



VaR-Related Risk Analytics Team (from left)-
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Investment Controlling with SAS®

Identifying, measuring and steering risks

Industry

Asset management/insurance

Business Issue

To operationally determine market risk potential in compliance with UCITS III/German derivatives regulations for about 750 portfolios daily and implement a solution that provides stability, performance and flexibility.

Solution

SAS® Risk Dimensions

Benefits

A flexible solution that allows custom modifications to meet the requirements of IDS customers.

The client

IDS GmbH – Analysis and Reporting Services (IDS), headquartered in Munich, Germany, with additional offices in Frankfurt am Main, is a provider of managed services in the financial services sector specializing in operational investment controlling. About 90 percent of its 150 employees from over 20 different nations have completed university studies in the areas of economics, mathematics, physics or computer science.

IDS is a wholly owned subsidiary of the global Allianz SE group. Its client list includes domestic and foreign capital investment and insurance companies within the Allianz group. Also, IDS is increasingly offering its services to companies outside the group. IDS' product portfolio includes supplying market data, analyzing and reporting on performance and risk data, and producing consolidated and customer-specific analyses and reports. The business model is based on a system architecture developed by IDS, on its own analysis models and on current, state-of-the-art market applications.

The task at hand

For a financial services provider, the job of identifying, measuring and steering risks is one of the keys to achieving success in modern capital markets. Crises occur, and in response government regulators have been routinely expanding their risk management requirements to protect customers and investors. For example, capital investment companies are subject to the European UCITS III Directive and its

implementation into German federal law – the so-called Derivateverordnung (derivatives regulations) – which regulate the requirements for controlling risks and reporting them to the appropriate regulatory authorities.

The preparation of analyses and compliance reports for these regulatory requirements is a major component of the range of services that IDS currently provides to capital investment companies in Germany, Luxembourg and Ireland. Every day, IDS faces the challenge of performing the necessary risk calculations for about 750 portfolios and providing them to capital investment companies.

In order to ensure that it remains open to future developments, IDS must carefully select the product it uses in order to make certain that, in addition to offering stability and outstanding performance, it has the flexibility needed to provide customer-specific modifications and enhancements. In addition, the selected solution must integrate smoothly into the existing IT landscape at IDS.

The solution

SAS Risk Dimensions gives IDS a platform that integrates seamlessly into the existing IDS data warehouse while meeting the requirements of the German derivatives regulations.

To do this, a standard-delta-normal approach is used to calculate not only value-at-risk (VaR) performance indicators but also, as an IDS-specific enhancement of the SAS output, the



“With SAS Risk Dimensions, we can provide our clients with clear and meaningful risk analyses that meet the particular requirements of the German derivatives regulations.”

Michael Kathrein
VaR-Related Risk Analytics Team Leader

contributions of individual investments and/or risk factors to the total VaR of a given portfolio (“contributonal VaR”). In the event of significant nonlinearities, a Monte Carlo simulation on the basis of the covariances estimated for the delta-normal approach is available to supplement the analysis.

Furthermore, for a series of portfolios the calculation of VaR is enhanced by configuration options for processing relevant position data and by the ability to generate SAS risk environments in a flexible manner by calculating a tracking error relative to the benchmark portfolio.

The benefits

- The flexibility of this solution allows the system to be adapted promptly to new requirements with respect to risk parameters as well as investment products.
- The smooth integration of the solution into the existing IDS architecture supports the optimal incorporation of risk calculations into the range of services provided by IDS.

- The enhancement of the delta-normal method with scenario analyses and Monte Carlo simulation provides a portfolio-specific view of the underlying risks.
- The performance and scalability of the solution ensure the ability to process an increasing number of portfolios and analyses.

The project

In compliance with UCITS III and the German derivatives regulations, IDS calculates daily VaR figures for about 750 portfolios, including its derivative-free reference assets (benchmarks). These figures are integrated into the portfolio management process and are validated through regular back-testing. The asset data as well as the master investment data needed to evaluate it are provided directly from the IDS data warehouse in which this quality-assured information is stored.

To provide the necessary histories, IDS can also access an existing market database in which price data for various investment types and vendors (such as Bloomberg, MSC and

Lehman) are stored. Thanks to SAS software’s performance capabilities, IDS can update risk factors used in the VaR calculation on a daily basis, including: estimated statistical parameters (variance, covariance) for about 6,000 stocks, indices and benchmarks; 2,000 interest curve buckets, including credit spreads; 250 implied volatilities; and over 50 currency parities.

On the basis of this data, dynamic risk environments are generated in batch mode using SAS Risk Dimensions in which the necessary VaR performance indicators are estimated at multiple aggregation levels. Finally, all relevant simulation results are exported into the IDS data warehouse. By using pass-through processing, the 1.5 million risk contributions calculated daily can be transmitted easily.

Supplementary scenario simulations are conducted at monthly intervals, and in the case of significant changes in the risk situation round off the risk profile analysis of the portfolio in question.



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