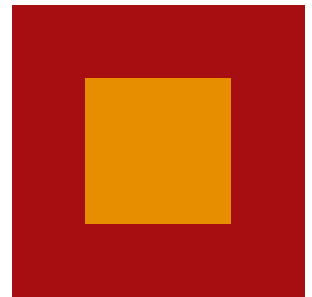
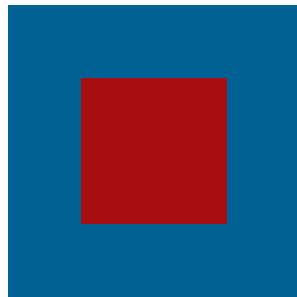
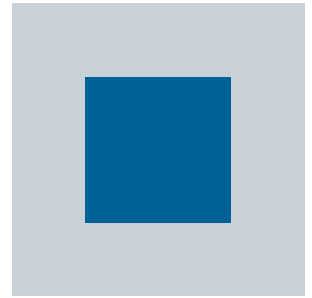


CLOUD BASED
RISK MANAGEMENT SOLUTIONS
FOR THE
ASSET MANAGEMENT INDUSTRY



CONTENTS	3	Introducing RiskGrid Technologies: A risk management solution developed specifically for the asset management marketplace.
	4	Experience
	5	RiskGrid Features & Benefits
	6	The Best of Both Worlds: The power of RiskGrid products is in the integration of world-class data management technology with proven risk analysis and reporting capabilities.
	8	Instrument and data coverage
	9	A Key Difference: The data management processes behind RiskGrid
	10	RiskGrid's Deployment Options
	12	RiskGrid Training & Support

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AS WORLD MARKETS BECOME INCREASINGLY COMPLICATED, COMPETITION AMONG ASSET MANAGERS SHOWS NO SIGN OF SLOWING DOWN. THE NEVER-ENDING QUEST FOR HIGHER RETURNS AND BROADER DIVERSIFICATION LEAD ASSET MANAGERS TO INVEST IN FINANCIAL PRODUCTS THAT DEFY TRADITIONAL RISK ANALYSIS. AT THE SAME TIME, HOWEVER, TODAY'S INCREASED CLIENT SCRUTINY AND REGULATORY OVERSIGHT DEMAND THAT FIRMS ALSO FOCUS ON DIFFERENTIATING THEMSELVES THROUGH SUPERIOR RISK PRACTICES.

HISTORICALLY, RISK SERVICES FOR THE ASSET MANAGEMENT MARKETPLACE HAVE ONLY PARTIALLY ADDRESSED THE CHALLENGES YOU FACE. BUT TODAY, PARTIAL SOLUTIONS ARE NOT ENOUGH. TODAY'S CHALLENGES DEMAND A CONSISTENT, RIGOROUS STANDARD FOR RISK MANAGEMENT THAT CROSSES ALL ASSET CLASSES, INCLUDING STOCKS, BONDS AND MORE COMPLEX FINANCIAL INSTRUMENTS. YOU ALSO NEED A COST-EFFECTIVE SOLUTION THAT CAN BE RAPIDLY DEPLOYED – A SOLUTION THAT IS LIGHT ON IMPLEMENTATION AND MAINTENANCE REQUIREMENTS BUT HEAVY ON FUNCTIONALITY AND PERFORMANCE.

Risk Management is fast emerging as an important strategy to attract and retain business.



Introducing RiskGrid, a Risk Management solution developed specifically for the Asset Management marketplace.

RiskGrid offers a web-based ability to measure, monitor and control market risk for the Asset Management marketplace using sophisticated analytical tools.

Introducing RiskGrid, it helps answer questions such as:

- Are portfolio managers/traders complying with their investment guidelines?
- How close are they to breaching those guidelines?

Asset Management marketplace.

- Are portfolio managers shifting investment risks?
- What is my risk relative to the market benchmark?
- What is my risk/return profile?
- Which risk factors influence my portfolio the most?
- What instruments should I buy to hedge of a perceived market movement?

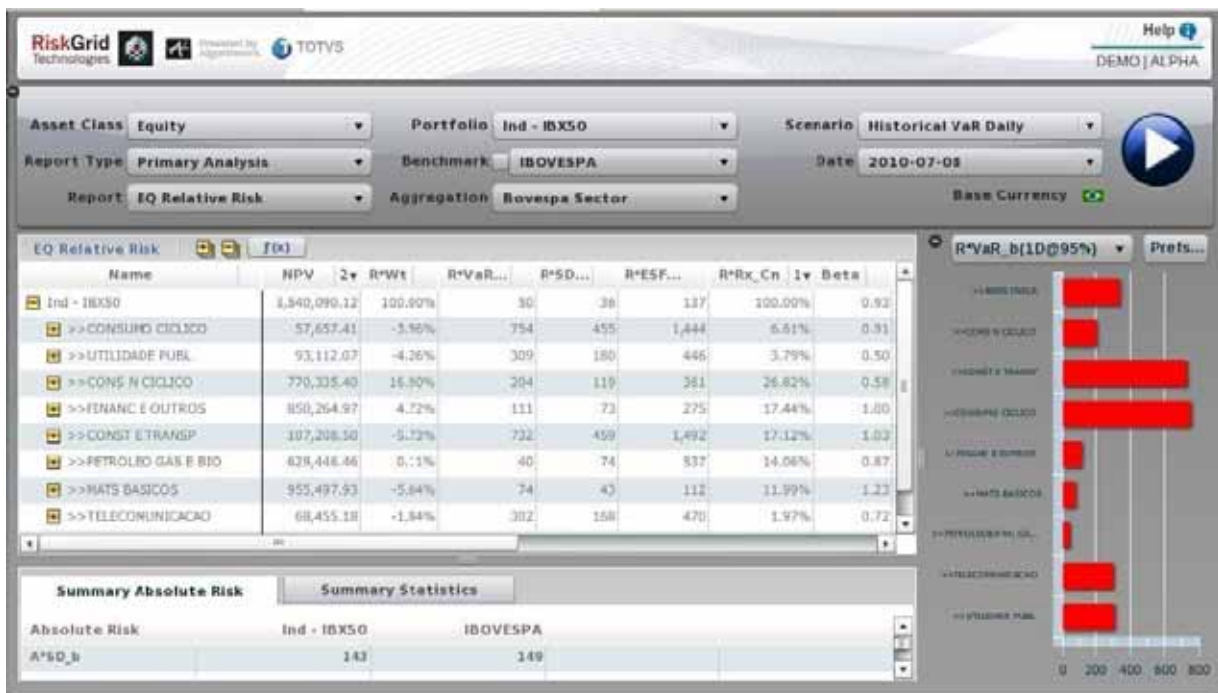
Using comprehensive, customizable analysis screens and reports, RiskGrid quickly and effectively disseminates risk and decision support information throughout your enterprise.

RiskGrid, therefore, facilitates the communication and distribution of this risk information to:

- Portfolio managers and traders for investment decisions
- Head of investment unit or fund
- Trustees
- Risk managers
- Investors
- Board of directors
- Regulators and more.

EXPERIENCE

RISKGRID IS THE CULMINATION OF A CLOSE COLLABORATIVE EFFORT BETWEEN RISKGRID TECHNOLOGIES AND THE INVESTMENT COMMUNITY. THE SOLUTION REFLECTS YEARS OF EXPERIENCE IN THE FIELDS OF INSTRUMENT PRICING, DATA MANAGEMENT, SCENARIO MODELLING, RISK MEASUREMENT, RISK CONTROLS, RISK-BASED DECISION SUPPORT AND GLOBAL RISK SYSTEM IMPLEMENTATION.





RiskGrid Features & Benefits

RiskGrid Features

Accurate and comprehensive risk analytics that measure market risks through a consistent, integrated view of a portfolio's overall risk profile, regardless of the asset classes and of the types of instruments traded. Advanced analytics cover both traditional equity and fixed-income assets and derivatives.

- Intuitive, easy-to-use, and customizable browser-based user interface supports multiple asset classes and instrument types using the same framework and also supports as many users, portfolios and portfolio hierarchies you require.
- Ability to easily identify a portfolio's most significant sources of risk and return.
- Indicates how potential trades impact the risk-return trade-off and how trades impact risk-budgeting limits set by a Pension Manager to the Fund Manager ex-ante.
- Ability to integrate your in-house market and position data.
- Suitable for front and middle office environments.
- User-friendly data loading framework based on XML standards.
- Ability to benchmark in-house risk measures.
- Three deployment options: as a completely outsourced service via a cloud-based ASP (Application Service Provider) model, a client-hosted version, or a combination of the two - a managed service option.

RiskGrid Benefits

- Reduces deployment time and maintenance costs through RiskGrid's multiple integrated data sources, a common hardware infrastructure, and standard configuration of the risk analytics engine.
- Allows almost effortless scaling to new risk management analytics, asset classes, instrument types and investment product innovations as they evolve, without the need to reinvest in costly new systems.
- Communicates enterprise risk information for the entire portfolio, alleviating the information gap that often exists between the in-house and custody systems.
- Ensures that investors, portfolio managers, risk managers and senior management all measure, manage, control risk and return consistently, using comprehensive reporting tools combined with scenario analysis.
- Establishes a single, consistent standard for performance attribution and relative risk analysis to help consolidate active returns to beat benchmarks and retain business within the firm.
- Enables efficient communication of investment guidelines and strategies.
- Restricts data access and functionality depending on role (for example, administrators, risk managers, portfolio managers, clients and others), using controlled access rights within a registration system.
- Computes risk consistently across multiple investment categories, ranging from equities to fixed income to fund-of-funds and private placements and more, using common risk factors that you can define.
- Ensures that guarantees provided to investors/pensioners in marketing material are duly justified by appropriate analysis (for example, when a manager stipulates that tracking error estimates will fall within a specific range).
- Facilitates oversight of external funds, identification of "strategy drift", and training on risk management matters at all levels.

THE BEST OF BOTH WORLDS

THE POWER OF RISKGRID TECHNOLOGIES PRODUCTS IS IN THE INTEGRATION OF STATE-OF-THE-ART DATA MANAGEMENT TECHNOLOGY WITH PROVEN RISK ANALYSIS AND REPORTING CAPABILITIES.

RISKGRID LEVERAGES FITCH/ALGORITHMICS' AWARD-WINNING MARK-TO-FUTURE MTF MODEL AND THE SAME SOPHISTICATED ANALYTICS THE COMPANY HAS BEEN PROVIDING TO ITS CUSTOMERS FOR OVER 20 YEARS. IN RECOGNITION THAT RISK ANALYSIS DEPENDS ON LARGE AMOUNTS OF QUALITY DATA FROM A RANGE OF SOURCES, RISKGRID TECHNOLOGIES HAS ALSO INTEGRATED A LEADING OPEN SOURCE DATA SOLUTION FROM TALEND.

By using scenarios on key market risk factors to integrate disparate sources of risk, RiskGrid's framework delivers a transparent, flexible platform for assessing future uncertainty within a portfolio in a single, consistent environment. RiskGrid's scenario-based approach offers numerous competitive advantages:

Enhanced Profitability. Our integrated risk architecture, together with its scenario-based framework, enables risk and investment managers to pursue more fully-informed, proactive business decisions that prevent losses and maximize reward. The single, extensible data architecture captures and consolidates all positions, across all asset and investment classes, providing a solid foundation for enterprise risk and reward analysis.

A Comprehensive Framework for Managing Risk. RiskGrid resolves inefficiencies and faulty decision-making resulting from inconsistent analytics, data and assumptions. By estimating the same risk and return measures across funds, and across a diverse set of asset classes, RiskGrid's framework ensures that all enterprise wide roles are supported by a consistent set of tools and analytics. This eliminates the traditional divide between the front office and firm-wide strategic initiatives so you can unify efforts to manage risk and improve performance at every level of your enterprise.

Increased Transparency for Users, Clients, and Shareholders. By capturing all global positions and linking disparate forms of exposures from across multiple portfolios, asset classes, and financial products, RiskGrid provides increased transparency in reporting for users, clients, and shareholders alike. The integrated data architecture provides a single point of entry and single representation of financial instruments, counterparties, as well as market and credit data which is intuitive and easy-to-understand. It allows for rapid reconciliation and auditing of a firm's risk analysis.

Complete Scenario-based Analysis and Stress Testing. Because RiskGrid uses scenarios to model risk as opposed to a formulaic approach, it calculates accurate, consistent measures of risk across all asset classes from traditional stocks and bonds to complex derivatives with nonlinear pay-offs. A wide range of tools assist you in creating and managing Monte Carlo, historical, and stress test scenarios, so you can view market and credit risk over various time steps and changing market conditions. With these tools, decision-makers can leverage their expertise to construct timely, real-world scenarios - and use the results to execute strategies that are easily communicated and understood at every level across the enterprise.



Supports Comprehensive Third-Party, Proprietary and Derived Data Content.

The data solution makes use of our extensive licensed content. In addition, we apply recognised quantitative techniques to engineer derived data for non-observable or missing data elements.

Full Integration of Market and Credit Risk.

RiskGrid offers a fully integrated portrait of the important interplay between market and credit risk occurring at the scenario level. In turbulent times, the interplay between market, credit and liquidity risks is often dramatic. Being able to revalue portfolios under scenarios that include changes to market risk factors, credit spreads, and credit ratings is a significant competitive advantage, particularly for funds that invest in credit-sensitive assets.

Compute Once, Use Many Times.

The pre-computation of valuations across instruments, scenarios, and time steps allows RiskGrid to determine any risk, return, or budgeting measure. Also, the addition of a new position, scenario, or time step requires only the simulation of the new values, appended to the results that were previously computed; thus only aggregation of positions for risk, return, or budgeting measures need be repeated within this framework.

A Flexible, Scalable, and Extensible Hosted Solution.

RiskGrid's architecture is hosted in the cloud using scalable and virtualized resources that allow the computation to be fully distributed. Using this architecture, RiskGrid can be easily extended to accommodate new scenario sets, aggregation structures, asset classes, financial models, simulation methods, post-processing applications, and emerging lines of business. As a component-based solution that is developed using established technical standards, RiskGrid is also designed to facilitate simple, straightforward integration with existing third-party or proprietary data sources, pricing models, and back-office systems.

Lower Total Cost of Ownership.

RiskGrid is priced as a service, consistent with asset management industry practices. It has a low total cost of ownership in terms of deployment, maintenance, licensing, and training fees. Its cloud-based architecture eliminates the heavy costs associated with implementing in-house systems. RiskGrid is a world-class risk management solution that can easily grow with your analysis requirements and expanding business.



Instrument and data coverage

RISKGRID OFFERS COMPREHENSIVE INSTRUMENT AND DATA COVERAGE, INCLUDING G30 AND BRIC GOVERNMENT AND CORPORATE BONDS, AGENCY BONDS, HIGH YIELD FIXED INCOME, MONEY MARKETS, EQUITIES, SWAPS, OPTIONS, AND A NUMBER OF OTHER OTC DERIVATIVE CONTRACTS. OUR INSTRUMENT COVERAGE CONTINUES TO REFLECT CLIENT DEMANDS.

Equities	Fixed Income - Corporates	Futures	Currency	Country
Common Stock	Corporate Bonds	Index	USD	United States
Preferred Shares	Conventional Bonds	Bond	CAD	Canada
ADR/ GDR	Floating Rate Bonds	Money Market	JPY	Japan
Perpetuals	Fixed Amortizing Bonds		GBP	United Kingdom
Units	Floating Amortizing Bonds	Options	EUR	Austria
	Convertible Bonds	Index Options	EUR	Belgium
	Callable Bonds	Equity Options	EUR	Denmark
Money Market	Callable Convertible Bonds		EUR	Finland
Repos/ Reverse	Zero Coupon Bonds	Mortgage-backed	EUR	France
Discount Notes	Inflation-Protected Bonds	CMOs/ Pass-throughs	EUR	Germany
Commercial Paper	High Yield Bonds	IOs/ POs	EUR	Greece
Certificate of Deposit	144a/ Reg S		EUR	Ireland
	Yankee Bonds	OTCs	EUR	Italy
Fixed Income - Governments	Bulldog Bonds	Private Placements	EUR	Luxembourg
Government Bonds	Sinking Fund Bonds	IR Swaps	EUR	Netherlands
Treasury Bills		Cross-currency Swaps	EUR	Portugal
Treasury Notes, Bonds	Agency Bonds		EUR	Spain
Strips	FHLMC, FHLB FFCB, FNMA	CREDIT DERIVATIVES	CHF	Switzerland
TIPS		Collateralized Debt Obligation	HKD	Hong Kong
Supra Nationals	Municipals	Collateralized Loan Obligation	SGD	Singapore
	Municipal Bonds	Credit Derivative Swaps	KRW	South Korea
Currencies			SEK	Sweden
Spot FX			DKK	Denmark
Forward FX			NOK	Norway
			AUD	Australia
			NZD	New Zealand
			ZAR	South Africa
			TWD	Taiwan
			BRL	Brazil
			RUB	Russia
			INR	Indian Rupee
			CNY	China

RISKGRID TECHNOLOGIES KNOWS THAT THE BEST RISK MODELS ARE VERY SENSITIVE TO ACCURATE, CLEAN, CONSISTENT DATA. SO WE PUT A GREAT DEAL OF WORK INTO ACQUIRING, VALIDATING AND PREPARING DATA FOR USE BY RISKGRID.

OUR DATA MANAGEMENT PROCESS LEVERAGES EXTENSIVE THIRD-PARTY CONTENT, POWERFUL DATA ANALYTICS AND DATA QUALITY PROCESSES.

A key difference : The data management processes behind RiskGrid

Our rigorous processes include:

Data validation and quality checks to help ensure the licensed data stored in RiskGrid is consistent and of superior quality. Checks are performed on terms and conditions and pricing data to include, for example, standard logic checks, basic tolerance thresholds defined against statistical variance measures. Prices are also compared to theoretically derived prices and third-party sources for validation.

Routines to validate and fill in missing values associated with illiquid instruments, holidays, or mechanical problems. Missing value routines can also be used to compare vendor prices with theoretical prices or to provide a substitute price when a vendor price fails a validation test. The missing value routines can range from simple interpolation methods to more advanced statistical approaches or theoretical pricing models.

Price synchronisation functions that adjust for time differences between markets.

Consistent market data for risk analysis requires not only adjusting for corporate actions, but also capturing market data at a consistent time across different markets. We also provide real-time data loaders that can capture the price of an underlying security at the same time it captures the price of a corresponding derivative security. Also the time consistency must exist across different trading time zones and between cash markets and derivative markets.

Routines to manage corrections, additions, changes, and deletions of instruments and risk factors that result from day-to-day market events. These events include product expiration, delisted securities, symbol changes, and corrections from data vendors.

Calculation services that include curve generation methods to obtain node points that represent the risk factors. The node points can be computed for a user-specified time range using time series data. The calculation services also compute and store other instrument level calibration data over time, such as implied spreads or implied volatility. In addition to this, regression models are included to compute factor loading (betas) for market risk, asset management, and credit risk applications.



Why choose a cloud-based Risk Management System?

With our cloud-based system, you never have to buy, install nor upgrade your platform. We take care of that for you. You are always on the latest version. All your portfolio data and reports are protected with physical security, data encryption, user authentication, application security, and more.

OPERATIONAL FLEXIBILITY IS JUST ANOTHER OF THE MANY BENEFITS RISKGRID OFFERS. RISKGRID'S DEPLOYMENT OPTIONS OFFER VARIOUS ADVANTAGES THAT SUIT THE NEEDS OF ANY ENTERPRISE.

The Cloud Advantage

RiskGrid's cloud based risk solution is a cost-effective, outsourced way to compute and analyze risk reports. Instead of running expensive in-house hardware infrastructure by a team of integration engineers and system operators, Riskgrid runs remotely on a secure public or private virtualized data center that is billed on a subscription basis with little or no upfront cost. To run Riskgrid in this environment, you simply log in, register, configure your settings and start using it - that's the power of cloud computing.

Unlike other risk management solutions, Riskgrid can be installed, configured and operating in a time frame that is unheard of with traditional risk platforms. Riskgrid cost less, because you don't need to pay for in-house human resources, software, data licenses, and operating facilities to run it. Also, the cloud-based risk platform allows Riskgrid to be more scalable, reliable and secure than in-house systems.

The cloud platform allows upgrades at the data management, analytics and operating system level to be managed automatically for you. Thus new product types, features and performance enhancements are periodically included as part of the service.

The way you pay for Riskgrid is also different. There is no need to buy servers and software, and pay for a team of consultants to configure and install the system. With Riskgrid web-based solution, you don't buy or license anything. It's all rolled up into a predictable monthly subscription, so you only pay for what you actually use.

Most importantly, Riskgrid does not consume your valuable IT resources. With Riskgrid, you can focus on the task of managing risk.

RISKGRID TRAINING & SUPPORT

RISKGRID IS COMMITTED TO PROVIDING YOU WITH OUTSTANDING CUSTOMER CARE AND TRAINING. YOU WILL WANT ENTERPRISE STAFF TO START USING RISKGRID RIGHT AWAY. WE CAN PROVIDE TRAINING AT YOUR SITE OR LIVE WEB TRAINING THAT YOU CAN TAKE FROM YOUR WORKSTATION. ONCE THE INITIAL TRAINING IS COMPLETE, A TRAINER CAN VISIT YOUR SITE AT CONVENIENTLY SCHEDULED INTERVALS TO TRAIN NEW HIRES, INTRODUCE USERS TO NEW FUNCTIONALITY, OR JUST TO ANSWER QUESTIONS. THERE IS ALSO EXTENSIVE ONLINE HELP THAT DESCRIBES HOW TO NAVIGATE THE PRODUCT AND ONLINE DOCUMENTATION THAT PROVIDES DETAILS ON THE ANALYTICAL FORMULAS USED TO GENERATE THE RISK REPORTS.

FOR DAY-TO-DAY USER QUERIES, YOU CAN CONTACT RISKGRID'S CUSTOMER CARE CENTER. OUR FULLY DEDICATED IN-HOUSE STAFF ARE COMPRISED OF FINANCIAL ENGINEERS AND DATA QUALITY EXPERTS WHO FULLY UNDERSTAND THE RISK MARKET AND OUR PRODUCTS.

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