DATASTAX

IID

Use Case: Fraud Detection

Systems that identify out-of-the-ordinary patterns to prevent malicious attacks on digital and physical assets from unauthorized applications and individuals.

Industry

Cyber Security

Challenges

- Need to keep customer data secure from malicious attacks
- Inability to scale to support high volume of threat data
- High total cost of ownership of legacy relational database systems

Solution

- DataStax Enterprise for a persistent data store, extreme scalability and data security
- Enterprise search and analytics capabilities
- Proactive monitoring and management of entire database system

Results

- Reduction of operational expense by 85% while maintaining 100% availability
- Addition of a dedicated data center to support moving towardsa petabyte of data
- Scale across multi-data centers without downtime

FRAUD DETECTION

IID RELIES ON DATASTAX FOR AROUND-THE-CLOCK CYBER THREAT MITIGATION

Internet Identity (IID) is a cyber security company that provides the platform to easily exchange cyber threat intelligence between enterprises and governments. Fortune 500 companies and large government agencies leverage IID to detect and mitigate threats.

The Challenge

IID captures and analyzes threat data to detect and mitigate cyber attacks, enabling the protection of the assets and users of large enterprise companies and government agencies. With high volumes of multi-structured data pulled from a wide array of sources, IID struggled to keep up with the ongoing flow of malicious threats due to their reliance on legacy relational database technology.

IID's largest data set is believed to be one tenth of a petabyte and over the next three years will increase to more than half a petabyte. "At a certain point in time, relational databases fail," said Jason Atlas, Vice President of Engineering and Technology at IID. "We are dealing with enormous data sets, and speed and scale are very critical to what we are doing."

They needed a more flexible solution that could scale with their data storage needs and let them search for and analyze the data quickly, all while being highly secured to the strictest standards set by major financial institutions, government agencies and enterprise companies.

Atlas explained, "With our current MySQL systems, we weren't able to do a lot of the things we wanted to do down the road. With the volume of data we were dealing with, it was becoming untenable. Relational databases just could not scale to support what we needed to do. So we had to start looking at alternative technologies to solve these use cases."

The Solution

IID decided to explore NoSQL databases for their ability to handle high velocity data at scale. They evaluated Hbase, Couchbase, MongoDB and DataStax Enterprise. Key requirements revolved around the ability to handle high data velocity while maintaining enterprise - class security for their clients.

IID ran a set of tests based on real-world examples that measured each solution's ability to scale, manage data and keep the data secure. After running the tests on various NoSQL platforms, they realized that DataStax was the right solution. "DataStax Enterprise blew the others away," said Atlas. "It met all of our requirements, it was easy to work with, and we were able to get it up and running in an Amazon Web Services (AWS) instance."

Another primary differentiator was the core components included in DataStax Enterprise: integrated search capabilities to easily search and index data, integrated analytics to easily identify key insights to determine how to deal with abnormal behavior, and a visual management console (OpsCenter) that allows you to proactively identify malicious threats with ease. Atlas remarked, "The fact that they integrated three core elements with an operations console on top of it that allows us to monitor and measure was enormous. And I have all of this along with the scalability and availability of Apache Cassandra™, advanced security capabilities and 24x7 support – all for one-fifth the price that I would pay for a relational database."

"This level of security ensures there's no penetration of the systems. So we really have built an incredibly secure ecosystem and we would not have been able to do so without DataStax Enterprise."

Jason Atlas
VP Engineering & Technology
Internet Identity

The Results

Since the migration from MySQL to DataStax Enterprise, IID has not lost the ability to have constant uptime. Even at massive scale, DataStax and Cassandra are up to the task. In fact, IID is designing a massive-scale database, up to a petabyte of information, and are adding a dedicated data center to support it. DataStax's ability to scale across multi-data centers and perform even during high workloads gives IID the flexibility to grow without concern.

IID has also been able to rely on DataStax to make sure the right levels of security are in place for auditing and compliance requirements. The company deals with security companies that are constantly being audited and must make sure that the information distributes is highly secured. DataStax Enterprise has enabled IID to easily manage every single transaction, including when a user accesses their own data to every time somebody accesses someone else's data.

Above all else, cost effectiveness has been a key benefit the IID team understood when evaluating DataStax, but didn't realize the full extent of the savings until in production. Not only are licensing costs significantly lower than with legacy relational databases; IID has also reduced the overhead needed to manage their database environments.

While, in the past, IID had to support a team of 200 developers and 15 DBAs to build an application infrastructure on a relational database system, with DataStax, IID can do the same with two developers. The reduction in headcount has greatly reduced manageability and total cost of ownership by over 85%.

"I now have all the benefits of open source, with the support and security of an actual vendor," said Atlas. "In my mind I get the best of both worlds, and I have the technology that really maps to my use cases."

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About DataStax

DataStax is the fastest, most scalable distributed database technology, delivering Apache Cassandra to the world's most innovative enterprises. Datastax is built to be agile, always-on, and predictably scalable to any size.

With more than 500 customers in 45 countries, DataStax is the database technology and transactional backbone of choice for the world's most innovative companies such as Netflix, Adobe, Intuit, and eBay. Based in Santa Clara, Calif., DataStax is backed by industry-leading investors including Lightspeed Venture Partners, Meritech Capital, and Crosslink Capital. For more information, visit DataStax.com or follow us @DataStax.