part of an evaluation for enterprise data quality more than five times in the past year.

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FIGURE 3 Evaluated Vendors: Vendor Information And Selection Criteria

| Vendor | Product |
|-----------------------|---|
| BackOffice Associates | Data Stewardship Platform 6.3 |
| Experian | Experian Data Quality |
| IBM | IBM InfoSphere Information Server For Data Quality 11.5 |
| Informatica | Informatica Data Quality 9.6.1 |
| Information Builders | iWay Data Quality Suite 7.0.4 |
| Oracle | Oracle Enterprise Data Quality 12.2.1 |
| Pitney Bowes | Spectrum Technology Platform 10 |
| RedPoint Global | RedPoint Data Management 7.2 |
| SAP | SAP Data Services 4.2 SAP Information Steward 4.2 Data Quality Management for SAP 4.0 sp06 SAP PowerDesigner 16.5 sp5 SAP Agile Data Preparation 1.0 SAP HANA, smart data quality & smart data integration SPS10 |
| SAS | SAS Data Quality — Desktop/Standard/Advanced (9.4 M3) SAS Data Governance (9.4 M3) SAS Data Management — Standard/Advanced (9.4 M3) SAS Data Loader for Hadoop with SAS DQ Accelerator (2.3) |
| Talend | Talend Data Quality 6.0 |
| Tamr | Tamr Eisenhower |
| Tillium Software | Trillium Software System 15.2 Trillium Cloud 15.2 Trillium Big Data 15.2 |

Vendor selection criteria

Breadth of functionality. Each evaluated vendor includes specific functionality to provide batch and real-time data quality (DQ) processes for multiple data domains (customer, product, financial, etc.). The solution provides strong capabilities surrounding and managing data quality.

Leadership in data quality. Selected vendors demonstrate the ability to shape the direction of the market, either through innovate delivery models or through dominant market presence.

Broad market presence. Selected vendors have a market presence across North American, European, and Asia Pacific markets, with at least 10 large-scale implementations in each market.

Interest from Forrester clients. Clients mention the data quality solution as a primary DQ tool in Forrester's Q4 2014 Global Data Quality And Trust Online Survey in at least 2% of responses, or Forrester clients have mentioned the vendor as part of an evaluation for enterprise data quality more than five times in the past year.

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Evaluation Analysis

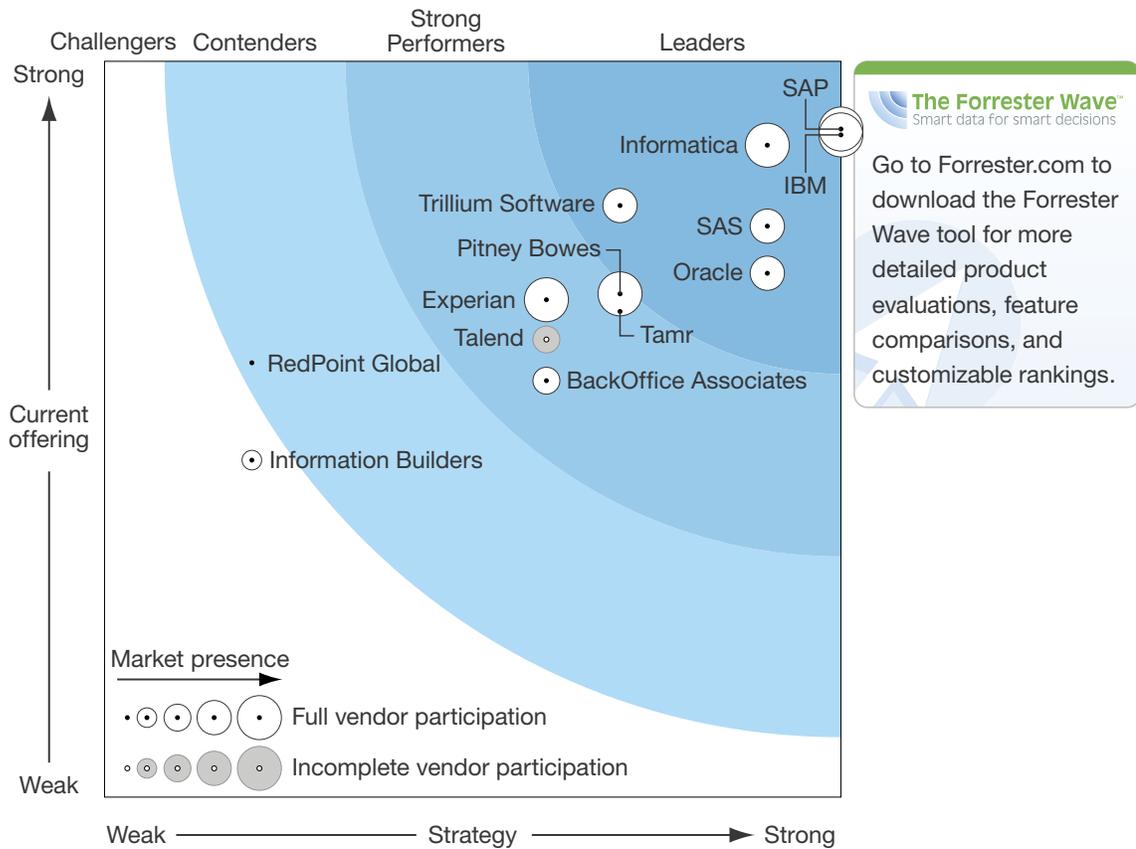
Data quality vendors differentiate across data stewardship collaboration and self-service, data quality excellence, ecosystem breadth, and pure cleansing processing power. The evaluation uncovered a market in which (see Figure 4):

- › **SAP, IBM, Informatica, SAS, Oracle, and Trillium Software lead the pack.** Our data quality Leaders provide a robust and complete set of capabilities that embrace the core principle of data quality governance: It must be business-led but also provide a collaborative relationship between technical subject matter experts (SMEs) and business SMEs. Data quality processes and engines are scalable to the wide variety of ecosystems and business data uses and support the most complex business logic and policies to govern data. Deep experience within industries and key business processes translates into specialized content (rules, reference data, and processes) that accelerates implementations and time to value. Visibility and workflows give insight into data quality conditions; status of stewardship and development tasks; and the ability to link data conditions to business metrics such as risk, revenue leakage, and process improvement.
- › **Pitney Bowes, Tamr, Experian, Talend, and BackOffice Associates offer alternatives.** Strong Performers provide more-targeted solutions to solve data quality challenges but differentiate by offering new and innovative ways to cleanse data. They stay true to supporting the core data quality cleansing and matching expected by companies while choosing a path around stewardship, ecosystem, or business context. These vendors are providing ways to overcome traditional approaches to data quality and stewardship that are based on data architects having all the data quality requirements upfront — an approach that assumes a persistence in data and data usage. Strong Performers are introducing graph to drive richer, more extensible business logic; deep learning to pre-curate data rather than build rules up front; and simple user interfaces where data quality could be fully conducted by business SMEs. They are also pushing hard on data at scale in hyperhybrid (traditional, cloud, or big data) ecosystems. In some cases, these vendors are showing us the future of data quality.
- › **RedPoint Global and Information Builders emphasize data quality.** These companies, one a Contender and one a Challenger, have a sharp focus on core data cleansing and quality capabilities. They introduce capabilities that allow for a wide degree of openness to craft custom business rules and logic so as not to hinder a company's individualized data quality needs. In some cases, they provide granular controls of data and metadata. To increase their overall data quality value proposition, these vendors may invest and position themselves around data processing performance and scale or may introduce industry and business process expertise from their previous customer engagements. They offer other products and solutions around business intelligence and analytics, and marketing or industry enablement, that benefit from the additional data quality value proposition.

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This evaluation of the data quality 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.

FIGURE 4 Forrester Wave™: Data Quality Solutions Q4 '15



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FIGURE 4 Forrester Wave™: Data Quality Solutions, Q4 '15 (Cont.)

| | Forrester's Weighting | BackOffice Associates | Experian | IBM | Informatica | Information Builders | Oracle | Pitney Bowes | RedPoint Global | SAP | SAS | Tamr | Trillium Software |
|--|-----------------------|-----------------------|----------|------|-------------|----------------------|--------|--------------|-----------------|------|------|------|-------------------|
| CURRENT OFFERING | 50% | 2.83 | 3.38 | 4.50 | 4.43 | 2.29 | 3.56 | 3.42 | 2.95 | 4.54 | 3.88 | 3.30 | 4.02 |
| Data governance and stewardship | 10% | 4.00 | 5.00 | 4.00 | 5.00 | 3.00 | 3.00 | 5.00 | 1.00 | 5.00 | 4.00 | 4.00 | 4.00 |
| Data profiling and monitoring | 15% | 3.00 | 4.50 | 5.00 | 5.00 | 2.00 | 4.00 | 3.00 | 1.00 | 5.00 | 4.00 | 3.00 | 4.00 |
| Data link, match, and survivorship | 15% | 3.00 | 3.00 | 4.00 | 4.00 | 3.00 | 4.00 | 3.00 | 4.00 | 5.00 | 4.00 | 4.00 | 5.00 |
| Validation, cleansing, and standardization | 15% | 3.60 | 3.20 | 4.20 | 4.20 | 3.50 | 3.20 | 3.50 | 3.70 | 4.20 | 3.90 | 4.60 | 4.00 |
| Enrichment | 5% | 5.00 | 5.00 | 3.00 | 3.00 | 1.00 | 3.00 | 5.00 | 3.00 | 5.00 | 3.00 | 3.00 | 3.00 |
| Integration and processing | 25% | 1.60 | 3.10 | 5.00 | 5.00 | 2.30 | 3.30 | 3.60 | 4.00 | 4.40 | 3.70 | 2.40 | 4.30 |
| Cloud | 5% | 0.60 | 2.05 | 4.30 | 3.50 | 0.35 | 3.80 | 3.60 | 2.75 | 3.75 | 4.05 | 4.60 | 3.25 |
| Big data | 5% | 1.20 | 0.00 | 5.00 | 3.40 | 0.40 | 4.20 | 1.20 | 4.20 | 3.40 | 3.40 | 2.60 | 2.60 |
| Security | 5% | 5.00 | 3.00 | 5.00 | 4.00 | 1.00 | 4.00 | 2.00 | 1.00 | 4.00 | 5.00 | 1.00 | 3.00 |
| STRATEGY | 50% | 3.00 | 3.00 | 5.00 | 4.50 | 1.00 | 4.50 | 3.50 | 1.00 | 5.00 | 4.50 | 3.50 | 3.50 |
| Platforms and partner strategy | 25% | 3.00 | 3.00 | 5.00 | 3.00 | 1.00 | 5.00 | 1.00 | 1.00 | 5.00 | 5.00 | 1.00 | 5.00 |
| Market development strategy | 25% | 3.00 | 3.00 | 5.00 | 5.00 | 1.00 | 3.00 | 3.00 | 1.00 | 5.00 | 3.00 | 3.00 | 3.00 |
| Product strategy | 50% | 3.00 | 3.00 | 5.00 | 5.00 | 1.00 | 5.00 | 5.00 | 1.00 | 5.00 | 5.00 | 5.00 | 3.00 |
| Company investment priorities | 0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| MARKET PRESENCE | 0% | 2.98 | 4.34 | 5.00 | 4.34 | 1.66 | 3.66 | 4.34 | 1.00 | 5.00 | 3.68 | 1.00 | 3.68 |
| Installed base | 34% | 1.00 | 5.00 | 5.00 | 5.00 | 1.00 | 3.00 | 5.00 | 1.00 | 5.00 | 5.00 | 1.00 | 5.00 |
| Product revenues | 33% | 3.00 | 5.00 | 5.00 | 5.00 | 1.00 | 3.00 | 3.00 | 1.00 | 5.00 | 3.00 | 1.00 | 3.00 |
| Partners | 0% | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Global presence | 33% | 5.00 | 3.00 | 5.00 | 3.00 | 3.00 | 5.00 | 5.00 | 1.00 | 5.00 | 3.00 | 1.00 | 3.00 |

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

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Vendor Profiles

Leaders

- › **SAP.** SAP orients data quality toward solving data quality challenges that have an impact on the business and was the first vendor to introduce financial quantification to data quality measurement. It continues to build on this with an increasing number of data quality content options; enrichment services; and visualizations of data, data workflow, and data activities. Running SAP's data quality capabilities, Hana scales data quality for operational and analytic needs in batch and real time, on-premises or in the cloud. Big data assumes that Hadoop and NoSQL platforms are feeding into Hana or that Data Services is running code in MapReduce, which has cost and performance implications. The tools are optimized for SAP business solutions and environments in general, with customers indicating it is optimal to adopt and standardize on SAP data models to avoid challenges with violating SAP data requirements.
- › **IBM.** IBM gets customers started on enterprise data quality with a rich set of data quality content to speed up the deployment and return on data quality investment across traditional, big data, cloud, and hybrid environments. The stewardship consoles allow business data quality stewards to lead data quality with strong dashboarding, reporting, and data profiling. In addition, business data stewards easily collaborate with data quality developers in the creation of rules, match, and survivor feedback. IBM is also porting its full enterprise data quality capabilities to the cloud and evolving its pricing and services models to be flexible to a variety of customer architectures and implementations. Customers will need to strictly control file types and formats and reduce ad hoc contribution of user-generated files, as the data quality tool requires some manual review to determine encodings and delimiters and may also require file conversion. In addition, while most data quality scenarios are accommodated in out-of-the-box content, custom development of rules and processes can increase deployment time.
- › **Informatica.** Informatica treats data profiling like an analytic process. This approach allows both developers and business data stewards the ability to semantically detect even those anomalies they aren't looking for, such as misfiled personal identity data. The data stewardship console provides full visibility into data conditions, workflow activities, execution processes, and business impact. From there, data quality professionals, analysts, and business data stewards can drill down to tune and improve data. The solution supports big data and cloud through connectivity and deployment services, and further developments in these areas are well underway. Future releases will simplify cloud deployments with a single hybrid solution and utilize Apache Spark and YARN directly to scale big data deployments.
- › **SAS.** SAS provides an easy-to-use and intuitive environment to improve the quality of data by both data stewards and developers. Visualizations of data conditions and remediation tasks keep business data stewards and technology management on the same page. In addition, business data stewards can easily contribute rules for developers to incorporate. In-memory, in-database, and

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in-stream processing allow SAS to scale data quality within modern data platforms. In recent years, SAS Data Quality has been converging more with SAS analytic solutions and the overall SAS data management platform. Because of this, customers tell us they need more data quality expertise from SAS and systems integrator (SI) consultants as well as experience with the integration and implementation of the tool.

- › **Oracle.** Since the acquisition of Datanomic in 2012, Oracle's investment in global, core cleansing and matching, and scalability capabilities has allowed the vendor to shed OEM relationships with Informatica and Trillium Software for a viable and complete data quality capability. Stewardship and visibility into data quality conditions is strong, with reports and visualizations across traditional, cloud, and big data environments. Oracle has also invested in a data preparation tool for a user-friendly environment. The tool operates across a modern hybrid ecosystem. Current deployments are primarily within the Oracle database or application ecosystems and attach to master data management or integration sales. This assumes an understanding of the data models and processes that may not exist in more diverse vendor landscapes. In addition, customers will need to invest in Oracle's product data quality tool for nonparty data cleansing and matching.
- › **Trillium Software.** After a restructure and shift in business strategy, Trillium Software has emerged with data quality capabilities that support and scale on a modern data platform (cloud and big data). Rather than focusing on one or two verticals, Trillium ensures that the tools support the breadth of vertical and business data quality objectives of its broader customer base. The core cleansing, matching, and processing engine continues as a system that is easy to tune and monitor. Although Trillium Software's only designated stewardship environment is through a relationship with Collibra, data-savvy business data stewards can still collaborate in the same environment with developers. Trillium is demonstrating early success in big data and cloud, but it needs more on its product road map regarding fuller adoption of Apache Spark and YARN2. It also needs to extend cloud support broadly from its primarily Microsoft Azure base and to transition more fully to Amazon Web Services (AWS).

Strong Performers

- › **Pitney Bowes.** Pitney Bowes has a strong vision for addressing data quality in a modern data ecosystem by pulling contextual metadata into a graph database to improve quality on data statistics and meaning. An OEM relationship with Global IDs provides extensive data profiling capabilities, lineage, and traceability. The data quality engine for rules and matching is straightforward, supports the majority of enterprise data quality needs, and is further enhanced with Pitney Bowes data services for location and other domains, along with rules. The vendor must do more work to integrate the profiling, administrative area, and stewardship environments for more seamless implementation and use. It has not yet capitalized on the power of a graph repository, as support for big data is still on its road map. Customers are also looking for consultants and integrators that are familiar with the tool and can help them implement it.

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- › **Tamr.** Tamr turns its back on convention and lets the data speak for itself, and customers give it high marks for this. Sophisticated machine learning algorithms go beyond pattern recognition and pattern matching seen in data quality to date. The tool analyzes data and data feeds and prepares the data to fit a defined data model for any domain. Subject matter experts train the data based on suggestions from the tool, and from the types of actions taken, the tool learns how to optimize machine learning. In the same user-friendly environment, SMEs can introduce rules to further train the system and prepare data. Tamr scales to ingest a large number of simultaneous feeds and matching (tens of thousands). It does not currently execute in a Hadoop ecosystem, although this is on its road map. In addition, Tamr recognizes that it needs more types of rules to further train the system and will be releasing more rules capabilities shortly.
- › **Experian.** Experian was the only tool we evaluated that organizations could implement with little to no technology management support, providing a similar user experience to data preparation tools in market. The environment is intuitive and also provides guidance to help business data stewards understand and shape data to meet their levels of trust. As other vendors bring data preparation tools to market, Experian already has one in the form of an enterprise data quality solution. Out-of-the-box rules, processes, social data capabilities, and access to Experian's broader reference data offering help speed time-to-value. Experian still lacks big data support within Hadoop, preferring to ingest data. In addition, customers have mentioned that they need support getting the tool implemented quickly and would like to see improvements to cleansing and matching engines to get the results they need. Experian recognizes this and has a road map to resolve these issues as it builds a complete enterprise data quality tool.
- › **Talend.** Talend gets its strength from its open source roots. This has allowed it to move faster into big data and the cloud and make the transition more completely than other enterprise data quality vendors have. Talend emphasizes scalable processing of data quality and quickly engineers capabilities to improve performance while also providing more sophistication for data cleansing, specifically by introducing more machine learning and semantic discovery. Recent releases have introduced more collaboration points with business data stewards, and the vendor will release a data preparation tool in Q1 2016. Talend is still very much a clean slate, requiring developers to build data rules and processes mostly from scratch. The environment is not for nontechnical data pros. Linking, matching, and survivorship are available in the data quality package but are better served if customers go all in with the master data management package. Talend declined to participate in this evaluation, so we have based our findings on past briefings, product demos, and customer surveys.
- › **BackOffice Associates.** BackOffice Associates has emerged as a new player in the data quality space, with its own set of solutions for cleansing and stewardship built out of its data migration consulting practice. An extensive library of vertical and business-process-oriented content and standards supports some of the most challenging product data quality scenarios in addition to party data support. A platinum partner relationship with SAP to further augment and speed up migrations, along with a growing list of Fortune 200 clients beyond SAP, makes BackOffice

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Associates solid in the space and a vendor to watch. Customers will need to wait for data quality capabilities for the cloud and big data. Today, that scale comes from running with SAP Data Services on Hana and Hana Cloud.

Contenders

- › **RedPoint Global.** RedPoint Global specifically focuses on large, complex data problems associated with big data and data science. New to the market with the acquisition of Data Lever in 2010, it has invested significantly in big data performance and was one of the first to run in Hadoop through Apache Spark and YARN2 without the need or use of Hive and HCatalog. In doing so, it allows a high degree of flexibility to developers to tune performance at the project, process, rule, and match engine levels. The user interface and development environment is complex and requires training. There are a range of components and process development options that, while suiting complex challenges, can create confusion and potential chaos in the process steps. Customers indicate they need more support during implementation from consultants that know the tool as well as timely, knowledgeable resources from RedPoint Global.

Challengers

- › **Information Builders.** Information Builders provides an open environment to bring data in, analyze data statistics, and begin to build data quality rules and matching logic to remediate data. Visualizations of data statistics are strong, benefiting from Information Builders' business intelligence tool to allow developers and data stewards an easy way to identify issues in the data. While reference data (insurance, vehicle, identity, and location) and data services with ESRI and Loqate are available, customers need to develop rules and processes to take advantage of these standards and enrichment options. A clean-slate environment offers customers flexibility, but they are challenged with the time to implement and are seeking more support in subject matter expertise.

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Engage With An Analyst

Gain greater confidence in your decisions by working with Forrester thought leaders to apply our research to your specific business and technology initiatives.

Analyst Inquiry

Ask a question related to our research; a Forrester analyst will help you put it into practice and take the next step. Schedule a 30-minute phone session with the analyst or opt for a response via email.

Learn more about inquiry, including tips for getting the most out of your discussion.

Analyst Advisory

Put research into practice with in-depth analysis of your specific business and technology challenges. Engagements include custom advisory calls, strategy days, workshops, speeches, and webinars.

Learn about interactive advisory sessions and how we can support your initiatives.

Supplemental Material

Online Resource

The online version of Figure 4 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:

- › **Vendor surveys.** Forrester surveyed vendors on their capabilities as they relate to the evaluation criteria. Once we analyzed the completed vendor surveys, we conducted one-hour vendor product strategy and company overview vendor briefings.
- › **Product demos.** We asked each vendor to conduct demonstrations of its product's functionality. We used findings from these product demos to validate details of the vendors' product capabilities.
- › **Customer reference survey.** To validate product and vendor qualifications, Forrester also fielded customer reference surveys to three of each vendor's current customers.

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The Forrester Wave Methodology

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

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

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

All of Forrester's research, including Forrester Wave evaluations, is conducted according to our Integrity Policy. For more information, go to <http://www.forrester.com/marketing/policies/integrity-policy.html>.

Survey Methodology

Forrester's Global Business Technographics® Data And Analytics Survey, 2015, was conducted via an online survey fielded in January through March 2015 of 3,005 business and technology decision-makers located in Australia, Brazil, Canada, China, France, Germany, India, New Zealand, the UK, and the US from companies with 100 or more employees.

Forrester's Business Technographics provides demand-side insight into the priorities, investments, and customer journeys of business and technology decision-makers and the workforce across the globe. Forrester collects data insights from qualified respondents in 10 countries spanning the Americas, Europe, and Asia. Business Technographics uses only superior data sources and advanced data-cleaning techniques to ensure the highest data quality.

Forrester's Q4 2014 Global Data Quality And Trust Online Survey was fielded to 220 data quality professionals. Forrester fielded a survey from September 2014 to November 2014. Respondent incentives included a summary of the survey results. Exact sample sizes are provided in this report

The Forrester Wave™: Data Quality Solutions, Q4 2015

The 13 Providers That Matter Most And How They Stack Up

on a question-by-question basis. This survey used a self-selected group of respondents (Forrester contacts interested in enterprise architecture and data management) and is therefore not random. This data is not guaranteed to be representative of the population, and, unless otherwise noted, statistical data is intended to be used for descriptive and not inferential purposes. While nonrandom, the survey is still a valuable tool for understanding where users are today and where the industry is headed.

Endnotes

- ¹ To learn more about how the data trust trinity helps craft data policies, practices, and architectures that improve wider adoption of relevant trusted data for business strategy, planning, and processes, see the [“The Data Trust Trinity Brings Data To The Business Decision Table”](#) Forrester report.
- ² The customer-understanding discipline creates a consistent shared understanding of who customers are, what they want and need, and how they perceive the interactions they’re having with the brand today. To learn more, see the [“Customer Experience Maturity Defined”](#) Forrester report.
- ³ To learn more about best practices for building a social intelligence practice, see the [“Leverage Social Data To Elevate Customer Intelligence”](#) Forrester report.
- ⁴ Source: “The Digital Universe of Opportunities: Rich Data and the Increasing Value of the Internet of Things,” EMC2, April 2014 (<http://www.emc.com/leadership/digital-universe/2014iview/index.htm>).
- ⁵ Source: Forrester’s Global Business Technographics Data And Analytics Survey, 2015.
- ⁶ Addressing the customer experience (CX) in all channels — “omnichannel CX” — isn’t simple. Customers have a complex array of pathways at their disposal, each an amalgam of a multitude of different interaction mechanisms. To learn more, see the [“Elevate Omnichannel Customer Experience With Continuous Business Services”](#) Forrester report.
- ⁷ Source: Forrester’s Global Business Technographics Data And Analytics Survey, 2015.
- ⁸ Source: Forrester’s Global Business Technographics Data And Analytics Survey, 2015.
- ⁹ Source: Forrester’s Global Business Technographics Infrastructure Survey, 2015.

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