IDERA | ER/Studio® Case Study

# Newmont Mining

Standardized their data modeling practices with **ER/Studio®**

# Overview

One of six fortune 500 companies in Colorado, Newmont Mining is among the world's top gold producers. The company produces roughly 6.5 million ounces of gold annually and has reserves of more than 93 million ounces, most of which come from its North American mines in Nevada's Carlin Trend, one of the largest gold-mining areas in North America. With operations in North America and South America, Australia, Ghana, Indonesia and New Zealand, Newmont Mining also mines other metals, including copper, silver, and zinc.

As the market price for gold and copper continue to rise to record levels, Newmont has seen tremendous success. With several acquisitions, including Canada-based Miramar Mining, Anglogold Ashanti in Australia, and Frontier Gold in Vancouver, B.C., Newmont's employee base has reached over 30,000 people.

With so much at stake, accurate data is essential for efficient, profitable operations. Newmont's IT department must maintain numerous technologies, business intelligence software, computing platforms and security systems to keep data accessible, protected and useful. As part of this effort, data modeling is a key function. When Newmont's database developers became aware of limitations within the installed data warehousing and modeling toolsets, they searched for a more comprehensive solution for creating accurate data models that would help them to respond quickly and efficiently to their changing business needs.

# Challenge

Newmont's Sr. Systems Analysts were frustrated with the limitations of the team's previous data modeling toolset, and how it interacted with the data warehousing platform, Teradata.

"Initially when I came in, we had three siloed platforms that didn't talk to each other," said Angie Hastings, data architect for enterprise data warehouse and ETL manager at Newmont. "When we migrated over to Teradata, we had trouble with the data environment, because we had to perform more physical tweaking of tables instead of using data models. We were moving at such a fast pace, I became a bottleneck in my efforts to change the data models."

With a small team of 2-3 modelers, 1 DBA, 1 application developer and 7 ETL developers, data modeling is critical for productivity and efficiency on Hastings' team. Features such as model merge and auto-layout algorithms, as well as easy navigation and a web-based portal for quick searching and reporting, are essential.

"Once we were on Teradata, tables would get updated on the database in dev/test and models were out of sync," said Hastings. Her biggest challenge was the process of reverse engineering tables. "I'd have to reverse engineer the entire database instead of one table. It was very frustrating," she said.

## CHALLENGES

- Needed to increase productivity of and collaboration among data architects, modelers and developers
- Limitations with previous tool's ability to reverse engineer data tables within Teradata
- Problems with retrieving, analyzing and using data effectively without accurate data models
- Inflexible licensing structure made it difficult to expand and contract development teams to react to changing business needs

## APPLICATIONS

- Enterprise Data Management

## TOOLS USED

- ER/Studio Enterprise

# Solution

ER/Studio is the industry's most innovative and intuitive modeling tool for analyzing, visualizing, and communicating database and application designs for data and information architecture data. It includes several advanced features to support the needs of data architects and modelers, DBAs and developers, including powerful features like nested submodels, data lineage documentation, a collaborative repository, navigational aids and an auto-layout engine. Users can define and reuse common data elements across projects to promote standardization and create a modeling environment with flexible concurrent licensing options and self-service reporting for end-users.

During the free 14-day proof of concept, Hastings' team had unlimited access to ER/Studio Technical Support and the team of presales Software Consultants. Hastings said it was clear right away that her team would benefit from moving to ER/Studio. "We saw immediate improvements in our day-to-day activities, and we're still discovering new capabilities," she said.

Newmont uses ER/Studio to create accurate data models that enable them to respond to changing business conditions, reduce data redundancy, improve productivity and comply with regulatory standards. Compared with their previous tool, ER/Studio offers more flexible licensing options, better reliability and frequent product enhancements. Other key differentiators include:

- Multiple auto-layout algorithms
- Zoom and overview navigational windows
- Industry and subject area data model templates
- Web-based portal for repository searching, browsing and reporting
- Visual data lineage
- Enterprise data dictionary system

ER/Studio offers a built-in Model Validation wizard to QA models at no extra charge whereas other tools may require users to purchase a separate tool that requires importing the data model. ER/Studio enables the addition of business-level descriptions, or metadata, into the fields, so that when the physical model is defined properly, ER/Studio generates the data definition language, or script, for the physical database itself. Additionally, ER/Studio performs process and conceptual modeling, whereas their previous tool can only do process modeling and no true conceptual modeling.

Another strength of ER/Studio is the ability to assign versions to data models as they are developing. If necessary, the developer can refer to previous versions when refining or updating the current model.

Additionally, migrating to ER/Studio is typically fast and easy. According to Hastings, "The tool walked us through the steps, and there we were. We had no issues." Hastings also appreciated how the ER/Studio technical team walked her people through the conversion.

*"We saw immediate improvements in our day-to-day activities, and we're still discovering new capabilities."*

*– Angie Hastings, Data Architect and ETL manager, Newmont Mining*

# Results

Since deploying ER/Studio, Newmont Mining's data architects have realized several benefits, including increased collaboration with developers, greater productivity and an increased ability to track changes. "ER/Studio automates several complex tasks such as rearranging diagram features and synchronizing the models with the databases, eliminating hours of labor from our development team," said Hastings.

ER/Studio also brings clarity to data models, making it easier to enforce complex business data rules, and brings all metadata into a central repository to help users to easily see relationships and business rules that relate to their data.

Hastings' team benefits from the toolset's ability to rearrange diagram features automatically and perform model merge, which she described as "easy to navigate."

An easy-to-use repository enables team members to share diagrams and metadata quickly and efficiently, increasing collaboration and improving productivity. According to Hastings, this saves hours per week. Hastings also plans to expose her five report developers to ER/Studio Business Architect.

"With ER/Studio, you can work on a single larger model with multiple people by simply checking in and out features, which improves productivity and helps us easily keep better track of changes," said Hastings.

Simply put, Hastings said her daily activities are easier than they used to be. "With ER/Studio, I can drive the database from models and as a result, do the things I need to do faster and more accurately."

# Conclusion

ER/Studio provides a comprehensive toolset that enables Newmont Mining's data architects to discover, document, and re-use data assets. With round-trip database support, they now have the power to easily reverse-engineer, analyze, and optimize existing databases.

"With accurate data models, we're no longer a bottleneck for changes," said Hastings. "ER/Studio helps us ensure rapid data migration, updates, and retrieval and provide a data warehouse environment that's doing what it's supposed to do."

## RESULTS

- Enabled Newmont Mining's team to use accurate data models and standardize on data modeling practices
- Enabled easy reverse engineering, analysis and optimization with round-trip database support
- Enhanced data integration and accuracy by providing a clear understanding of data lineage
- Improved productivity through the reuse of common data elements