CAPCO

GENERATING TREASURY INSIGHTS

OVERCOMING DATA RESTRICTIONS TO LEVERAGE THE CLOUD

a **wipro** company

In today's volatile economic climate, corporate treasurers need to quickly uncover valuable business insights and forecasts from their organization's payments, liquidity, and risk data. However, this requires data sets that are real time, global and comprehensive.

Most financial institutions (FIs) are looking to help treasurers generate new insights by improving the coverage, quality, and granularity of their data, and by deploying new tools and analytics[1]. Cloud technologies will prove critical to improving the data stores, real-time capability, and global reach that allow treasurers to unlock real value from data.[2,3]

However, FIs must first consider the need for data protection across multiple regulatory regimes. This paper sets out three key steps that global organizations need to take:

- **Modern Data Architecture:** Building a modern data architecture allows an organization to access reliable information, even at scale.
- **Data Virtualization:** Virtualizing data provides an advanced data integration approach to enable real-time data-sharing without replication.
- **Global Data Availability:** Data restrictions must be overcome to make reliable data available centrally and to generate a global view of the business as well as valuable analytics.

STEP 1

A modern data architecture to enable effective payments analytics

The first step towards building an effective payments analytics platform is to make the data fit for purpose, i.e. statistically sound for the intended use, and available in near real-time. Deploying a modern data architecture (MDA) helps to overcome the challenges of a distributed data architecture, which can result in segregated reporting with no real-time data.

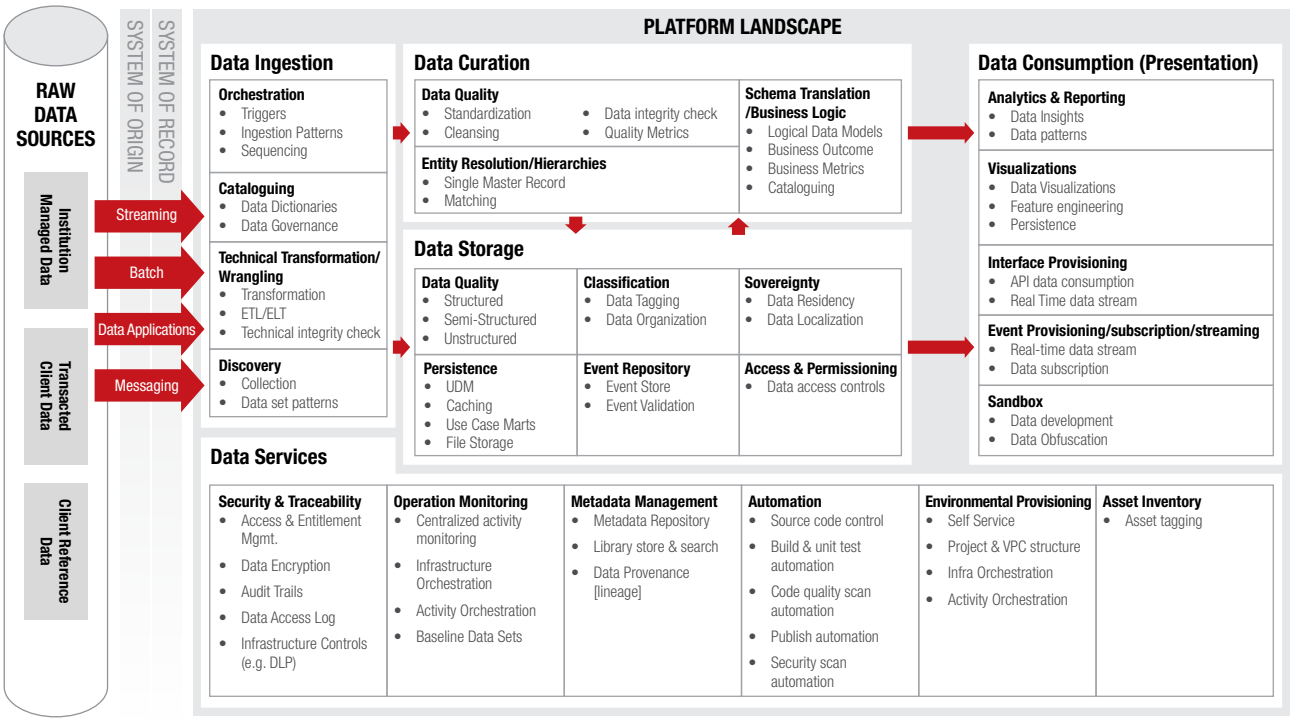
One of the core principles of an MDA is to **treat data as an asset.** The goal is to supply carefully related and meaningful data that can support evidence-informed judgements about what works in the business, and what does not. The MDA should therefore focus on aligning data to business capabilities and requirements, helping to define data-driven use cases and their prioritization.

To facilitate useful insights, the organization will need to curate data, i.e. transform data and link it. For example, to generate useful insights for a customer about the customer's account-based liquidity position, FIs will need to link payment transaction data, customer information, liquidity positions and account information.

Architecturally, the aim is to source curated data for each use case and, conversely, avoid extracting unrelated data from polluted data stores or storing unwanted data in a curated data store. The graphic below represents an example of an MDA in terms of its key layers including data ingestion, curation, consumption and data services (e.g. security):

- Raw data is consumed by the **Data Ingestion layer** from multiple sources, supporting different integration patterns such as pub/sub, event based, and replication to achieve near real-time data availability.
- This data is then curated and aggregated by the **Data Curation layer** before being made discoverable to the **Data Consumption layer** based on use cases.
- **Data security** and other services are applied to all layers from the sourcing of data to publishing curated data.

Figure 1: A Modern Data Architecture. Example data sources are shown, but many other possible raw data sources exist.



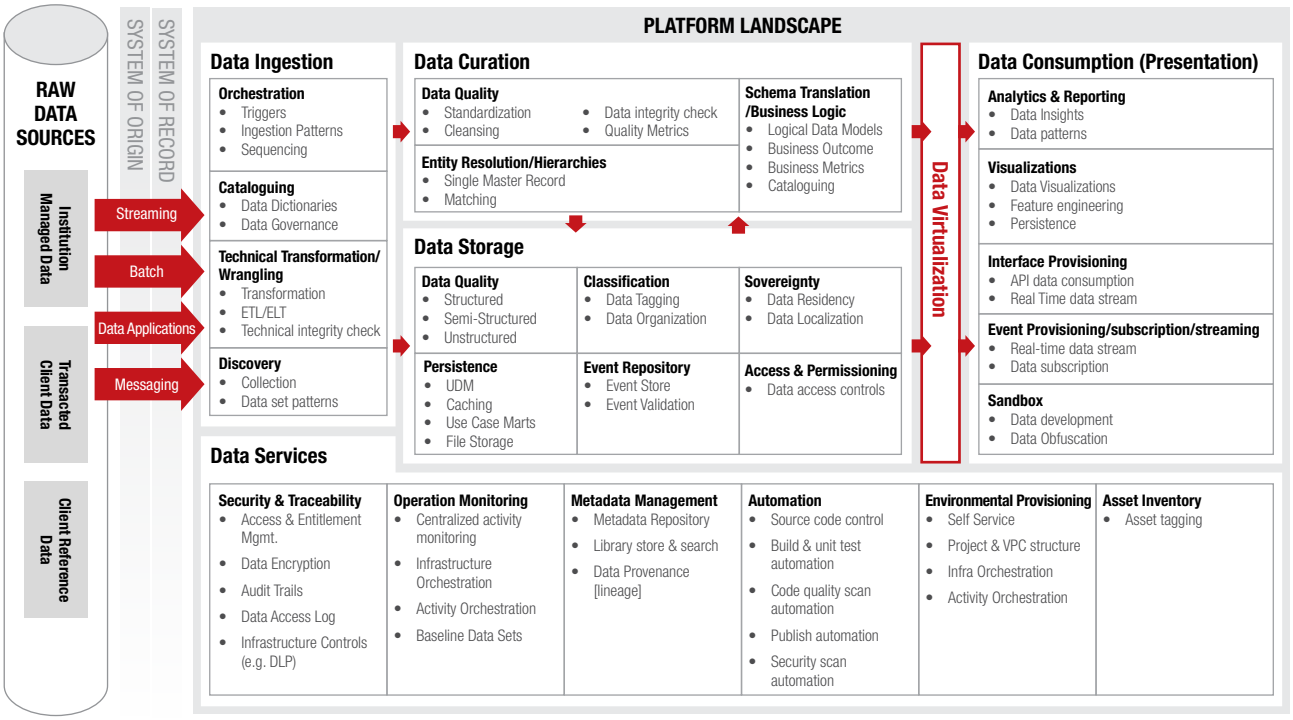
STEP 2

Combining virtualization with the MDA

Data virtualization is an approach to retrieving data from multiple data sources and providing a logical visualization without physically moving the data from the sources.[4]

Virtualized data can be extracted and prioritized from any number of external or internal sources. However, the value from data assets can only be realized when they are used strategically, operationally, consistently, and accurately across the business.

Figure 2: Adding a data virtualization layer to your modern data architecture



The addition of data virtualization allows organizations to comply with regulatory restrictions around data and multi cloud provider scenarios by abstracting data accessibility for regional/ local and global data. Data virtualization helps because data is accessed logically with no physical movement of the data from its source.

Virtualization will provide organizations with the capability to access data globally, however, we must still feed curated data and data from other data storages. So how do you store both regional/ local data (with or without restrictions) and global data on cloud infrastructure that is securely accessible globally by the organization and its customers via data virtualization?

STEP 3

Making the right type of data globally available

Hosting payments data in the cloud provides many benefits for a global organization looking to create an effective analytics platform. However, most global financial institutions have reservations around hosting core data in the cloud due to multiple constraints, particularly regulatory restrictions.

Most country's regulators restrict in-flight transaction data (such as payment transactions) containing client-restricted or personal information.[5,6,7] This reduces a global organization's ability to obtain meaningful analytics, such as accurate liquidity predictions based on data from across geographies in near real-time.

Ideally, both operations data (snapshots of transaction data from multiple systems) and transaction data (events generated while an organization conducts its business) would be available on a global platform, such as a cloud, to supply the variety of data required for analytics. However, data restrictions mean that often the best option is to use curated global operations data.

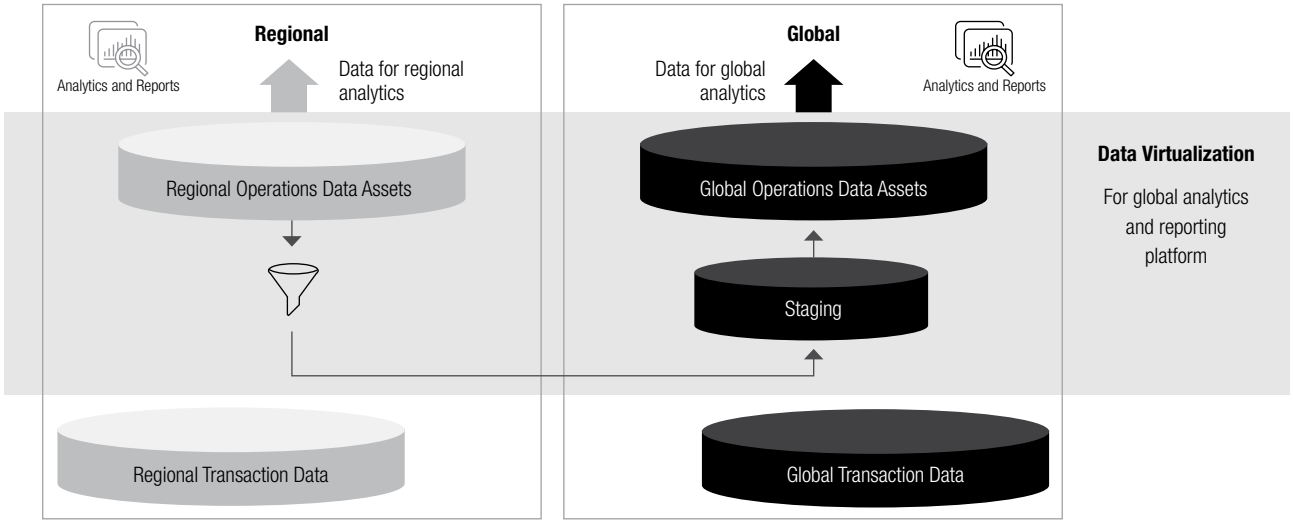
We can classify restrictions from low to very **strong**, where very strong characterizes zones where no data is allowed on the cloud and **low** where few or no data restrictions apply to cloud hosting. The diagram below shows some possible sharing options of operations and transaction data, to regional or global platforms, based on data restrictions.

Figure 3: Sharing options across operations and transaction data with varying data restrictions

	Regional		Global	
	Operations	Transaction	Operations	Transaction
Very Strong Data Restriction Apply	✓	✓	✗	✗
Strong Data Restriction Apply	✓	✓	✓	✗
Medium Data Restriction Apply	✓	✓	✓	✗
Low Data Restriction Apply	✓	✓	✓	✓

Where very strong and strong data restrictions exist, data should be hosted regionally, and virtualization used to access data for insights. However, where medium or low data restrictions are in place, operations data can be streamed to cross region/global cloud platforms.

Figure 4: Data architecture for regional and global data sharing



LOOKING AHEAD

The global financial services industry is expected to grow by around 9% in 2023[8], fueling an increase in the volume and value of data assets, and the insights that can be generated for customers. More and more customers are looking to understand their consolidated liquidity position across regional and global accounts, and to gain other insights driven by their business priorities.

The industry's journey to the cloud has accelerated tremendously over the past 12–18 months. To optimize the ability to generate insights from data, C-suite and business leaders need to plan around the increasing demand for volume, variety, and velocity in their data architecture and cloud strategies. Whilst hosting data on the cloud is complicated by regulatory restrictions, this paper has demonstrated several architectural methods that can be used to achieve a more global model and consequently more business value.

If you want to learn more about how your institution can host data in the cloud as the catalyst for enterprise transformation of reporting and analytics, please contact us. Capco can help you with:

- Modernizing your data architecture
- Data virtualization
- Data to the cloud migration strategies
- Deriving value from data

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ABOUT CAPCO

Capco, a Wipro company, is a global technology and management consultancy focused in the financial services industry. Capco operates at the intersection of business and technology by combining innovative thinking with unrivalled industry knowledge to fast-track digital initiatives for banking and payments, capital markets, wealth and asset management, insurance, and the energy sector. Capco's cutting-edge ingenuity is brought to life through its award-winning Be Yourself At Work culture and diverse talent.

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