

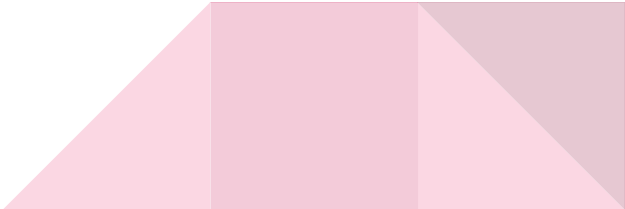
Establishing the PostgreSQL standard

What's Postgres compatible?

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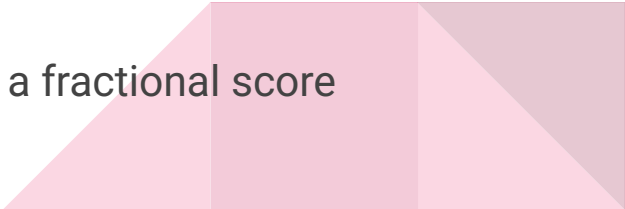
The PGConf.EU 2025 Consensus

- **Granular matrix**, not binary certification
 - Three domains:
 - Behavior & Core Experience
 - Functionality
 - Backups & Replication
 - **Core** vs **Optional** distinction per test
 - **Feature** compliance, not bug-for-bug
 - **External** harness, independently versioned
 - Vendors: **testable** containers + publish verifiable reports
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What We Implement

- 3 test engines, 1 (report.yaml)
- Upstream corpus delegated
 - 200 pg_regress tests + 117 pg_isolation_regress specs
 - Byte-equivalent comparison
- YAML probes for what upstream can't express
 - Silent failures, runtime config, contrib behaviour, ecosystem surface)
- Directory tree IS the taxonomy
 - suite/<domain>/<topic>.yaml, no Go enum to drift
- PG 14–18; corpus minor pinned to the postgres:<major> image's minor

Core vs Optional

- **Core** – behaviour any PostgreSQL user reasonably expects on a stock install
 - Failure → exit code 1, we fail the gate
 - **Optional** – features depending on superuser, specific GUCs, or extensions
 - Failure → recorded, exit code with full diagnostic, never affects exit code
 - **Skipped ≠ failed.**
 - Version-gated tests on the wrong major are excluded from denominator
 - **Binary pass/fail** per test.
 - Weighting is qualitative (Core gates, Optional doesn't), not a fractional score
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Feature compliance, not bug-for-bug

- `pg_regress` tests **are** core PostgreSQL behaviour
 - Vendors must match
- Upstream bug in major X → derivatives not required to import the bug
- This does **not** relax expected core behaviour
- Emitting different NOTICE or differently-ordered output → fails
 - That's correct: Ecosystem tools rely on exact behaviours



Silent failures and managed-service realism

- **Probe + validate:** target accepts the statement, but observable state shows it didn't take effect
 - ALTER SYSTEM SET log_min_duration_statement → check pg_file_settings
- **SQLSTATEs** carry the load
 - 42501 (insufficient privilege), 55000 (object not in prerequisite state, e.g. preload required)
- **No createdb/dropdb** against the target (`--use-existing`)
 - Per-run schema: pgcompat_<runid>
- **Regressions run first**, unmodified target
 - Extensions/schema come after so they don't affect expected outputs
- Vendors publish `report.yaml`
 - Community can verify, doesn't gatekeep