



VORTECH

The VORfinance Modelscan is your answer to the question: “Can my financial model or software be improved or accelerated?”

VORfinance Modelscan

A full scan of your financial calculation model or simulation software

scientific software engineers



What is the VORfinance Modelscan?

The VORfinance Modelscan offers you an independent expert view of your calculation software and its underlying financial and economic models. This Modelscan can be applied in the field of risk management, actuarial science, and finance. We can analyze both custom-made software and software extensions to (for example) MATLAB and Excel. These often contain complex and exhaustive calculations and simulations.

Why is the VORfinance Modelscan of interest to you?

The elective Modelscan has been successfully executed for our clients for many years. It can reap the following benefits:

- An overview of possible improvements and simplifications to your mathematical model and solving methods.
- Suggestions for accelerating your calculation and simulations software and making it more accurate.
- Guidelines for improving documentation, user-friendliness and durability of your financial software.

How does that work?

The Modelscan procedure runs along the following lines:

- We start by interviewing you to find out what your wishes and expectations are. Amongst other things, we will agree upon issues of confidentiality.
- We then get to work on your calculation model and programs. We go through our professional software review procedure, defined by best practices and standards. Your software will be judged by this yardstick. This can take place on location or in our offices.
- Our results and advice will be written up in a comprehensive report. Finally, we will present this report to you and discuss the results in detail.

What does the scan entail?

In the Modelscan, the following issues will be covered:

- Calculation model:
 - the scope and financial-oriented application;
 - mathematical modeling;
 - the applied algorithms, solving methods and mathematical complexity.

- Calculation software:
 - GPU/MPI/OpenMP-parallelization and other acceleration options;
 - Visual user interface, user-friendliness, robustness;
 - Methods of development, code standards and version control;
 - Helpdesk, sales and support.

After consultation, certain aspects can be accentuated or ignored. For example, we could focus on the application of new technologies such as parallelization of financial software or connecting models to one another.

The outcome

The outcome of the VORfinance Modelscan is a comprehensive report that tells you what can be improved in your software and how to do it. You can use the report as a guideline to improving your financial model.

Here are some examples of conclusions we have drawn in the past:

- Solving the problem of the optimization of the portfolio can be greatly simplified by rewriting the calculation model in the following way: ...
- The Monte-Carlo simulation of this statistical model can be accelerated by implementing parallelization in the following way:
- The Excel worksheet of this financial product can be improved by rewriting the formulas as follows: ...
- This model has some numerical sensitivities that can over-influence the outcome if the input is varied only slightly. This sensitivity can be reduced by securing the following:



More about VORfinance

VORfinance is a business unit of VORtech and is focused on financially orientated queries of, amongst others, banks and insurance companies. We distinguish ourselves by our expertise in the fields of mathematical methodology and algorithms, high performance computing (HPC) and professional implementation of scientific software. Our enthusiastic professionals are highly creative and have had years of experience in their field. This enables us to quickly fathom complex financial of actuarial products and to generally work towards a mathematical/HPC solution quickly and effectively.

VORtech is an independent engineering firm that is specialized in mathematical modeling and scientific calculation software. Our highly educated mathematical consultants and scientific software engineers work for large commercial companies and institutes. For these clients we develop, improve and maintain complex calculation models and the corresponding software.



More information

For more information on the VORfinance Modelscan or for a tender for your application, please get in touch with:

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