



Cloud – The new  
lynchpin in capital  
markets IT



Cloud is the key transformation lever as capital market firms balance their IT spend across regulatory compliance, legacy modernization, and engineering of customer experience/journeys to achieve a competitive edge. It accelerates digital transformation with disruptive models to meet ever-changing regulatory requirements, enable faster economic decision making, and deliver great customer experience. Cloud provides ubiquitous availability of a large set of constantly evolving IT services, securely delivered at up to hyper-scale in consumption-based models. According to Gartner, by 2020, a corporate "no-cloud" policy will be as rare as a "no-Internet" policy is today<sup>1</sup>.

Challenges that can be addressed by cloud adoption:

- Visibility into infrastructure assets, consumption management, financial and resource management
- Fragmented processes and systems
- High infrastructure management cost due to assets turning into liabilities
- Limited innovation flexibility
- Increased complexity in IT deployment
- Increased competition due to technology disruption and Fintech

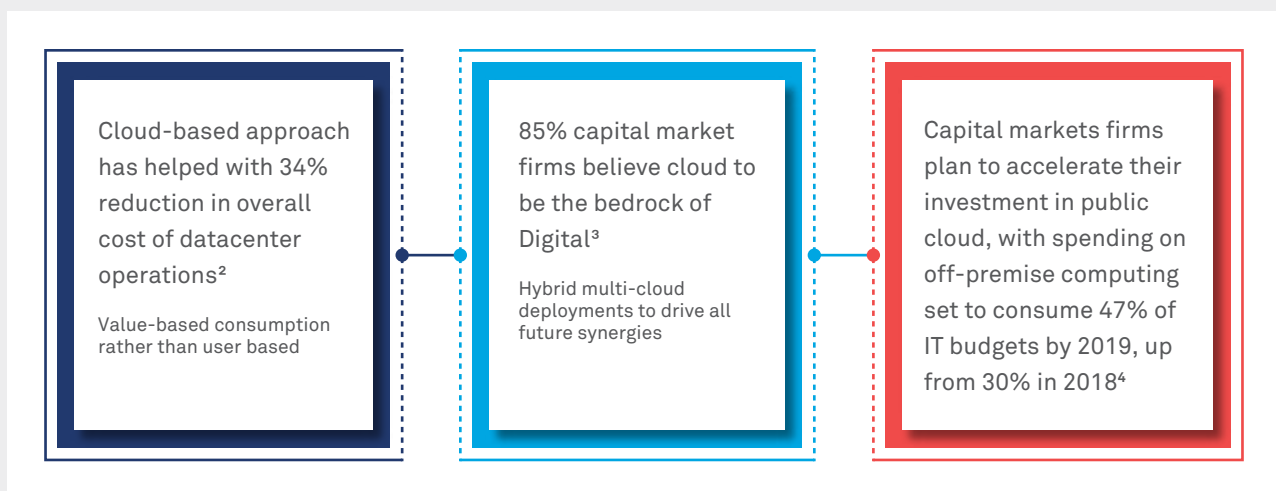


Figure 1: Capital markets cloud adoption trends

Capital markets firms adopt cloud computing for the following key drivers:

- Technology best practices – Agile, DevOps, Automation and AI
- Standardized IT services and cost efficiencies
- Always on access, flexible to business needs and consumption
- Deep customer-engagement through rich user-experience, new business models, and increased productivity
- Rapid time-to-market and higher-quality deployments that provide anytime scalability and auto-scaling dynamic capacity
- Minimal, hassle-free upgrades

### Key considerations for cloud adoption

Financial services firms, specifically in capital markets are taking up “large scale movement to cloud” with a strategy of private (all core, crown jewel applications) and public cloud (all non-core) migration as the industry faces competitive pressures from early adopters. Innovation in business models accelerated through cloud, digital, and AI/ML drives products and experiences for trading and investments. **Cloud is the new lynchpin in this transformation being driven by fintechs and fast follower incumbents.**



**Whatever the business use-case and drivers, there is a range of cloud deployment options available from a multitude of cloud service providers.**

Considerations for cloud (Table 1) vary based on the business use-case and risk tolerance of the institutions. Capital markets firms across sell-side and buy-side are recognizing the

limitations of traditional models of building trading systems in-house with legacy infrastructure and architecture.

Top considerations for cloud migration	Scalability	User experience	Cost Optimization/variable cost	Performance (i.e., speed and quality)	Compliance	Growth/revenue
Market data	●		●	●		
Post trade utilities (reconciliation, corporate actions)	●		●	●		
Trading applications	●	●		●		
Collateral management	●		●			
Risk analytics for regulatory compliance	●			●	●	
New products/markets			●	●		●

Table 1: Considerations for cloud migration

Whatever the business use-case and drivers, there is a range of cloud deployment options available from a multitude of cloud service providers: Software as a Service (SaaS), Platform as a Service (PaaS), Business Process as a Service (BPaaS) and Infrastructure as a Service (IaaS).

The other big fork in the road is the choice regarding public or private cloud. Large firms have taken a cautious approach keeping core (trading, portfolio management) applications in

private cloud leveraging IaaS. The SaaS model is attractive for HR, Finance, and CRM capabilities. PaaS is being used for modernization of legacy applications in trading, customer service and the financial advisory space. Key business processes for cloud include:

- Investment management and asset servicing
- Post-trade services
- Global marketing

- Derivative and collateral management
- Data management
- Regulatory reporting, market risk, FRTB (fundamental review of trading book), financial crimes management

## Integrated strategy for cloud migration/transformation

Financial services cloud implementation requires an integrated cloud strategy and delivery as depicted below.

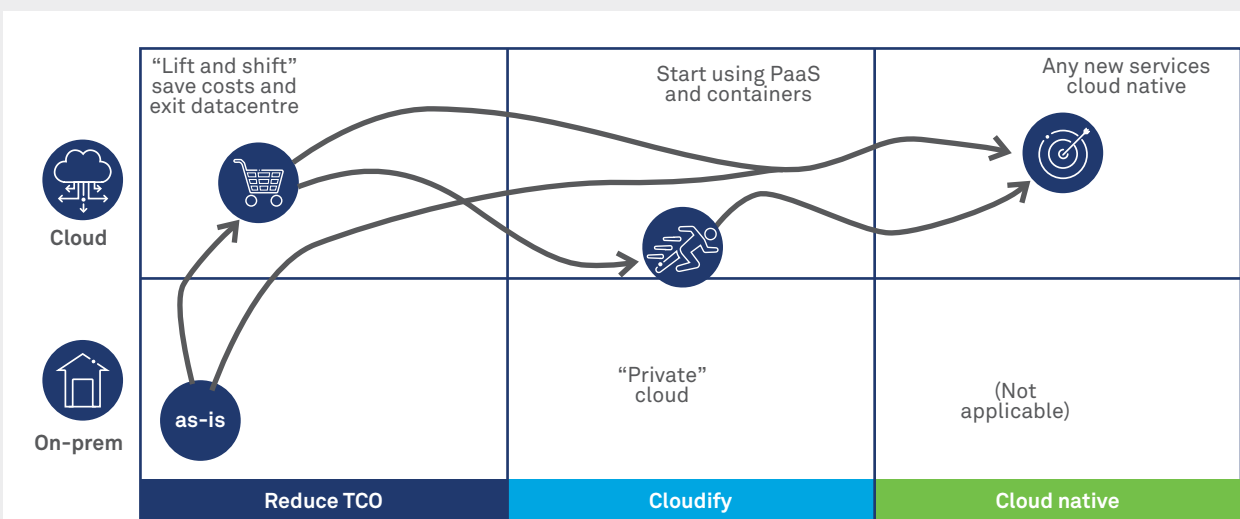
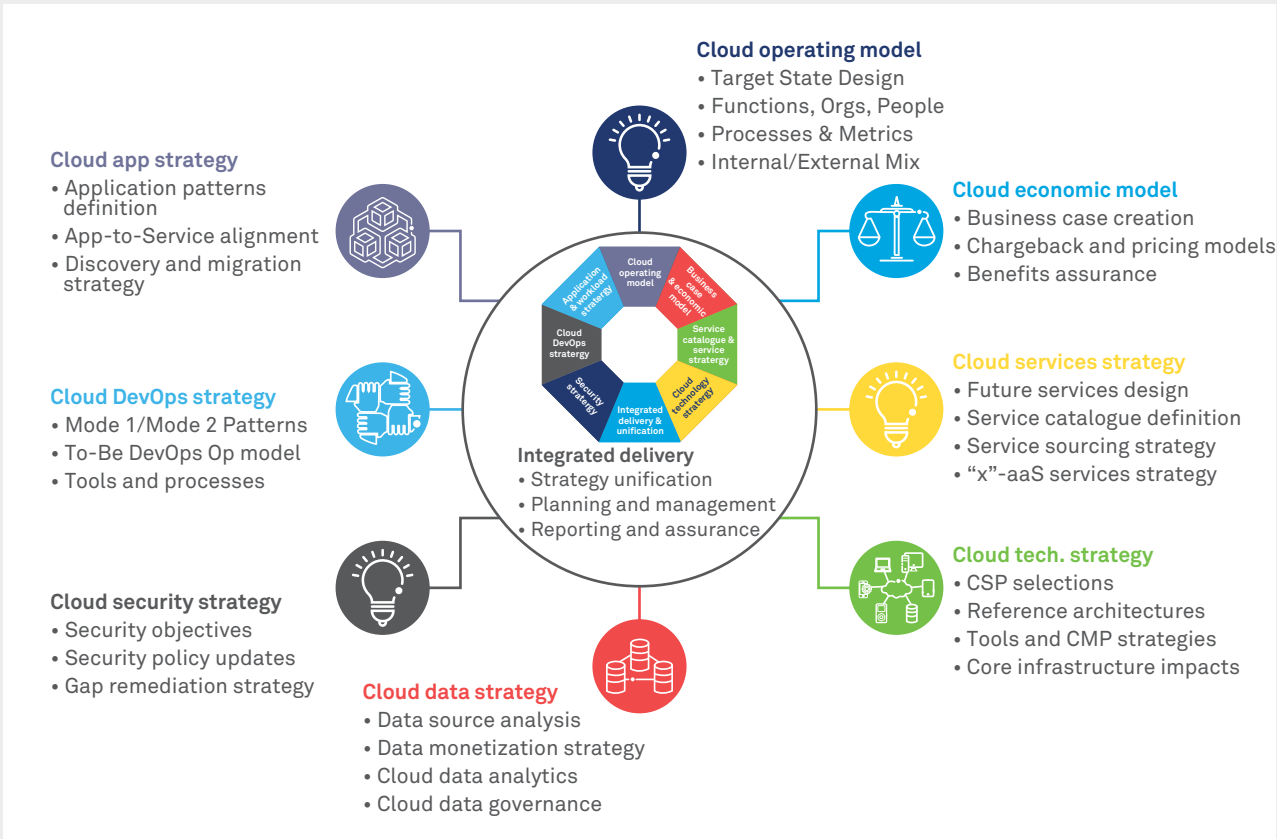


Figure 2: Integrated cloud strategy

Whatever your current disposition and target requirements, there is a specific journey that can be defined. Any new applications should be built using the latest application patterns and delivery best practices (DevOps, resilience,

asynchronous, API enabled, containerization, etc.). Others can undergo lift-and-shift into the cloud and existing data center. The key message here is about the speed of change in the cloud.

The journey to cloud still faces a few challenges and pitfalls, such as:

**Cloud is not a technical project:** Cloud operating model is based on a new way of working. The journey needs to be business led.

**Be careful of consumption:** On-demand access, almost infinite capacity even at a low unit-price can result in higher costs if not managed.

**Cloud is not Hosting 2.0:** This is a view that can leave value on the table. User experience and speed of doing business are key value dimensions.

### Case-in-point examples

- A leading US bank implemented digital transformation on the cloud leveraging APIs/ microservices-based architecture on Docker containers. Benefits included seamless user experience across channels and faster deployment of new business capabilities for retail and institutional clients.

- The wealth management division of an Australian bank implemented cloud-based SaaS solution across CRM, analytics and social media to help advisors with 360-degree customer view and insights. Benefits included more targeted and actionable advice and improved back-office efficiency.

### Typical cloud journey

Hybrid-cloud is core to today's cloud journey with a mix of on-prem, private cloud and public cloud. The workloads on public cloud can be across platforms like AWS, Azure, IBM Cloud, Google Cloud Platform, etc. However, this needs to be a calculated decision based on concentration risk vs. management overheads. The key strategy and decision attributes for a multi-cloud strategy can be gleaned from the diagram below.

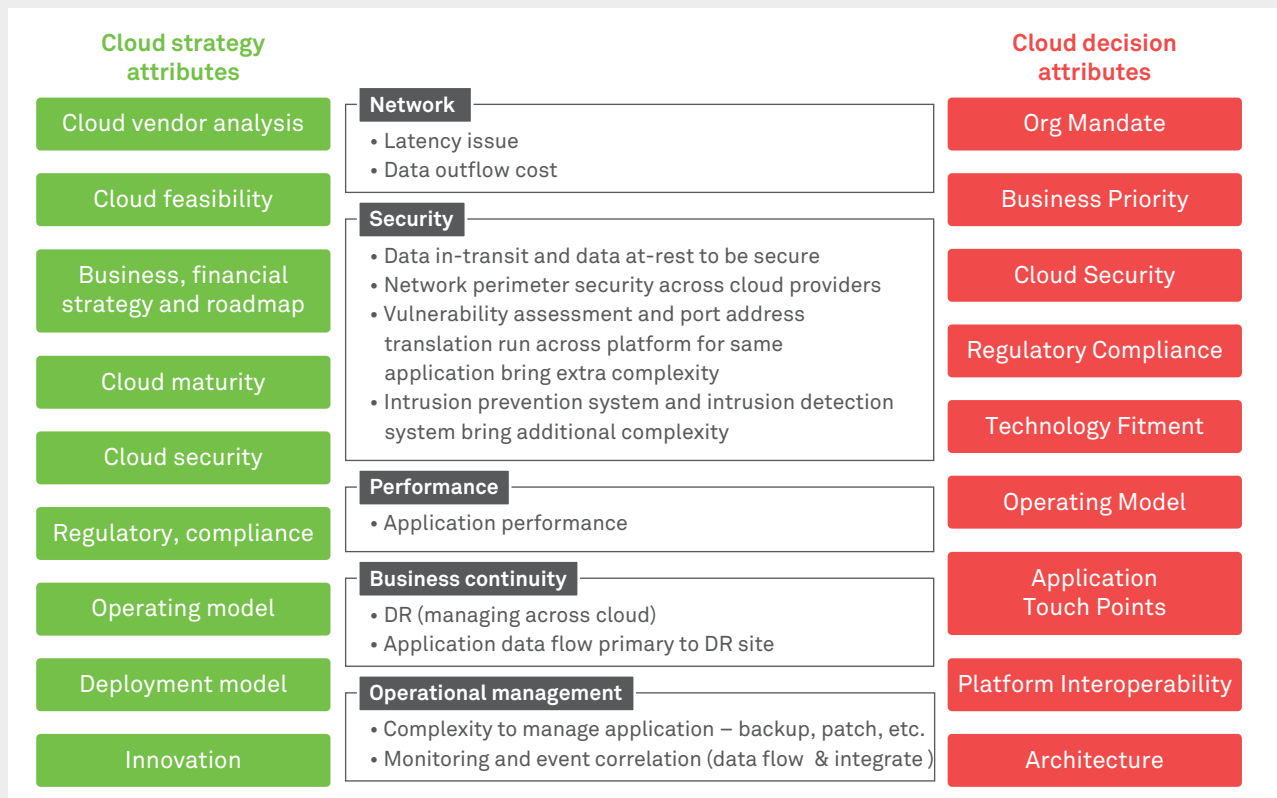


Figure 3: Cloud strategy attributes for multi-cloud

Integrated cloud adoption strategy and the following solution steps will address significant cloud migration challenges:



### Cloud readiness assessment

As part of cloud readiness assessment, a complete business case recommendation

(Figure 4) needs to be developed. Cloud journey should focus on minimal risk and impact to current business through a well-defined approach based on business criticality, regulatory needs, business velocity and customer experience



### R-Lane migration approach

Application rationalization is a key requirement for cloud adoption. This involves identifying the decision paths/R-Lanes for (Re-host, Re-factor, Re-build, and Re-Architect) the migration. R-Lane methodology drives cloud migration strategy right from assessment, design, build, and migration



### Cloud deployment approach

The migration will need to be a phased approach with a clear strategy for deployment options in terms of model, CSP, and public/private decision. This will vary depending upon the business risk appetite of the firm, a mix of

homegrown and COTS applications, complexity of the organization, and end-customer considerations.

The initial phase can focus on crown-jewel critical applications to be retained in a refreshed infrastructure, moving somewhat-critical applications to private cloud and moving non-critical applications into public cloud or SaaS. The subsequent phase can focus on moving somewhat-critical applications to public cloud. A detailed assessment of the landscape is required prior to this decision.

### References:

<sup>1</sup><https://www.gartner.com/newsroom/id/3354117>

<sup>2</sup>Everest report – Cloud and infrastructure services -annual report 2017: The future of stacks is no stack!

<sup>3</sup>Celent report – The Cloud comes of age in capital markets

<sup>4</sup><https://www.computerweekly.com/news/252445424/Capital-markets-firms-to-ramp-up-public-cloud-spending>



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