

Architectural Health Check for Postgres

Growth Happens and Systems Change

If yours is like most IT systems, your hardware, software, and usage patterns have changed over time. You may also have much more data and many more users than when you set up your initial database configuration. The resulting mismatch can mean that your system does not meet your current business needs. Or perhaps you're new to Postgres and looking for a healthy start.

In either case, an Architectural Health Check (AHC) from EnterpriseDB® (EDB™) can help align your systems and staff with your current needs, fast. This 40-hour packaged service delivers a detailed analysis and review of your Postgres database instances, and produces a report of actionable high-impact recommendations to ensure your system is optimally configured and tuned to your current needs.

Service Highlights

- » Hardware and Operating System Configuration Analysis
- » Analysis of Database Activity
- » Database Architectural Analysis
 - » Database Cluster
 - » Schemas
 - » Indexes
 - » Table Spaces
- » Partitioning Analysis
- » Parameter Tuning
- » Query Tuning Guidance
- » Vacuum Analyze Strategy
- » Backup Strategy
- » Security Review



"I am totally confident in EnterpriseDB support. I know that they are going to help me find a solution for what I need, and the Architectural Health Check that they took us through was a great experience."

Rick Meijer, DBA, Advantec

Get Expert Advice from the Experts

With more PostgreSQL community members as employees than any other organization, EDB provides you with the expertise you need to compete and succeed in today's business climate. EDB has years of experience tuning production databases. We have core PostgreSQL developers on staff who make significant contributions to the project in each release, and many of our largest contributions have been specifically in the areas of database performance. Your organization can take advantage of this expertise in a well-defined service package, and experience significant performance and throughput advantages by applying best practices.

Do It Once – Do It Right

EDB's Architectural Health Check service is based on years of production tuning experience and a deep familiarity with the database internals. Avoid wasted time and potential problems with the traditional "change it and see what happens" methodology.

Data Collection, Analysis and Report

An EDB service engineer will configure your database to gather statistics on various parameters like Shared Buffers, Free Space Map, Effective Cache size, Work_Mem, WAL Buffers, WAL Sync Method, Checkpoints, and more over your critical use time periods (i.e. peak usage times or times of poor performance). The collected data will then be combined with information about your hardware, OS, storage, application, and usage patterns. Our staff then reviews this information to produce recommendations.

Actionable Recommendations

Following our staff review, you will be presented with a detailed report of our findings, including a set of recommendations across various aspects of your data architecture. You'll find changes your staff can make with minimal effort immediately, as well as shorter- and longer-term recommendations to achieve optimal health across your Postgres databases for your current and future business needs.

Predictable Service

» Fixed Cost

- » Fixed cost pricing per database instance provides you a low cost / high impact service that eliminates guesswork in budgeting.

» Fixed Timeframe

- » Plan this critical service to overlap problem performance periods and maximize the data collection effort.

» Fixed Statement of Work

- » Based on years of tuning experience and a deep familiarity with the database internals, we know what to check and you'll know what to expect.

Tuning Guidelines

Performance is measured at both the application and database levels. Even if the OS and database are configured optimally, application code bottlenecks can cause massive slow-downs. Therefore best practices should be followed while developing queries for the application which will provide performance improvements at all levels.

- Have a primary key on each table. For a list of tables not meeting this criteria, see appendix [Tables Without Primary Keys](#)
- Avoid using COUNT(*) in SQL statements.

This leads to a full table scan and can cause useful data to be flushed out of shared buffers. The exception is for queries in PostgreSQL 9.2 or above, where the table has an index and avoids loading table pages in many cases.
- Avoid using row values in the code. Instead, use bind variables which help the optimizer and protect against SQL injection.
- Write queries in such a way that the required result set uses the primary key index.
- Use EXPLAIN and/or EXPLAIN ANALYZE output for each query written in the code and tune accordingly. Tools such as explain.depesz.com are helpful in understanding the output of these commands.

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- Operating System Database Parameters

Other Popular Packaged Services

EDB packaged services are well defined, affordably priced, results oriented, and executed in a timely and professional manner. All of our engagements end with effective knowledge transfer, enabling your staff to own and maintain the work now and as your business grows in the future.

RemoteDBA Services

This high-impact staff augmentation service covers every aspect of your database system, ensuring worry-free operation and growth for years. RemoteDBA Services allow you to immediately apply qualified manpower where you need it in a highly cost-efficient manner. RemoteDBA Services includes an Architectural Health Check as part of the service.

EDB packaged services are provided only on Generally Available versions of Postgres.

Contact us

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|------------------|-------------------|--------------------|--------------------|-----------------------|------------------|
| Australia | +61 2 8019 7055 | Japan | +81 50 5532 7038 | Sweden | + 46 844 683476 |
| France | + 33 975 187082 | Korea | + 82-2-6007-2500 | United Kingdom | + 44 20 37406778 |
| Germany | + 49 322 21097906 | Netherlands | + 31 (0)20 8080937 | United States | +1 781 357 3390 |
| India | +91 20 366449600 | Poland | + 48 223 079848 | | |