

Datasheet FUJITSU Enterprise Postgres

PostgreSQL-based, high-reliability relational database management system

Fujitsu's Contribution to PostgreSQL

Fujitsu has been a keen player in open source development since the early eighties. As a long-term contributor to the development of open source database systems, Fujitsu is proud of its commitment to the promotion of PostgreSQL as a world-class enterprise database.

Fujitsu has been supporting PostgreSQL in various ways since 2004. One of the earliest contributions of Fujitsu to PostgreSQL was features in V8.0. Since then, Fujitsu has been a proactive participant in the PostgreSQL community, providing Platinum sponsorship of key PostgreSQL events such as PGCon, PgConf.ASIA, and pgDay Asia, and supporting various PostgreSQL user groups.

Fujitsu is one of the founding members of the PostgreSQL Enterprise Consortium (PGECons) in Japan. Together with various like-minded enterprises, Fujitsu is involved in deepening the foothold of PostgreSQL in the enterprise arena.

The open source PostgreSQL-based database system is the outcome of Fujitsu's experience of developing enterprise databases for over 35 years and contributions to the PostgreSQL open source community for the world's most advanced open source database system. The strength of PostgreSQL and enhanced features together make FUJITSU Enterprise Postgres.

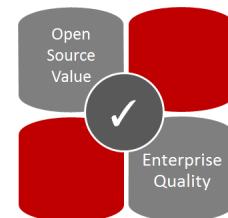
FUJITSU Enterprise Postgres

FUJITSU Enterprise Postgres is a PostgreSQL-based relational database management system for enterprises. It offers open source value and enterprise quality as well as mission-critical use.

FUJITSU Enterprise Postgres leverages PostgreSQL, a feature-rich open source database management system, used by millions of users globally, enabling integration with a wide range of software, information utilisation systems, development tools, and application runtime environments.

By being fully compatible with open source PostgreSQL, it can enjoy the benefits of open source with enterprise quality. The database system will be free from vendor lock-in, will be cost-effective and reliable. Fujitsu's strong track record in mission-critical enterprise systems supports this technology.

The improved high reliability along with the advantage of Fujitsu's high-level support has created substantial benefits to further compliment intelligent business data systems for enterprises.



FUJITSU
Enterprise
Postgres

FUJITSU Enterprise Postgres Provides Effective Solutions to Common Business Challenges

Reduced installation and running costs

FUJITSU Enterprise Postgres employs minimised setup technology to eliminate the need for specific database expertise, reducing staff workload.

High-level support

Fujitsu has offered database systems, customer support and service for many years, and continues to offer the very best customer support based on its many years of expertise in developing and supporting database systems.

Features and benefits

Main features	Benefits
PostgreSQL-based RDBMS	
<ul style="list-style-type: none"> ■ 100% compatible with PostgreSQL ■ Compatible with other open source PostgreSQL databases ■ Extends open source PostgreSQL ■ Simple migration from proprietary databases 	<ul style="list-style-type: none"> ■ No vendor lock-in ■ Supports Zabbix, Apache, Tomcat ■ Enterprise quality ■ Low migration cost
Ease of use	
<ul style="list-style-type: none"> ■ Easy installation, setup and management ■ Web-based and command line interfaces ■ One-click backup and recovery 	<ul style="list-style-type: none"> ■ Reduced technical staff overheads ■ Simplified operation management ■ Easily-performed high-level tasks
Security	
<ul style="list-style-type: none"> ■ 256-bit transparent data encryption ■ PCI-DSS compliant ■ Data masking ■ Dedicated audit log 	<ul style="list-style-type: none"> ■ Increased security ■ Complies with Payment Card Industry Data Security Standard ■ Protects production data ■ Efficient and accurate monitoring of audit log
High reliability and performance	
<ul style="list-style-type: none"> ■ In-Memory Columnar Index* ■ High-speed data load ■ High-speed backup/recovery ■ DB Mirroring Controller ■ WAL duplication 	<ul style="list-style-type: none"> ■ Improved performance for large data sets ■ Loads large volumes of data using parallelism according to available CPU ■ High-speed copy technology of choice can be used for backup/recovery ■ Automated failover ■ Solves PostgreSQL's single point of failure
Fujitsu support options	
<ul style="list-style-type: none"> ■ Version compatibility ■ Provides patches following open source PostgreSQL updates ■ Guaranteed support from end of sales period (extendable) 	<ul style="list-style-type: none"> ■ Low migration cost due to compatibility verification ■ Guaranteed standard support ■ Optional extended support period

* Implemented via Vertical Clustered Index (VCI) by Fujitsu Laboratories Limited

Topics

PostgreSQL-based Database System

FUJITSU Enterprise Postgres is based on PostgreSQL, the world's most advanced feature-rich open source database system. PostgreSQL, used by millions of users globally, enables integration with a wide range of software, information utilisation systems, development tools, and application runtime environments.

Easy and cost-effective migration

FUJITSU Enterprise Postgres has been designed to be fully compatible with open source PostgreSQL databases and also offers enhanced compatibility when migrating from existing Oracle® systems.

Previously, migration has proved problematic and in many cases been avoided due to the high workload and expenditure required. This problem is resolved by significantly reducing migration time so that budget restraints and business disruption are no longer a concern; the migration process has now become much more streamlined.

Enhanced system integration

The utilisation of PostgreSQL technology enables integration with a wide range of software, information utilisation systems, development tools, and application runtime environments. Investing in additional software systems and high migration costs are no longer considerations. User disruption is also avoided due to the ability to retain software products that users are already familiar with.

Ease of Use

Reduced expenditure for database design and implementation

FUJITSU Enterprise Postgres employs a minimal setup process based on optimised resource deployment. The setup process performs dynamic hardware resource detection during installation and the software is automatically tuned with the customer's server configuration. Using this method, the parameter and backup settings are all completed during the deployment of the system.

Fujitsu's innovative development methodology has been a key factor in producing an installation process that takes just three simple steps to perform:

1. Launch the installer (the installation is completed using automatically tuned values).
2. Launch WebAdmin (GUI management tool).
3. Use WebAdmin to create new instances and configure backup and recovery options.

This simplified installation and setup process allows FUJITSU Enterprise Postgres to be implemented within a very efficient time frame.

Reduced reliance on technical staff

Many operational tasks can be carried out by non-technical staff. For example, to back up or restore instances, simply click to backup and click to restore.

Security

Secure data encryption and redundancy

Secure 256-bit transparent data encryption (PCI-DSS compliant) and redundancy are available for achieving high reliability and asset protection that is aligned with your data management strategy.

Data masking

Data masking is the obscuring of data in a database. FUJITSU Enterprise Postgres uses masking policies to obscure data returned from queries, making it available for reference without exposing the actual data.

The data masking feature can be implemented in a variety of methods, including: character shuffling, nulling or deletion, encryption, masking, and word substitution.

Data masking makes it safe to use production data in a test or development environment.

High Reliability and Performance

In-Memory Columnar Index

The VCI engine, which is integrated with FUJITSU Enterprise Postgres, provides significantly faster analytical query processing by storing a columnar representation of row-oriented data in memory. Our tests show that for a 280 GB dataset on a 56-core Linux node, this results in almost 5 times the throughput of analytical queries while maintaining equivalent transaction volumes.

WAL duplication for simple, reliable recovery

If a database problem occurs or if data is accidentally deleted, recovery can be performed with a single click.

DB Mirroring Controller

The status of database processes is constantly checked, and if a database problem is detected, operations are automatically redirected to the standby server, without the need for human intervention.

Fujitsu Support

High-level support

Standard support is provided. There is also an extended support option available to customers for ongoing assurance, so that future support and system confidence is a guaranteed business outcome.

Technical details

Item	FUJITSU Enterprise Postgres			
Basic architecture	Max. number of columns in table	1,600		
	Max. row length in table	1.6 TB		
	Max. number of rows in table	Unlimited		
	Max. number of indexes per table	Unlimited		
	Index storage format in table	B-tree	GiST/SP-GiST	
		hash	GIN	
		BRIN	VCI (Fujitsu's In-Memory Columnar Index)	
	Data types	Character types	CHARACTER	NCHAR
			CHARACTER VARYING	NCHAR VARYING
			text	
Numeric types		smallint	real	
		integer	double precision	
		bigint	serial	
		decimal	bigserial	
		numeric	smallserial	
Datetime types		timestamp	interval	
		date	time	
		timestamp with time zone		
Binary data types		bytea		
	XML	Yes		
Character set	UNICODE	Yes		
Multilingual support		Yes (149 locales)		
Security	Data encryption	256-bit (compliant with PCI-DSS)		
	Data masking	Full masking / Partial masking / Regular expression masking		
	Dedicated audit log	Yes (compliant with PCI-DSS)		
Reliability	Standby	Yes		
Performance	High-speed backup/recovery	Yes		
	High-speed data load	Yes		
Application development	SQL standard	Compliant with ANSI/ISO SQL:2011		
	Oracle-compatible SQL	Outer join operator		
		DUAL table		
		Functions (SUBSTR / NVL / DECODE)		
		Built-in packages (UTL_FILE / DBMS_OUTPUT / DBMS_SQL / DBMS_ALERT / DBMS_ASSERT / DBMS_PIPE / DBMS_RANDOM / DBMS_UTILITY / PLUNIT / PLVCHR / PLVDATE / PLVLEX / PLVSTR / PLVSUBST)		
	Language	C	COBOL	
	Interface	ODBC	JDBC	
		.NET Framework	Other standard interfaces	
	Development environment (Eclipse, Visual Studio, etc.)	Yes		
Stored procedures / functions	Yes			
Access control	Deadlock automatic detection	Yes		
	Query by other transactions during updates	Multiversion control		
Support	High quality long-term support	Guaranteed		

Supported environments

	Server operating system	Client operating system
Linux	Red Hat Enterprise Linux 7 (Intel64) ^{*1}	Red Hat Enterprise Linux 7 (Intel64) ^{*1}
	Red Hat Enterprise Linux 6 (Intel64) ^{*2}	Red Hat Enterprise Linux 6 (Intel64) ^{*2}
		Red Hat Enterprise Linux 6 (x86) ^{*2}
	SUSE Linux Enterprise 12 ^{*3}	SUSE Linux Enterprise 12 ^{*3}
	IBM s390x ^{*4}	
Solaris	Solaris 11	Solaris 11
	Solaris 10	Solaris 10
Windows	Windows Server 2019	Windows Server 2019
	Windows Server 2016 (64-bit)	Windows Server 2016 (64-bit)
	Windows Server 2012 R2 (64-bit)	Windows Server 2012 R2 (64-bit)
	Windows Server 2012 (64-bit)	Windows Server 2012 (64-bit)
	Windows Server 2008 R2 (64-bit)	Windows Server 2008 R2 (64-bit)
	Windows Server 2008 (64-bit)	Windows Server 2008 (64-bit)
		Windows 10/8.1/7 (64-bit)
		Windows 10/8.1/7 (32-bit)

*1: RHEL 7.2 or later *2: RHEL 6.5 or later *3: SLES 12 SP4 or later *4: For IBM Z and IBM LinuxONE

More information

Fujitsu products, solutions and services

Products

In addition to FUJITSU Enterprise Postgres, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

Fujitsu Dynamic Infrastructures

With the Fujitsu Dynamic Infrastructures approach, Fujitsu offers a full portfolio of IT products, solutions and services, ranging from clients to data centre solutions, Managed Infrastructure, and Infrastructure as a Service. How much you benefit from Fujitsu technologies and services depends on the level of synergy you choose. This takes IT flexibility and efficiency to the next level.

Computing products

www.fujitsu.com/global/services/computing/

- PRIMERGY: Industrial standard server
- SPARC servers: UNIX server
- PRIMEQUEST: Mission-critical x86 server
- ETERNUS: Storage system
- BS2000 mainframes

Software

www.fujitsu.com/products/software/middleware/

- Interstage: Application infrastructure software
- Symfaware: Data management software
- Systemwalker: Operation management software
- Open source: Open source software

More information

To learn more about Fujitsu, please contact your Fujitsu sales representative, Fujitsu business partner, or visit our website: www.fujitsu.com

Fujitsu green policy innovation

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment. Using our global know-how, we aim to resolve issues of environmental energy efficiency through IT. Please find further information at:

www.fujitsu.com/global/about/environment/



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Contact

Fujitsu Australia Software Technology Pty Ltd
Address: 14 Rodborough Rd
Frenchs Forest NSW 2086
Australia
Email: postgresql@fast.au.fujitsu.com
Website: fast.fujitsu.com

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