

ICE CHAT RECOGNITION USER GUIDE 01 May 2017

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ICe®

ICE CHAT RECOGNITION USER GUIDE

1. SUMMARY

ICE Chat offers proprietary message recognition technology which turns market messages into market data. Connect an analytics model to ICE Chat and get instant feedback on buy/sell opportunities.

ICE Chat allows the customization of the message data views; Display the data you want wherever you want.

2. INLINE DISPLAY

Once enabled for recognition, the message views can be set to display analytics and pricing in the message layouts themselves. The following pieces of data will be available as tools, all of which can be added or removed in the message layouts as desired. The data tools can be added in any order via drag and drop functionality.

2.1. AVAILABLE TOOLS



INTERCONTINENTAL EXCHANGE

Theta	Θ 0.002
ICE Bid	B: 3.75
ICE Bid Quantity	BQty: 100
ICE Offer	O: 4.05
ICE Offer Quantity	OQty: 100
Under Price	UnderPr: 53.75
Last Trade	Last Trade: 3.75
Open Pricer	*
New Line (Line Break)	✓ New Line
Tab	Tab
Reprice	

3. PRICING PREFERENCES

All ICE Chat users can send and receive markets to and from their counterparties. However, to take advantage of the added recognition functionality special permissions are required.

Once permissioned a new menu option, Pricing, will be available under Preferences.

3.1. PRICING SOURCE

There are currently two selections to get pricing in ICE Chat:

- 1. **Trade (Application):** sends the analytics and pricing values through from the **Trade** application. These values will come through whether the pricing api or Options Analytics is being used in **Trade**.
- 2. Options Analytics (Server): uses the valuations from ICE Options Analytics

3.2. LAYOUTS

ICE Chat offers full customization of the message layouts once permissioned for recognition. Four predefined layouts are provided. Note that the only portion of the message layout which *cannot* be broken up is the timestamp, sender, and message.

hh:mm:ss pm Sender message...

3.2.1. BASIC DOCKED

- This layout does not change the current layout of the messages.
- There is no inline data and all analytics and pricing is displayed in the market pricer at the bottom of the consoles.

Drag tools here hh:mm:ss pm Sender message... Drag tools here

9:41:27 am Scott Besner brent k18 40/45 csprd

3.2.2. DOCKED

- This layout adds a theo indicator to the left of the message timestamp as well as an ICE indicator when there is a better price on ICE for the same market.
- All analytics and pricing is displayed in the market pricer at the bottom of the consoles.



3.2.3. BASIC

- This layout adds a theo indicator to the left of the message timestamp as well as an ICE indicator when there is a better price on ICE for the same market.
- A new line break and a tab space are added after the message, creating a new line for the analytics data.
- On the new line will be a colored theo price and the delta.



3.2.4. ALL TOOLS

- The All Tools layout will add all available tools to the message layout.
- To the left of the message timestamp will be a theo indicator as well as an ICE indicator when there is a better price on ICE for the same market.
- A new line break and a tab space are added after the message, creating a new line for the analytics data.
- On the new line will be all of the available tools.



3.2.5. CUSTOMIZE LAYOUTS

The predefined layouts can be customized as desired by simply dragging and dropping tools into and out of the layout as well as reordering.

All changes are updated and saved dynamically for the layouts.

```
9:46:53 am Scott Besner brent k18 40/45 csprd 3.7/3.9 3.92 Δ7.09 Г-0.54
```



3.2.6. CREATE NEW LAYOUTS

Clicking the "+" button on the Layouts layer provides the ability to create a new blank layout or add any Preset layouts. Likewise, the ability to duplicate the selected layout will be available.

icing Pr	references					
cing Sour	rce Trade (Application)	Options Analytic	s (Server)			
_						
youts B	asic Docked Docked	Basic All Tools	Scott's L	ayout Scott	s One Line Layout	+
			-	Blank Layout		
Name S	Scott's One Line Layout			Duplicate: Sc	ott's One Line Lay	out ete
			-	Preset: Basic	Docked	
Drag pricin	ig tools to position them w	ithin the message	ayout belo	Preset: Dock	ed	
				Preset: Basic		
1 ● h	h:mm:ss pm Sender messa	age (I Theo with (olor ()	Preset: All To	ols	
10013	ICE Offer ICE Offer Qu	under Price	e Last Trac	de (⊧ ¥ Open Pr	icer CReprice	Q
When I left	-click on a Recognized M	arket, Display Ma	rket Pricer	•		
aplay Pref	erences when comparin	g Theo vs Bid/Off	er			
Color U						
Sell						Buy
	-10 -9 -8 -7 -6 -5	-4 -3 -2 -1	0 1 2	3 4 5	6 / 8 9	10

3.2.7. COPY LAYOUTS

By selecting a layout and then clicking on the drop-down arrow, an option to **Copy Layout** is presented. Clicking this will copy the layout. From there, the layout can be customized.

3.2.8. DELETE LAYOUTS

Select the layout to delete and click the Delete button.

3.3. LEFT-CLICK PREFERENCE

For all layouts, there is a preference for the left-click action on a recognized market. When I leftclick on a Recognized Market,

- Display Market Pricer opens the market pricer in the bottom of the consoles
- **Open in Watch Tab** selects the market in the Market Watch in **Trade**.

3.4. DISPLAY BUY AND SELL OPPORTUNITIES

The colors displayed for buy and sell opportunities can be configured as well. This will be under "Display Preferences when comparing Theo vs Bid/Offer". These colors will affect the Theo Indicator tool as well as the Theo with Color tool.

- Select the base color for Sell and Buy opportunities from the respective sliders. The default base colors are red for a sell opportunity and green for a buy opportunity.
- Select the number of ticks to shade the **Theo Indicator** and **Theo with Color** tools by. The default number of ticks is 3.
- Once the selections are made, a preview of the various shadings will be displayed in the color sliders.

Default settings for the preferences:

Display Preferences when comparing Theo vs Bid/Offer



Customized settings for the preferences:





3.4.1. THEO INDICATOR

The Theo Indicator tool will display as a colored circle displaying when there is a buy/sell opportunity, based on the preference settings, when there are prices sent/received on the IM markets. Should there be no buy/sell opportunity the neutral indicator is a gray circle.

If no prices are included on the IM markets or a market was reloaded the Theo Indicator tool will display as a dash, clearly indicating there was no price to check against the model.

= G 9:41:27 am Scott Besner brent k18 40/45 csprd

3.5. DECIMAL PLACES FOR ANALYTICS

If the Pricing Source is set to Trade (Application) the decimal places will be displayed as they are set within the Trade application.

If the Pricing Source is set to Options Analytics (Server) there is a slider to select how many decimal places to display the analytics.

Pricing Source	Trade (Appli	cation)	Options Analytics (S	Server)		
Decimal places f	for Analytics	0				
presson in presson i	or 7 mary 1100	.00	.000	.0000	.00000	.000000

4. MARKET PRICER

The market pricer is available on the bottom of the consoles and can be displayed based upon the left-click preference being set to **Display Market Pricer** or by adding the **Open Pricer** tool into any views and clicking that.

brent k18 40.00/45.00 (4/20/2017,9	9:46:53 AM 😷	≡	×			
[BQty: 100	B:3.75 ≓	3.92 ∆7.09 Г-0.54 v-0.043 ⊖0.002 UnderPr:54.54 Last Trade: 3.75	O:4.05 ≓	OQty: 100			

4.1. DATA

The layout of the market pricer is not customizable and contains the following information.

In the top left of the market pricer will be the ICE Chat standardized string for the recognized market. This will show confirmation of what was actually recognized and constructed by the ICE Chat recognition engine.

In the top right of the market pricer will be the timestamp of the message along with a **Reprice** tool, an action menu, and ability to close the pricer itself.

BQty, **B**, **O**, and **OQty**: These four fields represent the ICE screen prices for the same market if available. The Bid and Offer fields will have the **Open ICE Order Ticket** tool to quickly allow for order entry on the Trade application.

Theo with Color tool will display the theo returned from the pricing source colored if a potential buy or sell opportunity is there based on the preferences.

Delta [Residual Delta], Gamma, Vega, Theta are all returned from the pricing model.

Clicking on the **Reprice** tool will update the analytics data for the market loaded in the pricer. The timestamp will update with the time the new pricing data was received.

The action menu contains the action items available for the market in the pricer, much like the right-click menu on a recognized string. These actions are documented in the User Interactions section.

5. USER INTERACTIONS

The actions available for recognized markets are based on permissions and user preferences.

5.1. TOOLS

Based on the view being utilized, any of the following tools can be used.

5.1.1. THEO INDICATOR - PIN MARKET

Clicking on the **Theo Indicator** tool will pin a market to the Market Watch tab in the Trade application. The theo indicator tool itself will change to a pin icon indicating that the market was successfully pinned to the market watch tab.

9:46:53 am Scott Besner <u>brent k18 40/45 csprd 3.7/3.9</u>

P 9:46:53 am Scott Besner brent k18 40/45 csprd 3.7/3.9

5.1.2. OPEN ICE ORDER TICKET

If a market received and recognized has a corresponding market listed on the ICE, clicking this tool will open an order ticket in the Trade application.

🔵 🗔 9:46:53 a	am Scott Besner b	rent k18 40/45 cspro	3.7/3.9					
= <mark>,</mark> 2 ×	Ø 3.92 Δ7.09 Γ-0.	54 v-0.043 ⊝0.002	2 O: 4.05	OQty: 100	B: 3.75	BQty: 100	UnderPr: 53.75 Last	Trade: 3.75
Cee Sco	ott Besner							

👷 Strategy B May18 40.00/45.00 callspread									
Filter	Trade 09:42:5 Brent Crude Futures North Sea May18 40.00/45.00 callspread	7 EDT ▷ ≈							
May18 40.00/45.0	Side Ratiol/A Term Type Strike/Price Last Buy 1 May18 Call 40.00 Image: Call and								
	Sell Qty Bid Offer Qty Buy Last + Hit 100 3.75 4.05 100 Lift 3.75 X Image: Comparison of the second sec	*							
	3.92 ∆ 7.07 Г-0.54 v-0.043 00.002 mvol1.709 OEV-0.210 E0.003 Price Stops Contingency Bracket	Ð							
	Bid You will RECEIVE th Offer USD / bbi USD / bbi 3.75 ↔ ↓ bbi monthly ↓ 1 5 10 × × 1 5 10								
	M <u>e</u> mo: ▼ O Rate Identifier: ▼ Good For: Day ▼ ♥ Active]							
Ţ	GAL	*							

5.1.3. OPEN PRICER

Use the **Open Pricer** tool to view the docked market pricer on the bottom of the console for more information.

brent k18 40.00/45.00 csprd 3.70/4.10		4/20/2017, 9:46:53 AM 😂 🗮 🗙
BQty: 100 B: 3	3.75 ≓ 3.92 ∆7.09 Г-0.54 v-0.043 ⊖0.002 UnderPr: Last Trade: 3.75	0: 4.05 💳 0Qty: 100

5.1.4. REPRICE

Click the **Reprice** tool to refresh the analytics for the market.

5.2. LEFT-CLICK

On the preferences screen there is a setting for the left-click action. When I left-click on a Recognized Market, has two choices available:

• **Open in Watch Tab** - brings the market into focus in the Market Watch tab in Trade.

• Display Market Pricer - opens the Market Pricer in the bottom of the ICE Chat console.

5.3. RIGHT-CLICK

The right-click menu will be available on all recognized markets. Available options are dependent upon user permissions.

● 🕞 9:46:53 am	Scott Besner	brent k18 40/45 csprd 3.7/	Submit RFQ	
			Submit Cross	
			Submit Block	
			IM Blast	
			Сору	
			Open in Watch Tab	
			Pin Market	
			Reprice Market	

• Submit RFQ prepopulates the RFQ Wizard in Trade. **

🔜 RFQ -	brent k18 40/	45 csprd 3	.7/3.9 (Fi	InctionalTes	t2 - sbes	ner_yj @ YI	ISV)				
YJ ISV T	EST (7839) 🔻										RFQ
Build Structur	re Watch										
B Brent	t Crude Futures	North Sea						t	Call	Spread	☆©-
Action	Ratio/Delta%	Quantity	Strip	Strike	Туре	Price					<
Buy	1 🗬	1	May18	40.00 *	Call						
Sell	1 🖨	1	May18	45.00 *	Call						
Add Call	Add Put	Add Hedg	e ☆	3.92 ∆ 7.	14 Г-0.5	5 v -0.043	Θ 0.002	mvol 1.715	OEV -0.210	E 0.003	/
May18 40.00/45.00 callspread											
Otv:	1‡									Depet	Cubmit DEO
Quy.	T A									Reset	Submit RFQ

• Submit Cross prepopulates a crossing order ticket in Trade. **

🧱 Cross - brent k18 40/45 csprd 3.7/3.9 (FunctionalTest2 - sbesner_yj @ YJISV)	$\ominus \oplus \otimes$
YJ ISV TEST (7839)	Cross
Build Structure / Select Parties / Trade Confirm	Single Page Ticket
B Brent Crude Futures North Sea	Call Spread 😒 🕈
Action Ratio/Delta% Quantity Strip Strike Type Price	
Buy 1 ↓ May18 40.00 → Call	
Sell 1 May18 45.00 · Call	
	CROSS
Add Call Add Put Add Hedge ≤ 3.92 Δ 7.14 Γ -0.55 γ -0.043 Θ 0.002 mvol 1.715 ΟΕV -	0.210 E 0.003/
May18 40.00/45.00 callspread	
Price: 3.75 🗘 🔓 Qty: 1 🗘	Reset Next

• Submit Block prepopulates a block order ticket in Trade. **

🔣 ICE Block - brent k18 40/45 csprd 3.7/3	$\ominus \oplus \otimes$		
YJ ISV TEST (7839) 🔹			ICE Block
Build Structure / Select Parties / Pre-Confirm / Trade	Confirm		Single Page Ticket
B Brent Crude Futures North Sea		😒 🔹 Call Sprea	d ☆® ▼ BLOCK ▼
Action Ratio/Delta% Quantity	Strip Strike Ty	ype Price	
Buy 1 1	May18 40.00 *	Call 18.47 🖨 🔒	
Sell 1	May18 45.00 *	Call 14.67 🖨 🔓	
			BLOCK
Add Call Add Put Add Hedge Multip	le Products 😒 3.92 🛆	7.14 F -0.55 v -0.043 O 0.002 mvol 1.715	DEV -0.210 E 0.003/
May18 40.00/45.00 callspread			
Net Price 3.80			Reset Next

• IM Blast prepopulates the ICE Chat Blaster with the recognized market string.

💻 Blaster	
¶⊄ Blaster +	≡
« Q Find C	ontact 💌
Groups (1)	Contacts (7)
Chat Rooms	Andrew Hutchings (ICE)
Oil Traders	Doug Miller (ICE)
Oil Brokers	Hayley Brown (ICE)
Traders	Jeff McClure (ICE)
Brokers	Lawrence Asher (ICE)
Co-Workers	🗹 Maria Mei (ICE)
NYSE	Yves Greatti (ICE)
Everyone	
Connect	
ICE Sales Desk	
Default	
Backofice	
Create Message S Label	Create
brent k18 40/45 csprd 3.7/3.9	🙂 🖪 Send

- Copy copies the market string.
- Open in Watch Tab brings focus to the market in the market watch tab
- Pin Market pins market to the top of the market watch tab

3.9	2	Δ: 7.14	Г: -0.55	v: -0.043	Θ: 0.	002	m	ivol: 1.71	5 OEV: -0.210	ε: 0.003	UnderPr:	Last	Updated:	16:30:47							
St.	+/-	Updated	Type 5	7 Contact	V	CC	7	Strip 🖓		De	scription			RFQ	Sell	B Qty	Bid	Theo	Offer	O Qty	Buy
U		11:38:07	IM-R	Scott Besne	er	в		May18	brent k18 40.00/4	5.00 csprd 3	3,70/3.90						3.70	3.92	3.90		

• Reprice Market reprices the market's analytics.

** Requires an ICE account with permissions to Trade and/or Block. **

5.4. ACTION MENU IN MARKET PRICER

The action menu found in the market pricer will have the same menu options as the right-click menu described above.

	Submit RFQ								
	Submit Cross								
	Submit Block								
• Lee 9:46:53 am Scott Besner brent k18 40/45 csprd 3.7/3.9	IM Blast								
3.93 ∆7.06 Г-0.54 v-0.043 ⊖0.002	Сору								
📕 🗔 🛔 Scott Besner	Open in Watch Tab								
	Pin Market								
	Reprice Market								
brent k18 40.00/45.00 csprd 3.70/3.90 4/	20/2017, 10:02:04 AM C 📃 🗙 🗙								
BQty: 100 B: 3.75 ≓ O: 4.05 ≓	OQty: 100								
3.93 ∆7.06 Г-0.54 v-0.043 ⊖ 0.002 UnderPr: 54.54 Last Trade: 3.75									

6. PRICE SEARCH

The Price Search functionality provides the ability to price markets prior to sending. The price search is available in the blaster by default and can be added to the message consoles and desk activity widget if desired. It can be toggled off/on in any of these widgets from any of the region menus.

Add Region Label		ſ	🎫 Blaster			_ 🗆 X
Send Blast			r∜ Blaster +			=
Clear All Badges			«	Q Find Co	ontact	•
Clear Outgoing Badges			Groups		Contacts	
Close All Offline Tabs	1		Everyone			
Show Message Shortcuts						
Show Price Search in	Blaster	-	Co-Workers			
Show Message Search	Desk Activity	-				
Move Region Into a New Window		-				
Remove Region						
		-				
Show Region Labels		-				
		-				
		_	U Default			
		-				

Find market to price.

-

6.1. PRICE A MARKET

- Type a market into the field Find market to price...
- Price the market by:
 - \circ Clicking the Price button

- o Hitting the Enter key
- o Hitting F9

💻 Blaster					_	
≮ Blaster +						≡
«	Q Find Conta	ict				-
Groups	•	Contacts				
Everyone						
D IDP						
Co-Workers						
FRIENDS						
C ICE CHAT						
SI GROUP						
Buddies						
ICE Lync						
NYSE						
Default						
				C	1	
brent k18 40/45 callspread			×	•	Price	Insert
brent k18 40.00/45.00 csprd			4/20/2017, 9:	46:53	AM C	= ×
BQty: 100	B: 3.75 ≓	0:4.05 #	OQty: 100			
3.904 U	∆7.04 Г-0. nderPr: 54.27	52 v-0.042 Last Trade	⊖ 0.002 ∋: 3.75			

• Click Insert to populate the market into the text entry area and Send when ready.

6.2. REPRICE AND RESEND MARKETS

The price search text entry field is also a type-ahead drop-down displaying the last ten recognized markets priced and/or sent.

Select a previous market to price again to get an updated snapshot of the analytics.

