



# OpenEdge V12 & V12.1

## What's New

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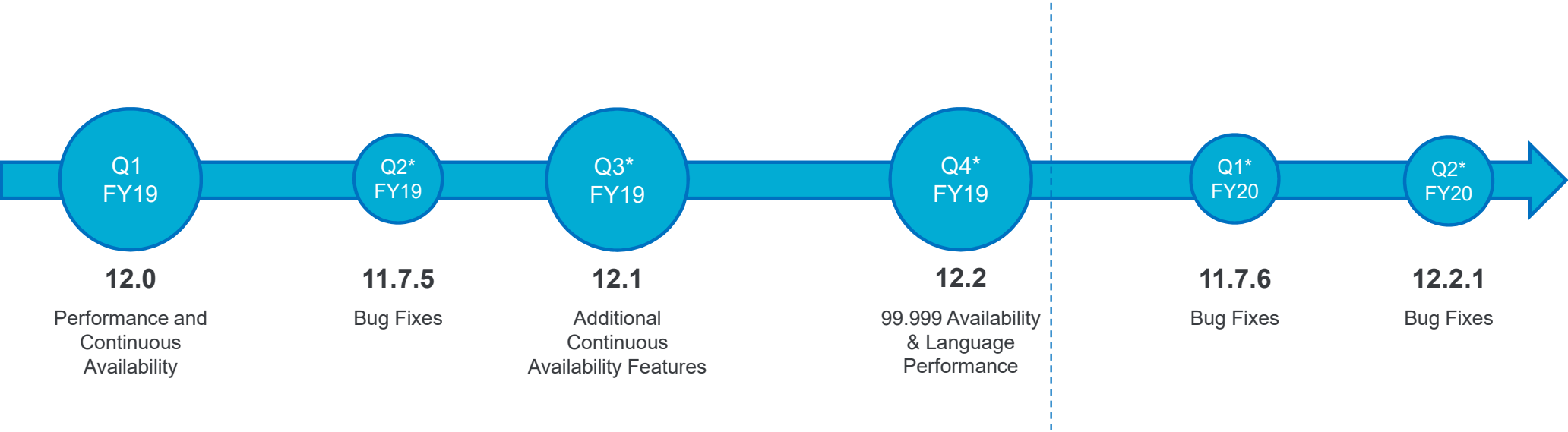
September 25, 2019



# Agenda

- Roadmap
- Supported Platforms and Products
- Performance and Scalability Features
- Availability Features
- Security Features
- Evolution Features
- Licencing Changes
- Questions

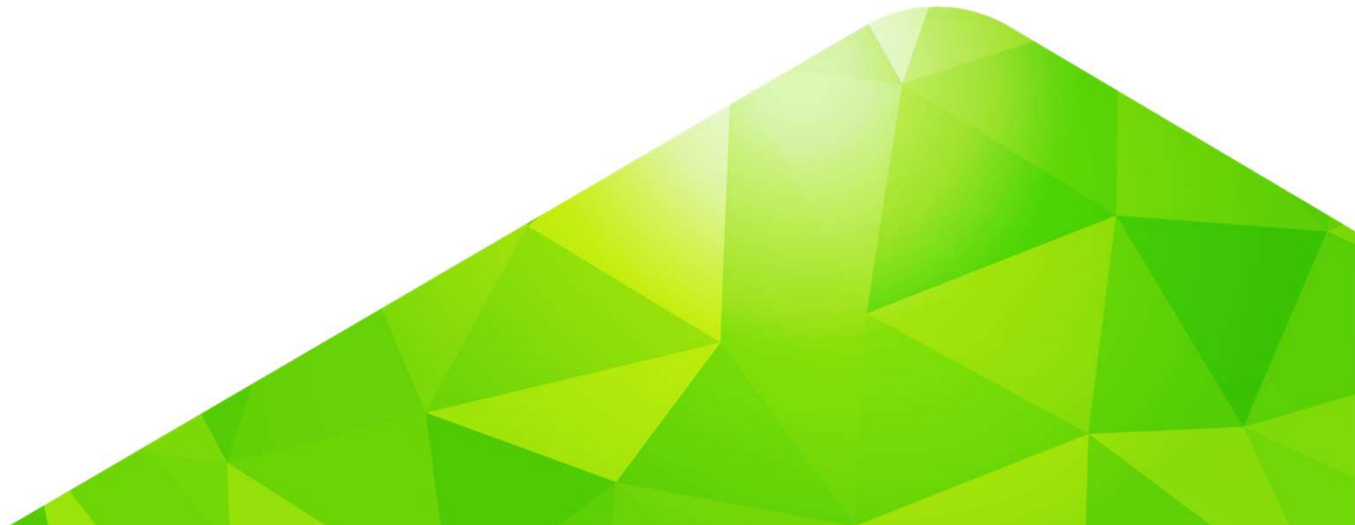
# OpenEdge Calendar



\* Target Dates



# Let's Take a Closer Look



# Supported Platforms V12

OS Vendor	CPU Architecture	Port Code	JDK*	Compiler	Certification Platforms (Version numbers are the minimum certified)	32-bit	64-bit
Microsoft	Windows 2008 R2 32bit (INTEL/AMD)	0031	1.8.0_101 (OE12.0)	Visual Studio 2017	Windows 8.1	✓	
					Windows 10	✓	
	Windows 2008 R2 64bit (INTEL/AMD)	0033	1.8.0_101 (OE12.0)	Visual Studio 2017	Windows Server 2016 (Build Platform)	(F)	✓
					Windows Server 2012 R2	(F)	✓
					Windows 10	(F)	✓
					Windows 8.1	(F)	✓
IBM	AIX 64Bit (POWER)	0037	1.8.0_181 (OE12.0)	XL C/C++ 13.1.3	AIX 7.2 (Build platform)		✓
					AIX 7.1		✓
Linux	Linux 6.6 64Bit (INTEL)	0043	1.8.0_101 (OE12.0)	GCC 4.4.7	Ubuntu 18.04 LTS 64-bit		✓
					Oracle Linux 7		✓
					Red Hat 7 (64-bit)		✓
					CentOS 7 (64-bit)		✓
					SUSE Enterprise Server 11		✓
					SUSE Enterprise Server 12		✓

# Changes in 12.1 - Platforms

- OpenEdge 12.1 will not be shipping a JDK/JRE in Install
  - For Windows 64-bit, Linux 64-bit and Solaris 64-bit: **JDK 1.8.0\_101**
  - For AIX 64-bit: **JDK 1.8.0\_181**
- Solaris was dropped for 12.0 but will be available for 12.1
- DataDirect ODBC 8.0.2 Driver with MSS Dataserver 12.1
- MS SQL server 2019 with MSS Dataserver

# Products

- No support for OpenEdge Appserver - Classic
- No support for Dynamics
- No support for Translation Manager



# Performance & Scale Features



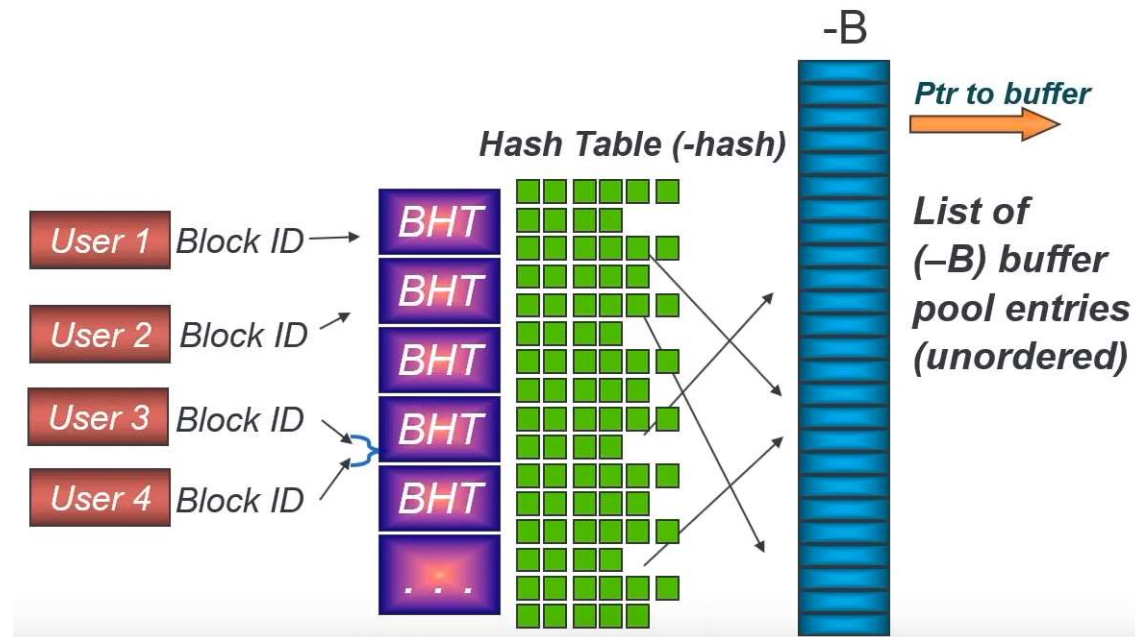


# Bottleneck Accessing Buffered Data

- Random data access with large -B
  - Modify number of BHT latches on change of -B or -hash
- Concurrency of table scans for small tables
  - Optimistic buffer pool lookups

Up to **28%**

Performance improvement,  
with 50% less BHT latching



# OpenEdge 12.0 – Performance and Scale

OpenEdge Database Server: *Multi-threaded Processing*



Today, DB access requests are handled one-at-a-time

Up to **100%**

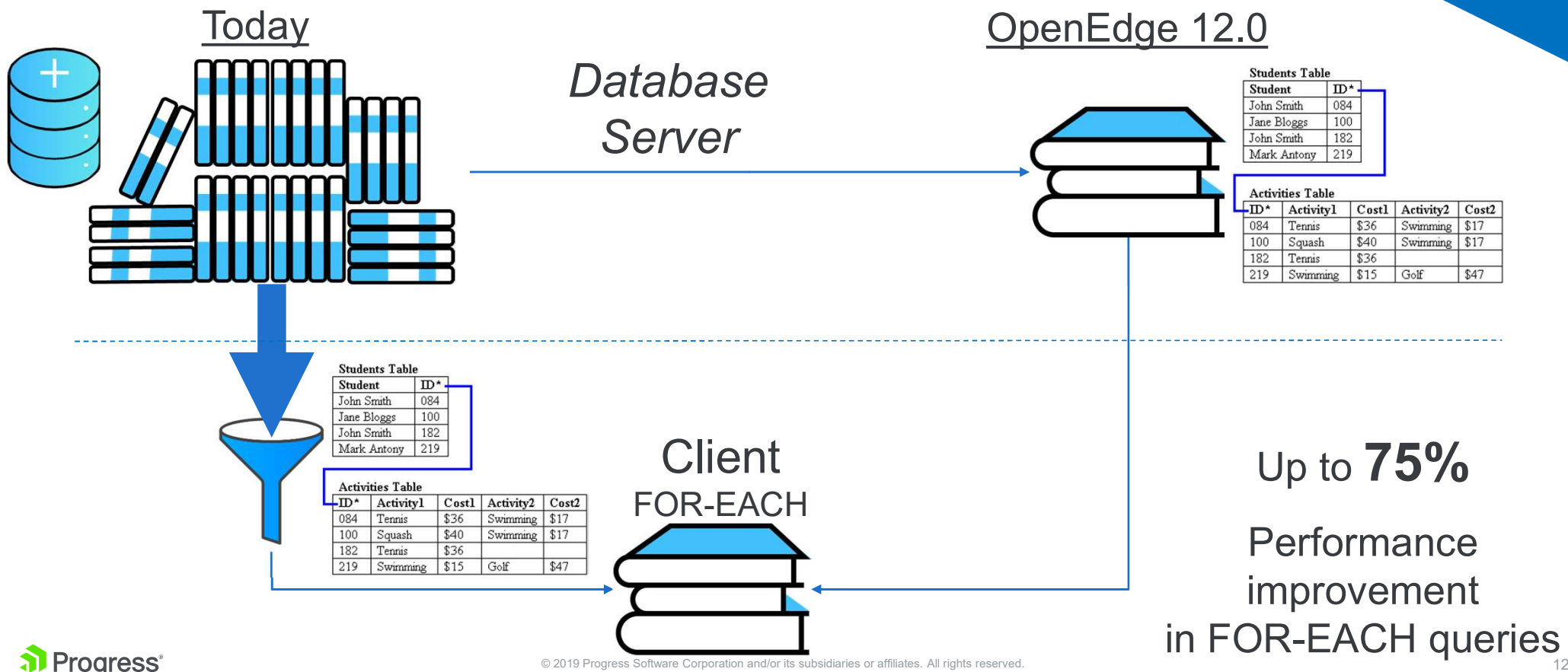
Performance improvement with better resource utilization

In 12.0, DB access requests are handled *Concurrently* for Remote Clients



# OpenEdge 12.0 – Performance and Scale

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



# OpenEdge 12.0 – Performance and Scale



- ABL & OpenEdge Database
  - Reduce contention on the database buffer hash table
  - Streamline Server-side Table JOINS Phase 1 – FOR-EACH queries
  - Multi-threaded Database Server
  - **No coding changes required!**
- SQL
  - Autonomously update statistics



# OpenEdge 12.1 – Performance

- AVM Improvements
- Extend and mark variable-length extents as fixed
- Limit on the number of unique shared sequences increased
- Server-side join processing for dynamic queries (50%)
- Database startup defaults changed

# Powerful

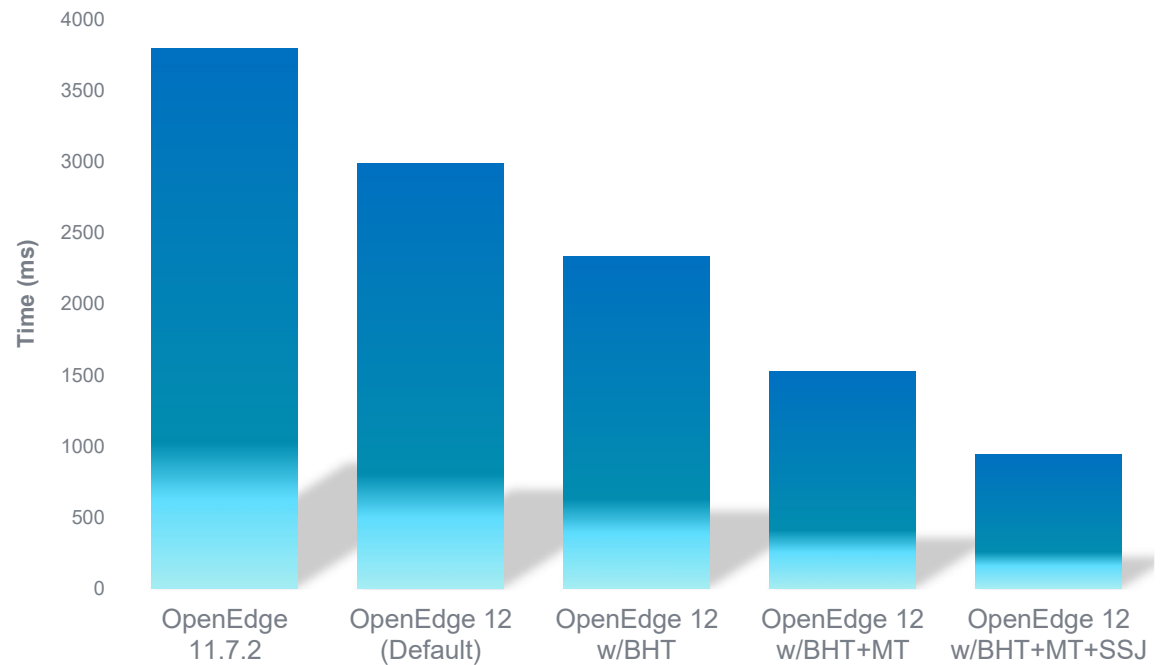
Up to **3x**

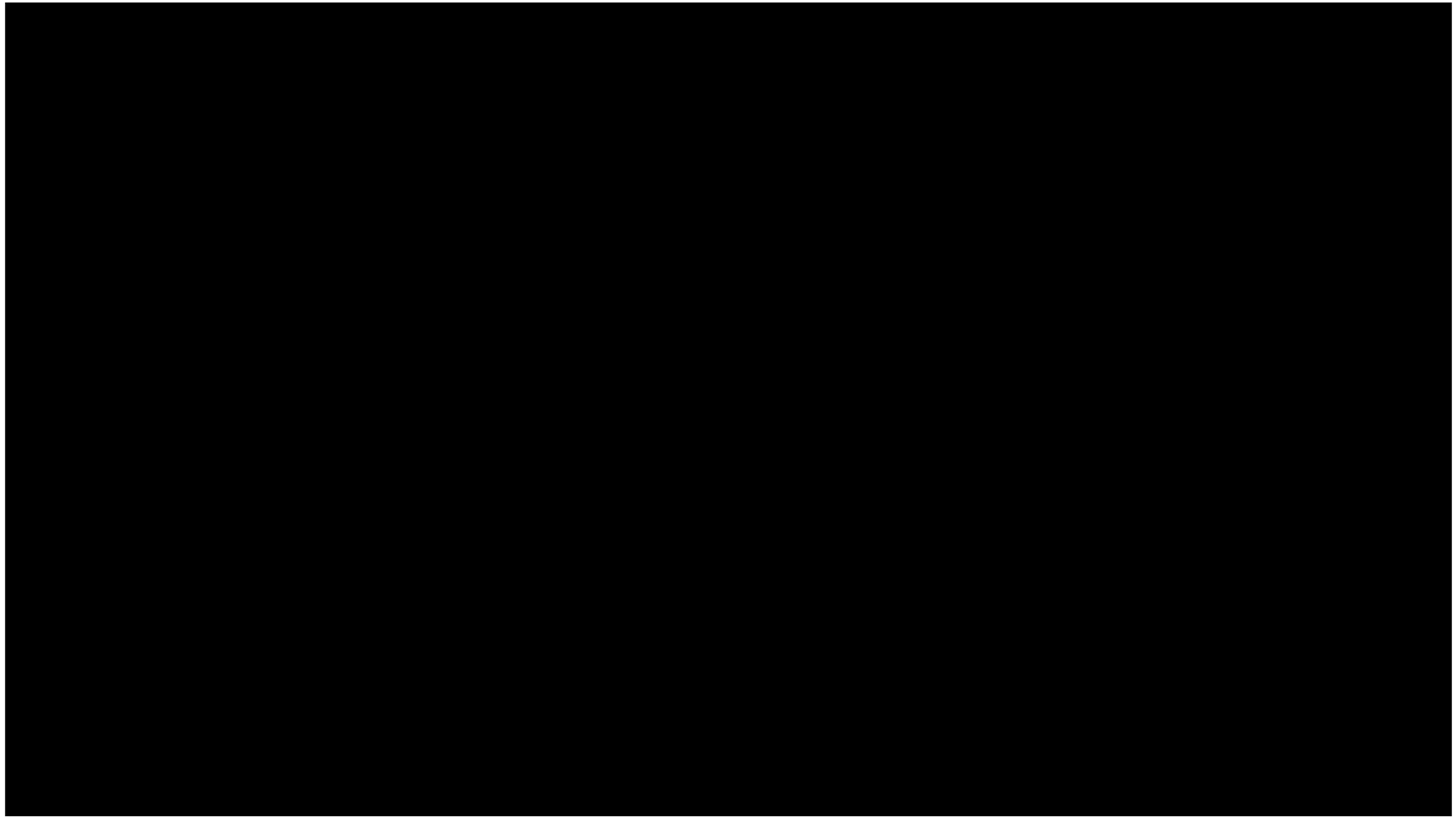
throughput versus 11.7  
in N-tiered deployments

*Your results may vary depending on  
architecture and use-case*



## Transaction Time Comparison (milliseconds, lower is better)







# Availability Features

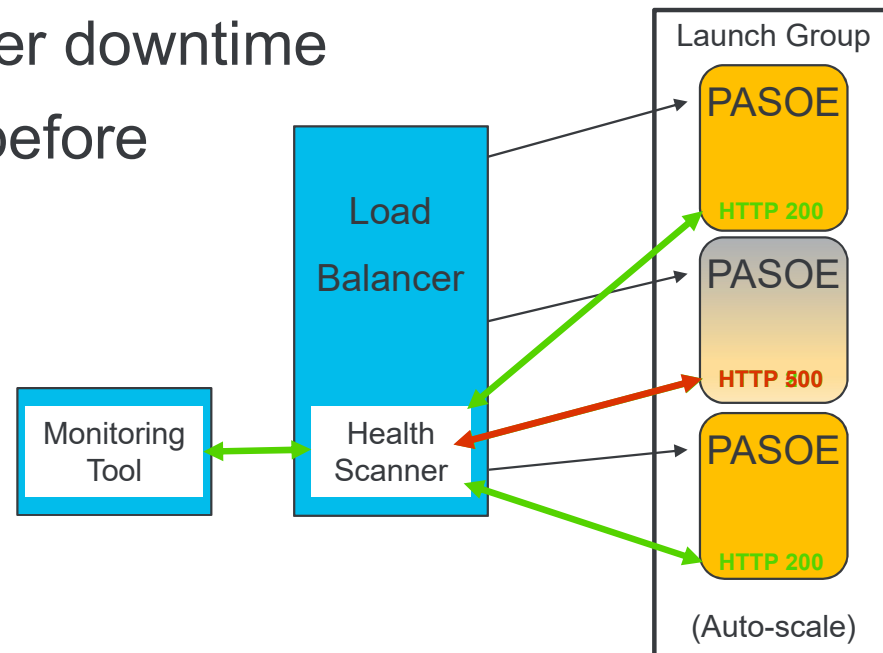
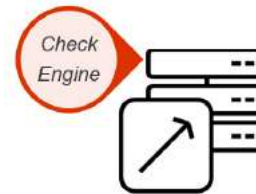


99.999%

 UPTIME

# OpenEdge 12.0 – Available

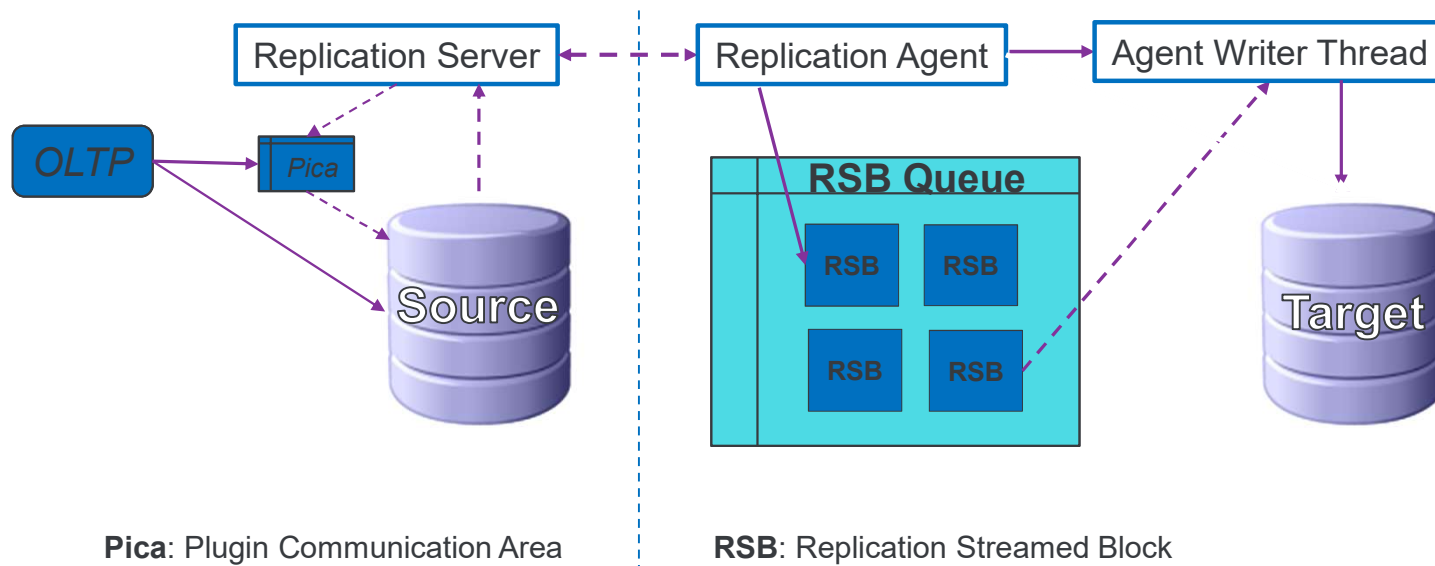
- Monitor PAS for OpenEdge health
  - CPU, memory, disk, swap space, etc.
  - Tomcat, JVM, etc.
- Improve resilience, and lower downtime
- Supports corrective action before failure happens





# OpenEdge 12.0 – Available

- Improved protection from data loss – Replication AI file streaming





# OpenEdge 12.0 – Available

- Improved Resilience:
  - Monitor PAS for OpenEdge health
  - Replication AI file streaming
- Additional Online Operations:
  - SQL Drop Index, Column or Trigger
  - SQL Rename Index or Column
  - SQL – JVM management and configuration
  - Database log file archive and truncate
- Container Support
  - PAS for OpenEdge pre-configured and supported in Docker



# OpenEdge 12.1 – Available

## Database

- Replication properties validation utility
- Enhancement to replication status in virtual system tables (VSTs)
- Modify database parameters online
- Allow non-structural schema fields to be changed online
- Allow Integer field to become Int64 online

## PASOE

- Refresh agents in an ABL application
- Deferred logging
- Get current request information



# OpenEdge 12.0 – Security Features

- 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)
  - Security Migration Guide
- Provide secure infrastructure – security code scans and remediation of critical and high priority vulnerabilities



# OpenEdge 12.1 – Security Features

- Tenancy logging for PASOE
- Client TLS authentication support for PASOE
  - Client Certificate
  - APSV and for SOAP, REST, WEB



# Application Evolution



# OpenEdge 12.0 – Evolution Tooling



## ■ Coding:

- Updated Eclipse - 4.9
- IDE usability improvements
- Indeterminate array resizing improvement
- Execute FINALLY blocks during STOP processing
- Set a return code on application exit

## ■ Compilation:

- Supply Progress Compilation Tools (PCT)
- Prevent Methods/Functions with no RETURN, or RETURN from inside a FINALLY block

## ■ Test

- Call tree in performance Profiler



# OpenEdge 12.0 – Evolution Tooling

- Improve ABL code quality as early as possible in the dev cycle
- SonarQube ABL plug-in for code inspection
- Integrated into PDS for OpenEdge
- Extensible

OpenEdge Editor - OperationsApp/src/com/progress/util/BasicOperations.cls - Progress Developer Studio

File Edit Source Navigate Search Project Run OpenEdge Window Help

Project Explorer

- OperationsApp
  - Referenced Assemblies
  - Procedure Libraries
  - .settings
  - .sonar
  - ant
  - build
  - profiler
  - rcode
  - src
    - com
      - progress
        - util
          - BasicOperations.cls
          - custom.i
          - custom.p
          - Operations.cls

BasicOperations.cls

```

6  Description :
7  Author(s)   : dpachipu
8  Created    : Tue Jul 31 10:59:24 IST 2018
9  Notes      :
10 -----
11
12 BLOCK-LEVEL ON ERROR UNDO, THROW.
13
14 CLASS com.progress.util.BasicOperations:
15
16  DEFINE VARIABLE res AS INTEGER. //NO-UNDO not specified
17  DEFINE VARIABLE iVar AS INTEGER NO-UNDO. //Unused variable
18
19  /*-----
20  Purpose: add two integer numbers
  
```

Console Problems Tasks Connection Info SonarQube Servers SonarLint Report

16 items

Resource	Date	Description
BasicOperations.cls	2 minutes ago	NO-UNDO not specified in variable declaration
BasicOperations.cls	3 minutes ago	Unused variable iVar
Operations.cls	1 month ago	Code block doesn't have any statement and no comment to
Operations.cls	1 month ago	Package name doesn't match directory name src/Operations
Sports.df	10 minutes ago	Extents
Sports.df	10 minutes ago	Table Customer has 5 indexes defined
Sports.df	10 minutes ago	Table Feedback has 5 indexes defined
Sports.df	10 minutes ago	Table Item has 5 indexes defined

29 files of project OperationsApp (at 17/09/2018 19:37)

Writable Insert 16 : 51 Preprocessing on



# OpenEdge 12.1 – Evolution Tooling

- Windows Install package for Client Networking
- Upgraded Aurea Sonic client JARs
- Run PAS for OpenEdge in a Docker container
- Unified logging for PAS for OpenEdge Containers
  - Fluent Bit, Elastic Search, Kibana
- Enhancement of the New Relic Plugin for OpenEdge
- Docker environment for PASOE with CloudFormation

<https://docs.progress.com/category/whats-new-in-12>

https://docs.progress.com/category/whats-new-in-12

OpenEdge Information Hub >

## New in OpenEdge 12.0

Search

### Overview

- Video: Welcome to the Progress OpenEdge Information Hub
- Video: Introduction to OpenEdge 12
- Welcome to OpenEdge Release 12
- OpenEdge 12.0: Product Notes
- Issues addressed in OpenEdge 12.0

View more >

### PAS for OpenEdge

- HealthScanner
- Docker support
- Unified logging for PAS for OpenEdge container
- Swagger UI support for viewing REST APIs
- Improved agent stop
- Instrumentation-free performance profiling

View more >

### SQL

- Online schema changes
- Online JVM configuration
- Troubleshooting information added to Protrace report
- Autonomous Update Statistics

### Database

- AI file streaming
- Multi-threaded server
- Reduced locking delays in buffer hash table
- Modifiable VSTs in replication target
- File permissions for conversion utilities
- Sequences all 64-bit

View more >

### OpenEdge Management

- Simplified PAS for OpenEdge creation wizard
- Simplified PAS for OpenEdge configuration
- Run OpenEdge Management independently

### ABL

- New memory stream classes
- Indeterminate array resizing improvement
- Error and stop object enhancements
- STOP condition processing
- Behavior change for empty FIELDS list
- Client-principal updates

View more >

### Progress Developer Studio for OpenEdge

### DataServer

- Requirement to build executables on AIX is lifted

### Product availability and lifecycle

# OpenEdge 12.0 a 12.1 - Změny Licencování

- Machine & CPU License -> Deprecated
- Development Tools -> Named User Model Only with one exception
- EULA 12.0 -> Recap
- New order conditions -> Schema/Picture is required
- **No PASOE** AA licence -> Named/Registered/Core

# Development Tools

- Progress V9 - all development tools used Concurrent User
- Progress OpenEdge 10 and 11 – Named User or Registered Device
  - Concurrent were „grandfathered“
- Development tools „should be“ per Named User
- Starting with OE12.0, only Named User
- PDS for OE, OE Studio, ProVision, ProVision Plus
- 4GL Development = Exception
  - Registered Device model is possible to use



# Migration Path

- When customer moves to OpenEdge 12.x

Product(s)	License Method	Action
PDS for OpenEdge, OE Architect  OE Studio  ProVision, ProVision Plus	Concurrent User	Convert to Named User using Trade-in Value
Multiple Products	Registered Device	Exchange 1-for-1 for Named User at no cost



# OPENEDGE 12...

## The New Dawn is Here!