

zeb/

zeb/**credit.risk-manager**

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Identifying risks, optimising profit

credit

# zeb//control –

## Increasing earnings, managing risks

An efficient management of financial service providers requires flexible information, planning and analysis tools. The zeb//control product range provides the technical support for managing a multitude of financial controlling, risk measurement and monitoring, accounting and value management tasks.

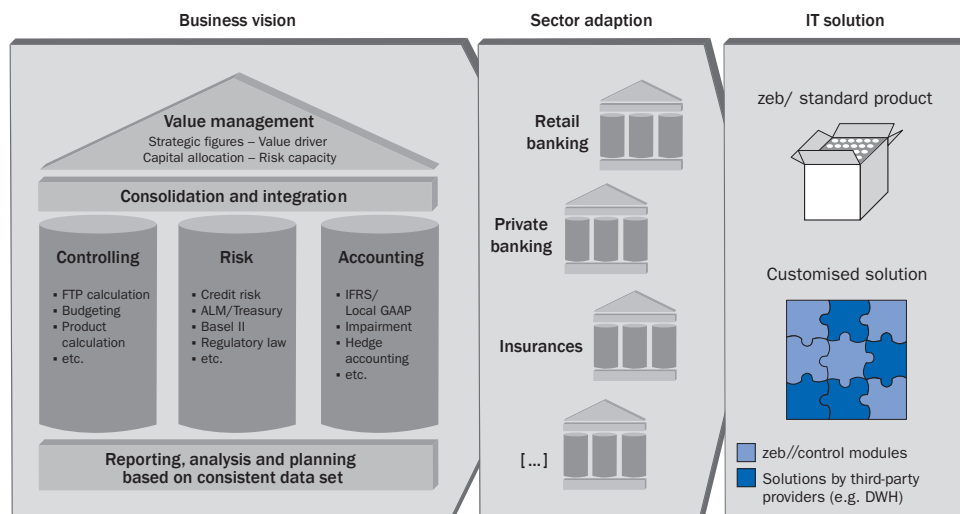


Fig. 1: Functional and technical zeb//control framework

Today the functional challenge – in addition to the required methodological excellence in sub-areas – consists of the consolidation of financial figures across functional areas and strategic business segments. The requirements resulting from various business models are covered by industry-specific adaptations.

In order to ensure flexible and sustainable applicability in this complex context, the technical realisation of zeb//control is based on the SOA principle. The user can define the product range configuration and the standardisation of individual modules freely, enabling a fast integration in existing IT architectures.

The various zeb//control configurations prove to be efficient in daily applications in a multitude of innovative nationally and internationally operating banks. The close interaction of functional and technical expertise is a key success factor for all implementation projects.

# zeb/credit.risk-manager – Identifying risks, optimising profit

Credit risk averages 70 per cent of total risk at most banks, thus, representing the largest area of risk, it deserves special attention in risk capacity calculations. In recent years, banks have increasingly relied on active credit portfolio management (ACPM) measures and, in this way, have been able to actively control risk and attain, on average, a better risk/return performance than banks without ACPM. The prerequisite for active risk management and also for ACPM is the use of a portfolio model for assessing the risks. The zeb/credit.risk-manager offers a state-of-the-art functional and technical implementation of a portfolio model that facilitates value-oriented economic as well as periodic control of credit portfolio risk. Our product supports risk adjusted credit portfolio management through a combination of historical insights and present day use of traditional portfolio structure analysis with forward looking results of a Value-at-Risk (VAR) approach. In this way, it fulfils the requirements of a modern, integrated management tool. The zeb/credit.risk-manager is based on the “Credit Risk+” approach of Credit Suisse. As a consequence of model expansions performed by zeb/ and practically validated, zeb/credit.risk-manager combines acceptance of an internationally recognized Value-at-Risk algorithm with the specific requirements of banks.

## Industry Sector Analysis September 2008

Portfolios: Business Clients, Private Clients, Treasury, Shareholdings, ...  
Analysis: Overall Portfolio Clients without Default  
Analyse vom: 13.10.2008 10:30  
Net exposure (in EUR): 2,519,061,835  
Level of confidence (in %): 99.00

Ausfallmedium  
Number: 1,817  
Expected Loss (in EUR): 53,060,531  
Value-at-Risk (in EUR): 65,129,707  
Value-at-Risk/Expected Loss: 1.19

ID	Industry Sector	# of clients	share (in %)	Net exp. (in EUR)	share (in %)	EL (in EUR)	share (in %)	VaR (in EUR)	share (in %)	EL / Net exp.	VaR / Net exp.	VaR / EL	VaR / # of clients (in EUR)
29	Other Public Services	180	9.91%	572,246,751	22.72%	5,545,835	10.45%	11,134,174	17.84%	0.57%	1.85%	2.01	61,857
10	Construction Industry	50	2.75%	186,703,336	7.40%	4,640,626	8.74%	20,436,488	32.36%	2.46%	10.03%	4.40	406,670
10	Engine Building	117	6.44%	191,125,824	7.59%	3,869,667	7.27%	2,296,790	4.11%	2.15%	1.43%	0.97	22,196
18	Wholesale, Retail, Repairs	113	6.22%	155,421,078	6.17%	3,586,486	6.78%	2,306,989	3.50%	2.31%	1.42%	0.81	19,531
22	Insurance Industries	52	2.86%	150,667,819	5.98%	1,172,691	2.21%	1,458,567	2.31%	0.78%	0.87%	1.24	28,049
9	Metal production	99	5.45%	149,393,053	5.93%	2,726,377	5.14%	1,876,343	3.13%	1.63%	1.32%	0.72	19,893
24	Lending Industries	27	1.49%	117,511,548	4.66%	563,573	1.12%	587,437	0.93%	0.51%	0.50%	0.99	21,757
26	IT&B Services	117	6.44%	117,055,268	4.65%	2,260,630	4.24%	849,781	1.35%	1.92%	0.73%	0.39	7,263
31	Retail clients and others	109	6.00%	113,203,020	4.52%	6,452,627	12.16%	9,392,133	14.80%	5.66%	6.24%	1.46	86,196
6	Chemical and Gas Industries	66	3.63%	106,850,564	4.24%	3,658,454	6.89%	4,753,795	7.53%	3.42%	4.49%	1.30	72,027
4	Food and Tobacco Industries	77	4.24%	102,860,788	4.09%	1,829,867	3.67%	1,603,319	2.54%	1.58%	1.58%	0.98	20,822

Fig. 2: Detailed analysis by industry sector to represent risk clusters

The core functionalities of zeb/credit.risk-manager provide your institution with immediate added value in planning and controlling processes:

- Assessment of the credit portfolio in the context of a comprehensive portfolio structure analysis performed at various aggregation levels including, for example, credit ratings, volume and sector assessments as well as the calculation of portfolio related parameters (e.g., value-at-risk, RORAC) for a selectable level of confidence.
- Optimisation of the available risk capital in terms of your bank's risk capacity through variable parameter crash-scenarios in addition to the generation of cash flows relevant for the real risk of counterparty default by product-specific maturity scenarios.
- Reporting configured to the standards of your institution to reveal the structural strengths and weaknesses of your company's credit business as well as to analyse and evaluate various growth opportunities in various market strategies through scenario administration and a flexible portfolio.

Some of the zeb/credit.risk-manager functionalities are individually highlighted below:

## Flexible scenario analysis

An important task in planning credit business is the analysis and evaluation of the various planning approaches. Here, the zeb/credit.risk-manager provides support in the form of a scenario manager, which allows you to independently change major market and model parameters. This includes a rating transition matrix, recovery rates and value fluctuations for collaterals, and industry sector default rates. Consequently, a fast and easy examination of the implications of the most diverse changes in the market situation is possible. Furthermore, the addition of individual (new) contracts to or the exclusion of contracts in a calculation allows a detailed analysis of the affects of changes in the portfolio-composition, for example, for an assessment of risk reduction measures (e.g., securitisations).

## Benchmarking and simulation

Benchmarking represents a major area within the framework of efficient planning and controlling. zeb/credit.risk-manager supports you in the planning and control of the benchmark specifications: benchmark or simulation portfolios can be separately created and analysed, and used to facilitate direct comparisons with the actual portfolio in terms of the structural composition, the loss distributions, and the characteristic risk performance at all relevant aggregation levels (for example, total portfolio, sector, etc.). Trend indicators included in the monthly reporting show at a glance the positive and negative variances in sectors, rating classes, or at client level.

### Loss Distribution Comparison

September 2008

	Analysis 1	Analysis 2	Difference	Loss mode
Portfolios:	lients, Treasury, Shareholdings, ... e Clients, Treasury, Shareholdings, ...			
Analysis:	roll Portfolio Clients without Default	Overall Portfolio Clients without Default		
Net exposure (in EUR):	2,519,091,835	2,507,795,188	-3.40%	
Level of confidence (in %):	99.00	99.00	0.00%	
Date of analysis:	13.10.2008 10:39	13.10.2008 10:41		
Time:	September 2008	August 2008		
Number:	1,817	1,828	-0.60%	
Expected loss (in EUR):	53,089,531	51,147,124	3.78%	
Value-at-Risk (in EUR):	63,129,707	58,691,491	7.58%	
Value-at-Risk / Expected Loss	1.19	1.15	3.68%	

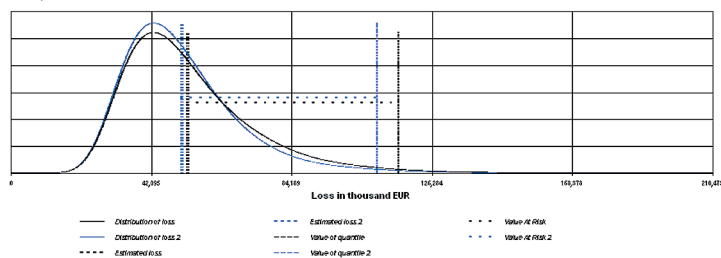


Fig. 3: Comparison of loss distribution for two portfolios including calculated economic capital

You are responsible for the planning of credit portfolios for your institution.

You request ...	zeb/credit.risk-manager delivers ...
... a pragmatic start in credit portfolio management	... great flexibility in the supply of data and integration with existing IT architectures, whereby an institution-specific depth of application and step by step build-up of the data basis is possible
... a quantitative portfolio analysis with the aim of optimal management of the credit portfolio	... broad possibilities to identify the risk drivers in your credit portfolio through a combination of traditional and Value-at-Risk portfolio analysis
... a quantitative portfolio analysis using solid business and statistical methods	... a Value-at-Risk approach based on a method recognised and in use worldwide
... to optimise the risk-return aspects of the credit portfolio, i.e. to bring about an increased return on equity and to employ capital, a scarce resource, efficiently	... in combination with an innovative upgrade for portfolio optimisation, suggested actions to reduce the Value-at-Risk
... to identify the diversification potential in your credit portfolio	... the chance to quantify the diversification potentials through the explicit consideration of correlations (like economic sectors or customer segments)
... compliance with the ICAAP requirements for internal economic controls	... the basis for economic risk management with the Value-at-Risk per client/client group
... a comparison of the regulatory capital requirements with an economic quantification of credit risk	... an established method to assess the real risk structure of the credit portfolio and to set the amount of required economic risk capital
... an active internal credit portfolio management system and, e.g. to arrange securitisation transactions in order to optimise your risk return profile	... support in the selection of the optimal securitisation transactions
... IT-support for the complete planning and controlling process of the credit business at your institute	... support for a forward looking planning through extensive use of simulations and crash scenarios which permit the assessment of the effects of various planning approaches. An integrated benchmark component assists you in creating and monitoring benchmarks
... a portfolio model that considers your institute's specific conditions	... a portfolio model that can be adjusted to the specific business requirements of your institute as well as the available data basis
... flexible reporting in accordance with the standards of your institute	... a display of the calculated VAR and/or RORAC ratios for management relevant aggregation levels: "total portfolio", "risk class/economic sector" and "individual exposures" by means of a configurable reporting tool
... a comprehensive overview of your institute's total risk status	... combined with other zeb/-components, the possibility of comprehensive risk analysis and management system for the integrated bank on a consistent data basis
... to take corporate or association structures into account in credit portfolio management	... a multi-client capability to display company or association credit portfolios as well as securitisations
... a user friendly and revision save program	... an intuitive navigation structure as well as a comprehensive user rights and authorisation concept

## Our methodology

The introduction of zeb//control is based on our proven customising approach model that includes all administrative and operative project management issues. In addition, our project committees ensure that our clients are always perfectly informed about the project status. The overall introduction process includes our independent and certified quality management. The competent zeb/ support staff is of course available for further questions even after the completion of the project.

## Your advantages at a glance

- With zeb//control, you use a controlling system based on integrated and consistent data that supports you in all bank-wide risk management, Basel II and IFRS issues.
- zeb/ offers you a single source for functional and technical consulting in the creation of a credit portfolio management system and provides you with custom advice from the start: zeb/ assists you in developing the applicable master data, ensures an optimal matching of the portfolio model with the needs of your institution, and supports the integration of Value-at-Risk calculations into the integrated bank management.
- The flexibility of zeb//control enables you to easily adapt reports as well as structures according to your institute's individual requirements and to existing concepts.
- The modular zeb//control structure allows for an optimised alignment to specific conditions and the integration into existing processes and IT system environments.
- You use tailor-made software solutions offering a holistic solution through the combination of state-of-the-art technologies with cutting-edge know-how.
- You benefit from competent consulting based on long-term experience in developing and implementing business-critical applications for financial service providers.

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## Increasing earnings, managing risks

**zeb//control compass** – Optimising strategy, increasing business success

- Value-oriented top management reporting across all functional areas
- Value-driver simulations and planning incl. cause analysis
- Focus on strategic figures (e.g. RORAC, TSR, etc.)

**zeb//control profit** – Precise profitability management

- Transparent and customisable return presentation
- Extensive and practically proven standard reporting
- Ex ante and ex post calculation of all contribution margin levels

**zeb/integrated.bank-planner** – Centralised and decentralised planning

- Integration of market division and central planning
- Comfortable support of top-down and bottom-up processes
- Automated proposal and allocation of plan values

**zeb/credit.risk-manager** – Identifying risks, optimising profit

- Analysis of the portfolio structure
- Optimisation of the risk structure
- Flexible scenario analyses

**zeb/integrated.treasury-manager** – Improving net interest income, planning actions

- Integrated present-value- and period-oriented ALM
- Comprehensive action simulation
- Structural liquidity planning

**zeb/portfolio.risk-manager** – Actively managing and assessing risks

- Compliance with legal trading requirements
- Position keeping and VaR measurement
- Integrated real-time limit system

**zeb/basel.II** – Ensuring regulatory compliance

- Coverage of standard and IRB approaches
- Loss data base with default management
- Interface to common reporting systems

**zeb/operational.risk-manager** – Managing and monitoring operational risks

- Systematic capturing of loss data
- Risk measurement by self-assessment
- Risk indicators as an early-warning system

**zeb/ifrs** – Meeting regulations confidently

- Assessment of all single transactions according to IAS 39
- Cash flow und fair-value hedge accounting
- Automatic posting creation

**zeb//control warehouse** – Creating an uniform database

- Uniform and consistent database
- Open architecture for flexible extension and integration
- Automatic identification of faulty data in plausibilisator

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