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.
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.

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.

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<th>100%</th>
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<tr>
<td>Increase prepaid card business</td>
<td>Increase in the number of accounts able to be managed by a single employee</td>
<td>Reduction time to onboard new customers</td>
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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