



# BondEdge Cash Flow Analyst for Insurance

A new package of capabilities designed to support insurance cash flow analysts in generating dynamic asset cash flows and analytical risk reporting for asset-liability management

BondEdge® Cash Flow Analyst for Insurance is a new package of product capabilities designed to assist insurance cash flow analysts, including investment actuaries, with generating scenario driven dynamic asset cash flow projections and analytical risk reporting for asset-liability management of insurance asset portfolios.

For many years, analysts within the insurance industry have leveraged the robust analytical and asset modeling tools and comprehensive security database coverage of Interactive Data's market-leading BondEdge service for fixed income portfolio and security risk analysis, dynamic asset cash flow analysis, and regulatory and rating-agency based reporting.

This new offering further expands BondEdge for the insurance market, combining customizable portfolio risk and dynamic cash flow projections and presentation style graphics with automated, flexible reporting capabilities. It can also assist in meeting regulatory and ratings agency-based requirements, such as New York State Regulation 126, the AM Best Supplemental Rating Questionnaire, and Standard & Poor's U.S.-based insurance risk-based capital (RBC) model.

BondEdge is built on the Microsoft® .NET Framework and provides a highly intuitive, flexible user interface. BondEdge is available to customers as an on-site software installation or through an OnDemand Software as a Service (SaaS) option. It includes an extensive structured finance deal library, cash flow engine, and term structure and prepayment models, enabling clients to generate dynamic risk measures and asset cash flows for agency and non-agency residential mortgage-backed securities, including sub-prime issues, as well as asset-backed and commercial mortgage backed securities.

## Key Features

### Extensive Security Coverage, including Structured Finance Library

- Comprehensive security database, including treasuries, agencies, corporates, fixed and adjustable mortgage-backed pools, agency and non-agency RMBS, asset backed securities, CMBS, preferred stock, municipals
- Derivatives coverage, including interest rate futures, interest rate and credit default swaps, caps/floors, and OTC options
- Flexible bond modeling tools for private placement securities and client-created bonds

### Robust Analytical and Cash Flow Models

- Arbitrage-free Multi Factor and Single Factor Interest Rate Term Structure Model
- Structured Finance Cash Flow Engine
- Mortgage-backed Prepayment Modeling with Monte Carlo-based analytics
- Bond Option Model with implicit finite difference method

### Comprehensive Set of Security and Portfolio Option-adjusted Risk Measures, including:

- Effective Duration and Convexity (par or spot curve)
- Option Adjusted Spread (government or swap curve)
- Key Rate Durations
- Spread Duration

- Volatility Duration
- Prepayment Duration

## Flexible Portfolio Reporting, Graphics, and Scans/Alerts

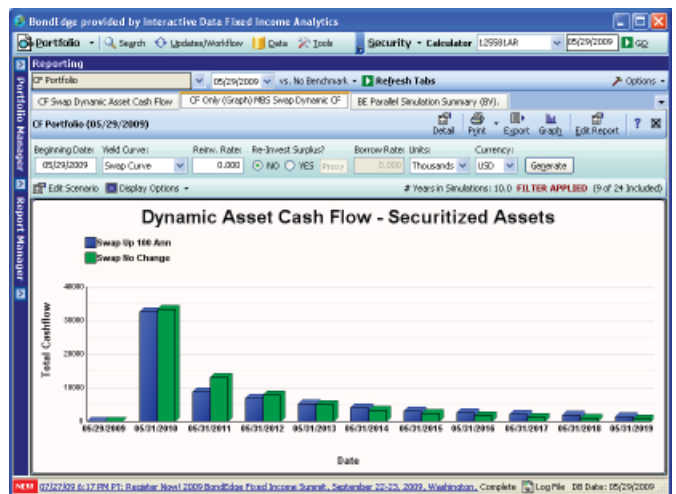
- Intuitive user-interface for quick and easy system navigation
- Centralized reporting engine that allows clients to create customizable reports
- Automated report and graphics production and export
- Automated portfolio upload process from leading accounting systems and Microsoft Excel<sup>®</sup>
- Portfolio Scan and Filter tools to quickly create portfolio segments for reporting, stress testing, and cash flow analysis
- Portfolio Alerts to easily identify securities with ratings upgrades/downgrades/change in watch status

## Dynamic Cash Flow Analysis for Asset-Liability Management and Regulatory/Rating Agency Reporting

BondEdge provides the ability to generate customizable cash flow analysis in a highly automated and efficient manner at the security and portfolio level which can be used by clients for risk management analyses and to help prepare regulatory reports (e.g. in connection with NY State Regulation 126). Cash flow analysis can be generated for either single or multiple interest rate scenarios. Clients can create groupings of portfolios, interest rate scenarios, and liabilities within custom folders, providing a framework for the ability to produce large volumes of cash flow analysis in a sensible manner.

Date	6-Mo Rate		30-Yr Rate		Par Value (000)		Total Princ CF		Total Int CF		Total Cashflow
	Swap Up 100	Swap Up 200	Swap Up 100	Swap Up 200	Swap Up 100	Swap Up 200	Swap Up 100	Swap Up 200	Swap Up 100	Swap Up 200	
05/29/2009	0.69	0.69	4.02	4.02	190,519	190,519	0	0	0	0	0
06/29/2009	1.69	2.69	5.02	6.02	188,259	189,743	1,960	777	896	896	2,856
07/31/2009	1.69	2.69	5.02	6.02	186,657	188,975	1,904	767	455	474	2,359
08/31/2009	1.69	2.69	5.02	6.02	184,783	188,201	1,872	774	997	1,020	2,870
09/30/2009	1.69	2.69	5.02	6.02	182,989	187,456	1,793	745	639	665	2,432
10/31/2009	1.69	2.69	5.02	6.02	181,224	186,701	1,766	756	367	396	2,133
11/30/2009	1.69	2.69	5.02	6.02	179,526	185,969	1,698	720	623	625	2,321
12/31/2009	1.69	2.69	5.02	6.02	177,885	185,251	1,641	718	630	644	2,272
01/31/2010	1.69	2.69	5.02	6.02	176,311	184,559	1,574	690	417	456	1,990
02/29/2010	1.69	2.69	5.02	6.02	174,764	183,885	1,547	695	961	1,004	2,598
03/31/2010	1.69	2.69	5.02	6.02	173,236	183,134	1,558	731	602	640	2,160
04/30/2010	1.69	2.69	5.02	6.02	171,678	182,401	1,529	735	331	379	1,660
05/31/2010	1.69	2.69	5.02	6.02	170,173	181,628	1,506	742	589	639	2,095
	1.69	2.69	5.02	6.02	7,538,947	9,287,684	103,161	171,805	28,127	35,065	211,288

The dynamic asset cash flow analysis in BondEdge generates principal and interest cash flows given parallel or non-parallel shifts to the government or interest rate swap curve. Robust term structure, option, and mortgage prepayment models are used to determine security and portfolio cash flows for each interest rate scenario. These models are critical when projecting scenario cash flows for option-embedded securities such as callable bonds, MBS pools, and agency and non-agency CMOs. Loss modeling via client specified projected defaults, severity, and trigger status is also incorporated when generating cash flows for non-agency residential MBS.



## Dynamic Asset Cash Flow Reporting Features

- BondEdge provides report writing capability for dynamic cash flow analysis, including:
  - Custom summary/security field selection
  - Category subtotals (e.g. sector/quality/bond type) for segmented cash flow analysis
  - Presentation Style Cash Flow graphics
  - Portfolio segment filters based on security characteristics (e.g. sector/quality attributes)
- BondEdge standard reports, including:
  - Dynamic Cash Flow by Sector Analysis
  - Dynamic Cash Flow by Quality Analysis
- Multiple Scenario Analysis – Reporting and Graphics
- Scenario/Liability Selection Flexibility

- Folders enabled
- Macros enabled
- Production Flexibility for Report Output Generation
  - BondEdge Report Books (PRO) enabled
  - File naming conventions expanded
- Swap Curve based scenarios supported

## Stress Testing Tools

BondEdge provides capabilities for the generation of simulated and book values based on shifts to the government or interest rate swap curve and credit spreads. Robust term structure, option, and prepayment models are used to compute horizon security, portfolio, and benchmark values. Prepayment model assumptions may also be changed.

- Parallel/non-parallel interest rate shifts
- Credit spread shifts for sectors/industries/issuers
- Credit spread shifts by underlying collateral/tranche types
- Flexible report creation at security/portfolio
- Comparison to liability benchmarks supported
- Prepayment User Scaling – stress/alter BondEdge prepayment model assumptions in an automated fashion

Yield Chg (bps)	Book Price Return	Average Life	Modified Duration	Yield to Worst	Market Value (USD 000)	Book Yield	Book Value (USD 000)	Gain or Loss (USD 000)
-300	-1.545	2.334	2.142	-1.067	210,092	1.903	137,105	9,343
-250	-1.534	2.325	2.129	-0.562	208,915	1.928	137,928	7,926
-200	-1.523	2.247	2.110	-0.056	207,790	1.960	138,849	6,529
-150	-1.501	2.236	2.102	0.468	206,728	2.011	140,868	5,215
-100	-1.470	2.229	2.098	1.003	205,702	2.093	143,898	3,926
-50	-1.430	2.284	2.132	1.547	204,653	2.210	147,714	2,610
0	-1.388	2.411	2.233	2.087	203,472	2.351	151,718	1,130
50	-1.350	2.642	2.414	2.615	202,053	2.493	155,206	-640
100	-1.154	2.826	2.539	3.093	200,363	2.614	171,237	-2,756
150	-1.120	3.265	2.805	3.590	198,279	2.718	176,051	-5,469
200	-1.059	3.686	3.168	4.060	195,882	2.773	189,112	-8,792
250	-1.039	4.125	3.403	4.554	193,237	2.862	191,004	-12,094
300	-1.027	4.482	3.728	5.047	190,490	2.945	192,263	-15,274

## Portfolio What-If Analytics For Pre-Trade Analysis

BondEdge provides the ability to measure the effects of trading on both a market value basis and book value basis, including before/after portfolio risk characteristics and distribution analysis.

## Credit Loss Modeling for Structured Securities

- Credit trigger setting toggle, set future default expectations, loss severity
- Portfolio and Security Loss Adjusted Measures, including: yield, effective duration, convexity, total return projections, and dynamic cash flow analysis

## BondEdge API

BondEdge includes an analytical measures and trade analysis application programming interface (API) designed to provide clients with seamless access to:

- Security-level derived analytical measures
- Static Cash Flows
- Stressed Measures – parallel/specified scenario simulations
- Bond Swap Analysis
- Portfolio What-if Analysis

## Regulatory and Rating Agency Reporting

BondEdge employs cash flow projection, stress testing, convexity risk procedures to help clients in meeting regulatory and ratings-agency based requirements, such as New York State Regulation 126, the AM Best

Investor Type	Bk Val (\$000)	Avg Quality	Mkt Val (\$000)	Book Yield	Avg Life	YTM	Eff Dur	Conv
1. Mtg Pass-Thru (Agency)	36908	AGY	37770	4.59	2.78	3.39	1.97	-0.83
2. Mtg Pass-Thru (Non-Agency)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3. Commercial Mtg Backed Securities	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4. CDO - PAC #1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5. CDO - VACM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6. CDO - Sequential	10325	AGY	10331	4.17	2.00	4.14	2.23	-1.43
7. CDO - TAC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8. CDO - Mezzanine	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9. CDO - I/O	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10. CDO - Inverse Floater	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11. CDO - P/O	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Supplemental Ratings Questionnaire, and Standard & Poor's U.S.-based insurance risk-based capital (RBC) model.

### Third Party System Integration

Export capabilities to Insurance Asset/Liability modeling systems, including:

- TAS Tillinghast Actuarial Software™
- Tillinghast MoSes™
- Milliman MG-ALFA®
- GGY Axis

Import capabilities from accounting systems, including:

- Princeton Financial Systems PAM®
- SS&C Technologies, Inc. CAMRA™

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Interactive Data Corporation is a trusted leader in financial information. Thousands of financial institutions and active traders, as well as hundreds of software and service providers, subscribe to our fixed income evaluations, reference data, real-time market data, trading infrastructure services, fixed income analytics, desktop solutions and web-based solutions. Interactive Data's offerings support clients around the world with mission-critical functions, including portfolio valuation, regulatory compliance, risk management, electronic trading and wealth management. Interactive Data is headquartered in Bedford, Massachusetts and has over 2,500 employees in offices worldwide.

BondEdge Solutions is a leading provider of fixed income portfolio analytics to the investment community with decades of expertise. Its client base includes more than 400 leading banks, investment managers, brokerage firms, insurance companies and pension funds throughout North America and Europe. This business is known for its flagship product, BondEdge®, which allows customers to identify opportunities and analyze portfolio risk using robust modeling techniques. BondEdge Solutions also provides direct access to sophisticated risk measures for a wide universe of fixed income securities via its analytical datafeed service.

For more about Interactive Data and its businesses, please visit [www.interactivedata.com](http://www.interactivedata.com).

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