

Intro: Evolver/RISKOptimizer 5.7

- » Introduction
- » Modeling
- » Optimization
- » Reports
- » Tools

4-5 NOVEMBER 2010



**PALISADE RISK
CONFERENCE**

Risk Analysis, Applications, and Training

PALISADE

Introduction: Optimization

- » Finding the best solution to a problem
- » Adjusting allocations to arrive at the best arrangement, calculated by an objective function
- » Stochastic v. deterministic conditions

4-5 NOVEMBER 2010



**PALISADE RISK
CONFERENCE**

Risk Analysis, Applications, and Training

PALISADE

Introduction: Evolver

- » Genetic Algorithm optimization in Excel
- » Solving “unsolvable” problems

4-5 NOVEMBER 2010



**PALISADE RISK
CONFERENCE**

Risk Analysis, Applications, and Training

 **PALISADE**

Introduction: RISKOptimizer

- » RSKO = Evolver + @RISK
- » Stochastic Optimization
- » Optimization Goals

4-5 NOVEMBER 2010

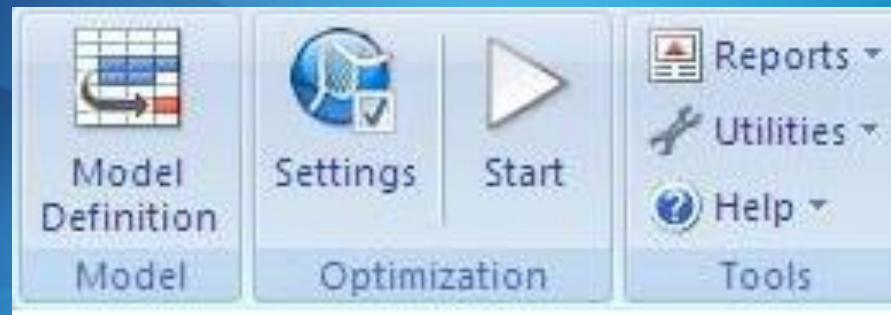


**PALISADE RISK
CONFERENCE**

Risk Analysis, Applications, and Training

 PALISADE

Modeling: Interface



4-5 NOVEMBER 2010



**PALISADE RISK
CONFERENCE**

Risk Analysis, Applications, and Training

PALISADE

Model



RISKOptimizer - Model

Optimization Goal:

Cell:

Statistic:

Adjustable Cell Ranges

Minimum	Range	Maximum	Values

Constraints

Description	Formula	Type

Model: Solving Methods

- » **Recipe** – independently adjusted inputs
 - **Budget** – subject to the constraint of a constant total
- » **Order** – sequence modeling
 - **Project** – with precedence
- » **Grouping** – categories of variables
 - **Schedule** – by time blocks

4-5 NOVEMBER 2010



**PALISADE RISK
CONFERENCE**

Risk Analysis, Applications, and Training

PALISADE

RISKO Settings



RISKO Optimizer - Optimization Settings

General | Runtime | View | Macros

Optimization Parameters

Population Size: 50

Random Number Generator Seed: Automatic

Sampling

Sampling Type: Latin Hypercube

Use Same Random Number Generator Seed Each Simulation

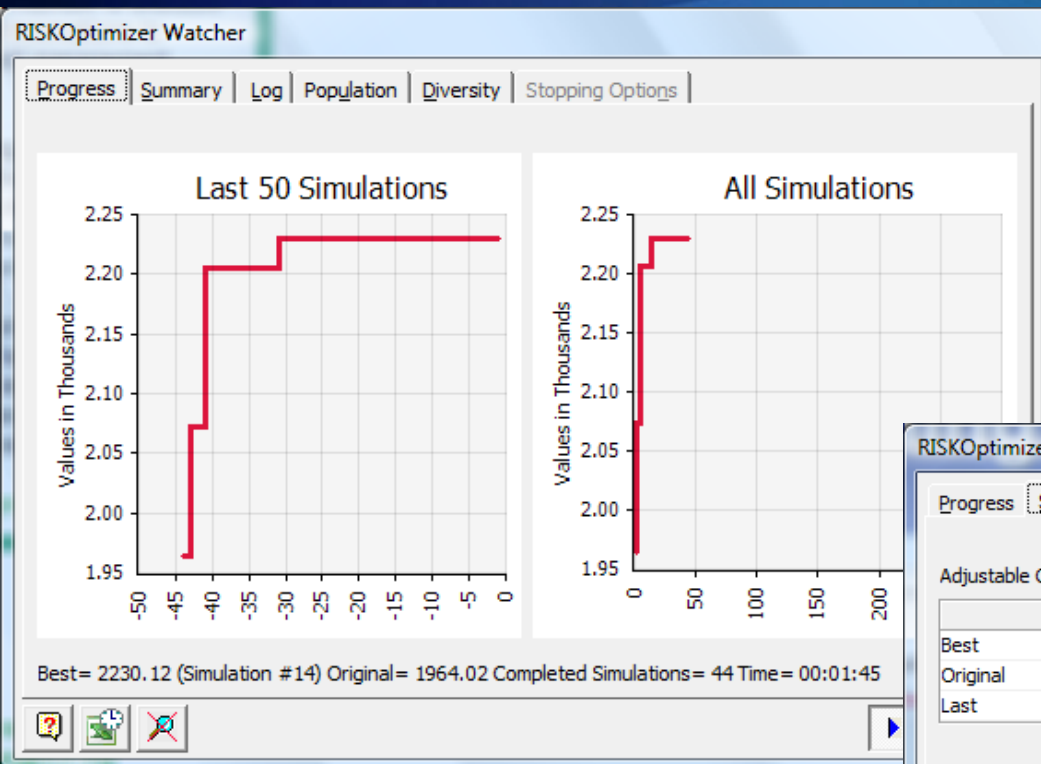
When a Simulation is Not Running, Distributions Return

Random Values (Monte Carlo)

Static Values: Expected Values

OK Cancel

Optimizing



The RISKOptimizer Watcher window displays the 'Summary' tab, showing adjustable cell values and settings. The 'Adjustable Cell Values' table lists the best, original, and last simulation results for cells C14 and C15. The 'Adjustable Cell Group Settings' section shows the group shown as 'C14 {Max Reservations Accepted}' with crossover and mutation rates set to 0.5 and 0.1 respectively.

	Simul.	Result	C14	C15
Best	14	2230.12	26	.4145
Original	1	1964.02	19	.3
Last	75	2205.11	25	.5222

Adjustable Cell Group Settings

Group Shown: C14 {Max Reservations Accepted}

Crossover Rate: .5

Mutation Rate: .1

Mutation Rate is Auto-selected: no

Reports: Outputs

- » Optimal solution
- » Summary
- » Logs

4-5 NOVEMBER 2010



**PALISADE RISK
CONFERENCE**

Risk Analysis, Applications, and Training

PALISADE

Conclusion

» Applications

- Supply chain management
- Pricing strategy
- Capital planning
- Transportation
- Site location
- Quality management
- Personnel management
- Operating structure

» Questions?

4-5 NOVEMBER 2010



**PALISADE RISK
CONFERENCE**

Risk Analysis, Applications, and Training

PALISADE



PALISADĒ

PALISADE.COM