



Postgres Plus Advanced Server 9.5

Release Notes

January 26, 2015

**Postgres Plus Advanced Server, Version 9.5 Release Notes
by EnterpriseDB Corporation
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1 Introduction

With this latest release of Postgres Plus Advanced Server, EnterpriseDB continues its leadership as the only worldwide company to deliver innovative and low cost open source derived database solutions with commercial quality, ease of use, compatibility, scalability, and performance for small or large-scale enterprises.

These release notes are applicable to the 9.5.0.5 GA release on Jan 26, 2016.

2 Postgres Plus Advanced Server v9.5 Features

The major highlights of this release are:

- Integration of all PostgreSQL v9.5 features including the following:
 - INSERT ... ON CONFLICT DO NOTHING/UPDATE ("UPSERT")
 - 9.5 brings support for "UPSERT" operations.
 - INSERT is extended to accept an ON CONFLICT DO UPDATE/IGNORE clause. This clause specifies an alternative action to take in the event of a would-be duplicate violation.
 - BRIN Indexes
 - BRIN stands for Block Range INDEXes, and store metadata on a range of pages. At the moment this means the minimum and maximum values per block.
 - pg_rewind
 - pg_rewind makes it possible to efficiently bring an old primary in sync with a new primary without having to perform a full base backup. This works by looking in the Write Ahead Log to see which pages have been modified, and only copying across those pages.
 - GROUPING SETS, CUBE and ROLLUP
 - This set of features allows one to summarise data into sets.
 - JSONB-modifying operators and functions
 - In 9.3 (and to a greater extent in 9.4), JSONB data could be extracted using various functions and operators, but nothing that could actually modify the data. As of 9.5, JSONB data can now be modified.
 - Foreign Table Inheritance
 - Foreign tables can now either inherit local tables, or be inherited from.
 - Row-Level Security Policies
 - Additional security can be added to tables to prevent users from accessing rows they shouldn't be able to see.
 - See <http://www.postgresql.org/docs/9.5/static/release-9-5.html> for more

information.

- Password Profiles:
 - Profiles define rules for password management. They can: lock an account, mark a password for expiration, define grace periods, limit password re-use and define rules for password complexity. Profiles can be associated to one or more users and explicit commands to Lock/Unlock a user account have been introduced.
 - See Chapter 2.4 of the Postgres Plus Enterprise Edition Guide for more information.
- Audit Log Tagging:
 - Using the `edb_audit_tag` GUC, a calling application can specify a string value that will be included in the audit log when the `edb_audit` parameter is set to `csv` or `xml`.
 - See Chapter 2.1.3.7.10 and 2.2.1 of the Postgres Plus Enterprise Edition Guide for more information
- Better Write Scalability:
 - Contention around the low-level ProcArrayLock has been reduced. The result is an improvement in the performance of write workloads under high concurrency. There is no configuration required to take advantage of this improvement.
- Additional declarations for CREATE PROCEDURE and CREATE FUNCTION commands:
 - Advanced Server now supports the STRICT, LEAKPROOF, COST, ROWS, and SET keywords in the CREATE PROCEDURE and CREATE FUNCTION commands.
 - See Chapter 3.3.23 and 3.3.18 of the Postgres Plus Database Compatibility for Oracle Developers Guide for more information.
- 12th Generation of compatibility with the Oracle Database, including the following: (Remember, you don't have to be an Oracle user to use the following features. Most are simply great database enhancements beyond what PostgreSQL offers.)
 - Support for the UTL_RAW package.
 - Support for the DBMS_SESSION.SET_ROLE procedures.
 - Support for additional functionality of the UTL_HTTP package, including the WRITE_LINE and WRITE_TEXT procedures.
 - The SYS_CONNECT_BY_PATH operator for hierarchical queries.
 - Support for the REPLACE clause in the ALTER ROLE and ALTER USER commands.
 - WAIT n syntax in the FOR UPDATE clause of a SQL SELECT statement.
 - See Chapter 1.1 of the Postgres Plus Database Compatibility for Oracle Developers Guide for more information.
- Improvements to EDB*Loader
 - The FREEZE keyword has been added to indicate that data should be copied with the rows frozen to improve performance of large bulk loads.

- Acceptance of ZONED [(precision[,scale])] field type specification.
- Support the use of EDBLDR_ENV_STYLE to specify the style of environment variables recognized
- See Section 6.1 of the Postgres Plus Enterprise Edition Guide for more information
- OCI Connector enhancements:
 - Support for XA functions xaoEnv and xaoSvcCtx in the Open Client Library.
 - See Chapter 9.4 of the Postgres Plus Advanced Server Oracle Compatibility Guide for more information.
- Migration Toolkit enhancements:
 - Support for migration of Oracle profiles with their password parameters with the -allProfiles and -profiles options.
 - See Chapter 7.6 of the Postgres Plus Migration Guide for more information.

3 Deprecated Features in Postgres Plus Advanced Server v9.5

Deprecated features are still supported however there are no planned enhancements and they may be removed in a future release. Please contact your EnterpriseDB Account Manager or <mailto:sales@enterprisedb.com> for more information if you are using these features.

- Infinite Cache has been deprecated and will be replaced in a future release. If you are using Infinite Cache today, please contact your EnterpriseDB Account Manager for more information.
- Postgres.conf configuration parameter checkpoint_segments has been replaced with min_wal_size and max_wal_size.
 - If you previously adjusted checkpoint_segments, the following formula will give you an approximately equivalent setting:
 - $\text{max_wal_size} = (3 * \text{checkpoint_segments}) * 16\text{MB}$
 - Note that the default setting for max_wal_size is much higher than the default checkpoint_segments used to be, so adjusting it might no longer be necessary.
 - See Chapter 18.5.2 of the PostgreSQL 9.5 documentation for more information about min_wal_size and max_wal_size
- See Chapter 1.2 (Migration to version 9.5) of the [PostgreSQL 9.5 Release Notes](#) for more information about changes that may effect compatibility with a previous release.

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4 Known Issues in 9.5.0.5

The following known issues are applicable to the 9.5.0.5 GA release on Jan 26, 2016.

- Pg_upgrade from 8.4 / 9.0 requires uninstall of isn functions if they are in use (RM 35950)
- With RPM install for RHEL 7, service can now start, stop and restart through systemctl, however README-rpm-dist for RHEL 7 shows the older services startup mechanism (RM 36867)
- edbldr throwing error during use of Keyword BOUNDFILLER as a table name or Column Name (RM 36843)
- edbldr throws error when using FILLER option (RM 36810)
- edbldr throws invalid column error for columns identified with : character (RM 36801)
- Partitioning: If an index is added to a partitioned table after the partitions are created, the index doesn't get propagated (RM 35893)
- ppas95-icache throws error if user attempts to use yum reinstall reinstall on RHEL / CentOS 7 (RM 36655)
- postgres.conf default values differ depending on which installation method is used RPM or Interactive Installer (RM 36557)
- MTK for Oracle, PPAS or PG to PPAS throws error if -constraints -indexes option is used during offline migration (RM 36842, RM 36851). These will be fixed in MTK

5 Installers

Postgres Plus Advanced Server v9.5 is packaged and delivered as a series of Interactive installers or RPM packages.

After your initial installation, please make sure you always update to the latest 9.5.x.y minor release to stay up to date with important critical patches.

Interactive Installers can be downloaded from the EnterpriseDB web site: <http://www.enterprisedb.com/downloads/>. Stay up to date with minor releases using Update Monitor and Stack Builder Plus.

RPM packages can be accessed from our yum.enterprisedb.com repository. If you don't have access, customers can contact your account representative or log a support ticket,

and prospects can contact sales@enterprisedb.com. Stay up to date with minor releases using `yum check-update | update` as discussed in the Installation Guide.

Please refer to the [Postgres Plus Installation Guide](#) for complete installation details and configuration steps.

6 Documentation

Installation, configuration, upgrade and management instructions for Postgres Plus Advanced Server v9.5 are available in the user documentation found here:

<http://www.enterprisedb.com/documentation>

Please note that subscription holders can also access PDF versions of the documentation by logging into the EnterpriseDB website, and visiting the customer portal at:

<http://www.enterprisedb.com/support>

7 Platform Support and System Requirements

Postgres Plus Advanced Server v9.5 supports 64 bit Linux and Windows server platforms. This includes the following:

Interactive Installers:

RHEL / CentOS / OEL 6, 7
Ubuntu 14.04, Debian 7.6, SLES 11, 12
Windows 2012 R2, 2008 R2 Server

RPM Packages:

RHEL / CentOS / OEL 6 & 7

Details on supported platforms is available on the EnterpriseDB website:

<http://www.enterprisedb.com/ppas-platform-support>

8 How to Report Problems

To report any issues you are having please contact EnterpriseDB's technical support staff:

- Email: support@enterprisedb.com
- Phone: +1-732-331-1320 or 1-800-235-5891 (US Only)