

Zen v14

What's New in Zen

An Overview of New Features and Changed Behavior



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About This Document

This document contains information about the features and enhancements in this release. It does not provide comprehensive usage instructions for the software. Its purpose is to summarize what is new and different from the previous release.

The Zen family of products includes three editions of the database engine:

- Enterprise Server
- Cloud Server
- Workgroup

Throughout the Zen documentation, all content covers all three editions unless differences are explicitly called out. For example, you will occasionally encounter topics that apply only to Zen Workgroup. Unless stated otherwise, anything that applies to Enterprise Server also applies to Cloud Server.

In addition to the three database engines, Zen has two client editions that provide application access to remote engines:

- Client
- Client Reporting Engine

Throughout the Zen documentation, all content concerning access methods applies to both client and engine editions unless differences are explicitly called out

We would appreciate your comments and suggestions about this document. Your feedback can determine what we write about the use of our products and how we deliver information to you. Please post your feedback in the community forum on the [Actian website](#).

What's New in Zen v14

An Overview of New and Changed Features

This General Availability release of Zen v14, version 14.00, offers the following new features and changes:

- [Rebranding of PSQL to Zen](#)
- [Renaming of Server Products](#)
- [AutoTimestamp Key Type](#)
- [AES-256 Encryption](#)
- [Java Runtime Environment Upgrade](#)
- [JSON Filter](#)
- [ADO.NET Support](#)
- [8-byte Record Counts](#)

This document may be updated after the release. Download the latest version at the [Actian website](#).

Rebranding of PSQL to Zen

The renaming of PSQL to Zen occurs throughout this release. In an upgrade to v14 from an earlier product, this rebranding is not expected to affect compiled applications that use data access methods released under the PSQL name. If your application calls Zen administrative tools, you will need to make adjustments described here. Also as noted below, certain files in an existing installation that store configuration and security settings are left in place for continued use after a Zen v14 upgrade. In a fresh Zen v14 installation, these files are found in their new locations.

The following list covers practical considerations for your current environment or applications when you upgrade to Zen v14:

- [What Has Changed on Windows](#)
- [What Has Changed on Linux](#)
- [What Remains the Same](#)

What Has Changed on Windows

- Default installation directories under Program Files, Program Files (x86), and ProgramData. However, nothing in Zen v14 operation depends on these defaults. As in the past, these locations can be customized during installation.
- In an upgrade to v14, the file dbnames.cfg remains in its existing location, which in a default v13 installation is C:\ProgramData\Actian\PSQL. Zen v14 uses its data and dictionary file paths without migrating the file to its new default location C:\ProgramData\Actian\Zen.
- In an upgrade to v14, DefaultDB files remain in their existing location, which in a default v13 installation is C:\ProgramData\Actian\PSQL\defaultdb. Zen v14 uses these files without migrating them to their new default location C:\ProgramData\Actian\Zen\defaultdb.

- Registry settings have been moved to HKEY_LOCAL_MACHINE/SOFTWARE/Actian/Zen/ and have been refactored. In an upgrade to v14, these settings are migrated from their former location.
- Zen Enterprise Server and Cloud Server are now installed as a single service instead of the two services PSQL Relational Engine and PSQL Transactional Engine. The service name now appears as Actian Zen Enterprise Server Engine or Actian Zen Cloud Server Engine.
- For installation as a service, the service short name is now zenengine for administrative purposes.
- The file pvsw.log is now zen.log.
- PSQL Control Center has been renamed to Zen Control Center, its short name PCC to ZenCC, and its command line name from pcc to zencc. No other command line tools have been renamed.
- If you created the security group Pervasive_Admin for use in an earlier Zen database, when you upgrade to v14, you will need to create a security group called Zen_Admin and move to it the users in Pervasive_Admin. The empty Pervasive_Admin group can then be deleted.

What Has Changed on Linux

- Zen v14 requires that previous versions of PSQL be uninstalled.
- On Linux-based systems, the installation directory is now /usr/local/actianzen, and its environment variable is ACTIANZEN_ROOT. The service name in /etc/init.d is now actianzen and uses the same arguments as the older psql service name, such as start and stop.
- The Zen v14 engine runs under new user and group names. An upgrade to Zen v14 automatically migrates these accounts. Ownership of existing files or directories by user psql is changed to user zen-svc. Ownership by group pvsw or pvsw-adm is changed to group zen-data or zen-adm, respectively.
- In a Zen v14 installation, user configuration information formerly stored in /home/psql now resides in /home/zen-svc. In an upgrade to Zen v14, the existing /home/psql directory and its contents are left in place but are not used by Zen v14.

When you remove an earlier PSQL product before installing Zen v14, the preuninstall and postuninstall shell scripts leave the following files in place either for use by Zen v14 or for reference after an upgrade:

- Various configuration files in /usr/local/psql/etc. The file dbnames.cfg contains data and dictionary file paths and is used by Zen v14 without migrating it to its new default location /usr/local/actianzen.
- DefaultDB files in /usr/local/psql/data/samples.
- System database files in /usr/local/psql/data/system.
- The settings and odbc.ini file in /usr/local/psql/etc.
- Engine settings in /usr/local/psql/etc/.PSRegistry remain in place but are also exported to /usr/local/actianzen/etc/registry_export_pre-zen.txt for future reference.
- The /home/psql and /usr/local/psql directories remain but are updated with the new user and group ownership.

What Remains the Same

- Names of databases after an upgrade
- ODBC driver names starting with "Pervasive ODBC"
- JDBC connection strings and .jar file names
- ADO.NET file names, name spaces, and class names
- SQL keywords such as PSQL_MOVE or PSQL_PHYSICAL

- File names and function names for all access methods
- The gateway locator file ~pvsw~.loc
- Names of utility commands other than zence
- Existing Demodata and Tempdb databases are deleted. Zen v14 installs fresh copies on Windows in C:\ProgramData\Actian\Zen and on Linux systems in /usr/local/actianzen/data/.

Renaming of Server Products

Zen Server has been renamed to Zen Enterprise Server, and Zen Vx Server is renamed to Zen Cloud Server. The new names are reflected in the long service names and license key strings for these products.

AutoTimestamp Key Type

Zen v14 adds a new Btrieve key type called AUTOTIMESTAMP. AUTOTIMESTAMP is similar to AUTOINCREMENT in that an insert operation replaces a zero value in an AUTOTIMESTAMP key with the current time stamp. In addition, in an update a zero value is also replaced with the current time stamp. The format is nanoseconds since the Unix epoch as an 8-byte unsigned integer. The new key type is not yet supported as a SQL data type, but until then, UBIGINT can be used as a placeholder. For more information, see [Btrieve Key Data Types](#) in *SQL Engine Reference*.

AES-256 Encryption

The 13.0 file format now supports AES-256 for automatic encryption of files with owner names longer than 24 bytes, with a new limit of 32 bytes. Note that these longer owner names can be read only in v14. Files with long owner names created under PSQL v13 R2 are supported by the Zen v14 engine. For more information, see [Owner Names](#) in *Advanced Operations Guide*.

Java Runtime Environment Upgrade

Zen v14 now bundles JRE 8 from OpenJDK in its installations on Windows, Linux-based systems, and macOS. The version is OpenJDK 8, Update 222, build 10 (8u222b10). You may replace this copy with a later update of OpenJDK 8 without interfering with the Zen installation.

JSON Filter

Btrieve extended operations now support filtering of JSON data. For more information, see [Get Next Extended \(36\)](#) and its topic [Using the JSON QUERY Operator](#) in *Btrieve API Guide*.

ADO.NET Support

The Zen v14 ADO.NET SDK has the following changes:

- ADO.NET Data Provider 4.2 is no longer supported.
- ADO.NET Data Provider 4.3 is unchanged.
- ADO.NET Data Provider 4.4 has been added, providing the following:
 - Integration of the provider data tools with Visual Studio 2019
 - Windows Server 2019 Certification
 - BigIdentity data type

Note: ADO.NET Data Provider 4.4 does not support Microsoft Entity Framework 5.0.

8-byte Record Counts

Zen v14 offers the new DTI entry point `PvGetTableStat3`. It increases the size of the `numberOfRecords` field from 32 to 64 bits to support the larger record counts possible with Btrieve data files in the 13.00 format. For more information, see [PvGetTableStat3\(\)](#) in *Distributed Tuning Interface Guide*.