WHITE PAPER

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2014 DATA CONNECTIVITY OUTLOOK

PROGRESS

THE BRIGHTEST STARS IN THE DATABASE CONSTELLATION

With today's rapidly accelerating data volumes, there is a stronger need than ever for storing vast amounts of data. Customers now have to choose between traditional relational databases, NewSQL and NoSQL solutions, Big Data platforms, and managing data stored in their SaaS applications. While options are nearly always advantageous, looking back on the history of databases shows that the proliferation of database options leads to inevitable market consolidation. This situation existed back in the '90s when 'database wars' between RDBMS vendors ultimately led to the same consolidation patterns that resulted in significant expenses and disruption to some businesses.

The first annual Progress® DataDirect® Connectivity Outlook aims to help companies de-risk their vendor selections by aligning with market trends. For IT managers, choosing the wrong vendor can lead to disruption, high costs, and the loss of confidence from within the business. Vendors with momentum and buzz have the greatest chance of surviving the inevitable consolidation over the next 5 years.

OUR SURVEY

To provide a comprehensive index of the key trends and emerging technologies in the database ecosystem, Progress DataDirect conducted a global survey of 300 current customers comprised of data scientists, business analysts, developers, and knowledge workers. The survey questions focused on the current utilization of data sources and planned implementations within the next two years. The results are organized by source type, with insights into the market share and growth in each area, to offer perspective on the current state of the database marketplace.

RISING STARS IN RELATIONAL DATABASE TECHNOLOGIES

Because of the maturity of the relational database marketplace, there is a rich ecosystem of vendors, training, and third party tools that make relational database technologies the popular choice of IT professionals. The current relational database marketplace is comprised of several established vendors, and lower cost and open source alternatives. The common draw of relational databases—flexibility, security, and abundance of resources—is present across established and emerging relational vendors regardless of their capabilities and costs.

To determine current adoption and two-year growth in the relational database space, our survey asked IT professionals which databases they have currently implemented, or scoped to be implemented.

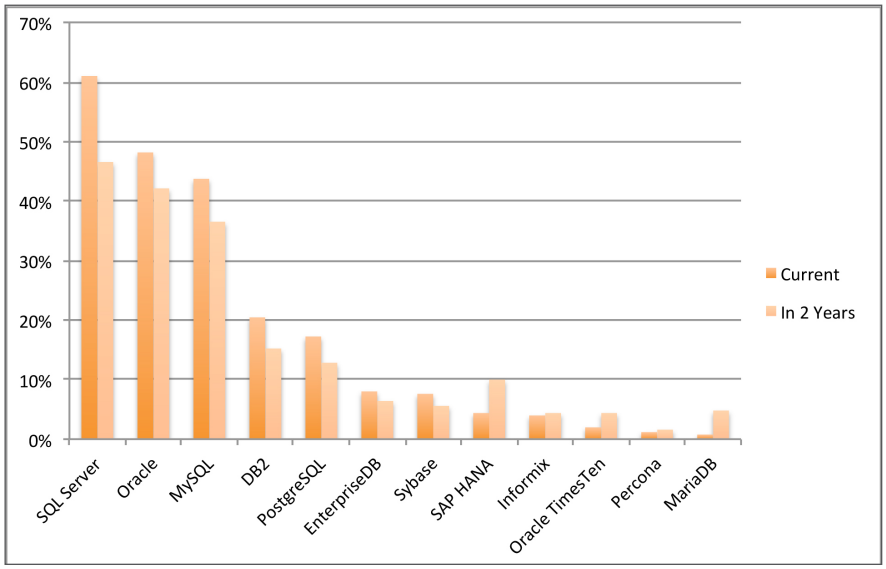

Figure 1

Current adoption of relational database technologies with projected two year growth.

The results show established stars Microsoft SQL Server and Oracle still hold a significant share in relational databases, while the low-cost alternative MySQL has established a significant presence. Over the next two years, the adoption of these top three vendors looks to show some declines, but remain relatively healthy.

What cannot be ignored is the projected growth of SAP HANA and MariaDB. Based on this survey, both databases are projected to see significant growth over the next two years. With the expected growth, both of these vendors should begin to further garner share with other established vendors.

Overall, the growing interest in non-relational databases does not appear to be impacting growth for both established and emerging vendors. The relational database marketplace continues to represent a mature and growing marketplace with both comprehensive and low-cost options firmly adopted.

While shifts are expected, no significant change in the overall landscape is seen in our survey data.

RISING STARS IN ENTERPRISE DATA WAREHOUSING

With the challenge of steering through the chaos of enterprise data warehousing, organizations need a tool to manage the increasing volume and variety of data sources with speed and flexibility. To provide insight into how global organizations are addressing this situation, we asked them, "What enterprise data warehousing technologies do you use or support today, and expect to use or support in the next two years?"

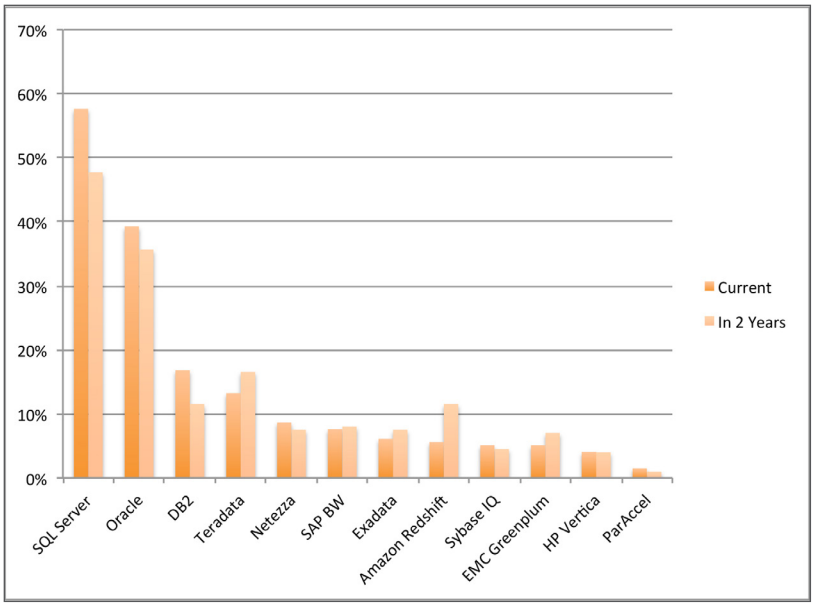

Figure 2

Enterprise data warehouse technology adoption with projected two year adoption.

Established veterans Microsoft SQL Server, Oracle, and IBM DB2 still command much of the market today, but we also see their usage declining slightly over the next couple of years. Close behind is Teradata, which has come on strong recently and, according to the survey, will grow even more. In fact, we see stronger than average market share increases from Teradata and EMC Greenplum.

Standing out above all data warehouse technologies, Amazon Redshift—a fast and powerful high-scale data warehouse service in the cloud—is expected to grow significantly over the next two years.

Based on the results, the current leaders in the enterprise data warehouse market look to have strong challengers from Amazon Redshift, Teradata, and EMC Greenplum. All three of these vendors look to be rising stars and could drive changes to the overall landscape.

RISING STARS IN BIG DATA AND HADOOP-BASED SYSTEMS

Every day, people generate 2.5 quintillion bytes of data. So much, so fast, that 90 percent of the world's existing data has been created in the last two years. Data, like flood waters, churns out everywhere:

- Sensors gather climate information around the clock
- Millions of posts every minute to social media sites
- Digital pictures and videos for sharing across devices and platforms
- Purchase transaction records
- Banking and insurance statements
- Cell phone GPS signals

It's no small wonder that we call all of this data **big** data. The sheer volume that can interface with applications is increasing dramatically. So is the velocity and variety. The good news is that we are making similar strides in handling data volume, speed, and variability. The difficulty is doing so in a manner that is both efficient and scalable. This requires a standards-based translator for fast, reliable, and secure access.

Think about data at rest, like the petabytes of data managed by the world's largest Hadoop clusters, and you can begin to understand the magnitude of the challenge. Data in motion must be analyzed and responded to immediately before the window of opportunity to capitalize on it closes. Big Data, and the introduction of Apache Hadoop as

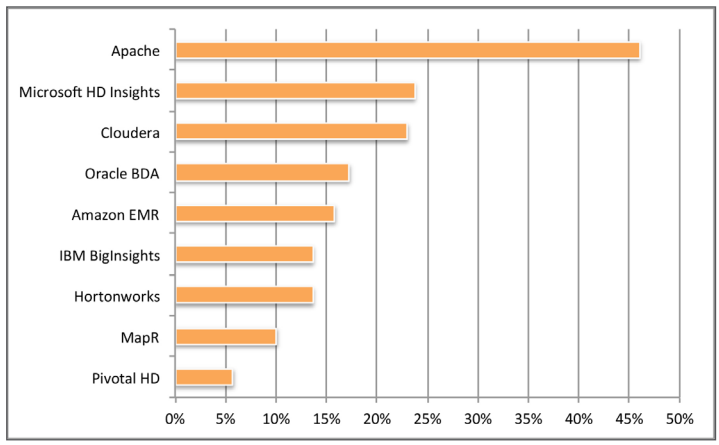

Figure 3

Current Hadoop provider adoption.

a high-volume distributed file system, have fired the salvos in the first battle of the new database wars.

To understand the adoption and implementation of Big Data environments, the survey asked, "What Hadoop distributions or providers do you or your customers currently use or plan to use in the next two years?"

The results show that Apache currently commands that largest percentage of the Hadoop ecosystem. Beyond Apache, several big players in Big Data are competing very closely to command growth.

With open-source Apache's low-cost of entry propelling its lead in the market, one can expect other big players in Big Data to further iterate their own unique value and perspectives when it comes to data storage within Hadoop databases like Hive, HBase and Cassandra. Future competition from many of the large vendors may begin to change market distribution, but no significant changes are foreseen.

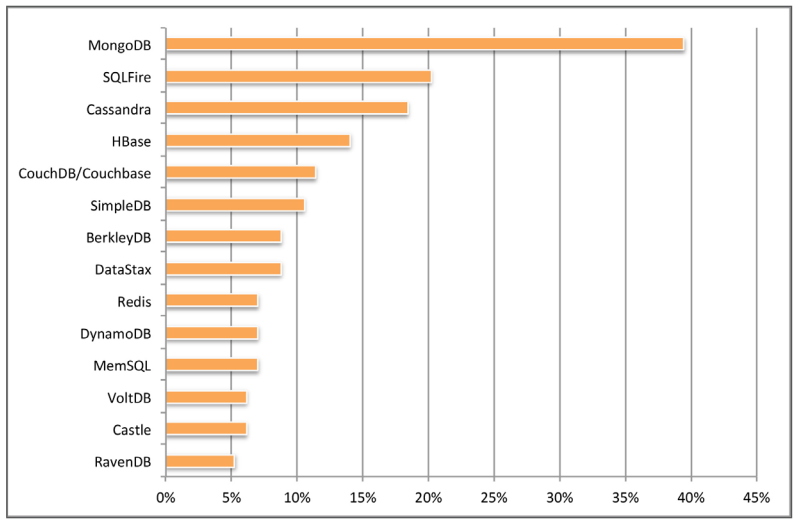

Figure 4

NoSQL, NewSQL, or non-relational data store technology adoption.

RISING STARS IN NOSQL, NEWSQL, AND NON-RELATIONAL DATABASES

Today's database wars are armed with up-and-coming data management technologies. These new "arms" factors include:

- Scalability
- Performance
- Relaxed consistency
- Agility
- Intricacy
- Necessity

Many NoSQL projects were developed in response to the failure of existing suppliers to meet the performance, scalability, and flexibility needs of large-scale data processing. This has been particularly true for web and cloud applications. While NoSQL offerings are closely associated with Web application providers, these same drivers have spurred:

- Adoption of data-grid/caching products
- Emergence of a new breed of relational database products and vendors

For the most part, these database alternatives are not designed to directly replace existing products. Rather, they are meant to offer purpose-built alternatives for workloads that are unsuited to general-purpose relational databases. NewSQL and data-grid products have emerged to meet similar requirements among enterprises. This is a sector that is also being targeted by NoSQL vendors. As a result, the number of new database players with alternative management methods is growing significantly. The new rules for accessing cloud data bring about new challenges for business-critical applications.

To understand the growth in this area, the survey asked, "Which NoSQL, NewSQL, or non-relational data store technologies do you or your customers currently use or support in your application(s)?"

Of the cloud-based data sources, MongoDB, a document-style NoSQL database, has the largest share by a large margin. A surprising and solid second is SQLFire, an in-memory SQL database from VMWare. Following that we see Cassandra, a highly scalable distributed database, and HBase for real-time access to Big Data in Hadoop-centric environments. Beyond the four market leaders, several other are growing in popularity and commanding a firm share of the market.

The up-and-coming nature of these data management technologies will undoubtedly present future challenges to the current market leaders. The close distribution of share across many of the vendors creates the potential for any technology to emerge as a future rising star.

RISING STARS IN SAAS APPLICATIONS AND DATA STORES

The cloud is reshaping the way we as an industry build and deploy software. The favorable economics and easy usability of cloud are clear. Cloud is enabling the next generation of independent software vendors (ISVs) to build applications faster than ever before, at a lower cost—applications with greatly increased scalability and resiliency. In fact, ISVs are ahead of the adoption curve. According to Gartner, within three years over 50 percent of ISVs will be building pure cloud applications. Additionally, 20 percent of IT spending over the

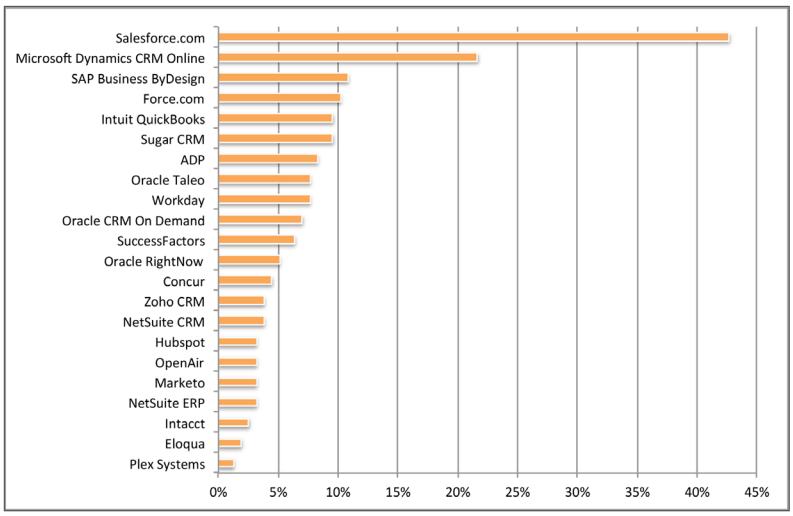

Figure 5

SaaS application support and usage.

next three years is going to cloud and SaaS-based services. In light of this, it's not surprising that the use of hybrid applications will exceed both on-premise and cloud growth in the near term as the market transitions from on-premise to pure cloud.

The final survey question was, "Which SaaS applications do you or your customers currently use or support in your applications?"

Dominating this story continues to be Salesforce, while CRM and HR applications in general are the shining stars across SaaS application adoption. We also see the Force.com platform shining brightly here, and coupled with Salesforce, they have strong mind- and market-share.

Because of the number of applications listed, it is important to understand who the top SaaS application vendors are, what data is managed by those applications in the cloud, and how we can connect to the right data in those applications, for the right users, at the right time.

ABOUT OUR DATA CONNECTIVITY SURVEY

To build the Progress DataDirect Data Connectivity Outlook report, Progress completed an online survey of 300 existing customers spanning small to medium sized businesses. These businesses span all regions to ensure a global view. The distribution of survey participants by region:

- 62%: North America
- 17%: Europe
- 15%: Asia
- 5%: South America

To ensure a comprehensive survey of titles across organizations, survey participants spanned roles throughout the organization. This year's distribution of roles consists of:

- 36%: Developer
- 19%: CXO
- 17%: IT Management
- 12%: Architect
- 9%: Line of Business Leader
- 4%: Project or Program Manager

ABOUT PROGRESS DATADIRECT

When performance, reliability, interoperability, and speed to market are critical priorities, forward-looking enterprises turn to the Progress DataDirect portfolio of data connectivity solutions. This portfolio connects applications to an unparalleled range of data sources using standard-based interfaces. More than 350 leading independent software vendors embed Progress DataDirect components in over 500 commercial products. And 96 of the Fortune 100 turn to the Progress DataDirect portfolio to simplify and streamline data connectivity for their enterprises.

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