IBM Algo One Foundation Upgrade Benefits Document

How the latest generation delivers results for clients

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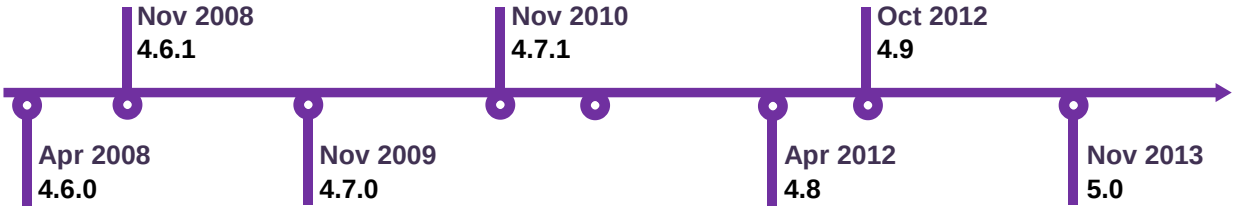
How we can help you

As a client of IBM Algorithmics software, we invite you to discover how upgrading your current version of Algo One can benefit your organization. This document serves as a general overview of what enhancements are available, and is intended as the first step in working with you to develop a customized upgrade path.

Enter the next generation of risk management

To help our clients improve the measurement and management of risk, this document is designed to outline advances made in the latest versions of IBM Algo One, and explain how we can assist you with making the transition from the version you are using today.

Algo One release history



Ongoing developments follow our three key objectives for delivering value to clients, through three key development areas.

Objectives for delivering client value

Integrate analytics between the front office and risk - The latest versions can deliver incremental pre-deal credit and capital analytics into the front office, using the gold standard of credit exposure and CVA measurement – full multi-step Monte Carlo designed to calculate results that accurately account for the impacts of close-out netting and collateral.

Improve the user experience for multiple roles - More intelligent interfaces have refined user workflows for many different use cases, with further integration across components, risk types, and measures through time. This includes unified views that make it easier for users to drill down and understand the drivers behind any changes in the risk measures they work with.

Reduce the cost of operations - Enhance the overall value of the solution by reducing the time it takes to load data into the system, providing advanced tools designed to detect and correct errors in input data, and supporting additional infrastructure options. High speed extensions can accelerate simulations for specific asset classes, which can lower hardware costs by requiring less hardware to deliver results at the necessary speed.

Regulatory – The regulatory landscape is shifting: Basel RDARR sets the principles for the largest banks to align with by 2016, and will set standards for the industry. The Fundamental Review of the Trading Book is likely to be finalized in 2015. The new standardised approach (SA-CCR) that is set to replace both the Current Exposure Method (CEM) and the Standardised Method (SM) in the capital adequacy framework is scheduled to take effect on January 1st 2017. Margin requirements on non-centrally cleared derivatives are being phased in now and over the next few years. These are just a few examples, and firms need solutions that can help them address the barrage of regulatory requirements and optimize their decisions under the new and emerging incentives and constraints.

Key development areas

1) **Improved interfaces, and reporting**
2) **Models and analytics**
3) **Data management and infrastructure**

The next sections outline the major features and functions within these key development areas that have been released since Version 4.7.0.

Improved interfaces, and reporting

Decision makers and analysts need risk user interfaces that work for them in ways that reduce the time spent on routine tasks and increase opportunities to ask more complex questions and get more insightful answers.

Pre-deal exposure, CVA, and Limits in Counterparty credit risk web-based workspace	
Feature	**Description**
Active CVA Management	Managing CVA actively means understanding CVA at the deal inception (for pricing), but also understanding the sensitivities to all risk factors on CVA for the entire portfolio. CVA desk now in place at most banks rely on this information to ensure CVA is managed and hedged. Workflow enacted by the CVA desk may also require intraday analysis of CVA including the ability to override CDS spreads used to price CVA into a deal. As new trades are booked, each desk is responsible for covering their CVA charges through a transfer process. The solution provides the CVA desk with a real-time view on the changes to CVA by portfolio, counterparty, and trade.
Improved day-over-day and relative risk analysis	The Analysis Workspace has been added to the set of user-focused workspaces and it will support both credit and risk analysts as well as more specialized roles such as someone working on the CVA trading desk. This workspace uses a dashboard design to easily allow a user to look at risks related to trading activity on a real-time, end-of-day, day-over-day or using an attribution/waterfall approach (i.e. running a P&L attribution on CVA)
Decision support workflow – Trade Violations & Excess	The Inbox is a role-specific workflow application which has been added to the set of user-focused workspaces to support counterparty credit risk for real-time violations and end-of-day limit excesses. This application uses a configurable workflow engine and allows users to monitor role-specific events such as violations and excesses. Violations are captured in real-time as soon as a committed trade causes or worsens a limit excess or for a trade the breaches any trade restriction. Both active and passive (technical) excesses are generated immediately after the system switches over to a new day's baseline (batch). The applications includes a user-specific configurable front end including an 'Inbox Dashboard' to help users quickly indentify the most critical events to act upon. Trade violations are caused by a trade breaking a limit (i.e. causing an excess) or by violating a trade restriction. An excess is the state of a given limit when the exposure has breached the limit. IBM Algo CCR provides a workflow tool called the 'Inbox' to help report on, manage, and facilitate the workflow associated with these violations and excesses.
High-Availability Operation	The solution supports a 7x24 operation by maintaining 2 sets of engines and workflow (instance-1 and instance-2) during a new dataset's preparation (i.e. new market data, new positions, credit data, etc.) and up to its 'switch-over' (i.e. activation of the new dataset for all limit checking and inquiry). This seamless switchover is designed to ensure that all trades committed while the next dataset instance is being prepared will be processed (i.e. simulated and aggregated) by both the primary and secondary systems. This process allows the newly generated 'baseline' exposure (on instrance-2) to be aggregated with any trade committed after the baseline trades were consolidated while the process also ensures that these trades are checked (i.e. against limits, rules etc.) on the older system (instance-1). Once the systems are synchronized, the system is able to 'switch-over' from instance-1 to instance-2

Pre-deal exposure, CVA, and Limits in Counterparty credit risk web-based workspace	
Feature	**Description**
	whereby the former is deactivated and the latter is activated simultaneously.
Settlement Risk	*Settlement Risk in FX Transactions* is the risk that a trading counterparty fails to fulfill its physical settlement obligation defined by the terms and conditions of FX derivative contracts including Spot, FX Forwards, FX Options, FX Swaps, and Cross-Currency Swaps. The size of risk is typically the total amount of notional to be received on settlement for the given trade's currency. Risk duration may last beyond the day of settlement and the duration can depend on factors such as the currency, geographical location of the trading counterparty, or the operational arrangements in place. FX settlement risk can be mitigated though both payment-vs.-payment (i.e. CLS Bank as the agent) and delivery-vs-payment (i.e. cash settlement) methods. Mitigation is also done through the use of netting across payable and receivable cashflows with the same trading counterparty (i.e. on the same date, in the same currency).
Comprehensive Risk Data and Dynamic agreements	Risk policy has grown beyond limits, but now includes more complex trade rules and restrictions and tolerance checks on credit and funding costs as well as capital costs. The IBM solution includes the following tools for managing and administrating risk policy and other risk data required to make risk-aware decisions including, • Risk entity and counterparty structure management • Business line hierarchy management including book/desk/portfolio level risk policy • Risk measure configuration and limits • Add-on vs. simulation policy at the trade level • Dynamic allocation of netting and collateral trade assignment • ISDA and CSA legal and parameter administration • Custom measures/aggregations and limits • Other static data such as geographical, currencies, underlying securities, and analytics
Pre-Deal Analysis and Risk Pricing	Risk-based regulatory capital requirements are squeezing the profit margins of banks. Firms can mitigate the profitability impacts of regulation with risk-aware decision support tools that help to improve strategies for minimizing regulatory capital and creating the right incentives for traders. Properly designed, these incentives will consider a comprehensive array of factors when offering traders guidance on what to trade, who to trade with, how to best structure the trade, and how to price risks into the trade. To help traders make the right decisions, the incentives should lead to optimal deal-time results as traders consider these questions and weigh several factors. • What to trade? • Who to trade with? • How to best structure the trade? • How to price the trade?
Web-Based User Interfaces	Effectively managing counterparty credit risk involves users and roles with different needs, skills, and functions, and solutions should be designed to provide interfaces that deliver a rich and connected user experience that is unique for each role.

Pre-deal exposure, CVA, and Limits in Counterparty credit risk web-based workspace	
Feature	**Description**
Additional Features	**Product Coverage** – financial market products including, *OTC Derivatives*: interest rate, foreign exchange, equity, commodity/energy, credit derivatives *SFT (Security Financing Transactions)*: securities lending/borrowing, repurchase (reverse) agreements *Direct Lending*: loans, lending facilities, deposit certificates **Risk Categories** - exposure from a product can be attributed to a risk entity in several ways, *Presettlement Risk:* the entity is a trading counterparty (OTC or SFT forward settled securities trading) *Settlement Risk*: the entity is responsible for physical delivery of the notional amounts or interim cashflows for a derivative transaction. *Issuer Risk*: the entity issues the debt/security or is named in the underlying derivative (directly or in a tranche) **Exposure Methodology –** based on the product parameterization and mapping, each trade contributes to an entity's exposure using several techniques (contributing to one or more exposure types on one or more entities) *Full Simulation:* using historical, risk-neutral, or Monte Carlo simulation across many timesteps and thousands of scenarios. *Add-on*: Basic and Advanced MTM with notional percentage factor-based lookup (product, currency, tenor, underlier, collateralized). *Notional/Principal Based (Simple)*: using the notional/principal of the trade and its maturity. *Custom/Third-Party*: amounts such as MTM or sensitivities included at the trade level for risk aggregation.

Market risk web-based workspace	
Feature	**Description**
Enhanced drill-through	Navigate from a report such as an exposure or VaR report to the terms of the underlying instruments in the constituent portfolio. Previously, a user would need to examine instrument terms in installed interfaces.
Risk factor representation of a portfolio	View any portfolio as an expression of sensitivities to risk factors. Multiple portfolios can be represented this way, compared, and aggregated.
On-demand scenario creation and simulation	Users can create sensitivity, stress, and historical scenarios, launch simulations across these scenarios for user-defined portfolios and visualize results back in web-based interfaces. This application will also allow users to view the scenario or set of scenarios that caused a particular risk measure. For example, show the user all the scenarios in the left tail of a 95% VaR distribution.
Enhancement for	A single web-based session is able to gather simulation results from multiple

Market risk web-based workspace	
Feature	**Description**
multi-day comparison	days to do multi-day reports. For example, a user can quickly highlight changes in risk profile from yesterday to today. Combined with the ability to drill-through, the user can identify the reasons for the changes.
Context sensitive help	Specific help topics can now be launched from certain points in the application. Clicking on these topic specific links takes the user directly to the applicable help topic.

Risk and Financial Engineering Workbench	
Feature	**Description**
New CachedSimulator extension	The new CachedSimulator extension is designed to minimize the number of recalculations required after an update is performed to a portfolio. This allows the simulator to simulate only the instruments that were updated and avoid re-simulating instruments that are not impacted by the update.
Predictive navigation	The application is designed to anticipate the details and graphs a user wants to see when drilling through layers of results.
Improved collaboration	Users can annotate specific variables within sessions to share findings and propose updates or further investigation to other users
Efficient analysis of historical simulations	For analysis of historical simulations, the Mark to Future (MtF) cube results from past analysis can be loaded into the workspace for immediate use, rather than having to re-simulate past conditions

Models and analytics

Under a rapidly evolving regulatory framework, it is essential for firms to have the ability to quickly adapt their models and analytics to provide decision makers with the insights they need to achieve business objectives. Regulators also recognize the value of more sophisticated modeling approaches, by offering a variety of incentives for firms to strengthen their models.

Pricing Analytics	
Feature	**Description**
User Defined Expressions module	Allows users to create new functions/expressions without any programming. These expressions can be combined together in the GUI. The expressions come in two categories – accessor expressions that allow the user to, say, read a curve, and higher expressions such as Logical, Statistical, Mathematical.
Python enhancements	Python allows users to extend RiskWatch models and analytics coverage using the Python programming language. Python is a simple yet powerful scripting language that allows the user to: • Control input and output of data • Access pricing functions for other instruments • Access curve data, including interpolation and extrapolation • Take advantage of the simulation framework, including aggregation and graphics • Make use of the batch framework for production quality systems Python overcomes some traditional limitations of BasicScript (used in RiskScript) such as lack of matrix and statistical functionality while offering a simpler language than C++ (used in Risk++). The Python extension can be used to link to other model libraries such as quantlib as well as to C and Matlab code. Taken together, these features allow faster on-boarding of new models without sacrificing the needed depth of features.

Pricing Analytics	
Feature	**Description**
Risk++ enhancements	• VolMoneynessFunction class added to customize volatility curves' moneyness caluclation • Windows compiler upgraded to Microsoft Visual Studio 2012 • SunCC compiler is replaced by GCC compiler
RiskScript enhancements	• New StressTestModule functions: createNamedReport() setPositionsInReport() • New InstrumentModule and ModelModule functions: setFilterAttribute(), setFilterOperator(), setFilterMatchCase() , setFilterUseRegularExpression() • New script functions were added: SetConfigVarInt() and GetConfigVarInt() • StressTestModule.setPortfolios() now accepting AlgoStringArray
OIS Discounting	New procedure '@general bootstrap from instruments' to derive zero curve under OIS discounting.
Stochastic Process Module (SPM) enhancement	• Now supports new payoff: PRDC, single barrier swaptions, European cross currency swaptions, Window Barrier option with rebate, arithmetic Asian and single barrier options on a rebalancing composite index • Supports Quanto adjustments for direct and indirect FX quotes • Wu-Zhang model supports Quanto adjustments and full truncation setting. • The product coverage via SPM, our Monte Carlo pricing framework, has been expanded to include pricing for lookback options, options on the ratio of two baskets, and cliquet options. • SPM also introduces performance enhancement by allowing the user to approximate THEO/Value of instruments using a kernel-based regression. Specifically, values for an instrument are stored under some scenarios and for other scenarios the conditional expectation is used.
Stochastic Volatility functionality	Further coverage with rollout of the Heston model. It is now possible to value instruments such as Conditional Variance Swaps and Volatility Swaps in SPM where the underlier follows a Heston process. Calibration of Heston processes is now supported as well (via the GD2 module)
Fixed income valuation framework enhancements	Can use Hull-White 2 factor models. This also includes calibration functionality.
Willow:	• Willow pricing now support Fixed Tenor Swaption • CMS rate calculation with Hull White convexity adjustment
GD2:	• New GD2 Vanna Volga model for single and double barrier FX options • GD2 supports European, Asian, and Barrier options on Composite Indices. • Support GD2 Quanto Adjustment for direct and indirect FX quotes. • Support GD2 configurable Delta and Gamma tweak amount • New calibration for swap and swaption • New Volatility Curve type: Volatility - ATM Offset/Term/Term. -> The ATM Offset is the basis points offset over the at-the-money volatility (that is, the axis corresponds to 10000 * (S / K - 1) where S is the spot price and K is the strike price).

Pricing Analytics	
Feature	**Description**
Enhanced support for Structured Products (CMO, ABS, MBS etc)	Newer Intex and Andrew Davidson (AD) library version is now supported. More information delivered from Andrew Davidson - e.g. which AD models were used internally for valuation of a given instrument, and more output attributes exposed MBS: • Support shocks to multiplier to AD tuning parameters • The Intex library was upgraded to the version 3.3c_p1 • Nominal Payment Date from Intex can now be exported.
Brazilian Extension:	Support Brazilian market modeling of Brazil Coupon Future, IDI Option, CCI and IDI indices.
Other pricing enhancements	• Support constrained cubic spline interpolation • Structured Curve Index enhanced with rounding rule and functions • Performance enhanced for @CubicSpline interpolation function • Maximum number of cashflow payments now configurable • Support Business Day Rule for Term Interpolation • New Day Count Basis: 30/360 German, Business/365 • RiskWatch® now uses CPLEX® version 12.5.1

ALM and Liquidity Analytics	
Feature	**Description**
New Securities Lending/Borrowing transactions model	• Re-engineered securities lending/borrowing transactions modelling designed to capture proper relation between these transactions and the respective collateral pools. • This is supported also for FSA, Basel and OSFI as well as in the Balance Sheet Liquidity module.
Liquidity Risk reporting regulatory requirements	• Automated end-to-end processes designed to facilitate regulatory compliance with the FSA UK, Basel and OSFI liquidity reporting requirements.
Enhanced Balance Sheet Liquidity options	• Designed for improved efficiency by giving the option of just calculating on trading and corresponding lag days.
Calculation of FTP based value	• Calculation of FTP Value as discounted cashflows using the FTP rate.
FTP calculation for future trades	• FTP module is now supported in the Dynamic Strategies module allowing calculation of FTP charges for forecasted trades.
Dynamic strategies enhancements	• DynamicStrategies extension added new issuance rules: set coupon to par with discount curve and numerical set coupon to par with discount curve. • A new Dynamic Balance Sheet Analysis Add-on which packages 5 out-of-the-box BSRM specific dynamic strategies.

Regulatory Capital Analytics	
Feature	**Description**
Regulatory Capital Analytics enhancements	• Support Before CCF Method for IRB approaches (required for CRD3/COREP) • Support Basel III credit risk requirements with individual feature control • Support viewing of Basel II and Basel III results concurrently • Support Simplified Supervisory Formula Approach for securitization
Support CRDIV regulatory requirements with individual feature control	CRM Mortgage Loss Rate limit for collateral eligibility, Exposure to Regional and Local Govts, Exposure to Unrated Inst's, Exposure fully and completely secured by commercial mortg's, Exposure to PSEs, On Balance Sheet Netting in the same currecny, Definition of 'In Default' for SA Exposures • CRM Mortgage Loss Rate Limit for Collateral Eligibility • CRM On Balance Sheet Netting in Same Currency • Exposure to regional governments or local authorities • 'In default' under Standardized Approach • Exposure secured by mortgages on immovable property • Exposure to Public sector entities • Exposure to Unrated Institutions
Effective Maturity without a 5-year cap	Model Effective Maturity without a 5-year cap. The attribute B2 MODEL/Basel Eff Maturity - No Capwas added. It is applicable to Basel 2 IRB Fnd Model, Basel 2 IRB Adv Model and Basel 2 Appr Model with the new pricing function @Basel Eff Maturity - No Cap. This is used in calculation of regulatory standardized CVA

IBM Algo Scenario Engine	
Feature	**Description**
New compressed scenario format	You can now use the generate utility to output a scenario set in a compressed format to generate scenarios on-demand. This format can be used in place of a cached binary scenario set. Scenario Generation compression allows for distributed scenario generation that can be scaled across grid nodes Reduces bandwidth requirements by avoiding having to distribute a large scenario file
New and enhanced utility commands	1. New trigger-select utility - output a subset of the scenario set results by defining which triggers to output for a given risk factor. 2. New calibrate model utility - output estimated parameters for each model in the scenario set. 3. The calibrate codependent utility was enhanced with a new option -M (or --output-mean for the long form) to output mean values files 4. report pca-diagnostics utility now is extended to Monte Carlo models. 5. The shred utility now supports .AFM format
Supporting business day nodes	A new utility convert-business-terms converts a binary scenario set that uses terms that are measured in business days to a scenario set that uses terms that are measured in calendar days. This utility can also be used to convert the correlation and volatility files (in Algo01 format) of the same scenario set to a set of new VCV files corresponding to the calendar day terms.

IBM Algo Scenario Engine	
Feature	**Description**
Supports arbitrage free or risk-neutral scenario modeling	Allows consistent generation of multiple currency interest rates, each following a two-factor Hull-White type model, and FX rates and equities processes each following either a Black-Scholes type model with deterministic time-dependent volatility or a Heston type model with stochastic volatility.
Supports time-dependent IR volatilities for HW2F-EBS models	ASE now accepts time-dependent IR volatilities for the non-arbitrage/risk-free HW2F_EBS model simulation.
Dynamic risk factor file accepts IR curves in Arbitrage-Free blocks	Dynamic risk factor file was extended to allow IR curves to be added in Arbitrage-Free blocks. For ASE to include an IR curve found in the dynamic risk factor file, the IR curve must have a corresponding FX curve
Student-t copula supported	The Gaussian Copula and the Student-t copula generate fat tails in the marginal distributions, the Student t shows higher co-dependence in the tails of the distribution, so that risk factors will move together during non-normal events
ASE commodity model enhancements	Take into account seasonal adjustments when simulating commodity risk factors.
More sophisticated algorithm for VCV matrix regularization	The new algorithm is based on the methodology described in a paper by Jäckel and Rebonato. Now there are 3 methods available in ASE to regularize VCV matrices – “Principal Components Regularization”, “Simple Correlation Matrix Regularization”, and the new “Optimized Correlation Matrix Regularization”. These techniques allow further flexibility to create metrics, such as VaR or PFE, conditional on a correlation change.
New library for Sobol sequences	Allows scenario generation for higher dimensions.
New Random Number Generator enhancements	1. LaggedFibonacci: uses a (24,55) Lagged Fibonacci generator (LFG) to generate pseudo-random numbers. 2. MersenneTwister: a Mersenne Twister that is constructed, for each scenario, from a different seed that is drawn from a pseudo-random sequence of numbers generated based on the initial seed specified by the user.
CSV scenario output format support	IBM Algo Financial Modeler® support Support new variance covariance files in CSV and Matrix formats
FFT convolution for empirical marginal estimations	ASE now supports Fast Fourier Transform (FFT) convolution method for both file-based and estimated empirical marginal estimation.
Support for Overlapping Periods in RiskMetrics VCV	Mean Reversion -PCA models can now be used with scenario generators that use a copula codependent structure.

Portfolio Credit Risk Engine (PCRE)	
Feature	**Description**
Cascade Measures Option update with CDS support	The Cascade Measures option was improved and when enabled will create a group for each CDS to be simulated and export the CDS group measures to the cascade directory. PCRE then post-processes the cascade measures and generates the input formats to load into Datamart.
Credit derivative support for Sampling and LLN techniques	PCRE now supports credit derivatives with the counterparty set to Sampling and issuer that is set to LLN techniques irrespective of the EnableTechniqueCorrectionForCDS flag.
Support Microsoft Excel format scenario sets in PCRE	You can now use Microsoft Excel format scenario sets in PCRE
CreditRisk+ support	Probability of Default (PD) volatility correlation method The PD Volatility correlation method for credit correlation based on default rate volatility is now supported. The primary purpose is to approximate the Credit Risk+ (CR+) method using the PCRE (Merton) model. The parameterization allows automation of a number of CR+ modeling approaches within the PCRE setup manager.
Large files handled by PCRE exposure loader	The PCRE exposure loader can now handle files that are larger than 2 GB.
FFT Grid Calibration	for large counterparty sessions - calibration method has been improved in an effort to prevent excessive calculation times

Infrastructure enhancements designed to improve system performance	
Feature	**Description**
High speed simulation extensions	Special-purpose high speed simulators that can be run as an extension of Riskwatch similar to a DLM or can be called directly in intra-day and real-time applications. Extensions are available for a wide range of cash flow instruments (swaps of various types, fx forwards, amortizing bonds), fx options (European, American, barrier options), CDSs, and caps/floors. These extensions are most applicable to pricing models with small input data requirements including cash flow instruments and options with closed form and semi-closed form analytical solutions, and are not applicable to lattice-based and Monte Carlo models.
Stochastic Pricing Module (SPM) improvements	The stochastic pricing module (SPM) in RiskWatch allows user to value and calculate risk measures for complex products that require Monte Carlo based pricing. In Phase 1 (4.6.1) the performance of SPM was accelerated by a factor of 10-20 based on the following methods: 1) Specialized 1-d geometric Brownian motion (GBM): Before, SPM supported a 1-d model as a special case of multi-dimensional problem, and as such the structure of a simplified 1-d problem was not exploited in treading over the loops. SPM now supports a specialized 1-d GBM which lends itself better to compiler based optimization.

Infrastructure enhancements designed to improve system performance	
Feature	**Description**
	2) Mixed Language Programming: As an add-on to (1) SPM now uses a subroutine that exploits a standard vector math library. 3) Caching of Generated Values: A new caching pattern is now implemented that allows caching of a mixed quasi-pseudo generator using Brownian Bridge algorithm. 4) Further improvements in the efficient implementation Quasi Monte Carlo With Brownian Bridge algorithm. 5) Contracts with early expiry or knock-out features (such as the Accumulator) can avoid all computations past their early expiry date. We have implemented this feature at the framework level (rather than on a payoff-specific basis). 6) Elimination of dynamic binding function calls.
Kernel-based approximation for Stochastic pricing module (Monte Carlo pricing)	The stochastic pricing module (SPM) in RiskWatch allows user to value and calculate risk measures for complex products that require Monte Carlo based pricing. The kernel-based approximation method allows users to approximate simulated results by exploiting previously calculated results as that from "similar" scenarios.
Sobol Module	We have now integrated a new library for using Low Discrepancy Sequences across scenario generation for simulation and pricing. This reduces the number of scenario required and new implementation permits applying it to higher dimensions.

Data management and infrastructure

Risk departments are now spending more time running routine reports, having to aggregate data from multiple source systems and spending time to constantly reconfigure analytic templates to produce measures of interest.

Data centric risk management approaches can reduce the total cost of ownership for clients. Effective data management enables IT teams and risk managers to do more with the existing data that an organization already has.

Data Management	
Feature	**Description**
Stream Analyzer (SANE) to interact and analyze batch workflow results	Graphical reports to visualize what happened and why Gantt chart views for easy identification of performance bottlenecks Automated run analysis to help determine the root cause of any failed run RunHistory analysis for historical comparison of runs Support for 64-bit computing support across a variety of platforms. Support for grid computing middleware, Platform Symphony and DataSynapse
RunHistory DB	Web-based interface that supports AutoSys, Control-M, and stores job stream execution-related statistics. The following statistics are stored: - average CPU usage, - average Memory usage, - max CPU (and time), -max Memory (and time), - critical CPU usage (.> 95%), - critical Memory usage (> 95%)

Data Management	
Feature	**Description**
BestEffort option	BestEffort option for the reallocate operation supported by Datamart. Datamart does not fail when result files contain N/A or ERR! if this value is set to true
Data migration and upgrade	Migrate Datamart from one environment to another. When the target environment has a newer version of IBM Algo One Foundation software, the migration works as an upgrade. Generate User Interface templates for both products and securities are supported in onboarding.
More database and reporting compatibility	Support for IBM DB2 EE 10.1 FP3 and IBM DB2 EE 9.7 on AIX/Linux Generating Cognos framework models in Historical datamart (to enable Cognos reporting)

What's next?

With the increasing complexity and accelerating velocity of global financial markets, the need for disciplined risk management has never been greater, and the business case for implementing new solutions has never been stronger. Contact us today to plan for your IBM Algo One Foundation upgrade path.

IBM Algo One V5.0 software announcement

IBM Algo One V5.0 delivers a comprehensive solution for building risk management systems
IBM United States Software Announcement 213-530
November 19, 2013
http://ibmurl.hursley.ibm.com/MFUZ

Resources to learn more:

Visit IBM.com/algorithmics

Counterparty Credit Risk Workspace

Customized views and alerts: Supports users in the front and middle offices, with views that can be individually customized to display watchlists and alerts

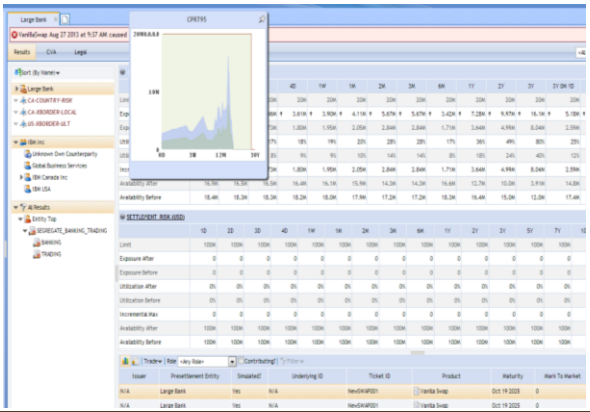
Build bridges across functions: Integrates analysis from multiple data sources reducing the need to switch between applications

Track approval workflows: Manages the excess management workflow and the required approvals from stakeholders

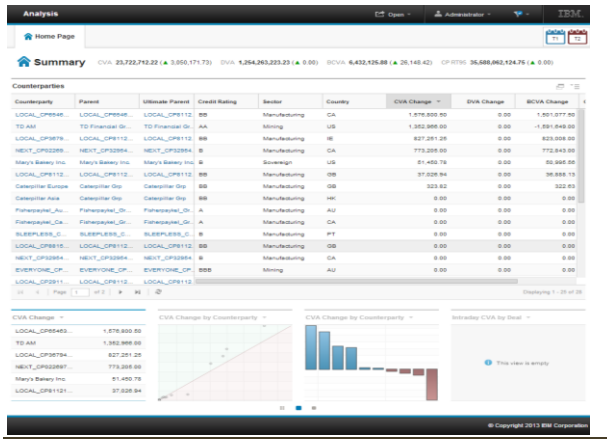
Access analysis from anywhere Authorized users can connect to the web-based interface through their browser

Interact in the language of risk Provides transparency into the scenarios that drive risk results

Understand impacts through time Multi-context reporting and drill-through for viewing terms and conditions, market data, modeling setups



What-if trade: Performing a What-If trade provides confirmation of incremental impact



Day-over-Day CVA: changes to credit spreads, corporate counterparties

Risk & Financial Engineering Workbench

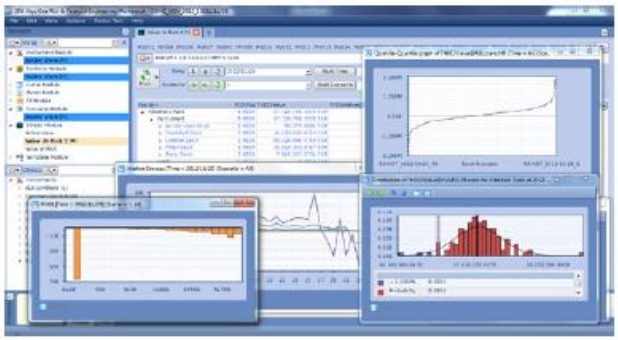
Advanced usability: Users can take advantage of common approaches to navigation such as tabs, pop-up windows, drag-and-drop features and flexible desktop management.

Predictive perspectives: Application is designed to anticipate the details a user wants to see when drilling through layers of analysis, and tracks the path taken

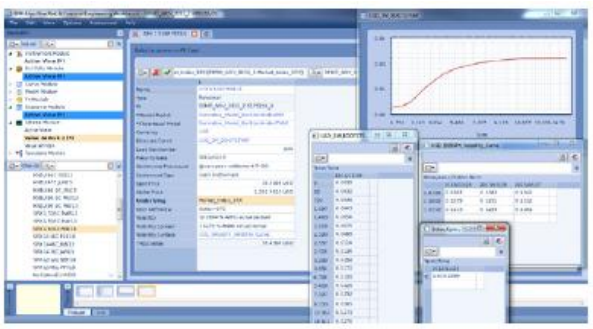
Clever collaboration: Users can annotate sessions to share findings and propose updates

Comparisons with context: Offers a sandbox environment for what-ifs, changes, corrections, and stress analysis, with innovative ways to analyze tails and extreme results

Portfolio shredding



Modeling multiple risks



Instrument terms

Legal Notices

Trademark and Contract Terms

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