Fujitsu Enterprise Postgres

Datasheet

PostgreSQL-based, hybrid multi-cloud relational database management system

Fujitsu's contribution to PostgreSQL

PostgreSQL is one of the most advanced and widely used open-source relational database management systems (RDBMS) in the world.

Fujitsu has been a keen player in opensource development, Fujitsu is proud of its commitment to the promotion of PostgreSQL as a world-class enterprise database.

Fujitsu has been involved in the PostgreSQL community since 2004. One of the earliest contributions of Fujitsu to PostgreSQL was features in version 8.0.

Fujitsu is a Major Sponsor of the PostgreSQL community, contributing to the development of various features. Major Sponsors are selected by the Sponsorship Committee and indicate organizations that have provided significant and/or sustaining contributions over many years.

In addition, Fujitsu has been sponsoring key PostgreSQL events such as PGCon and pgDay. Fujitsu also supports a variety of PostgreSQL user groups.

Fujitsu is one of the founding members of the PostgreSQL

Fujitsu Enterprise Postgres

Fujitsu Enterprise Postgres is a mission-critical RDBMS on PostgreSQL that is ideal for hybrid, multi-cloud.

Fujitsu Enterprise Postgres is designed to be fully compatible with the feature-rich, open source PostgreSQL used by millions of users worldwide.

Fujitsu Enterprise Postgres builds on the strengths of open-source PostgreSQL with enhanced enterprise features such as high performance, reliability, and security.

Fujitsu Enterprise Postgres enables integration with a wide range of software, information use systems, development tools, and application runtime environments.

Full compatibility with open-source PostgreSQL allows users to enjoy the benefits of open source in enterprise quality.

Database systems remain free from vendor lock-in, while achieving advanced security and high reliability. Fujitsu's strong track record in mission-critical enterprise systems supports this technology.

The improved advanced security and high reliability has created substantial benefits to further compliment intelligent business data systems for enterprises.

Fujitsu Enterprise Postgres provides effective solutions to common business challenges

Database supporting digital business

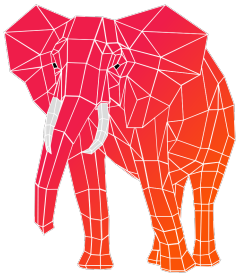
We have enhanced security features to make PostgreSQL more secure. You can also enjoy fast, stable performance, enhanced reliability for business continuity, and peace of mind for systems that require high-volume data processing, high-transaction processing, and non-disruptive services.

Freedom from vendor lock-in

Fujitsu Enterprise Postgres is a fully compatible PostgreSQL product, with no cloud-dependent incompatibilities. You can use databases on premises and in any cloud environment without needing additional learning or training. Choose from on-premises, cloud, and OpenShift environments, and subscription licenses can be converted across platforms.

High-level support

Fujitsu has a long history of providing database systems, customer support, and services, and continues to provide the best customer support based on years of expertise.



Fujitsu Enterprise Postgres

Fujitsu Enterprise Postgres reflects Fujitsu's nearly 40 years of experience developing enterprise databases and our commitment to the PostgreSQL community, the world's most advanced open-source database.
The strength of PostgreSQL combined with Fujitsu enhancements makes Fujitsu Enterprise Postgres an ideal database for hybrid, multi-cloud environments that require enterprise features with portability and interoperability.

Features and benefits

Main features	Benefits
PostgreSQL-based RDBMS	
• 100% compatible with PostgreSQL	• No vendor lock-in
• Compatible with other PostgreSQL databases	• Supports Zabbix, Apache, Tomcat
• Extends open source PostgreSQL	• Enterprise quality
• Simple migration from proprietary databases	• Low migration cost
Security	
• Transparent Data Encryption	• Increased security with PCI DSS-compliant 256-bit encryption
• Data Masking	• Protects production data
• Dedicated Audit Log	• Efficient and accurate monitoring of audit log
• Key management for Transparent Data Encryption	• Reduced risk of data leakage; lower operational costs
• Cloud-based key management	• Improved security by storing keys in secure external services
• Confidentiality management	• Easier and more efficient security operations
• Policy-based password management	• Password policies simplify management and improve database security
Performance	
• Vertical Clustered Index†	• Improved performance for large data sets
• Global Meta Cache	• Reduced overall memory usage with little performance degradation
• High-speed data load	• Loads large volumes of data using parallelism according to available CPU
• High-speed backup/recovery	• High-speed copy technology of choice can be used for backup/recovery
Reliability and High Availability	
• Mirroring Controller	• Automated instant failover
• Connection Manager	• Business continuity and fast failover without SQL relay
• Database Mirroring	• Two copies of a single database reside on different server instances
• Database Transaction Log Mirroring	• Transaction records are continuously streamed to the standby database
• WAL duplication	• Solves PostgreSQL's single point of failure
DevOps	
• Support for COBOL applications	• COBOL programs can execute SQL commands with little to no change
• System usage statistics	• Users can access database's utilization metrics and statistics
• WebAdmin	• Easily manage database and its contents saving time and money
• Enhanced GUI for cluster management	• Management tool makes setup and cluster management simpler
Ease of use	
• Easy installation, setup and management	• Reduced technical staff overheads
• Web-based and command line interfaces	• Simplified operation management
• One-click backup and recovery	• Easily performed high-level tasks
Fujitsu support options	
• Version compatibility	• Low migration cost due to compatibility verification
• Provides patches following PostgreSQL updates	• Guaranteed standard support
• Guaranteed support from end of sales period	• Optional extended support period; extendable

† Fujitsu's implementation of In-Memory Columnar Index 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 worldwide, enables integration with a wide range of software, information utilization 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.

The solution significantly reduces migration time so that budget restraints and business disruption are no longer a concern; migration has now become much more streamlined.

Enhanced system integration

The utilization of PostgreSQL technology enables integration with a wide range of software, information utilization 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 DB design and implementation

Fujitsu Enterprise Postgres employs a minimal setup process based on optimized resource deployment that performs dynamic hardware resource detection during installation. The software is automatically tuned with the customer's server configuration - parameter and backup settings are all completed during the system deployment.

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

This simplified installation and setup process allows implementation 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.

Reliability and High Availability

Mirroring Controller

Constantly checks the status of database processes, and if a problem is detected, automatically redirects operations to the standby server, without the need for human intervention.

Connection Manager keeps your business running

Heartbeat monitoring is performed between client and server, so business can be resumed immediately from the application side in case a failure occurs. Applications can connect to an instance without being aware of which server the instance is running on. Fast failover without SQL relay.

WAL duplication for simple, reliable recovery

If a problem occurs or data is accidentally deleted, recovery of WAL (Write-Ahead Log) can be performed with a single click.

Security

Transparent Data Encryption

Secure 256-bit Transparent Data Encryption (PCI-DSS compliant) and redundancy for high reliability and asset protection that is aligned with your data management strategy.

Data Masking

Redacts data using masking policies to obscure data returned from queries, making it available for reference without exposing the actual data. Data masking makes it safe to use production data in a test or development environment.

Key management for Transparent Data Encryption

By storing the encryption key outside the database, you can securely store the master encryption key and reduce the risk of data leakage. The database administrator is released from the operation and management of the master encryption key.

Cloud-based key management

Transparent Data Encryption keys can be stored in cloud key management services. Supports plug-ins to call communication adapters in the cloud and to share data encryption keys. Key management services in the cloud provide more choices for key management, lower operational costs, and increased security.

Confidentiality management

Simpler operations for role-based access control (RBAC) setting and audit. Easier and efficient security operations, and reduced human errors, minimizing security risks.

Policy-based password management

Restricts access to accounts with restrictions on password use, preventing unauthorized logins and improving database security.

FIPS compliance

Fujitsu Enterprise Postgres with Cryptographic Module can use algorithms approved by the Cryptographic Module Security Requirements (Federal Information Processing Standard) 140, designed to ensure strengthened data encryption and communication security.

Performance

Vertical Clustered Index

The VCI engine integrated with Fujitsu Enterprise Postgres provides significantly faster analytical query processing with a columnar representation of row-oriented data in memory. Tests show this results in almost 5 times the throughput of analytical queries while maintaining equivalent transaction volumes.

Global Meta Cache

System catalog and table information is cached in shared memory instead of in per-process memory. The memory usage of the overall system is reduced to enhance system performance.

Fujitsu support

High-level support

Standard support and extended support options 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. database capacity		Unlimited			
	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	bigint	integer	smallint	
			bigserial	numeric	smallserial	
			decimal	real	serial	double precision
		Datetime types	date	time	time with time zone	
			interval	timestamp	timestamp with time zone	
		Binary data types	bytea	Large object		
		XML	Yes			
		JSON	Yes			
	Character set	UNICODE	Yes			
	Multilingual support		Yes (149 locales)			
Security	Transparent 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)			
	Key management for Transparent Data Encryption					
	Cloud-based key management					
	Confidentiality management					
	Policy-based password management					
Reliability/ High Availability	Standby		Yes			
	Split brain control		Yes			
	Instant failover		Yes			
	Transparent connection		Yes (ability to connect to a database server without knowing its stage)			
Performance	In-Memory Columnar Index		Yes (implemented via Fujitsu's Vertical Clustered Index)			
	High-speed backup/recovery		Yes			
	High-speed data load		Yes			
Application development	SQL standard		Compliant with ANSI/ISO SQL:2016			
	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	
	Development environment (Eclipse, etc.)		Yes			
	Stored procedures / functions		Yes			
	Access control		Deadlock automatic detection			
			Query by other transactions during updates (multiversion control)			
Support	High quality long-term support		Guaranteed			

Supported environments

Fujitsu Enterprise Postgres 15

	Server operating system	Client operating system
Windows	• Windows Server 2022 (64 bit) • Windows Server 2019 (64 bit) • Windows Server 2016 (64 bit)	• Windows Server 2022 (64 bit) • Windows Server 2019 (64 bit) • Windows Server 2016 (64 bit) • Windows 11 / 10 (64 bit, 32 bit) *
Linux	• Red Hat Enterprise Linux 9.0 or later minor version • Red Hat Enterprise Linux 8.2 or later minor version • Red Hat Enterprise Linux 7.4 or later minor version • SUSE Linux Enterprise 15 SP3 or later minor version • SUSE Linux Enterprise 12 SP5	• Red Hat Enterprise Linux 9.0 or later minor version • Red Hat Enterprise Linux 8.2 or later minor version • Red Hat Enterprise Linux 7.4 or later minor version • SUSE Linux Enterprise 15 SP3 or later minor version • SUSE Linux Enterprise 12 SP5
on IBM Z and LinuxONE (s390x)	• Red Hat Enterprise Linux 9.0 or later minor version • Red Hat Enterprise Linux 8.2 or later minor version • SUSE Linux Enterprise 15 SP3 or later minor version	• Red Hat Enterprise Linux 9.0 or later minor version • Red Hat Enterprise Linux 8.2 or later minor version • SUSE Linux Enterprise 15 SP3 or later minor version
on IBM Power® (ppc64le)	• Red Hat Enterprise Linux 9.0 or later minor version • Red Hat Enterprise Linux 8.4 or later minor version • SUSE Linux Enterprise 15 SP3 or later minor version	• Red Hat Enterprise Linux 9.0 or later minor version • Red Hat Enterprise Linux 8.4 or later minor version • SUSE Linux Enterprise 15 SP3 or later minor version

*: If Windows is 32 bit, only the Windows client (32 bit) can be installed

Fujitsu Enterprise Postgres with Cryptographic Module 15

	Server operating system	Client operating system
Windows		• Windows Server 2022 (64 bit) • Windows Server 2019 (64 bit) • Windows Server 2016 (64 bit) • Windows 11 / 10 (64 bit, 32 bit) *
Linux	• Red Hat Enterprise Linux 9.0 or later minor version • Red Hat Enterprise Linux 8.2 or later minor version • Red Hat Enterprise Linux 7.4 or later minor version • SUSE Linux Enterprise 15 SP3 or later minor version • SUSE Linux Enterprise 12 SP5	• Red Hat Enterprise Linux 9.0 or later minor version • Red Hat Enterprise Linux 8.2 or later minor version • Red Hat Enterprise Linux 7.4 or later minor version • SUSE Linux Enterprise 15 SP3 or later minor version • SUSE Linux Enterprise 12 SP5
on IBM Z and LinuxONE (s390x)	• Red Hat Enterprise Linux 9.0 or later minor version • Red Hat Enterprise Linux 8.2 or later minor version • SUSE Linux Enterprise 15 SP3 or later minor version	• Red Hat Enterprise Linux 9.0 or later minor version • Red Hat Enterprise Linux 8.2 or later minor version • SUSE Linux Enterprise 15 SP3 or later minor version

*: If Windows is 32 bit, only the Windows client (32 bit) can be installed

fast.fujitsu.com/
Email: enterprisepostgresql@fujitsu.com
2024-01-25 WW EN

FUJITSU