

# Sourcing Analytics: Finding Discounts and Anomalies

## AT A GLANCE

### Challenges

- Each customer required a custom analytics pipeline to be developed
- The analytics process was resource intensive and time consuming
- Volume of data created scalability and performance challenges
- Very difficult to analyze audit related information

### Solution

- Xcalar provided reusable, modular dataflows for common data transformations
- Xcalar automatically applied business rules to improve data quality

### Value

- Lower costs per audit and faster onboarding of new customers
- Faster responsiveness to emerging fraud schemes
- 10X performance improvement by decoupling compute from storage
- 3X cost savings over existing Hadoop and SQL-based approach
- Increased revenue from audit and recovery of hidden supplier discounts

Xcalar has been working with a leading provider of source-to-settle analytics for many of the world's leading brands. This company helps their customers harness the power of insights derived from billions of supplier transactions. This analytics provider's customers typically operate multiple ERP and other legacy systems that can cause errors and enable fraud costing millions of dollars. This analytics provider turns this increasingly complex data environment into a powerful source of competitive advantage for more than 350 customers in over 30 countries. 75% of the top 20 global retailers and 200+ retailers from around the globe make use of this company's audit and recovery services.

One of their services depends on scanning client supplier orders and other transactions, and applying data science and machine learning techniques acquired over years. By analyzing billions of transactions, emails, and log data, this company identifies anomalies and flag suppliers that need review for suspicious behavior. This retail supply chain analytics service processes, analyzes, and stores an estimated \$2 trillion in client spending data and has recovered over \$1 billion annually for their clients.

As a global leader in audit and recovery, and dealing with inventive new fraud schemes, this analytics provider must push the boundaries of innovation and continuously deliver higher levels of value by applying innovative, high tech auditing techniques. Clients expect to receive a view of their own item-level data across time, business units, and geographies. Providing customers with new and unique insights into their spending patterns requires immersion in each client's data. That data comes in many formats, including ASCII, EDI, EBCDIC, Excel, SAP, Oracle, PDF, and other semi-structured formats. In total, the amount of data across all customers has grown to over 6 petabytes, spread over more than 8,000 SQL Server databases and thousands of Microsoft Access databases. Of this analytics provider's 1,400 employees, more than 600 are engineers who bring the technical expertise required to build the analytic pipeline, which is unique to each customer.

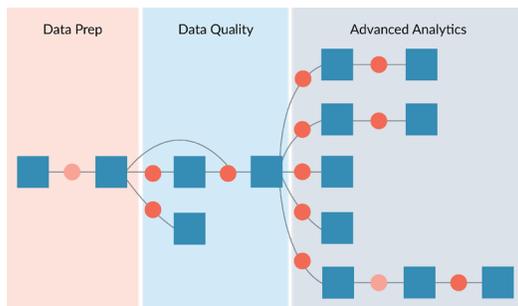
Prior to using Xcalar, each client solution was built from scratch, which is why there was such a proliferation of data and databases. The high costs of compute and technical resources meant that supporting only large customers would be profitable. Also, with the current customer base, their 600 engineers are operating at peak capacity. Therefore, to expand new avenues of growth and to support a larger potential customer pool, they needed to reduce the audit cost per customer and build automation and repeatability into the auditing process.

To improve efficiency, this analytics provider decided to consolidate the analytic process into a "one tool, one workflow" approach. Xcalar's ability to reuse common transformation steps across multiple customers enabled

them to build and incorporate best practices into the audit methodology. By improving efficiencies across the full analytics pipeline, including data acquisition, data preparation, analysis, and delivery, this retail analytics provider was able to react faster to evolving fraud schemes and significantly reduce the audit cost per customer.

Their business analysts can now execute most pre-defined data transformations with ease across many customers, enabling them to increase their ability to bring on new clients. In addition, this analytics provider enjoys improved data governance with the full data lineage capabilities of the Xcalar platform, which powers the entire data pipeline, thereby reducing cost and complexity.

Xcalar Data Platform increased performance by 10X over their legacy environment. The speed and scalability of their new analytics platform was crucial to support their goal of bringing on new customers while minimizing incremental costs. Through Xcalar's ability to scale compute and storage independently, this analytics provider can grow their storage capacity—on-premises or in the cloud—without dictating the processing power needed for the increasing analytic workloads that come with new customers.



Visually creating dataflows using Xcalar Design enabled this analytics provider to make business analysts with SQL experience less dependent on more technical resources. Xcalar Design has enabled their engineers—and even non-engineers—to quickly gain and share insights, greatly reducing the operational bottlenecks that have hampered their growth. The extensibility of the Xcalar Data Platform encourages their programmers to build more advanced analytic capabilities by writing user-defined functions (UDFs). These UDFs can be created using familiar tools, such as Python, and then quickly incorporated into the audit processing framework, improving the overall effectiveness of their service offerings.

Xcalar Data Platform processed data up to 10 times faster than their traditional SQL Server data processing environment. This resulted in improved efficiencies throughout the audit and recovery process. The use of highly optimized Xcalar dataflows that include reusable data transformation workflows has enabled this analytics provider to efficiently and profitably onboard new customers. This provider can also offer an expanded service portfolio, which includes spending analytics, supplier information management, and contract compliance.

## KEY FEATURES, PRODUCTS, AND SERVICES

### Key Features

- Dataflows can be re-used to rapidly prototype and productionize algorithms
- Visual programming, SQL, and Python for development flexibility
- Integrated machine learning tools, including Tensorflow

### Products

- Xcalar Data Platform Premium Edition
- Xcalar Design Enterprise Edition
- Xcalar Enterprise Manager

### Services

- Product training
- Solution architecture and design
- Infrastructure setup, configuration and monitoring in AWS environment
- User Defined Function Data import/export
- Transformation design and implementation
- Data flow design and implementation
- Cluster sizing and performance tuning

### About Xcalar

Xcalar is an open and extensible analytics platform for the complete analytics pipeline that includes data quality, virtual data warehousing, data science, and workload operationalization. Users interactively build dataflows using visual design, SQL, and structured programming, and execute them at petabyte scale on unstructured, structured, and semi-structured data. Xcalar's enterprise-grade software scales to hundreds of nodes and thousands of users for both cloud and on-premises deployments. Its patented technologies deliver actionable insights with simplicity, speed, and scale.