Fujitsu's Strategy in Incorporating PostgreSQL into its Enterprise Database

By incorporating PostgreSQL, an open source database, into its enterprise offering for the global market, Fujitsu is providing a product that embraces openness. Why is Fujitsu pursuing openness in its enterprise database systems? We take a look at the real story.

Why PostgreSQL?

Fujitsu incorporated the PostgreSQL open source database into its enterprise data management platform to embrace the concept of "OSS First", which refers to customer demand to prioritize open source software (OSS). "OSS First" means giving first consideration to OSS when implementing a system.

Customers can see that by using OSS, they can enjoy the benefits of reduced costs and the backing and know-how of a community of hundreds of developers worldwide. We incorporated PostgreSQL as part of our push to make our database more open in order to satisfy this customer demand.

We believe that incorporating openness into our database will enable it to be connected to a variety of products, giving the system a wider application. The PostgreSQL open interface supports an extremely wide range of software products, including peripheral packages, solutions, and infrastructure products. This expands the breadth of possible proposals and solutions, which ultimately brings many benefits to the customer, so both customers and vendors can enjoy the benefits of openness.

Application   Package   SI   Solution   Training

PostgreSQL

Why did we choose PostgreSQL over other OSS databases?

The main reason we selected PostgreSQL was that we had a wealth of practical and technical knowledge built up over many years. Another important reason was that PostgreSQL has a vibrant and independent community, making it easy to forecast future developments.

Fujitsu could see the possibilities of PostgreSQL even before OSS became widespread. PostgreSQL was recognized for its SQL standards-compliant database functionality with exceptional scalability, so it was suitable for implementing the plug-in features that Fujitsu was considering.

The question of how to leverage the numerous possibilities of PostgreSQL had led us to many years of research into its application in various situations, through which we built up considerable know-how. During this time, OSS had gained attention and had come to be used in ICT systems. Customers had also increasingly been coming to us to ask about prioritizing OSS and whether they could apply PostgreSQL to their own systems. Our accumulated PostgreSQL know-how was useful in many of these situations, proving that our foresight had been correct and that PostgreSQL had at last come into its own.

Many enterprises are now increasingly using PostgreSQL not just for mission-critical systems. There are many benefits of installing PostgreSQL, including cost reduction and compatibility with other databases. Those benefits are probably key to the favorable reputation that PostgreSQL enjoys. Uptake is particularly noticeable in the communications and financial sectors. There are several use cases of enterprises using PostgreSQL as a data mart and it is widely used in both the private and public sectors. The demand for PostgreSQL in enterprise environments is also now increasing worldwide.

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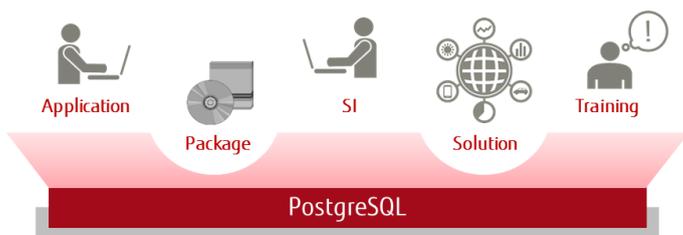
Three points regarding enterprise use

Performance, reliability, and operability are essential when it comes to enterprise use, and the following should be taken into account in relation to each point:

- Performance - Performance optimization suited to the purpose of the business
- Reliability - Data integrity, operational continuity, and security
- Operability - Reduced operation load, operation automation, and simple operation

When incorporating PostgreSQL into our database, we enhanced the features of the original PostgreSQL and added some more, based on the technology we had developed.

For example, we added In-Memory Column Store, transparent encryption, data masking, and WAL mirroring, which are requisite features for enterprise use. Transparent encryption encrypts data and communications to be stored in the database, and WAL mirroring can restore data to a state prior to a database failure. We also added smart setup and smart recovery, which make it easy for anyone to set up and recover the database with just the click of a button in the management screen. Furthermore, to allow smooth migration from third-party database products, we enhanced the syntax so that it is compatible with other vendors' SQL and added Java stored procedures.

Due to these enhancements and additional features, recovery has also been simplified from its normally complex process of investigating where the error occurred, determining which backup data will be used and which time point you will recover the data to. We have succeeded in simplifying the manual portion of the recovery operation to a single click by making the database system automatically locate and isolate the error and implement appropriate action.

Fujitsu is behind the scenes of PostgreSQL development

Our close relationship with the PostgreSQL community* is important in the development of OSS features. We often consult with the community when an issue arises, but investigating the issue and formulating a solution can be time-consuming. In such instances, our own expert PostgreSQL developers formulate a solution independently. Naturally, this solution is freely shared with the community.

As a member of this PostgreSQL community, Fujitsu is in a position to not only provide support but also propose new features, such as tablespaces, which were then incorporated into PostgreSQL by the community.

*Established in 1995, the PostgreSQL community has developed new features and held study meetings for information exchange. This open source development group not only tackles the technical side of PostgreSQL but also promotes it in various ways, such as at events that aim to expand the number of users and enhance the value of PostgreSQL.

More information:
www.postgresql.fastware.com