



SUMMIT
TAIPEI

Track 1 | Session 5

數位創新：市場資料雲端分析與應用

Mark Brady

Capital Market BD - HKT

Amazon Web Services

Agenda

Game-changer for financial data distribution

Simplify access to financial data providers

Unlock opportunities with AWS analytics services

Case Study : Tradition Group

Video : Tradition Group

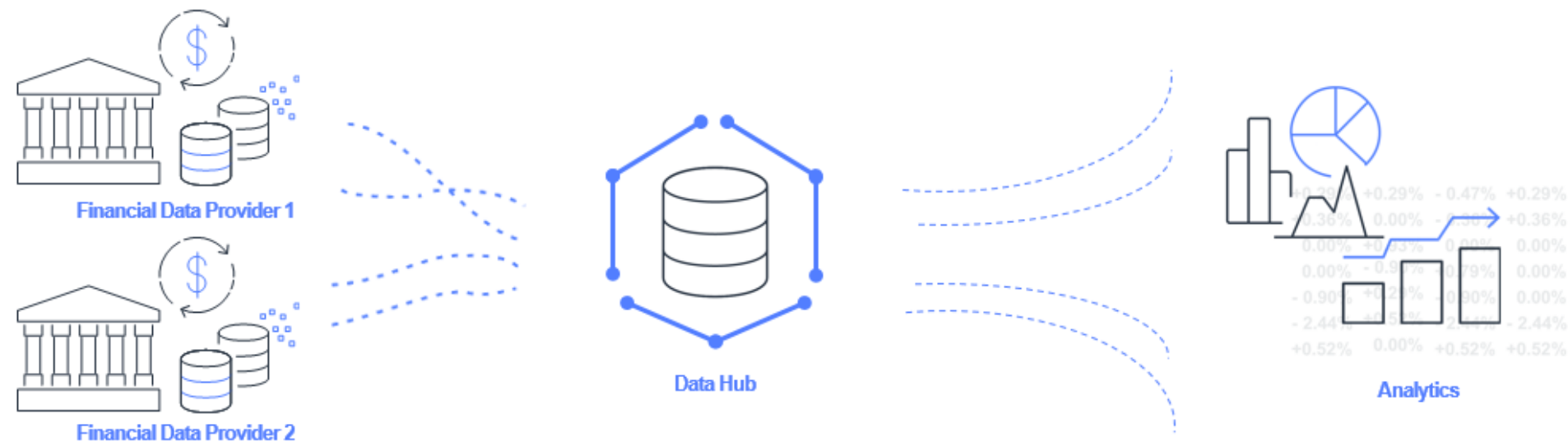
Game-changer for financial data distribution

Why is AWS a game-changer for financial data distribution?

What if you could pick any financial data provider you want, then acquire, evaluate, and use that provider at a moment's notice?

AWS provides the flexibility and scalability to do just that.

How would this flexibility enable your business to realize cost savings, simplify connectivity, scale data consumption, and increase innovation?



Financial data architectures are ready for disruption

“ We interviewed a select group of senior executives — Chief Technology Officers, Chief Information Officers, Heads of Market Data, and Heads of Infrastructure — at both buy and sell side firms. We found that **the industry is ready for a disruption in the aggregation and delivery of market data.** ”

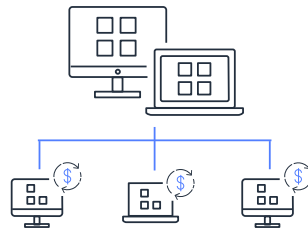
— TABB Group's FinTech Research Practice

TABB Group: Stairway to the Market Data Cloud: As a Service Model Comes to Market Data study. <https://research.tabbgroup.com/report/v15-003-stairway-market-data-cloud-service-model-comes-market-data>

Simplify financial data access, management, and analysis with AWS



Access financial data from multiple providers without complex networking and infrastructure.



Simplify data management using cloud-native solutions from AWS' partner network to reduce complexity and achieve significant cost savings.



Accelerate data analysis with the broadest set of database, analytics, business intelligence, and machine learning services.

Simplify access to financial data providers

Speed time-to-market by accessing Financial Data Providers on AWS

The largest Financial Data Providers are accessible on AWS

Historical Data

Providers offer historical data solutions using AWS services such as Amazon S3 and Amazon API Gateway.



European Based
Global Exchange

Major UK Stock
Exchange



Historical and Real-Time/Streaming Data

Providers offer both historical and real-time/streaming data solutions using services such as Amazon PrivateLink, Amazon S3, and Amazon API Gateway.

Bloomberg



FACTSET

xignite

Financial data providers and data consumers connect in AWS

Financial Data Providers

REFINITIV[™]



Bloomberg



xignite

 **CME Group**

FACTSET

TickSmith



 **ice** Data Services[™]

MORNINGSTAR[®]

 **Nasdaq**

Select Financial Institution Customers



 **DriveWealth**
Tech driven. Market smart.

axe
trading[®]



Financial Data Providers
offer customers data
access and management
capabilities

Financial Data Providers and AWS simplify data access

Financial Data Providers use AWS services to optimize data delivery:

AWS Private Link



AWS
Private Link

Connection via PrivateLink enables customers to **securely connect VPCs** without leaving the AWS network

Providers like:

Bloomberg

Amazon S3 VPC Endpoints



Amazon
S3

With delivery to S3 VPC endpoints, customers can deliver their data to their S3 buckets **without traversing the internet**

Providers like:

 CME Group

FACTSET

 ICE Data
Services™

Major UK Stock Exchange

Public API



VPC NAT
gateway



Internet
gateway

Accessing data from public API internet gateways allows customers to request data **without exposing their private IP address**

Providers like:

 barchart
OnDemand

MORNINGSTAR®

REFINITIV™ 

 Nasdaq

 CME Group

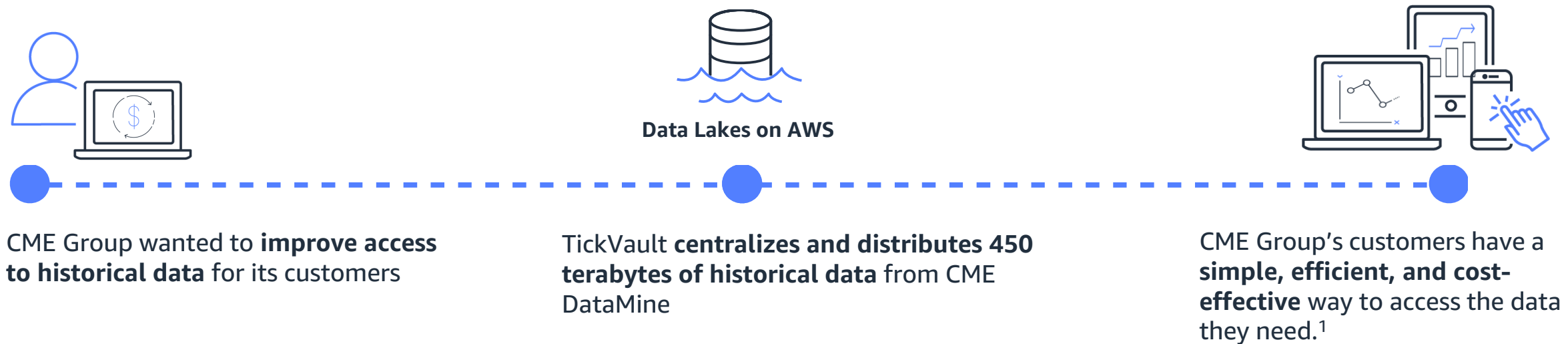
Major UK Stock Exchange

European Based
Global Exchange

xignite

TickSmith provides CME Group easier access to historical data

TickSmith “To be usable, data has to be instantly accessible regardless of how much data is involved. With TickVault, data users can browse a data catalog, subscribe to the content and access it via web interfaces and APIs instantaneously.”
- **Marc-Andre Hetu**, TickSmith CTO



CME Group, a financial market company, uses **TickSmith's TickVault** to power CME DataMine, their online pricing information data catalog.

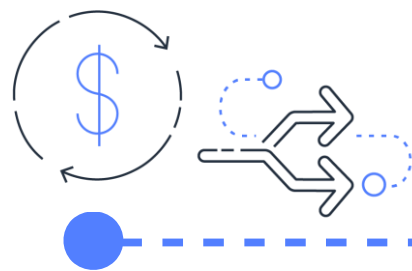
1. TickSmith: Coping With Large and Diverse Quantities of Data (Featuring CME Group and AWS Amazon). <https://www.ticksmith.com/coping-large-diverse-quantities-data/>

Refinitiv delivers DriveWealth Technologies' real-time data feeds via API



“ Combining the breadth and depth of our data with the **flexibility and agility of the cloud** lowers barriers to entry and helps clients be **more nimble** as they identify opportunities to build **long-term competitive advantage**. ”

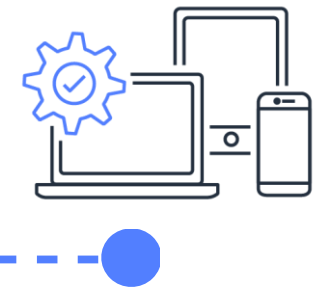
— **Brennan Carley**, Global Head of Enterprise for Refinitiv (formerly the Financial & Risk business at Thomson Reuters)



DriveWealth wanted to reduce inefficiencies and **complex transactional costs**



Native data consumption via API, directed to other cloud applications or on-premises environments



Simple and quickly built solution that improves agility and access to **real-time pricing data**



DriveWealth, a software service for broker-dealers and wealth managers to build the next generation of investing products, is one of many companies using **Refinitiv's Elektron Real Time** service for on-demand cloud delivery right to their applications.

Historical Index Data for a Major UK Stock Exchange

A Major UK Stock Exchange offers end-of-day market data indices on AWS, where customers can access data without the need for an external feed.



Access data sets that are not yet available natively on AWS

Customers can connect to over 400 service providers using leading extranet providers.

External Data Access



AWS Direct
Connect

Connect to extranet providers via AWS Direct Connect, for a **private and cost-effective way to access data** from exchanges, trading venues, or data providers not on AWS

Providers like:



Colt offers AxeTrading simplified access via Direct Connect



“ We know from our experience that business agility and the **need for real-time response to customers** is vital for large enterprises and financial firms. Colt is able to deliver on both counts. ”

– **Carl Grivner**, Colt Chief Executive Officer



Need to cover various areas of trading cycle to address their customers' **fragmented liquidity, regulation, and efficiency requirements**



AWS Direct Connect

High-performance and efficient network service connects customers with their data using Colt Prizmnet and AWS infrastructure.



Easy access and reliable, consistent, and transparent delivery of market data and order entry to cover the customer's trading lifecycle



AxeTrading, a financial trading technology company, uses **Colt Prizmnet**, which connects 10,000+ customers to global Capital Markets networks from 100+ exchanges, venues, and service providers.¹

1. Colt: Financial Services Solutions: Financial Extranet. <https://www.coltnet/product/financial-extranet/>

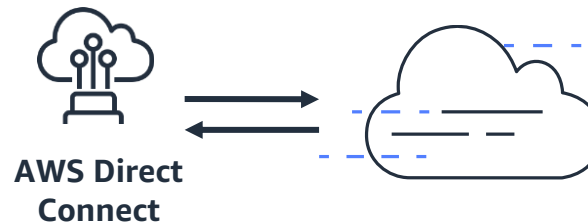
Equinix offers on-demand market access via Direct Connect



EQUINIX

“ With AWS Direct Connect inside Equinix data centers, customers can directly touch the cloud. Many customers can now **take advantage of the cost savings of cloud computing.** ”

– Equinix General Manager, Content and Digital Media



Rapid growth and data needs required increased storage and flexible compute power that was **costly and difficult to find on-premises**

Access Equinix cloud exchange via AWS DirectConnect enables **scalable, on-demand, direct access** to multiple networks of leading brokerages and exchanges across the globe

The provider **realized savings of approximately CHF250k** by using its **secure access** to AWS

An algorithmic trading provider uses **Equinix Cloud Exchange**, which provides a private connection between AWS and external data providers for raw data.

Unlock opportunities with AWS analytics services

Discover new business opportunities with financial data on AWS

Financial data on AWS unlocks innovation for new products and solutions.



Take advantage of AWS analytics services

- Run predictive analysis using historical data to make real-time recommendations with controlled access and audit retention



Power new financial data insights with Machine Learning on AWS

- Extract information from financial content like forecasting patterns in analyst earnings or experiment with historical data to analyze trends



Drive business decisions

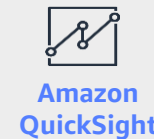
- Faster data processing facilitates quicker business decisions
- Expansive data supports product enrichment or new offerings

Efficiently extract insights from data with AWS services

Go a step further once you're in the cloud, by gaining insights and identifying opportunities from your financial data.

Data Analytics

Real-time data capture and AWS business intelligence (BI) tools increase data processing speed and the ability to gain new insights.



Amazon QuickSight



Amazon Kinesis Data Analytics



Amazon SageMaker



Amazon Deep Learning AMIs



Amazon EMR



Amazon EC2



Amazon EC2 Auto Scaling



AWS Lambda

Data Management

Simplified, secure data storage and financial data management uses on-demand real-time and historical data sources without complex connectivity.



AWS Lake Formation (preview)



Amazon DynamoDB



Amazon Redshift

Data Access

Cost-effective, simplified data transfer reduces the need for network hardware and complex connectivity of on-premises data feeds.



AWS Direct Connect



AWS PrivateLink



VPC endpoints



Amazon VPC



Elastic Load Balancing

Leading Capital Markets organizations are doing more with data on AWS



An online investment advisory and broker dealer

Challenge

Betterment needed to analyze mounting volumes of market, trade, and portfolio data to offer customers timely investment recommendations.

Solution and Benefit

Amazon Redshift and **Amazon Kinesis** allow **Betterment to consume and** analyze financial data with an environment that can quickly scale to meet demand.



A U.S. not-for-profit regulatory organization

FINRA needed an infrastructure that could process and analyze a 100 billion market events a day for the surveillance of the US equities markets.

AWS EMR enables FINRA to scale its data processing on-demand, and **Machine Learning** services enable more accurate market surveillance



A leading Asian bank and multinational financial services corporation

DBS needed the ability to consume market and transaction data to effectively manage its financial risks.

Amazon EC2 enabled DBS to process variable trading volumes on demand, reducing costs by 70% in 2018.¹

1. AWS Summit Singapore: Core FSI workloads on the cloud. <https://www.slideshare.net/AmazonWebServices/aws-summit-singapore-core-fsi-workloads-on-the-cloud>

Case Study : Tradition Group

Compagnie Financière Tradition (Tradition)

- One of the world's largest interdealer brokers in over-the-counter financial and commodity related products.
- Represented in 29 countries
- TraditionDATA provides consistent, high-quality financial market data that reflect real price interests in global OTC financial markets, covering Interest Rate Swaps and Derivatives, FX, Money Markets, Credit, Fixed Income and Energy & Commodities.



Video



Nimesh Bharadia

COO - Data & Optimization
APAC
Compagnie Financière
Tradition

What are Tradition's strengths when it comes to data?



Providing independent pricing for many of the world's fastest moving markets, including hard-to-find prices in developing products and regions



Ongoing & Historical data available, including research, analysis and commentary



Real market prices sourced directly from broker screens, combined with market leading analytics to produce world class data products

- Global Interest Rate Swaps
- G10 Interest Rate Options
- New Risk-Free-Rate (RFR) Markets
- Global Power, Gas & Emissions
- Crude Oil & Refined Products
- G10 FX & Money Markets
- FX Options
- Regional Emerging Markets

packages can be tailored to your needs

Starting accessing financial data with AWS

1. Review your existing financial data sourcing and analytics to see if AWS partners and services can increase your agility and reduce your operational cost and complexity
2. Connect with Financial and Extranet Providers – let them know you want to access data on AWS
3. Work with your AWS sales representatives for more information on the range of AWS analytics and machine learning tools

Thank you!

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