

CASE STUDY



DataSeers: An Innovative Single System Approach is Revolutionizing the Prepaid Card Landscape

CHALLENGE

The global market for prepaid cards is expected to reach 3.6 trillion dollars by 2022. Much of this growth is fueled by the arising need for financial inclusion of unbanked consumers, increasing volumes of online transactions, and the demand for cost-effective payment solutions. While the U.S. is the largest market for these types of cards, Asia is catching up fast. But with such explosive development, comes plenty of challenges. The industry continues to be plagued with problems when it comes to back office data management.

Prepaid cards generate a tremendous amount of data and that data needs to be linked and analyzed very quickly. Typically, companies use traditional

BI systems where data is ingested, analyzed, and presented in traditional data marts, but this process is slow and often leads to erroneous results.

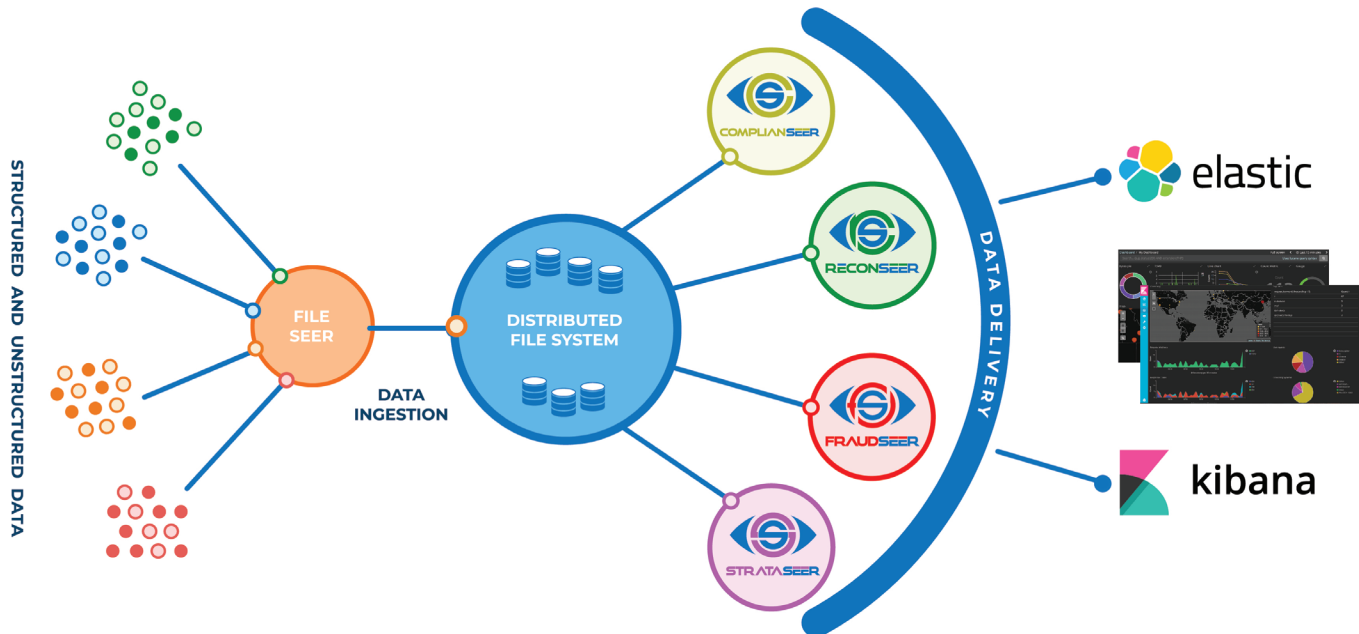
Another factor complicating the prepaid landscape – there is not a single system that can handle all verticals of a payments business i.e. reconciliation, compliance, fraud, and analytics. Companies must therefore replicate data within multiple systems to address all these needs, which creates trust issues surrounding the data.

These challenges are what attracted DataSeers to the financial services space. Launched in March 2017, DataSeers was created to solve these age-old financial problems with a single, purpose-built system.

SOLUTION

DataSeers has created an appliance offering aimed towards the financial services industry. FinanSeer sits on-prem, behind a firewall, and ingests data from various data sources such as payment card networks, processors, core banks, IVR, and websites and provides a single homogenized source of information that is available near realtime via a massively parallel architecture provided by HPCC Systems®. The appliance is PCI/PII compliant and can be deployed as small as a three node cluster and as scalable as the data requires.

As the diagram below depicts, the current solution is very simple: files arrive in the landing zone and within seconds, the files are sprayed and ingested into Thor. DataSeers then applies data profiling algorithms to homogenize and clean the data and output any errors with the imports. This information is sent to Elastic and Kibana via a built in python plugin and is also made available to ROXIE queries for external interfacing. With third party plugins and webservice APIs, clients can also connect to the appliance from their business applications. With this elegant solution, FinanSeer becomes the only data solution a company needs.



FINANSEER
A MACHINE LEARNING BASED APPROACH TO FINANCIAL DATA

The DataSeers solution has four Seers that companies can use to see through the data, so they can make decisions in a fast and efficient manner:

- **FraudSeer™** – A hybrid machine learning and rule-based engine that detects anomalies in transactions and predicts fraud.
- **ReconSeer™** – A query and rule-based engine that oversees reconciliation of cards and accounts at unprecedented speeds.
- **ComplianSeer™** – A rule engine that oversees compliance aspects such as BSA/BSM/AML with automatic issue alerts.
- **StrataSeer™** – A predictive engine for analytics.

Critical to the success of the platform was finding a big data partner who could handle the 4V big data conundrum - volume, velocity, variety, and veracity. After an exhaustive search, DataSeers decided to leverage the robust capabilities of HPCC Systems. HPCC Systems was developed by LexisNexis® Risk Solutions and is a proven, open source solution for big data insights that can be implemented by businesses of all sizes.

The first challenge this new partnership faced was how to configure the hardware for this new single system platform. Questions like what type of RAM would be required and what type of machine should be used needed to be addressed. As HPCC Systems runs on commodity hardware, DataSeers was able to contain costs and easily acquire the equipment needed.

DataSeers also expanded the boundaries of what ECL, the declarative programming language for HPCC Systems, could do. As a declarative language, the benefits of ECL are numerous. ECL simplifies the design and implementation of complex algorithms and improves the quality of the programs by minimizing or eliminating the presence of side effects. As a result, it has a positive impact on code testing and maintainability thus making programs easier to understand, verify, and extend.

The company was also able to benefit from the strength of the HPCC Systems Community. DataSeers reduced their start-up costs and benefited from the “hands on” approach provided by HPCC Systems developers. At every step of the development process, DataSeers was able to tap into the vast network of online technical support for HPCC Systems including videos, classes, and even one-on-one conversations with developers who could guide them through

the development process and help solve any issues. With their strong commitment to the open source community, the HPCC Systems platform is available free of licensing and service fees.

HPCC Systems also provides all components in a consistent and homogeneous platform – a single configuration tool, a complete management system, seamless integration with existing enterprise monitoring systems, and all the documentation required to operate the environment is part of the package. HPCC Systems is easy to use and no additional third-party components are required, which simplifies the implementation and eliminates the complexities that can arise from other platform solutions. HPCC Systems also supports multiple data types out of the box, including fixed and variable length delimited records and XML, which was critical to DataSeers as they were working with data from a variety of networks and in various formats.

RESULTS

Early results are impressive. Typically, in the industry, it takes hours to reconcile records, but with ReconSeer, millions of records on various platforms can be reconciled within seconds. With that type of speed, clients are able to make smarter decisions faster than ever before. The system is also

capable of identifying fraud and compliance issues using Machine Learning (ML), which is built into the platform. This capability is typically very important since FinTech companies have very little to no time to react to these transactions.

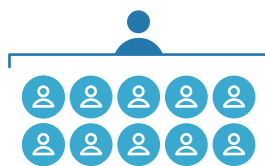
100%

Increase prepaid card business



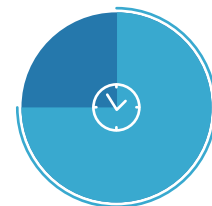
10x

Increase in the number of accounts able to be managed by a single employee



75%

Reduction time to onboard new customers



Jeff Lewis, Senior Vice President of Prepaid Services for Sutton Bank has seen a dramatic increase in the amount of business they are able to effectively manage.

“ We expect to double our business again in 2018. Previously, to manage our customer base, we estimated one employee per 500,000 end-user accounts. With big data, that statistic is expected to improve ten-fold. Our response time to solving problems flagged by the big data platform is so fast we’re now spotting and fixing problems with incoming transactions before our customers do. That wasn’t possible before we started using a big data platform, and it’s a key competitive differentiator for us.”^[1]

Benefits of HPCC Systems

Easy to Program

ECL is a declarative, efficient programming language that allows for rapid design, thus enabling faster time to market and time to revenue. The simplified and efficient ECL coding of complex algorithms improves the quality of the programs by minimizing or eliminating the presence of side effects.

Total Cost of Ownership

Commodity hardware makes hardware easy to acquire. Coupled with a truly open source platform that is available free of licensing and service fees, HPCC Systems is a very cost-effective solution. A robust community helps you get up and running quickly.

Homogeneous Platform

Provides all components in a consistent and homogeneous platform – a single configuration tool, a complete management system, seamless integration with existing enterprise monitoring systems, and all the documentation required to operate the environment is part of the package.

Scalability: Massively scalable data platform supports rapid development from a growing set of real time data sources.

Speed of Development: ECL allows for more efficient coding. Less lines of code in an implicitly parallel platform allow prototypes to be developed and iterated quickly, speeding both time to market and time to revenue.

For more information, call 877.316.9669 or visit hpccsystems.com



[1] Sutton, Jeff. Big Data Analytics Drive Big Growth in Prepaid Card Market. Bank News, September, 2018. www.banknews.com.

The opinions expressed within this case study represent customer opinions. LexisNexis believes this case study experience generally represents the experience found with other similar customer situations. However, each customer will have its own subjective goals and requirements and will subscribe to different combinations of LexisNexis services to suit those specific goals and requirements. This case study may not be deemed to create any warranty or representation that any other customer's experience will be the same as the experience identified herein.

About DataSeers

DataSeers is an Atlanta based technology company with a product appliance that makes data ingestion and analysis easy for its clients. DataSeers' platform is capable of handling large amounts of varying data that the financial services industry sees on a daily basis; this includes data from switches, networks, data warehouses and even core banking infrastructure. The system architecture consists of various Seers that oversee and predict problems in the data and enable the clients to analyze data at an unprecedented speed and flexibility. Learn more at: <https://www.dataseers.us>

About HPCC Systems

HPCC Systems® (www.hpccsystems.com) from LexisNexis® Risk Solutions is a proven, open source solution for Big Data insights that can be implemented by businesses of all sizes. With HPCC Systems, developers can design applications with Big Data at their core, enabling businesses to better analyze and understand data at scale, improving business time-to-results and decisions. HPCC Systems offers a consistent data-centric programming language, two processing platforms and a single, complete end-to-end architecture for efficient processing. Read our blog (<http://hpccsystems.com/blog>), or connect with us on Twitter (@hpccsystems), Facebook (<https://www.facebook.com/hpccsystems>) and LinkedIn (<http://www.linkedin.com/company/hpcc-systems>)

About LexisNexis Risk Solutions

At LexisNexis Risk Solutions, we believe in the power of data and advanced analytics for better risk management. With over 40 years of expertise, we are the trusted data analytics provider for organizations seeking actionable insights to manage risks and improve results while upholding the highest standards for security and privacy. Headquartered in metro Atlanta USA, LexisNexis Risk Solutions serves customers in more than 100 countries and is part of RELX Group, a global provider of information and analytics for professional and business customers across industries. For more information, please visit www.risk.lexisnexis.com.

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