

WHITE PAPER

Cloud migration strategies for Capital Market firms

By: Amit Bhute

SVP, Global Head Banking & Financial Services Practice, Virtusa

Introduction

Macroeconomic challenges are slowing enterprise growth in capital markets with revenue declining nearly 10% in the last 5 years¹. As a result, focus has turned toward cost optimization and operational efficiency to maintain margins. On average, over a third of board time in past six months has been spent on business continuity and risk-related initiatives as well bottom line cost savings/operational efficiency initiatives². Migration to cloud has emerged as one of the top agendas to drive business continuity while reducing infrastructure and operations costs. 45% of infrastructure costs (e.g. physical hardware, databases) can potentially be reduced by migrating to cloud and using on-demand scalability to manage peak loads as most firms' dedicated infrastructure is provisioned for peak requirements³. However, the journey to cloud has been fraught with numerous pitfalls and challenges. Capital market firms need to have a structured framework in evaluating which applications to migrate in the correct order.



¹ Capital IQ - For Global Banks, The Fickleness Of Capital Markets Revenue Is On Full Display, 2019

² Gartner - Board of Directors survey 2020

³ LeanIX - How application rationalization contributes to the bottom line, 2019

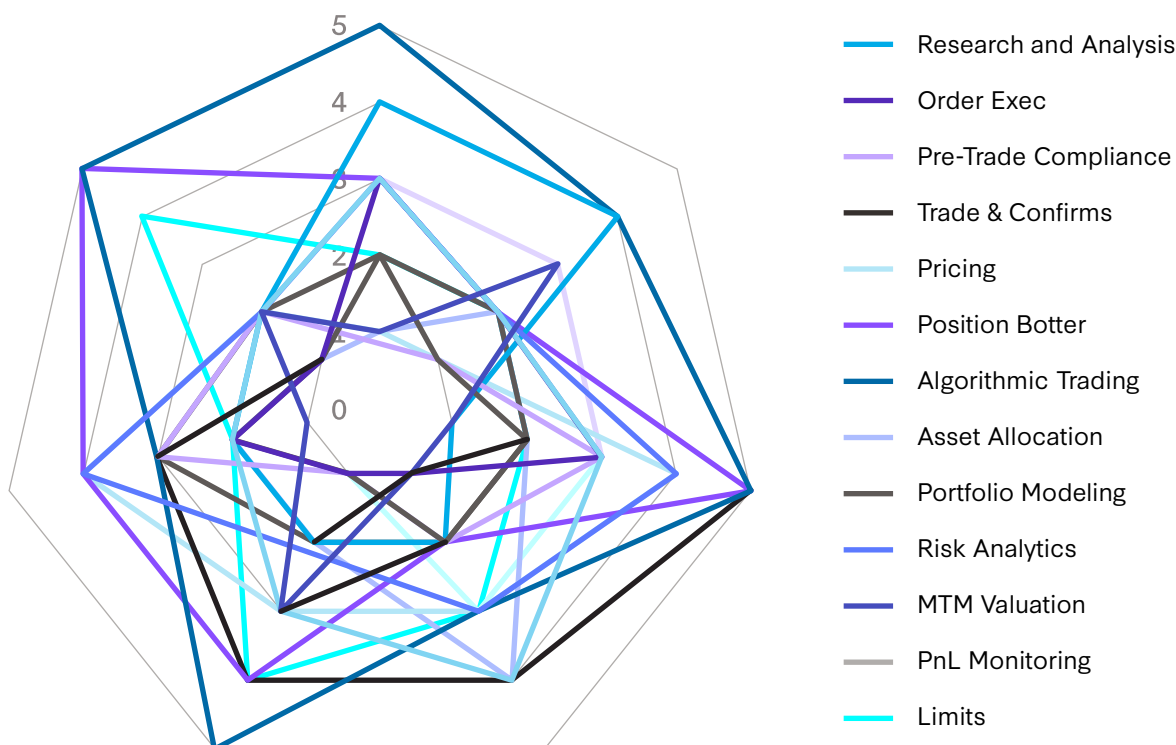
A good starting point for cloud migration is to build a business capability model (BCM) cataloging each of the applications in front, middle and back office functions based on their business capabilities. This includes overlaying the application and capability data in a relational database with additional information like users, data, 3rd party vendor status, age, technology, etc.

The next step would be to evaluate applications on the following key parameters that impact cloud migration strategy.

1. **Cloud precedence:** Have similar applications moved to cloud within the industry? This can be obtained by several sources with analyst reports. Vendor case studies also form a good part of this research.
2. **Complexity of the data model:** Identify and focus on complexity involved in managing and maintaining data. Applications that have standardized and simple data models are easier to move to cloud
3. **Low latency requirements:** Applications with real-time low latency requirements also are a good candidate for cloud migration since speed and compute requirements are quite high.
4. **Data aggregation and reporting function:** Applications which execute data aggregation and reporting are mostly amenable to cloud migration. Thus, regulatory reporting applications tend to have higher score.
5. **Application interdependencies:** Identify the interfacing applications and dependencies of these applications to other applications in the ecosystem. The more interconnected the application, the more time it will take for testing and migration. This also lowers the cloud-readiness score
6. **Cloud-based product offerings:** Have 3rd party vendors started offering these products as a Software-as-a-Service (SaaS)? If yes, then they will have higher cloud-readiness score
7. **Multiple subsystems:** Refers to complexity due to number of components that make the complete system.

Scoring these applications on each of above parameters on a liner scale will lead to a graph similar to one shown below:

Capital Markets - Scoring for Cloud Technology Adoption



This will provide a starting point to classifying applications and helps decisioning around WHICH applications should be moved to cloud first and provide higher rate of success. A sample view has been provided below for reference.

	Market & Info. Providers		Investment Banks, Brokerage Houses, Exchange / Markets, CCP, Custodians				Investment Managers, Insurance Companies			Market & Info. Providers
Asset Class / Product	FX/MM	Bonds Repos	Swaps	Equities EQD	OTC	Listed F&O	Funds Trusts	Portfolio Wealth	Retirement Planning	Equity
	Repo / Sec. Lending	Structured Products	Swaps	Interest Rate Derivatives			Tax Saving Plans	Insurance	Annuities	Fixed Income
Market Access	OTC Broker Dealer		Exchanges	ECN Dark Pools	Inter Dealer Broker	Swap Execution Facility	Organized Trading Facility			
Front Office	Research & Analysis	Order Exec	Pre-Trade Compliance	Trade & Confirms	Pricing	Position Blotter	Algorithmic Trading	Asset Allocation	Portfolio Modeling	
Middle Office	Risk Analytics	MTM Valuation	PnL Monitoring	Limits	Regulatory Compliance	Back Testing	Portfolio Optimization	Portfolio Accounting	Asset Servicing	
Back Office	Clearing & Settlement	Reconciliations	Client P&L Sub-Ledger	GL Accounting		Tax Management	Fund Administration	MIS & Regulatory Reporting		
Risk Management	Market Risk	Credit Risk	Operational Risk	Regulatory Reporting	Collateral Management	Capital Adequacy	Economic Risk	Basel II & III	Risk Analytics	
Reference Data	Static Data	Market Data	Risk Data	Credit Ratings	Accounting Client	Benchmarks	Performance & Analytics			

LEGEND Ease of adoption to cloud. Lower is better. 1 2 3 4

Once you have identified WHICH applications need to move to cloud, the next step is to understand HOW they need to move to cloud. This is where the BCM analysis in combination with key architectural principles plays a pivotal role.

Start with gathering the data around the current application portfolio and tech stack details using IT asset auto discovery where possible and augment it with surveys targeted towards the product owners. Then analyze the collected data, feed it into a decision-making framework and calculate the score over the three dimensions of value - business value, technical value and cloud sustainability. This will allow firms to classify applications for WHAT time of migration strategy is best suited for the application. Amazon's 6 Rs classification strategy is broadly regarded as the industry standard for creating a cloud migration plan⁴. The 6 Rs refer to:

1. **Rehost**—Move the existing application as-is to a cloud infrastructure without any changes to the application.
2. **Re-platform**—This is slightly more complicated than a simple re-host where you might make a few cloud (or other) optimizations in order to leverage some cloud service provider (CSP) capabilities, like moving databases to a cloud native Database-as-a-Service platform
3. **Repurchase**—This normally involves moving to SaaS platform, like Fusion Cloud services from Finastra, and involves migration of all users and functionality to a new platform. This is quite an involved process.
4. **Refactor / Re-architect**—Here we must reimagine how the application should be architected and developed, typically using cloud-native features. This is quite complex and very expensive, but allows the firms to build the application suited to their custom needs.
5. **Retire**—Using BCM, you will normally be able to identify which applications have overlapping or redundant functionalities. Retiring applications includes migrating any existing data to a cloud storage and decommissioning the application completely.
6. **Retain**—Usually this means “revisit” or do nothing (for now).

And finally - with this analysis, capital markets firms have a firm roadmap that can help them execute cloud migrations.

⁴ AWS - 6 Strategies for Migrating Applications to the Cloud

Summary

Migrating to cloud is no longer a question of “if” but “when”. However, cloud migration, especially for capital market firms, needs to be thought through to ensure success. Structured data analysis combined with BCM is key to ensure capital market firms get the best value-add from their cloud migration projects.



ABOUT THE AUTHOR

Amit Bhute

SVP, Global Head Banking & Financial Services Practice, Virtusa

Amit heads the Banking and Financial Services practice at Virtusa where he is responsible for all aspects of practice building – solutions, skill-sets development, go-to-market, partnerships and thought leadership. With over 20+ years of technology experience in the financial services industry, he is regarded as a transformation agent who works with CIOs and Departmental Heads globally helping them navigate the rapidly evolving banking landscape.

Amit is a self-driven business leader who provides business solutions around digital transformation, innovation and driving cost efficiencies leveraging technology. His financial technology experience spans – Transaction banking, real-time payments, cards – acquirers and issuers, PSPs, PSD2, open banking, tokenization, blockchain, and related fields. From a technology perspective, his expertise lies in IT strategy, business architecture, large scale digital transformation programs, legacy modernization, RPA, data science, program governance and solution delivery.

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