PACKAGED SERVICES

Architectural Health Check

Architectural Roadmap and Solutions Blueprint

Enterprise Readiness with EDB Postgres

Migration Assessment

Migration Roadmap – Bulk Database Classification

RemoteDBA Premium Service

Security Evaluation for Postgres

Technical Account Management

Tune-up for Postgres in a Public Cloud (RDS)

PACKAGED TRAINING

On-site or Private On-line Training, delivery of non-customized classes

GENERAL AND MISCELLANEOUS TERMS AND CONDITIONS

General Terms and Conditions - All Packaged Services

General Terms and Conditions - All Packaged Servicesand all Packaged Training

PACKAGED SERVICES

Architectural Health Check

Initiation

- Provide a pre-defined task plan and conduct project kickoff and service review

3 Day Workshop

- Hardware and OS Configuration Analysis
- Architectural Analysis
    - Indices, Clusters, Schemas, Table spaces
- Analysis of Database Activity
- Configuration Parameters and Query Tuning
- Vacuum Analyze Strategy
- Backup Strategy and Security review
- Partitioning Review

Post Workshop (2 Days)

- Analysis of environment and existing configuration parameters with respect to the current or planned use case
- Creation of detailed Architectural Health Check report with current and recommended changes in parameters and settings
- Report review with customer via web conference

Customer Prerequisites - The ability of EnterpriseDB to perform these services effectively depends on the following deliverables being performed by the customer before the engagement begins:

- Provide assigned Database Administrator(s) to assist EDB during the Services engagement and to participate in the review of the recommendations

Architectural Roadmap and Solutions Blueprint

Initiation

- Provide a pre-defined task plan and conduct project kickoff and service review

5 Day Workshop

- Review current strategy and architecture for data management and database systems
- Examine upcoming requirements and existing Postgres portfolio
- Review the EDB Postgres data management and solutions portfolio

- Discuss migration paths from different database systems to EDB Postgres
- Review SLAs and systems standards
- Review standards and development of a standard operating environment for: operating systems, database server deployment and tuning, high availability, monitoring, auditing, backup and recovery, upgrades, and user management
- Review Postgres skills sets within the organization and plan for required skill development or resource additions

Post Workshop

- Services Engagement Completion Report with Roadmap and Blueprint - review via web conference

Customer Prerequisites - The ability of EnterpriseDB to perform these services effectively depends on the following deliverables being performed by the customer before the engagement begins:

- Provide EDB access to System Architects, Database Administrators, and DevOps personnel in support of conducting the workshop and for review of roadmap

Enterprise Readiness with EDB Postgres

Initiation

- Provide a pre-defined task plan and conduct project kickoff and service review

5 Day Workshop

- Install and tune EDB Postgres Advanced Server (EPAS) on 3 servers
- Establish streaming replication between the 3 servers with one primary and two hot standbys
- Install and configure EDB Postgres Failover Manager (EFM)
- Install and configure EDB Postgres Enterprise Manager for monitoring and alerting according to EDB best practices
- Install and configure EDB Postgres Backup and Recovery Tool for backup/recovery management of Postgres databases
- Configure Write Ahead Log (WAL) shipping to supplement streaming replication and enable point in time recovery

Post Workshop

- Services Engagement Completion Report - review via web conference

Customer Prerequisites - The ability of EnterpriseDB to perform these services effectively depends on the following deliverables being performed by the customer before the engagement begins:

- Provide assigned System Administrator(s) and Database Administrator(s) to assist EDB during the Services engagement
- A list of technical pre-requisites to be performed by the customer is below. These technical prerequisites are required to be in place before the EDB consultant arrives on site to begin the service, otherwise delays and additional work may be required which may necessitate a change request.

Customer Technical Prerequisites for Enterprise Readiness with EDB Postgres
All EDB Postgres Advanced Server (EPAS) hosts
Assigned System Administrator to assist EDB during the Services engagement
Ensure that servers have access to the EnterpriseDB YUM repository
Provide SSH access to the 3 EPAS servers, EBAR server, and PEM server
SUDO privileges on the 3 EPAS servers, EBAR server, and PEM server
Verify SSH/SCP is possible between the 3 servers and backup location
Adjust firewall to allow communication on designated database port between EPAS servers, BART server, and PEM server (typically port 5432 in Postgres mode or 5444 in Oracle compatible mode)
EDB Postgres Failover Manager (EFM)
Adjust firewall to allow EFM agents to communicate on ports 7800 - 7810
Install Java (1.6 or later) on servers with EDB Failover Manager (yum install java)

EDB Postgres Enterprise Manager (PEM)
Adjust firewall to allow communications on port 8443 for remote clients to the PEM web services
Ensure that servers with a PEM agent on *EL7 contain access to the epel-release package
EDB Backup and Recovery (EBAR)
Adjust firewall to allow SSH/SCP is possible between database hosts and between the backup hosts and database hosts

Migration Assessment

Initiation

- Provide a pre-defined task plan and conduct project kickoff and service review
- Installation Profile Interview: Understand DB architecture/configuration and application usage

Activities and Service Deliverables

- System diagnostic inventory
- Migration Assessment Review
- Migration Assessment Report - review via web conference

Customer Prerequisites - The ability of EnterpriseDB to perform these services effectively depends on the following deliverables being performed by the customer before the engagement begins:

- Assign a Database Administrator(s) to assist EDB during the Services engagement
- Access to Oracle schemas from the EDB Database Migration Assessment Tool (DMAT) for read only assessment of the schema structure (tables, triggers, views, functions, procedures, packages). The DMAT does not access application data
- Designate a project sponsor to review and evaluate the migration assessment report and evaluate the plan

Migration Roadmap – Bulk Database Classification

Initiation

- Provide a pre-defined task plan and conduct project kickoff and service review

Activities and Service Deliverables

- Assessment and classification: assess Oracle Database schemas using the EDB Database Migration Assessment Tool (DMAT)
- Analyze the assessments for incompatibilities
- Provide a roadmap report with the level of effort to do a database migration to EDB Postgres and identifying candidates for migration that are the best fit to start
- Services Engagement Completion Report with Roadmap and Blueprint - review via web conference

Customer Prerequisites - The ability of EnterpriseDB to perform these services effectively depends on the following deliverables being performed by the customer before the engagement begins:

- Assign a Database Administrator(s) to assist EDB during the Services engagement
- Access to Oracle schemas from the EDB Database Migration Assessment Tool (DMAT) for read only assessment of the schema structure (tables, triggers, views, functions, procedures, packages). The DMAT does not access application data
- Designate a project sponsor to review and evaluate the migration assessment report and evaluate the plan

RemoteDBA Premium Service

Initiation

- Conduct project kickoff with detailed on-boarding meetings with review of service lifecycle

Activities and Service Deliverables

RemoteDBA Premium Service Description(1)	On Premises Database Instances	Public Cloud Database Instances
Install/Operate Management and Monitoring Software(2)	Yes	Yes
EDB Postgres Enterprise Manager (PEM) Monitoring Setup(2)(3)	Yes	Yes
24 x 7 Monitoring	Yes	Yes
Real Time Alerting across Multiple database metrics	Yes	Yes
Customized Thresholds for Alerts	Yes	Yes
Proactive Remedy of Alerted Issues	Yes	Yes
Escalation Management, if required	Yes	Yes
Evaluate Releases and Recommend Paths for Upgrading and Patching	Yes	Yes
Apply Database and Tools(4) Version Upgrades/Patches	Yes	Yes
Guidance on Disaster Recovery Planning	Yes	Yes
Production Backup Verification(5)	Monthly	Monthly
Establish High Availability Infrastructure(4)	Yes	Yes
Advise on Read Scalability and Load Balancing	Yes	Yes
Trend Analysis on Capacity/Space, Load, Lag	Monthly	Monthly
Database Best Practice Advice	Yes	Yes

Annual Comprehensive Performance Optimization	Architectural Health Check	Database Tune Up
Database Parameter Tuning	Initial & Ongoing	Initial & Ongoing
Operating System Parameter Tuning Advice	Yes	Partial
Capacity Planning	Yes	Yes
Index Efficiency and Maintenance	Yes	Yes
Table Maintenance and Optimize Vacuum Settings	Yes	Yes
Query Optimization Guidance(6) for Improved Performance	Yes	Yes
Table Partitioning	Yes	Yes
Connection Pooling Best Practices	Yes	Yes
User/Group Security Configuration and Maintenance	Yes	Yes
Encryption and Secured Access Best Practices	Yes	Yes
Setup Point in Time Recovery, if needed	Yes	Yes
Install Postgres Database Instances, if needed	Yes	No(7)
Setup 1 Dev/Test Environment per Production environment	Yes	Partial(7)
Establish 1 Read-Replica per Production Instance	Streaming or Slony	Yes
Status Meetings and Reports on Ongoing Environment Health and Activities	Weekly	Weekly

Strategic Review on Trends, Uptime, Business Alignment, Opportunities	Quarterly	Quarterly
Certified Postgres DBA Team	Yes	Yes
EDB Technical Lead as Primary Point of Contact	Yes	Yes
Support Portal Access	Yes	Yes
Database Technical Support with Production SLAs	Yes	Yes

Notes to Table:

(1) Pricing for RemoteDBA services are based on the number of database instances to be managed, and adjusted to particular needs and size of the environment to be managed.

(2) For effective and efficient 24x7 monitoring, software tools and/or utilities are installed which serve key functionality needs or monitoring and analysis needs. These tools and utilities are owned by EnterpriseDB and are provided solely for use by EnterpriseDB personnel as part of this RemoteDBA Service. Usage of such tools and utilities is restricted to instances which are contracted for RemoteDBA services only. In addition, each utility and tool must be uninstalled and no longer used at the conclusion of the Service term.

(3) To leverage PEM for the monitoring, the customer must provide a separate server to house the PEM server and its database.

(4) EDB Supported tools only.

(5) For backup verification the customer has to provide a separate server that can be used to verify the integrity of the backups.

(6) Query optimization is limited to identification of problem queries in the customer's application/database combination. It does not include query redesign or query redevelopment, and EDB will not rewrite customer queries directly.

(7) Instance provisioning must be done by the customer on Amazon RDS for PostgreSQL.

EnterpriseDB may have to substitute Remote DBA personnel from time to time, and will provide a backup that has reasonable knowledge and is able to fill in for the primary team member(s). At any time EnterpriseDB reserves the right to provide an alternate Remote DBA and will make sure that they have the skills required and knowledge of the Customer's environment.

Customer Prerequisites - The ability of EnterpriseDB to perform these services effectively depends on the following deliverables being performed by the customer:

- Ensure that appropriate representatives (i.e. the Project Manager) attend the weekly scheduled status calls
- Assign a Database Administrator(s) to assist EDB during the Services engagement
- Access to Oracle schemas from the EDB Database Migration Assessment Tool (DMAT) for read only assessment of the schema structure (tables, triggers, views, functions, procedures, packages). The DMAT does not access application data
- Designate a project sponsor to review and evaluate the migration assessment report and evaluate the plan

Security Evaluation for Postgres

Initiation

- Provide a pre-defined task plan and conduct project kickoff and service review

3 Day Workshop with Customer Operating System, Database, and Security team

- Examine the following areas of potential security vulnerabilities and review best practices and provide recommended remediation to findings:
    - operating system security
    - encryption strategy: client server communication, data encryption, data-at-rest
    - role usage and management within the database and associated application
    - database auditing implementation and best practices
    - multi-tenant architecture, if applicable
    - row level security/virtual private database policies and/or make recommendations where these policies can be used

- Make suggestions for protecting against SQL injection attacks
- Document findings, recommended best practices and remediation approaches

Post Workshop

- Services Engagement Completion Report - review via web conference

Customer Prerequisites - The ability of EnterpriseDB to perform these services effectively depends on the following deliverables being performed by the customer before the engagement begins:

- Provide assigned System Administrator(s) and Database Administrator(s) to assist EDB during the Services engagement

Technical Account Management

Initiation

- Conduct project kickoff with on-boarding with review of service lifecycle

Activities and Service Deliverables

- EDB solution expert who provides guidance on aligning product capabilities to requirements
- Assists with Postgres adoption and rollout activities, and can make recommendations for migration strategies
- Represents the customer's interests within EDB business and technology teams (e.g. feature requests, escalations)
- Can be contacted during business hours by up to four named customer contacts
- Contributes as a strategic member of your team, and participates in your key meetings
- Oversees and report on the resolution open technical issues
- Conducts monthly service reviews with your extended team
- Provides a monthly activity report including recommendations, open item status and next steps
- Quarterly on-site planning meetings. T&E is included in annual TAM cost for quarterly visits. The customer has to cover T&E for additional onsite visits.

Customer Prerequisites - The ability of EnterpriseDB to perform these services effectively depends on the following deliverables being performed by the customer before the engagement begins:

- Provide assigned customer point of contact who is the project sponsor and can assist EDB during the Services engagement

Tune-up for Postgres in a Public Cloud (RDS)

Initiation

- Conduct brief project kickoff and review of customer use case and current performance challenges

Activities and Service Deliverables

EDB will perform database optimizations based on customer need and provide written results and recommendations in the following focus areas if required.

- Improve index usage and efficiency
- Optimize slow queries
- Guidance on explain plans and how to use explain analyze
- Management of bloat and vacuum processes
- Review and improve memory utilization
- Evaluate changes in database size and tune database parameters
- Troubleshoot lock contention
- Guidance on Disaster Recovery and High Availability
- Correct Transaction ID wraparound issues

Post Workshop

- Services Engagement Completion Report - review via web conference

Customer Prerequisites - The ability of EnterpriseDB to perform these services effectively depends on the following deliverables being performed by the customer before the engagement begins:

- Provide assigned System Administrator(s) and Database Administrator(s) to assist EDB during the Services engagement

PACKAGED TRAINING

On-site or Private On-line Training, delivery of non-customized classes

- Packaged Training is defined as delivery of the standard class(es) that includes the standard topics as identified in the specific course listing(s) found on the EDB Web site or Training Catalog.
- Training classes will be conducted by one (1) instructor per day for up to twelve (12) participants. A per student rate will be charged for any participants greater than the 12 maximum.
- Classes will typically be 6 to 8 hours each day, with time for questions and demonstrations and 8 hours of class time per day maximum.
- The instructor will have experience as a trainer and as a Postgres consultant and/or Database Administrator.
- All training will be delivered in the English language.
- An electronic copy of the training materials will be provided. These materials are copyrighted, with distribution limited to the training participants. All course materials will be provided in the English language.
- Electronic class completion certificates are provided for all participants.
- Attendees should bring their own laptops to the training course. Equipment requirements are listed on the EDB web site.
- Private on-line training to be delivered in an on-line live format through a web conferencing tool.

GENERAL AND MISCELLANEOUS TERMS AND CONDITIONS

General Terms and Conditions - All Packaged Services

A. EnterpriseDB will provide a qualified resource to perform the purchased services engagement that has production experience in the services needed by the customer (e.g. Replication, Partitioning).

B. Each EnterpriseDB service personnel will require dedicated log on credentials. EnterpriseDB will secure all access credentials provided during the course of this engagement and not share them or write them down.

C. Customer will additionally arrange all reasonable access to appropriate subject matter experts that EnterpriseDB may need to perform this engagement, i.e. Database Administrators or Application Developers.

D. Customer will provide to the EnterpriseDB service personnel, access to both machines and people within the Customer's organization. Specifically, the Customer will provide administrative rights using secured Internet access and logon credentials to each server and database serviced in this engagement. Any required background checks / security clearances must be complete one (1) business day before the engagement start date.

E. Customer will provide access to any systems of record that they use for Database Administration (such as Configuration Management systems, ticketing systems, and/or Source Control systems).

General Terms and Conditions - All Packaged Services and all Packaged Training

F. Exact delivery dates and Consultant or Instructor availability will be confirmed upon Order Form signature.

G. Travel and expenses for on-site Services or Training are not included in pricing and actual expenses are billed separately.

H. If customer cancels on-site services or training events with less than two (2) weeks notice, customer will be charged for the originally scheduled services or training plus any non-reimbursable travel expenses. Rescheduling with less than two (2) weeks notice will result in charges for the originally scheduled services or training plus any non-reimbursable travel expenses plus the newly scheduled services. The same policy applies for Remote services but requires not less than one (1) week notice. Rescheduling of confirmed delivery dates or delivery dates requested within 2 weeks of Sales Order signing may incur additional costs payable by the customer, due to increased Travel and Expenses fees.

I. Customer will identify a Project Manager or other leadership resource that has the authority to act and execute on the Customer's behalf in matters pertaining to the engagement. The Customer Project Manager will be the primary point for project coordination, communication, and issue escalation.

<p align="center">Version 1.0</p>