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## Disclaimer

The following is intended as an outline of EnterpriseDB's general product direction. It is intended for informational purposes only, and it should not be relied upon in making purchasing decisions. This information may not be incorporated into any contract. It is not a commitment or obligation on the part of EnterpriseDB to release, launch or deliver any updates, modifications, material, code or functional improvements and may change at EnterpriseDB's sole discretion.
INTRODUCTION

New, more complex data sources, higher performance demands, greater access to data, and greater security challenges are putting increasing pressure on data center managers to accomplish more with their data infrastructures. However, budget limitations put into place during the Great Recession and economic uncertainty are holding firm. As a result, CIOs are faced with accomplishing more with the same or dwindling budgets.

Open source software (OSS) has long been recognized as an opportunity for cost savings in the enterprise, and its success in supporting enterprise operations and reducing costs is well documented; Linux for operating systems, Xen and KVM for virtualization and JBoss and Apache for middleware. Recent advances in Postgres and the security, performance and manageability enhancements that EnterpriseDB has integrated into the database for its Postgres Plus Advanced Server have produced a powerful open source-based alternative for the database layer.

Emerging best practices among some of the world’s largest brands that are deploying Postgres call for leveraging the low cost of open source for a range of workloads and retiring or reallocating licenses for the more costly, proprietary solutions. They’re using Postgres to support new, refactored, and existing easily migrated applications, while reserving expensive commercial licenses to accommodate growth in other areas due to hardware upgrades and enterprise resource planning (ERP) expansions.

The new enterprise data infrastructure model calls for open source-based and proprietary solutions co-existing, and database administrators targeting problems with their most cost-effective solutions.

THE SPREAD OF OPEN SOURCE

The increasing use of open source in the data center is not so different from the steady spread of open source across the enterprise.

Gartner Research, in its 2013 Hype Cycle for Open Source Software report, found that even the most conservative IT organizations that regard cost and risk mitigation as primary concerns are deploying open source solutions. The same research stated: “Open-source solutions are being deployed in increasingly mission-critical scenarios, where the service level must be equal to or better than closed-source alternatives.”

The adoption of open source has been steadily moving up the software stack – from operating systems to middleware and now, to the data tier. More importantly, relational database management systems (RDBMS) represent a significant cost center, while open source solutions represent an equally great opportunity for savings.

As early as 2009, leading DBMS analyst Noel Yuhanna of Forrester Research, in DBMS Selection: Look Beyond Basic Functions, declared that relational databases are maturing and capable of supporting at least 80% of enterprise applications.

STUMBLING BLOCKS IN THE DATA CENTER

Few things strike more fear and resistance within an enterprise IT organization than adopting a new RDBMS. The prominent view is the RDBMS comprises the foundation of the data infrastructure and any shake or rumble could bring
FACTORS FORCING CHANGE

Resisting change in the data center, however, is less and less an option. Some of the reasons should by now be quite familiar. First, there is the data – growing data volumes, new data types driven from social and mobile applications, new devices gathering and using data, such as traffic cameras, smart homes and other devices in the expanding ‘Internet of Things,’ and finally, growing demands across the enterprise for greater data access. Growing data volumes and demands are magnifying workforce pressures as database administrators are expected to manage larger and more complex datastores.

Big Data, the moniker assigned to the vast accumulations of data acquired and analyzed at high velocity demanding new database tools and capabilities, is a hot IT topic. RDBMSs are sometimes dismissed out of hand for Big Data applications.

The business demands of Big Data – both real and perceived – also pose complex challenges for CIOs. Many are struggling to understand what role, if any, these new solutions should play in their environments and how to choose and deploy them, much less pay for them.

Modernization has also become a factor, in the form of infrastructure innovation and software upgrades. Hardware upgrades, for example, have become more expensive as commodity servers come with ever-rising core counts, in turn increasing database licensing fees. Cloud migrations also pose new challenges for data professionals, as the licensing policies of proprietary database vendors make cloud deployments more expensive. Open source represents new levels of freedom and control, both in the cloud and on-premise.

THE ADVANCE OF POSTGRESQL AND POSTGRES PLUS

PostgreSQL has emerged as a powerful alternative to proprietary RDBMS products. Advances in the releases over the past three years have added powerful new features and capabilities for evolving data challenges. EnterpriseDB (EDB) has extended the community PostgreSQL with security, performance and manageability enhancements that global enterprises require.

Gartner positioned EnterpriseDB in the Leaders Quadrant in its October 2014 Magic Quadrant for Operational Database Management Systems report. The report stated: “Gartner clients report that the functionality of EnterpriseDB’s Postgres Plus Oracle Compatibility Feature is now more than sufficient to run both mission-critical and non-mission-critical applications.”

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Adding to the fear and uncertainty is the huge investment these systems require to operate and maintain. While the largest RDBMSs are standards-based, they each have proprietary data types, SQL extensions, semantic conventions and operational utilities. Application developers use these proprietary features extensively, and they often feel wedded to a selected RDBMS product and vendor because of application and knowledge lock-in. CIOs are understandably resistant to changing vendors; doing so would increase technology risks and reduce developer productivity.

Rip-and-replace migrations have also been historically expensive and time consuming. Depending on size and complexity of the database and dependent applications, migrations are thought to take months, years or simply too long to even comprehend. So many CIOs have not even considered database migration as a viable database alternative.
Recent performance enhancements have emphasized processor core scalability, partitioning, sorting, indexing, lock management, and optimizer hints to enable EDB’s flagship Postgres Plus Advanced Server database to handle applications across all mission tiers. Further, EDB has developed enterprise-class tools to enable database administrators to easily manage more, and bigger, Postgres database deployments.

In addition, the Oracle compatibility in Postgres Plus Advanced Server provides popular Oracle data types and catalog views and a procedural language that executes Oracle PL/SQL and understands Oracle SQL extensions and syntax. This enables organizations to migrate from Oracle to Postgres and continue to utilize much of their investment in applications, tools and training. Further, Postgres is SQL-standards based and, having been originally designed from the same research that produced Oracle, is comparable in many ways to Oracle so many DBA skills transfer.

Oracle compatibility also speeds and eases the migration of Oracle databases so that EDB users have completed database migrations in hours or a couple of days. But it’s also important to note that Postgres deployments for new applications or migrations of non-Oracle databases have disproved the common belief that deploying a new RDBMS is time-consuming. Postgres is a very extensible program. It’s architected to support many different plug-ins such as procedural languages (e.g. PL/Java, C/C++, Python and more), index types, authentication schemes, and contrib modules. Many users have reported completing new deployments as well as migrations in hours.

“Controlling costs and maintaining the ability to leverage our previous technology investments were critical factors in the selection of EnterpriseDB’s Postgres Plus Advanced Server over Oracle.”

-Justin Codd, Senior DBA, AQA

Postgres has achieved widespread market acceptance. Among EDB’s thousands of customers are more than half of the Fortune 500 list of global companies and more than 100 of the Forbes Global 2000. In the US, these companies include one of the three largest brands in global hosting, security software and government contractors. Worldwide, customers include Sony Online Entertainment, ABN AMRO, Fujitsu, Sony-Ericsson, NTT Corp. and KT Corp. The US government has also been aggressive in their adoption of Postgres and customers include the Federal Aviation Administration (FAA), the National Aeronautics and Space Administration (NASA), the Department of Labor and multiple agencies throughout the Department of Defense (DoD). It’s also important to note that as data demands have evolved, the PostgreSQL community and EDB have responded, integrating into the database the kinds of functions developers need in order to work with many new data types. These include key-value support (HSTORE), full text search, a JSON datatype/parser/functions, unlogged tables, XML and large object Blobs.

These capabilities support the needs of many companies whose data requirements have not swelled in size or complexity to require a so-called Big Data solution. However, there are business use cases that call for new solutions, such as those developed around niche technologies under the NoSQL umbrella. In those cases, the base framework of Postgres, designed from the beginning to be extremely extensible, will enable Postgres to integrate well with new tools.

By leveraging existing open source software as the core for Postgres Plus Advanced Server, EDB can begin pricing at a much lower price point than traditional databases for a total cost that is 80 to 90% less than proprietary databases.
OPTIMIZING POSTGRES FOR DATABASE DEPLOYMENTS

Robust and scalable, Postgres successfully supports mission-critical applications at some of the world’s largest brands, including Fortune 100 companies. In fact, a survey of EDB customers found that more users had deployed Postgres for mission-critical applications than non-mission-critical. To reach that level of confidence in Postgres, data technology managers must develop the internal skills and expertise as well as a strategy for reallocating or retiring their licenses for more costly solutions.

Many enterprises have begun by deploying Postgres to support new or refactored applications or easily migrated, non-mission-critical applications, whether enterprise-wide or single departmental. As their skills and experience developed and success was realized, enterprises have quickly expanded their Postgres deployments across the database layer.

To help organizations realize success with their initial Postgres deployments, EDB has developed a scoring method for applications. The process factors in such variables as the number of concurrent users and transactions per second as well as database size, high availability requirements and disaster recovery requirements. It’s important to note that only a small portion of the applications in most enterprise portfolios truly require the specialized features or capabilities of traditional, more costly databases; the bulk can be supported by Postgres.

Postgres can serve a vital role in every data center to reduce costs and dependencies on expensive proprietary database vendors. Deploying Postgres means a low-cost alternative to expanding a costly relationship with more or new license costs. One Oracle license, for example, lists at $47,500 per processor. Support and operating costs can equal an additional 22% of the license costs.

In hours or days, database professionals can deploy new databases or migrate existing databases and begin diverting spend away from the likes of Oracle and toward more strategic initiatives. Changing or adding a new RDBMS is a big decision, but not considering change in the data center is no longer an option. With EDB and Postgres, data professionals have a dedicated partner to show the way.

CONCLUSION

Now more than ever, IT organizations are faced with a complex set of decisions regarding their database management infrastructures. Data volumes are exploding, and new data types are finding mainstream use with increasing frequency; analytics associated with Big Data applications are driving competitive advantages; and advanced multi-core hardware footprints are driving license costs through the roof. To compound the problem, these dynamics are playing out in a climate of constrained budgets, and in an environment where CIOs are loathe to retrain staff on a large scale. Vendors like Oracle have locked customers into their proprietary RDBMS products and are wringing out every possible dollar.

Open-source-based RDBMS products such as Postgres offer a mature, cost-effective alternative to proprietary incumbents. Postgres is mature, proven and widely deployed across a range of enterprise applications. EDB’s Postgres Plus Advanced Server combines all the capabilities of open source PostgreSQL with enterprise-class extensions and support. What’s more, EDB offers Postgres Plus Advanced Server for a small fraction of the cost of proprietary products like Oracle, giving enterprises a clear path to economic benefit.

How can you use Postgres to reduce costs in your data tier? The answer depends on your existing application portfolio and your development roadmap. While many
organizations have leveraged Advanced Server’s extensive Oracle compatibility features to migrate mission-critical Oracle applications, most begin by using Advanced Server for new applications and to move read-intensive workloads off of their Oracle databases. However, regardless of their adoption paths, all Advanced Server users benefit from using an open source-based RDBMS alternative that preserves their developers’ existing Oracle knowledge. They save money, maintain developer productivity and reduce the budgetary stranglehold of their proprietary RDBMS vendor.

EnterpriseDB’s Postgres Fit Matrix and assessment methodologies will help you quickly quantify the financial benefits of using Postgres Plus Advanced Server, and the company’s experienced professionals will help you develop a prudent plan for moving forward.

Get Started Today! Let EnterpriseDB help you build and execute your game plan. Contact us at +1-877-377-4352 or +1-781-357-3390, or send an email to sales@enterprisedb.com to get started today on your path to database independence.

ABOUT ENTERPRISEDB

EnterpriseDB is the leading worldwide provider of Postgres software and services that enable enterprises to reduce their reliance on costly proprietary solutions and slash their database spend by 90 percent or more. With powerful performance and security enhancements for PostgreSQL, sophisticated management tools for global deployments and Oracle compatibility, EnterpriseDB software supports both mission and non-mission critical enterprise applications. Thousands of enterprises, governments and other organizations worldwide use EnterpriseDB software, support, training and professional services to integrate open source software into their existing data infrastructures. Based in Bedford, MA, EnterpriseDB is backed by strategic private investors.

1 Gartner Research, Hype Cycle for Open Source Software, 2013.
2 Forrester Research, DBMS Selection: Look Beyond Basic Functions, 2013.