

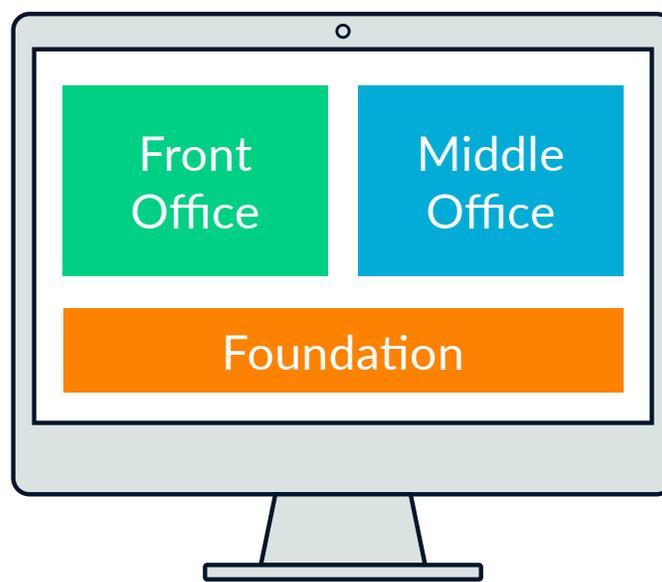


Charles River IMS Overview

CharlesRiver
A State Street Company

Information Classification: General

Charles River Investment Management Solution



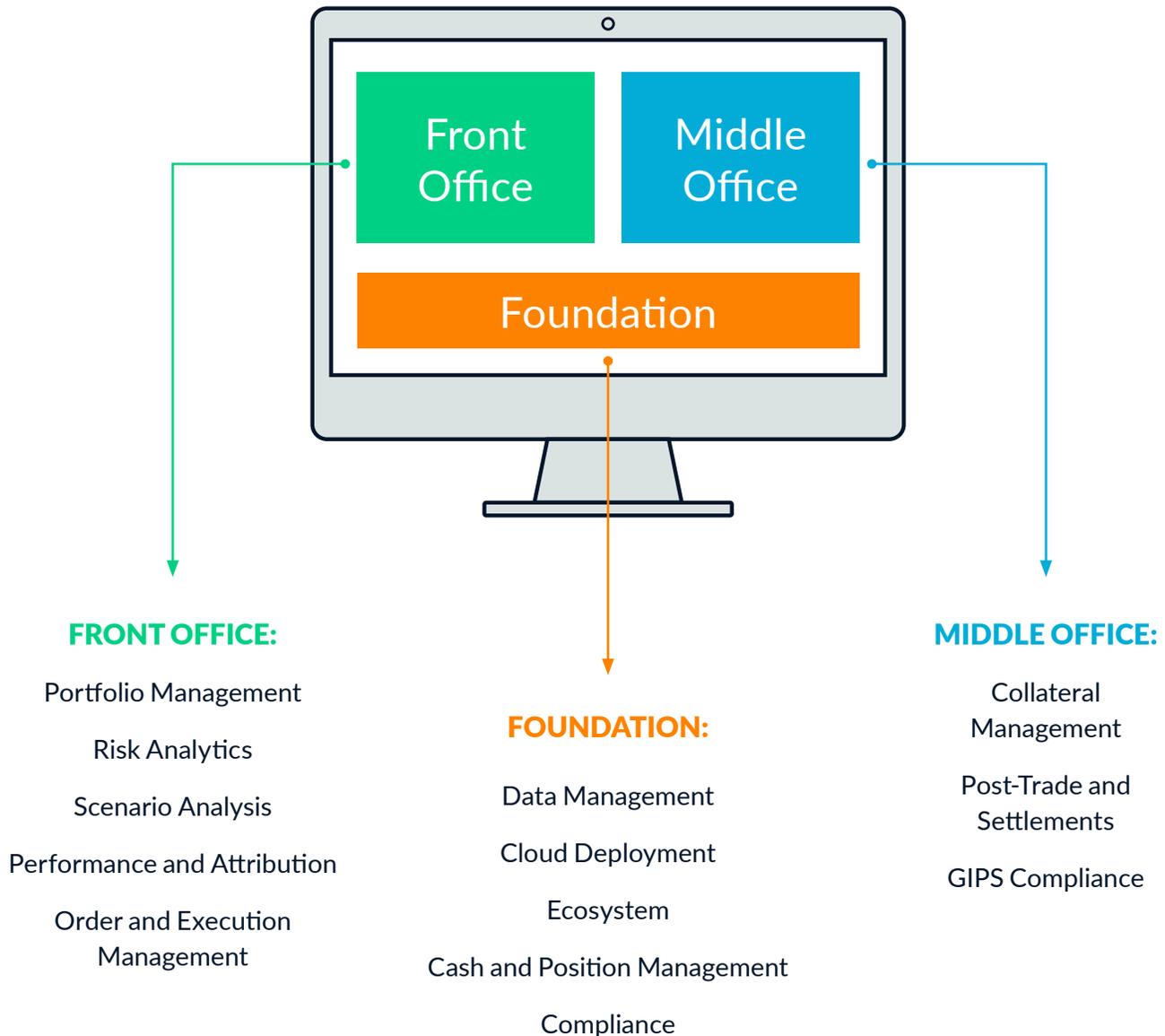
Charles River Investment Management Solutions (Charles River IMS) is an enterprise investment management solution that helps managers streamline and centralize their operating models with modern, cloud-based technology that helps reduce operational costs and risk, support timely investment decisions, and speed time to market.

Relied on by investment professionals globally, Charles River IMS supports the entire investment lifecycle across asset classes on a single platform, 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 capabilities, Charles River's cloud-deployed software technology forms the foundation of State Street AlphaSM, the industry's first front to back investment servicing platform from a single provider.



Charles River Front Office



PORTFOLIO MANAGEMENT



RISK ANALYTICS



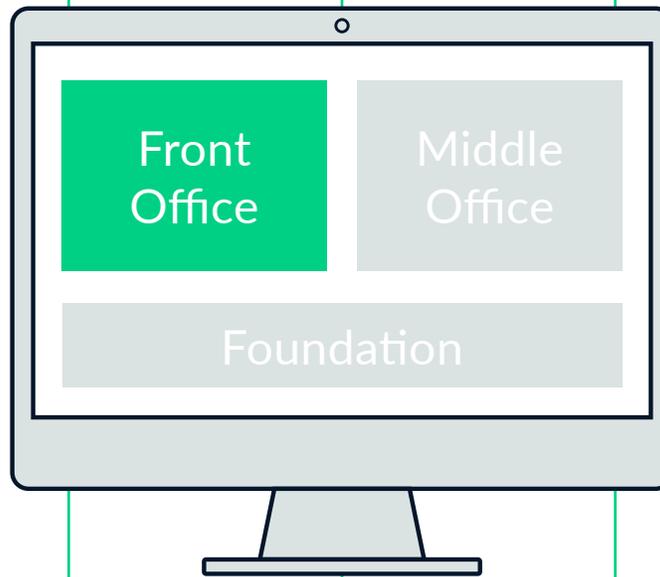
SCENARIO ANALYSIS



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 analytics 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 encumber. 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.

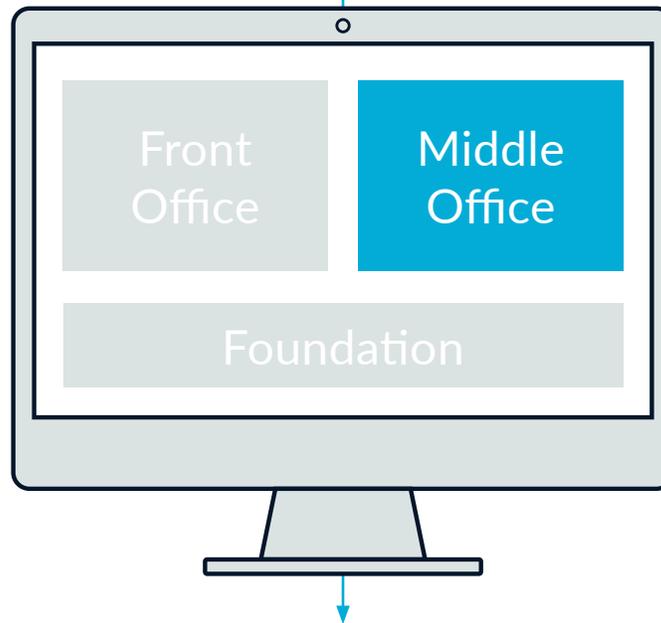


GIPS COMPLIANCE



Maintain and Validate GIPS Compliance

Our Performance Measurement & Attribution (PMA) capabilities for portfolio managers help enable compliance with Global Investment Performance Standards (GIPS). 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 DEPLOYMENT

Operate From a Secure, Scalable and Highly Performant Platform

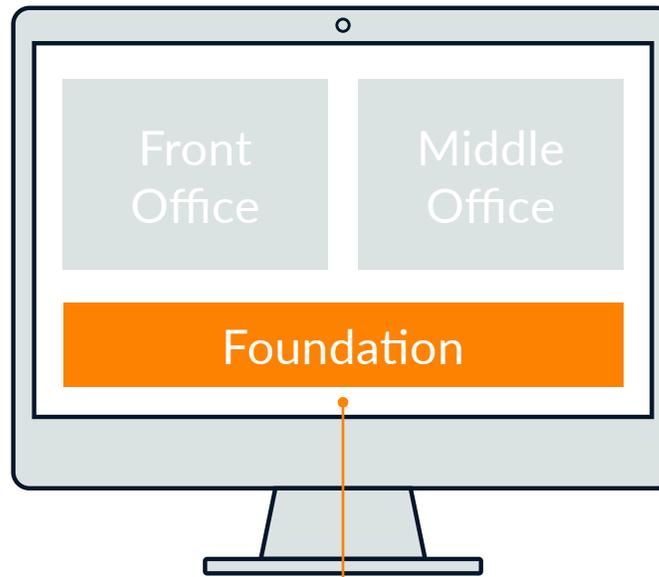
Deployed on Microsoft® Azure, our platform helps enable timelier investment decisions, helps you comply with growing regulatory requirements, and scales seamlessly to support organic and acquisition-based business growth.



DATA PLATFORM

Capture, Curate and Leverage Internal and External Data

Capture 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 using our cloud-based data warehouse.



DATA SERVICES

Designed for Consistent and Accurate Data

Global pricing, reference, benchmark, 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.



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

Comply with Complex Regulations

Help meet your regulatory obligations with centralized, scalable compliance monitoring, management and services, leveraging our library of rules for worldwide regulatory requirements and mandates.

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\$30 Trillion in assets. Together with State Street's middle and back office capabilities, Charles River's cloud-deployed 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 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 2021)

Learn more at crd.com/CRIMS

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