

Charles River Data Service

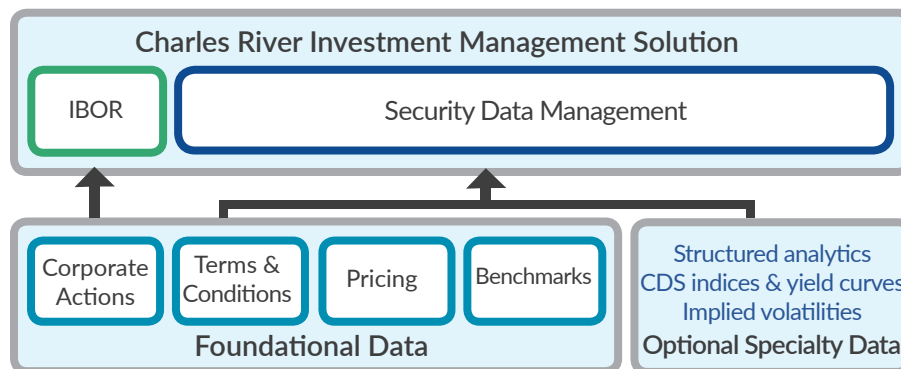
A Single and Comprehensive Source of Data for the Front and Middle Office

The Charles River Data Service provides a single, cost-effective set of foundational data for all asset classes. Security reference, issuer, evaluated and end of day pricing, benchmark/index, corporate actions and real-time market data are accurately mapped across more than a thousand data fields and delivered to the Charles River Investment Management System (Charles River IMS). This ensures that complex fixed income and derivative instruments are fully supported with the data sets required for calculating accrued interest and other analytics.

Charles River provides more comprehensive data to better meet client requirements by coordinating with data vendors to build and maintain interfaces, update changes in data feeds, adapt to new data requirements, and resolve software upgrade issues. SaaS-based delivery ensures 24 x 7 x 365 availability with extensive monitoring and full disaster recovery.

Key Benefits

- Make more informed investment decisions and decrease operational risk with more consistent and accurate data
- Leverage fit-for-purpose data using aggregated data sets from multiple vendors
- Seeks to ensure end user satisfaction with flexible data overrides and real time new security setup
- Helps lower data subscription costs by matching data delivery to actual user requirements
- Aims to increase operational efficiency with a single point of contact for data related issues



Charles River Data Service delivers a comprehensive set of foundational data to the front and middle office.

Security Reference and Issuer Data

Charles River provides validated security reference and issuer data for portfolio management, trading, compliance and risk management that includes:

- Equity and fixed income identification & classification information, terms & conditions, fixed income ratings and bond schedules
- New security setup in portfolio management and trading workflows
- Issuer and entity relationship data, including ultimate issuer
- Choice of data update schedule

Constituent-level Benchmark and Index Data

Charles River imports index, category and constituent-level data for major benchmark families globally to support portfolio modeling and rebalancing, performance measurement, and compliance. This helps increase efficiency, alleviate administrative burdens and reduce errors by simplifying and streamlining data acquisition.

Capabilities include:

- Timely delivery of benchmark constituent analytics, classifications and ratings from leading providers
- Fixed income and equity benchmark data, including returns, statistical, close, adjusted benchmarks
- Custom benchmark support, with blended benchmarks and segment-based carve-outs

Streaming Real-time Data

Charles River streams market data directly into the Charles River IMS, so portfolio managers can perform real-time portfolio valuation and analysis, and traders can identify market entry and exit points. Charles River provides pricing and market data for equities, futures, options and FX rates from over 135 exchanges worldwide, including:

- Price & data snapping across the order lifecycle
- Delayed or real-time streaming quotes
- Time and sales, including historical
- Price history for charting
- Level II market depth

Evaluated and End-of-Day Pricing

Evaluated pricing data provides accurate prices for illiquid fixed income securities to support NAV and other valuation metrics. End-of-day prices are delivered for all actively traded instruments.

Corporate Actions Data

Corporate actions data is required to maintain accurate positions and cash data in the Investment Book of Record (IBOR). Charles River Data Service sources corporate actions data from a leading vendor, providing comprehensive global coverage and depth of data for numerous corporate action types, including capital changes and mandatory and voluntary corporate actions. Data coverage includes 80,000 companies operating in over 100 countries.

Statistics as of October 2019



A State Street Company

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 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 975 employees in 11 regional offices. (Statistics as of October 2019) WWW.CRD.COM

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