Power OLTP Applications in Real-Time with Splice Machine—the Only Hadoop RDBMS

Facing increased data growth and cost pressures, scale-out technology has become very popular as more businesses become frustrated with their costly scale-up RDBMSs. With Hadoop emerging as the de facto distributed file system, a Hadoop RDBMS is a natural choice to replace traditional relational databases, which struggle with cost and scaling issues.

Designed to meet the needs of real-time, data-driven businesses, Splice Machine is the only Hadoop RDBMS. Splice Machine offers an ANSI-SQL database with support for Atomicity, Consistency, Isolation and Durability (ACID) transactions on the distributed computing infrastructure of MapR. Like Oracle and MySQL, Splice Machine is an operational database that can handle OLTP or online analytical processing (OLAP) workloads, while scaling out cost-effectively from terabytes to petabytes on inexpensive commodity servers.

Splice Machine, a technology partner with MapR, chose HBase and Hadoop as its scale-out architecture because of their proven auto-sharding, replication, and failover technology. This partnership now allows businesses the best of all worlds: a standard SQL database, the proven scale-out of Hadoop, and the ability to leverage current staff, operations, and applications without specialized hardware or significant application rewrites.

Splice Machine and MapR: The Best of All Worlds

At a Glance
Splice Machine offers companies a high-performance, massively scalable database for applications that do not require companies to compromise SQL support, secondary indexes, joins, and transactions.

Product Snapshot
The Splice Machine database is a modern, scale-out alternative to traditional RDBMSs that can deliver over a 10x improvement in price/performance. As a full-featured Hadoop RDBMS with ACID transactions, Splice Machine helps customers power real-time applications and operational analytics.

Solution Highlights
Integration with the Hadoop Ecosystem. Using HBase co-processors, Splice Machine natively runs in the Hadoop stack, ensuring smooth integration and coexistence with the ecosystem of Hadoop tools.

Seamless Connectivity. Thanks to ODBC/JDBC drivers, Splice Machine provides seamless connectivity to both BI tools and SQL tools.

Full SQL Support. Splice Machine is a fully functional relational database which supports these standard features: complex joins, secondary indexes, aggregations, sub-queries, triggers, user-defined functions (UDFs), and column-level security.

Reference Architecture

OLTP Application

Business Intelligence and Visualization

MapR Data Platform

Data Marts and Data Warehouses

Loading, Transformation, and Tracking

Batch: Hadoop MapReduce, Spark, Hive, Pig
Interactive: HBase
Streaming: Storm, Spark Streaming

MapR-DB

MapR-FS

Relational, SaaS, Mainframe
Documents, Emails
Blogs, Tweets, Link Data
Log Files, Clickstreams

MapR Data Distribution for Hadoop

Hadoop RDBMS
ACID Transactions
ANSI 99 SQL

Solution Brief®

Scale Out, Not Up

Power OLTP Applications in Real-Time with Splice Machine—the Only Hadoop RDBMS

Facing increased data growth and cost pressures, scale-out technology has become very popular as more businesses become frustrated with their costly scale-up RDBMSs. With Hadoop emerging as the de facto distributed file system, a Hadoop RDBMS is a natural choice to replace traditional relational databases, which struggle with cost and scaling issues.

Designed to meet the needs of real-time, data-driven businesses, Splice Machine is the only Hadoop RDBMS. Splice Machine offers an ANSI-SQL database with support for Atomicity, Consistency, Isolation and Durability (ACID) transactions on the distributed computing infrastructure of MapR. Like Oracle and MySQL, Splice Machine is an operational database that can handle OLTP or online analytical processing (OLAP) workloads, while scaling out cost-effectively from terabytes to petabytes on inexpensive commodity servers.

Splice Machine, a technology partner with MapR, chose HBase and Hadoop as its scale-out architecture because of their proven auto-sharding, replication, and failover technology. This partnership now allows businesses the best of all worlds: a standard SQL database, the proven scale-out of Hadoop, and the ability to leverage current staff, operations, and applications without specialized hardware or significant application rewrites.
Become a Real-Time, Data-Driven Business with Splice Machine and MapR

Splice Machine with MapR is uniquely qualified to power data-driven businesses that can harness real-time insights to take better actions. Companies using Splice Machine and MapR can leapfrog their competition with these major benefits:

Cost-Effective Scaling and Performance with Commodity Hardware Splice Machine leverages the proven auto-sharding of HBase to scale to dozens of petabytes with commodity servers. This enables Splice Machine to deliver compelling results versus traditional RDBMSs like Oracle and IBM DB2:
- 5-10x increase in query speeds
- 75% reduction in TCO
- 10-20x better price/performance

Real-Time Updates with Transactional Integrity Database transactions ensure that real-time updates can be reliably executed without data loss or corruption. Transactions also enable zero-downtime updates and ETL to data warehouses, as data can be updated while reports simultaneously see a consistent view of the data. Splice Machine also provides full ACID transactions across rows and tables.

Reduced Risk with Safe Journey Splice Machine has designed a Safe Journey program to ease the effort and risk for companies migrating to a Splice Machine database. The Safe Journey program’s proven methodology includes:
- Guidance on the right workloads to migrate
- Risk-mitigation best practices
- Commercial tools that automate most PL/SQL conversion processes

About Splice Machine

Designed to meet the needs of real-time, data-driven businesses, Splice Machine is the only Hadoop RDBMS. Splice Machine offers an ANSI-SQL database with support for ACID transactions on the distributed computing infrastructure of Hadoop. Like Oracle and MySQL, it is an operational database that can handle operational (OLTP) or analytical (OLAP) workloads, while scaling out cost-effectively from terabytes to petabytes on inexpensive commodity servers without significant application rewrites. Learn more at www.splicemachine.com.

About MapR

MapR delivers on the promise of Hadoop with a proven, enterprise-grade platform that supports a broad set of mission-critical and real-time production uses. MapR brings unprecedented dependability, ease-of-use and world-record speed to Hadoop, NoSQL, database and streaming applications in one unified distribution for Hadoop. MapR is used by more than 700 customers across financial services, government, healthcare, manufacturing, media, retail and telecommunications as well as by leading Global 2000 and Web 2.0 companies. Investors include Google Capital, Lightspeed Venture Partners, Mayfield Fund, NEA, Qualcomm Ventures and Redpoint Ventures.

Get Started with MapR and Splice Machine Today!
Get the MapR Sandbox for Hadoop, a fully functional Hadoop cluster running on a virtual machine.
Visit mapr.com/sandbox

Splice Machine Benefits

Leverage Existing SQL Tools
Support existing applications with minimal migration effort with a true ANSI SQL-99 compliant database.
Power both operational applications and reports that require data updated in real-time.

Real-Time Updates with Transactions
Enables full ACID transactions across rows and tables using lockless snapshot isolation. State-of-the-art design allows very high throughput and avoids troublesome deadlock conditions.

Cost-Effective Scaling and Performance
Scale-out on commodity servers using the proven auto-sharding of HBase.

MapR Benefits

Reliable, Highly-Available Big Data Platform
One unified platform for Hadoop, NoSQL, database and streaming applications.

Proven Production Readiness
Benefit from both open source community innovation as well as MapR architectural enhancements.

Consistent High Performance
Eliminate downtime and performance bottlenecks, while ensuring business continuity.

Get Started with MapR and Splice Machine Today!
Get the MapR Sandbox for Hadoop, a fully functional Hadoop cluster running on a virtual machine.
Visit mapr.com/sandbox