

Creation of a valuation library for variable annuities

Client / sector	German insurance group
Project description	<p>Creation of a valuation library for variable annuities</p> <ul style="list-style-type: none"> • A "variable annuity" is a special form of unit-linked annuity with a guaranteed minimum performance. The guarantee is typically represented by means of derivatives. In addition to an annuity payment, these contracts can guarantee further payments, i.e. payments in the event of death. • Design and development of a framework for the valuation and measurement of risk for variable annuities • Infrastructure for involved employees to develop models without in-depth programming skills • Connection to internal IT systems (Calypso, Quant Workbench) • The software had to be capable of running within a "grid environment" (parallelization)
Service	<ul style="list-style-type: none"> • Design and development of the framework • Test management and execution of tests • Release management • Approvals from the involved departments • Production reliability • Support for the department during (further) development of mathematical models and their implementation within the specific area
Technology	Java
Professional input	Product know-how, mathematical modelling
Scope	3 consultants, 10 person years
Tags	variable annuities, mortality rates, complex derivatives, Calypso