asi advisor software™

WEALTH MANAGEMENT PLATFORM

Scalable & Reliable Cloud Infrastructure

Rebalancer

Goal-Based Financial Planning

Automated Digital Advice

FinTech APIs

Behavioral Finance

Investment Proposal

API CATALOG

2019

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INTRODUCTION

Who is **Advisor Software?**

We developed the Advisor Software Wealth Management Cloud platform to empower financial institutions. Since our founding in 1995, over 100,000 advisors have benefited from our innovations.

We are financial services experts.

Hiring the best and brightest drives our product-development strategy, and our team members bring decades of finance experience to the world of financial software. Prior to founding Advisor Software, CEO Andrew Rudd, Ph.D, was a cofounder and the former chairman of Barra, which led the market in portfolio-risk management; Barra was later acquired by Morgan Stanley Capital International (MSCI). Rudd is an acclaimed expert in modern portfolio theory, quantitative analysis, asset allocation, and risk management.

WE ADVANCE THE

SCIENCE *of*

WEALTH PLANNING

We pioneer innovative solutions.

Advisor Software built the first enterprise-level portfolio rebalancing solution, scalable to tens of thousands of advisors. We went on to create the first goal-driven, end-to-end platform for delivering a dynamic wealth plan—one that can address an investor's entire financial life while also evolving as market conditions and personal circumstances change. Our patented, integrated platform is the first to unite financial planning and investment management in one straightforward process.

SO YOU CAN FOCUS ON

THE ART *of*

ADVICE DELIVERY

We design intuitive cloud technology.

Efficiency shouldn't slow you down. Our solutions are always simple to use and easy to implement. The architecture of the Advisor Software Wealth Management Cloud allows for greater operational stability and utility, without requiring increased head count or incurring additional support costs. It's no surprise that, across all sorts of industries, cloud solutions are becoming the norm: They're reliable, flexible, and support a variety of integrations.

What are **APIs?**

In computer programming, an Application Programming Interface is a set of routines, protocols, and tools for building software applications. Well-designed APIs make it easy for you to quickly develop a complete program—or simply supplement an existing app—while still controlling the required functions and customizing the desired features.

We provide the building blocks. Your programmers assemble them in alignment with your brand and needs.

OUR APIs

What is the Advisor Software **Wealth Management Cloud?**

It gives you access to institutional-caliber analytics and tools in the form of APIs.

- Access fully customizable, cloud-based applications and widgets that deliver investment advice and wealth-planning solutions.
- Accessible API's instantly trigger actions or notifications across your enterprise and your consumer products based on your custom rules.
- Robust data management, analyze and manage terabytes of information on our secure, multi-tenant data architecture.
- It's open architecture. Conveniently integrate your existing systems with not only our cloud services but also other vendors' products.
- It's configurable admin tools. Support specific business goals with our user-friendly platform, which makes it easy to configure advanced features.

Whether you're looking to create new tools for end users, enhance practice-management applications, or even build your own "robo advisor," the Advisor Software Wealth Management Cloud platform lets you deploy new financial solutions more efficiently—and effectively—than ever before.

What are the **API categories?**

We have grouped our APIs into three main categories, with additional subcategories for further refinement.

High-Value Analytics APIs

Deftly tackle the toughest calculations and tasks:

- **Investment Planning**. Match financial goals and objectives with investment resources.
- **Financial Planning**. Analyze an investor's current and future financial states to reach goals.
- **Portfolio Analytics**. Quantify various portfolio attributes, such as risk and return.
- **Portfolio Management**. Determine an investment mix based on policy, objectives, and risk relative to performance.

Value-Added Services APIs

Enrich your user experience and make your apps more versatile:

- **Alerts**. Notify an end user, based on specific events or triggers.

Administrative Features APIs

Manage vast amounts of data and support complex, advanced APIs:

- **Utilities**. Perform routine tasks, such as retrieving account data or model portfolios.
- **Connectors**. Unite valuable account information to generate a holistic view.

HIGH-VALUE **ANALYTICS** APIs

Risk Questionnaire

INVESTMENT PLANNING

Our series of Questionnaire APIs allow our clients to create and update the questions, answers and scoring behind a risk questionnaire. Based on a user's answers to a questionnaire, our Questionnaire Score API returns a score and an associated profile label.

Model-Portfolio Selection

INVESTMENT PLANNING

Our Model-Portfolio Selection API factors a client's risk tolerance, their goal's time horizon, and the ratio of goal investment to total assets in order to determine a client's overall risk profile. The API responds with the optimal model portfolio that's mapped to that risk profile.

Household Balance Sheet

FINANCIAL PLANNING

Our Household Balance Sheet API constructs a household's balance sheet using a firm's capital market assumptions and weighing current and future plan resources against goals and expenses to determine funding levels.

- **Discount Rates.** A range of discount rates used for calculating current value of future cash flow events.
- **Tax Rates.** The ability to set both Long Term and Short Term tax rates used for calculating tax exposure for liquidated positions.
- **Fees and Penalties.** The ability to include the payment of both account fees or early withdrawal penalties when liquidating accounts
- **Future Contributions & Withdrawals.** The ability to insert future period cash flow events for any future date (with or without cola) covering both future saving and expenses throughout the time horizon.
- **Time Horizon.** The ability to set the analysis for a set time period or for the life expectancy of the household members. .

Capital Market Assumptions

INVESTMENT PLANNING

Our Capital Market Assumptions API allows for the client to create and update on demand the future expected risk and return for each asset class, including inflation. This information is used in the construction in real-time of a unique factor model for the client and is used in our forward looking Monte Carlo Simulation.

Education

FINANCIAL PLANNING

Our series of Education APIs enable investors to identify the true cost of a child's university education, covering tuition, living expenses etc. The API includes data on over 5,000 educational institutions each with a unique inflation rate calculated by the ASI Research team. The API provides a forward valuation of educational costs enabling the investor to plan.

Deterministic Goal Solver

FINANCIAL PLANNING

Our Deterministic Goal Solver APIs are an important planning tool for clients looking to successfully fund their goals. These five APIs work together—and can be adjusted individually—to determine the recommended amounts and values for on-time funding. These APIs can also perform a hypothetical "what-if" analysis based on alternative configurations of the attribute settings.

- **Goal Target.** The anticipated or desired goal amount, given other set parameters.
- **Lump-Sum Deposit.** The recommended lump-sum amount to deposit today to kick off goal funding, given other set parameters.
- **Monthly Deposit.** The recommended amount of savings to deposit each month toward a goal, given other set parameters.
- **Necessary Return.** The portfolio return that is ideal for ensuring consistent goal progress, given other set parameters.
- **Time Horizon.** The amount of time that should be allowed for completing a goal, given other set parameters.

HIGH-VALUE **ANALYTICS** APIs

Progress-to-Goal Monte Carlo Simulation

FINANCIAL PLANNING

Our Progress-to-Goal Monte Carlo Simulation API estimates the likelihood of a goal being funded successfully, based on an advanced Monte Carlo Simulation.

- **Portfolio(s) or Model(s).** The API accepts one or more securities based portfolios or model portfolios. Models are stored in the ASI database.
- **Time Horizon.** Analysis may be run for any period up to 80 years.
- **Taxation.** The MCS analysis can be run as taxable (with user defined long term and short term tax rates), tax deferred and tax free.
- **Rebalancing.** The MCS supports various rebalancing frequencies.
- **Capital Market Assumptions.** User may enter his firms expected risk and return assumptions (including inflation) to create a unique MCS factor model.
- **Target Success Rate.** User may define for each simulation, the ideal percentage of successful path during the simulation.
- **Recommendation.** Users may receive in the API response a recommendation to increase/decrease investments in order to achieve the Target Success Rate.
- **Income.** Users may define unlimited number of income streams used to fund the goals, occurring throughout the analysis period.
- **Goals.** Users may define unlimited number of payment streams funding the goals, occurring throughout the analysis period.
- **Fees.** Users may elect to include or exclude account fees and expense ratios as a reduction on account values for each path.
- **Model Glide Path.** Simulation may include a glide path of models, simulating reflected changes in the risk score overtime.
- **Wealth Trajectories.** Simulation results include wealth trajectories, cash flows, and results for significant dates.
- **Negative Wealth Trajectories.** As an option, the bankrupt wealth trajectories may be presented as either zero or negative values.
- **Overdraft Costs.** Simulation results include cost of funding negative wealth trajectories.
- **Portfolio Metrics.** The API results include a series of portfolio metrics.

Progress-to-Goal MCS Status

FINANCIAL PLANNING

Our Progress to Goal API provides information on the current Progress to Goal status of all clients.

Portfolio Optimization (available Q4/2018)

PORTFOLIO ANALYTICS

The Portfolio Optimization API identifies the optimal asset class model portfolio based on the advisors asset class risk and return run assumptions.
The Optimization process may be constrained using various levers to generate the recommended portfolio. The API response will provide data points to draw the efficient frontier and associated target asset class model for each plot point. This API is used in conjunction with the new fund screener API to identify the recommended funds necessary to create the desired portfolio.

Monte Carlo Simulation

PORTFOLIO ANALYTICS

Our Monte Carlo Simulation API is used to run thousands of simulations on one or more portfolios over a specified time period, returning a range of wealth projections and risk-and-return metrics for each portfolio. This version can be used in a wealth building scenario when the Target Success Rate is excluded.

Efficient Frontier

PORTFOLIO ANALYTICS

Our Efficient Frontier API quickly returns the expected risk and return percentages for up to five portfolios, aligned to an Efficient Frontier curve. The Efficient Frontier illustration is then used to compare a portfolio with theoretically efficient portfolios.

HIGH-VALUE **ANALYTICS** APIs

Portfolio Comparisons

PORTFOLIO ANALYTICS

Our Portfolio Comparisons APIs compare up to five portfolios across a number of attributes, including asset allocation, style, sector, and geographical analysis.

Asset Allocation

PORTFOLIO ANALYTICS

Our Asset Allocation API rapidly analyzes one or more investment portfolios to determine the asset allocation and asset-class assignments of each holding, then returns a portfolio-level analysis with a percentage allocation and dollar allocation for each asset-allocation subclass. Optionally, the response can also provide details on style allocation to each individual holding within the portfolio.

Sector Analysis

PORTFOLIO ANALYTICS

Our Sector Analysis API analyzes one or more investment portfolios to evaluate its holdings, then determines the GICS sector percentage and dollar allocation for the portfolio and for each individual holding.

Geographic Analysis

PORTFOLIO ANALYTICS

Our Geographic Analysis API analyzes portfolios holdings and returns the country and region weights for up to five portfolios. Optionally, the response can also provide details on geographic allocation to each individual holding within the portfolio.

Annual Returns

PORTFOLIO ANALYTICS

For up to five portfolios, our Annual Returns API gives annual portfolio returns for each year, for up to 10 years. Instead of using a rolling 12-month period, the results are based on a calendar year.

Average Annualized Returns

PORTFOLIO ANALYTICS

For one or more portfolios, our Average Annualized Returns API provides historical average returns for various periods. A typical time frame is one year, three years, five years, 10 years, or since inception within 10 years. This analysis may be configured to provide results based on monthly returns for either individual products or benchmarks.

Historical Performance

PORTFOLIO ANALYTICS

Assuming a starting portfolio value of $10,000, our Historical Performance API analyzes up to five portfolios to return up to 10 years of historical monthly values. This analysis may be configured to provide results based on monthly returns for either model history, individual products or benchmarks.

Historical Risk & Return

PORTFOLIO ANALYTICS

Our Historical Risk & Return API analyzes up to five portfolios, then returns each portfolio's cumulative historical risk and return over a particular period. The desired time frame, up to 10 years, can be specified in the request. This analysis may be configured to provide results based on monthly returns for either model history, individual products or benchmarks.

Leaders & Laggards

PORTFOLIO ANALYTICS

Our Leaders & Laggards API looks at the securities within one or more portfolios (or model portfolios), then ranks the securities from highest to lowest, in terms of positive or negative price change as a percentage, for the current day.

Security-Overlap Analysis

PORTFOLIO ANALYTICS

Our Security-Overlap Analysis API analyzes a portfolio to determine the total exposure to each security, relative to other securities in the portfolio. This API can perform an analysis across all holdings, including mutual funds.

HIGH-VALUE **ANALYTICS** APIs

Fund Metrics

PORTFOLIO ANALYTICS

This analyzes funds and provides historical data points for alpha, beta, sharp ratio, and duration.

Portfolio Risk Analysis

PORTFOLIO ANALYTICS

The Portfolio Risk Analysis API supports the functions of portfolio construction, investment monitoring and performance analysis relative to risk exposure, both factor and specific vs. prospective or incurred returns.
The Portfolio Risk Analysis API analyzes a target portfolio against any number of portfolios to determine overall portfolio risk, based on 19 risk factors, 55 industries and 12 industry sub-sectors. The results are presented at both the portfolio and individual security/fund level.

» Summary of each Portfolio: Factor Risk, Specific Risk, Total Risk
» Portfolio Comparison: Active factor Risk, Active specific risk, Active total risk, Beta
» Portfolio Holdings Risk: Marginal contribution, Risk contribution, Return contribution
» Portfolio Risk Exposure: Sector, Industry, Style and Risk factor exposure
» Portfolio Comparison by Sector: Sector exposure and Active risk.
» Portfolio Comparison by Industry: Industry exposure and Active risk.

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Portfolio Shocks

PORTFOLIO ANALYTICS

Our Portfolio Shocks API performs a scenario analysis for a portfolio or portfolio set, greatly simplifying the process of back-testing portfolios against a historical event, these cover both positive and negative US and International market movements such as a tech bubble crash and recovery period after a recession. The API leverages calculations performed in the Portfolio Risk Analysis API to calculate Risk.
» Return Percentiles: The API will respond with percentiles ranging from 10th to 90th percentage of results. expressed as a valuation of the portfolio.
»Total Return: A total return is provided for each analysis enabling a quick comparison between portfolios.

Portfolio Rebalancer

PORTFOLIO MANAGEMENT

Our Rebalancer API provides a sophisticated, rules-based engine that facilitates the initial balancing —and subsequent rebalancing— of one or more accounts to a model portfolio. The API may be used as a standalone API to associated with any data held in the ASI database.

» **Data Agnostic:** The API may be used without the need to store human data, account data or preferences within the ASI database. Each element may be included in the API request.
» **Account Holdings.** A rebalancing request may be sent at either the aggregate or lot level for each holding. If lot level data is provided, lot level trades will be generated.
» **Model Portfolio.** User may enter his firms expected risk and return assumptions (including inflation) to create a unique MCS factor model.
» **Prices.** Ability to user to provide market prices.
» **Cost Basis.** Cost Basis data may be provided when used in conjunction with tax strategies.
» **Locked Securities.** Individual may be identified not to be sold during the rebalancing process.
» **Excluded Securities.** Individual may be identified to be removed from the rebalancing process.
» **Equivalencies.** Equivalent groups of securities may be identified to minimize the trading activities or prevent wash sales.
» **Cash Buffer.** A cash reserve may be left in the account after rebalancing, often used to cover fees and minimum distributions
» **Tax Strategy.** When providing lot level data, tax strategies may be submitted to influence the rebalancing algorithm.
» **Drift Analysis.** An analysis of the pre and post account status is provided as part of the API response, providing details on how the accounts holdings will be modified.
» **Trading.** A transaction list of trades necessary to achieve the rebalancing objective is included in the API response.

Ready to **learn more?**

Call us toll-free at 844.257.9255. Let's discuss your product-development roadmap. The right APIs can turn months or years of heavy coding into mere days or weeks of implementation.

Visit advisorsoftware.3scale.net. Our developer portal gives you and your engineers an opportunity to look under the hood of our APIs. We think you'll be impressed by their category and feature coverage. Contact ASI Sales for access credentials

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