Simplify and optimize cloud migration with Molecula.

**MARKET TRENDS:** Moving elastic workloads to the cloud has become a top three priority for most companies seeking to remain relevant in the marketplace today. *Gartner* reports that while data center spending is decreasing, “cloud system infrastructure services is expected to grow from $44 billion in 2019 to $63 billion in 2020, reaching $81 billion by 2022.”

The value proposition of cloud computing extends from cost savings to flexible scalability to enhanced security. Resources can be provisioned on an as-needed basis, and paying only for what you use can result in significant cost savings.

However, there are big data problems that the cloud won’t solve, and in some cases will exacerbate. Pay-per-use models can lead to unpredictable costs. In Flexera’s 2020 *State of the Cloud* report, the top cloud initiative according to respondents is, “optimizing existing use of cloud to save costs,” for the fourth year in a row. Organizations are also reported to be over budget for cloud spend by an average of 23 percent and expect cloud spend to increase by 47 percent next year. Respondents estimate organizations are wasting 30 percent of their cloud spend. As data grows and workloads get more demanding, these problems escalate.

To make the most of cloud computing benefits, a strategy for reducing unnecessary copying and movement of data while enabling performance is essential.
**Molecula for Cloud Migration—**

Molecula is an enterprise feature store designed to deliver secure, fast, continuous access to all your data. Molecula enhances the benefits of cloud migration by eliminating the need to move or copy bloated, original data to the cloud while providing 100% data access for analytical computing workloads.

Rather than the conventional approach of moving, copying, and pre-aggregating data, Molecula extracts features from each of the underlying data sources and stores them in a centralized feature store—the most efficient data format built for advanced analytics and machine learning. The feature store maintains up-to-the-millisecond data updates with no upfront data preparation necessary.

With Molecula’s feature extraction technology, all cloud transactions can be executed against the centralized feature store without the need to access the actual data, greatly reducing required resources and speeding access. As the data inevitably grows over time, the benefits grow even greater since the feature store does not scale 1:1 with the data.

Molecula helps IT teams prepare data for easier migration and management in the cloud. Whether powering a customer-facing application, driving big data analytics, or providing a SAAS platform, Molecula enables real-time computations on any and all data at unprecedented speeds, with incredibly low latency, requiring a fraction of the hardware as compared to conventional methods.

**Molecula Enables—**

- **Reduced data footprint**  
  Up to 85% lossless data reduction

- **AI-ready feature store**  
  Continuously extract and update features in real time

- **Centralized data**  
  Ultra low latency access to everything

- **Secure data transfer**  
  Feature extraction inherently obfuscates data values

- **Query-time JOINS**  
  Highly performant without pre-aggregation or preprocessing

- **Overlay implementation**  
  Seamless integration into existing architecture
**Molecula’s Unique Approach—**

Molecula’s feature store is designed and created to be continuously aware of all data values at all times. The result is instant, “machine-native” access to all values of the data without moving, copying, or federating the original data. Dynamic JOINS and complex analyses are reduced to bitwise computations which return results orders of magnitude faster than traditional methods.

Historically, feature extraction techniques have been used by machine learning practitioners because of the massive workloads they face. With Molecula, any company that has a large scale, time sensitive data need can now benefit from this fundamentally superior technology.

**Integrates with Existing Architectures—**

Since Molecula is implemented as an overlay, the original data can remain in the format and systems in which it presently resides. Molecula’s fully-functional feature representation of the data is at least an order of magnitude smaller in size than the original data, so wherever or however the representation is stored, moved, or updated, it will require fewer resources to manage and access.

The diagram below illustrates how data is ingested and integrated through taps that are deployed once to populate feature tables in the feature store. From that point on, the state of the data is automatically updated in the feature tables as it changes. The right side of the diagram shows that data is continuously and instantly accessible through secure, highly available, low latency feature sets to all of the applications using traditional interfaces such as SQL.
Molecula In Action—

Below are some of the ways Molecula’s feature store can enhance cloud migration. What will you do with continuous, real-time analysis of your most important data?

**SIMPILIFY CLOUD ARCHITECTURE**
Consolidating all data across silos into a centralized feature store simplifies cloud implementation and management.

**REDUCE CLOUD COSTS**
Extracted features are orders of magnitude smaller than original data, reducing cloud storage expenses as well as bandwidth requirements.

**ENABLE MACHINE SCALE ANALYTICS AND AI**
Power applications with real-time analytics and AI, leveraging cloud data and any other data on-prem, at the edge, or in other clouds.

**Take Action—**
Implementing a feature store is one of the most important ways to prepare an organization for the future. Contact us today to learn more about how Molecula’s feature store will transform your business. Ask us how you can unlock real-time value and make the most of cloud migration.

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- FLEXERA’S 2020 STATE OF THE CLOUD REPORT