

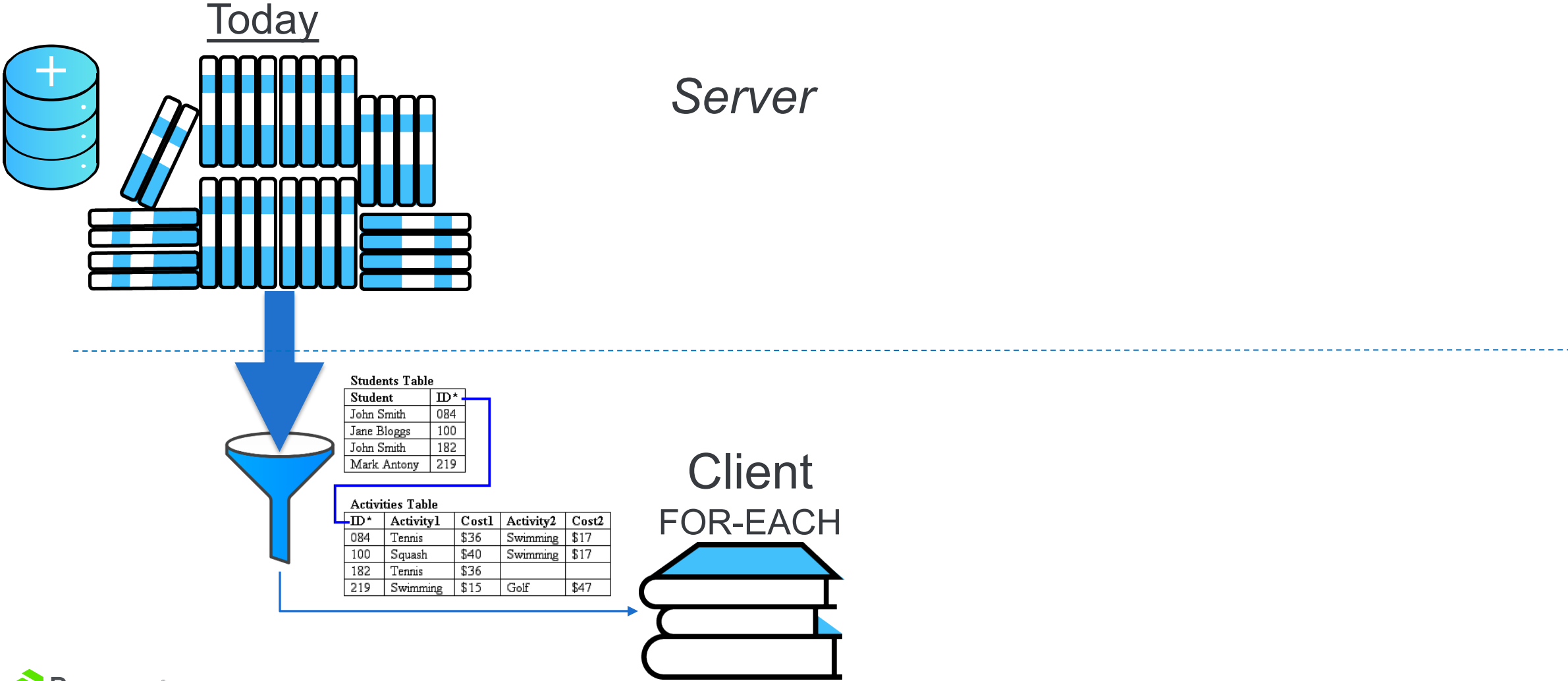


OpenEdge Database: Server-Side JOINS



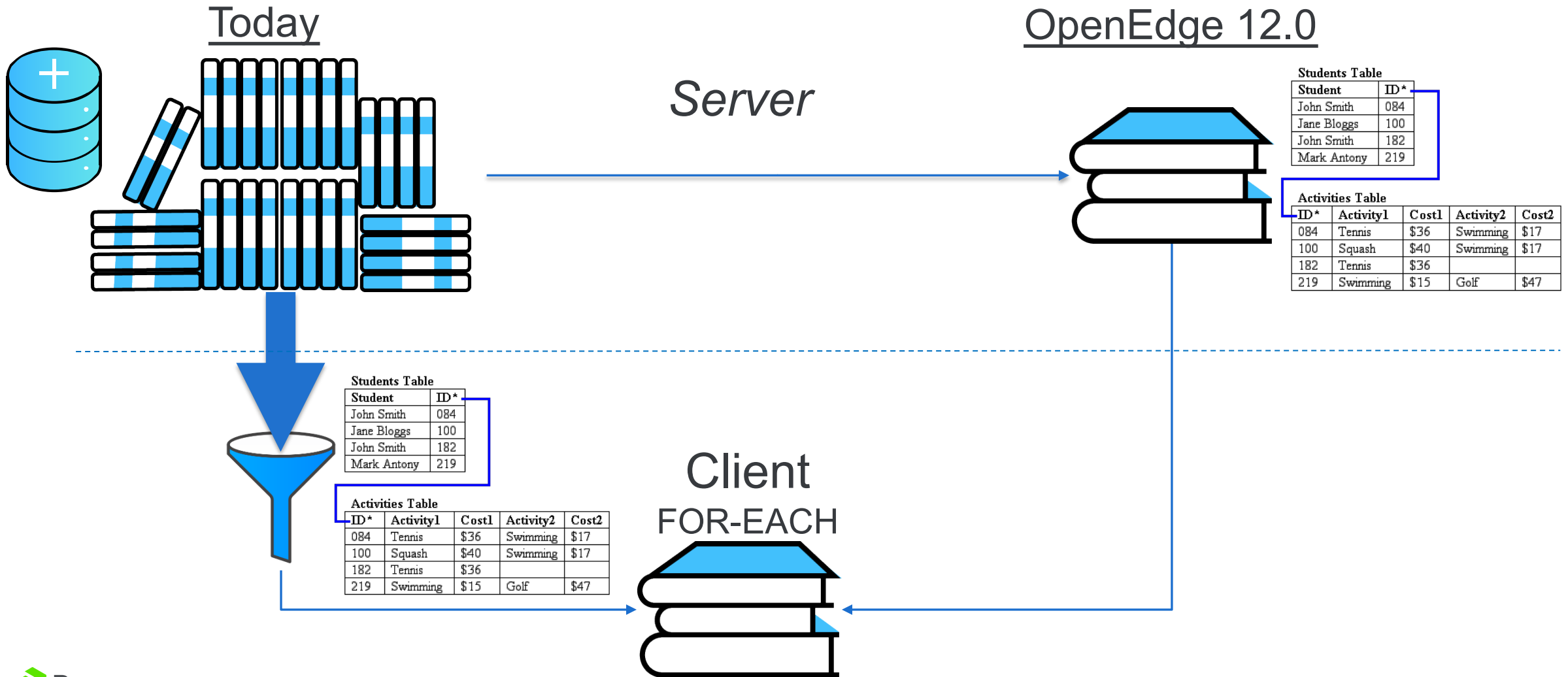
OpenEdge 12.0 – Performance and Scale

Language: *Resolve Table JOINS on the Server, Phase 1*



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- Up to **5 times fewer** query requests between the client and the server
- Up to **4 times fewer** messages being sent between the client and server
- About a **2 times decrease** in the number of bytes transmitted when the JOIN takes place
- In the first release of the Server-Side Join feature
 - Support of “FOR EACH” statements for joins up to 10 tables
 - We will extend this in future releases to Dynamic Queries and others
- Up to **75%** performance improvement in FOR EACH queries
- **No application code changes required!**

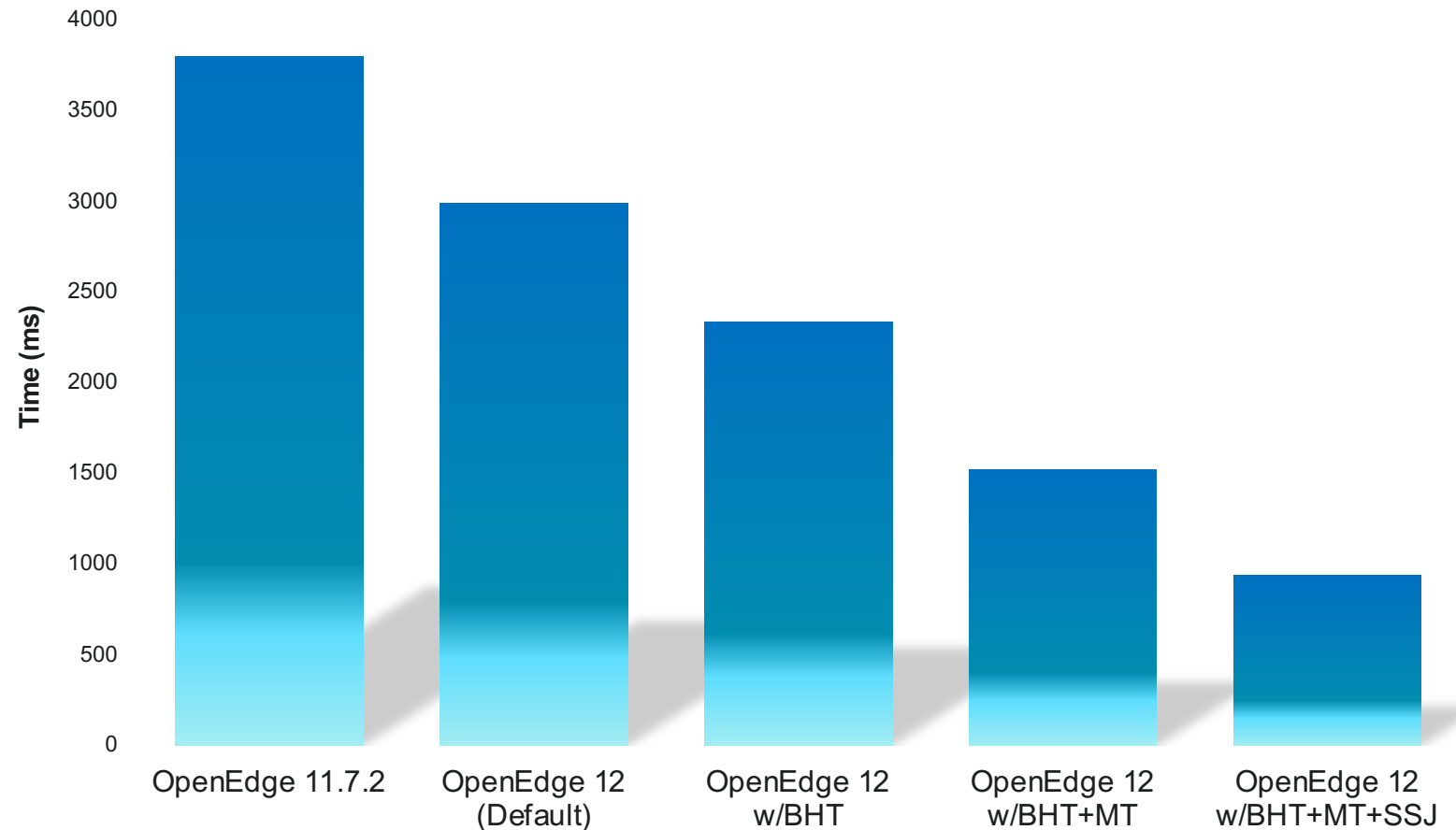
Powerful

Up to **3x**

throughput versus 11.7
in N-tiered deployments

Your results may vary depending on
architecture and use-case

Transaction Time Comparison (milliseconds, lower is better)



Available

99.999

Level of Availability	Percent of Uptime	Downtime per Year	Downtime per Day
1 Nine	90%	36.5 days	2.4 hrs.
2 Nines	99%	3.65 days	14 min.
3 Nines	99.9%	8.76 hrs.	86 sec.
4 Nines	99.99%	52.6 min.	8.6 sec.
5 Nines	99.9999%	5.25 min.	.86 sec.
6 Nines	99.99999%	31.5 sec.	8.6 msec





Progress Application Server for OpenEdge (PASOE)



Why PAS for OpenEdge?



Secure: Spring security framework included



Scalability: Uses far less system resources



Simplified: Multi-session multi-mode Agent



Improved administration: Many tool options



Flexibility: REST Service Interface



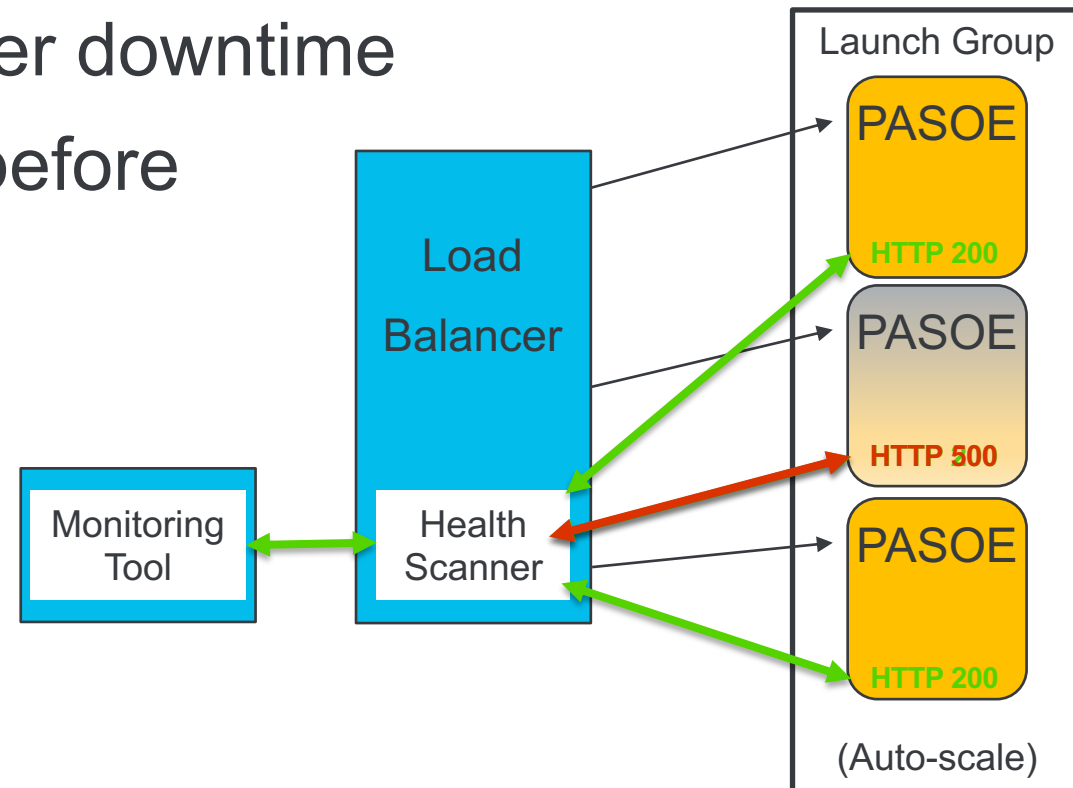
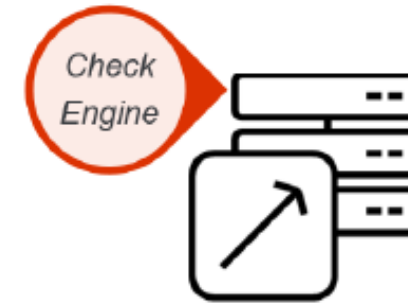
Deployment flexibility: Supports containerization



Future: Go forward AppServer for OpenEdge

OpenEdge 12.0 – Available

- Monitor PAS for OpenEdge health
 - CPU, memory, disk, swap space, etc.
 - Tomcat, JVM, etc.
- Improve resilience, and lower downtime
- Supports corrective action before failure happens



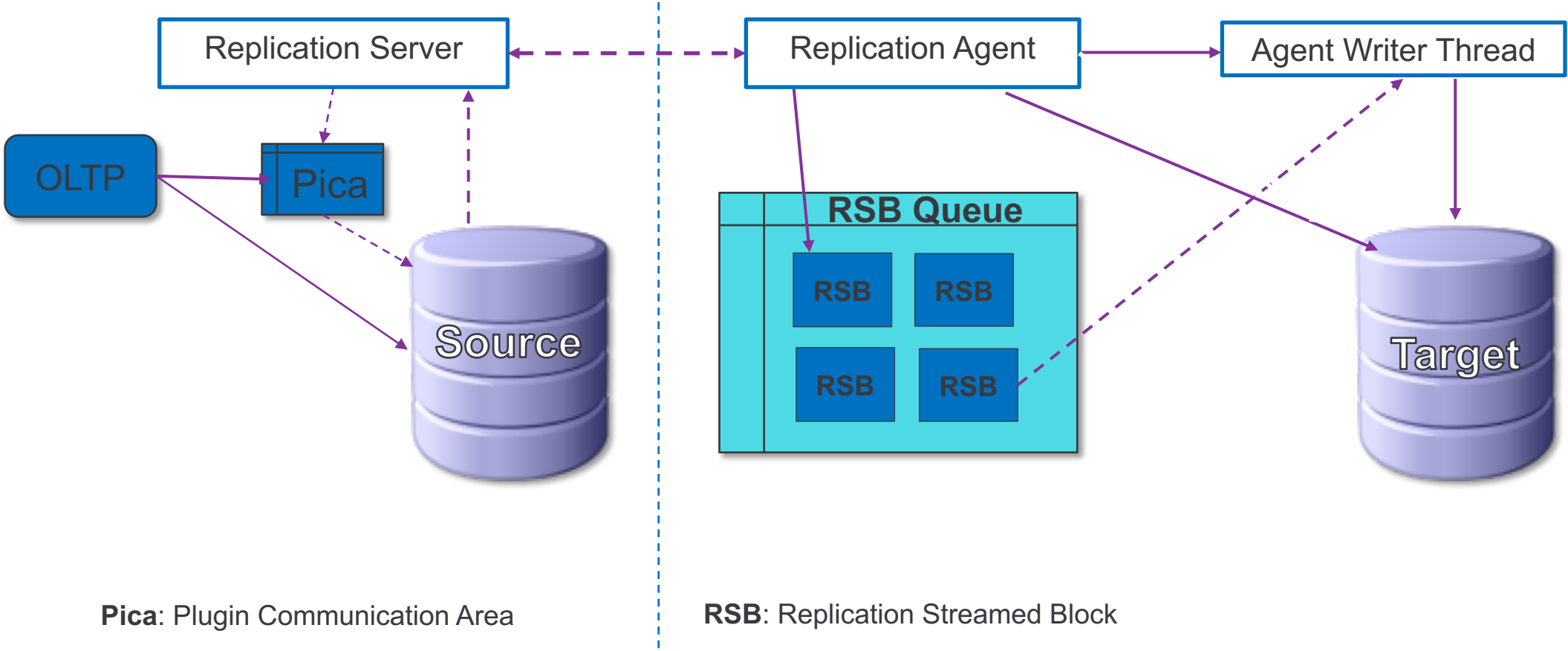


OpenEdge Database: Replication



OpenEdge 12.0 – Available

- Improved protection from data loss – Replication AI file streaming





Progress OpenEdge Security



OpenEdge 12.0 – Security for Availability

- Use external authentication providers – OAuth2 and SAML support in PAS for OpenEdge
- Most-current Spring security, OpenSSL and SOAP libraries
- Removed vulnerable security ciphers – RC4 and MD5
 - Data (Transparent Data Encryption) and communication (SSL/TLS)
 - User authentication (Authentication Gateway, Client Principal)

OpenEdge 12.0 – Security

- PAS for OE support for OAuth2 (OE11.7.3) & SAML (OE11.7.4)
- SQL/ABL Security Model Unification, Phase 1
- Internal infrastructure security:
 - Address Veracode (Java), AppScan (C++) and OWASP (3rd-party libraries) high-priority issues
 - Update Client Principal cryptography
 - Remove RC4 as a Transparent Data Encryption cipher
 - Support current Hash Message Authentication Code (HMAC) algorithms (OE11.7.4)