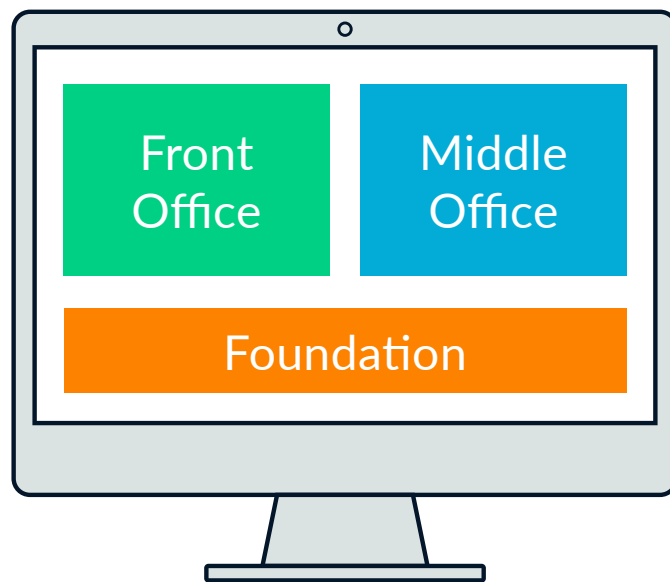




# Charles River<sup>®</sup> IMS Overview

# Charles River Investment Management Solution



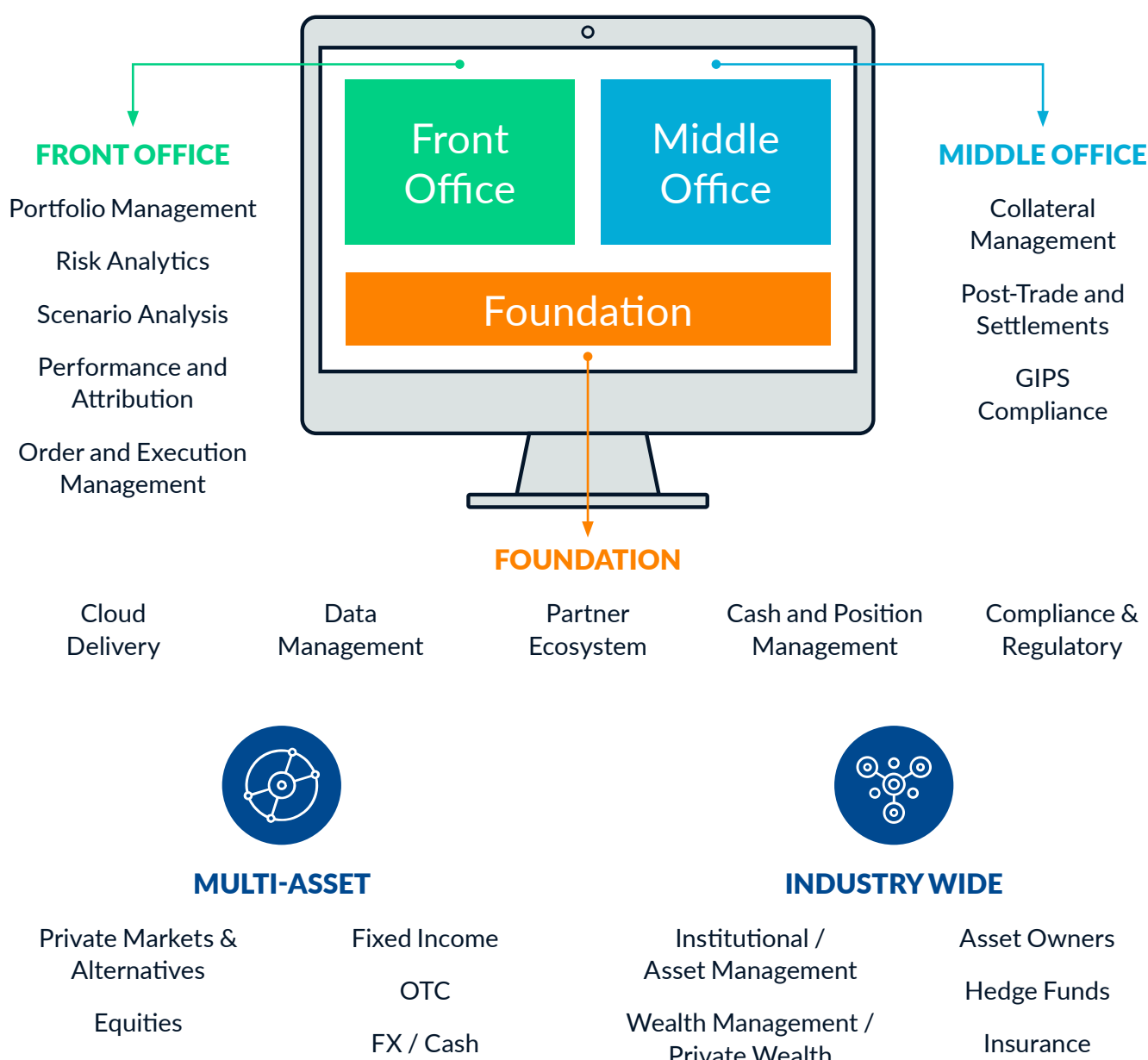
Charles River Investment Management Solution (**Charles River IMS**) is an enterprise platform that helps managers streamline and centralize their operating models with modern, cloud-based technology. This helps firms reduce operational costs and risk, supports timely investment decisions, and speeds time to market.

Relied on by investment professionals globally, Charles River IMS supports the entire investment lifecycle across asset classes, from portfolio and risk management through trading and post-trade settlement, with integrated compliance and managed data throughout.

Charles River's growing **third-party ecosystem** helps enable clients to seamlessly access their preferred external data and analytics, applications and liquidity venues to support the unique demands of their product and asset class mix.

# Manage Your Entire Investment Process from a Single Desktop

Together with State Street's middle and back office services, Charles River's **cloud-based platform** forms the foundation of **State Street Alpha<sup>SM</sup>**, the industry's first front-to-back investment management solution. **Alpha Data Platform and Services** provide unified data management and delivery across the solution.





# Charles River Front Office



## PORTFOLIO MANAGEMENT



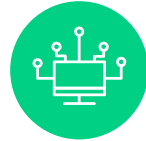
## RISK ANALYTICS



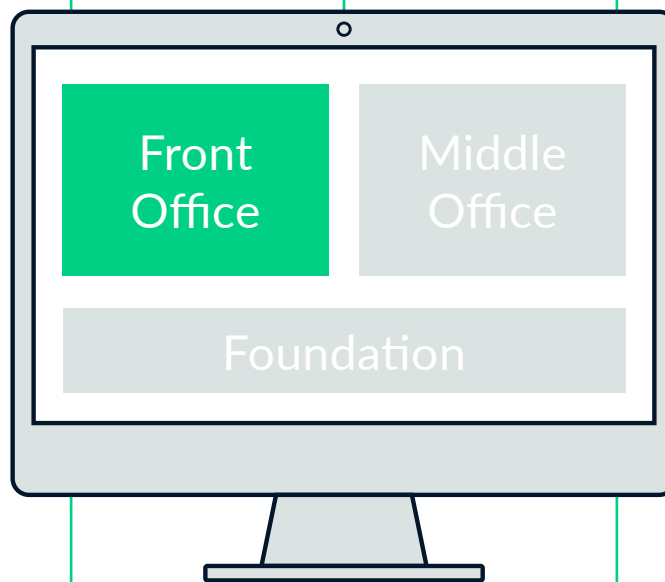
## SCENARIO ANALYSIS



## PERFORMANCE & ATTRIBUTION



## ORDER & EXECUTION MANAGEMENT



### Manage all Portfolios & Products on One Platform

Centralized portfolio construction, analysis and optimization capabilities enable you to support all investment funds and mandates on one platform, readily understand the impact of asset allocation and de-risking decisions, and incorporate compliance rules in portfolio construction decisions.

### Leverage Your Preferred Risk Analytics

We provide a consistent and timely view of portfolio, market, and sector risk. From a single desktop, you can calculate, manage, and monitor risk across the entire investment lifecycle and create risk forecasts using your preferred internal or externally-sourced factor models.

### Rigorously Stress Test Your Portfolios

Understand the impact of multiple stress factors on your portfolios, including interest rate and FX shifts, credit spread changes, inflation shocks, and equity market movements. Apply regulator-mandated scenarios to model potential outcomes and gauge worst-case drawdown.

### Attribute and Analyze Portfolio Performance

Calculate, analyze and report on multi-methodology and multi-currency performance attribution results. View the latest return, contribution and attribution data for your portfolios, across any timeframe and user-defined class levels.

### Automate Trades Across Global Liquidity Venues

Our multi-asset order and execution management connects you to global liquidity venues, automates low-touch trades and supports portfolio trades. Access your choice of transaction cost analysis providers to document best execution and gain visibility into trade execution quality.

# Charles River Middle Office



## COLLATERAL MANAGEMENT



### Real-Time Margin and Collateral Visibility

A unified view of front and middle office margin requirements, from pre-trade decision support through to margin call management and collateral posting, supports decisions on which assets to pledge. Gain visibility into initial margin estimates and streamline operations by centralizing the identification of eligible collateral with recording, reconciliation, selection and tracking tasks.



## POST-TRADE AND SETTLEMENTS



### Centralized Post-Trade Processing and Settlements

We provide centralized confirmation, trade matching, and settlement instruction workflows, so dealers, traders, portfolio managers, compliance, and operations personnel have the same real-time view of all post-trade processing activity and data for each transaction.

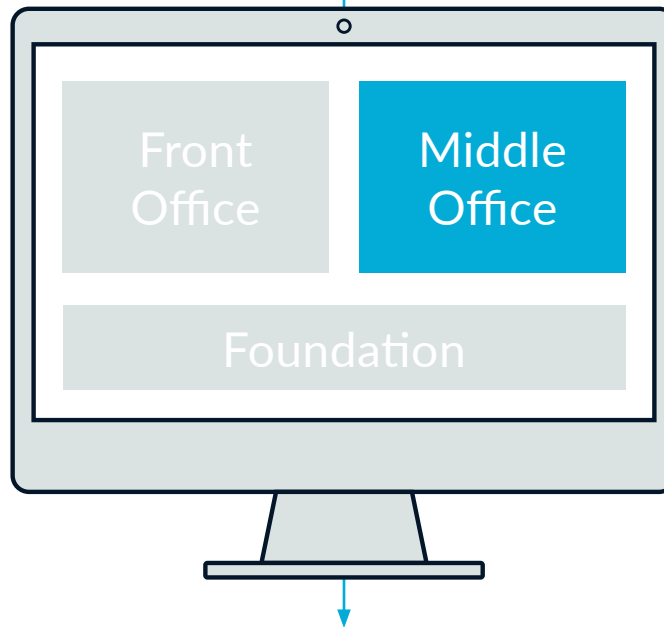


## GIPS COMPLIANCE



### Maintain and Validate GIPS Compliance

Our Performance Measurement & Attribution (PMA) capabilities for operations teams help enable compliance with Global Investment Performance Standards (GIPS) and conduct GIPS verification of performance, attribution, and risk measures of portfolios and composites.



# Charles River IMS Foundations

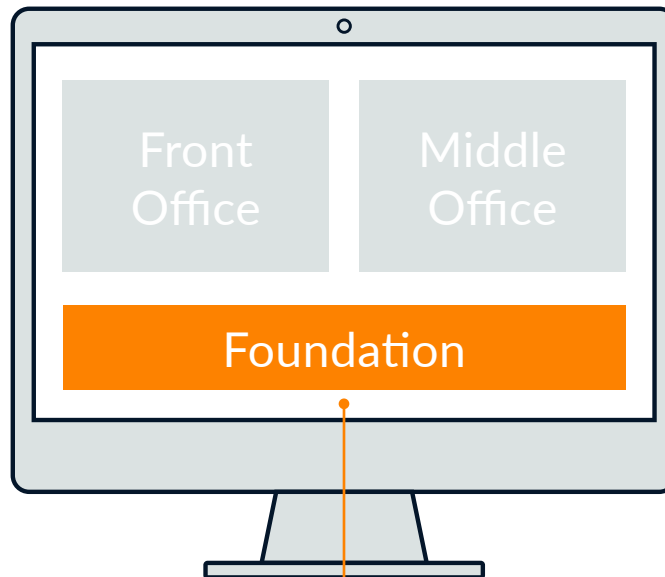
Charles River IMS is built on an extensive foundation, featuring a unified data platform and services, cloud-based deployment and end-to-end compliance across the investment cycle.



## CLOUD DELIVERY

Operate From a Secure, Scalable and Highly Performant Platform

Deployed on **Microsoft® Azure**, our platform helps enable timelier investment decisions, compliance with growing regulatory requirements, and scalability to support organic and acquisition-based business growth.



## DATA PLATFORM

Capture, Curate and Leverage Internal and External Data

State Street Alpha<sup>SM</sup> Data Platform captures the disparate data generated across your investment process and from external sources to better inform your asset allocation, investment and de-risking decisions and help meet regulatory requirements.



## DATA SERVICES

Designed for Consistent and Accurate Data

Global pricing, reference, benchmark, **ESG** and index data combined with our multi-asset security master and enterprise data management capabilities help ensure your investment process is supported by accurate and complete data.



## PARTNER ECOSYSTEM

Leverage your Choice of Third-Party Providers

Our growing third-party provider ecosystem helps enable seamless interoperability with your preferred risk analytics, data, applications and liquidity venues, directly from our platform.



## CASH & POSITION MANAGEMENT

Visibility into Positions and Investable Cash

Our Investment Book of Record (IBOR) delivers a consistent, accurate and real-time source of cash, positions and exposures across asset classes, providing portfolio managers and traders with an independent and investment centric view of their portfolios.



## COMPLIANCE & REGULATORY

Maintain Compliance Obligations

Help meet your regulatory obligations with centralized, scalable compliance monitoring and management, complemented by **compliance services** that maintain and monitor an extensive library of rules that cover worldwide regulatory requirements and mandates\*.

# Charles River Development, A State Street Company

Investment, wealth and alternative managers, asset owners and insurers in 30 countries rely on Charles River IMS to manage USD \$36 Trillion in assets. Together with State Street's middle and back office services, Charles River's cloud-deployed front [and middle] office technology forms the foundation of State Street Alpha<sup>SM</sup>. Charles River helps automate and simplify the 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 partner ecosystem enables clients to access the data, analytics, application and liquidity providers that support their product and asset class mix. We serve clients globally with more than 1,000 employees in 11 regional offices.

(Statistics as of Q4 2021)

Learn more at [crd.com/CRIMS](https://crd.com/CRIMS)

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