



Use Case: Personalization

Systems that understand each person's unique habits and preferences and bring to light products and items that a user may be unaware of and not looking for.

Industry

Real Estate and Financial Services

Challenges

- Large volumes of high velocity data
- Maintaining continuous availability across data centers
- Delivering accurate property valuations and assessments in real-time

Solution

- Linear scale, high performance and 100% uptime with DataStax
- Integrated geospatial, faceted search and analysis capabilities
- Proactive management, alerts and notifications with OpsCenter

Results

- No planned outages
- Delivered over 1B valuations on 122M properties while remaining always-on
- Improved compute resource allocation
- Gain data driven insights that ensure accuracy of property valuations

PERSONALIZATION

CLEAR CAPITAL DELIVERS AROUND-THE-CLOCK APPRAISALS WITH DATASTAX

Clear Capital is the premium provider of data and solutions for residential and commercial real estate asset valuation and collateral risk assessment for large financial services companies. Since 2001, the company has leveraged data and technology to deliver better results more efficiently. They pair best-in-class technology with the highest degrees of customer service to set new standards for accurate and well documented real estate valuation data and assessments. Clear Capital's customers, including the largest U.S. banks, investment firms, and other financial organizations, rely on the company to make market-level decisions with the most recent and accurate data.

The Challenge

Clear Capital is an appraisal management company (AMC) that provides independent valuation services to the mortgage finance community. They maintain a 40,000+ person vendor network of appraisers and real estate brokers and agents who perform the independent real estate assessments. Clear Capital facilitates the ordering, tracking and delivery of valuation reports by leveraging massive data sets, human-based review and automated review tools. Clear Capital currently stores valuation data for over 90% of all properties in the U.S – roughly 122 million total properties and counting. Quality control also includes compliance of federal and state guidelines as well as meeting specific requirements set forth from the customers.

With the largest source of valuation data for residential and commercial properties in the U.S., Clear Capital recognized a market opportunity to develop a software application that can digest their massive database of properties to deliver highly accurate and recent valuation data quickly to financial institutions and banks. They understood relational database systems were not built to support high volumes of small transactions, linear scalability, real-time performance, and continuous availability – all key requirements for their cutting-edge valuation review management software as a service platform.

Additionally, Clear Capital required their technology to support multiple data centers across the cloud. Currently, Clear Capital runs on Amazon Web Services (AWS), operating their non-production environment in a single data center with three availability zones, and their production environment across two data centers, also with three availability zones each. Relying on a proven solution that would support their requirement to deploy and manage their application in the cloud was critical.

"Sustaining continuous availability is imperative for us," said David Prinzing, solutions architect at Clear Capital. "Managing multiple data centers across the Amazon cloud puts us in position to meet that goal, which means we need a database that can support such a complex deployment model."

The Solution

Based on previous experiences with highly transactional applications that demand scalability, performance, and continuous availability, Clear Capital knew what type of underlying technology was required to ensure project success. "We needed a fast, real time transactional system that would

“The ability to massively scale and deliver on-going availability without sacrificing speed inspires us to aggregate vast amounts of local real estate and valuation data into actionable results that drive market-level decision-making.”

*David Prinzing
Solutions Architect
Clear Capital*

not impact our ability to do business,” said Prinzing. “We evaluated a number of in-memory and NoSQL solutions to address these needs.”

The ability to handle massive volumes of small transactions, perform even with large workloads, and remain available even if nodes go down was key in their evaluation. During an extensive battery of tests, Clear Capital pushed various solutions through high throughput and outage scenarios to see how they would respond. DataStax Enterprise was the only solution that met all of their needs. In fact, they could take down an entire availability zone within their Amazon environment without experiencing any service interruptions whatsoever.

The deciding factor to go with DataStax Enterprise is its integrated search and powerful analytics. A major component of Clear Capital’s appraisal system is their geospatial search and analysis capability. This level of analysis allows Clear Capital to gain valuable market insights based on aggregate statistics, which feeds into the accuracy of the valuations delivered. “DataStax Enterprise powers our geospatial search and delivers real time insights to our customers who rely on the most recent data to support their market-level decisions,” said Prinzing. “This was a significant reason why we chose DataStax Enterprise to power our system.”

Ensuring their multiple data centers are running at optimal levels, Clear Capital employs OpsCenter, the visual management console for DataStax Enterprise, to manage their entire database system from a single dashboard. “OpsCenter empowers us to proactively manage our environment to ensure we are delivering the best possible service.”

The Results

DataStax Enterprise gives Clear Capital the ability to deliver a powerful solution that can store massive volumes of data consistently and reliably. Without the concern of downtime and performance degradation, Clear Capital can continue to focus on providing best-in-class solutions to their customers.

When asked how DataStax has helped his team operate more efficiently, Prinzing stated, “I love the idea of one ring to rule them all. With transaction, analytics and search all in the same cluster, we can quickly find and analyze workloads of any size quickly without taxing compute resources.” DataStax Enterprise has made a material impact on Clear Capital’s business.

Since going into production, they have had no planned outages and have been able to deliver continuous availability of the valuation delivery service, even in the wake of nodes and entire clusters going down. From a strategic perspective, DataStax Enterprise is considered a foundational technology that Clear Capital will continue to rely on to grow their business into the future.

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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.

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