TIBCO ACTIVESPACES TRANSACTIONS

AT A GLANCE

TIBCO ActiveSpaces® Transactions is a distributed in-memory transactional application server for Java that provides extreme performance for event-driven business-critical services. Its single, unified platform yields highly efficient, scalable systems with dramatically reduced costs and fewer complexities. ActiveSpaces Transactions' always-on high availability provides for low-latency fault-tolerant systems and seamless failover that is transparent to applications – with data, service, and transactional consistency maintained – and no databases required. And ActiveSpaces Transactions delivers all this power while running on commodity hardware and open systems.

KEY FEATURES

- **Transaction Monitor:** Runs Java code as high-performance ACID transactions with automatic locking, deadlock detection, rollback, and replay.

- **In-Memory Object Store:** Manages persistent objects in ultra low-latency 64-bit shared memory with auto-concurrency control and rich programmatic queries. Object partitioning enables objects to be allocated across nodes for fault-tolerance and horizontal scalability.

- **Distribution:** Spans transactions across nodes with location transparent remote object access and method invocation.

- **High Availability:** Replicates objects memory-to-memory across nodes, failing-over instantly for seamless availability. Object partitioning enables events to be co-located with related highly available data for optimal performance.

- **Data Grid:** Enables offloading of committed transactions to elastic grid storage and maintaining the most recently used data in local shared memory caches with automatic swapping.

- **Online Upgrades:** Provides for upgrading applications, including reshaped highly-available types, in live clusters while maintaining service availability and data consistency.

- **Geographic Redundancy:** Replicates across sites so that in the event of a catastrophic outage work can switch locations with data preserved.

- **Simple Programming Model:** Using a near-zero API Java SE programming model and transparent feature execution, sophisticated applications can be rapidly developed, leaving the "heavy-lifting" to the platform.

A Unified Platform with Breakthrough Performance and Economics

Alternative approaches often combine technologies such as Java EE application servers, databases, caching, clustering, mainframes, and transaction monitors. This hybrid approach often results in significant costs, complex integrations, and a disjoined system limited in performance and scalability.

Taking a unified approach, ActiveSpaces Transactions builds transactions, persistence, replication, distribution, and security into a single, unified all-in-memory platform – allowing enterprises to easily deliver services that require high-volume, low-latency event processing. Less integration and fewer moving parts can result in faster time-to-market and improved reliability. And future-proofing

systems with a highly scalable architecture ensures that ever-increasing volumes can be accommodated. With fewer machines, licenses, and systems, businesses can dramatically improve operational efficiency and execute services at a very low cost per transaction.
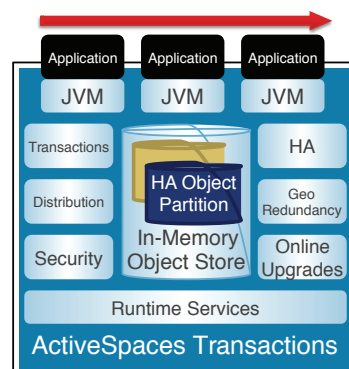
Scale threads and processes via a highly efficient unified platform architecture.

TIBCO ActiveSpaces Transactions delivers extreme event processing performance on a single, unified platform while enabling optimized system architectures that are compact, low latency, and highly scalable.
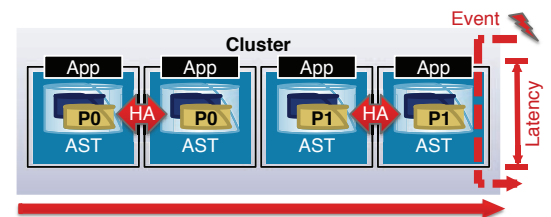
Scale horizontally in a single processing tier while co-locating events with partitioned highly available data to minimize latency.

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ATTRIBUTES & CAPABILITIES

Sophisticated High-Performance Transactions

- Provides application-transparent local and distributed ACID transactions with a built-in transaction manager optimized for high concurrency and low latency

- Ensures consistency and instantly resolves conflict without application compensation logic using transparent locking, deadlock detection, rollback, and replay

Data and Service High Availability

- Replicates objects memory-to-memory across nodes in transactions

- Lets you assign highly available object partitions to nodes enabling events to be co-located with related data for optimal performance

- Provides seamless availability with automatic prioritized failover

- Lets you restore or add nodes into live clusters with transaction-safe synchronization

- Fires timers on schedule after failover

Durable Shared-Memory Object Storage

- Lets applications store durable objects in ultra low-latency 64-bit shared memory

- Provides high-speed programmatic unique, non-unique, range, and ordered queries with rich key support

- Enables threads, JVMs, and nodes to transparently share objects with automatic concurrency control

- Uses partitioning to efficiently scale systems horizontally

- Provides for objects to outlive JVM processes and bypass garbage collection

Elastic Data Grid Storage

- Automatically maps committed transactions to the grid

- Keeps frequently-accessed data available in local shared memory swapping with the grid via caching policies

Location Transparent Distribution

- Allows applications to invoke remote methods and operate on remote objects agnostic to physical location

- Provides for transactions that transparently span JVMs and nodes

Geographic Redundancy

- Replicates across sites and migrates work to maintain availability during outages

- Avoids and reconciles split-brain conditions resulting from network failures between sites

Management and Monitoring

- Lets you manage domains via web browser, JMX, and command line tools

- Uses a domain manager to centralize cluster administration and synchronize configurations across the domain

- Manages reference data in-memory with a consistent view for in-flight events using a multi-version configuration system

- Provides authentication, authorization, access control, and audit logging through server-side security

- Provides reporting with rich runtime statistics for performance tuning

System Requirements

- Red Hat Enterprise Linux / x86_64

- Oracle Solaris / SPARC

- JDK 6 or greater

This description applicable to TIBCO ActiveSpaces Transactions v2.2 and above.

About TIBCO

TIBCO Software Inc. (NASDAQ: TIBX) is a provider of infrastructure software for companies to use on-premise or as part of cloud computing environments. Whether it's efficient claims or trade processing, cross-selling products based on real-time customer behavior, or averting a crisis before it happens, TIBCO provides companies the two-second advantage® – the ability to capture the right information, at the right time and act on it preemptively for a competitive advantage. More than 4,000 customers worldwide rely on TIBCO to manage information, decisions, processes, and applications in real time. Learn more at www.tibco.com.

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