Charles River Performance
Performance Measurement, Attribution and Risk Analysis

Extending the Portfolio Management Lifecycle

Charles River Performance provides up-to-date performance measurement, attribution and performance risk analysis (PMAR) and enables GIPS compliance within the Charles River Investment Management System (Charles River IMS). Users can directly store, mine, calculate, analyze and report on multi-asset and multi-currency performance, attribution and risk data on a single platform. Key capabilities include:

- Combine investment reference data with end-of-day warehouse and accounting data for analysis
- Eliminate the need for data consolidation across the components
- Select different methodologies and classifications ‘on the fly’ and recalculate results in real-time
- Calculate transaction-based performance on any timeframe up to daily data frequency

PMAR Highlights

- Provide multi-asset, multi-currency PMAR
- Leverage a single system for a consistent calculation approach
- Eliminate data reconciliation within PMAR
- Run against any index, custom benchmark or model portfolio
- Support GIPS compliance

Best of Breed PMAR Within an Integrated System

Available as a stand-alone module or as part of the Charles River Investment Management System (Charles River IMS), Charles River Performance simplifies the PMAR process by consolidating end-of-day data warehouse and accounting data into the front-office platform. Charles River Performance then combines this data with the comprehensive investment reference data, user interface and reporting capabilities of Charles River IMS. Multiple performance and attribution methodologies are available and can be applied on an account-by-account basis in real-time.

Charles River Performance is seamlessly integrated into the portfolio management lifecycle.
Performance Measurement

Charles River Performance’s single, flexible architecture allows users to easily change performance measurement methodologies and run different methodologies for the same account.

- Select time-weighted and money-weighted methodologies (configurable at account level)
- Run daily or non-daily security-level performance for any asset type
- Roll up performance to any level (multiple classification, total portfolio/benchmark, total composite, etc.)
- Calculate multiple return types (Capital, Income, Base, Local, Currency, Gross, Net)
- Convert performance results to any reporting currency
- Calculate linked performance between any two dates and in any frequency
- Define management fee schedules (calculate net-of-fee returns)
- Import category-level or constituent-level indices and blend for custom benchmarking

Attribution

With Charles River Performance, users can choose the attribution methodology that best meets their business needs and configure the methodology at global system, account or report levels. Additionally, methodologies can be changed in real-time which eliminates the need for system reconfiguration when running reports. Since the entire investment workflow is managed by a single system, users benefit from a consistent calculation approach and consistent PMAR results, including rate-of-return, contribution and attribution data.

- Run daily security-level attribution for any asset type
- “Attribute” active return to investment decisions
- Equity style: allocation, security selection, interaction
- Fixed Income style: income, duration, convexity, spread with two available methodologies
- Conduct currency allocation and timing analysis
- Roll up to multiple classification levels for each security, i.e., by domicile (region, country, currency) or by sector (industry sector or sub sector)
- Use smoothing algorithms for arithmetic calculation
- Sample equity calculations include Brinson-Hood-Beebower, Brinson-Fachler, Karnosky-Singer, arithmetic, geometric, top-down and bottom-up

Performance Risk

Charles River Performance calculates and reports on a variety of ex-post risk measures based on historical returns of portfolios, composites or benchmarks. In addition to calculating the risk measures, the system also allows certain risk measures to be used for further risk contribution and attribution analysis. Risk contribution allows the decomposition of a given risk measure to each category and security, while risk attribution analyzes the amount of risk caused by each investment step, such as allocation or selection decisions.

- Run daily security-level risk analysis for any asset type
- Roll up to multiple classification levels for each security
- Calculate absolute risk measures for portfolios or relative risk measures against user-selected benchmarks
- Calculated risk measures include: Volatility, Variance, Sharpe Ratio, Tracking Error, Information Ratio, Beta, Jensen’s Alpha, Treynor Ratio, M2
Enabling GIPS Composites

Charles River Performance allows the creation and maintenance of GIPS Composites, along with their policies and footnotes. It also keeps an audit trail of changes for future auditing. By sharing reference data (security master, classifications, accounts, etc.) with the portfolio management and trading systems, GIPS users can ensure they have the most up-to-date view within a single application.

- A single performance reference data repository delivers consistent data across the PMAR workflow
- Methodologies are consistent with GIPS recommendations
- Create, maintain and store composites for a full audit trail
- Customize report footnotes and disclosures

Robust Reporting

Charles River Performance gives users multiple reporting options to generate and export reports in either interactive or batch mode, and view them within Charles River IMS or a web browser. Reporting capabilities include:

- 50+ standard, user-configurable, out-of-the-box reports, including composite reports
- Security level, category level and total level data display
- Up to 9 levels of cascaded classifications
- Reports between any two dates and in any frequency (based on underlying data) and in any currency

Charles River Manager Workbench Integration

Charles River Performance’s real-time integration with Charles River Manager Workbench (Charles River Manager’s central workspace) enables clients to directly access all Charles River Performance return, contribution, attribution and risk data for each portfolio, for a variety of timeframes, and user-defined classification levels. They can quickly and easily create customized portfolio views, conduct benchmark comparisons, generate “what if” orders, run and monitor pre-trade compliance and more.

The Manager Workbench’s classification structure works seamlessly with Charles River Performance, enabling users to dynamically group, sort and report these results at any level (i.e., security, category and total). For example, users can configure data in individual columns to display desired time frames (e.g., since inception, year-to-date, month-to-date, etc.). The performance engine automatically calculates performance, attribution and risk results, and refreshes the Manager Workbench data view. This flexible data analysis helps to streamline the portfolio management process.

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Customize individual views by selecting columns with desired timeframes and adding dynamic grouping and sorting options.
Reduced Risk and Cost
Charles River Performance centralizes the maintenance of all underlying performance data resulting in reduced risk, cost and time compared to maintaining multiple applications:

- Save integration time and costs by eliminating the need to integrate a stand-alone PMAR system with existing systems
- Automatically reconcile data (performance, attribution, risk, etc.) by eliminating multiple data feeds from disparate systems
- Reduce inaccuracies by easily restating performance data (price changes, corporate actions, etc.). Charles River IMS automatically imports, validates and stores source and performance reference data in a single repository
- Enhance data control and reduce risk by easily configuring user privileges

Charles River Investment Management Solution
The Charles River Investment Management Solution (Charles River IMS) automates front- and middle-office investment management functions for buy-side firms in the institutional asset and fund management, private wealth, alternative investments, insurance, banking and pension markets. Charles River helps more than 350 clients in 43 countries optimize operations, reduce risk, and improve reliability and consistency with:

End-to-End Investment Lifecycle Support - Charles River IMS supports the entire investment lifecycle including portfolio management, performance and risk, compliance monitoring, order and execution management and post trade processing, with broad asset class support and integrated compliance management throughout.

Cloud-Based Managed Services - Charles River helps firms control operational risk, simplify day-to-day system management, and lower technology costs by hosting and managing the enterprise software application, data and FIX network in a private cloud.

One Platform for Multiple Business Lines - Charles River IMS supports the needs of institutional asset and fund managers, wealth managers, alternative investment managers and hedge funds. Diverse institutions can simplify and consolidate operations on a single, lower-cost platform.