

Transformation at the Speed of Business

powered by **Charles River IMS + Microsoft® Azure**

Investment managers face a shifting landscape of investor product preferences, increasing regulatory mandates, and brisk industry consolidation. These factors present managers with both risks and growth opportunities. In addition, security breaches at large enterprises drive demand for cybersecurity solutions as firms seek to minimize financial loss and business disruption. Charles River has collaborated with Microsoft to provide the foundation for a scalable, secure, and highly performant cloud-based investment management platform.

The Charles River Investment Management Solution (IMS) on Microsoft Azure provides a platform that enables timelier investment decisions, helps firms adhere to regulatory requirements, and scales seamlessly to support organic and acquisition-based business growth. A secure cloud environment that offers proactive threat monitoring and simplified disaster recovery allows managers to focus on delivering investment products to their clients.

PERFORMANCE

- On-demand provisioning increases agility to preview and test new capabilities without impacting day-to-day functions
- Predictive and prescriptive analytics help ensure high availability and resilience across all functions regardless of market conditions
- Scalable platform can support growth across new geographies, asset classes, and business acquisitions

SECURITY

- Embedded security monitoring can detect, analyze, and resolve security threats
- End-to-end encryption helps meet the highest security standards
- Complete auditability supports data protection and compliance monitoring
- Point-and-click disaster recovery helps ensure business continuity

INNOVATION

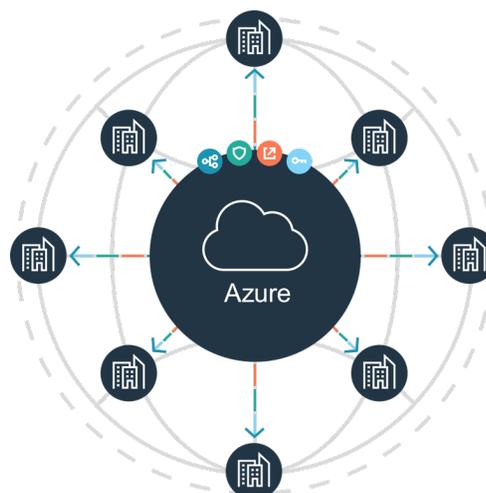
- Extensible platform allows integration with internal and external applications, data, and analytics
- Deep data history enables asset managers to construct and validate new investment products
- Version-independent micro-services will bring new capabilities online without upgrading

Hub and Spoke Design

The Charles River Hub

Charles River IMS is centrally managed in regional Hubs, which are provisioned in Azure and contain all core cloud services.

Management in regional hubs enables rapid deployment of new services and upgrades, promoting continuous innovation.



The Customer Spoke

Each client firm operates in a separate “spoke” containing their specific data and applications.

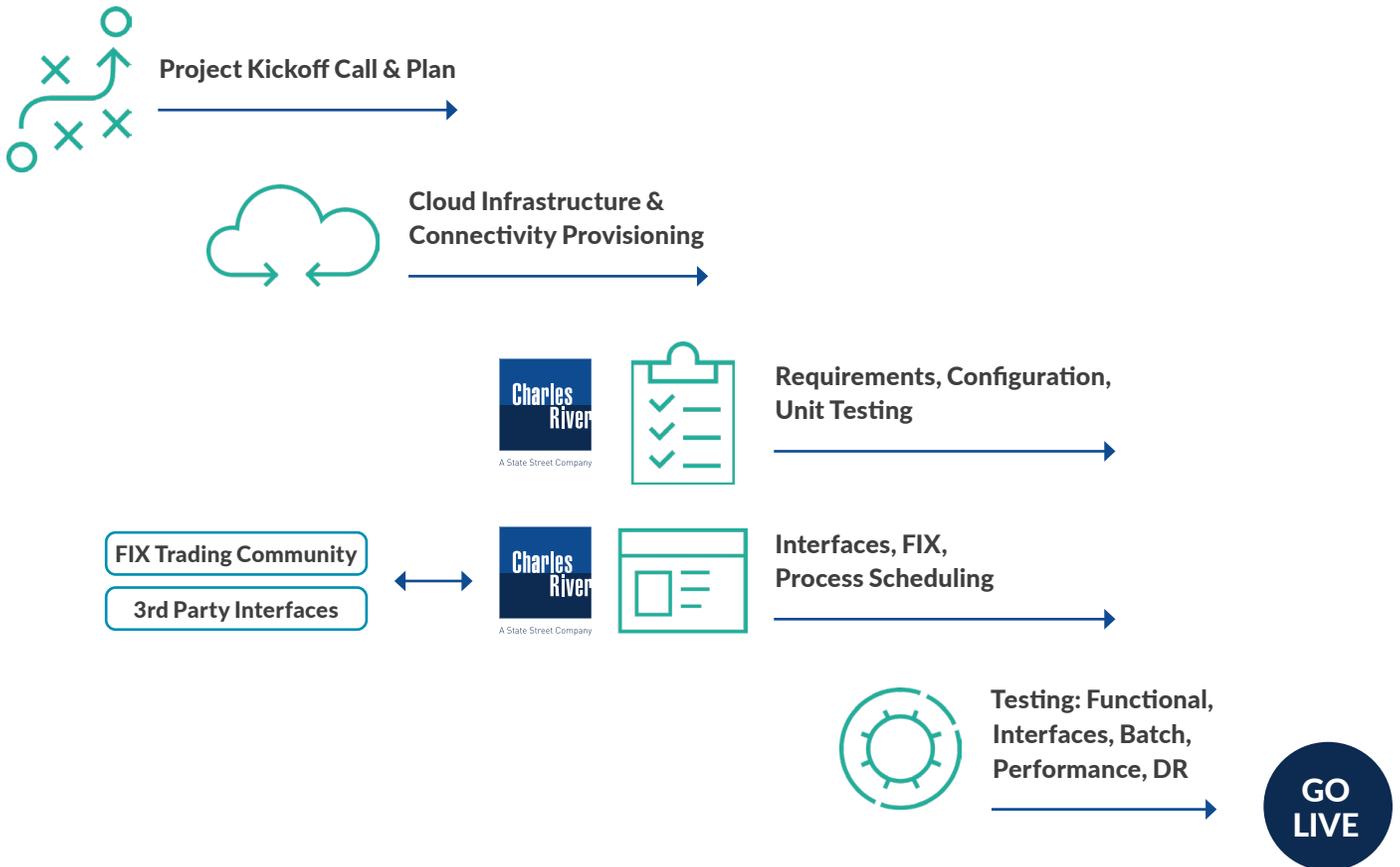
Separate spokes provide system and network isolation and geographic proximity, enhancing security, performance and support for data residency requirements.

The Benefit

The Hub and Spoke design provides an extensible platform that allows Charles River to offer new services efficiently and quickly while improving the client experience.

Getting There: Transitioning to Azure

Charles River's established migration methodology and global support team help enable an efficient and smooth migration to the Azure cloud. Our approach is predicated upon strong cooperation, coordination, and communication between the client and Charles River. The implementation team encompasses operations, data, software, and other specialists for optional services. During the process, the Client Relationship Manager works closely with the client and oversees the implementation process to help provide a smooth transition to Charles River IMS on Azure.



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CHARLES RIVER DEVELOPMENT, A STATE STREET COMPANY

Investment firms, asset owners, wealth managers, hedge funds and insurers in more than 30 countries rely on Charles River's front and middle office investment management platform to manage more than US\$28 Trillion in assets. Together with State Street's middle and back office capabilities, Charles River's software technology forms the foundation of State Street AlphaSM. The Charles River Investment Management Solution (Charles River IMS) is designed to automate and simplify the institutional investment process across asset classes, from portfolio management and risk analytics through trading and post-trade settlement, with integrated compliance and managed data throughout. Charles River's growing partner ecosystem enables clients to seamlessly access external data and analytics, applications and liquidity venues that support the unique demands of their product and asset class mix. Headquartered in Burlington, Massachusetts, we serve clients globally with more than 1,000 employees in 11 regional offices. (Statistics as of Q1 2020) WWW.CRD.COM

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