

Multi-Tenant Server™ - Datasheet



Rapidly Enable, Operate and Manage Robust and Scalable SaaS Solutions

Corent's Multi-Tenant Server™ (MTS™) enables rapid, automated transformation of single-tenant web applications into multi-tenant Software as a Service (SaaS) solutions. It is suited for ISVs and enterprises seeking to transform existing applications to multi-tenant SaaS rapidly and cost-effectively. Multi-Tenant Server's companion application, SaaS-Cockpit™, provides complete SaaS operations, administration and management capabilities, including application deployment, tenant provisioning, subscription management, trouble ticketing, metering, billing, monitoring and reporting.

Multi-Tenant Server™ (MTS™) enables ISVs and enterprise IT departments to easily transform single-tenant web applications to multi-tenant SaaS applications. Its companion application, SaaS-Cockpit™ provides operations and management capabilities for SaaS deployment, including tenant and subscription management, metering, billing, monitoring and reporting.

Automated Transformation to Multi-Tenancy

Transforming an application to multi-tenancy is a two-step process of analysis and subsequent transformation.

The automated analysis examines the target application and determines the places in the code that need to have an interface to the Multi-Tenant Server™. These identified "Interception Points" are automatically documented in a report. The information from that report is then used in step two which automatically performs the required changes.

Once transformation is complete, the multi-tenant web application can be deployed on the application server along with the Multi-Tenant Server™ which now acts as an interface between the application and its data sources.

Key Features

- Enables automated transformation of single-tenant web applications to multi-tenancy.
- Suited for any public, private or hybrid clouds.
- Cloud capable and cloud agnostic but not dependent on cloud.
- Supports any database and any Java EE application server on Windows or Linux.
- Robust security model to ensure the data privacy of every tenant.
- Allows controlled self-provisioning of new tenants
- Built-in billing, provisioning and operational dashboard capabilities, through SaaS-Cockpit™.

Per-Tenant Customization

The Multi-Tenant Server™ allows the execution of custom business rules and logic on a per-tenant basis.

Security

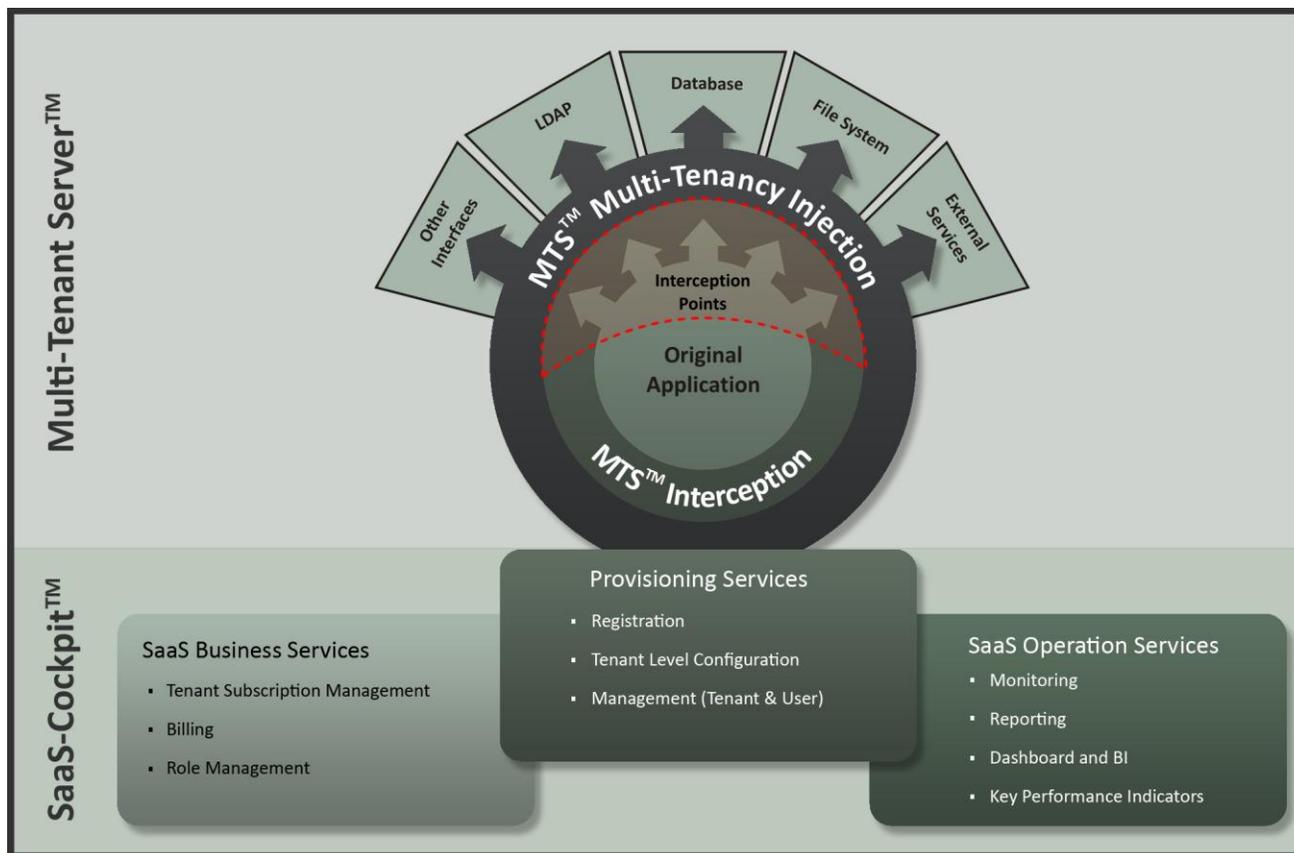
Multi-Tenant Server™ ensures that each user's access to data is restricted to only the tenant data that they are authorized to access, so that security of tenant data is assured. It supports three Tenancy Models; shared database; schema-per-tenant and database-per-tenant to give the SaaS provider choices of which level of physical and logical separation of tenant data they wish to provide to their customers.

Flexible Deployment

Multi-Tenant Server™ can be deployed on any cloud platform, whether public (e.g. Amazon or IBM Smart Cloud), private or hybrid. It can be run on non-cloud environments too, virtualized or not.

Support for Tenant Self-Provisioning

Once Multi-Tenant Server™ has transformed an application, tenant self-provisioning is automatically made available as an option. New tenants can simply click on the link to sign up for a new subscription. A policy can be set to allow for completely automatic provisioning of new tenants or it can put the request into a queue for the SaaS provider's administrative approval before provisioning.



Multi-Tenant Server™ Features

Legacy Application Integration

Multi-Tenant Server™ allows the creation of procedures as a Java class from which connection with legacy applications can be established.

Business Intelligence (BI) Integration

Multi-Tenant Server™ ships with built-in support for reporting and data transformation, which provides out-of-the-box reporting and what-if analysis capabilities.

Multi-Tenant Server™ Security

Tenant Data Security

Multi-Tenant Server™ automatically partitions tenant level data and ensures data security through a robust metadata management model.

Robust Security Model

Multi-Tenant Server™ is the ‘man in the middle’ for all data related transactions, and does the check on the user credentials to ensure the association to only the appropriate tenant’s data is maintained. This means that even if the application itself is compromised, the user can only ever interact with the designated tenant data. In addition, supplemental security rules can be enforced in Multi-Tenant Server™, adding an additional layer of security if desired.

Scalability

Multi-Tenant Server™ is architected to be scalable over any number of servers and databases as the total number of users increases. Multi-Tenant Server™ is built to work with the SaaS application to scale the same way the application would scale without it. Multi-Tenant Server™ is not a bottleneck because it is an integral addition to the application. If the application is replicated and

load balanced to scale up, the Multi-Tenant Server™ is replicated as well.

Multi-Tenant Server™ can also help maintain optimal database performance by associating a particular database server with a particular group of tenants, enabling the option to split the load over multiple database servers.

Performance

Multi-Tenant Server™ usually delivers a net increase in performance, despite adding a very small cost to transactions. This is possible because the higher efficiency of server resource utilization from multi-tenancy enables the economies of scale that allow a superior compute platform to be used for less cost.

Job Scheduling

Multi-Tenant Server™ enables scheduling of jobs to run periodically at certain times. These can be used to extend the capabilities of the SaaS application to perform operations such as consolidating of metering data used in billing.

Audit Logging

Since Multi-Tenant Server™ is in the transaction data stream, it can log and create audit records for any actions. The Multi-Tenant Server™ integration with the servlet container enables the tracking of any servlet calls, allowing an audit history of every user action that takes place in the SaaS application. These logs can be reported by tenant or consolidated to reveal what functions are most or least used.

Application Monitoring

Multi-Tenant Server™ has been designed with built-in capabilities to monitor and collect data for use by SaaS-Cockpit™ that enables the monitoring

and management of the SaaS application, on a tenant, user or server basis. This data collected can be used in resource planning for the cloud that hosts the SaaS application, based on the usage patterns and traffic.

Monitoring and Metrics

Multi-Tenant Server™ has an embedded interface to monitor the health of the system. The APIs available as part of Multi-Tenant Server™ enables users to monitor the application, hardware resources, loads on web servers as well as the databases. The monitored data is displayed through the SaaS-Cockpit™.

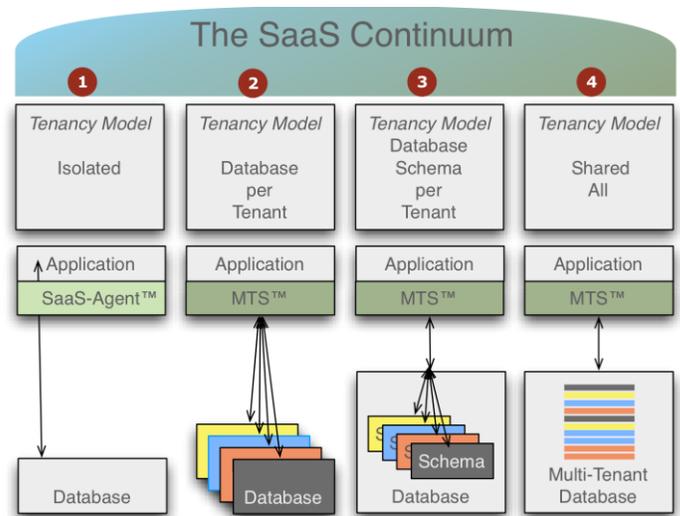
Users can create customizable reports from the monitored information to create metrics and statistical analyses of the SaaS application.

Content Management

A built-in Java content repository interface facilitates full content management. This enables per-tenant capabilities for file-based objects that need to be managed.

Database Independent

Multi-Tenant Server™ supports popular databases including Oracle, MySQL, DB2, Derby, PostgreSQL and Microsoft SQL Server.



Support for Multiple Database Models

SaaS providers typically choose one of three database models for their multi-tenant application depending on the security and data isolation needs of their customers. Multi-Tenant Server™ has built-in support for the most common database models – per-tenant database, per-tenant schema and shared-everything.