

# SEMICONDUCTOR MANUFACTURING COMPANY MODERNIZES THEIR DATA PLATFORM AND DRAMATICALLY SIMPLIFIES ACCESS CONTROL

## Background

The company decided to modernize their data infrastructure and migrated from on-prem Oracle Essbase to the cloud. They chose AWS to be their cloud services provider, and built a data lake on Amazon S3. For their cloud data warehouse to store sensitive company financial data, they chose Snowflake for its flexibility to separate storage and compute, which gives them cost-savings benefits they could not achieve with integrated data warehouses. As a supply chain vendor, the company also liked the capability to share data across multiple Snowflake instances.

This data would be accessed by over 400 analytics users from both the finance and sales departments, through Tableau dashboards, in real-time. They needed to run advanced analytics on revenue, margins, backlogs, etc - a couple thousand reports in total, including some tables with up to a billion rows.

As part of their modern data architecture, they decided that any data going into the data warehouse would also go into the data lake. A smaller group of data scientists would query the data lake directly using tools such as AWS Sagemaker.

## Challenge

The company was already experiencing severe problems with access control on their legacy Essbase data warehouse. Data stewards were positively inundated with requests for access, and data consumers couldn't always get access to the data that they needed to do their jobs. At the same time, their access control solution was not fine-grained enough for certain situations, leaving some users over provisioned with access to confidential financial data. Because of this overprovisioning, far too many employees were considered "insiders" and unable to trade stock freely. This became a big employee complaint.

Managing access control in Essbase was very complicated, with everything managed by mapping data resources with roles. As a result, the company had amassed hundreds of overlapping roles and grants in their new modern platform. To complete their modernization project, they wanted a more dynamic approach to data entitlements that would give them fine-grained control and was simpler to manage than their existing solution.

*“By centralizing our real-time analytics on Snowflake and our data governance with Okera, we have slashed the number of roles we need to manage while simultaneously refining the granularity of our access policies, providing effectively unique access to each end-user. This is translating directly into better control of our data and increased productivity.”*

**SOLUTION ARCHITECT, SEMICONDUCTOR MANUFACTURING COMPANY**

## Why Okera

The company needed a solution that would apply row-level filtering by matching user attributes (such as the territory or area of responsibility) with actual data values (such as North America or EMEA), along with extensive masking for sensitive financial data. Using Okera’s attribute-based access control (ABAC) and dynamic enforcement, they were able to reduce their number of roles from over 300 down to about 50.

Furthermore, with Okera, they can now ensure consistency of access control policies across Snowflake and S3. Both platforms have some native governance and access capabilities, but something like AWS Lake Formation would not have worked with a data platform like Snowflake, which would have meant managing data access policies in different places using very different tools.

## Objectives Achieved

Data from three different sources - global operations, finance, and sales and marketing - can live together on Snowflake, and be merged into a single view, all under the same Okera access control policies. Data stewards from each domain have control over their data; they can decide who has access to which columns and which users are authorized to see data in-the-clear, masked, tokenized, or otherwise transformed. And with Okera’s powerful ABAC-augmented row-level security, there are no database views or overlapping extracts to manage. Using a single source-of-truth table and without changing users’ queries, Okera can dynamically filter based on territory, geography, customer, area, reps, and so on.

Post-modernization project, the company has drastically improved the speed at which they are able to get data into the hands of users much faster. Building cubes with Essbase used to take weeks, and now with Snowflake it’s a matter of days. Using Okera they can write a handful of policies which, leveraging ABAC, give precise access to the data people need and nothing else. Data owners now deliver far better user experiences on a modern data stack that gives them a level of control they never had before and is far easier to manage.

### ABOUT OKERA

Okera, the Universal Data Authorization company, helps modern, data-driven enterprises accelerate innovation, minimize data security risks, and demonstrate regulatory compliance. This allows employees, customers, and partners to use data responsibly, while protecting them from inappropriately accessing data that is confidential, personally identifiable, or regulated. Okera began development in 2016 and now dynamically authorizes access to hundreds of petabytes of sensitive data for the world’s most demanding F100 companies and regulatory agencies. The company is headquartered in San Francisco and is backed by Bessemer Venture Partners, ClearSky Security, and Felicis Ventures. For more information, visit [www.okera.com](http://www.okera.com) or contact [info@okera.com](mailto:info@okera.com).