Wall Risk Portfolio User Guide

Raise Partner

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1 Introduction to Wall Risk Portfolio

1.1 Main Features

Wall Risk Portfolio provides risk monitoring and pre-trade decision-aid functionalities, enabling you to:

- Monitor your portfolios using robust and cross-asset class risk measures;
- Identify the main sources of risk and performance within your portfolios;
- Simulate the impact of trades on the risk / return profile of your portfolios;
- Evaluate the added-value of introducing additional instruments in your portfolios;
- Identify deviations from the target risk profiles;
- Optimize your portfolios to meet the target risk strategies;
- Covers the following asset classes: stocks, bonds, funds, ETFs, FX, commodities, futures, options, certificates, convertible bonds, and structured products.

The chart below shows a typical user experience with Wall Risk Portfolio, from the risk alert to the remedial action on the portfolio.



1.2 Architecture

Wall Risk Portfolio is designed to interact with external providers:

- Data providers for the financial market data;
- Portfolio Management Systems for portfolio information via standard PMS export formats;
- Execution/Order Management Systems via standard export formats.

The chart below describes the interactions between the user, the calculation core and the data and portfolio providers:







2 Installing Wall Risk Portfolio

2.1 Activating the License

If you're a new user, you must modify your Windows Registry in order to use the Wall Risk Portfolio applications.

- 1) You'll receive a .REG file in your application delivery package. It may be named something like "raise_B4-B6-76-05-40-65_15012014.reg".
- 2) Copy the .REG file to your computer.

Applicatio	on Tools	Wall Risk Weal	th Management		
116 Home Share View Man	age				~ O
Copy Parts Copy path Copy Parts Parts Storiour 10 - 10 -	Delete Rename Tolder	rm • cess • Den • Properties • History	Select all Select none		
A - + + + This BC + Document	ts + Wall Rick Wealth Management	- the		Castra Wall B	at Westin Mana
Market Watch Power Points and Video My Shapes Non Immigrant Visa NORM Ref Manual April 2011 Latex	os ^ _ Name Release	*	Date modified 17/12/2013 9:46 A 13/12/2013 9:41 A 17/12/2013 9:41 A	Type File folder File folder	Size
RAISE PARTNER WEB SITE	Traise B4-B	5-76-05-40-65 15012014	17/12/2013 10:37	Registration Entries	1 KB
Scanned Documents Updater Wall Risk Engine Quart Documentativ Wall Risk Engine SNQLE SOURCE Use Wall Risk Engine SNQLE SOURCE Use Wall Risk Engine SNQLE SOURCE Use Wall Risk Contine User Documentation Wall Risk Contine User Documentation Wall Risk Volta Management Wall Risk Wath Wath Risk Wath Wall Risk Wath Wall Risk Wath Wall Risk Wath Wath Risk Wath Wall Risk Wath Wath Risk Wath Wath Risk Wath Wath Risk Wath Wath	on ant Guide Non or Guide Nove	Vealth Management, 16, DEC_	17/12/2013 0:30 A_ 13 17/12/2013 10:08_	Compressed (app)	3.660 KB 493 KB
6 items 1 item selected 744 bytes	191				

Figure 3: A) Copy the .reg file to a convenient directory.

3) Right click on the file name and select "Merge". Your Windows Registry settings are updated and you'll be able to use Wall Risk Engine applications. Please contact Raise Partner if you have any trouble with this procedure.

👔 🕞 🗿 🔹 Application To	ólt	Wall Risk Wealth N	Aanagement		- 🗆 ×
File Homa Share View Mitmage	Delete Rename Tolder	Properties Coren	Select all Select none Invert selection Select		~
	Wall Risk Wealth Management Name Release Release Release2 User Guides	*	Date modified 17/12/2013 9-46 A 13/12/2013 9-41 A 17/12/2013 9-34 A	C Search Wall R Type File folder File folder File folder	isk Wealth Mana_ P Size
Merge Edit Print Wa Open with. Wa Share with Add to archive Wa Add to archive Compress and email We Compress to Taise_B4-86-76-05 Wo Compress to Taise_B4-86-76-05	5_15012014.rsr" -40-65_15012014.rsr" and email	-40-65_15012014 Kanagement_16_DEC_13	17/12/2013 10.37	Registration Entries Compressed (2)pp Microsoft Word D	1 KB 3,660 KB 493 KB
Wa & William Send to Cut Wa Cut Wo Copy Dow Create shortcut Elic bor Rename fitems Properties					

Figure 4: A) Right click on the file and choose Merge.

2.2 Running the Setup

1) Launch the Wall Risk Portfolio-<Version Number>-setup.exe file. The setup file will create a working directory in C:\Program Files (x86)\Raise Partner\Wall Risk Portfolio and will create a shortcut to the application on your desktop.



- 3) If you are a new user the setup file also creates the folder: c:\WRP to store offline portfolio files and your configuration file.
- 4) The setup file launches. Follow instructions in the window and click the Next button when necessary.



Figure 5: A) Click next when prompted.

5) After successful installation you can launch the application or open the working directory by leaving the options checked.

	Setup - Wall Risk Portfolio 🛛 🗕 🗖 🔜
WalVRis (A Portfolio	Completing the Wall Risk Portfolio Setup Wizard Setup has finished installing Wall Risk Perfolie on your computer. The application may be launched by selecting the installed ions. Click Finish to exit Setup. Click Finish to exit Setup. Image: Setup Set
	Einish

Figure 6: A) You can launch the application after installation

6) If you are a first-time user, please refer to section "The Application Data Folder WRP" on page 10 to see how to load your portfolios in the application.



3 Configuring Wall Risk Portfolio

You can configure you application settings by clicking the Gear icon (). In the Wall Risk Application Settings window you can configure your data and portfolio providers, to use as well as specify the location of your proxy definition file. You can also specify if you want to use the application offline.

3.1 Defining the Application Settings

3.1.1 Data Providers

WRP comes with APIs for several data providers. In the application settings you can select and configure one or more data providers as well as the "User" data source if you want to supply your own data in csv files.

- Bloomberg: Log in to Bloomberg Anywhere to access financial data from Bloomberg;
- Morningstar: Enter your Morningstar login ID and password to access financial data from Morningstar;
- Interactive Data: Enter your customer id, login ID, and password to access financial data from Interactive Data;
- Thomson Reuters: Enter your login ID and password to access financial data from Thomson Reuters;
- Vwd: Enter your login ID and password to access financial data from Vwd;
- User: Enter the location of your data files and their format specifications.

You can check your access from the providers by entering your login information and clicking the Check Access button. Click Save when you're done.

Data Providers Portfolio Providers Offline	Proxy Exports Views
Eloomberg	
Morningstar	
Interactive Data	
Thomson Reuters	
🗹 User	
CT Vwd	

Figure 7: A) Assign data providers.

3.1.2 Portfolio Providers

There are several portfolio providers available for Wall Risk Portfolio. The connection to these Portfolio Management Systems is done:

- Either via an API when provided by the PMS (e.g. Bloomberg PRTU)
- Or via a portfolio description file corresponding to the export format of the PMS.

You can choose one or more of the following portfolio providers from the Portfolio Provider tab. Select the portfolio provider and then enter the format specification and location of the import files. Use the Browse button to select the file. Click Save when you're done.



Data Providers Portfolio I	Providers Offline Proxy	Exports Views
Bloomberg	Fields Separator	i.
Equelizer		
[] Decalog	Decimal Separator	P.
Olympic	Browse	C:\WRP\Portfolios\Prtu
User User		

Figure 8: A) Assign portfolio providers

3.1.3 Offline Mode

Wall Risk Portfolio automatically saves one "offline" file each day containing the market and portfolio data upon closing the application. With the offline mode, you have the ability to deactivate the data feeds and portfolio providers and load data from the "offline" file instead.

In the Exports tab, mark Offline Export and then browse to the offline location. Click the Save and apply button.



Figure 9: A) Exports Tab. B) Mark the Offline Export checkbox to enter offline mode. C) The folder where daily file and data is saved.

3.1.4 Proxies

You can assign an instrument to be a proxy for another instrument when market data is missing for the original instrument. The application uses historical data from the proxy in place of the other instrument when needed. The list of instrument and their associated proxies can be save in a csv file.

Click the Browse button and select the proxy file. If the file has a header then mark the Header checkbox. The application ignores header information if selected.



Data Providers	Providers Proxy	Experts views	
	Fields Separator	#	
	Browse	C:\W/RIM\ProxyList.csv	
	Header		



3.1.5 Exports

Data Providers	Portfolio Providers Pro	pxy Exports Views	
	Offline Export		
	Browse	C:\WRIM\Offline\	
	Event Evenet	-	
	B Excel Export		

Figure 11: A) Configure Offline file location and B) where the Excel reports are saved.

3.1.6 Views



Figure 12: A) Configure Views setting.

3.2 The Application Data Folder WRP

The WRP folder contains all the information that you need to input into Wall Risk Portfolio. Note that the location and name of this folder can be specified when installing the application.

The WRP folder contains the following files and sub-folders:

- The Portfolios folder contains the description of the portfolios that you want to load in the application.
- The Data folder contains additional market data that you want to load in the applica-



tion and that is not available from your data provider.

- The Profiles folder contains the set of parameters that you will define in the application. This folder is empty when installing the application for the first time.
- The Offline folder contains the files containing all market and portfolio information automatically saved upon closing the application. This folder contains a sample offline file when installing WRP for the first time.
- The ProxyList.csv file contains the list of instruments and associated proxies.

OS (C:)	→ WRP
	Nom
	🔊 ProxyList.csv
	퉬 Offline
	🌗 Profiles
	🌗 Data
	Portfolios

Figure 13: The WRP Folder

3.3 Configuring your Portfolios

3.3.1 Description of the Portfolios Folder

The Portfolios folder contains all the information concerning the portfolios that you want to load in the application. The portfolios of a given portfolio provider are stored in a subfolder named after the portfolio provider: Equalizer, Olympic, Prtu or User.

Each portfolio is described in one or two separate csv files, depending on the data provider.



Figure 14: A) Navigate to the Portfolios folder.

3.3.2 User Portfolios

The User portfolio format consists in a CSV file containing the description of the portfolio. The name of the file is the ID of the portfolio.







The file contains all information required by the application to analyze the portfolio. The fields are described below. Mandatory fields are indicated with a *.

- Name: Portfolio name as display in the application: if empty, the name is set to the portfolio ID.
- Currency*: Currency of the portfolio.
- Target level*: target risk level of the portfolio (among Conservative, Balanced, Dynamic or Aggressive). These risk classes are defined based on annualized volatility bands that are editable when installing the application.
- Benchmark: ID of the Benchmark if any. Note that the benchmark is just another portfolio that must be loaded in the application, from any portfolio provider. The benchmark will be used in the application to calculate risk measure ratios, estimate relative risk and performance measures and run benchmarked optimization.
- Amount type*: *Cash* or *Total*
 - *Cash* means that the amount specified in the "Amount value" field is the cash position (in the portfolio currency)
 - *Total* means that the amount specified in the "Amount value" field is the total value of the portfolio. The cash position will be deduced from this amount to which the market values of the positions are subtracted.
- Risk-free rate: annualized risk free rate of the cash position. 0.3 stands for 0.3%.
- Position type*: *Shares* or *Weights*
 - o *Shares* means that the portfolio composition is given in the D column in terms of number of shares for each instrument
 - o *Weights* means that the portfolio composition is given in the D column in terms of weights for each instrument (0.5 for 50%). Note that a portfolio defined with weights implies that the amount type filed is *Total* and not *Cash*.
- Portfolio composition
 - o Name: name of the instrument as displayed in the application; if empty the name is set to the instrument ID;
 - o ID*: ID of the instrument (the type of ID depends on the data source);
 - Data source*: Data provider for this instrument (Bloomberg, Morningstar, Reuters, Idc, Vwd or User);



- Position*: position for this instrument (the interpretation of this value depends on the value of the Position type field). If the position is zero, the instrument is considered as part of the watch list associated to this portfolio: it is not part of the portfolio but can be included in what-if trade simulations and optimization.
- o Sector: sector of the instrument.

1	Portfolio Name	Global Macro				
2	Currency	USD				
3	Target Level	Balanced				
4	Benchmark	GM Benchmark				
5	Amount type	Cash				
6	Amount value	0				
7	Risk-free rate	0				
8	Position type	Shares				
9	Name	ID	Data source	Position	Sector	
10	ISHARES MSCI EMERGING MARKET	EEM US Equity	Bloomberg	10000	Equity	
11	ISHARES MSCI JAPAN ETF	EWJ US Equity	Bloomberg	50000	Equity	
12	SPDR EURO STOXX 50 ETF	FEZ US Equity	Bloomberg	10000	Equity	
13	CURREN CYSHARES JAPANESE YEN	FXY US Equity	Bloomberg	5000	FX	
14	SPDR GOLD SHARES	GLD US Equity	Bloomberg	10000	Commodities	
15	ISHARES 7-10 YEAR TREASURY B	IEF US Equity	Bloomberg	10000	Fixed Income	
16	POWERSHARES QQQ TRUST SERIES	QQQ US Equity	Bloomberg	18000	Equity	
17	SPDR S&P 500 ETF TRUST	SPY US Equity	Bloomberg	10000	Equity	
18	ISHARES 10-20 YEAR TREASURY	TLH US Equity	Bloomberg	3000	Fixed Income	
19	UNITED STATES OIL FUND LP	USO US Equity	Bloomberg	20000	Commodities	
20	IPATH S&P 500 VIX S/T FU ETN	VXX US Equity	Bloomberg	0	Equity	
21	DOW JONES INDUS. AVG	INDU Index	Bloomberg	0	Equity	
2.2						

Figure 16: Description file for a User portfolio

3.3.3 PRTU Portfolios

To load a portfolio from Bloomberg <PRTU>, you need to create a csv file named after the PRTU portfolio ID (UXXXXXXXX-XX.csv):

OS (C:)	▶ WRP ▶ Portfolios ▶ Prtu
	Nom ^
	🔊 U10825567-10.csv
	🔊 U10825567-38.csv
	<table-of-contents></table-of-contents>
	🛋 U11441412-5.csv

Figure 17: The Portfolios Folder

The positions of the portfolio are loaded via the Bloomberg API based on the portfolio ID. Only "Shares" portfolio can be loaded from PRTU.

The file contains additional information required by the application regarding the portfolio. The fields are described below. Mandatory fields are indicated with a *.

- Portfolio name as displayed in the application: if empty, the name is set to the portfolio ID.
- Currency of the portfolio: not used for PRTU portfolio provider because a currency is associated to the Bloomberg portfolio.
- Target level*: target risk level of the portfolio (among Conservative, Balanced, Dynamic or Aggressive). These risk classes are defined based on annualized volatility bands that



are editable when installing the application.

- Benchmark: ID of the Benchmark if any. Note that the benchmark is just another portfolio that must be loaded in the application, but not necessarily a PRTU portfolio. The benchmark will be used in the application to calculate risk measure ratios, estimate relative risk and performance measures and run benchmarked optimization.
- Amount type*: *Cash* or *Total*
 - o *Cash* means that the amount specified in the "Amount value" field is the cash position (in the portfolio currency)
 - o *Total* means that the amount specified in the "Amount value" field is the total value of the portfolio. The cash position will be deduced from this amount to which the market values of the positions are subtracted.
- Risk-free rate: annualized risk free rate of the cash position. 0.3 stands for 0.3%.
- Position type*: *Shares* only
 - o *Shares* means that the portfolio composition is given in the D column in terms of number of shares for each instrument
- Portfolio composition (additional instruments or watch list)
 - o Name: name of the instrument as displayed in the application; if empty the name is set to the instrument ID.
 - o ID*: ID of the instrument (the type of ID depends on the data source).
 - o Data source*: Data provider for this instrument (Bloomberg, Morningstar, Reuters, Idc, Vwd or User);
 - Position*: position for additional instruments to be added to the PRTU portfolio. If the position is zero, the instrument is considered as part of the watch list associated to this portfolio: it is not part of the portfolio but can be included in what-if trade simulations and optimization.

	А	В	С	D	E
1	Portfolio Name	My Portfolio			
2	Currency				
3	Target Level	Balanced			
4	Benchmark	U10825567-38			
5	Amount type	Cash			
6	Amount value	0			
7	Risk-free rate	0,3			
8	Position type	Shares			
9	Name	ID	Data source	Position	Sector
10	TELEKOM AUSTRIA AG	TKA AV Equity	Bloomberg	173812	Telecommunication Services
11	VERBUND AG KAT, A	VER AV Equity	Bloomberg	26648	Utilities
12	UCB	UCB BB Equity	Bloomberg	39097	Health Care

o Sector: sector of the instrument.

Figure 18: Description file for a PRTU portfolio

3.3.4 Equalizer Portfolios

Wall Risk Portfolio can load both Client and Model portfolios from Equalizer standard export formats described below:

	А	В	С	D	E	F	G	Н	I	J	К
1	Policy :xxx	x.Security by	ISIN Query :	GPM 021 dive	ers (calv&cas	t) (4 clients)	Current Clie	ent : GPM 021	divers (calv8	kcast)	
2	Criteria : Pos	-Instrument -	+ Pos-Devise	origine (ISO)	+ Val-Libellé	+ Val-ISIN + C	li-Intitulé				
3	Currency : E	UR Current P	ath : All Asset	ts							
4	Cli-Numéro	Val-ISIN	Quantité	Val-Libellé	Pourcent	Pos-Instrum	Estimation	Pos-Devise (Montant d'o	Pos-Estimati	Ord.Status
5	913362				4,58	DEPOSITI	9153779,39	EUR	9153779,39	9153779,39	
6	913362				3,4	DEPOSITI	6790000	EUR	6790000	6790000	
7	913362				2,93	Termijn cont	5849863,55	EUR	5849863,55	5849863,55	
8	913362				1,2	DEPOSITI	2387000	EUR	2387000	2387000	
9	913362				1,15	Termijn cont	2294849,71	EUR	2294849,71	2294849,71	
10	913362	XS084188212	2200000	BRE FIN. FRAI	1,12	OBBLIGAZIO	2245254	EUR	2245254	2245254	
11	913362	X\$058051993	1875000	BANCO DO B	0,97	OBBLIGAZIO	1944375	EUR	1944375	1944375	
12	913362	XS054044909	1800000	BANCO NAC	0,96	OBBLIGAZIO	1908000	EUR	1908000	1908000	
13	913362	X\$056346384	1550000	STATE BK IND	0,81	OBBLIGAZIO	1610140	EUR	1610140	1610140	
14	913362	X\$065115948	1575000	SANTAN COM	0,79	OBBLIGAZIO	1580512,5	EUR	1580512,5	1580512,5	
15	913362	XS022079093	1500000	GAZPROM 5,	0,78	OBBLIGAZIO	1555875	EUR	1555875	1555875	
16	913362	X\$080558201	1400000	GAZPROM 3,	0,73	OBBLIGAZIO	1455230	EUR	1455230	1455230	
17	913362	X\$077701737	1350000	G4S INTL FIN	0,71	OBBLIGAZIO	1412950,5	EUR	1412950,5	1412950,5	
18	913362	XS024410528	1350000	VTB CAPITAL	0,68	OBBLIGAZIO	1357128	EUR	1357128	1357128	
19	913362	XS025097122	1350000	MORGAN ST	0,68	OBBLIGAZIO	1349527,5	EUR	1349527,5	1349527,5	
20	913362	X\$080200528	1250000	REP OF BULG	0,67	OBBLIGAZIO	1346875	EUR	1346875	1346875	
21	913362	XS089320518	1350000	VEB FINANCI	0,67	OBBLIGAZIO	1343925	EUR	1343925	1343925	
22	913362	XS079499005	1125000	MANPOWER	0,63	OBBLIGAZIO	1256231,25	EUR	1256231,25	1256231,25	
23	913362	X\$056930132	1125000	TELEMAR NO	0,6	OBBLIGAZIO	1202625	EUR	1202625	1202625	

Figure 19: Sample file of a client portfolio from Equalizer

	A	В	С	D	E	F	G	Н	I	J	К
1	Chemin	Val-ISIN	Poids en % (Upper Limit	Lower Limit	Prf-Date init	Initial Weigh	Holding Day:	Prf-Performa	Commentair	Value Comm
2			100			21/08/2013	100	329			
3	/Cash		5			21/08/2013	5,5	329	0		
4	/ Unallocate	d	0				0	0			
5	/ DEUT.PFAN	DE000A1X26	6			04/04/2014	6	103	0,89		
6	/ LYXOR UCIT	FR000705435	3			04/04/2014	3	103	-2,16		
7	/ RENAULT 3	FR001156896	4,5			23/04/2014	4,5	84	1,8		
8	/ ISHARES S+	IE003144206	2,5			04/04/2014	2,5	103	7,81		
9	/ VITRUVIUS	LU014875344	3,5			21/08/2013	3,5	329	12,01		
10	/ PARVEST B	LU024933261	3			21/08/2013	3	329	5,27		
11	/ BPVN ENHA	LU031506085	10			21/08/2013	10	329	1,47		
12	/ BPVN ENHA	LU031506107	6			21/08/2013	10	329	6,35		
13	/ BPVN ENHA	LU031506123	14			21/08/2013	14	329	1,31		
14	/ ROYAL BK S	NL000906221	4			23/09/2013	4	296	3,56		
15	/ PETROBRAS	US71645WAP	5			16/06/2014	5	30	-0,2		
16	/ REP OF LITH	X\$032730400	6			04/04/2014	6	103	1,26		
17	/ REP OF HUP	XS036947039	4,5			04/04/2014	4	103	2,63		
18	/ RHOEN-KLI	XS049104715	5			21/08/2013	5	329	1,05		
19	/ BRE FIN.FR	XS084188212	6			21/08/2013	5	329	0,99		
20	/ TELEFONIC	XS091299216	6			04/04/2014	6	103	1,43		
21	/ CONTINEN	XS095319963	6			04/04/2014	6	103	0,76		

Figure 20: Sample file of a model portfolio from Equalizer

An additional file is required to provide necessary portfolio information for Wall Risk Portfolio. The fields are described below. Mandatory fields are indicated with a *.

- Portfolio name as displayed in the application: if empty, the name is set to the portfolio ID.
- Currency* of the portfolio: used only for model portfolios.
- Target level*: target risk level of the portfolio (among Conservative, Balanced, Dynamic or Aggressive). These risk classes are defined based on annualized volatility bands that are editable when installing the application.
- Benchmark: ID of the Benchmark if any. Note that the benchmark is just another portfolio that must be loaded in the application, but not necessarily a portfolio from the same portfolio provider. The benchmark will be used in the application to calculate risk measure ratios, estimate relative risk and performance measures and run benchmarked optimization.



- Amount type: not used for Equalizer
- Risk-free rate: annualized risk free rate of the cash position. 0.3 stands for 0.3%.
- Position type: not used for Equalizer
 - o Model portfolios are always defined with weights;
 - o Client portfolios are always defined with shares.
- Portfolio composition (additional instruments or watch list)
 - o Name: name of the instrument as displayed in the application; if empty the name is set to the instrument ID.
 - o ID*: ID of the instrument (the type of ID depends on the data source).
 - Data source*: Data provider for this instrument (Bloomberg, Morningstar, Reuters, Idc, Vwd or User);
 - o Position*: position for additional instruments to be added to the Equalizer portfolio. If the position is zero, the instrument is considered as part of the watch list associated to this portfolio: it is not part of the portfolio but can be included in what-if trade simulations and optimization.

	A	В	С	D	E
1	Portfolio Name	My Portfolio			
2	Currency				
3	Target Level	Balanced			
4	Benchmark	U10825567-38			
5	Amount type	Cash			
6	Amount value	0			
7	Risk-free rate	0,3			
8	Position type	Shares			
9	Name	ID	Data source	Position	Sector
10	TELEKOM AUSTRIA AG	TKA AV Equity	Bloomberg	173812	Telecommunication Services
11	VERBUND AG KAT, A	VER AV Equity	Bloomberg	26648	Utilities
12	UCB	UCB BB Equity	Bloomberg	39097	Health Care

o Sector: sector of the instrument.

Figure 21: A) Data file for Equalizer

3.4 Defining Proxies

For instruments that are not included in calculations due to insufficient historical data you can assign a proxy. The historical data of the proxy is used in place of the instrument in your portfolio when needed.

- 1) In the Portfolio screen you'll be able to identify the instrument with insufficient historical data by the red cross() in the Included column and the mouse over information. Note the ticker symbol of the instrument.
- 2) Open the csv file ProxyExcel.csv in the WRP folder. For a first-time installation, the WRP folder contains a sample proxyExcel.csv file.

In the Ticker column enter the Bloomberg ID of the instrument you want to replace. In the Proxy column enter the Bloomberg ticker symbol to be used as a proxy.

Save the file to the folder c:\WRP.

FIC	CHIER ACCUEIL INSERTION	MISE EN PAGE	FORMULES	DON
	Couper	Calibri	- 11 - A	
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. 1	Ticker	Proxy		
2	M7EU Index	SPX Index	1.1.1.1.1	
3	ticker 1	proxy ticker 1		
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5	EK102610 Corp	EJ941263 Corp		
6				
7				
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10		1		
11		1		
12		1		
13				
14				

Figure 22: A) Enter the Bloomberg ticker symbols for the original instrument and the proxy.

3) Restart or refresh the application. Notice that a warning icon is displayed in the Portfolio screen if the proxy is used in place of the original instrument.

3.5 Loading User-Provided Market Data from CSV Files

If you want to use your own market data in addition to (or in place of) the available data providers, you can configure the tool to read your .csv files that contain a list of your instruments and individual .csv files for historical data for each instrument.

The .csv files are stored in the c:\WRP\Data folder.

1) In the portfolio description file, set the Data Source column to "User" for any instrument for which you want to use your own data.

LE HOME INSER	T PAGE LAYOUT FORM	ULAS DATA I	READ TEW					? Alex	(E) - MacDonald
2 - 1	× - \$								
A	в	c	D	£	£.	6	н	 1	ĸ
Portfolio information									
Name	Portfol	io 2							
Currency	6	UR.							
Type	Sha	ires.							
Portfolio composition									
Name	Ticker / ID	Data source	Position (shares or weights)						
LAEFEMI FP	LAEFEMI FP Equity	Bloomberg	10						
LBPACCH FP	LBPACCH IP Equity	Bloomberg	100						
LBPASMC FP	LBPASMC FP Equity	Bloomberg	2						
LPOAMAM FP	LPDAMAM FP Equity	Bloomberg.	1000						
LPOP23A FP	LPOP23A FP Equity	Bloomberg	5						
POAMPLT FP	PERAMPLE PP Equity	Bloomberg	150						
POETHIC FP	POETHIC FP Equity	Bloomberg	200						
POOBLIP FP	POOBLIP FP Equity	Bloomberg	3						
POSRELI FP	POSRELI FP Equity	Bloomberg	100						
POSTECR FP	POSTECR FP Equity	Bloumperg	200						
PTONI10 FP	PTONI10 FP Equity	Bloamberg	1000						
AREVA	FR0011027143	User	100						
SMTP	058326822074	User	20						
(1=1)									
Portfolio L	it IN US Ptf 2 Ptf	3 (+)							

2) Save the file.

Figure 23: A) The PortfoliosExcel file. B) Data source set to User.

3) Add the instruments to the file c:\WRP\Data\instruments.csv. A sample instruments.csv file is provided when installing the application.

The separators of the data file can be specified in the application settings, as mentioned earlier in the document. Each record consists of fields that are separated by columns. Several of the fields are mandatory. There is a line return between every record. In order, the fields are:



- Id: the ID of the instrument (e.g. ticker, ISIN). This field is mandatory.
- **<u>Name</u>**: not mandatory, just a label.
- **<u>Type</u>**: Should be "Linear", "Option", "Bond", "ConvertibleBond". This field is mandatory.
- **Instrument currency**: The name of the currency (ISO code: EUR, USD, GBP, etc.) This field is mandatory.
- Instrument last price: last price of the instrument (double). This field is mandatory.
- <u>Factor ID</u>: The ID of the factor. It will be used in order to load the price history by looking for a file located in the directory "histories" named "<ID Factor>.csv". This field is mandatory.
- **Factor currency**: Currency of the factor, can be different than the Instrument's currency (ISO Code). This field is mandatory.
- <u>1st order factor sensitivity</u>: Delta or Duration or CV_Delta (double).
- <u>2nd order factor sensitivity</u>: Gamma, Convexity, CV_Gamma (double).
- <u>Time sensitivity (theta)</u>: Theta, CV_Theta (double).
- **<u>Quotation type</u>**: Percentage or not: "Y" or "N". This field is mandatory for bonds.
- **Par value**: Nominal for Bonds (for Bloomberg it is 1000) (double, must be positive or null).
- <u>Contract size</u>: Contract size for Options. (double, must be positive or null).
- **Parity**: Parity of Convertible Bonds. (double, must be positive or null).



Figure 24: A) Instruments in your portfolios with user defined historical data. Notice each field is separated by a comma.

- 4) Save the instruments.csv file to C:\WRP\Data.
- 5) For each instrument name create a csv file to store historical prices of the corresponding factor. Save the files to C:\WRP\Data\histories. The name of the file must match the ID of the instrument in the instruments.csv file.

Each record has two fields separated by a column. In order, the fields are:



- **Date** : date of the price in the chosen format;
- <u>Value</u> : the price at that date.
- 6) Save the files to C:\WRP\Data\histories.
- 7) Close all the .csv editors that you used to edit your .csv files.
- 8) Restart or refresh the application.



Figure 25: A) Ticker symbol and B) Historical data.

3.6 Defining Tailored Risk Levels

Wall Risk Portfolio provides a pre-defined set of qualitative risk levels mapped with quantitative risk intervals. The mapping is defined using annualized volatility intervals and can be tailored at the installation with up to 8 profiles. The default mapping is described below:

- Conservative: [0%;5%] annualized volatility;
- Balanced: [5%;10%] annualized volatility;
- Dynamic: [10%;15%] annualized volatility;
- Aggressive: annualized volatility larger than 15%.



4 Managing your Profile Information

4.1 **Profile Descriptions**

The active profile determines the way Wall Risk Portfolio makes calculations, runs simulations, and handles cash for simulations. You can have one or more profiles and can configure each one in many ways. You may want to set up profiles that calculate risk with different time horizons or estimation windows, or that have different optimization parameters.

The profile configuration is global. That is, the selected active profile affects all portfolios.

A profile consists of a set of parameters described below. For more information about the quantitative models used in Wall Risk Portfolio, please refer to the "Analytics documentation".

The active portfolio, profile, and strategy are displayed at the top of the right side panel. To change any active element, select from the dropdown box. To configure your portfolios, profiles or strategies click the pen icon c for that element. For more information about profile and strategy management, please see the appropriate section.

4.1.1 Risk calculation parameters:

In the Risk Calculation tab, you configure how Wall Risk Portfolio calculates your portfolio's risk measures.



Figure 26: A) Risk Calculation parameters include risk measure, horizon, and level of confidence.

Field	Definition
Risk Measure	You can choose the following available risk measures: Volatility, Tracking Error, Normal VaR, Expected Shortfall, Robust VaR, Kernel VaR, Kernel Expected Shortfall. Tracking Error is only available if you have a benchmark selected.
Horizon	Horizon: is the horizon of the risk calculation (1 day, 1 week, 1 month or 1 year). When computing daily VaR, the results are an estimation of the worst expected loss for the next trading day. The next trading day is a horizon of one day.
Estimation Window	The amount of historical data, used to calibrate the risk model. You can choose 1 month (20 days), 3 months (60 days), 6 months (120 days), or 1 year (252 days).
Level of Confidence	Level of Confidence applies only for VaR and Expected Shortfall measures and can be set to 90%, 95%, 97% or 99%.



Hedge

If the hedge parameter is unchecked, then the FX risk is taken into account in the risk calculation. In other words: the market data used for the risk calculation is converted to the portfolio currency (historical prices, sensitivities).

If checked: then we consider that the FX risk is hedged outside of this portfolio, so the FX risk is not taken into account in the portfolio risk calculation. In other words: the market data used for the risk calculation is NOT converted to the portfolio currency, but used instead in its original currency.

4.1.2 Return calculation parameters:

Profile	s Risk Calculation	Return Calculation Simula	tion
Defaul	t Horizon	1-day	•
ew	Return Model	Historical Trend	*
e As	Estimation Wind	low 6 months (120 da	ys) +
lete			
ncel			

Figure 27: A) Configure the horizon of your risk calculation.

Field	
-------	--

Horizon

Definition

Horizon: is the horizon of the return calculation (1 day, 1 week, 1 month or 1 year).

4.1.3 Simulation parameters:



Figure 28: A) Configure whether your simulation is linked to cash position.

Field

Definition



Link to cash position In the Simulation tab configure whether your simulations affect your cash level. You can configure whether increasing positions in simulation mode is linked to the cash position or not. If it is linked to the cash position, your cash position decreases when you add assets to your portfolio while running a simulation.

4.2 Choosing an Active Profile

At installation the Default profile is the active profile. You can change the active profile once you've created additional profiles. For more information see "Creating a New Profile" on page 23.

1) Click the Profile Management icon(\sim) on the Information panel. The Wall Risk Profile Management window displays.



Figure 29: A) Click the Profile Management Icon.

2) Choose the profile that you want to be active from the Profiles list. Then click the Save and Apply button.

Profiles	Risk Calculation Return	n Calculation Simulation	
Default	Risk Measure	Normal VaR	-
5	Content of the second s	rnel Expected Shortfall Trac	king Error
	Estimation Window	δ months (120 days)	Ŧ
	Level of Confidence	99%	-
	Hedge		

Figure 30: A) Choose a Profile. B) Click Save and Apply

3) Click the Close button to return to your portfolios. All your portfolios will be analysed using the profile you applied.

4.3 Creating a New Profile

1) Click the Profile Management icon(N) on the Information panel. The Wall Risk Profile



Management window displays.

- 2) Click the New button. In the Create New Profile window enter the name of the new profile.
- 3) Click Ok.

	Profiles	Risk Calculation Return C	alculation Simulation	
	Default	Risk Measure	Robust VaR	-
New	Robust	Save New Profile	1-day	*
Save	B		6 months (120 days)	*
ave As		OK Ca	Incel 99%	*
Cancel		Hedge		
concer -				

Figure 31: A) Click the New button. B) Enter the name off the new profile.

4) Configure the profile by choosing tabs and setting parameters for calculations, simulations, and optimization. For more information, please see "Profile Descriptions" on page 20.

	Profiles	Risk Calculation	Return Calculation	Simulation	
	Default	Risk Measure		Normal VaR	Ŧ
New	Robust	Horizon		1-day	*
Save	Pousessie	Estimation Window		6 months (120 days)	Ŧ
Delete		Level of Confidence		95%	÷.
Cancel		Hedge			
Cancer					

Figure 32: A) Set the parameters for the new profile. B) Click Save.

- 5) Click Save when you're done.
- 6) Click Close to go back to your profiles.

4.4 Duplicating a Profile

Duplicating a profile allows you to copy an existing profile and then make changes to that profile.

- 1) Click the Profile Management icon(\searrow) on the right side panel. The Wall Risk Profile Management window displays.
- 2) Choose the profile you want to duplicate and then click the Save As button.



	Profiles	Risk Calculation Return Calcu	Ilation Simulation
	Default	Risk Measure	Normal VaR
New	Robust	Horizon	1-day
Save	Nobuscissific	Estimation Window	6 months (120 days)
ave As	2	Level of Confidence	95%
Cancel		Hedge	

Figure 33: A) Choose the profile you want to duplicate. B) Click Save As.

3) In the Save New Profile window enter the name of the duplicated profile.

	Profiles	Risk Calculation	Return Calculation	Simulation	
	Default	Risk Measure		Normal VaR	
New	Robust 95	Save New Profile		1-day	
Save	A	Duplicate		6 months (120 days)) =
ive As	_	ОК	Cancel	95%	Ŧ
elete		Hedge			
ancei					

Figure 34: A) Name the duplicated file.

4) Click Ok. The new profile displays in the list of profiles. The profile has the same parameters as the original profile.

	Profiles	Risk Calculation Return Cal	culation Simulation	
	Default	Risk Measure	Normal VaR	Ŧ
New	Duplicate	Horizon	1-day	-
Save	Robust Robust 95 Pe	Estimation Window	6 months (120 days)	Ŧ
ave As		Level of Confidence	95%	*
Cancel		Hedge		

Figure 35: A) Duplicated profile is displayed. B) Edit parameters as necessary.

5) Edit the duplicated profile by choosing tabs and setting parameters for calculations, simulations, and optimization. For more information, please "Profile Descriptions" on page 20.



6) Click Close when you're done.

4.5 Renaming a Profile

You can rename any profile except the Default profile.

- 1) Click the Profile Management icon(\sim) on the right side panel. The Wall Risk Profile Management window displays.
- 2) Double click the name of the profile you want to rename. The Rename Profile window displays.
- 3) Enter the new profile name in the space provided. Click the Ok button.

lew Duplicate Rename Profile 1-day			Risk Calculation	Profiles
lew Duplicate Rename Profile 1-day	st VaR		Risk Measure	Default
ave	r		Rename Profile	Duplicate
Robust 9 (120 days)	nths (120 days)			Robust 9
e As OK Cancel 99%		Cancel	OK	_
Hedge 🗹		I	Hedge	

Figure 36: A) Rename a profile

4) Click Close when you're done.

4.6 Deleting a Profile

You can delete any profile except for the Default profile.

- 1) Click the Profile Management icon(\sim) on the right side panel. The Wall Risk Profile Management window displays.
- 2) Click the profile that you want to delete.
- 3) Click the Delete button.
- 4) Confirm that you want to delete the profile by clicking Yes in the message box.



Profiles	Risk Calculation Return C	Calculation Simulation	
Default	Risk Measure	Normal VaR	
Duplic	Are you sure you want to delete	profile selected?	1
		ths (120 days)	
	Yes No		
	Hedge	V	

Figure 37: A) Confirm that you want to delete the selected profile.

4.7 Editing a Profile

You can edit the parameters of any profile except for the Default profile:

- 1) Click the Profile Management icon (\sim) on the right side panel. The Wall Risk Profile Management window displays.
- 2) In the Wall Risk Profile Management window, select the profile you want to modify.

	Profiles	Risk Calculation Re	turn Calculation	Simulation	
	Default	Risk Measure		Normal VaR	Ŧ
New	Duplicate Robust	Horizon		1-day	*
A	Robust 95 Pe	Estimation Window		6 months (120 days)	-
ve As		Level of Confidence		95%	Ŧ
ancel		Hedge			

Figure 38: A) Choose the profile to update.

- 3) Update the parameters by choosing tabs and editing fields. For a description of each field please see "Profile Descriptions" on page 20.
- 4) Click the Save and Apply button to save the new parameters and apply the profile to your portfolios. Click the Save button to save the new parameters but not make the profile active.



	Profiles	Risk Calculation	Return Calculation	Simulation	
	Default	Risk Measure		Normal VaR	-
New	Duplicate	Horizon		1-day	
Save	Robust 95 Pe	Estimation Wind	ow	6 months (120 days)	Ŧ
ave As		Level of Confide	nce	95%	
Cancel		Hedge			

Figure 39: A) Click Save and Apply to use the edited profile as the active profile.



5 Managing your Strategies

Your active strategy determines how your portfolio is optimized when you click the Optimize button in the What If window. You can create, edit, and delete your strategies in the Strategies window.

Each portfolio has a default strategy and you can create up to 5 new strategies for each portfolio.

5.1 Defining the Active Strategy

You can change your active strategy from any window in the application.

- 1) Choose your active Strategy from the dropdown menu in the right side panel.
- 2) When you optimize your portfolio in the What If window, your portfolio is re-balanced according to the risk and allocation model and constraints of the selected active Strategy.

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Funds Portfolio	472,898	Conternative	.FUR	Dynamic	Jalanced Banch.		R	Mandard Visitian Target and Add
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K) Hedge Multi-Strat	1000000	Balancert	USD	Conternative			9	Current Alia Level Robust

Figure 40: Choose a Strategy from the dropdown.

3) You can also navigate to the Strategies window and click the star in the active column to activate that strategy.

The blue star (\bigstar) indicates which strategy is active. Click a grey star (\bigstar) to make that strategy active.

Strategy Name	Description	Allocation Model	Active	Action
Default	Description for default	Reach target risk level	*	-
Robust VaR	Robust VaR 99 Confidence	Reach target risk level	-	3
Volatility	Volatility	Min vol	*	10

Figure 41: Active Strategy has a blue star.

5.2 Configuring Strategies

Strategies are made up of a risk model, an allocation model and constraints. Click a strategy in the top section to view its parameters in the Strategy Information panel.



		Wall Risk	Portfulio					-	
0 P01070	to what a salet at the watch that \$10	100000 (MC/037					0 0	. 0	
Strategy Name	Description	Allocation Model	Active	Armer		Partiel	Gipeul Macro		
Default.	Default sharegy configured at installation. Cannot be deleted or	e edited. Reach target risk level	*			Profile	Detault		
Max Sharpe Rates	Max Sharpe Ratio	Max sharpe rates	-	Te .					
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Figure 42: Strategies for the selected portfolio are displayed.

	Strategy Name D	efault			
	Description D	escription for default			
New		Risk Model		Allocation Model ar	nd Constraints
ave As	Risk Measure	Normal VaR	-	Allocation Model	Reach target risk level
ancel	Estimation Window	6 months (120 days)	*	Turnover constraint per component (%)	5 03
	Level of Confidence	99%	-	Cash turnover constraint (%)	20 🕖 🕨
	Horizon	1-day	-	Minimum weight if invested (%)	0.5

Figure 43: Strategy configuration is here.

The following sections displays field descriptions.

5.2.1 Allocation Models and Constraints

Wall Risk Portfolio provides 9 portfolio optimization and allocation models. Some models are benchmark strategies that do not employ optimization methods; those models are clearly marked in the description.

Allocation Model	Definition
Reach target risk level	Bringing the portfolio back to the target level defined by the user.
Same return, lower risk	"Going west" on the risk return chart.
Same risk, higher return	"Going north" on the risk return chart.

Wall Risk Portfolio allows you to define a simple set of constraints associated to the portfolio optimization model:

Field	Definition
Field	Definition



Risk Measure	If you selected Min risk as your allocation model you can set your Risk Measure. Select a risk measure from the dropdown.
	Choices include: Volatility, Tracking Error, Normal VaR, Expected Shortfall, Robust VaR, Kernel VaR, Kernel Expected Shortfall, and Correlation.
	Tracking Error is only available if you have a benchmark selected.
Annualized Target(%)	If you selected Min risk as your allocation model you can set your annualized target expressed as a percentage. Choose Over performance or Performance and choose a value.
Min Duration Constraint	
Turnover constraint per component (%)	Maximum change in the weight (absolute value) of each line in the portfolio.
Cash turnover constraint (%)	Maximum change in the weight (absolute value) of the cash position.
Minimum trade size (%)	Minimum change in the weight (absolute value) implied by any trade (in other word, if there is a trade on a line, it should involve a change in weight that is larger than this given percentage).
Minimum investment (%)	If a position is invested (a non-zero weight) then it should be larger than this minimum investment (in absolute value).
Keep all positions	If checked, all currently held instruments cannot be sold out totally.



5.2.2 Risk Model

Field	Definition
Estimation Window	The amount of historical data, used to calibrate the risk model. You can choose 1 month (20 days), 3 months (60 days), 6 months (120 days), or 1 year (252 days).
Hedge	If the hedge parameter is unchecked, then the FX risk is taken into account in the risk calculation. In other words: the market data used for the risk calculation is converted to the portfolio currency (historical prices, sensitivities).
	If checked: then we consider that the FX risk is hedged outside of this portfolio, so the FX risk is not taken into account in the portfolio risk calculation. In other words: the market data used for the risk calculation is NOT converted to the portfolio currency, but used instead in its original currency.
5.2.3 Return Model	
Field	Definition
Return Model	You can choose Historical Trend or User. If you select User then

Return Model	you are prompted to add a Views Horizon and to choose a file to be used for your return model. Click the Template button to open an Excel file with all your instruments in it. Enter the expected rate of return as a percent, such as 4,0 for a 4% expected annual return.
Estimation Window	The amount of historical data, used to calibrate the risk model. You can choose 1 month (20 days), 3 months (60 days), 6 months (120 days), or 1 year (252 days).

5.2.4 Instrument Constraints

You can set constraints for each instrument in the portfolio. Choose the Instruments Constraints tab and enter the Min Weight % and Max % constraint.

and the second s	and a stand	and the local division of	and the second second	
Name	Weight (%)	Min Weight (%)	Max Weight (%)	
EEM US Equity	3.98	Q	100	
EWJ US Equity	5.85	Ű.	100	
FEZ US Equity	3.89	0	100	
FXY US Equity	4.17	Ó	100	
SLD US Equity	12.01	Q	100	
IEF US Equity	10.83	0	100	
QQ US Equity	19.06	0	100	
PY US Equity	20.83	Ú.	100	
'LH US Equity	4.14	Q	100	
	4.00	-	+84	1

Figure 44: Set your instrument constraints

5.3 Creating New Strategies

Each portfolio has a default strategy and you can add up to 5 new strategies for each portfolio.

1) In the Home window, click the portfolio to which you want to add another strategy.



2) In the Strategies window, click the New button. A new strategy is created.

		Wa	I Aisk Portfolio		-
KONE PORTODO	wait of landstend matching spectrum	STOULGES			
Statingy Name	Description	Allocation Model A	ctive Action	Pertitive Octor Mater	•
Default	Description for default	Reach target mik level	*	Profile Default	
lobuit Var T month horizon	Robuit VaR 1 month horizon Realtch target ink level	Reach target risk level	# B	Strature Tetal	
Max Sharpe Ratio	Max Sharpe Ratio 1 day horizon Reatch target risk level	Max sharpe ratio	☆ <u>2</u>	south stan	
New	Description for default	Reach target rolk level	\$ T	POTTFOLIO INFORMATION	ii De
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Figure 45: A) Click the New button. B) A new strategy is displayed.

- 3) Enter a name in the Strategy Name field and add a description.
- 4) Configure the parameters of the new strategy using the drop down boxes and fields in the Strategy Information panel. For details please see "Configuring Strategies" on page 29.

Strategy Name. Description	Robust VaR Robust VaR 99 Confidence		
	Risk Model	Allocation Model an	d Constraints
Risk Measure	Robust VaR -	Allocation Model	Reach target risk level -
Horizon	1-day -	Tumover constraint per component (%)	50.
Estimation Win	cow 6 months (120 days) ·	Cash tumover constraint (%)	20 0 .
Level of Confid	ence 99% •	Minimum weight if invested (%)	0.5 0 .
Hedge	2	Minimum trade size (%)	0.5 0+

Figure 46: A) Configure the new strategy.

5) Click the Save button. Make the new strategy active if you wish to optimize this portfolio in the What If window.

5.4 Duplicating a Strategy

You may want to duplicate a strategy in order to create a new strategy that is similar to an existing one.

- 1) In the Strategies window, select the strategy that you want to duplicate.
- 2) Click the Save As button and then enter the name of the new strategy in the Save New Strategy field.



Strategy I	Name	Description	-	Allocation Model	Active	Action	
Defau	ult Description	for default		Reach target risk level	*		
Robust Var 1 mc	onth horizon Robust VaR	1 month horizon Reatch targ	get risk level	Reach target risk level	*	10°	
Max Sharp	e Ratio Max Sharpe	Ratio 1 day horizon - Reatch	target risk level	Max sharpe ratio	*	3	
New	New Description for default			Reach target risk level	Ŷ	(0)	
ATEGY DI ORIA	Ahon Strategy Name Ma Description Ma	r Sharpe Ratio x Sharpe Ratio 1 day horizon	Reatch target ris	Duplicated St	ok	Gancel	}
New		Risk Model		Allocation Mode	and Constra	ints	
Save	Risk Measure	Robust VaR +	Allocat	ion Model	Max :	sharpe ratio	•
-Save As	Horizon	1-day *	Turnov	er constraint per component (%		5 01	
Cancel	Estimation Window	6 months (120 days) 🔫	Cash ta	rmover constraint (%)	(20	
	Level of Confidence	99% 👻	Minim	um weight if invested (%)		as 0 >	
	Hedge 🔽						

Figure 47: A) Name the strategy.

- 3) Make any changes you want to the strategy parameters in the Strategy Information panel.
- 4) Click Save when you're done.

5.5 Deleting a Strategy

- 1) In the Strategies window, click the Remove Strategy icon (2) for the strategy you want to delete.
- 2) Confirm that you want to delete the strategy by clicking the Yes button. Click No if you don't want to delete the strategy.



Figure 48: A) Click Yes to confirm the deletion of the strategy.

5.6 Editing a Strategy

You can edit any of the strategies you have created. You cannot edit the Default strategy. Your default strategy is configure at installation.

- 1) In the Strategies window, select the strategy that you want to edit.
- 2) Change the value of any parameter in the Strategy Information panel.



STRATEGY RECENT	Strategy Name Robs	ast VaR			i
to New I	Description Robs	ust VaR 99 Confidence	Allocation Model an	4 Constraints	Edit the
Save As	Rok Measure Horizon Estimation Window Level of Confidence Hedge	Robust VaR • 1-day • 6 months (120 days) • 99% • ©	Allocation Model Tamover constraint per component (%) Calit Sumover constraint (%) Meanwar weight if evented (%) Meanwar state size (%)	Reach target risk herei • 3 • 20 • 0.5 •	of your strategy.

Figure 49: A) Edit the parameters of your strategy.

3) When you're done editing the strategy click the Save button.



6 Wall Risk Portfolio User Interface

6.1 The Home Window

The Home window is the initial screen that displays after launching the application. The screen shows your portfolios in a table with pertinent information, the risk return and exposures charts for each portfolio, and gauges and data for the selected portfolio.



Figure 50: The Home window displays all your portfolios and benchmarks.

6.1.1 Portfolio Table with Alerts

Alerts display in the Alert column in the Portfolio table in the Home window. When the current risk profile of any of your portfolios does not meet the target risk profile then the alert changes to orange or red. Orange means that the current risk profile is below the target risk profile. Red means that the current risk profile.

Portfolio	Market Value	Target Risk Level	Currency	Current Risk Level	Benchmark	Alert	Action
Balanced Bench.	10,000,000	Balanced	EUR	Balanced			8
Euro Bonds Bench.	10,000,000	Conservative	EUR	Conservative			A.
MSCI World	10,000,000	Dynamic	USD	Balanced			A.
Equity portfolio	37,144,797	Balanced	USD	Aggressive	MSCI World		9,
European Bonds	15,041,758	Conservative	EUR	Conservative	Euro Bonds Bench.	•	Q
Funds Portfolio	472,898	Conservative	EUR	Dynamic	Balanced Bench.		A.
Global Macro	9,802,357	Balanced	USD	Balanced	IQ Hedge Multi-Strat		.a.
IQ Hedge Multi-Strat	10,000,000	Balanced	USD	Conservative			8

Figure 51: A) Alerts show suitability gap.

6.1.2 Risk Return Chart

The Risk Return Profile and Portfolio Exposures graphics display information about the selected portfolio. The X and Y axis depend on the selected risk and return calculation parameters. For consistency purpose, only portfolios with the same profile as the current portfolio are displayed in the risk return chart.





Figure 52: A) Expected return and risk measures are displayed for each portfolio.

6.1.3 Portfolio Exposures

This pie chart displays the main exposures in terms of absolute value of the weight in the portfolio. Only the 5 biggest weights as well as the cash position are specifically shown. The rest of the portfolio is gathered in "Others".



Figure 53: A) Exposures (absolute values of the weights) are displayed in a pie chart.

6.1.4 Portfolio, Profile, and Strategy Drop Downs

Configuration information is displayed in the top right corner of the Wall Risk Portfolio application. It is displayed in all windows of the application.

• **<u>Portfolio</u>**: View or choose the portfolio to work with in the Portfolio drop down box.

Click the Open Portfolio file icon (\searrow) to open the portfolio csv file. For more information on configuring the .csv file please see "Configuring your Portfolios" on page 11. If you edit the file make sure you refresh the application by clicking the Refresh button (\bigotimes).

- <u>Profile</u>: View or choose the profile that is used to makes calculations, runs simulations, and optimizes portfolios. Click the Profile Management icon (S) to open the Wall Risk Profile Management window. To learn more about profile management please see "Configuring your Portfolios" on page 11.
- <u>Strategy</u>: View or choose the strategy that determines how Wall Risk Portfolio optimizes portfolios in the What If window. Click the Strategies Management icon (in) to open the Strategies window. To learn more about configuring strategies, please see



"Configuring Strategies" on page 29.



Figure 54: A) View global configuration values.

6.1.5 Portfolio Information

The Portfolio Information panel displays general information about the selected portfolio and the gauges that display the diversification and risk levels:

- Portfolio Name: name of the selected portfolio;
- Portfolio ID of the selected portfolio;
- Market Value (including the cash position) of the selected portfolio;
- Target risk level of the selected portfolio;
- Current risk level (deduced from the calculated risk measure) of the selected portfolio;
- Return measure of the selected portfolio;
- Coverage: percentage of the portfolio that is covered by the analysis after excluding the instruments with missing market data;
- Benchmark, if applicable.

6.1.6 Portfolio Gauges

The portfolio gauges display graphical ex-ante analytics about the selected portfolio.

DIVER	SIFICATION	N LEVEL		î
-	5	47%		
1-DAY	NORMAL	VAR 99%		
p ano-	1 atr	2%		1
DAILY	RETURN	-		- 1
10		0%	 -	_
RATIO	WITH BEN	ICHMARK		2.00
àu				sla -
SHAR	PE RATIO			
		-	2.9	. :

Figure 55: A) Portfolio gauges display information about the selected portfolio.

6.1.7 The New Button

Click the New button on the Home page to create a new portfolio. For more information please see "Creating a New Profile" on page 23.



6.2 The Portfolio Window

When you click the Portfolio link, information about the selected portfolio is displayed. The application displays the name and market information for each instrument.

6.2.1 Portfolio Sectors View

The Sectors view displays the sectors that are defined in your portfolio with aggregated analytics. By clicking the plus or minus buttons you can expand and retract the sectors to see the component instruments. The table shows more analytics for each instrument in the sector.

To view the instruments view click the Instruments View button.

ADME	PORTFOLIO V	MAT IF	54400	4110415	WATCH LE	nt 510	RATELEAS	BACKTEST				
			Market Value	Weight	Risk Contribu	tion Co	leairn ntribution					
÷.	Cash		0	0%								
+	Equity	6	295,907	64.23%	87.	18%	-455.61%					
Θ	Commodities	٦	630,500	16.63%	15	06%	536.54%					
	Name		Guite Quelo	Samey	Wille	Volati ty	Reparts	Waght co	ambation (Construction		
SPD	R GOLD SHARES	10,000	117.69	USD	1,176.900	15.39%	-0.059%	12.01%	7.62%	137.72%	*	
UNITED	STATES OIL FUND LP	20,000	22.68	USD	453,600	24.25%	-0.445%	4.63%	7.44%	398.82%	*	
+	Fixed Income	1	467,400	14.97%	- 1	30%	-86.61%					
+	FX		408.550	4.17%	-0	225	105.88%					

Figure 56: Click the + button to expand the instruments in a sector.

6.2.2 Portfolio Instruments View

The Portfolio Instruments views table displays the following information about each instrument:

- <u>Name</u>: The name of the instrument.
- <u>Sector</u>: Sector of the instrument.
- **Position**: The number of shares held.
- Last Quote: The last market price for the instrument in its own currency.
- **<u>Currency</u>**: The currency of the instrument.
- **Market Value**: The total value of the instrument held in the portfolio in the portfolio currency.
- **Instrument volatility**: annualized volatility of the instrument.
- <u>Instrument return</u>: return of the instrument (depending on the selected parameters for the return model).
- <u>Weight</u>: The percentage contribution of the instrument in your portfolio.
- **<u>Risk Contribution</u>**: The contribution of the instrument to the portfolio's risk.
- **<u>Return Contribution</u>**: The contribution of the instrument to the portfolio's return.
- <u>Status</u>: A green checkmark() is displayed for each ticker that is used for risk and performance calculations.

A red cross() is displayed for tickers that are excluded from calculations. A ticker may be excluded if there is limited historical data for that ticker or if some required static information is missing for this instrument. You can mouse over the red cross to display information about the source of the problem.



You can set up a proxy for an instrument with insufficient historical data. After setting up a proxy the warning icon() will display indicating that the data of a proxy has replaced the historical data of the selected instrument.

Click the Sectors View button to switch to the Sector view of the portfolio.

E PORTHOLIO	WHAT II SAM	ULATIONS	WATC	ii List							
Name	Sector	Podien	Last Queire	Garrency	Market Value	Instrument Volubility	Instrument Return	Weight	Tisk Contribution	Return Contribution	Included
Agnico Eagle Mines Ltd	Materials	268.651	33,87	USD	7 020 161	36.60%	0,25%	20,15%	50,92%	32,47%	*
BELGACOM	Telecommunicat	292 761	27,35	LUK.	8 205 550	15,34%	0.20%	22,98%	8.99%	30,115	*
BlackBerry Limited	Information Tech	75.054	11,01	USD	642,318	43,61%	0.22%	1.84%	2,07%	2,59%	*
Cash					¢.			0.00%			*
CHINA RES GAS	Ublines	54 020	22,05	HKD	119 471	18.74%	-0,035	0,34%	-0.02%	-0,07%	*
CKI HOLDINGS	Usiger	2.944	55,5	HKD	16.388	15,32%	0.04%	0,05%	-0.01%	0,0716	~
COLRUYT	Consumer Staple	29 647	36.17	EUR	1 072 332	12.99%	-0.09%	3,08%	0.34%	-1.88%	~
Eldorado Gold Corp	Materials.	107-442	7.5	USD-	626 360	38,34%	0.38%	1.80%	4,06%	4,38%	~
Franco-Nevada Corporation	Materials.	137 228	52,67	USD	5 618 168	28,18%	0.21%	16,12%	28,41%	21,53%	~
HAJER ELEC	Consumer Discre	432 000	20.55	HKD	890 423	33,45%	0.05%	2,56%	0,51%	1,04%	~
INTACT FINANCIAL CORPO	Financials	47.221	72.05	CAD	2 404 727	14.325	0.06%	6.90%	8,17%	2,56%	~
Kinross Gold Corp.	Materials	69.574	3,69	USD	199 555	26.96%	-0,04%	0.57%	0,81%	-0,34%	~
TELEKOM AUSTRIA AG	Telecommunicat	173.612	7.14	EUR	1 240 496	14,54%	0.03%	3.56%	0,03%	0,78%	~
TELEMET GROUP	Consumer Discor	222	41.66	EUX.	106.02	20.26%	-0015	0.00%	0.00%	0.005	~

Figure 57: A) Click Sector View to switch views.

6.3 The What If Window

When you click the What If link, your selected portfolio opens in the in the What If window.

						-Wa	in Assis Printle	states.							- 1
NOR - ROUTION - INC		atust i	ector103	BOUL									c 0		
Name	Sector	-	AFailure	Last Ourte	Curring	Martin Volum	Votering	Return	Wages	a Weight	Rist Contribution Con	Pirtjune	Sina Net		• •
Carl									0.00%	0.02%		Fratta	Default		-
SPER SAF SEE ETF THERE	Jany.	16,000		204.15	USD	2,941,900	12.95%	20425	20.87%	8.00%	21.65%	Louise .	Details		
WERSHARES GOO TRUST SERVES	laity .	18,000	0.	103.8	usp	1.868,400	1201%	0.090%	12.06%	0.00%	52,81%		A. an		
SPOR GOLD SHARES	Correcto	15,000	0	117.85	usp	L176,900	15.39%	-3.0375	\$1019	0.00%	242%	PORTFOLK	INFORMATION		1 Elec
DHARES 7- 10 YEAR TREASURY B	Fared incom	10.000	0	106.14	usp	1.001.350	4.64%	0.025%	10.03%	0.00%	-0.67%	Desigtion	Annual Viceous	Limitable:	
DOW KINES INDUS AVE	1947	50	0	17.596.34	UID	875,817	15.58%	0.040%	ANT	0.07%	12,31%	Portfalla P	-	Count Name	
ISHARES MSCI LAPAN ETT	torty	30,000	0	11.47	utb	573,500	14.52%	-0.040%	5,82%	0.00%	7.87%	Autor H	-		
UNITED STATES OF FUND LP	Correctes	21,000	0	22.68	LED	433,600	34.29%	-0.445%	4.63%	0.00%	745 +	Torget Rts	Level	bierrel.	
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and and here	1.00	254 255	125												

Figure 58: A) Your portfolio is displayed in the What If window.

From the Simulation window you can:

- Manually run simulations on your portfolio by clicking the plus and minus buttons to add or subtract shares from instruments in your portfolio;
- Automatically optimize your portfolio with tailored optimization model and constraints by clicking the Optimize button;
- Cancel your simulation and display your original portfolio by clicking the Reset button to;
- Save your simulation (up to 5 simulations per portfolio).





Figure 59: A) Action buttons to reset, optimize or save a simulation. B) Details of the simulated trade. C) Comparison of your original portfolio your saved simulation and benchmark.

6.4 The Simulations Window

The Simulations window displays the list of simulations associated to the current portfolio. Up to 5 simulations can be saved and compared for a given portfolio.



Figure 60: A) List of saved simulations for the selected portfolio. B) Comparison of the saved simulations, original portfolio and benchmark.

6.5 The Watch List Window

The Watch List window displays the instruments you have configured in your portfolio description file (with a zero position). To add an instrument from the watch list to the simulation, click on the Plus button. To remove it from the simulation, click on the Minus button.

Once added to the simulation, the instrument from the watch list becomes part of the investment universe. You can:

• Run simulated trades on this instrument;



• Optimize the portfolio with this new instrument.

Taker	-	Lert Quete	Garmen	Sector	Actore	
THICKIGHT	TIM HORIDAS INC	62.69	CAD	atter Discreti	+	
AUV US bauty	VAMANA GOLD INC	5.03	USD .	Meteriali	4	
SPSN VX Equity	314/35 PAINIE SITE-RED	39,18	CHF	Francas	4	
SCMIN VX Equily	SWISSCOM AG-REG	444.33	245	imprication!		
BARN SW Equity	BARRY CALLEBAUT AG-REG-	899,41	0.e	maumar Stap	+	
15N EW Easily	OCOLADERABRIKEN LINDT-F	47 186 01	CHF.	mumer Stap		
EMON SW Equity	IS-CHIME HOLDING AG-RI	338.65	DH -	Materials	4	

Figure 61: A) Watch list associated to the selected portfolio.

6.6 The Backtest Window

The Backtest window displays all the tools you need to run a portfolio backtest and view its results. In a portfolio backtest the contents of the portfolio remain the same over a period of time that you choose.

The backtest parameters fields allows you to enter a backtest period, whether user defined or based on a specified historical time period and the computation frequency, either Daily, Weekly, or Monthly. You can also choose the portfolios that you want to compare. You can choose your portfolio, your benchmark and up to 3 what if simulations.

The snapshot data table allows you to compare backtest data between the selected portfolios for a specific date.

The backtest charts displays interactive charts for the portfolio backtest. You can choose the type of data to view by clicking any of the analytics buttons.



Figure 62: A) Backtest parameters. B) Snapshot data table. C) Backtest charts.

The next sections will explain the parameters and fields in more detail.

6.6.1 Backtest Parameters

Set the backtest period with the dropdown box. You can choose a specific historical period, such as '97 Asian crisis, 2008 subprime crisis, or past 2 years. The begin date and end date are automatically populated based on your selection.

You can also choose User-Defined from the dropdown box and then enter your own end date and begin date.

Computation frequency can be set to Daily, Weekly, or Monthly.



Check the portfolios that you want to backtest from the Selected Portfolio list.

Click the Launch Backtest button to launch the backtest. Results are displayed in the Snapshot Data table and in the charts.

acktest Period	Past 3 months	*
egin Date	16/9/2014	15
nd Date	15/12/2014	15
omputation Freque	Daily	•
ECTED PORTFOLIOS		

Figure 63: A) You can choose a backtest period from the dropdown. B) Chose backtest portfolios.

6.6.2 Snapshot Data Table

The snapshot data table populates with analytic data for the selected portfolios on a specific date. The default date is the most recent historical date used for calculations.

Use the calendar widget to choose a date. Please note that based on the Computation Frequency selected only certain dates can be selected.

Portfolio	Market Value	Risk =	Return	Diversification	Return/Risk ratio	Coverage	Risk rat to bench
Global Macro	9,802,357	0.92%	-0.01%	41.45%	-0.27	100.00%	
Benchmark	10,000,000	0.79%	-0.01%	0.00%	-0.26	100.00%	

Figure 64: A) Choose a date from the calander widget. B) Analytics are displayed in the table for the time period.

6.6.3 Backtest Charts

The backtest charts display the results of your portfolio backtest. You can choose 2 analytics to compare.

Click an analytics button to see that chart.

You can mouse over a chart to see the values at specific days.





Figure 65: A) Click a button to view that type of analytics.

6.7 The Strategies Window

Strategies determine how your portfolio is optimized when you click the Optimize button in the What If window.

In the Strategy window you can view and edit the parameters of your existing strategies, create and configure new strategies, and delete strategies.

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ener inner	tan waa amaana	ertette second	SUMMER S		
Brakey Nam	ni Destinan	Allowand March	A.5w A	-	Partfaller Ralasset Bech
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Figure 66: A) Strategies are displayed here. B) The active strategy is displayed here. C) Configure parameters in the Strategy Information panel.

6.8 Utility Menu

The Utility menu on the top right corner of the application allows you to:

- Refresh the application: this will reload up-to-date market data and portfolio information. Use this button when:
 - o You want to update market information (last prices);
 - o You have modified one of your portfolio description files;
 - o You have added or removed a portfolio.
- Edit the application settings to configure
 - o Data Providers;
 - o Portfolio Providers;
 - o Proxy file location;
 - o Offline mode.
- Export the portfolio analysis and simulation to Excel: all the analytics displayed in the application are exported for all your portfolios. Two tabs in the Excel file are created for



each portfolio that you monitor. One tab displays information on the original portfolio and the other tab displays information on the simulated portfolio.

- The report contains the description of the portfolio, portfolio analysis, and components analysis.
- Access the user guide and the Analytics Documentation.



Figure 67: A) Access other features from the utility bar.

Theory of the Lines										
Englishing Wi	Later Services II									
Portfolio Marna	art rint st									
Ferrented on	06/17/2014 16 IF #172									
Durance	0.0									
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	Theorem and a state of the									
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Normal Vall (ELH)	5-653-1	1								
Espected Return [%]	-0.0	1								
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Diversification (%) Current market value (CUR) Cash amount (CUR) Risk Tree rate (%) Vall Ratio Komponents mitights Ticker (1032687 Corp EU152868 Corp	49.1 5,6%,446.3 0,0% 0,1% 0,1% 0,1% 0,1% 0,1% 0,1% 0,1%	Sector	Peattion	150	Lief Quarte 101.85 70.96	Currency SUR USD	Allufuet Value 154,211.72 216,062.54	Weight (%) 2:7 3:0	Tak Contribution(%) 71 1.02 60 17.74	Bick çurstribictio
Diversification (%) Current market value (UN) Cash amount (UN) Risk free rate (%) Vall Ratio Components subsyste Risker UN38647 Corp E1152866 Corp E1152865 Corp	49.1 5,600,446.2 0,00 0,10 0,10 0,10 0,10 0,10 0,10 0,1	Sector	Peattion	150 200 150	List Quarte 101.85 78.96 104.40	Commocy Outs USD EUR	Min/Lef Value 154,211,72 216,062,54 159,967,23	Weelght (%) 277 3.8 2.9	Wask Coeffit Institute (%) 71 1.02 60 1.7.74 60 -0.05	Bick (zortribictio
Diversification (%) Carriet market value (UR) Cash amount (EUR) Rink free rate (%) Vall traffic Components analysis Use Components analysis Use Components analysis Use Components analysis Use Components analysis Use Components analysis Components Use Components Use Components	48.1. 5,000.440.5 0.00 0.19 0.19 0.10 0.10 0.10 0.10 0.10	Sector	Peallion	150 200 150	Lied Quarte 101.45 78.86 104.40 108.54	Commicy CUR USD CUR CUR	Minfort Value 154,291,72 216,062,54 159,497,22 0,000,000,000,000,000,000,000,000,00	Weight (%) 2.7 3.8 2.8 2.0 8.0	Bisk Contribution(%) 71 1.02 60 3.7.74 60 -0.06 62 0.00	Blick guretrilaistia
Diversification (%) Constant mucket value (UDF) Rais free cate (%) Vall Natio Enabled Competition Constant Enabled Enabled Comp Ethiology Comp Ethiology Comp Ethiology Comp Ethiology Comp	48.11 5,600,446.21 0,00 0,00 0,00 0,00 0,00 0,00 0,00 0,	Sector	Pealtion	135 200 150 156 156	Lad Querte 101.85 708.96 108.40 108.54 108.55	Currency EUR EUR EUR EUR	Micket Value 254,211.77 216,052.54 219,987.2 0.00 8.00 8.00	Weight (%) 22 28 28 28 20 50 50	#ink Contribution(%) 1 1.00 0 1.7.14 0 -0.00 2 0.00 0 1.00	Esk (netribatio
Dieverflastion (%) Crait autor volac (UR) Risk free cate (%) Vall natio Components interview Riskon	48:0.1 5,600,440.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Sector	Pealting	150 200 150 150 150 150 100	Lief Quarte 101.45 78.56 108.40 108.53 108.23 109.14	Currency 0.58 0.50 0.50 0.58 0.58 0.5 0.45 0.05 0.05 0.05 0.05 0.05	Market Value 154, 271, 77 216, 00, 24 109, 947, 22 0, 00 3, 00, 784, 20 3, 07, 784, 20	Weeight [%] 2.1 2.8 2.8 2.8 2.6 0.6 1.9	Wak Gostriftation(%) 71 1.02 60 1.77 74 0.00 75 0.00 76 0.00 77 0.00 78 0.01	Bisk (metrikatio
Disportingation (%) Carbit market value (UUR) Risk tree rates (%) Valit Ratio Component or university Valit Ratio University Comp University Comp University Comp University Comp University Comp University Comp	48131 3,600,440,3 0,00 0,10 0,11 0,11 0,11 0,11 0,11 0	Sector	Peallins	150 200 150 150 150 150 100 100	List Quests 101 45 78.56 108.44 108.54 109.14 109.14 109.14	Currincy Out USD CuR CuR CuR CuR CuR CuR CuR CuR	Michel Value 154,217,7 216,012,54 119,47,22 8,00 3,07,341,0 2,00 107,541,0 2,00 107,04,432,9	Weight (%) 27 28 28 28 20 20 20 20 27	Bink Contribution(%) 7 1.02 6 1.2.74 0 -0.06 0 0.000 0 0.000 2 0.407 5 0.427	Bick (pertyikadi
Disperification (%) Cenh amount (EUR) Risk free cate (%) Vall natio (Components antispile Risker (Kin36n7 Cerp El32806 Cerp El32806 Cerp El32806 Cerp El32806 Cerp El32806 Cerp El32806 Cerp El32806 Cerp	8 (8) 11 3,600,440,37 6,00 6,10 8,0000 8,0000 8,000 8,0000 8,000 8,000 8,000 8,000 8,000 8,000	Sector	Pealtiers	135 200 136 136 136 100 100 100 136	Last Queste 101.45 78.96 106.40 106.51 106.51 105.12 105.12	Commoy Cost USD Cus Cus Cus Cus Cus Cus Cus Cus Cus Cus	Market Value 154,211,7 216,00,254 139,97,22 0,00 0,07,784,10 176,44,29 176,44,29 176,44,29 176,44,29 176,44,20 176,44,20 176,44,20 176,44,20 176	Weight (%) 2.7 3.8 2.8 0.6 0.6 1.9 2.7 2.8	Wisk Contribution(%) 7 1.02 60 1.7.2 90 0.00 90 0.00 10 0.00 10 0.00 10 0.00 10 0.00 10 0.00 10 0.00 10 0.01 10 0.01 10 0.01 10 0.01 10 0.01	Eisk (netribistio
Dispersituation (%) Cash amount (1004) Rask time rate (%) Valituation Rask time rate (%) Valituation Rask of the rate (%) Rask of the r	8 8133 3,600 446,33 0,00 0,10 0,	Sector	Peallins	130 200 130 130 130 130 130 150	Lief Quete 101.45 78.59 108.40 100.51 109.14 109.14 109.14 109.14 102.40 101.12	Currency EUR EUR EUR EUR EUR EUR EUR EUR EUR	Macher Vislar 154, 211, 7 216, 00, 25 30, 90, 7 30, 90, 7 30, 90, 7 30, 90, 7 30, 90, 7 31, 90, 7 31, 90, 7 31, 90, 7 31, 172, 58	Weight (%) 2.1 3.8 5.6 6.6 1.6 2.7 2.1 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2	Birk Contribution(%) 1 1.020 0 1.74 0 0.00 0 0.00 0 0.01 0 0.01 0 0.01 10 0.02 10 0.01 10 0.02 10 0.01	Bisk (zortribatio

Figure 68: A) Report displays risk calculation parameters. B) Report displays portfolio analysis. C) Portfolio name matches the tab names.

6.9 Keyboard Shortcuts

<esc></esc>	Close Application Settings window.
Escape for closing Profile management	Close Profile Management window.
<enter> after entering a new simulation name.</enter>	Save As for a new simulation in the What If window
<esc></esc>	Cancel Save As a new simulation in the What If window.
<enter></enter>	For OK in notification window.
<esc></esc>	For Cancel in notification window.



7 How to Guides

7.1 Creating a New Portfolio

Although you may have created and configured your portfolios during your initial setup, you may create new portfolios from the Home page.

After creating the new portfolio you must click the Refresh button in the application to see your new portfolio.

1) In the Home page click the new button.

Portfolio	Market Value	Currency	Benchmark	Target Risk Level	Current Risk Level	Alert	Diversification Level	Risk	Return	Sharpe Ratio	Coverage	Status	Action
Balanced Bench.	10,000,000	EUR		Balanced	Balanced		30.77%	1.31%	0.004%	0.104	100%	*	8
Euro Bonds Bench.	10,000,000	EUR		Conservative	Conservative		0%	0.49%	0.023%	1.711	100%	*	0
MSCI World	10,000,000	USD		Dynamic	Balanced		0%	1.31%	-0.019%	-0.533	100%	*	9
Equity portfolio	37,144,797	USD	MSCI World	Balanced	Aggressive		47.18%	2.59%	0.041%	0.575	100%	*	R.
European Bonds	15,041,758	EUR	Euro Bonds Bench.	Conservative	Conservative		15.8%	0.54%	0.042%	2.869	100%	*	9,
Funds Portfolio	472,898	EUR	Balanced Bench.	Conservative	Dynamic		35.3%	1.75%	0.007%	0.142	95.92%		e,
Global Macro	9,802,357	USD	IQ Hedge Multi-Strat	Balanced	Balanced		41.42%	0.92%	-0.005%	-0.207	100%	*	۹.
Q Hedge Multi-Strat	10,000,000	USD		Balanced	Conservative		0%	0.79%	-0.004%	-0.196	100%	*	8

Figure 69: A) Click the New button.

2) Fill in the Create New Portfolio window with information about the new portfolio.

Portfolio ID	Volatility	
Portfolio Source	User	-
Portfolio Name	Volatility	
Portfolio Currency	USD	
Target Risk Level	Conservative	
Benchmark	EuroBonds	-
Amount Type	Cash	-
Amount Value	0	
Risk-free Rate	0	
Position Type	Shares	-

Figure 70: A) Elements to configure your new portfolio.

- <u>Portfolio ID</u>: The name of the file.
- <u>Portfolio Source</u>: Provider of the portfolio such as Equalizer, Olympic PRTU or User.
- <u>Portfolio Name</u>: Name as displayed in the application. If empty, it is set to Portfolio ID.
- <u>Portfolio Currency</u>: Base currency of the portfolio.
- <u>Target Risk Level</u>: Risk class based on annualized volatility. Defined at installation.
- <u>Benchmark</u>: Portfolio or index used as a portfolio benchmark; used to estimate relative



risk and return and run benchmarked optimization. You can choose an existing portfolio from the drop down.

- <u>Amount Type</u>: Cash or Total. Cash is cash position in portfolio currency. Total means Amount Value field is the total value of the portfolio and cash position is deduced from this amount when market values of positions are subtracted.
- <u>Amount Value</u>: Total value of the portfolio. Use when Amount Type is set to Total.
- <u>Risk-free Rate</u>: Annualized risk-free rate of the cash position. Enter 0.3 for 0.3%
- <u>Position Type</u>: Shares or weight.
- 3) Click the Create button.
- 4) The portfolio CSV files opens. Click Ok in the message box to edit the file.

	Vidalility (sv.) Natepart	- T X
File Edit Format View Help		
<pre>nm tub roma ves reap portfolio mames velatility currencysub0 tranget level;Conservative benchmark;EuroBond5 amount type;Cash amount type;Cash amount type;Cash amount type;Shares position type;Shares name;Edgdata source;position;sector</pre>	in and a second	

Figure 71: A) Click Ok.

5) For each instrument in the new portfolio enter the name, id, data source, position and sector separated by semi-colons. Your file will look something like the following:



Figure 72: A) Add instruments and data to the .csv file.

- 6) When you're done editing the new portfolio file save it.
- 7) In the application, click the Refresh button (\Im). Wall Risk Portfolio refreshes and your new portfolio is displayed.



Portfolio -	Marter	Gurrency	Benchmark	Target Risk Level	Current Risk Level	Aires	Diversification Level	-	Keturn	Sharpe Ratio	Coverage	Status	Acto
Equity portfolio	37.144.797	USD	MSCI World	Balanced	Aggressive	٠	47.18%	2,59%	0.041%	0.575	100%	*	1
Euro Bonds Bench.	10.000,000	EUR.		Conservative	Conservative		0%	0,49%	0.023%	1.715	100%	*	14
European Bondii	15,041,758	FUR	Euro Bonds Bench.	Conservative	Conservative		15.8%	0.54%	0.042%	2.869	100%	*	1
Funds Portfolio	472,898	EUR	Balanced Bench.	Conservative	Dynamic		35.3%	1.75%	0.007%	0.142	95.92%		R
Global Macro	9.802,157	USD	IQ Hedge Multi-Strat	Balanced	Eslanced		41.42%	0.92%	-0.005%	-0.207	100%	4	
G Hedge Multi-Strat	10.000.000	USD		Balanced	Conservative		0%	0.79%	-0.004%	-0.196	100%	4	
MSCI World	10.000,000	USD		Dynamic	Balanced		0%	1.31%	-0.019%	-0.533	100%	4	R
Volatility	8.625,457	USD	IQ Hedge Multi-Strat	Ealanced	Balanced	-	38.69%	1.01%	0.002%	190.0	100%	*	10

Figure 73: A) New portfolio is displayed

7.2 Monitoring your Portfolios

You'll get color-coded alerts when portfolios do not meet their target profiles. A portfolio can be classified as "Within target", "Above Target", or "Below Target".

The risk levels defined in Wall Risk Portfolio are based on annualized volatility intervals that can be configured when installing the application. You can configure 2 to 8 risk profiles with custom risk intervals and risk profile names to meet your needs.

- 1) Launch Wall Risk Portfolio and navigate to the Home view.
- 2) The alert column displays the alert level of each portfolio. There are three alert levels:
 - Green alert(): Current risk profile is at the target risk profile.
 - Orange alert(): Current risk profile is below the target risk profile.
 - Red alert(): Current risk profile is above the target risk profile.
- 3) Click the Action button(,)to see detailed information about a given portfolio. You can identify sources of risk and return by following the steps in the next section.

Portfolio	Market Value	Currency	Turget Risk Level	Current Risk Level	Parameters Profile	Benchmark	Alert	Ac	eions
Balanced Bench	10,000,000	EUR	Balanced	Conservative	Default			3	*
Euro Bonds Bench.	10,000,000	EUR	Conservative	Conservative	Default		-	e.	1
Multi asset class	39,148,840	EUR	Balanced	Conservative	Default		•		1
MSCI World	10.000.000	USD	Dynamic	Balanced	Default			e,	*
Equity portfolio	44.390,869	USD	Balanced	Dynamic	Default	MSCI World		0	
European Bonds	148,586,511	EUR	Conservative	Conservative	Default	Euro Bonds Bench.	-	0	X
Funds Portfolio	470,665	EUR	Conservative	Balanced	Default	Balanced Bench.		A	1

Figure 74: A) Alerts are displayed for each portfolio. B) Click the Action button to see detailed information.

7.3 Identifying Sources of Risk and Performance in your Portfolio

Sort the Risk Contribution and Return Contribution columns in the Portfolio view to identify sources of risk and performance.

- 1) In the Home view, choose a portfolio and click the Portfolio link. You can also click the action button for a portfolio(<).
- 2) The Portfolio view displays the instruments held by that portfolio and associated data.
- 3) Click any column heading to sort by that column. For example, to see the instruments that contribute the most to performance, click the Return Contribution column header. Click it again to re-sort to see the lowest contributors to performance.



			Last One-Ner		Market Value	Volkillary	Reality of the		fiele Contribution	Fielden Contribution	
HELGACOM SA	Telecomm	292.761	37.54	EUR	10,418,347	15255	0.22%	23.47%	7.27%	36,24%	4
AGNICO EAGLE MINES LTD	Materials	296.651	12.AU	USD	1.660,024	37,14%	0.20%	1951%	50.11%	27.76%	~
FRANCO-NEVADA CORP	Maserials	137,228:	517	USD	7,094,688	28.32%	0.12%	15.99%	28.42%	20.64%	4
UCR.SA	Heatto Carr	39,097	-68.66	EUIL	3,469,050	18.00%	0.12%	7.81%	1045	6,70%	×.
ELDORADO GOLD CORP.	Materials	107,442	7.26	USD.	780,029	38.49%	0.32%	1.76%	4.02%	4.02%	v .
BLACKBERRY LTD	Information	75.054	10.75	USD	806,831	43.56%	0.22%	1.525	2.13%	2855	4
INTACT FINANCIAL CORP	Financials	47,221	72.1	CAD	1.113,197	14.31%	0.06%	- 7,01%	0.20%	1,77%	~
HAVER ELECTRONICE GROUP CO.	Consumer	432,000	10.65	HKD	1,150,962	32.32%	0.07%	2.59%	DANK	1.25%	4
TELEKOM AUSTRIA AG	Telecomm	171812	7.15	ELR.	1,604,890	14.52%	0.04%	3.62%	0,06%	0.95%	~
HEUNG KONG INFRASTRUCTURE	Unities	2,948	\$5.25	HID	20,989	15.57%	0.05%	0.05%	-0.91%	0.025	1
THE ENER CROCKE HAVE DRIVE NOT	Comuner	350	44.6	.0.00	12.745	20.00%	0.01%	0.67%	0.00%	0.005	4

Figure 75: A) Click a column heading to sort by that column.

			Left Ducing		Market: Value	Volume	Histourners: Nation11		Tine Completion	Resard Conception	
Cesh					- /0			0,00%		1.1	
COURLINT SA	Consumer	25,647	36.41	EUR	1,294,970	13,04%	-0,09%	2,54%	0.31% -	-2.01%	*
ULTRAPAR PARTICIPACOES SA	Energy.	216,100	.54	BRL	4.933.822	21,21%	-0.01%	11.175	474%	-0.54%	~
VERBUND AG	L/taktes	26.648	15.16	ERR	321,896	16.77%	-0.04%	1,10%	0.24%	-0.32%	~
KINROSS GOLD CORP	Materials	19.574	3.64	USD	251,249	26.83%	-0.07%	0.57%	0.81%	-029%	× .
CHINA RESOLUCES GAS GROUP LT	Utilities.	54.020	22	HED	153.333	2632%	-0.02%	0.35%	-0.01%	-0.05%	~
TELENET GROUP HOLDING NV	Conjumer	222	44.6	EUR	12,795	20.60%	0.01%	0.03%	0.00%	0.00%	4
CHELING KONG INFRASTRUCTURE	Uniques	2.944	55.25	HKCD-	20.966	15.59%	0.055	0.05%	-3.01%	8.02%	4
TELEXIOM AUSTRIA AG	Telecomina	173,812	7.15	EUR	1,604,890	14,52%	0.04%	3.62%	0.06%	0.95%	~
HARR ELECTRONICS GROUP CD	Consumer	432,000	30.65	HED	1.150,962	32.32%	0.07%	2575	0.64%	1.25%	*
INTACT FINANCIAL CORP.	Enanciale	47.221	72.1	CAD	3112107	14315	0.06%	7.01%	0.20%	237%	~

Figure 76: A) Click again to reverse the sort.

7.4 Running What-if Trade Simulations

- 1) In the Home view select the Portfolio you want to run what if trade simulations.
- 2) Click the What If link to display the instruments in your portfolio.
- 3) Click the Plus or Minus action button to open the trade simulation section. If you click the Plus button the simulation section defaults to increasing your position. If you click the Minus button, it defaults to decreasing your position.

You can click multiple Plus or Minus buttons execute more than one trade in a simulation.

Also a mouse hover over displays tells you the name of the instrument and whether it is a buy or sell.

			Last Outle		Mallet Value	instrument yokatety	lectroner. Tettan		Territolation	Renam Contributions	
Cash					0			0.00%			÷
NUCACON SA	Telecommunicat	152,761 340.98	27.54	SUR.	10,419,347 thereat?	15.35%	0.22%	21.47%	7.27%	2624%	
O EAGLE MINES	Materials	295,657	12.48	usp	8,660,824 settlete	37,34%	0,20%	19.51%	50,11%	27.76% tame	$\phi = -$
CO-NEVADA CO	Materiali	137,228	517	USD	7,094,688	28.32%	0.18%	15.98%	28.42%	20.64%	7-
R PARTICIPACO	Energy	316,100	54	BPL	4.933,822	21215	+0.01%	11.11%	474%	-0.54%	$\phi =$
UCE SA	Henith Care	29.097	-68.66	ELR	3.469.010 3.469.010	19.00%	0.12%	7,81%	1.04%	6.70%	+-
T FINANCIAL CC	Financials	47,221	72.1	CÁD	3.173,197	1431%	0.06%	7.01%	0.20%	2.77%	+ -
		+71.845			+ Artis might			1476	(h inchi	11.010.0	

Figure 77: A) Click an action button to start a what if trade simulation.

4) Enter the number of shares to buy or sell for the selected instrument. Select Increase to buy or Decrease to sell.

			List Guele		Marker Value	Volatility-	linthumonil Birthum		Task Contrabution	Return Contribution	
Cash					9			0.00%			+-
ELGACOM SA	Telecommunicat	292,761	27.54	ELS	10.419.547	1539%	0.22%	23.47% 12m	7.27%	3624% 10%	4.14
O EAGLE MINES	Materials	266.651	32.48	USP	8.660,824 sector	37.14%	0.20%	19.51% 13%	50.11% vare	27.76% some	+
CO-NEVÁDA CO	Materials.	137,228	51.7	USD	7.094.688	28.32%	0.18%	15.98% 10%	28.42%	20.64%	de ser
	ELS Early									Submit	Earcei
· Increase	Decrease:	Pestion: 100									

Figure 78: A) Enter the number of shares to buy or sell.

5) Click the Submit All button to validate all the orders, or the Submit button to validate the orders individually.



Cath 0 0.00% bit 0.00% bit </th <th></th> <th></th> <th></th> <th>Last Guide</th> <th></th> <th>Marker Value</th> <th>Volatility-</th> <th>linthamond Jinthem</th> <th></th> <th>Tipit Contribution</th> <th>Return Contribution</th> <th></th>				Last Guide		Marker Value	Volatility-	linthamond Jinthem		Tipit Contribution	Return Contribution	
LLGACOM SA Telecommunical 252/11 27.54 DLB Telecommunical 252/11 27.54 DLB Telecommunical 252/11 27.54 DLB Telecommunical 252/11 252/11 252/11 DLB 252/11 252/11	Cash					0			0.00%			4.00
D EAGE MARES Memory 2014 13 32.48 UKD 8.666324 21.1445 EXDM 13.515 21.145 27.05 10.11 21.725 10.10 10.11 10.	ELGACOM SA	Telecommunicat	292,761 301701	27.54	ELSI.	10,419,547	1539%	0.22%	23.47% 11%	7.27%	3624% 10%	4.
CO-NEVADA CO Materiala 1172223 51.7 USD 7094638 28.37% 0.18% 15.95% 28.42% 20.64% 0.16% 15.95% 2.0.64% 0.16\% 0.16% 0.16\% 0.16\% 0.16\% 0.16\% 0.16\%	O EAGLE MINES	Materials	266.651	32.48	USP	8.660,824 settitur	37.14%	0.20%	19.51%	50.11% vare	27.76% states	4 -
- Society Kit Ki Guine Society Pressor 100	CO-NEVÁDA CO	Materials.	137,228	51.7	USD	7.094.688	28.37%	0.18%	15.98%	28.42%	20.64%	de se
(c) Increase Decrease Proston 100	· Increase AD	e Lis Eryany									Submit	Canoni
		Decrease:	Pestion: 100	E .								
	C increase											
	& increase					_						
Contract of Contra	16 notese						+++ A1					

Figure 79: A) Click Submit all to validate your orders.

6) Save your simulation by clicking on the Save button.

a second	1	-	Lett		Maket	Instrument	leatraneet	- Minuted	Rok	Ketum	
THE R.		Translater	Dear	COLUMN	Value	Volution	Refer	- Hereiten	Contribution	Contribution	Part and
CHO					-1245			-0016			4.00
HUGACOM SA	Telecommunicat	292,761 INC.101	27.54	EUR	10,419,347	15.35%	0.22%	22,47%	7,27%	36.24%	4 -
O BAGLE MINES	Materials	H6C751	32.48	1/577	8.664.073	37.14%	0.22%	19.525	.80 125 10%	21.77%	÷ =
CO-NEVADA CO	Materials	137,228 letais	51.7	1/50	7,094,688	28.32%	0.18%	15.085	28.415	20.675	4. 10
R PARTICIPACO	Energy	216,100	54	pt.	4,533,822	21,215	-0.01%	12.11%	474%	-0.545	4.10
UCB SA	Health Care	39,097 (4.187	60.65	EUR	3.469.050 tassi mi	19.00%	0.12%	7.81%	1,04%	8.70%	41-
TRNANCIAL CC	Financials	47.221 47.20	72.1	CAD	3.113,197	1431%	0.06%	7.01%	0,20%	2.77%	÷ =
		*****			Active letters in			1434	anda	noix	

Figure 80: A) Click the Save button.

7) You can see how your simulation compares to the original portfolio in the Risk Return Chart.



Figure 81: A) Compare your simulation to your original portfolio in the Risk Return chart. B) Gauges show comparison between the initial portfolio and the simulation.

8) For a more detailed comparative analysis, compare the analytics of the simulated portfolio with the original values (in brackets and grey font below the new values).



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Teles.	1.cm	ur Dan	Currity	lactor	Adam		POTTOLO INFORMATION IL Su Desiliation Report Desiliation Partificia Name Capity (contrast
THI CT Louity	THE HORTONS INC	80.72	CAD	arear Datareti			Perchena D I Tanto
AUY US Fourty	YAMANA GOLD INC	Tay	USD	Materian			Target Sid Larel Bidented
SPSN VX Equity	SWISS PRIME STE-REG	72,95	04	Francial	14		Current Kist Level Announces Income
SOMN VX Boury	SWISSCOM AD-REG	378.36	08	munuter	4-		Parameters Profile Loose Rox
BARN SW EWRY	BARRY CALLEBAUT AG-REG.	3,176.32	Diff	neuter Skip.	No.		Coverage (5) Allow
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EMSN SW Equity	IS-CHEME HOLDING AG-IS	44125	OF	stimule			SYEKSPICITUM LEVEL
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401 82 300 crost	•	:	facty pertain tendence		па рескиз	engistasi kang ti engistasi kang ti Assoriengkale Assoriengkale ti gina	

Figure 82: A) Analytics of the original portfolio in brackets and colored grey.

7.5 Bringing Your Portfolio in Line with its Target Risk Level

- 1) Choose the portfolio that you want to bring in line with its target risk level. You can choose the portfolio from the Home window or choose the portfolio from the Portfolio drop down.
- 2) Navigate to the Strategies window. You can click Strategies on the navigation ribbon or you can click the Strategies Management icon(**N**).

	C Ø	E	0	
Portfolio	Global Macro		-	•
Profile	Default		+	
Strategy	Max Sharpe R	atio	-	

Figure 83: A) Click the Strategies Management icon to op the Strategies window.

3) Choose a strategy with an allocation model set to Reach target risk level. You can choose a strategy by clicking the star in the Active column. A blue star icon (1) indicates that the strategy is active.

HOME PORTFOLIO	WHAT IF SIMULATIONS	WATCH LIST BACKTES	T STRATEGIES		
Strategy Name	Descript	tion	Allocation Model	Active	Action
Default	Description for default		Reach target risk level	\$	
Robust Var 1 month horizon	Robust VaR 1 month horizon	Reatch target risk level	Reach target risk level	*	6
Max Sharpe Ratio	Max Sharpe Ratio 1 day horizo	n Reatch target risk level	Max sharpe ratio	*	(6)
New	Description for default		Reach target risk level	*	6
Duplicated Strategy	Max Sharpe Ratio 1 day horizo	n Reatch target risk level	Max sharpe ratio	\$	(6)

Figure 84: A) Choose a strategy with an allocation model set to Reach Target Risk Level.

- 4) If you need to create a new strategy to meet your requirements please see "Creating New Strategies" on page 32.
- 5) You can set constraints for each instrument in the portfolio. Choose the Instruments



Constraints tab and enter the Min Weight% and Max Weight% constraint.

Risk Mc	odel Y. Allacation Mode	and Constraints	Birman Madat	Instrument Constraints
	Name	Weight (%)	Min Weight (%)	Max Weight (%)
	EEM US Equity	8.98	Ø	100
	EWJ US Equity	5.85	0	100
	FEZ US Equity	3.89	0	100
	FXY US Equity	4.17	0	100
	GLD US Equity	12.01	0	100
	IEF US Equity	10.83	0	100
	QQQ US Equity	19.06	0	100
	SPY US Equity	20.83	0	100
	TLH US Equity	4.14	0	100
	urginer a	116	1	100

Figure 85: A) Enter instrument constraints.

6) Click the What If link to access the What If window.

						Wal	Risk Port	thelium									-	-
ane revenue waaro	2014	tan a	12101120	MORTH	- STERVILLA								20	3	0		D	
Norm	Paster	Line Guste	Carring	Martini Volue	Institutioned Solarting	leaderson Return	Weight	& Winght	Right Contribution	Reflaction Constribution	Ar	alarne -	1	ettelle d	ichal Marr			
Certh				0			0.00%	0.00%			4	-	: "	-	interim.		•	1
SPOR SAP SOO ETF TRUST	10,000	254.75	USD	2,041,900	10.98%	0.0425	20.83%	0.00%	11.65%	171.11%	-	100		and the	-		-	
VERSHARES QOQ TRUST SERIES	18,000	103.8	USD	1.862.400	13.01%	0.098%	19.00%	0.00%	32.81%	-363.67%	+	-					-	
SPDR GOLD SHARES	10.000	317,88	USD	1,176,900	13.19%	-0.005	12.01%	0.00%	7.82%	137.72%	-	-	10	REPORTO INF	PORMITON		17.24	-1
HARES 7-10 YEAR TREASURY B	10,000	106.14	USD	1.061,350	464%	0.025%	10.83%	0.00%	-0.67%	-51.55%	4		1 10	witetiken No	-	Semiator.		
DOW JONES INDUS AVE	55	17,596.34	USD.	875.817	10.59%	0.040%	8.92%	6.025	12,31%	-45.99%	- 10	and it	100	tfolio Hem	*	Child North		
ISHARES MISCI JAPAN ETF	50,000	11.47	USD	\$73,500	14.525	-0.040%	5.65%	0.00%	7,87%	45.44%	- 6	-	~	tjoho E		a set of the		
INITED STATES OIL FUND LP	21,000	-22.64	USD	451,600	24,25%	-2.44%	462%	6.00%	7,44%	296,62%	-26	-	1 2	ear Disk C		Report 1		
	A1.000			40.60			4408	2000	Care.	38.0%				ravid Blue (Levil	Address 1		
	100	_					_			_	_	-	Cr	erege		100.000		
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100%- 100%- 100%- 100%- 100%- 100%-				 Solar Marcine Solar Marcine Solar Marcine 			2			Argenting and the representation of the route for the route for the second second second the second second second for the second second second second for the second second second second for the second second second second second for the second second second second second second for the second second second second second second second for the second sec	CAP INFOCUSION		14		NUDEL			
	the all	239	in.					2			_	_		-	Seculation	· Instal Portfol		

Figure 86: A) Click the What if link

7) Click the Optimize button to bring the portfolio back to its target risk level. The instrument colors change depending on how the portfolio is optimized. Green means that the position has increased, red means the position has been reduced. Original position is displayed in a smaller font and underneath the optimized values.

The Position and Weight columns displays how much those values have changed for the simulation.



Name	Secur	& Postion	Perillion	Last Durite	Currency	Market Volue	Vicial Inter	Unstramore Referen	Weight	AWeight	Rink Constribution Co	Partfalla	Gittai Mate		
100	_					-2549			-1.67%	-0.075		Profile	Default		
SPOR SAF SOIL ETF INLIST	Early	LAN	32,400	204.15	UBD	LMINH	10.30%	6042%	- 21315	3.07%	11.015	Inclusion	-		
INERGHARES QOO TILLST SURVES	Equity	4,772	22,722	101.0	150	7,158,544	TAUTE	0.258%	24.06%	3.075	38.795	and a			
DOW JONES MORE AND	Xuora	:11	-11	12566.04	150	1.372.575	10.49%	NOADS	14/275	5.075	NSIS	PORTFOLIO	-	n	Det
PHARES 7-10 VEAU TREASERY &	Fased Income	- 10	1.647	108.74	USD	1.035.000	4345	0.000	12.47%	-0.175		Desisting	-	Stradation .	
EMANUS IS OF YEAR TREASURY	Institute	1521	6.621	118.05	010	116154	\$70%	25445	8.145	3.07%	-1.01%	Pertitelle fo	-	CARLA RACE	
STON GOLD SHARES	Commenter	-4.154	5.534	117.68	150	100.000	15.04%	-201995	12715	-3075	5345	Harnet Vol		K MEL OF USE (L.S.	
WATH SAP SHI VICE/T FU ETN	Enady	11.00	21250	72.34.	UND .	Rectorial and a second	80.70%	0.1221	160.	3.07%	46.12%	Target Stat	Level	heart	
		-	-	_	-	-	_	_		-		Current Ris	(Level)	Conservation in the	-
000%- 000%-				 Golal Harr Benchmark Simulation 			1			CANE ACT/P MAY THE OCCUR.CONC.S. COMM.CONC.S. COMM.CONC.S. SIGNADOS SIGNADOS COMM.CONC.S. CO	nene milite Si cacce frecht termes Nene milit Veran treascarte Veran treascarte	1-DAT HORE			
antes-							C					DALLY RETUR		4.6479	

Figure 87: A) Portfolio is brought closer to target risk levels.

8) Compare the original portfolio with the optimal portfolio on the Risk Return Chart and check the status of the alert icon. The target risk level might not be reached because of the constraints or the characteristics of the portfolio components, but it will at least make a step towards the target risk profile.



Figure 88: A) Compare the original portfolio and the optimization in the Risk Return chart.

7.6 Enhancing the Risk Return Profile of Your Portfolio with Optimization

Portfolio optimization is based on the active strategy that you have selected. You can create and configure up to 5 strategies plus the default strategy for each of your portfolios. A strategy consists of the risk model the allocation model, and turnover constraints.

For information on managing and configuring your strategies, please see "Managing your Strategies" on page 29.

1) In the Home window choose the portfolio that you want to optimize.

ing territor	many.	AND ATOM	40	Um Line	rei inimus)		C 0		D
Particip	Market Value	Tanget Risk Lovert	£u==nj	Carrient Rink Level	Inchast	Airt	Actor	manual introduction	-	
Balanced Bench.	10.000.000	Balanced	EUR	Balanced			R.	Arthur Diverses	Details	
Loro Bonits Serich.	10.000,000	Contervative	ÉUR .	Cohiervaller			9		Science.	
MSCI Work	10,000,000	Dynamic	ula	taurcet			0	PORTPOLIO INFORMATION	Canada	11.200.201
Equity portloke	97,144,797	Balances	450.	Appresive	MI-CI Work#		2	Revolution ID	Gialen	
European Bonds	15.041.758	Contenue	61.07	Conveniutive	Euro Bonds Bench.		8	Market Value	Lang and in	
Funzis Portfolia	472,878	Conternative	EUK .	Dynamic	Estanced Bench.		4	Target Risk Laval	Salarand .	
Global Marss	1.002.257	Baiwood	VIII	Taisacet	ACT HINDING MALERICE		-	Current Risk Level	Raissand	
K) Hedge Multi-Stra	10.000.000	Batencert	USD	Conservative			4	Coverage Resolution	Villenige int	
	-		-	_	_	-		· ·		-

Figure 89: A) Notice which active profile and strategy are selected. B) Choose the Portfolio that you want to optimize.

- 2) You can select a different active strategy by choosing from the drop down box.
- 3) Optionally, you can navigate to the Strategies window to view the parameters of the portfolio's strategies and also activate a new strategy.



Click a strategy in the top panel to view its parameters in the bottom panel.

You can change the value of any parameter. Click the Save button to save the strategy once you've updated the parameters.

The blue star (\uparrow) indicates which strategy is active. Click a grey star (\uparrow) to make that strategy active.

ategy Name		Description	Allocation Model	Active	Action		
Default	Description for de	dault	Reach target risk level	*			
Var 1 month horiz	Robust VaR 1 mor	nth horizon Reatch target risk	Reach target risk level	宜	3		
Sharpe Rabo	Max Sisarpe Ratio	1 day horizon Realch target	Max sharpe ratio	章	6		
BIF CRIMATION Strate	ngy Name Max	Sharpe Ratio				-	1
BIFORMATION Strain Descr	ngy Name Max	Sharpe Ratio Sharpe Ratio 1 day horizon Re	tich target risk level			-	1
Strain	ngy Name Max	Sharpe Ratio Sharpe Ratio 1 day horizon Re Ilak Moder	tich target risk level	scation Model a	nd Community		
THE COSMUTION	ngy Name Max Igition Max	Sharpe Ratio Sharpe Ratio 1 day hortcon Re Na Minder Robust VaR +	tich target risk level Aite Allocation Model	scattion Model a	nd Construints. Max sharpe ratio		
Strain Desc At H Est	ngy Name Max Ingtion Max k Measure imation Window	Sharpe Ratio Sharpe Ratio 1 day korkon Rei Nak Mader Roburt VaR +- Is months (120 days) +-	tich target risk level Alto Altocation Model Tamover constraint per c	scittish Model a	nd Constructs. Max sharper ratio		
Strate Descr As As Ass H Est	ngy Name Max Ingition Max k Measure mation Window	Sharpe Ratio Sharpe Ratio 1 day horizon - Rei Nat Model Robust VaR • 6 months (120 dayd) •	tch target risk level Alicenson Moose Turnover constraint per c	ocatilien Model a omponent (%)	nd Constructs		
Strate Descr As Rat Livy	ngy Name Max Ingetion Max k Measure imation Window wil of Confidence	Sharpe Ratio Sharpe Ratio 1 day horizon - Rei Nek Minder Robust Valit • 6 months (120 dayd) • 199% •	tch target risk level Allocation Model Turnover constraint per c Califi functioner constraint	scutton Model a omponent (NJ) (NJ)	ni Comunatori Max oburpe ratio 5 0 + 20 0 +		

Figure 90: A) Blue star indicates the active strategy. B) View or edit strategy parameters.

4) In the What If view, click the Optimize button in order to enhance the risk/return ratio according the parameters configured in your active strategy.



Figure 91: A) Click Optimize. B) Optimize according to active strategy.

5) Compare the original portfolio with the optimized portfolio.

The instruments table displays the optimized portfolio. The smaller numbers in the table are the original values. The larger numbers are the optimized values. Instruments colored red are sells. Instruments colored green are buys. The Δ position and Δ weight shows the changes in value for each column. You can sort a column by clicking on the column heading.



Name	Sector	Position	A Position	Last Quote	Currency	Market Value	Instrument Volatility	Return	Weight	∆ Weight	flisk Contribution	Return Contribution	
Cash						-1,962.993			-25.03%	20.03%			
NITED STATES OIL FUND LP	Commodil	2,161	-17,839	22.65	USD	-48,017	24,25%	-0.445%	0.50%	-4.12%	O FLER	-5.57%	3
RES MSCI EMERCING MARKET	Equity	1,257	-8,743	38.90	USD	42,998	15.33%	-0.087%	0.50%	-3.48%	0.76%	-1.05%	
SPOR EURO STOKK SO ETF	Equity	1284	-8716	36.18	USD	-48.023 https://	1670%	-0.105%	0.50%	1.375	0.05%	-1.27%	-
RENCYSHARES JAPANESE VEN	EX.	600	4.400	81.71	uso	49,025	A.415	-0.131%	0.50%	-3.67%	-0.10%	-1.58%	
DOW KINES INDUS AVG	Equity	78	28	17.596.34	USD	1,372,535	10.59%	0.040%	14.00%	5.035	19.30%	13,61%	
SPOR GOLD SHARES	Commodit	12,007	2,007	117.60	USD	7,413,104	15.39%	-0.059%	14.42%	2.41%	16.83%	-20.61%	
SPOR S&P 500 ETF TRUST	Equity	12,400	7,400	204.19	USD	2,531,956	10.99%	0.042%	25.83%	5.00%	39.72%	26,45%	
		4 271				0.001103			0.141		n 648	70.708	

Figure 92: A) Positions of instruments colored red are achieved after selling. Positions in Instruments colored green after buying.

The Risk Return chart graphs your portfolio and the optimized simulation.



Figure 93: A) Compare the risk and return char after optimization.

The Profile Information panel displays information about the simulation.

In the top section the values in parenthesis are the optimized simulation values.

In the bottom section the green values are the optimized simulation and the blue values are the initial portfolio.

	0	0	8	0	ľ
PROFIL	E INFORM	HOIT			
Active	Profile		Defaul		
Active	Strategy		Max 3	Sharpe Ratio	
PORTFO		NATION		tt Dec	ż
Simula	tion Name		Simulation		
Portfol	la Name		Global Ma	010	
Portfol	io ID		GirealMax	00	
Market	Value		9,802.357	USD (9.800,107	1
Target	Risk Leve	N	Balanceid		
Curren	Risk Lev	el	Conservat	the (Ballances)	
Covera	ge		100.001		
Benchn	ark		10 Hedger	Wuitt-Strat	
T-DAY N	ORMAL VA	R 99%			
DAILY R	ETURN		-		
SHARPE	RATIO	-	2	0.22	
	In Sire	ulation a	Initial Dr	ortfolio	

Figure 94: A) Optimized simulation analytics appears in green. Initial portfolio analytics appears in blue.

7.7 Running a Portfolio Backtest

In a portfolio backtest, your portfolio composition remains the same and is backtested against historical prices. You can see the risk, return, and diversification of your portfolio in past time frames.



You can run a portfolio backtest during a crisis period to see how your portfolio performs in terms of risk and performance if you expect a crisis period in the future.

You can also optimize your portfolio and run a backtest on the optimization. Then you can compare the results of the backtest. If you are satisfied with the optimization you can reallocate your real portfolio. You can also run a backtest on a portfolio benchmark if a benchmark is configured.

1) In the Home view, choose the portfolio that you want to run a backtest on. You can run simulations and optimizations on the portfolio prior to running backtests.

Portfolio	Market Value	Target . Risk Level	Currency	Current Risk Level	Parameters Profile	Benchmark	Alert	Act	ions
Funds Portfolio	472,898	Conservative	EUR	Dynamic	Default	Balanced Benc		0	
Euro Bonds Bench	10,000,000	Conservative	EUR	Conservative	Default			0	*
European Bonds	15,041,758	Conservative	EUR	Conservative	Default	Euro Bonds Be		0	
IQ Hedge Multi-Stra	10,000,000	Balanced	USD	Conservative	Default			0	*
Global Macro	9,802,357	Balanced	USD	Balanced	Default	IQ Hedge Mul			×
Multi asset class	976,058	Balanced.	EUR	Conservative	Default		۲	0,	*
Balanced Bench.	10,000,000	Balanced	EUR	Balanced	Default			0	
Encline monthalin	37 1.8.8 707	Datamiant	HER	Anorphika.	Plafnuit	ARCE'S Minelet	-	M	*

Figure 95: A) Choose a portfolio to backtest.

- 2) In the What If view, you can optimize your portfolio or run simulations. Any saved simulation or optimization can be backtested.
- 3) Choose the Backtest view to configure your backtest.

		Wall Hisk Portfol	10	- 7
Incare Month (NOC) Average Care and BACKTEST PARAMETERS Backtest Period Unter Cellinest Bagin Date 188/0014	USDAS WARCH (IS) MARKEST	TT Market Rok Relaces Volue Rok Relaces	Obersification Referential Coverage Million	Portroco berdeardon Antybia Rime - Cital Sino Antybia O. Galatinov Antybia - Galatinov Antybia - Galatinov Antybia - Galatinov Antybia - Galatinov Target Bia Level - Salewort Correct Bia Level - Salewort
Computation Timpure Daily SULICITID PORTIONOS Provide Executions Taxan	nth factored 1			Parameters Profile durini Coverage 100.00 Renchmark 10 rendps Auto Band Dartsbank Lahts 41.475
	1		1.1	1-041 KOMAL VAL 1915

Figure 96: A) Choose Backtest.

4) Configure your backtest parameters:

BACKTEST PAR	METERS	15	18/12/2014	15						
Backtest Peri	d User-Defined	<u> </u>	Portfalies	Market	Risk	Return	Diversification	Return/Hisk	Coverage	Risk (
Begin Date End Date Computation	User-Defined Past months Past 6 months Past see			VALUE						
SELECTED POR	Past 2 years Past 2 years 94 mesican peso crisis 97 Asian Crisis 96 nusian financial crisis 98-b2 Argentina great siepression 2001 Doctom crash 92/11	-								

Figure 97: A) Choose a specific time period or choose User-Defined to choose your own dates.

• Backtest Period: Choose a backtest time period from the drop down box. You can choose a specific historical period or you can choose your own dates by selecting user-Defined and then choosing the dates in begin date and end date fields. The time frames



available are configured in an .xml file in your application folder.

- Begin Date: Displays the begin date of the backtest. If you've selected User-Defined you may click the calendar widget and select a date.
- End Date: Displays the end date of the backtest. If you've selected User-Defined you may click the calendar widget and select a date.
- Selected Portfolios: Check the portfolios to backtest. The selected portfolios display in the graphs below.

Click the Launch Backtest button.

5) The backtest launches and the results are displayed. You can choose the analytics you wish to display by clicking the appropriate analytics button.

The snapshot data table displays analytics for each backtested portfolio for as specific date. Choose the date from the drop down box to update the chart. Only dates use for historical data can be selected. That is, if you have chosen a monthly computation frequency then only one day per month can be selected. Unavailable dates are crossed out.



Figure 98: A) Snapshot data table displays analytics for a specific date. B) Click an Analytics button to see the backtest chart.

6) You can mouse over the backtest results to analytics for a specific day. The mouse over displays the analytic, the date and the value for the portfolio.



Figure 99: A) Mouse over backtest results to see details.

7.8 Estimating the added-value of New Instruments from the Watch List

- 1) Open your portfolio description CSV file.
- 2) Add the new to the list of existing positions with a 0 in the Position column.





Figure 100: A) Watch list items must have a 0 in the Position column.

- 3) Save and close your CSV file.
- 4) Refresh the application by clicking the Refresh button(2) and select the Home view.
- 5) Select the portfolio for which you added instruments to the watch list.
- 6) Click the Watch List link to access the Watch List window.

		-	_				PORTFOLIO INFORMATIO	a Albert
		Land Charter					Simulation Name Partfolio Name	Annual partitions
THE CT Equity	TIM HORTONS INC	301.72	CAD	ania Discreti	4		Partfulia D	Rany
AUY US Eauty	YAMANA GOLD INC	7.81	. USD	Materials	*		Target Stor Level	Relayed
SPSN VX Equity	SWISS PRIME SITE-REG	77.16	D#	Enancem			Current Risk Level	Read Property
SOMN VX touity	SWISSCOM AG-REG	57536	DF	Imministen!			Parametere Profile	Infant:
BARN SW Equity	BARRY CALLEBAUT AG-REG	1.176.52	cher.	Fiscarrier Stap	4.		Caverage (%)	HISLOBIE
LISN SW Equity	SCOLADEFABRIREN LINDT-1	41.3947	CH€	mumer Stap	+		Beschours .	and when
EMERY SW Equity	IS-CHEMIE HOLDING AG-RI	442.05	04	Materials	*		Diversion of Level	
e arriant chart		-	_	-				
1015-		-		90	ALL DISCOUNTS		I-DAY NORMAL WAR WER	
	•		 Apply port 	de .		MULTICOPCIA		5
-0.03 %			Sectorate Sectorate			FileCo-Minica (199)		
			•			LATIANS INSTCRACTOR IN	DALY RETURN	
-0.0 5.1						ACRIA DIRAL	-	
								-
200							NATIO Series Bristownam	
1226.								

Figure 101: A) Click Watch List.

7) Click the Plus button on the instruments you want to add in your portfolio.

Ticket		Last Quate			Actions.
'HI CT Equity	TIM HORTONS INC	80.72	CAD	Consumer Discretionary	-
UV US Equity	YAMANA GOLD INC	7.01	USD	Materials	-
SN VX Equity	SWISS PRIME SITE-REG	77.16	CHF	Financials	-
MN VX Equity	SWISSCOM AG-REG	579.36	CHF	Telecommunication Services	aja.
RN SW Equity	BARRY CALLEBAUT AG-REG	1,176.92	CHF	Consumer Staples	4
SN SW Equity	OCOLADEFABRIKEN LINDT-I	61,394.7	CHE	Consumer Staples	1.]+
ISN SW Equity	AS-CHEMIE HOLDING AG-RE	443.89	CHF	Materials	+

Figure 102: A) Click the Plus button for any instrument that you may want to add to simulations.

8) Click the What If link to access the What If window. Watch List items are displayed in italics and starred.



			Last Quote	Currency	Market Value	instrument Volatiity	Instrument Return	Weight	Risk Contribution	Return Contribution		
KINROSS GOLD CORP	Materials	69,574 08,574	3.64	USD	253,249 253,249	26.83%	-0.07%	0.57%	0.81%	-0.29% -0.29%	-	-
INA RESOURCES GAS GROUP LT	Utilities	54,020 54,020	22	HKD	153,333 153,333	28.52%	-0.02%	0.35% 0.35%	-0.01% -0.01%	-0.05% -0.09N	÷	-
EUNG KONG INFRASTRUCTURE	Utilities	2,944 2,844	55.25	HKD	20,986	15.59%	0.05%	0.05% 0.05%	-0.01% -0.01%	0.02%	÷	-
ELENET GROUP HOLDING NV	Consumer Di	222 222	44.6	EUR	12,795	20.60%	0.01%	0.03%	0.00%	0.00%	\$	100
TIM HORTONS INC	Consumer Di	0	88.28	CAD	0			0.00% 2.00%	0.00%	0.00%	÷	-
YAMANA GOLD INC 🗢	Materials	0	7.01	USD	0			0.00%	0.00%	0.00%	\$	
SWISS PRIME SITE-REG	Financials	0	72.05	CHF	0			0.00%	0.00%	4.00%	+	-

Figure 103: A) Watch list items are displayed in italics and starred.

- 9) Manually add new shares of the new instruments or optimize to let the optimizer select the best new instruments for your portfolio.
- 10) Compare the original portfolio with the optimal portfolio on the risk/return chart and evaluate the impact of the new instruments.
- 11) For an optimized portfolio, look in the portfolio table to see which new instruments were selected by the optimizer (look for green lines to see what positions were increased).

Name		Position	Lest Quote	Currency	Market Value	Instrument Volability	Instrument Return	Weight	Risk: Contribution	Return Contribution		
		16087			1486.500			Tank	1.54%	.8779		
ULTRAPAR PARTICIPACOES SA	Energy(118.885	51	BRL	2,714,287 44matz	21,21%	-0.01%	6.71%	138%	-0.30%	+	-
INTACT FINANCIAL CORP	Financials	37,061 #1,001	72.1	CAD	2,443,367	1431%	0.06%	5.50% 1am	0.88%	2.18%	4	-
EUNG KONG INFRASTRUCTURE	Utilities	314,312 1344	5525	HKD	2,240,528	15.59%	0.05%	5.05%	-0.14%	1.64% atre	-	-
TIM HORTONS INC .	Consumer Di	27,496	88.28	CAD	2,219,566	35.96%	0.38%	5.00%	1.57%	13.54% abov	÷	-
TELEROM AUSTRIA AG	Telecommun	223,679	7.15	EUR	2,065,336	14.52%	0.04%	4.65%	0.51%	1.22%	- (j)-	
INA RESOURCES GAS GROUP LT	Utilities	383,852	22	HKD	1,089,541	28.52%	-0.02%	2.45%	-0.09%	-0.39%	÷	-
BLACKBERRY LTD	intoimation 1	20,647	10.75	LIST	221,955	43.50%	0.27%	0.50%	0.66%	0.79%	(L.	-

Figure 104: A) After optimization green lines have increased position values.

7.9 Using Benchmarks in Portfolio Analysis

- 1) Create and save a .csv file describing your benchmark. The benchmark is just another portfolio that must be loaded in the application, from any portfolio provider. The benchmark is used in the application to calculate risk measure ratios, estimate relative risk and performance measures and run benchmarked optimization.
- 2) Open the csv file of the portfolio to which you want to associate this benchmark.
- 3) Fill in the Benchmark field with the ID of the benchmark portfolio (that is, the name of the csv file of the benchmark).





Figure 105: A) Fill in the Benchmark field with the correct ID from the benchmark .csv file.

- 4) Save and close the CSV file.
- 5) Refresh the application and go to the home page.
- 6) Choose the portfolio with the configured benchmark and then click the Portfolio tab. The Risk Return table shows only your portfolio and your benchmark for easy comparison.



Figure 106: A) Compare your portfolio with the benchmark.

- 7) The risk ratio in the Portfolio Information Section displays the ratio between the portfolio risk and the benchmark risk with the same settings.
- 8) To compute the tracking error of the portfolio with respect to the benchmark, create a new profile for which you select the tracking error as the risk measure.



	Profiles	Risk Calculation	Return Calculation	Simulation	Optimization	
-	Default	Risk Measure		Tracking Error		
New Save	Lower Risk Tracking Errc	Horizon		Volatility Tracking Error		
		Estimation Wind	ow	Normal Vall		
Save As				Robust VaR Expected Short	tfatl	
Délete		Hedge		Kernel VaR Kernel Expecte	d Shortfall	
Cancel						

Figure 107: A) Choose Tracking Error from the Risk Measure dropdown.

9) Associate this new profile by clicking the Edit Profile icon for the portfolio and then choosing the profile that uses tracking error as the risk measure. Click the Save button and then the Close button.

Courtelle ID	Equips
Portrollo ID	Equity
Portfolio Name	Equity portfolio
Target Risk Level	Balanced
Parameters Profile	Tracking Error

Figure 108: A) Choose the new tracking error profile.

10) The dashboard is automatically updated, and the displayed risk measure is now the tracking error. Note that for the tracking error, no Risk ratio is displayed since the tracking error of the benchmark with itself is 0.



Figure 109: A) Dashboard is automatically updated.

7.10 Saving Simulations

You can save your simulations and then review them or edit them later. You can save up to 5 simulations per portfolio.

- After choosing a portfolio and running a what-if trade simulation, click the Save As button. For information on what-if simulations, please see "Running What-if Trade Simulations" on page 49.
- 2) Enter a name for the simulation in the callout box. The name can be up to 25 characters.



						Watt Hisk's	Portfolia						-	0
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Name	Sector	Pador	Last Qualte	Carring	Market	Noticerent Volatility	Tratturiert Return	Weight	Contribution	Equity Optimized	ation	Active Profile	-	
Centr					7,425,204			20.075			4.2			
BILGACION LA	Telephone and the start	246.033	10.00	10	A7042251	25.475	9204%	MANE	11.075	HUTN	191	PORTFOLIO INFURMAT	ide (7.6	Dev 2014
FRANCO NEVADA COMP	Hartswiss	105,490	60.54	180	1076259	41055	0.07%	13.67%	75.815	6475	- 1	Devidation Name	Similarity	
ADVICT LAGA MINEY LTD	Materiager -	INCOME	3455	000	41012.000	SLAPS	-0.214%	12.07%	41.24%	dams	100	Partfolio Name	Lasty portato	
INTROTIONAL CORP.	Ineries	46,110	99.37	0.00	1,750,211	TLEN	DOWN	10.12%	0.12%	16.72%	1.0	Hartysing at	ST. And THY LINE CO. And	-
ALESO .	insern Lare	32.160	1001	10.0	LOTEXE	21275	and an	1.015	5475	Link	- T	Target Wish Level	Salarian .	
VERBLAD NO	Louises.	12,912	15.54	ELE.	1.003485	20.51%	0.120%	4.52%	0.58%	11.115		Current Alth Level	Optimitie (Springerson	
TELEPHENT CHICK IN LICE DAMA ANI	Company Consertances	22.322	-16.41	23.00	T.MOT.DEK	24.995	8.087%	1575	0.57%	6.67%	-	Coverage	100.001	
and the second second second	in the second second	A 2017	-	100	197.20	a core		a che	- 100	100		Benchmark	AND MARK	

Figure 110: A) Enter the name of the simulation in the callout box.

- 3) Click the check button (\checkmark) to save the simulation.
- 4) A message box displays after the successful save. Click Ok.



Figure 111: A) Success message.

5) The new simulation is displayed in the Simulations view.



Figure 112: a) New simulation is displayed in the Simulations view.

7.11 Editing and Removing Saved Simulations

1) Choose a portfolio and then navigate to the Simulations view. Your saved simulations for that portfolio are displayed.



Figure 113: A) Your saved simulations are displayed.

2) Click the Edit Simulation icon (🔪) for the what-if simulation that you want to edit. To remove



the simulation click the Remove Simulation icon ($\textcircled{\sc B}$).

	Market		Tarort	Current			
Simulation	Value	Currency	Risk Level	Risk Level	Alert	Actions	
guity Optimization	37,144,797	USD	Balanced	Dynamic.		× č	
Equity What If	37,144,797	USD	Balanced	Dynamic	•	× 3	

Figure 114: A) click the Edit Simulations icon.

3) The simulation is displayed in the What If view and you can run what if simulations by buying and selling instruments in the portfolio.



Figure 115: A) Click Save As to create a new saved simulation. B) Edit your simulation with the Plus and Minus signs.

4) Click the Save button to save the simulation with the existing name. Click the Save As button to save the simulation with a new name.



8 Troubleshooting

The following table enumerates, describes and suggests user action for errors that may occur when operating the Wall Risk Portfolio tool. If you are not able to fix any problems please contact Raise Partner.

8.1 Error Codes, Descriptions and User Actions Table

Error code	Error Description	User Action			
41	Date expired when comparing to the expiration date in the code.	Please contact Raise Partner for assistance or re-install your license.			
42	Date expired when comparing to the expiration date in the license key.	Please contact Raise Partner for assistance or re-install your license.			
43	The MAC address in the "licence key" does not match with the one of the OS	Please contact Raise Partner for assistance or re-install your license.			
44	Key not found in the registry (Windows) or in the file (Linux).	Please contact Raise Partner for assistance or re-install your license.			
45	MAC address decryption failed.	Please contact Raise Partner for assistance or re-install your license.			
46	Date decryption failed.	Please contact Raise Partner for assistance or re-install your license.			
101	There is a Bloomberg security error.	Contact Bloomberg to discuss your access rights limitations.			
201	The inflation linked bonds with embedded options are not covered.	This instrument is excluded from analysis. No user remediation is possible.			
202	The instrument type is not covered (Market Sector: {0} and Security Type : {1}).	This instrument is excluded from analysis. No user remediation is possible.			
301	The FX rate was not found.	Provide FX rate information via csv file. Please see the section, "Configuring your Portfolios" on page 11.			
302	The position needs conversion but the FX rate history is unavailable.	Provide FX rate information via csv file. Please see the section, "Configuring your Portfolios" on page 11.			
401	The price of the exchange stock is not available.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.			



402	The last/current price is not available.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
403	The last/current price of the underlying is not available.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
404	The historical price is negative.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
405	There is not enough historical price data.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
406	There is a piecewise constant historical price data error.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
501	The contract size is not available.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
502	The contract value is not available.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
503	The currency of the instrument is not available or is invalid.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.



504	The currency of the underlying instrument is not available or is invalid.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
505	The Generic value is not available.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
506	The parity value is not available.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
507	The Par Value field not available or invalid.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
508	The Quoted Type field is not available or is invalid.	Use a proxy or input instrument information via csv file. Please see the section, "Configuring your Portfolios" on page 11 or configure a proxy as described in the section, "Defining Proxies" on page 16.
601	The instrument has expired.	Remove expired instruments from your portfolio.
602	There are no positions available.	Define non zero positions in your portfolio.
701	The behavior cannot be attached to a null Region.	Send the trace.log file to your Raise Partner contact. The file is located in your application directory.
702	Cannot apply ActivateViewOnFocusBehavior to a Region that contains Views that are not UIElement.	Send the trace.log file to your Raise Partner contact. The file is located in your application directory.
703	The type {0} does not have a public property named '{1}'. The current implementation of '{2}' does not allow specifying a nested path or a member that is not a property.	Send the trace.log file to your Raise Partner contact. The file is located in your application directory.



704	There is an unhandled instrument error.	Send the trace.log file to your Raise Partner contact. The file is located in your application directory.
801	Cannot convert from type {0} to enum type {1}. The source value must be a string type.	
802	The parameter should be convertible to an integer.	
803	The instrument's data source is not available.	Check the instrument in your configuration csv file. Please see the section, "Configuring your Portfolios" on page 11.
901	The .csv file is missing or has inaccessible instruments.	Check the instrument in your configuration csv file. Please see the section, "Configuring your Portfolios" on page 11.
902	The historical time series contains an invalid date.	Check the instrument in your configuration csv file. Please see the section, "Configuring your Portfolios" on page 11.
903	The instrument type is invalid.	Check the instrument in your configuration csv file. Please see the section, "Configuring your Portfolios" on page 11.
904	There is a missing instrument in the instruments.csv file.	Add the missing instrument to your csv file. Please see the section, "Configuring your Portfolios" on page 11.
1001	Proxy currency is different from instrument currency	Change proxy entry in ProxyList.csv. Please see the section, "Defining Proxies" on page 16.
1002	Proxy ticker is invalid	Change proxy entry in ProxyList.csv. Please see the section, "Defining Proxies" on page 16.