



Highlights

- A web-based portfolio construction, risk management and reporting service designed for buy- and sell-side financial institutions including hedge funds, pension funds and asset servicers
 - A standard risk service, bundled with market data to provide a solid foundation for trusted risk analytics
 - Flexibility to customize the risk service to specific requirements
 - Support for multiple investment strategies, asset classes (including OTCs), valuation methodologies, scenario generation techniques and risk/portfolio analytics
 - Advanced usability with an interactive user application
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IBM Algo Risk Service on Cloud

A managed risk service for outsourced portfolio construction, risk management and reporting

Advanced risk and portfolio analytics, configured to your specific requirements

IBM® Algo Risk® Service on Cloud is a web-based portfolio construction, risk management and reporting service designed for buy- and sell-side financial institutions including hedge funds, pension funds and asset servicers. Hosted by IBM and delivered online, this award-winning service offers bundled data and provides access to sophisticated risk management and investment decision support tools without the personnel and hardware costs of maintaining an on-premises deployment. With its customizable, integrated risk framework covering multi-asset classes and access to advanced models, IBM Algo Risk Service on Cloud offers the features of an on-premises financial risk solution in an outsourced service.

IBM Algo Risk Service on Cloud provides advanced risk analytics that includes an extensive range of simulation-based risk measures such as value at risk, tracking error and scenario-based profit and loss estimates following specific curve shifts, index shocks and stress tests. It delivers a variety of analytic functions such as duration, spread duration, yield and exposure calculations at the instrument, portfolio and benchmark levels.

Cover each transformation chain from raw data to risk insight

IBM Algo Risk Service on Cloud offers the flexibility to develop a hybrid approach: a mix of on-premises and on-cloud risk solutions that are better tailored to meet your organization's specific business requirements. It is possible to select an on-cloud deployment while at the same time choosing an on-premises deployment where it may be particularly needed. For example, it is possible to use the on-cloud capabilities to perform asset valuations while keeping the portfolio and risk calculations on-premises.





Figure 1: IBM Algo Risk Service on Cloud transformation chain

Features and benefits

Supports a broad range of investment strategies, asset classes and market data

IBM Algo Risk Service on Cloud is bundled with market data and supports different investment strategies, spanning a wide range of asset classes, including exchange-traded and OTC products. It enables risk analysis to be assessed at the enterprise, portfolio, fund-of-fund or position level, with risk and return measures calculated on an absolute basis or with respect to a portfolio's active exposure, relative to multiple standard or user-defined benchmarks.

- *Asset classes.* IBM Algo Risk Service on Cloud offers broad asset coverage—including more than 20 different geographical markets and 400 financial products—spanning fixed income, foreign exchange, equity, credit, energy, commodity and derivatives markets. This coverage allows a better understanding of the sources of risk in the portfolio, including breakdown by risk factor, asset type, issue, currency, and other aggregation criteria.
- *Investment strategies.* IBM Algo Risk Service on Cloud provides an extensive range of portfolio analytics, risk measures, valuation models, and optimization techniques, calculated on both an absolute and relative basis, covering different investment strategies in a thorough and consistent manner.
- *Market data.* IBM Algo Risk Service on Cloud includes, as part of the subscription fee, market data covering risk factors, scenarios, and terms and conditions for exchange-traded instruments. The data is provided by IBM Algorithmics® Managed Data Services, a specialist market data provider focused on producing transparent, high-quality, consistent market data. The integration and management of high-quality data helps instill greater confidence in the risk numbers.

Bridges the requirements of the front and middle offices

IBM Algo Risk Service on Cloud offers a single, integrated risk framework that addresses the requirements of both the front and middle offices. Designed to simultaneously support the diverse requirements of portfolio managers, risk managers, traders and quantitative analysts, the service enables users to monitor, manage, and optimize risk across different asset classes and investment strategies. By providing a consistent view on risk, the system facilitates discussion and collaboration among a wide range of users and groups throughout the organization.

- *Portfolio Managers.* IBM Algo Risk Service on Cloud supports portfolio managers with an interactive user application for risk assessment and portfolio construction purposes. This workflow environment enables portfolio managers to efficiently and transparently embed risk into the core of their investment and risk budgeting process with extensive optimization and what-if functionality to maximize risk-adjusted performance.
- *Risk Managers.* IBM Algo Risk Service on Cloud helps risk managers to assess the risk of an individual portfolio or the consolidated risk of multiple portfolios and portfolio hierarchies consistently throughout the organization. The underlying scenario-based methodology provides multiple risk perspectives for all risk factors, asset classes, and investment strategies, resulting in a robust, consistent and meaningful view of risk exposure. Advanced reporting tools are also available for different stakeholders.

- *Traders.* IBM Algo Risk Service on Cloud empowers traders with the tools to evaluate the tactical implementation of a portfolio strategy, such as sensitivity and stress testing. Its full valuation approach at an instrument level provides greater accuracy because it addresses non-linearity; for example, optionality is exercised properly. The service also offers a customizable pricing architecture.



Figure 2: Report showing exposure concentration among portfolio and asset types

Provides transparency to instill confidence in risk numbers

Both buy- and sell-side firms face increased investor and regulatory scrutiny of the quality of portfolio valuations and risk calculations. IBM Algo Risk Service on Cloud provides transparency regarding the source, quality and evolution of both the risk factor and terms and conditions data, which can instill greater confidence in the risk numbers. Transparency is further enhanced with the option to integrate IBM Algo One® Risk and Financial Engineering Workbench—a desktop application offering a sandbox environment that can be loaded with risk data from the production environment. This provides greater visibility of models, calibrations, analytics, scenarios and risk factors as well as the ability to gain a better understanding of the instrument valuations and the computed risk analytics.

Supports informed decision-making with a dynamic web-based interface

IBM Algo Risk Service on Cloud enables on-demand analysis, which supports timely risk-informed decisions. It also provides advanced decision support capabilities, enabling pre-trade what-if analysis to evaluate the impact of different portfolio choices—and allow you to see how a portfolio would perform under a range of simulated conditions by conducting stress tests and scenario analysis—before actual decisions are implemented. IBM Algo Risk Service on Cloud features a web-based, dynamic and interactive interface that allows easy distribution of risk reports throughout the organization. From portfolio managers to risk managers, individual users across the enterprise can organize the system to meet their own unique analytical and ergonomic needs, with the ability to enable or hide all functions, tools and reporting templates depending on the specific task at hand.



Figure 3: Report showing interest rate sensitivity across currency and tenor



Figure 4: Report showing simulated results from stress test analysis

Provides flexible portfolio and risk diagnostics

IBM Algo Risk Service on Cloud enables greater pricing accuracy by using a full valuation approach over different time horizons to price individual financial instruments. The availability of instrument-level data gives you the flexibility to decompose portfolios on demand according to any specified hierarchy, and to aggregate positions from multiple portfolios, for all risks across user-defined criteria such as asset type, currency, industry, credit rating, issuer, price-earnings ratio and duration bucket. With advanced risk diagnostics, IBM Algo Risk Service on Cloud offers the capability to analyze risk factor attributions at the portfolio level, risk factor class level, individual factor level or any other preferred portfolio dimension, leading to greater understanding and transparency of the sources of portfolio risk and return.

Enables interactive risk aggregation, reporting and portfolio optimization by users throughout the organization

IBM Algo Risk Service on Cloud offers an interactive user interface that supports risk aggregation and reporting by users throughout the organization. Security and permissions for portfolios, benchmarks and other data can be set at the individual user level. Designed for optimum ease of use, its intuitive web-based interface enables users to create report templates by choosing a screen layout, risk data elements and data format—for example, pie charts and bar graphs—with individual reports created by selecting portfolios, benchmarks, scenario sets, time horizons, aggregations and other data elements for analysis. The service provides a rich set of analysis techniques and diagnostic capabilities, enabling users throughout the organization to more effectively monitor and investigate risk. These capabilities include the ability to set and monitor limits, view heat maps and perform what-if trade analysis and portfolio optimization. Furthermore, risk results can be easily extracted via a robust API and merged with data from other sources to create proprietary reports.



Figure 5: Report showing absolute risk measures and contributions



Figure 6: Report showing relative risk measures and what-if capabilities

Offers flexibility to customize the standard risk service to suit specific business requirements

IBM Algo Risk Service on Cloud provides a standard configuration for models, scenarios, market data, risk reports, analytics measures, aggregation keys and time steps. However, unlike standard ASP approaches, it also offers the flexibility to tailor the analytic measures, valuation models and reporting options to meet a firm's unique risk and portfolio construction requirements. Data can be easily extracted via a robust API and merged with data from other sources to create proprietary reports. It includes the ability to augment and extend the packaged market data with data from other sources; the solution provides extensions that allow third-party models and data to be added for certain asset classes. This flexibility is further enhanced with the ability to select from a range other extensions that provide, for example, intra-day processing, custom scenarios, counter-party credit exposure calculations and advisory services.

Offers enhanced security and data protection

IBM Algo Risk Service on Cloud offers the confidence of IBM service and support, a security-rich environment and encrypted data transfers. IBM understands the critical importance of data security has designed these services to help ensure that no misappropriation of data takes place. Complementing this high security are the rigorous service level agreements (SLAs) which cover performance metrics, including reliable uptime commitments, rapid response times, a clearly defined change request process and transparent problem elevation procedures and resolution paths. IBM Algo Risk Service on Cloud clients have the confidence of a single point of contact to facilitate knowledge transfer and provide ongoing support.

About IBM Business Analytics

IBM Business Analytics software delivers data-driven insights that help organizations work smarter and outperform their peers. This comprehensive portfolio includes solutions for business intelligence, predictive analytics and decision management, performance management and risk management.

Business Analytics solutions enable companies to identify and visualize trends and patterns in such areas as customer analytics that can have a profound effect on business performance. They can compare scenarios; anticipate potential threats and opportunities; better plan, budget and forecast resources; balance risks against expected returns and work to meet regulatory requirements. By making analytics widely available, organizations can align tactical and strategic decision making to achieve business goals. For more information, see ibm.com/business-analytics.

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