

CLEARWATER
ANALYTICS®

THE CLEARWATER SOLUTION

ACCOUNTING • COMPLIANCE • PERFORMANCE • RISK

Clearwater's Approach

Clearwater provides the infrastructure our clients need to responsibly manage investments, diversify asset classes, and scale with any data management needs that may arise in the future. Investors need to have access to the most accurate, timely, and integrated portfolio data available to make informed decisions, drive periodic reporting requirements, and maintain ongoing portfolio analysis.

Automated Data Aggregation

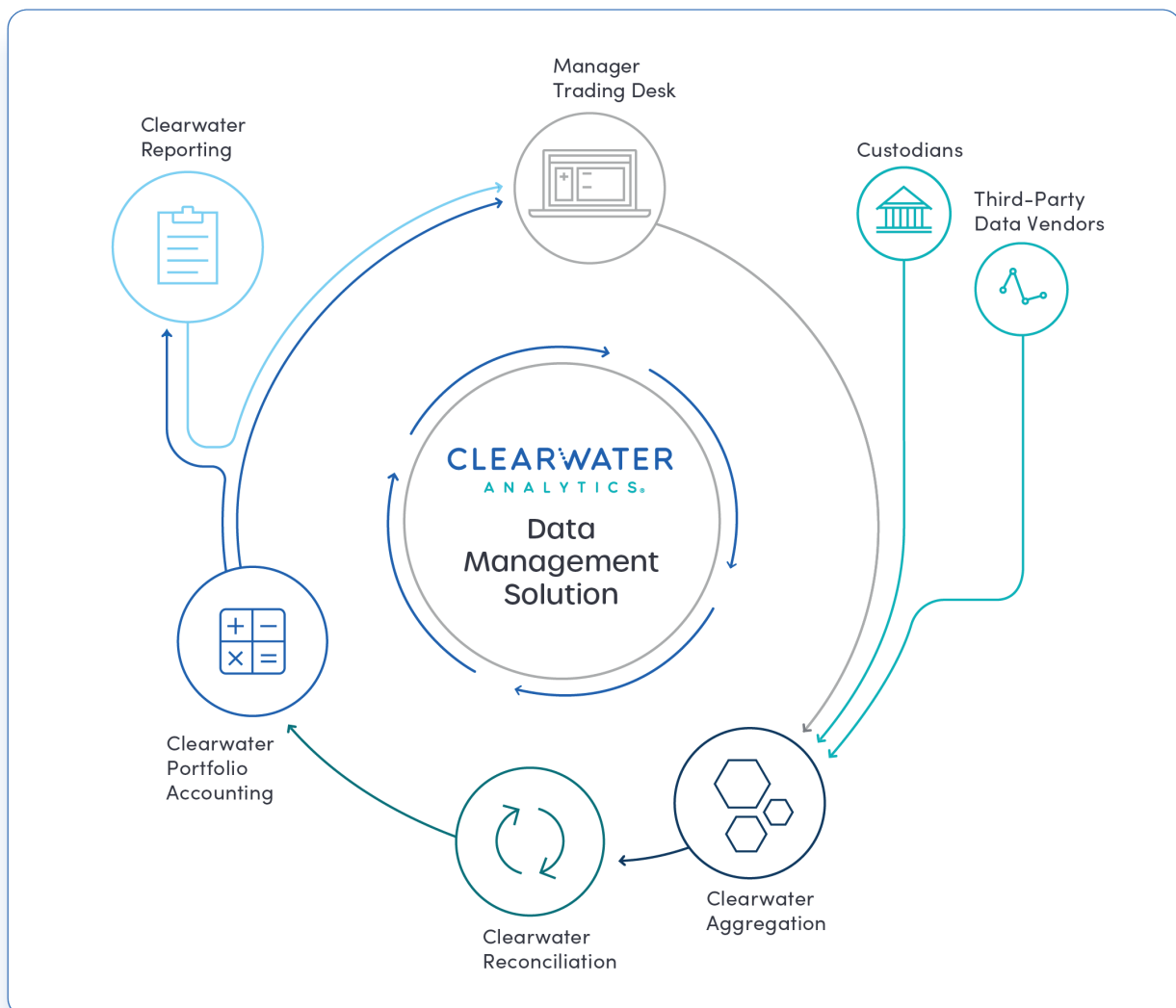
Clearwater builds and maintains hundreds of connections to investment managers, fund administrators, custodians, brokers, and data vendors. This provides a centralised system for back-office and security master data.

Data Reconciliation and Validation

Clearwater reconciles cash, positions, and transactions between various sources (investment managers, custodians, and others). Clearwater has teams dedicated to enriching and standardising security master data for various asset classes, including accounting and performance verifications.

Portfolio Accounting and Reporting

These processes feed Clearwater's multi-asset class, multi-currency, multi-basis investment accounting and performance system, which produces accruals, book values, market values, and other accounting data needed to drive both the daily trading cycle, as well as the other reporting and analysis functions.



Accounting

Clearwater provides accounting for multiple asset classes and currencies to accommodate insurers' needs across the globe. The system can be configured to any accounting basis including IFRS, GAAP, Tax, and others.

Easily customise disclosure reports and other standard balance sheets, income statements, and roll-forward reports. You can group data on multiple levels, write

formulas, pivot, and add or remove non-module-specific data points. Accounting information can be pulled into varying types of reports, like risk and performance, to allow for a more comprehensive analysis.

Powerful automation provides standardised investment-related disclosures such as Fair Value Hierarchy and Level 3 Roll-Forward.

SAMPLE REPORTS

- Roll-Forward
- Multi-Basis Tie-Outs
- (IFRS, GAAP, Tax, etc.)
- Tax Lot Holdings
- Transaction Detail
- Payables and Receivables
- Net Income Detail
- Impairment Analysis
- Amortisation/Accretion
- Custom Footnotes and Disclosures
- Historical Financials
- Trial Balance

The screenshot shows the 'ACCOUNTING' menu in the Clearwater Analytics interface. The menu is open, displaying a list of report options. The 'General Ledger' option is selected, and a sub-menu is visible showing further options like 'Financials', 'Historical Financials', 'Trial Balance', 'Activity Detail', 'Entry Summary', 'Entry Detail', 'Entry File', 'GL Balance Sheet by Lot', 'GL Income Detail', 'GL Interest Income', 'GL Amortization/Accretion', and 'GL Realized Gain/Loss'. The background shows a table with columns for 'Account', 'Identifier', and 'Description', listing various 'Demo-Govt Small Cap' entries.

The screenshot displays the 'Tax vs GAAP Comparison' report for 'Demo-Core Fixed Income USD (82695) as of 12/31/2019'. The table has the following columns: Account, Identifier, Description, Holding Period, TAX Book Value, Book Value, TAX vs GAAP Book Value, TAX vs GAAP Original Cost, TAX vs GAAP Accumulated Amortization, and TAX vs GAAP Accumulated Accretion. The data shows various 'Demo-Core Fixed Income' entries with their respective holding periods and values.

Account	Identifier	Description	Holding Period	TAX Book Value	Book Value	TAX vs GAAP Book Value	TAX vs GAAP Original Cost	TAX vs GAAP Accumulated Amortization	TAX vs GAAP Accumulated Accretion
Demo-Core Fixed Income ...			ST	880,866.78	885,155.05	4,288.27	0.00	1,630.79	2,657.47
Demo-Core Fixed Income ...			ST	1,864,268.93	1,873,442.00	9,173.06	0.00	1,568.57	7,604.49
Demo-Core Fixed Income ...			LT	4,843,250.00	4,865,975.70	22,725.70	0.00	0.00	22,725.70
Demo-Core Fixed Income ...			LT	989,280.00	990,890.61	1,610.61	0.00	0.00	1,610.61
Demo-Core Fixed Income ...			LT	17,815,860.00	17,843,573.20	27,713.20	0.00	0.00	27,713.20
Demo-Core Fixed Income ...			LT	4,940,700.00	4,949,577.81	8,877.81	0.00	0.00	8,877.81
Demo-Core Fixed Income ...			LT	988,460.00	990,189.30	1,729.30	0.00	0.00	1,729.30
Demo-Core Fixed Income ...			LT	9,922,300.00	9,934,131.23	11,831.23	0.00	0.00	11,831.23
Demo-Core Fixed Income ...			LT	3,006,935.78	3,006,935.78	0.00	0.00	0.00	0.00
Demo-Core Fixed Income ...			LT	1,987,760.00	1,989,645.35	1,885.35	0.00	0.00	1,885.35
Demo-Core Fixed Income ...			LT	502,080.64	502,080.64	0.00	0.00	0.00	0.00
Demo-Core Fixed Income ...			ST	20,707,975.75	20,707,977.00	1.25	0.00	0.00	1.25
Demo-Core Fixed Income ...			ST	5,985,000.00	5,987,340.44	2,340.44	0.00	0.00	2,340.44
Demo-Core Fixed Income ...			LT	6,919,500.00	6,923,299.64	3,799.64	0.00	0.00	3,799.64
Demo-Core Fixed Income ...			LT	4,983,500.00	4,986,003.87	2,503.87	0.00	0.00	2,503.87
Demo-Core Fixed Income ...			LT	10,000,000.00	10,000,000.00	0.00	0.00	0.00	0.00

Compliance

Clearwater provides actionable, up-to-date information regarding portfolio compliance on a daily basis. The compliance module is fully integrated with your accounting book of record data and can track any data point on the Clearwater system, across multiple accounts, managers, or business units.

This independent monitoring proactively sends you compliance status notifications, including:

- Internal investment policy and state policy monitoring
- Automatic email notifications
- Complete history and analysis

CLEARWATER ANALYTICS DASHBOARDS ▾ ACCOUNTING ▾ COMPLIANCE ▾ PERFORMANCE ▾ RISK ▾ STATEMENTS ▾

Status: Demo-CC/INT Agg (85850) as of 12/31/2019

Compliant	Account	Policy Name	Total Rules	Compliant Rules	Violating Rules	Policy Download
✓	Demo-CC/INT Large Cap	Credit Events	1	1	0	
⚠	Demo-CC/INT Large Cap	Large Cap Sample Policy	30	26	4	
⚠	Demo-CC/INT Mid Cap	Mid Cap Sample Policy	27	20	7	

Status	Account	Policy Name	Category Name	Rule Name	Actual Value	View Contributors	Days In Violation	Actual Value without Resolutions	Limit Value	Edit Limit	Notes	View/Edit Notes	Resolutions	View/Edit Resolutions
+	Concentration													
+	Credit													
+	Currency													
+	Duration													
✓	Demo-CC/INT Large Cap	Large Cap Sample Policy	Duration	Allowable Margin Above Index	0	View	0.000	0.000	0.370	Limit	N	Notes	N	Resolutions
⚠	Demo-CC/INT Large Cap	Large Cap Sample Policy	Duration	Allowable Margin Below Index	360	View	1.354	1.354	1.000	Limit	N	Notes	N	Resolutions
✓	Demo-CC/INT Large Cap	Large Cap Sample Policy	Duration	Max Maturity From Trade Date In Year...	0	View	3.263	3.263	10.000	Limit	N	Notes	N	Resolutions
✓	Demo-CC/INT Large Cap	Large Cap Sample Policy	Duration	Maximum Average Duration	0	View	0.496	0.496	0.750	Limit	N	Notes	N	Resolutions
⚠	Demo-CC/INT Large Cap	Large Cap Sample Policy	Duration	Maximum Maturity (in years)	2514	View	1.959	1.959	1.530	Limit	N	Notes	N	Resolutions
⚠	Demo-CC/INT Large Cap	Large Cap Sample Policy	Duration	Maximum Weighted Average Life for A...	94	View	6.307	6.307	1.500	Limit	N	Notes	N	Resolutions

Status	Account	Policy Name	Category Name	Rule Name	Days In Violation	View Contributors	Actual Value	Actual Value without Resolutions	Limit Value	Edit Limit	Notes	View/Edit Notes	Resolutions	View/Edit Resolutions
⚠	Credit													
⚠	Demo-CC/INT Large Cap	Large Cap Sample Policy	Credit	BBB / Baa	8	View	0.066	0.066	0.000	Limit	N	Notes	Y	Resolutions
+	Duration													
⚠	Demo-CC/INT Large Cap	Large Cap Sample Policy	Duration	Allowable Margin Below Index	360	View	1.354	1.354	1.000	Limit	N	Notes	N	Resolutions
⚠	Demo-CC/INT Large Cap	Large Cap Sample Policy	Duration	Maximum Maturity (in years)	2514	View	1.959	1.959	1.530	Limit	N	Notes	N	Resolutions
⚠	Demo-CC/INT Large Cap	Large Cap Sample Policy	Duration	Maximum Weighted Average Life for A...	94	View	6.307	6.307	1.500	Limit	N	Notes	N	Resolutions

Compliant	Account	Identifier	Description	Value	Portfolio Percent	Rating	Base Net Total Unrealized Gain/Loss	Base Market Value + Accrued	Notes	View/Edit Notes	Resolutions	View/Edit Resolutions
⚠	Demo-CC/INT Large Cap			1.576	0.049%	A+	1,438.75	859,805.31	N	Notes	N	Resolutions
⚠	Demo-CC/INT Large Cap			1.945	0.035%	A	17,844.58	618,834.07	N	Notes	N	Resolutions
⚠	Demo-CC/INT Large Cap			1.592	0.040%	A-	1,147.08	710,495.86	N	Notes	N	Resolutions
⚠	Demo-CC/INT Large Cap			1.792	0.083%	A+	3,331.52	1,458,114.86	N	Notes	N	Resolutions
⚠	Demo-CC/INT Large Cap			1.619	0.029%	A+	11,675.47	517,910.47	N	Notes	N	Resolutions
⚠	Demo-CC/INT Large Cap			1.639	0.049%	A-	2,447.64	870,117.49	N	Notes	N	Resolutions
⚠	Demo-CC/INT Large Cap			1.688	0.019%	A-	7,466.79	340,613.26	N	Notes	N	Resolutions
⚠	Demo-CC/INT Large Cap			1.754	0.029%	A-	14,691.20	508,620.97	N	Notes	N	Resolutions
⚠	Demo-CC/INT Large Cap			1.685	0.036%	AA-	16,743.73	635,411.80	N	Notes	N	Resolutions

SAMPLE REPORTS

- Status
- Contributors
- History by Date
- History by Rule
- Audit

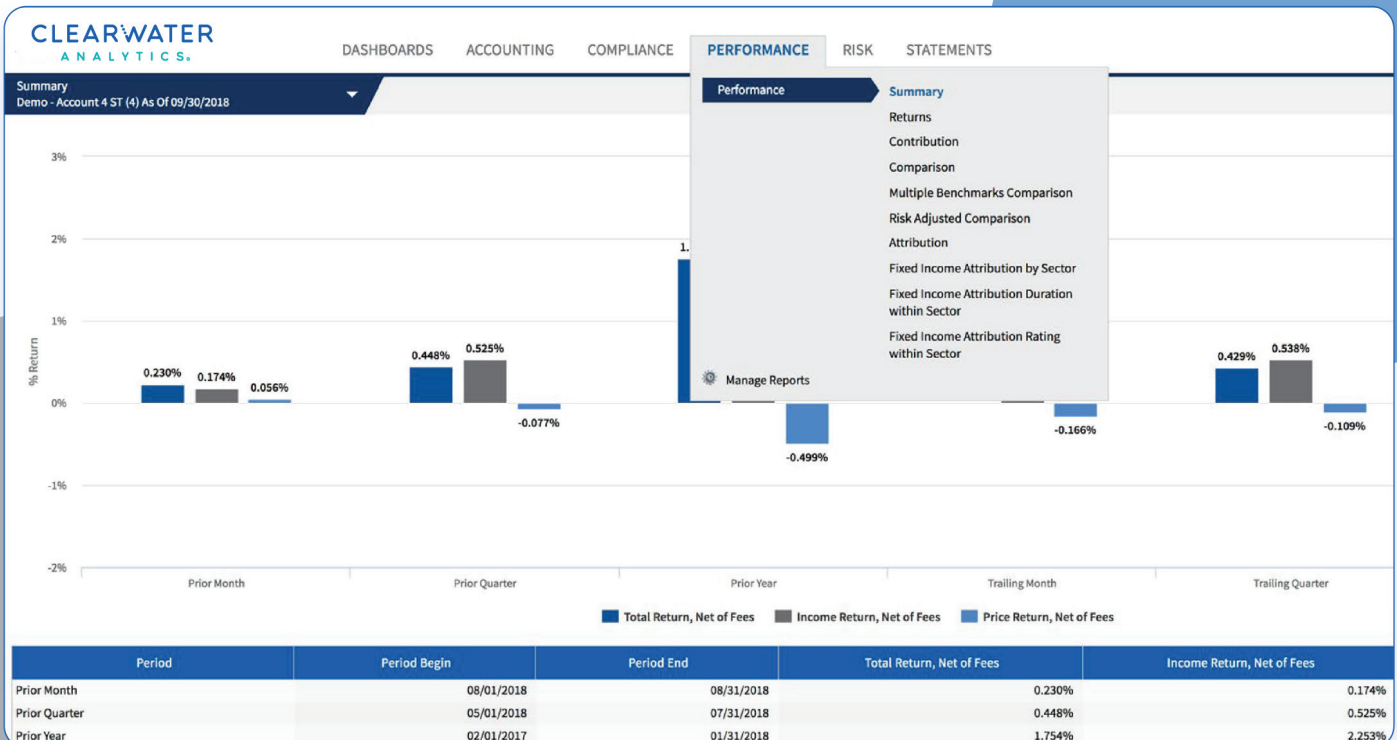
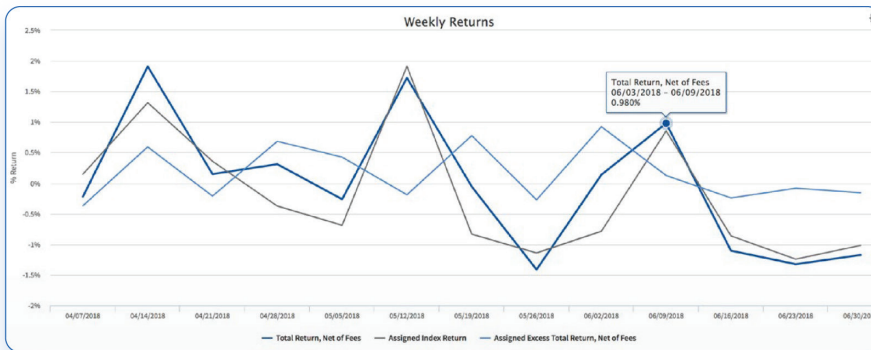
Performance

Clearwater's versatile performance reports offer users the most valuable, accurate, and relevant information for performance measurement. Additionally, these reports are integrated with the Clearwater accounting module, which provides daily reconciled data. This integration enables clients to have in-depth insight into the underlying factors contributing to a portfolio's market value.

- Analyse different return types: time-weighted returns, money-weighted returns, book returns, price returns, and income returns
- Incorporate multiple time range selection, gross up/gross down tax methodology, and different fee types for comparative analysis

SAMPLE REPORTS

- Performance Summary
- Performance Returns
- Performance Details
- Performance Comparison
- Benchmark Comparison
- Risk-Adjusted Comparison
- Contribution
- Equity Attribution
- Fixed Income Attribution

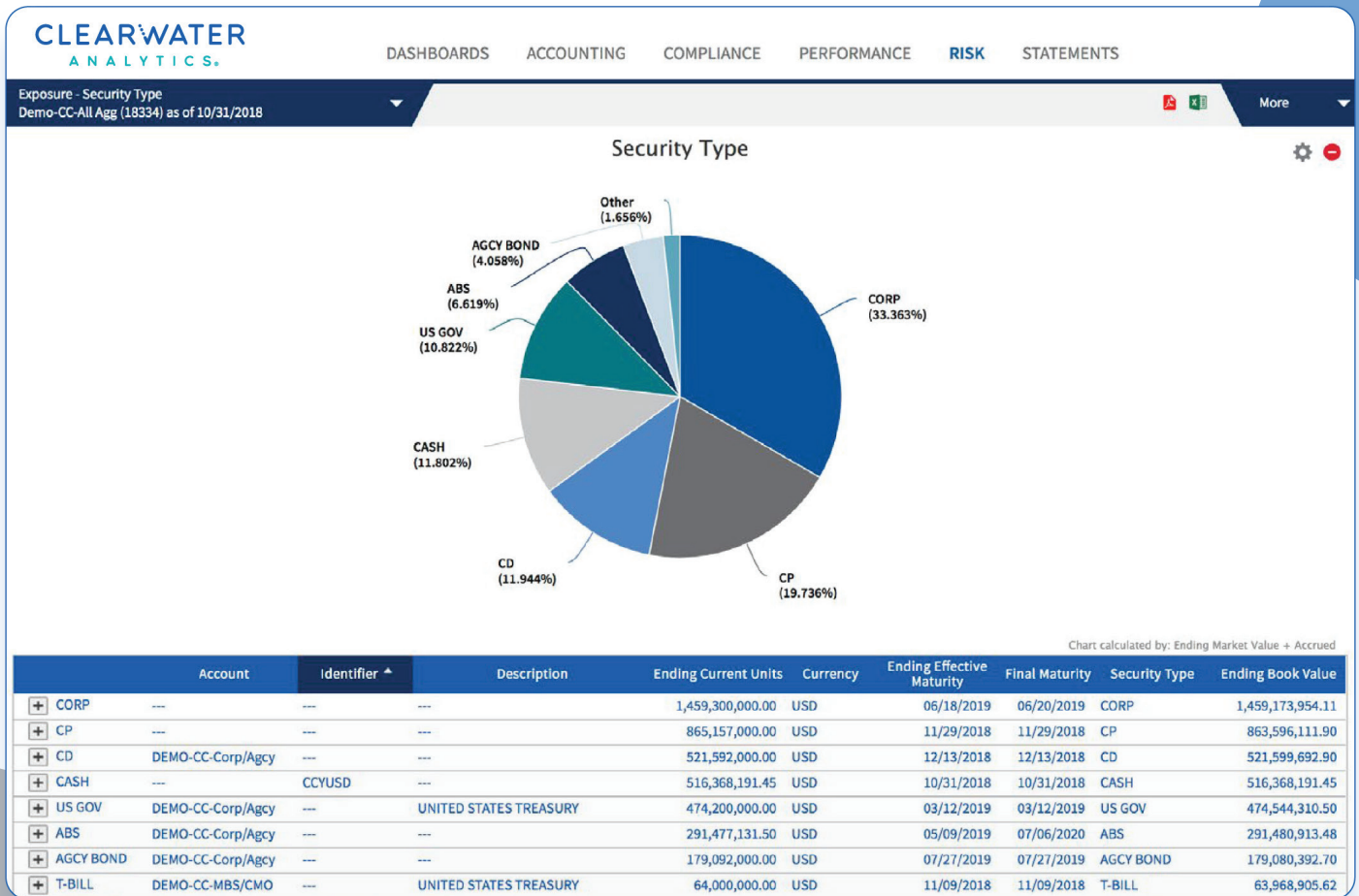


Risk

Clearwater provides insightful risk analytics on-demand to ensure investment teams have access to their clients' portfolio exposures. Utilise timely and actionable data to analyse by issuer, currency, country, duration, credit rating, and more. Risk summary reports have drill-down capabilities to display the underlying data at the tax lot level.

With Clearwater, you'll have access to data for better portfolio analysis, including:

- Multiple and blended benchmark comparisons
- Credit rating monitoring and downgrade notifications
- Cash flow forecasting
- Value at risk (VaR)



SAMPLE REPORTS

- Issuer Exposure
- Security Type Exposure
- Currency Exposure
- Country Exposure
- Duration Exposure
- Industry Sector Exposure
- Credit Rating Exposure
- Index Comparison
- Credit Events
- Shock Analysis
- VaR
- Historical Trends
- Historical Exposure
- Cash Flow Forecast

CLEARWATER

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Clearwater Analytics is a global SaaS solution for automated investment data aggregation, reconciliation, accounting, and reporting. Clearwater helps thousands of organisations make the most of investment portfolio data with cloud-native software and client-centric servicing. Every day, investment professionals worldwide trust Clearwater to deliver timely, validated investment data and in-depth reporting. ©2021 Clearwater Analytics. All rights reserved. This material is for information purposes only. Clearwater makes no warranties, express or implied, in this summary. All technologies described herein are registered trademarks of their respective owners in the United States and/or other countries.

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