ProbWorks:
ModelCenter®

version 1.1

A Suite of Probability and Risk Assessment Components for Use in Phoenix Integration's ModelCenter® Collaborative Design Environment
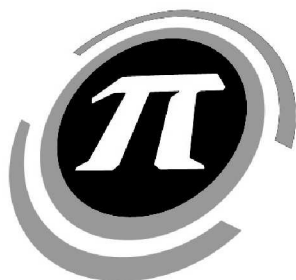
INCLUDED COMPONENTS:

Statistical Monte Carlo

DPOMD

Pareto Sensitivity

Response Surface Equation Generator

PROBABILISTIC ANALYSIS

ProbWorks: ModelCenter® is a suite of four probability and risk assessment components designed for use as drag-and-drop drivers within Phoenix-Integration's ModelCenter® collaborative design environment. Drivers include an advanced Monte Carlo driver and an automated Response Surface Equation generator using central composite experimental designs. Pi Blue's ProbWorks components are written in Java, allowing them to be easily integrated into multiple pxc models from a single Analysis Server installation. ModelCenter® is required.

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ProbWorks: ModelCenter® is a suite of probabilistic analysis tools for use within Phoenix Integration's ModelCenter® collaborative optimization framework. Each driver component has a particular benefit or utility to a different class of problems. The probabilistic capabilities in the ProbWorks suite complement and extend the ModelCenter® framework. The suite is useful when trying to minimize the computational expense for Monte Carlo simulations. The suite enables the ranking of input variable influence as well as design space approximation through Response Surface Methodologies (RSM). Each of the algorithms in the suite is coded as a Java component and can be dragged-and-dropped into a ModelCenter® project file from a local or remote Analysis Server®.

COMPONENT NAME	CAPABILITY
ProbWorks_MonteCarlo	Performs Monte Carlo uncertainty simulation using random variables by placing distributions (normal, triangular, Weibull, etc.) on inputs. Generates output statistics for the forecast variables (average, mean, certainty level, etc.) even as simulation is running.
ProbWorks_DPOMD	Implements the Discrete Probability Optimal Matching Distribution (DPOMD) technique that serves as an efficient alternative to direct Monte Carlo simulation for certain classes of problems. Allows estimation of a probabilistic output distribution with a small number of runs.
ProbWorks_ParetoSensitivity	Determines the contribution or sensitivity of each selected input with respect to each selected output with appropriate ranking of contribution. Capable of displaying Pareto results in MS Excel.
ProbWorks_RSEgenerator	Produces polynomial regression equations to approximate more complex or time-consuming components enabling faster execution of probabilistic techniques such as Monte Carlo. Generates output statistics on goodness of fit to selected data. Enables subsequent use of regression coefficients.

SYSTEM REQUIREMENTS
ProbWorks: ModelCenter® Java components run in any environment that supports Phoenix Integration's Analysis Server® 2.x or greater.

ORDERING AND PRICING
Phoenix-Integration, Inc. serves as the primary reseller for Pi Blue's Optworks: ModelCenter® and ProbWorks: ModelCenter® products. For sales and pricing info, please contact sales@phoenix-int.com or call Phoenix Integration at 1.800.500.1936. Individual and discounted division-wide licenses with annual maintenance plans are available. Individual-user licenses are priced at $1999.00 (one-time charge).

OTHER PI BLUE SOFTWARE PRODUCTS
Pi Blue Software, Inc. develops software products targeted at professionals and students in the engineering, financial, accounting, logistics, statistics, mathematics, and science fields. Our current products include the OptWorks suite of domain-spanning optimization algorithms and the ProbWorks suite of tools for risk-based analysis.

TRAINING AND CONSULTING
Pi Blue Software, Inc. offers specialized training related to installation and setup of the suite of components as well as consulting services for subsequent application to systems engineering related problems.

TECHNICAL SUPPORT
Pi Blue Software, Inc. offers selected on-line technical support for all products. These include FAQs, white papers, and an online support center.

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