



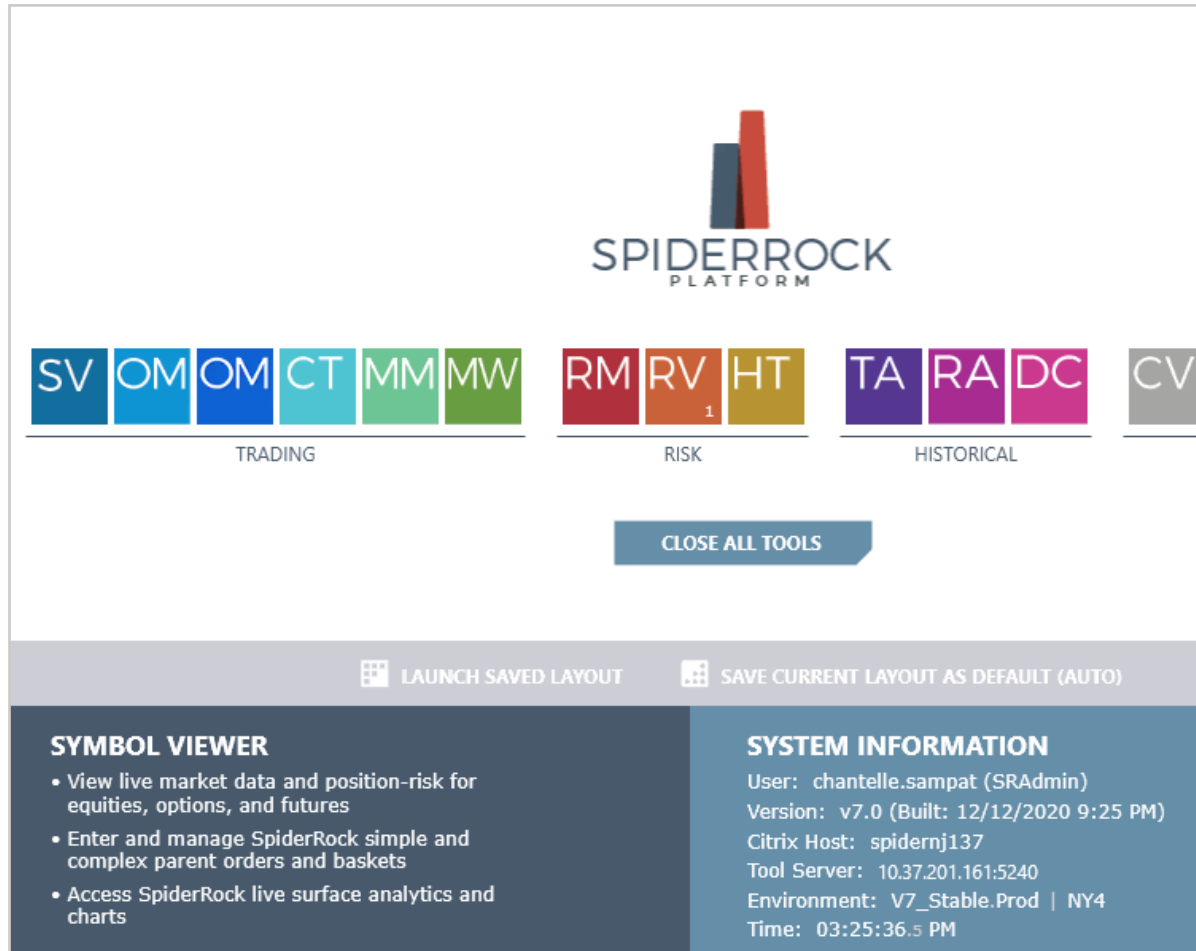
SpiderRock V7 Tool Concept Guide

Risk Viewer

February 8, 2021

OVERVIEW

The SpiderRock Risk Viewer is a real time portfolio risk management tool allowing users to view and aggregate risk at the account level. A portfolio can contain any combination of equity, options, and futures positions of any size. The tool is organized in tabs so that users have quick access to position risk, PnL allocation, and market shock analysis. The tool also offers guidance around PIN risk, early exercise opportunities and provides visibility on position breaks.



THE RISK VIEWER TABS

The table below briefly describes all Risk Viewer tabs. Each tab comes with a default view. The user can customize these views by right clicking on headers and selecting the desired metrics.

TAB	DESCRIPTION
POSITION RISK	Displays real time position risk across Greeks at the root symbol level (across asset classes)
POSITION PNL	Displays overnight portfolio position PnL and PnL allocation across Greeks at the root symbol level
POSITION BREAKS	Potential overnight position breaks are shown at the root symbol level (across asset classes)
POSITION DETAIL	Industry-wide root symbol information associated to each position (day volume, days to next expected earnings, etc.)
POSITION VAR	Analyzes market events impact on the PnL in real time for each position across the portfolio (only pre-set VAR metrics)
THEO CONCENTRATION	Displays where the theoretical edge is concentrated for clients uploading theoretical volatility models in the system
THEO RESULTS	Displays theoretical edge metrics from previous day for clients uploading theoretical volatility models in the system
INDUSTRY RISK	Displays intra-day position risk in real time grouped by industry bucket for the entire portfolio
EXPIRATION RISK	Displays intra-day position risk in real time grouped by expiration bucket for the entire portfolio
FUTURE RISK	Displays intra-day position risk in real time for futures positions at the symbol level
FUTURE PNL	Displays overnight portfolio futures PnL and PnL allocation across Greeks at the root symbol level
PIN TOOL	List of all positions with potential pin risk on expiration day
EARLY EX	List of potential early exercise or assignment candidates



POSITION RISK TAB

Displays real time position risk across Greeks at the root symbol level (across asset classes)

SPIDERROCK Risk Viewer

Symbol(s): <ALL>

Position Risk

Position PnL

Position Breaks

Position Detail

Position VaR

Theo Concentration

Theo Results

Industry Risk

Expiration Risk

\$ delta

37.84 m

\$ gamma

7.84 m

\$ beta

32.13 m

delta

96,940

\$ h.delta

37.84 m

\$ h.gamma

7.84 m

h.delta

96,940

h.gamma

521

gamma

521

theta

(438,190)

vega

751,423

wvega

218,596

rho

(50,925)

u.dn50%

30.02 m

	symbol	acct	risk.class	uPrc	haircut25	haircut37		avg.iv	delta	\$delta	\$beta	gamma	\$gamma	theta	wVe
1	COST	T.SP1		356.00	200			300	+28.0	-22	-7,874	-4,431	3	3,684	-56
2	ZOM	T.SP1		0.90	13			13	+0.0	100	94	94	0	0	0
3	AAPL	T.SP1	A	141.49	53,782			53,782	+91.9	4,742	674,338	465,232	157	31,696	-5,566
4	@ES	T.SP1		0.00	0			0	+0.0	3	560,530	560,530	0	0	0
5	NIO	T.SP1		56.85	500			750	+104.8	14	805	116	0	-10	2
6	CCIV	T.SP1		21.23	2,000			3,000	+218.6	69	1,444	1,444	240	1,060	-1,098
7	GME	T.SP1		332.24	4,236,604			4,236,604	+1042.9	88,665	563,370	437,850	14	17,223	-197,720

- User has access to most Greeks associated to symbol position and skew buckets within a position: delta, \$delta, \$beta, gamma, \$gamma, theta, weighted Vega, weighted time Vega, absolute Vega, rho, as well as others
- Other metrics include an average implied volatility move overnight and pre-set risk slides
- Other metrics can be selected by right clicking on any column headers

POSITION PNL TAB

Displays overnight portfolio position PnL and PnL allocation across Greeks at the root symbol level

SPIDERROCK Risk Viewer																	Symbol(s): <ALL>  All Vi
1	Position Risk		Position PnL		Position Breaks		Position Detail		Position VaR		Theo Concentration		Theo Results		Industry Risk		Expiration Risk
	sh.trd 0	cn.trd 0	dayVe 0	dnPnL 0	hgePnL (3)	dayPnL 0	volPnL 19.33 m	clrPnL 18.26 m	midPnL 19.20 m	brkPnL 92,991	divPnL 0	PnISD 15.35 m	PnIGa 3.08 m	PnITh (483,247)			
	symbol	acctnt	uPrc	%move	iv.chg	vega	sh.trd	cn.trd	opt.prem.bot	opt.prem.sld	opt.dn.pnl.day	hdg.pnl	day.pnl	vol.pnl	clr.pnl	mic	
1	COST	T.SP1	356.00	-2.5	+4.3	1,034	0	0	0	0	0	0	0	1,084	-2,078		
2	ZOM	T.SP1	0.89	-9.2	+0.0	0	0	0	0	0	0	0	0	-8	-8		
3	AAPL	T.SP1	141.40	-1.2	+25.0	206	0	0	0	0	0	0	0	-3,546	0		
4	@ES	T.SP1	0.00	+0.0	+0.0	0	0	0	0	0	0	0	0	-16,650	0		-1
5	NIO	T.SP1	56.87	-5.7	+5.4	-2	0	0	0	0	0	0	0	-62	0		
6	CCIV	T.SP1	21.25	-13.1	+10.9	158	0	0	0	0	0	0	0	959	-9,829		
7	GME	T.SP1	331.41	+124.0	-1.7	1,266	0	0	0	0	0	0	0	18,006.877	18,385,208	17.99	

Many PnL allocations are available across Greeks (pnl.ga, pnl.de, pnl.th, pnl.ve), PnL from trades today (day.pnl), and hypothetical day PnL based on positions being hedged every minute (hdq.pnl)

- The system also provides three distinct PnL from start-of-day positions:
 - **clr.pnl:** PnL from cleared marks on the open
 - **mid.pnl:** PnL from the SpiderRock mid NBBO marks (snapshot taken 30 seconds before close)
 - **vol.pnl:** PnL from the SpiderRock volatility surface marks from the previous EOD
 - Other metrics can be selected by right clicking on any column headers

POSITION BREAKS TAB

Potential overnight position breaks are shown at the symbol level across the entire portfolio across all asset classes

	Position Risk		Position PnL		Position Breaks		Position Detail		Position VaR		Theo Concentration		Theo Results		Industry Risk		Expiration Risk		Future Risk	
#syms	shClrAbs	shPrvAbs	shBrkAbs	shBrkPnL	fcClrAbs	fcPrvAbs	fcBrkAbs	fcBrkPnL	cnClrAbs	cnPrvAbs	cnBrkAbs	cnBrkPnL								
12	0	99,376	99,376	0	0	12	12	0	0	3,792	3,792	0								
	symbol	acct	opn.sh.dlr	opn.sh.prv	sh.opn.brk	sh.brk.pnl	fc.abs.dlr	fc.abs.prv	fc.abs.brk	fc.brk.pnl	opt.cn.abs.dlr	opt.cn.abs.prv	opt.cn.abs.brk	cn.brk.pnl	time					
1	COST	T.SP1	0	251	-251	0	0	0	0	0	0	0	8	8	0	03				
2	ZOM	T.SP1	0	100	-100	0	0	0	0	0	0	0	0	0	0	03				
3	AAPL	T.SP1	0	0	0	0	0	0	0	0	0	0	60	60	0	03				
4	@ES	T.SP1	0	0	0	0	0	3	3	0	0	0	0	0	0	03				
5	NIO	T.SP1	0	0	0	0	0	0	0	0	0	0	20	20	0	03				
6	CCIV	T.SP1	0	2,921	-2,921	0	0	0	0	0	0	0	80	80	0	03				
7	GME	T.SP1	0	90,212	-90,212	0	0	0	0	0	0	0	2,590	2,590	0	03				
8	@GC	T.SP1	0	0	0	0	0	3	3	0	0	0	0	0	0	03				
9	@ZN	T.SP1	0	0	0	0	0	3	3	0	0	0	0	0	0	03				
10	SPY	T.SP1	0	0	0	0	0	0	0	0	0	0	704	704	0	03				

- Breaks are the difference between clearing records and the previous positions that the SpiderRock system knows. Most breaks are caused by overnight corporate actions and are currently rectified by the support desk
- Breaks are displayed in sh.opn.brk for stock, opt.cn.abs.brk for options, and fc.abs.brk for futures positions
- Other metrics can be selected by right clicking on any column headers

POSITION DETAIL TAB

Client-centric industry based information associated to each symbol position

	Position Risk		Position PnL		Position Breaks		Position Detail		Position VaR		Theo Concentration		Theo Results		Industry Risk	
#syms																
12																
	symbol	acct	risk.class	symbol.name	grp	sector	\$amt	d.dy	edays	gc.flag	locate	symbol.type	stk.volume	opt.volume		
1	COST	T.SP1		COSTCO WHC	0		0.700	6	25	None	0	Equity	2,514,969	38,452		
2	ZOM	T.SP1		ZOMEDICA C	0		0.000		19	None	0	Equity	0	0		
3	AAPL	T.SP1	A	APPLE INC	0		0.205	8	0	None	0	Equity	105,306,200	1,775,043		
4	@ES	T.SP1		E-mini S&P 50	0		0.000		-9	None	0	Future	0	0		
5	NIO	T.SP1		NIO INC	0		0.000		34	None	0	ADR	128,300,200	670,567		
6	CCIV	T.SP1		CHURCHILL C	0		0.000		-9	None	0	Equity	0	0		

- **\$amt:** dollar amount of the next expected dividend
- **d.dy:** days to next dividend ex-date
- **edays:** days to next expected earnings. A negative number indicates days from a recent announcement
- **stk.volume / opt.volume:** trailing 30-day average daily volume for stocks / options
- **locate:** available locate quantity per symbol
- Other metrics can be selected by right clicking on any column headers



POSITION VAR TAB

Analyzes PnL impact of pre-canned risk slides for each symbol position across the portfolio

Position Risk		Position PnL		Position Breaks		Position Detail			Position VaR		Theo Concentration		Theo Results		Industry Risk		Expiration
u.dn90%	u.dn50%	u.dn15%	u.dn5%	u.up5%	u.up15%	u.up50%	u.up90%	u.1earn	dn.1earn	u.2earn	dn.2earn	v.earn					
55.97 m	30.02 m	2.14 m	(1.00 m)	3.08 m	15.37 m	101.65 m	254.20 m	79,744	(28,796)	610,903	654,208	(232,550)					
	symbol	acct	haircut25	haircut37	risk.class	uPrc	stk.max.ivol	edays	grp	u.dn50%	u.dn15%	u.dn5%	u.up5%	u.up15%	u.up50%		
1	COST	T.SP1	200	300		356.00	0.292	25	0	37,205	5,219	718	203	2,957	37,534		
2	ZOM	T.SP1	13	13		0.90	0.010	19	0	-35	-13	-4	5	15	58		
3	AAPL	T.SP1	53,782	53,782	A	142.40	0.688	0	0	-57,382	-53,782	-28,370	37,831	129,791	545,040		

- Haircut25/haircut37 provides a real-time aggregate margin consumption per symbol
- Other metrics available are pre-set risk slides such as: up and down 5%, 15%, 50% (volatility unchanged), earning volatility move (underlying price unchanged). More pre-set metrics can be selected by right clicking on any column headers
- Other metrics can be selected by right clicking on any column headers

INDUSTRY RISK / EXPIRATION RISK TABS

Displays aggregate position risk in real-time across industry sectors and expiration buckets

Position Risk		Position PnL		Position Breaks		Position Detail		Position VaR		Theo Concentration		Theo Results		Industry Risk		Expiration Risk		Future Risk		Future PnL		Account Risk		Account PnL		Pin Tool		Early																			
absCn 3,792		absVe 751,601		ve.rat 5.986		vw.rat 5.987		th.rat -5.988		net.ve 751,424		net.vv 218,596		net.th (438,191)		s.dn15% 7.28 m		s.Up15% 9.40 m		dayVe 0		dayTe 0		dnOpnPnL 3.98 m		lvOpnPnL 3.98 m		shOpnPnL (458)																			
acct		Expiration		abs.cur.cn		t.edge		UnitEdge		ve.rat		vw.rat		wt.rat		th.rat		wtVe.dd		wtVe.dn		wtVe.at		wtVe.up		wtVe.du		nVega		nWVega		nWtVega		nTheta		ivolLn		ivolSh		u.dn15%		u.up15%		day.Ve		day.Te	
1	T.SP1	2021-03-19 (Mar)		7		0		0.00		1.000		1.000		1.000		-1.000		0		821		0		0		0		802		618		821		-872		77.12%		0.00%		34,044		-22,067		0		0	
2	T.SP1	2021-04-16 (Apr)		20		0		0.00		-0.014		-0.013		-0.013		0.012		0		-3		0		0		0		-2		-2		-3		2		104.86%		104.78%		-122		115		0		0	
3	T.SP1	2021-02-19 (Feb)		97		0		0.00		1.000		1.000		1.000		-1.000		0		2,831		0		0		0		1,495		1,425		2,831		-4,522		95.30%		0.00%		105,375		-58,643		0		0	
4	T.SP1	2021-01-29 (Jan)		2,762		0		0.00		1.000		1.000		1.000		-1.000		41,947		12,338		0		0		0		4,306		17,167		54,286		-326,165		198.70%		0.00%		781,964		-150,803		0		0	
5	T.SP1	2021-06-18 (Jun)		884		0		0.00		1.000		1.000		1.000		-1.000		0		12,955		146,127		0		0		743,048		198,401		159,084		-101,213		26.70%		0.00%		6,251,549		9,679,343		0		0	

- abs.cur.cn is the position in absolute number of contracts based on the aggregation chosen
- Greek ratios (Long - Short over Abs) for Vega, Weighted Vega, Weighted-time Vega, and Theta
- Aggregate time-weighted vega by skew bucket (wtVe.dn/downside, wtVe.at/at-the-money, wtVe.up/upside)
- Net Vega (nVega), net weighted Vega (nWVega), net theta (nTheta)
- Ratio of Long Wvega over Long Vega (ivolLn), ratio of Short Wvega over Short Vega (ivolSh)
- Aggregate premium over parity (prem.opar)
- Aggregate dollar delta (\$delta)
- Other metrics can be selected by right clicking on any column headers

Note: Users can select Industry, Sub-industry or Group as a filter under the Industry Risk tab

Group By
☒ Industry
☐ SubIndustry
☐ Group
☐ Sector



THEO CONCENTRATION TAB

Displays theoretical edge (and other values) for clients trading based on their own theoretical volatility model

Position Risk		Position PnL		Position Breaks		Position Detail		Position VaR		Theo Concentration		Theo Results		Industry Risk		Expiration R	
#syms		haircut		edgeOpn		edgeCls		posTERat		posVWRat		negVWRat		badVWRat			
71		140,695		0		0		0.621		0.736		0.263		0.001			
	symbol	acct	risk.class	opt.status	hold.reason	live.uprc	haircut37	avg.iv	t.edge	unit.edge	opt.edge.opened	opt.edge.closed					
1	RPM			Hold	None	53.72	1,986	+21.6	265	0.20	0	0					
2	BP			Hold	None	44.22	269	+24.1	1	0.01	0	0					
3	GLD			Hold	None	129.22	1,200	+0.0	0	0.00	0	0					

- **avg.iv:** average implied volatility for the position in a particular symbol
- **opt.edge.opened:** concentration in edge for open positions
- **opt.edge.closed:** concentration in edge for closing positions
- **t.edge:** aggregate dollar theoretical edge based on user's theoretical values
- **unit.edge:** theoretical edge per contract (normalized to a \$40 stock)
- Other metrics can be selected by right clicking on any column headers

THEO RESULTS TAB

Displays theoretical edge metrics from previous day for clients trading based on their own theoretical volatility model

Position Risk		Position PnL		Position Breaks		Position Detail		Position VaR		Theo Concentration		Theo Results		Industry Risk		E	
prEdgeCn 1,639		tEdgePr 11,299		pnlTEdge 116		posPnL 381		negPnL (1,353)		badPnL 88		pairPnL (1,768)		gapPnL 796			
	symbol	acct	theo.model	risk.class	stk.mark	stk.max.ivol	wVega	t.edge.pr	u.edge.pr	tv.chg	iv.chg	pnl.te	pos.te.pnl	neg.te.p			
1	RPM				0	0.225	-26	97	0.07	-7.0	-1.6	198	-86				
2	BP				0	0.220	0	1	0.01	+1.6	+1.5	0	1				
3	GLD				0	0.120	-1	0	0.00	+0.0	+0.0	0	0				

- **t.edge.pr:** prior day aggregate dollar theoretical edge based on user's theoretical values
- **u.edge.pr:** prior day theoretical edge per contract (normalized to a \$40 stock)
- **tv.chg:** average change of theoretical vol from previous day
- **iv.chg:** average change of implied vol from previous day
- Other metrics can be selected by right clicking on any column headers



FUTURE RISK TAB

Displays intra-day position risk in real time for futures positions at the symbol level

Position Risk		Position PnL		Position Breaks		Position Detail		Position VaR		Theo Concentration		Theo Results		Industry Risk		Expiration Risk		Future Risk		Future PnL																	
\$ delta (469,699)		\$ gamma (16,963)		delta (37,956)		gamma (11,077)		theta 4,915		vega (1,089)		wvega (1,306)		rho (209)		veRatio -1.000		wvRatio -1.000		thRatio 1.000		roRatio -1.000		wvDnRat 0.000		wvAtRat 0.000		wvUpRat -1.000		ivolLn 0.00%		i 11					
acct		ccode		expiration		symbc▲		uprc		avg.iv		delta		\$delta		gamma		\$ gamma		theta		wVega		vega		rho		a.vega		wtVe.dn		wtVe.at		wtVe.du			
1		T.AB		VX		2018-02-14		VDX		12.38		+120.0		-37,956		-469,699		-11,077		-16,963		4,915		-1,306		-1,089		-209		1,089		0		0		-2,824	

- **uprc:** spot price
- **avg.iv:** Symbol average implied volatility
- All Greeks associated to symbol position
- Weighted-time Vega by delta buckets (at-the-money, downside, and upside buckets)
- Other metrics can be selected by right clicking on any column headers

FUTURE PNL TAB

Displays overnight portfolio futures PnLs at the symbol level and allocates PnL across Greeks

Position Risk		Position PnL		Position Breaks		Position Detail		Position VaR		Theo Concentration		Theo Results		Industry Risk		Expiration Risk		Future Risk		Future PnL	
sh.trd 0	cn.trd 0	dayVe 0	dnPnL 0	hgePnL 0	dayPnL 0	volPnL (4,885)	clrPnL 0	midPnL (7,500)	brkPnL (396)	PnlSD (7,213)	PnlGa (217)	PnlTh 11	PnlVe (434)	PnlErr 2,968	PnlSh (4,885)	PnlL 0					
	acct	cocode	expiration	symbol▲	move	iv.chg	tv.chg	vega	fcTrd	cnTrd	opt.day.ve	opt.prem.bot	opt.prem.sld	opt.dn.pnl.day	hgePnL	dayPnL	volPnL	c			
1	T.AB	VX	2018-02-14	VIX	+1.2	+0.3	+0.0	-1,088	0	0	0	0	0	0	0	0	-4,885				

- Many PnL allocations are available across Greeks (pnl.ga, pnl.de, pnl.th, pnl.ve), PnL from trades today (day.pnl) and hypothetical day PnL based on positions being hedged every minute (hdg.pnl)
- The system also provide three distinct PnL from start-of-day positions:
 - **clr.pnl:** PnL from cleared marks on the open
 - **mid.pnl:** PnL from the SpiderRock mid NBBO marks (snapshot taken 30 seconds before close)
 - **vol.pnl:** PnL from the SpiderRock volatility surface marks from the previous day
 - Other metrics can be selected by right clicking on any column headers

PIN TOOL TAB

List of all positions with potential pin risk on expiration day

Position Risk	Position PnL	Position Breaks	Position Detail	Position VaR	Theo Concentration	Theo Results	Industry Risk	Expiration Risk	Future Risk	Future PnL	Account Risk	Account PnL	Pin Tool		
#syms 2													Pin Band: 0.05		
	acctnt	symbol	uPrc	uPrt	minPinDist	shares	deBackMths	delta	hDelta	deltaEx	postDelta	post\$Delta	pinRef	refPrice	Timestamp
1	TAB	SPY	282.08	282.06	0.56	-2100	4,647	7,700	6,367	3,700	6,247	1,762,298	uPrt	282.06	10:44:15
2	TAB	AAPL	167.11	167.11	2.89	-1084	57,762	58,846	58,846	0	56,678	9,471,113	uPrt	167.11	
	root	exp	cp	strike	cn.bot	cn.sld	cn.Pos	pinDist	pinRef	delta	hDelta	deltaEx			Action
3	AAPL	2018-02-02	C	170.000	0	0	+655	-2.89	uPrt	25,837	25,837	0			Default
4	AAPL	2018-02-02	C	172.500	0	0	+382	-5.39	uPrt	11,417	11,417	0			Default
5	AAPL	2018-02-02	C	175.000	0	0	+826	-7.89	uPrt	19,123	19,123	0			Default
6	AAPL	2018-02-02	C	177.500	0	0	+1	-10.39	uPrt	17	17	0			Default

- This tool displays the minimum pin distance for the trade as a component of a symbol position. The user can use the '+' sign on the left of the account column to expand the position row and see all the trades that comprise the position. The user can then see the pin distance (pinDist) which is the spot price - strike price for each trade
- In the upper right corner of the tab, user can enter a Pin Band (see below). Based on this reference number, the trades composing the position might return an action if within that Pin Band. Also the reference can be either the current underlying price (uPrc) or the underlying price of the last print (uPrt)

Position Risk	Position PnL	Position Breaks	Position Detail	Position VaR	Theo Concentration	Theo Results	Industry Risk	Expiration Risk	Future Risk	Future PnL	Account Risk	Account PnL	Pin Tool	Early Ex
#syms 2													Pin Band: 0.05	Reference uPrc uPrt  NEWEDGE
1	TAB	SPY	282.08	282.06	0.56	-2100	4,647	7,700	6,367	3,700	6,247	1,762,298	uPrt	282.06
2	TAB	AAPL	167.11	167.11	2.89	-1084	57,762	58,846	58,846	0	56,678	9,471,113	uPrt	167.11
	root	exp	cp	strike	cn.bot	cn.sld	cn.Pos	pinDist	pinRef	delta	hDelta	deltaEx		Action
3	AAPL	2018-02-02	C	170.000	0	0	+655	-2.89	uPrt	25,837	25,837	0		Default
4	AAPL	2018-02-02	C	172.500	0	0	+382	-5.39	uPrt	11,417	11,417	0		Default
5	AAPL	2018-02-02	C	175.000	0	0	+826	-7.89	uPrt	19,123	19,123	0		Default
6	AAPL	2018-02-02	C	177.500	0	0	+1	-10.39	uPrt	17	17	0		Default
7	AAPL	2018-02-02	C	180.000	0	0	+108	-12.89	uPrt	1,270	1,270	0		Default
8	AAPL	2018-02-02	C	182.500	0	0	+135	-15.39	uPrt	1,094	1,094	0		Default
9	AAPL	2018-02-02	C	185.000	0	0	+13	-17.89	uPrt	72	72	0		Default
10	AAPL	2018-02-02	C	187.500	0	0	+4	-20.39	uPrt	15	15	0		Default

EARLY EX TAB

List of potential early exercise or assignment candidates

Position Risk	Position PnL	Position Breaks	Position Detail	Position VaR	Theo Concentration	Theo Results	Industry Risk	Expiration Risk	Future Risk	Future PnL			Pin Tool	Early Ex
#syms 7														
	symbol	acct	Action	clrAccount	cnPos	root	exp	strike	cp	uprc	ivol	ex.value	riskAlert	
1	INTC	TAB	NoExercise	TAB	-211	INTC	2018-02-09	45,000	C	48.00	0	0	ExAskSoon	
2	INTC	TAB	NoExercise	TAB	-1	INTC	2018-02-09	44,500	C	48.00	0	0	ExAskSoon	
3	INTC	TAB	NoExercise	TAB	+150	INTC	2018-02-16	45,000	C	48.00	0	0	ExAskSoon	
4	INTC	TAB	NoExercise	TAB	+16	INTC	2018-02-16	44,000	C	48.00	0	0	ExAskSoon	

This tab displays all trades that can be potentially exercised early or assigned. The risk alert column provides an indication as to what action may exist with regards to a potential trade. The risk alerts are:

- ExAskSoon:** Client might exercise option early based on ask price
- ExAskNow:** Client should exercise option early based on ask price
- ExSurfSoon:** Client might exercise option early based on surface price
- ExSurfNow:** Client should exercise option early based on surface price
- ExBidSoon:** Client might exercise option early based on bid price
- ExBidNow:** Client should exercise option early based on bid price



EARLY EX TAB

Calls

For calls, the test for early exercise is triggered when the next dividend payment is scheduled to occur in the next 5 days. The exercise condition is approximated by comparing the value of the next dividend with the value of the corresponding put (same strike and expiry). If the value of the dividend is larger than the price of the put, a riskAlert value will be assigned, and that option row will be displayed in the Early Ex tab.

The riskAlert value is assigned according to two criteria: the highest price level for which early exercise is triggered, and the proximity of the ex-div date. For price level, the next dividend is compared against the put ask price, then (if the ask is larger than the dividend) the SpiderRock surface price, and finally the put bid price. If the dividend goes ex tomorrow, the riskAlert will indicate "Now", otherwise it will indicate "Soon". For example, ExBidSoon indicates that the stock will go ex-div but within 5 days but not tomorrow, and the SpiderRock put surface price is greater than the next dividend, while the bid price is less than the dividend.

The ex.value is reported as the difference between the next dividend and the SpiderRock surface put price. Note that if the riskAlert is only triggered at the Bid level, then the ex.value for the call will be negative; otherwise, it will be positive.

Puts

For puts, the test for early exercise is always checked. The exercise condition is approximated by comparing the carry on the strike, defined as $\text{strike} * (\exp((\text{rate} - \text{sdiv}) * \text{years}) - 1)$, with the value of the corresponding call plus the accrued dividends to expiration (the ddiv value).

Similar logic is used in assigning the riskAlert value for puts, and the ex.value is reported as the difference between the strike carry and the SpiderRock surface call price plus any accrued dividends to expiration.

GENERAL SETTINGS AND FILTERS

Aggregation Row

Each tab has an aggregation row above the grid, where certain metrics are aggregated across the entire portfolio.

SPIDERROCK Risk Viewer																									Symbol(s):		[<ALL>]		View: Regular		Test Account: T.SP1	
Position Risk		Position PnL		Position Breaks		Position Detail		Position VaR		Theo Concentration		Theo Results		Industry Risk		Expiration Risk		Future Risk		Future PnL		Account Risk		Account PnL		Pin Tool		Early Ex				
\$ delta	\$ gamma	\$ beta	delta	\$ h.delta	\$ h.gamma	\$ h.delta	\$ h.gamma	gamma	theta	vega	wvega	rho	u.dn50%	u.up50%	veRatio	vwRatio	thRatio	roRatio	vwDnRat	vwUpRat	ivoluN	ivoluP	net.sh	opt.cn.abs	cur	cur	cur	cur	cur			
37.84 m	7.84 m	32.13 m	96,940	37.84 m	7.84 m	96,940	521	521	(438,190)	751,423	218,596	(50,925)	30.02 m	101.65 m	1.000	1.000	-1.000	-0.998	1.000	1.000	0.000	29.09%	104	104	104	104	104	104	104	104		
symbol	acct	risk.class	uPrc	haircut25	haircut37	avg.iv	delta	\$delta	\$beta	gamma	\$gamma	theta	wVega	wtVega	vega	rho	u.dn50%	u.up50%	a.vega	wtVe.dn	wtVe.at	wtVe.up	net.sh	opt.cn.abs	cur	cur	cur	cur	cur			
1	COST	T.SP1		356.00	200	300	+28.0	-22	-7,874	-4,431	3	3,684	-56	290	146	1,034	-1,044	37,205	37,534	1,034	146	0	0	0	0	0	0	0				
2	ZOM	T.SP1		0.89	13	13	+0.0	100	94	94	0	0	0	0	0	0	0	-35	58	0	0	0	0	0	0	0	0	0				

Column Properties

By default, a certain set of columns and associated colors are displayed for each tab. However, views can be customized to suit individual requirements by using the column properties window, where the user can select/deselect values, modify fonts and color schemes.

SPIDERROCK Risk Viewer

Symbol(s): <ALL>

All

View: Regular

Test Account: T.SP1

Position Risk	Position PnL	Position Breaks	Position Detail	Position VaR	Theo Concentration	Theo Results	Industry Risk	Expiration Risk	Future Risk	Future PnL	Account Risk	Account PnL	Pin Tool	Early Ex												
\$ delta 37.84 m	\$ gamma 7.84 m	\$ beta 32.13 m	delta 96,940	\$ h.delta 37.84 m	\$ h.gamma 7.84 m	h.delta 96,940	h.gamma 521	gamma 521	theta (438,190)	vega 751,423	wvega 218,596	rho (50,925)	u.dn50% 30.02 m	u.up50% 101.65 m	veRatio 1.000	vwRatio 1.000	thRatio -1.000	roRatio -0.998	vwDnRat 1.000	vwAtRat 1.000	vwUpRat 0.000	ivolLn 29.09%				
symbol	acct	risk.class	uPrc	haircut25	haircut37	avg.iv	delta	\$delta	\$beta	gamma	\$gamma	theta	wVega	wtVega	vega	rho	u.dn50%	u.up50%	a.vega	wtVe.dn	wtVe.at	wtVe.up	net.sh	opt.cn.abs		
1	COST	T.SP1		356.00		200		300	+28.0	-22	-7,874	-4,431	3	3,684	-56	290	146	1,034	-1,044	37,205	37,534	1,034	146	0	0	0
2	ZOM	T.SP1		0.8																			0	0	0	
3	AAPL	T.SP1	A	141.9																			418	0	0	0
4	@ES	T.SP1		0.0																			0	0	0	0
5	NIO	T.SP1		57.0																			-3	0	0	0
6	CCIV	T.SP1		21.3																			686	0	0	0
7	GME	T.SP1		305.1																			0	0	0	0
8	@GC	T.SP1		0.0																			0	0	0	0
9	@ZN	T.SP1		0.0																			0	0	0	0
10	SPX	T.SP1		3,741.6																			0	146,127	0	0
11	TSLA	T.SP1	A	833.0																			29,979	0	0	0
12	@CL	T.SP1		0.0																			0	0	0	0

Position Risk: Column Properties

Clear All Filters

Auto Width

Reorder

Visible only

Search:

☐ Group

☒ Caption

☒ Description

#	Show	Group	Caption	PKey	Font	Filter	Description
1	☒	PKey	symbol		Aa		
2	☒	PKey	acct		Aa		SR Assigned Account Acronym
3	☒	SymControl	risk.class		Aa		Symbol Risk Class Code (user supplied) [SymbolControl.riskClass]
4	☒	LiveMark	uPrc		Aa		current underlier price (actual market for equity symbols;front month market for futures) [as of risk server record publish] [freezes at 4pm EST]
5	☒	RiskMargin	haircut25		Aa		Aggregate Risk Margin (JBO): [\$25 minimum;-15/+15 uPrc slides]
6	☒	RiskMargin	haircut37		Aa		Aggregate Risk Margin (PM): [\$37.50 minimum;-8/+6 uPrc slides (broad based);-15/+15 uPrc slides (non-broad based)]
7	☒	RiskGreeks	avg.iv		Aa		Symbol average Implied Volatility (positions only)
8	☒	RiskGreeks	delta		Aa		net position delta (simple BS)
9	☒	RiskGreeks	\$delta		Aa		net position \$delta (simple BS)
10	☒	RiskGreeks	\$beta		Aa		[betaMKT x \$delta]
11	☒	RiskGreeks	gamma		Aa		net position gamma (simple BS)
12	☒	RiskGreeks	\$gamma		Aa		net position \$gamma (simple BS)
13	☒	RiskGreeks	theta		Aa		Aggregate Position Theta:=sum[shCurPosM * opr.th] + sum[other.theta]
14	☒	RiskGreeks	wVega		Aa		Aggregate Position Vol Weighted Vega:=sum[shCurPosM * opr.vol * opr.ve]
							Aggregate Position Vol Time Weighted Vega:=sum[shCurPosM * opr.vol * opr.ve / sqrt(max(0.1,



COLUMN PROPERTIES WINDOW

- **Caption:** The 'Caption' section shows the name of the column
- **Show:** To choose whether a column is displayed, check or uncheck the box in the 'Show' section. If you right-click anywhere in this window, you may choose to quickly select all or none of the available columns
- **Filter:** To view or apply filters for a given column, left-click the blue funnel symbol in the 'Filter' section. This will open a pop-up menu allowing you to select the criteria by which to filter
- **Colors:** The 'Colors' section allows you to select a background and foreground color for that column, to aid in quick identification
- **Description:** The 'Description' section provides a short explanation of what is tracked by the column in question
- **Group:** The 'Group' section bundles columns by related subject matter. Clicking 'Group' or 'Caption' will allow the user to quickly sort this window alphabetically by the relevant option
- **Search:** The 'Search' box allows the user to quickly find a desired column without scrolling through an extensive list. The 'Group', 'Caption' and 'Description' boxes to the right allow the user to select in which sections to search for the word or phrase entered
- **Width:** The (+) and (-) buttons allow the user to adjust the width of columns in Risk Viewer by increments. The Auto Width button will resize columns to the smallest width required to display all data