FUJITSU

FUJITSU Enterprise Postgres 9.5

Release Notes

Linux

J2UL-2114-02ENZ0(00)
June 2016

Preface

Purpose of This Document

This document provides release information for FUJITSU Enterprise Postgres.

Structure of This Document

This document is structured as follows:

Chapter 1 New Features and Improvements

Explains the new features and improvements in this version.

Chapter 2 Compatibility Information

Provides information regarding compatibility.

Chapter 3 Program Updates

Explains updates incorporated in this version.

Export Restrictions

Exportation/release of this document may require necessary procedures in accordance with the regulations of your resident country and/or US export control laws.

Issue Date and Version


```
Second edition: June 2016
First edition: March 2016
```


Copyright

Contents

Chapter 1 New Features and Improvements

This chapter explains FUJITSU Enterprise Postgres new features and improvements added in this version.

Table 1.1 New features and improvements

Version and level	Classification	Feature	Provided in AE	Provided in SE
9.5	Security	Data masking	Y	Y
	Operations	Improvements to the GUI	Y	Y
		Database multiplexing	Y	N
	Performance	Parallel scan	Y	N
		In-memory	Y	N
	Application development	Support for embedded SQL national character data in COBOL	Y	Y
		Support for Oracle's compatibility functions (Orafce)	Y	N
	Platform enhancement	Client operating system addition	Y	Y

1.1 Features Added in 9.5

This section explains new features and improvements in FUJITSU Enterprise Postgres 9.5.

1.1.1 Security

This section explains the new features related to security.

- Data masking

1.1.1.1 Data Masking

The data masking feature can achieve data protection by masking data so that users can refer to the data without the behavior of applications having to be changed and instead of having to prevent access to the entire table using access rights.

See

Refer to "Data Masking" in the Operation Guide for details.

1.1.2 Operations

This section explains the new features related to operation.

- Improvements to the GUI
- Database multiplexing

1.1.2.1 Improvements to the GUI

The WebAdmin GUI has an improved, more intuitive design. In addition, it incorporates several new features: the centralized administration of the database instances running on multiple server machines, comprehensive and easy-to-use credential management, and replication functionality in various configuration modes.

See

Refer to "Operating Methods" in the Operation Guide for details.

1.1.2.2 Database Multiplexing

Database multiplexing is a feature provided for multiplexing a database. It enables highly reliable database operation.

In addition, it enables you to automatically switch the database if the database server fails. Moreover, reference jobs that use the standby server can therefore be executed parallel to jobs on the primary server.

See

Refer to "Database Multiplexing Mode" in the Cluster Operation Guide for details.

1.1.3 Performance

This section explains the new features added to improved performance:

- Parallel scan
- In-memory

1.1.3.1 Parallel Scan

Parallel scan is a feature provided for parallelizing scan processing and utilizing free server resources for scans that are likely to require high throughput. This enhances scan processing performance.

See

Refer to "Parallel Scan" in the Application Development Guide for details.

1.1.3.2 In-memory

In-memory is a feature provided for keeping a columnar index and its data in memory. This enhances the aggregation process performance by reducing the disk I/O that occurs for each aggregation processing.

See

Refer to "Increased aggregation performance using the in-memory feature" in the General Description for details.

1.1.4 Application Development

This section explains the new features related to application development:

- Support for embedded SQL national character data in COBOL
- Support for Oracle's compatibility functions (Orafce)

1.1.4.1 Support for Embedded SQL National Character Data in COBOL

National character data is supported using SQL embedded COBOL preprocessor. This allows existing application COBOL variable type "PIC N" to be used without any modifications.

See

Refer to "Embedded SQL in COBOL" in the Application Development Guide for details.

1.1.4.2 Support for Oracle's Compatibility Functions (Orafce)

It is now possible to use Oracle's compatibility functions (Orafce). The existing compatibility features have been kept and more compatibility features are now available.

See

Refer to "Compatibility with Oracle Databases" in the Application Development Guide for details.

1.1.5 Platform Enhancement

This section explains the new features related to platform enhancement:

- Client operating system addition

1.1.5.1 Client Operating System Addition

The following are supported as operating environments.

- Windows 10

See

Refer to "Required Operating System" in the Installation and Setup Guide for Client for details.

Chapter 2 Compatibility Information

This chapter lists the incompatible items and any action required for features that have changed since the previous version.

2.1 Columns Added to System Catalog and Statistics View

New columns relating to parallel scan were added to system catalogs and statistics views in FUJITSU Enterprise Postgres 9.5 or later.

Incompatibility

FUJITSU Enterprise Postgres 9.4 and 9.5 or later return different results if "SELECT *" is executed for the system catalog or statistics view below.

- System catalog

Catalog	Changes
pg_aggregate	The column below was added between "aggfinalfn" and "aggmtransfn". - aggcombinefn
pg_proc	The column below was added between "provolatile" and "pronargs". - proparallel

- Statistics view

View	Changes
- pg_stat_all_tables - pg_stat_sys_tables - pg_stat_user_tables - pg_stat_xact_all_tables - pg_stat_xact_sys_tables - pg_stat_xact_user_tables	The column below was added between "seq_scan" and "seq_tup_read". - parallel_scan

Corrective action

If "SELECT *" is specified for a system catalog or statistics view above, replace "*" with the appropriate columns .

See

Refer to "Parallel Scan" in the Application Development Guide for information on changing the system catalog or statistics view.

Chapter 3 Program Updates

This version incorporates the updates implemented in PostgreSQL 9.4.5, 9.5, 9.5.1 and 9.5.2.

 See

Refer to the PostgreSQL Global Development Group website for the updates implemented:

[PostgreSQL 9.4.5]

```
http://www.postgresql.org/docs/9.4/static/release-9-4-5.html
```

[PostgreSQL 9.5]

```
http://www.postgresql.org/docs/9.5/static/release-9-5.html
```

[PostgreSQL 9.5.1]

```
http://www.postgresql.org/docs/9.5/static/release-9-5-1.html
```

[PostgreSQL 9.5.2]

```
http://www.postgresql.org/docs/9.5/static/release-9-5-2.html
```

The following security issues have been introduced in PostgreSQL 9.4.5.

CVE-2015-5289

json or jsonb input values constructed from arbitrary user input can crash the PostgreSQL server and cause a denial of service.

CVE-2015-5288

The crypt() function included with the optional pgCrypto extension could be exploited to read a few additional bytes of memory.

Index

FUJITSU

FUJITSU Enterprise Postgres 9.5

Release Notes

Windows

B1WS-1275-02ENZ0(00)
July 2016

Preface

Purpose of This Document

This document provides release information for FUJITSU Enterprise Postgres.

Structure of This Document

This document is structured as follows:

Chapter 1 New Features and Improvements

Explains the new features and improvements in this version.

Chapter 2 Compatibility Information

Provides information regarding compatibility.

Chapter 3 Program Updates

Explains updates incorporated in this version.

Export Restrictions

Exportation/release of this document may require necessary procedures in accordance with the regulations of your resident country and/or US export control laws.

Issue Date and Version


```
Second edition: July 2016
First edition: April 2016
```


Copyright

Contents

Chapter 1 New Features and Improvements

This chapter explains FUJITSU Enterprise Postgres new features and improvements added in this version.

Table 1.1 New features and improvements

Version and level	Classification	Feature	Provided in AE	Provided in SE
9.5	Security	Data masking	Y	Y
	Operations	Improvements to the GUI	Y	Y
		Database multiplexing	Y	N
	Performance	Parallel scan	Y	N
		In-memory	Y	N
	Application development	Support for embedded SQL national character data in COBOL	Y	Y
		Support for Oracle's compatibility functions (Orafce)	Y	N
	Platform enhancement	Client operating system addition	Y	Y

1.1 Features Added in 9.5

This section explains new features and improvements in FUJITSU Enterprise Postgres 9.5.

1.1.1 Security

This section explains the new features related to security.

- Data masking

1.1.1.1 Data Masking

The data masking feature can achieve data protection by masking data so that users can refer to the data without the behavior of applications having to be changed and instead of having to prevent access to the entire table using access rights.

See

Refer to "Data Masking" in the Operation Guide for details.

1.1.2 Operations

This section explains the new features related to operation.

- Improvements to the GUI
- Database multiplexing

1.1.2.1 Improvements to the GUI

The WebAdmin GUI has an improved, more intuitive design. In addition, it incorporates several new features: the centralized administration of the database instances running on multiple server machines, comprehensive and easy-to-use credential management, and replication functionality in various configuration modes.

See

Refer to "Operating Methods" in the Operation Guide for details.

1.1.2.2 Database Multiplexing

Database multiplexing is a feature provided for multiplexing a database. It enables highly reliable database operation.

In addition, it enables you to automatically switch the database if the database server fails. Moreover, reference jobs that use the standby server can therefore be executed parallel to jobs on the primary server.

See

Refer to "Database Multiplexing Mode" in the Cluster Operation Guide for details.

1.1.3 Performance

This section explains the new features added to improved performance:

- Parallel scan
- In-memory

1.1.3.1 Parallel Scan

Parallel scan is a feature provided for parallelizing scan processing and utilizing free server resources for scans that are likely to require high throughput. This enhances scan processing performance.

See

Refer to "Parallel Scan" in the Application Development Guide for details.

1.1.3.2 In-memory

In-memory is a feature provided for keeping a columnar index and its data in memory. This enhances the aggregation process performance by reducing the disk I/O that occurs for each aggregation processing.

See

Refer to "Increased aggregation performance using the in-memory feature" in the General Description for details.

1.1.4 Application Development

This section explains the new features related to application development:

- Support for embedded SQL national character data in COBOL
- Support for Oracle's compatibility functions (Orafce)

1.1.4.1 Support for Embedded SQL National Character Data in COBOL

National character data is supported using SQL embedded COBOL preprocessor. This allows existing application COBOL variable type "PIC N" to be used without any modifications.

 See

Refer to "Embedded SQL in COBOL" in the Application Development Guide for details.

1.1.4.2 Support for Oracle's Compatibility Functions (Orafce)

It is now possible to use Oracle's compatibility functions (Orafce). The existing compatibility features have been kept and more compatibility features are now available.

 See

Refer to "Compatibility with Oracle Databases" in the Application Development Guide for details.

1.1.5 Platform Enhancement

This section explains the new features related to platform enhancement:

- Client operating system addition

1.1.5.1 Client Operating System Addition

The following are supported as operating environments.

- Windows 10

 See

Refer to "Required Operating System" in the Installation and Setup Guide for Client for details.

Chapter 2 Compatibility Information

This chapter lists the incompatible items and any action required for features that have changed since the previous version.

2.1 Columns Added to System Catalog and Statistics View

New columns relating to parallel scan were added to system catalogs and statistics views in FUJITSU Enterprise Postgres 9.5 or later.

Incompatibility

FUJITSU Enterprise Postgres 9.4 and 9.5 or later return different results if "SELECT *" is executed for the system catalog or statistics view below.

- System catalog

Catalog	Changes
pg_aggregate	The column below was added between "aggfinalfn" and "aggmtransfn". - aggcombinefn
pg_proc	The column below was added between "provolatile" and "pronargs". - proparallel

- Statistics view

View	Changes
- pg_stat_all_tables - pg_stat_sys_tables - pg_stat_user_tables - pg_stat_xact_all_tables - pg_stat_xact_sys_tables - pg_stat_xact_user_tables	The column below was added between "seq_scan" and "seq_tup_read". - parallel_scan

Corrective action

If "SELECT *" is specified for a system catalog or statistics view above, replace "*" with the appropriate columns.

See

Refer to "Parallel Scan" in the Application Development Guide for information on changing the system catalog or statistics view.

Chapter 3 Program Updates

This version incorporates the updates implemented in PostgreSQL 9.4.5, 9.5, 9.5.1 and 9.5.2.

 See

Refer to the PostgreSQL Global Development Group website for the updates implemented:

[PostgreSQL 9.4.5]

```
http://www.postgresql.org/docs/9.4/static/release-9-4-5.html
```

[PostgreSQL 9.5]

```
http://www.postgresql.org/docs/9.5/static/release-9-5.html
```

[PostgreSQL 9.5.1]

```
http://www.postgresql.org/docs/9.5/static/release-9-5-1.html
```

[PostgreSQL 9.5.2]

```
http://www.postgresql.org/docs/9.5/static/release-9-5-2.html
```

The following security issues have been introduced in PostgreSQL 9.4.5.

CVE-2015-5289

json or jsonb input values constructed from arbitrary user input can crash the PostgreSQL server and cause a denial of service.

CVE-2015-5288

The crypt() function included with the optional pgCrypto extension could be exploited to read a few additional bytes of memory.

Index