Build Secure Multi-Tenant Applications on Microsoft Fabric with AcuLoom

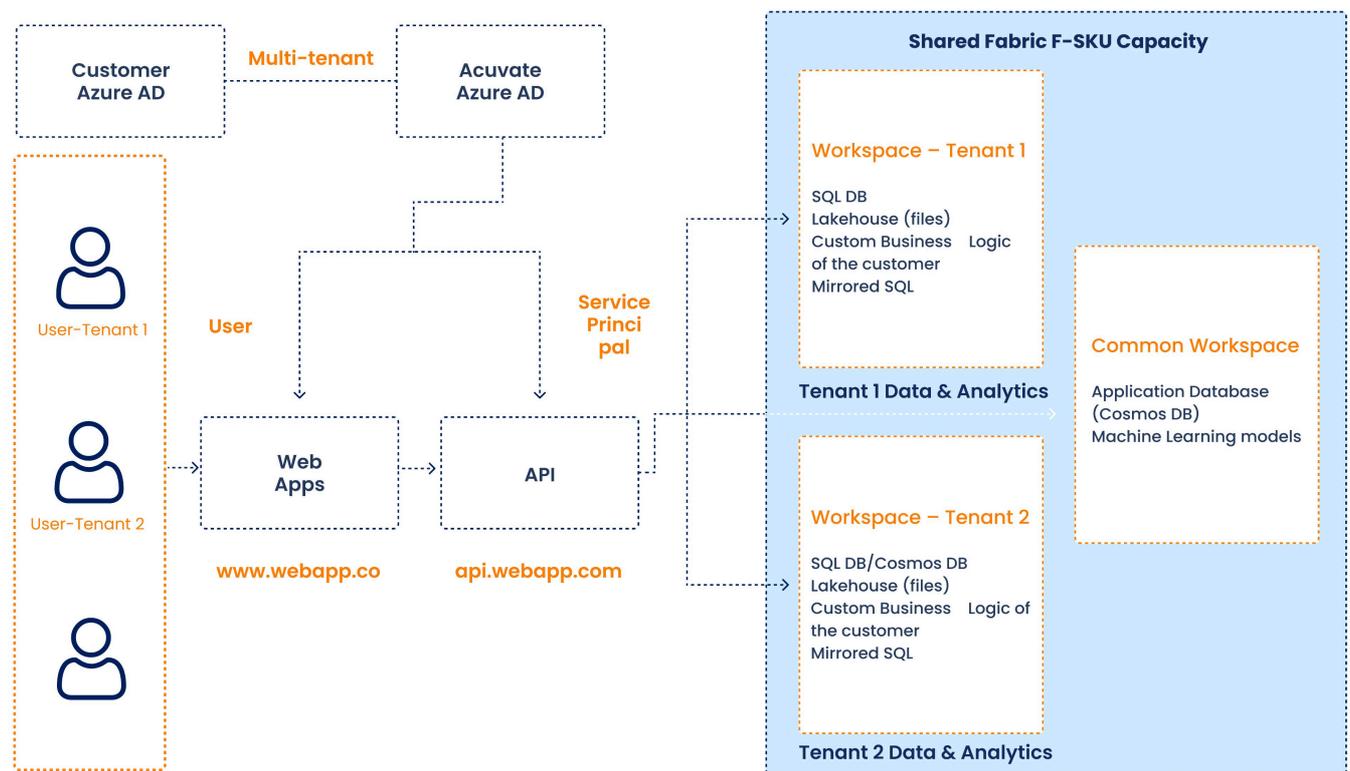## Deliver Scalable, Governed, and Future-Ready Multi-Tenant Solutions

Introducing AcuLoom – The Microsoft Fabric Multi-Tenant Accelerator

AcuLoom by Acuvate is a Microsoft Fabric Multi-Tenant Accelerator designed to help organizations build and deploy secure, efficient multi-tenant applications.

It enables you to serve multiple customers, business units, or operational entities from a single codebase — while ensuring strict data isolation, governed access, and optimal performance.

Architecture That Scales with You

AcuLoom's architecture is built on core Microsoft Fabric components to ensure secure, scalable, and cost-efficient multi-tenant deployments.

Customer Azure AD — Multi-tenant — Acuvate Azure AD

User-Tenant 1

User-Tenant 2

User

Service Principal

Web Apps
www.webapp.co

API
api.webapp.com

Shared Fabric F–SKU Capacity

Workspace – Tenant 1
SQL DB
Lakehouse (files)
Custom Business Logic of the customer
Mirrored SQL

Tenant 1 Data & Analytics

Workspace – Tenant 2
SQL DB/Cosmos DB
Lakehouse (files)
Custom Business Logic of the customer
Mirrored SQL

Tenant 2 Data & Analytics

Common Workspace
Application Database (Cosmos DB)
Machine Learning models

AcuLoom: Key Capabilities

OneLake – Unified Data Foundation

AcuLoom leverages OneLake as a single logical data foundation across the organization. All tenant data coexists within OneLake while maintaining strict isolation.

· Centralized and secure data repository
· Logical tenant separation through workspace segmentation
· Unified governance and access control
· Analytics and AI-ready data structure

Capacity – Optimized Compute Resources

Microsoft Fabric capacity powers all workloads within AcuLoom. This model supports balanced performance, controlled cost, and flexible scaling.

· Scale using F-SKU tiers such as F4, F8, F16 and beyond
· Share capacity across tenants where appropriate
· Provision dedicated compute for high-performance needs
· Monitor performance using Fabric Capacity Metrics

Workspaces – Tenant-Level Isolation

AcuLoom implements a workspace-per-tenant model for complete data and analytics isolation. Common workspace for shared services like:

Application database | Shared logic and services | Machine learning models

Each workspace:
· Operates within assigned capacity
· Can be region-aligned
· Maintains independent billing
· Enforces strict ownership and access control
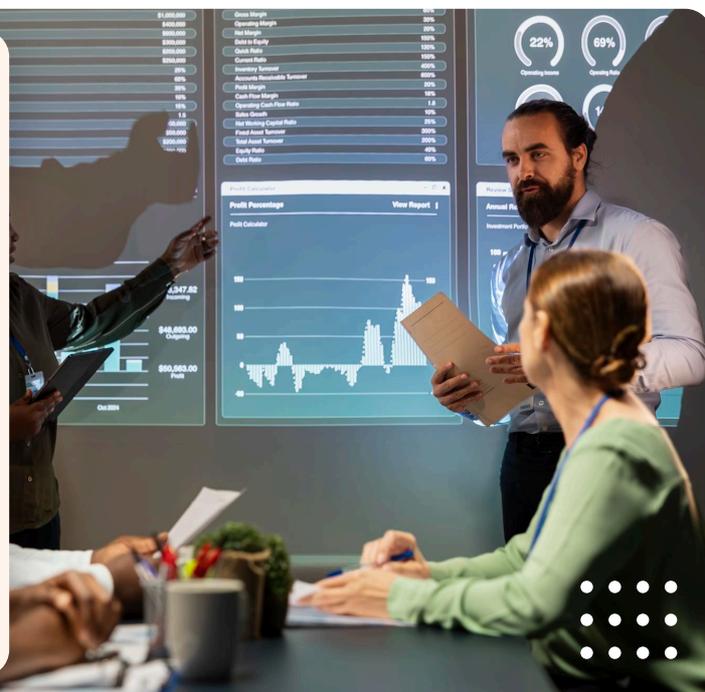
Secure and Cost-Efficient Data Strategy

AcuLoom is designed for efficient storage and compute utilization. Organizations pay only for compute when it is used, reducing idle infrastructure costs.

· Single OneLake foundation
· Tenant separation through workspace isolation
· Parquet-based storage
· Serverless compute model

Built-In Security and Governance

AcuLoom integrates with governance platforms such as Microsoft Purview or Collibra to extend cataloging, classification, lineage tracking, and compliance policies across tenant environments.

Workspace-Level Isolation
Each tenant's data and analytics remain isolated.

Shared or Dedicated Capacity
Select shared capacity for efficiency or dedicate capacity for strict SLAs.

Service Principal Profiles
Each workspace operates under its own identity profile, preventing cross-tenant identity exposure.

Row-Level Security in Power BI
Fine-grained report-level control ensures users only see authorized data.

Governed Access Layer
All access flows through a secure web application layer, eliminating direct bypass to underlying data systems.

Single Codebase and Continuous Innovation

AcuLoom supports a unified development approach with controlled configuration. This structure enables feature expansion without code fragmentation.

· One application version across tenants
· Shared core functionality
· Tenant-specific configuration stored in the application database
· Flexible customization including branding, menus, and feature controls

Business Impact with AcuLoom

Accelerated Time to Market
Pre-structured accelerator framework reduces development timelines.

Optimized Cost Structure
Shared infrastructure, serverless compute, and efficient storage reduce operational overhead.

Built-In Scalability
Onboard new tenants, business units, or regions with confidence.

Enterprise-Grade Security
Workspace isolation, identity separation, and governed access.

AI and Analytics Ready
Native Microsoft Fabric capabilities support lakehouse, analytics, and machine learning integration.

Future-Ready Architecture
Enhance tenant capabilities progressively without disrupting the core platform.

Ready to Build Secure Multi-Tenant Applications with AcuLoom?

Reach out to discover how AcuLoom can accelerate your multi-tenant journey on Microsoft Fabric. Our specialists will help you define your multi-tenant model, align workspace and capacity planning, and design a secure, scalable foundation tailored to your business needs.

Get Started

www.acuvate.com   info@acuvate.com