MEETING THE STORAGE DEMANDS OF FINANCIAL MODELING AND BACKTESTING

Q Quobyte

Top Challenges

- **Growing number of marketplace competitors, declining per-trade profits**
- **Reducing time required for backtesting iterations**
- **Massive amounts of small file simulation data**
- **Simultaneous access from hundreds of compute nodes**
- **Shrinking or frozen IT budgets**

> *Overall, HFT firms' revenues in the U.S. have slumped from about $7.2B in 2009 to $1.3B in 2014. This drop may have been partly due to fierce competition which has pushed smaller contenders out of the market and led to trading opportunities disappearing more quickly....data for the U.S. shows that the average profit per share traded has halved, from a tenth of a penny in 2009 to a twentieth of a penny in 2015."*
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> Deutsche Bank Research Briefing, May 24, 2016

May the fastest trader win

It's widely known that Algorithmic Trading (AT) systems have changed the landscape of equity and futures trading, both in the U.S. and abroad. Along with High Frequency Trading (HFT)—the nanosecond driven applications that literally convert time to money —these financial tools have spawned an entire industry. And while the number of companies using AT's and HFT continues to rise, their profits are being squeezed by similarly equipped rivals.

In effect, an "arms race" is being waged over who can get their software operational first.

Racing to the bottom line

Staying ahead in this ultra-competitive market means constantly developing and refining your latest market simulating algorithm. What follows is lots and lots of walk-forward optimization and back-testing before rollout, and that's where Quobyte can help. Running millions of strategies against years of historical tick data requires storage that maximizes IOPS while driving down latency. Capable of supporting simultaneous parallel file access from hundreds of compute nodes, a Quobyte storage cluster can significantly reduce your time spent on backtesting. After all, only production "recipes" actually earn you money.

One size doesn't fit all

In contrast to the outdated, HA pair-based approach to storage scaling, Quobyte software allows you to grow both capacity and performance linearly, letting you stay ahead of your increasing workload. And instead of forcing customers to run a secondary cluster network (and maybe yet another protocol), Quobyte's solution just needs a standard Ethernet infrastructure.

Quobyte believes in freedom of choice, not vendor lock in. Customers are free to deploy on any hardware, and cluster nodes don't have to be identical. This lets IT perform hardware refreshes on their own schedule. Furthermore, this freedom applies to the storage cluster OS as well, with support for all modern Linux distributions. And with no kernel dependencies, Quobyte software is the most flexible software-only storage solution in the market today.

Key Benefits

- POSIX file system for seamless integration
- High IOPS, consistent sub-millisecond latency
- "Lights-out" data center resiliency; self-healing
- Near-perfect linear scaling
- Parallel I/O delivers unrivaled throughput
- 100% hardware and kernel independent
- Hadoop, Docker and OpenStack support
- Erasure coding option, perfect for analytics and sequential workloads
- End-to-end CRC assures data integrity, eliminates "bit rot"
- Policy driven data placement and tiering
- Integrates with Kubernetes, Rancher, and Mesosphere
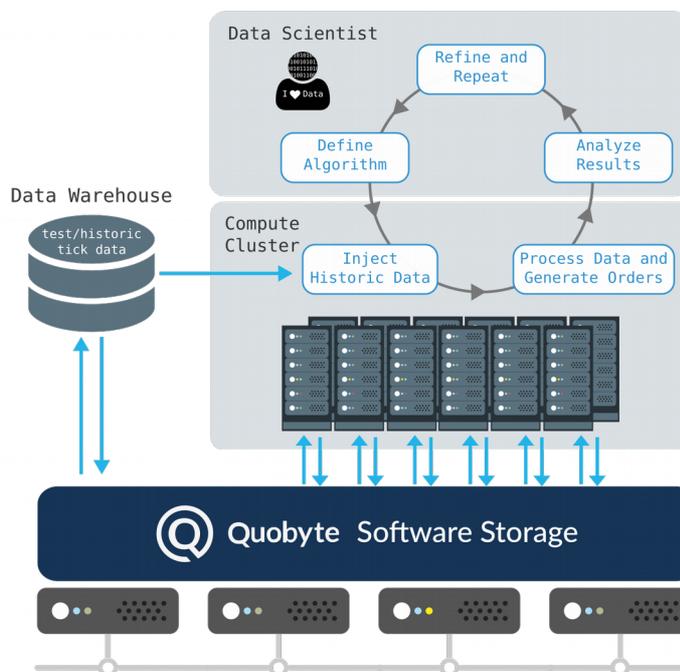
Keeping data access fast and reliable

Delivering hyper-performance storage while maintaining data availability despite disk or network failures takes a holistic design approach. Customers can trust Quobyte storage because it was built to handle real-world failures and still remain operational. True end-to-end checksums of every data block assures data integrity. Ultra-low latency and fast metadata operations keep up with the toughest small-file workloads. Hardware monitoring will offline an errant disk before it causes corruption, and self-healing heuristics route around node failures.

Enterprise ready, highly configurable

Customers choose Quobyte's software storage solution for the operational ease and flexibility it offers. Features like user-definable data placement, policy-driven tiering rules, and hardware pinning give storage admins the freedom to optimize for their environment. Yet with all of this flexibility, the system is far easier to operate than a number of alternatives. And with its unlimited data capacity, non-disruptive live updates, and 1,000+ node scalability, you'll never outgrow your Quobyte investment.

Built for the future

Yesterday's inflexible data center design is quickly giving way to tomorrow's highly responsive containerized world. With Quobyte, your storage will be ready. Not only does our software provide persistent container storage, it can also be run inside of containers. Combine that with Kubernetes support and a powerful RESTful API and you've got an ultra-responsive solution for rapidly fluctuating workloads. Quobyte also supports OpenStack's Cinder, Glance, Manila, and S3 interfaces, and is also compatible with Hadoop.

Get Quobyte Now!

Grab our Evaluation Guide, download Quobyte and be up-and-running in one hour.

www.quobyte.com/download

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