DATASTAX

PROTECTWISE™

Use Case: Internet of Things
Refers to the revolution of a growing number of internet-connected devices that can network and communicate with each other.

Industry
Information and Network Security

Challenges

- Legacy database technologies are not built to handle modern problems around continuous availability and scalability demands required by their cloud-based solution
- Dealing with multi-petabytes of streaming data can be very costly
- Difficult to manage extremely fast write speeds without losing data

Solution

- Discovered DataStax Enterprise through the DataStax Startup Program
- Linear scale and 100% uptime with DataStax
- Streaming analytics of time-series data in motion
- Enterprise search for lighting fast indexing and queries at scale

Results

- Easily handle millions of writes and transactions per second without latency, data loss or downtime
- Ensure 100% uptime of their cloud-based enterprise network security service
- Accelerated time-to-market, allowing them to deliver their product to market very rapidly

INTERNET OF THINGS

PROTECTWISE IS REVOLUTIONIZING ENTERPRISE NETWORK SECURITY WITH THE DATASTAX PLATFORM

ProtectWise has shifted network security to the cloud, providing companies with complete visibility and detection of enterprise threats and accelerated incident response. The company is disrupting network security with its Cloud Network DVR, a virtual camera in the cloud that records everything on the network as it's occurring.

The Challenge

ProtectWise, a provider of the industry's first Cloud Network DVR for complete visibility and detection of enterprise threats and accelerated incident response, has revolutionized the way enterprise network security is handled - giving security professionals a real-time picture of what is happening on their network, even if they might have missed the initial signs of intrusion. They do this by deploying clusters of lightweight sensors at points on a network which record network data and then ship it securely to Amazon's cloud where the ProtectWise platform performs a variety analyses to identify out of the ordinary patterns and anomalies.

When ProtectWise embarked on this journey to take enterprise network security to the cloud, they realized that they needed to build their application on a database platform that could not only handle the enormous volumes of high velocity, streaming, time-series data, but they needed to do so without taking a hit on performance and availability. Gene Stevens, Co-Founder and CTO at ProtectWise, looked to NoSQL technologies knowing that legacy relational database technologies were not built to handle these modern problems.

"We are dealing with petabytes of data on a regular basis. With millions of transactions per second, the scale of these systems is beyond what you would expect out of a traditional application," said Stevens. "You need a technology infrastructure that is modern and purpose-built for these types of workloads." But storing the data was not the only challenge. They also needed to be able to quickly search for and analyze the data to provide insights into potential threats to their customers in near real time. "We've had good experiences with analytic technologies such as Hadoop. But we believe that this problem domain is a modern problem and the batch-oriented approach is an old model that doesn't effectively address these modern concerns. We were looking for modern analytic technologies built to handle such volumes of streaming, time-series data in motion," explained Stevens.

The Solution

With the advent of the Internet of Things, the need to keep track of the growing number of touch points of a network is becoming increasingly challenging. ProtectWise realized that to meet these demands, they needed to shift their database approach to support the solution they were looking to build. Fortunately, Stevens and his team had some previous experience with Apache Cassandra™ and felt that DataStax Enterprise was the distributed database that would allow them to store and manage time-series data in a way that legacy systems just couldn't do.

"When we looked at our problem domain, we knew that the first thing we needed to do was to ensure that we never lose any data no matter what," said Stevens. "Database performance is critical as we need to be able to keep up with epic write speeds and legacy relational database technologies just

aren't built to support that type of performance."

Stevens stated that when it comes to the world of security and protecting their customers' data, mistakes are not an option and that they need to be 100% successful in what they do. Writing data at scale was the first challenge that they were looking to solve with DataStax Enterprise. The other challenge was how to enable search at scale. DataStax Enterprise offers integration with Apache Solr™ and offers additional enterprise search capabilities beyond that to provide the ability to search and find data fast.

"DataStax empowered us to fuse Cassandra and Solr together in a way that was meaningful to what we're trying to achieve," explained Stevens. "And with that in hand, we are now able to solve really hard problems for our customers."

> "We are handling millions of transactions and writes per second and can't afford downtime or data loss. DataStax allows us to manage this tremendous volume of streaming, time-series data at scale."
>
> *- Gene Stevens, Co-Founder & CTO ProtectWise*

The Results

Today, ProtectWise is well on their way to having one of the largest datasets in the world and they need a technology that can handle those lofty expectations. With DataStax Enterprise as the database backbone for their cloud-based enterprise network solution, ProtectWise is confident they will be well prepared as they continue to take on more data and grow the business.

ProtectWise Cloud Network DVR Solution

"Creating the memory to the network is a voluminous task and being able to ingest, search and analyze that data is very difficult to do," explained Stevens. "DataStax gives us the ability to search through billions of network communications very quickly and then derive answers from these data points in mere seconds."

Looking into the future, ProtectWise feels that DataStax has given them the ability to operate very efficiently and innovate in ways that are empowering them to completely reinvent the space of enterprise network security. "What DataStax allows us to do is to solve a very hard problem very quickly," said Stevens. "Getting DataStax Enterprise in place has allowed us to accelerate our time to market and deliver our products very rapidly."

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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.