# OpenEdge Multi-Tenant Tables

DATA SHEET

## Benefits

Implementing a multi-tenant application environment has numerous benefits:

- Reduced development and deployment costs

- Reduces database administration overhead while increasing resource sharing

- Personalized access to data

- Restricted access to safeguard data

The Software-as-a-Service (SaaS) market continues to grow, with little sign of slowing. According to Forrester, looking beyond 2019, "we expect SaaS subscriptions to continue to grow rapidly through 2020, generating close to half of total process applications software revenues." *

This growing market has captured the interest of many application providers seeking to reduce operating costs while entering new markets. However, in the interest of quick market delivery, the requirement to manage more with less is often overlooked. If a provider attempts to manage the SaaS business the same way it manages on-premises business, maintaining multiple versions and customer-specific code, running multiple infrastructures and performing upgrades on monthly subscription fees becomes necessary. By contrast, a multi-tenant environment provides economies of scale.

*The Global SaaS Landscape, 2019 to 2022: Some Categories Grow, While Some Reach Saturation*

## What is Multi-tenancy?

A multi-tenant database is a database that provides support for a number of separate and distinct sets of users, referred to as tenants. All tenants share the same database schema. However, each set of tenant users accesses its own instance (partition) of a given table (tenant data) unless the table is shared by some or all tenants in the database (shared data). This access is transparent for each

tenant. That is, each tenant accesses its own and shared tenant data as if it had access to the entire database, and each tenant accesses the database without necessarily having knowledge of any other tenants and their data.
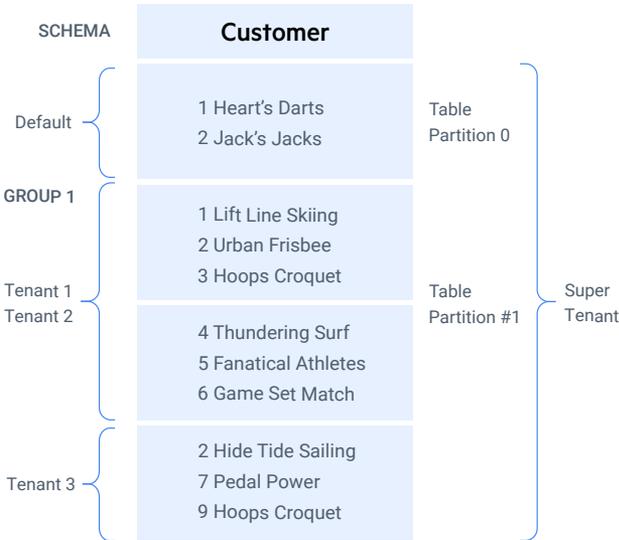
As an enabling technology, multi-tenant databases provide benefits to a SaaS provider by reducing database administration overhead and increasing resource sharing. Two key advantages of the OpenEdge implementation are that:

- Tenant support is implemented in the database, removing the requirement that tenancy be managed by the application.

- Database utilities and tools are tenant-aware.

As an application provider, you have the ability to customize the application view or experience— a critical capability for meeting demands of the digital age. Even more importantly, multi-tenancy enables you to deliver secure access to stored data. With a multi-tenant database, you have the ability to access data relevant to the business, while remaining confident that company data is not accessible by others.

A multi-tenant application can provide savings by reducing development and deployment costs to companies that develop applications. A shared schema enables tenants to share one version of the r-code. You only need to make schema changes once for all tenants, enabling faster rollout. By centralizing resources, all customers are maintained at the same version, reducing the overhead of maintaining multiple application versions across deployments. These savings can be passed on to customers, increasing competitive advantage for all parties involved.

## Multi-Tenant Groups

| SCHEMA | Customer | | |
|---|---|---|---|
| Default | 1 Heart's Darts<br>2 Jack's Jacks | Table Partition 0 | |
| GROUP 1<br><br>Tenant 1<br>Tenant 2 | 1 Lift Line Skiing<br>2 Urban Frisbee<br>3 Hoops Croquet<br><br>4 Thundering Surf<br>5 Fanatical Athletes<br>6 Game Set Match | Table Partition #1 | Super Tenant |
| Tenant 3 | 2 Hide Tide Sailing<br>7 Pedal Power<br>9 Hoops Croquet | | |

# Benefits of Progress OpenEdge Multi-Tenant Tables

There are many advantages to implementing OpenEdge® Multi-Tenant Tables to your application environment.

> Since OpenEdge 12.2, OpenEdge databases support 32,000 Sequences regardless of the database block size. Maximum number of sequences is 32,000 regardless of block size for Shared (Global) and Multi-Tenant Sequence and represents a combined number of sequences.
>
> **LEARN MORE**

The application accomplishes this by providing support for a number of separate and distinct sets of users, referred to as tenants. All tenants share the same database schema, but each set of tenant users accesses its own instance, or partition, of a given table—unless the table is shared by some or all tenants in the database. In this case, they access shared data. Tenants can access their own data and shared tenant data, as if they had access to the entire database, and without seeing other tenants or their data. In fact, no tenant has access to data belonging to any other tenant.

OpenEdge implements tenant support at the database layer. Once the tenant identity is asserted, the application code that tenants run when using a multi-tenant database is exactly the same as application code running in a non-tenant configuration. This eliminates the need for tenancy to be managed by the application, simplifying the code and making tenancy completely transparent. Also, once database access is authenticated, multi-tenancy is transparent for application tenants.

Changes to existing applications are not necessary— only small changes to security, user authorization settings and database connections require tweaking. For most applications, user authentication and security are handled as an independent step when a user initially signs into the application.

# Solving Top Data Management Challenges

OpenEdge Multi-Tenant Tables is a component of the OpenEdge RDBMS Advanced Enterprise Edition (OpenEdge AEE), our comprehensive application production solution designed to manage today's intense database needs without compromising security.

OpenEdge Muli-Tenant Tables is a licensed product that is available with an upgrade and requires either a combination of an RDBMS license (Workgroup or Enterprise) and the corresponding license, or the Advanced Enterprise RDBMS license.

To learn how to incorporate this and other solutions to OpenEdge, contact your account manager today.

## About Progress OpenEdge

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