

OpenEdge RDBMS Technical Features Chart

Major Feature Categories (click to jump to feature category)

| | | |
|---|--|---|
| 1. Environment Support | 6. Performance and Scalability | 11. Complex Database Operations |
| 2. Fundamental Features | 7. Data Size Limits | 12. Data Types Supported |
| 3. Management/Administration Features | 8. Views | 13. Objects |
| 4. Compliance Enablers | 9. Tables | 14. Partitioning Methods |
| 5. High Availability Features | 10. Indexes | 15. Reporting/Search/Manipulation |

Note: (E) indicates Enterprise Edition; (W) indicates Workgroup Edition

| Features | OpenEdge RDBMS |
|--|--|
| Environment Support | |
| Platforms (CPU: OS) Supported <i>In general, native operating system and hardware support for 32-bit; supported but not optimized for 64 bit OS and/or hardware.</i> <i>See OpenEdge 10 Platform and Product Availability Guide for specifics by platform and OS versions.</i> | MS Windows (x86): XP Pro/SP2; 2000 Pro SP4, 2000 Server SP4; Server 2003 SP2 Std & Ent & Server 2003 R2; Server 2008; Vista; Tablet XP 2005. Linux x86: Red Hat Enterprise Linux 4.0 and 5.0; SuSE Enterprise Linux 9 & 10) IBM AIX (POWER PC): AIX 5L, 6.1 HP-UX (PA-RISC; Itanium): HP-UX 11 Solaris (SPARC): Solaris 9, 10 SCO UnixWare: UnixWare 7.1.4, SCO OpenServer 6 <i>Not supported: Mac OS X, BSD, z/OS</i> |
| Virtualization Technologies Supported | Citrix MetaFrame XPe, v1.8 for Win2K, Citrix Presentation Server 3.0 & 4.0 MS Windows Windows Terminal Server 2000 & 2003 VMware Workstation 5 and ESX 3.0.2, 3.5, Server 2.5 Solaris Zones/Containers HOBLink (MS Windows) rPATH |
| Various Ways to Get to Data | 1) Via OE ABL (Advanced Business Language) 2) Via OE SQL which supports JDBC and ODBC drivers (via Data Direct) and SQL-92/SQL-99 |
| Other Data Sources | Via OE DataServers for Oracle, SQL Server and ODBC-compliant DBs |
| Network Protocols Supported | ABL uses optimized private protocol. OE SQL uses DataDirect wire protocols. |
| Internet Protocol Support | IPv6, IPv4 |
| Fundamental Features (native implementation) | |
| ACID (Atomicity, Consistency, Isolation, Durability) | Yes: Fully durable, maintains atomicity (note: does not support isolation as fully as MS SQL) |
| Referential integrity (consistency) | Yes. FOREIGN KEY constraints enforced for SQL. |

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| between coupled tables) | Triggers are used by ABL applications to enforce constraints. |
| Online transaction processing OLTP | Maintains atomicity ABL: built-in data awareness with OLTP transaction management OE SQL: can set explicit boundaries or turn on auto-commit |
| Two-Phase Commit | Built into (native to) ABL--the client does transaction coordination OE SQL works with external application service for concurrent commit |
| JTA Support | Yes (OE SQL only) |
| Support batch computing | Yes |
| Support for grid computing | No support for grid architecture (like Oracle RAC for distributed database) |
| Unicode | Yes—full support |
| XML Support | Yes--as a language, (e.g., works with Xerces) but not as a data type |
| Multiple Brokers Per Protocol | Yes—allows different w/s to communicate with storage manager |
| | |
| Management/Administration Features | <i>Note: many of these functions are offered as utilities that can be run from a console; this list notes that are available online and can be run while database is running</i> |
| Online Schema Changes | Yes-- Dictionary, languages and scripts calling utilities allow user to add fields, indexes, tables, and areas. Supported by ABL and OE SQL. |
| Online Index Activation | Yes, via RDBMS utility |
| Online Index Fix | Yes, via RDBMS utility |
| Online Table and Index Reorganization | Yes, via RDBMS utility |
| Add Extents Online | Yes, via RDBMS utility |
| Online Problem Analysis, Diagnosis and Fix | Yes, via RDBMS utility Also can use Promon |
| AI Management Utility | Yes – automated archive of ai logs, then marks them empty for reuse |
| Self (Auto) Tuning/Self Management features | Some (e.g., page writers)—goal is to add more |
| Migration Tools | Included--conversion utilities migrates earlier versions of the database to the current release state |
| Quiet Points | Yes |
| Tunable Spin Locks | Yes (Enterprise version—not tunable in Workgroup version). |
| Database Defragment | Yes – part of normal forward processing |
| Roles Supported | Auditor, Audit Archiver and DBA roles |
| | |
| Compliance Enablers | |
| Authentication | Some - not full authentication—done in each language |
| Security in communication | Yes--SSL |
| Database encryption | Encryption/decryption currently done only in ABL function calls |

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| | Transparent Data Encryption (TDE) under evaluation [policy driven] |
| Audit Trails | Yes—fully automated, done inside database with internal triggers for both OE SQL and ABL (** a differentiator): [policy driven] |
| Application-level audit events | Yes—both OE SQL and ABL |
| | |
| High Availability Features | |
| Replication (<u>extra cost</u>) | Yes (E to E; W to W)—uses After Image (AI) blocks replication (user-initiated) or via OEM: <ul style="list-style-type: none"> • Replication Plus (extra cost) • Replication Plus includes reporting allowed on target (extra cost) • Replication Plus includes online backup allowed on target (extra cost) |
| Failover Cluster Support | Yes (E) – restarts the database and helper daemons on failover |
| Online Backups | Yes |
| Roll Forward to a Point in Time | Yes (small scale recovery—human error. Note: does not maintain Before Image data—re-uses space; cannot undo committed transactions) |
| Roll forward to Transaction | Yes (small scale recovery—human error) |
| Roll Forward Retry | Yes (small scale recovery—human error) |
| | |
| Performance and Scalability | |
| Concurrent users | Up to 32,000 (E); up to 50 (W—typically 5-50) |
| Concurrent transactions | Up to 32,000 (E); up to 50 (W) Over 2000 tpm |
| Asynchronous I/O Processes | Before Image Writer, After Image Writer, Asynchronous Page Writer (E version only) |
| Multi-threaded Binary Dump and Reload | Yes (E); Single thread (W) |
| SMP Support | Yes (E), (W) |
| Background I/O | Yes (E) |
| | |
| Data Size Limits | |
| Maximum DB size | 8 exabytes (E); 15 petabytes—typically 5-10GB (W) |
| Maximum # tables | 32,000 (E/W) |
| Maximum fields per table | 32,000 (E/W) |
| Maximum number of rows | Rows per table: 9 quintillion (E/W) Rows per block: 256 (E/W) |
| Maximum columns per row | Determined by row size maximum (32,000 bytes). From a practical standpoint, typically not more than 1,000. |
| Maximum indexes | 32,000 (E/W) |
| Maximum Blob/Clob size | 4 GB |

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| Maximum NUMBER size | 50 significant digits |
| Record length | 32,000 bytes (E/W) |
| Buffers (32-bit) | 500,000/4GB (E/W) |
| Buffer pool (64-bit) | 1 billion (E/W) |
| Extent size | 1TB (E); 2GB (W) |
| Storage areas | 32,000 (E/W) |
| Maximum extents per storage area | 1,000 (E/W) |
| Largefile support | Yes (E), No(W) also requires OS largefile support turned on |
| Data Area Block Size | 8K Unix (4K Win or linux) (E/W) |
| Views (beyond basic, native support) | |
| Views (basic) | Yes—only OE SQL |
| Indexed Views | Yes—only OE SQL |
| Materialized view | No |
| | |
| Tables (beyond basic, native support) | |
| Temporary table support | Yes—only OE supports temporary tables with RDBMS working hand-in-hand with language (ABL)—a significant advantage |
| Virtual System Tables | Yes (ABL & OE SQL) |