AVOIDING HIGH ORACLE DBMS COSTS WITH POSTGRES

An EnterpriseDB
White Paper

For Government CIOs
and IT Directors
December 2014

TABLE OF CONTENTS

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

Government agencies are facing unprecedented budget pressures. With the sequester removing $85 billion from federal funding, every technology program is being examined for potential cost-savings.[1] As budgets are cut at federal agencies, funds for new and meaningful projects are limited – with about 70 percent of dollars being diverted to existing systems.[2] Just as at the federal level, state and local government agencies are also looking for ways to centralize and optimize their existing infrastructure.[3]

Today, technology is providing cost-effective alternatives to the status quo with one of the biggest untapped opportunities in agencies' IT infrastructures—the database management system (DBMS). By transitioning existing databases to open source-based alternatives, agencies can dramatically reduce costs and reallocate funds to more mission-critical initiatives.

POSTGRES – THE WORLD'S MOST ADVANCED OPEN SOURCE DATABASE

Adopted by a host of leading companies including Facebook, Microsoft and Yahoo, Postgres is a proven open source database technology that can handle the most demanding use cases. Postgres has the backing of 25 years of development refinements and was sparked by the same technological revolution as Oracle's DBMS.

Both were born out of Edgar Codd's groundbreaking 1970s research paper that served as the foundation for relational database management. One became the proprietary DBMS offered by Oracle, another – Postgres – was developed by a small group of Massachusetts Institute of Technology (MIT) scientists dedicated to advancing the field. Now in its third decade of development, Postgres has reached a tipping point, making it not only a strong alternative to Oracle, but also a preferred choice by the most influential technology companies in the world.

DRAMATIC COST AVOIDANCE

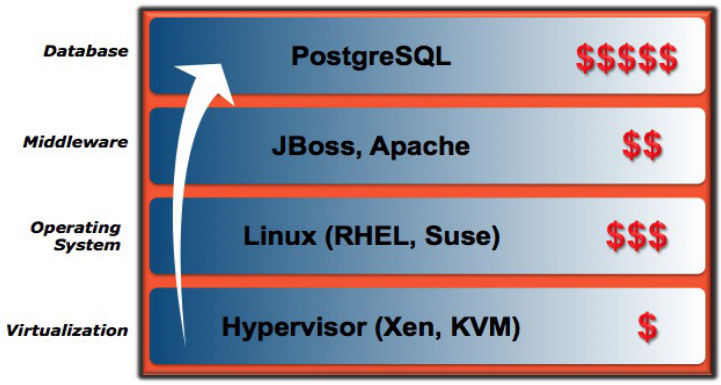
Postgres represents a natural progression in open source software (OSS) adoption. Over the past decade, IT organizations have gained substantial experience from deployments of OSS throughout their infrastructure software stacks. Most have been successfully running some form of Linux, JBoss, KVM, or other OSS software in their data centers for years, and are now looking to adopt open source alternatives for their databases as well.

Although the most sensitive layer of the infrastructure stack, the database also represents the most dramatic cost savings and strategic advantages. For example, one Oracle license alone lists at $47,500 per processor (without any add-on features) with annual operating expenses equal to 22% of the total license costs.

[1] http://www.washingtonpost.com/blogs/wonkblog/wp/2013/02/20/the-sequester-absolutely-everythingyou-could-possibly-need-to know-in-one-faq/

[2] http://www.gao.gov/products/GAO-13-87

[3] http://www.slideshare.net/publictechnology/technology-forecast-2011-what-state-and-localgovernment-technology-programs-can-expect



For a large installation using many processors, the annual operating expense from the Oracle maintenance costs alone can easily be well into the six-figure range. Implementing Postgres can dramatically reduce both capital and operating expenses while simultaneously increasing IT vendor flexibility. In fact, a study by the Space and Naval Warfare Systems Command (SPAWAR) concluded that government organizations could achieve Oracle cost avoidance of 95% from moving to Enterprise DB's Postgres Plus Advanced Server.

INTRODUCTION TO POSTGRES PLUS ADVANCED SERVER

EnterpriseDB (EDB) combines all of the benefits of Postgres with the commercial dependability, resources and support needed by government agencies to run their enterprise-class applications. Based in Bedford, MA, EDB is the leading worldwide provider of enterprise-class Postgres and database compatibility software and services. Used by thousands of businesses and government customers globally, EDB delivers the industry's best price-performance value in a relational database. Employing some of the most innovative members of the Postgres community, EDB builds upon the 25-plus years of Postgres development to provide agencies a proven, secure and feature-rich alternative to costly commercial databases.

EDB's Postgres Plus Advanced Server, or Postgres Plus for short, offers government agencies an enhanced version of Postgres that includes all the latest features of Postgres, plus: Oracle compatibility; added security features; better performance capabilities; sophisticated monitoring, management, and replication tools; along with the support, training and professional services agencies require for successful deployments. Postgres Plus has Oracle PL-SQL commands and syntax integrated directly into the Postgres code base to enable agencies to quickly and easily migrate existing applications using Oracle databases onto Postgres Plus with little to no modifications. In addition, agencies can continue to use their DBAs' existing Oracle skills without re-training and other difficult change management issues.

Across the federal government, more than 1.8 billion cyber attack incidents occur every month.[1] Postgres Plus Advanced Server expands on the security benefits of Postgres with features such as protection for SQL injection attacks and row level security enhancements. As one of the

[1] http://www.politico.com/news/stories/0310/33987.html

world's most advanced databases, it includes additional proprietary features built into the software, such as auditing, partitioning, and Virtual Private Database.

A realistic example of the cost avoidance benefits offered by a Postgres Plus migration is outlined below. This represents a comparison of licensing and vendor support costs between Oracle and Postgres Plus for a typical 4 socket/32 processor server (using x86 chips). Given the size and scope of most government programs, these cost avoidance metrics can be staggering in their magnitude.

Configuration: 4 sockets/32 cores - x86 processor

	Oracle Enterprise Edition	EDB Postgres Plus Enterprise Edition
Database	$47,500	Included in subscription
Virtual Private Database	Included	Included
Partitioning	$11,500	Included
Data Guard	$10,000	Included
Spatial	$17,500	Included
Diagnostics	$5,000	Included
In-memory Database Cache	$23,000	Included
Total License Fee per Core	$114,500	Included in subscription
Total License Fee per Server (CapEx)	**$1,832,000**	**$0.00**
Annual Support / subscription cost per core	22% of License Fee	$6,900 per socket
Annual Support / Maintenance per Server (OpEx)	$403,040	$20,700
Total 3 Year License and Support Cost	$4,041,120	$62,100

No CAPEX – Annual OPEX reduction of 95% - 3 YR TCO cost savings of 98%

Note: All prices are approximate totals based on published information obtained from vendors and/or the General Services Administration (GSA) schedule website.

EDB customers have realized dramatic savings from their Oracle licensing and maintenance fees. In one TCO/ROI Analysis from Alinean, Inc., one EDB customer realized $1.7 million in savings over three years by using Postgres Plus instead of Oracle. This represented a return on investment of 271 percent and an internal rate of return of 101 percent, with a payback period of just one year.

MIGRATE IN THE RIGHT DIRECTION

Migration is the first step in reducing Oracle costs. Many Oracle customers are preparing for another kind of migration — from the 10g to 11i or 12c platform. Rather than performing a potentially high-impact migration between like platforms, government agencies should consider migrating toward the open source-based alternative: Postgres Plus. With a proven track record of success in migrating Oracle databases, EnterpriseDB has vast experience and expertise in guiding organizations through the transition — minimizing impact while maximizing cost savings.

CERTIFICATION, ACCREDITATION AND ATO

Postgres Plus has gone through the C&A process which provides an independent analysis of the software's overall security posture, an evaluation of potential security risks and recommendations for correcting identified deficiencies.

To date, Postgres Plus has received the following certifications, accreditations and authority to operate:

- Common Criteria Certificate, Assurance Level EAL2, augmented with ALC_FLR.2.
- NIPRNet - Non-classified IP Router Network; NIPRNet is used to exchange sensitive but unclassified information between "internal" users as well as providing users access to the Internet.
- SIPRNet - a system of interconnected computer networks used by the United States Department of Defense and the U.S. Department of State to transmit classified information (up to and including information classified SECRET) by packet switching over the TCP/IP protocols in a 'completely secure' environment.
- JWICS - Joint Worldwide Intelligence Communications System; a system of interconnected computer networks primarily used by the United States Department of Defense, United States Department of State, United States Department of Homeland Security and the United States Department of Justice to transmit classified information by packet switching over TCP/IP in a secure environment. It is administered by the Defense Intelligence Agency.
- Authority to Operate (ATO) DISA Control Nr 020721104.

IN THE FIELD: USE CASES AND EXAMPLES

Many major government agencies are currently looking to alternative platforms to serve their database needs. EDB has extensive experience in database management, having served over 40 organizations in the government arena, including the Federal Aviation Administration (FAA). EDB also worked with a large defense contractor to replace more than 140 Oracle DBMSs, including databases that supported mission-critical systems such as missile launching data. The contractor was looking for a solution that provided advanced security, availability and reliability, as well as one that could meet its pricing and performance metrics. EDB's Postgres Plus not only met all feature and compatibility requirements, migrating from Oracle was completed in just a few weeks. With the new technology in place, the defense contractor is now lowering total cost of ownership for its government customers, reducing overall cost while continuing to deliver the same high levels of service.

Many government organizations are now taking advantage

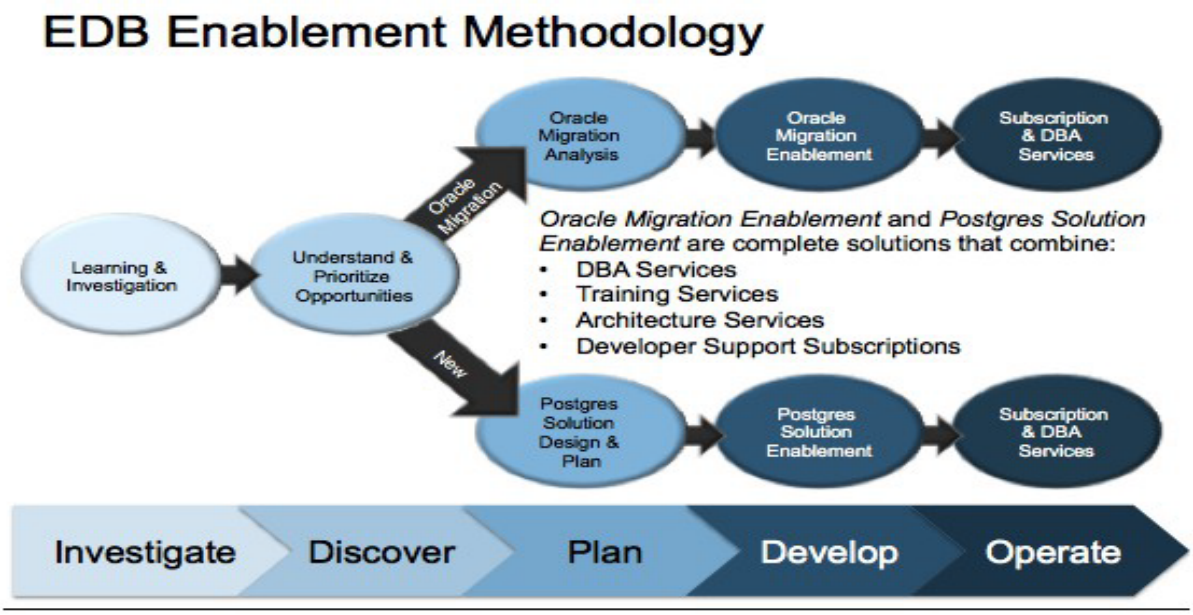
of the lower overall IT spend and performance features of Postgres Plus. According to a survey of recent customers conducted by third-party research firm TechValidate, more than half answered that their migration only required slight modifications to their applications – or no modification at all. As one IT professional who was surveyed said:

"We've switched from an Oracle database to Postgres Plus Advanced Server with EnterpriseDB. With a cost reduction of 50 percent for our database, we can invest in other IT-domains. We do not have to compromise on reliability, performance or support, even though we only pay for what we used."

-Joris Geuens, IMAS NV

DETERMINING YOUR BEST PATH FORWARD

The first steps in determining your best path forward is to learn more about Postgres and assess the fit for your agency's needs. EDB offers a variety of research information, training, assessment tools, and transition workshops to assist you in your transition. Once your agency's needs have been defined and the relevant Postgres opportunities identified, EDB can also work with you to create a transition plan and then assist you with the technical requirements for your migration or development of new applications onto Postgres. An outline of EDB's typical enablement process is shown below.



CONCLUSION: THE OPPORTUNITY IS NOW

Government budgets are tight, but agency leaders are determined not to let their missions suffer. Open source database management software like Postgres presents a unique opportunity for agencies to meet their mission needs while significantly reducing their operating costs. Implementing a solution such as EDB's Postgres Plus provides Oracle compatibility along with added security, performance and tooling capabilities.

EDB enables government agencies to realize the cost and performance benefits of Postgres by providing the additional capabilities, support, training and professional services that agencies need to operate in today's challenging environments. With over 40 customers from federal civilian, DoD and intelligence community agencies, as well as state and local governments across the country, EDB provides agencies with the confidence of a world-class database solution at a fraction of the cost. Using Postgres Plus, agencies can reduce spending on expensive commercial databases like Oracle while continuing to reliably fulfill mission-critical operations, thus freeing up resources for other vital IT initiatives.

ABOUT ENTERPRISEDB

EnterpriseDB is the leading worldwide provider of software and services for PostgreSQL deployments in the enterprise. EnterpriseDB's comprehensive ecosystem of performance and security software enhancements for PostgreSQL, database compatibility for Oracle and migration guidance, sophisticated management tools for global deployments, enterprise-class support and training help ensure successful enterprise deployments of PostgreSQL. Building upon 25-plus years of open source community PostgreSQL development, EnterpriseDB provides companies a proven, secure and feature-rich alternative to costly traditional databases. EnterpriseDB, based in Bedford, MA, is backed by Charles River Ventures, Volition Capital (formerly Fidelity Ventures), Valhalla Partners and strategic investors including Red Hat and IBM. For more information, please visit http://www.enterprisedb.com.

For more information, visit http://www.enterprisedb.com/solutions/government/overview or contact sales@enterprisedb.com.