PRICE ALERT
User Guide

November 2015

Table of Contents

Document Purpose

This document explains the features of the Price Alert widget. It can be used as a training manual for new users, or as a reference for experienced users.

Business Logic Overview

The Price Alert widget notifies users if a selected instrument reaches or passes an inputted price. The widget is intended primarily for brokers, as well as traders that are dealing with broker markets.

With Price Alert, users can work on other tasks but still be notified if an instrument of interest reaches a designated target price. Once they receive an alert, users can then contact a client for guidance, manually place a relevant order, or otherwise take appropriate action.

The Price Alert widget relies on a backend job that constantly communicates with the widget. In particular, the Price Alert job:

- Monitors enabled alerts and notifies the appropriate widget when an alert is triggered
- Provides real-time price updates for all instruments being tracked
- Persists a user's alerts in a database

Deliverables

| Name	Description
Price Alert Widget	The widget that launches from Metro NOW and serves as the main user interface for the application.
Price Alert Job	The job providing the backend logic. This job must be running to provide data to the Price Alert Widget.

Loading the Widget

Before launching Price Alert, make sure you have some symbols activated in Metro App.

In order to use the Price Alert widget, you must first add it to Metro. This is done by right clicking on the inventory manager icon ("New Metro NOW Widget" will appear when you mouse over this icon).

Once in the inventory manager, you will see the Price Alert Widget. You should check the toolbar box (this will place the Price Alert Widget icon in your Metro NOW toolbar) and click the Add Widget button.
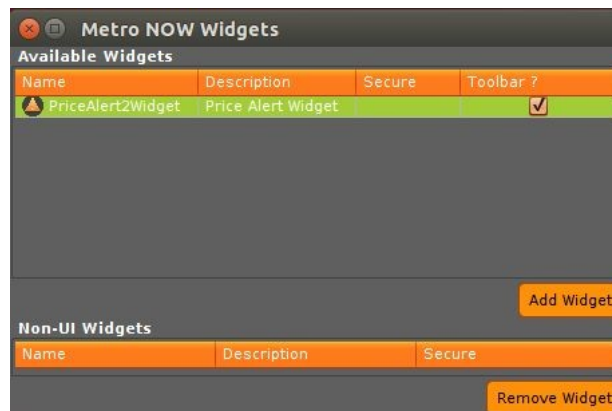
There will now be a new icon to the right of the inventory manager.

The first time you add the icon, the widget will launch automatically. If the icon is already on your toolbar, you can launch an instance of the widget by clicking the Price Alert icon (far right in the above picture).

Widget Functionality

The main screen of the Price Alert widget looks like this the first time you open the widget (or if you have no saved alerts).

To add an alert, start by clicking the Add Instruments button.

Add Instruments

The Add Instruments panel allows you to find and add one or more instruments to the main Price Alert table.

Begin by making selections from the left side of the panel. The following table explains what the fields mean.

| Label	Description
Symbol	This dropdown contains the list of active symbols that a user can filter on. If you do not have any symbols activated in Metro NOW, the Symbol dropdown will be empty. If this occurs, you must close the widget, activate some symbols, then re-launch the widget.
Type	This dropdown contains the list of product types that a user might trade.
Expiration	This dropdown contains the expiration month choices for the Symbol selected. Note that this field updates based on Symbol only.
Strike Price	This text entry field takes the desired strike price that the user wants to filter on when finding instruments. The field will be "orange out" if the Type is not an option one. A range of values can be entered here (e.g., 1500-1800). You can also enter a comma delimited list (e.g., 1500, 1600, 1650). To use Strike Price to find a multi-leg instrument, you must enter either a wide enough range to cover the strike prices of all the legs, or a comma delimited list that covers each

Label	Description
	of the legs. For example, if you are searching for an instrument with 2 legs, one with strike price 1600 and one with 1750, and you enter only 1600, then your search will not capture the desired instrument. You must enter *1600-1750 or 1600, 1750.*
Strategy	This dropdown lets you choose a strategy category, if applicable. It will be unavailable unless the Type is a strategy one. The options in this dropdown are based on the combination of Symbol, Type, and Expiration chosen. If you change one of those selections, the Strategy options will repopulate accordingly. If you want to choose more than one Strategy at a time, you must choose the ALL option (the last item in the Strategy dropdown).

Once you've made your instrument matching selections, click the Find Matching Instruments button.

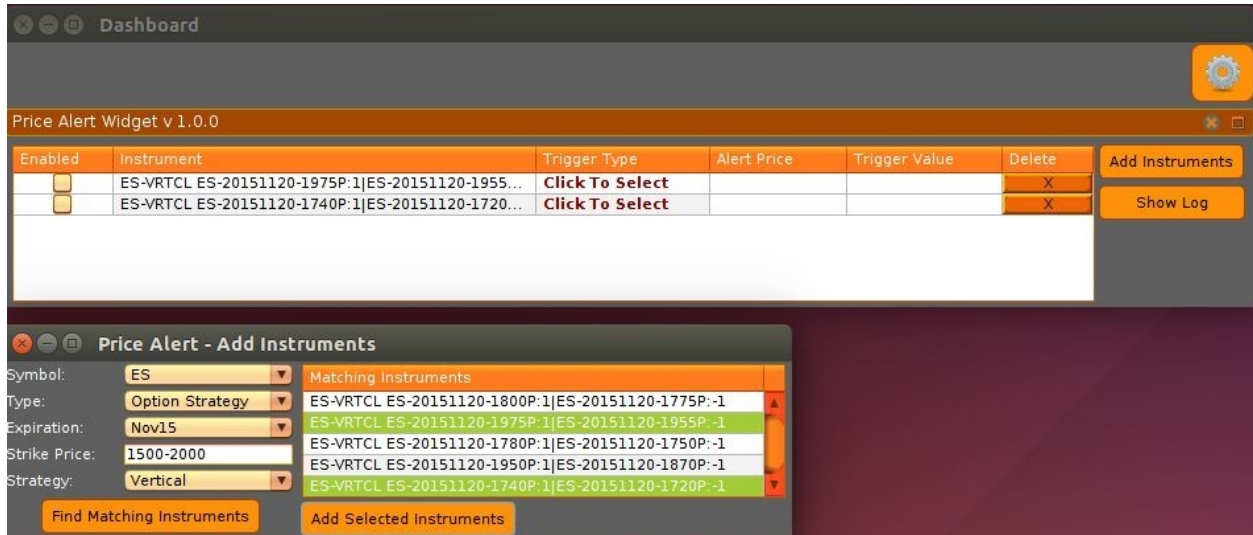If there are no matching instruments, a warning message will appear.
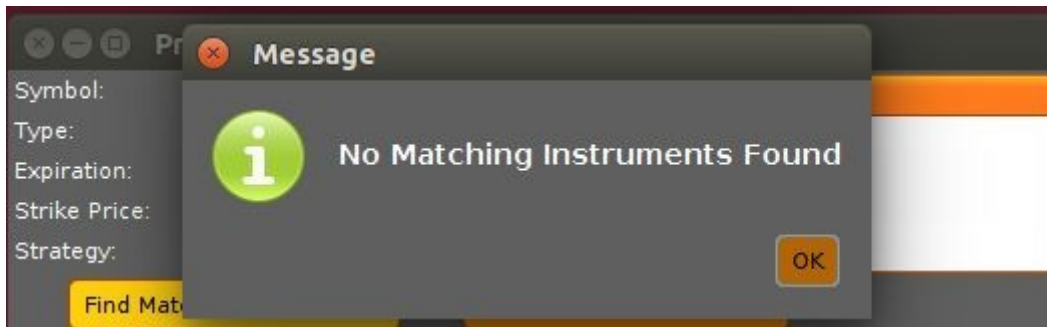
Otherwise, if there are matching instruments, they will appear in the Matching Instruments table.
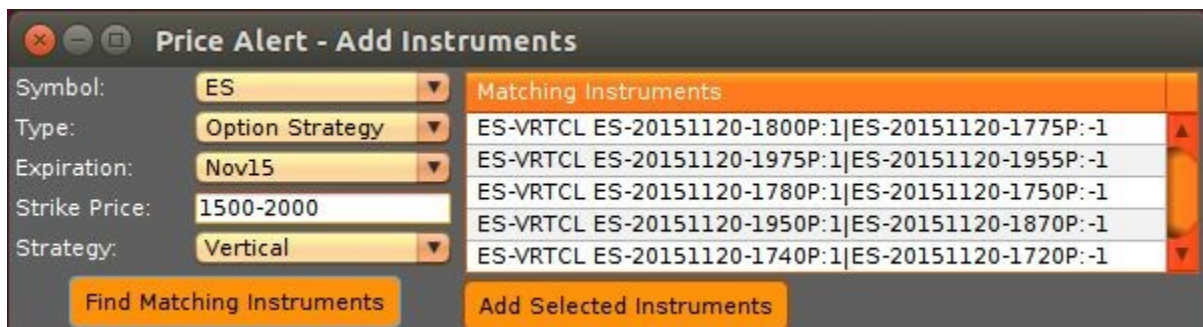
From the Matching Instruments table, select the instruments for which you want to set up alerts. Next, click the Add Selected Instruments button. Note that holding the CTRL button while clicking with your mouse lets you select multiple instruments at once, across separated rows. You can also use the Shift button plus the mouse to select a contiguous block of instruments at

once.

The instruments you choose to add will now appear in the main widget table, as shown below.
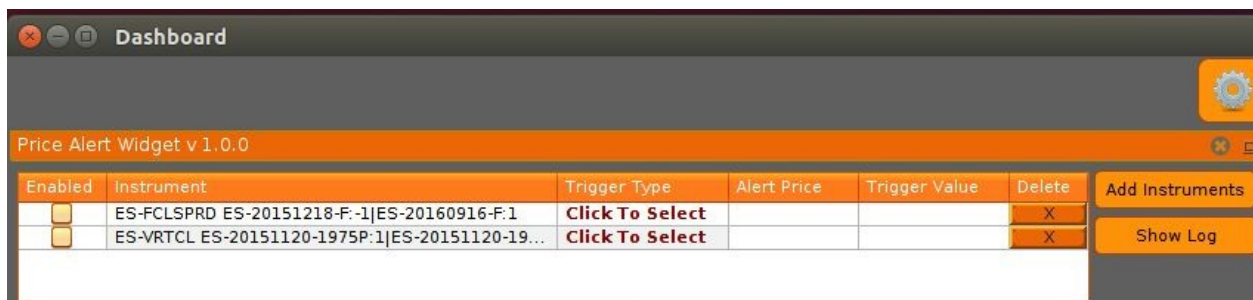
If you want to add more instruments, just make new selections, click Find Matching Instruments, then Add Selected Instruments. You can leave the Add Instruments window open if you'd like, but you can close it and reopen it at any time by clicking the Add Selected Instruments button from the main widget dashboard.

Set Up Your Alerts

After an instrument is first added, the remaining alert fields must be set before an alert can be enabled.

The following table explains what the fields mean.

Label	Description
Enabled	This must be checked for you to receive notifications when the alert gets triggered. To be enabled, an alert must have a valid Trigger Type and Alert Price. You will receive warnings if you try to enable an alert without valid

| Label	Description
	settings in place.
Instrument	This un-editable field is populated by the choices made from the Add Instruments button.
Trigger Type	This dropdown contains the possible Trigger Types for this alert's Instrument. When an Instrument is first added, this will default to *Click to Select*. The user must select an option besides *Click to Select* in order to enable the alert. The list of Trigger Types depends on the Instrument. All Instruments can be set to trigger based on *Last Trade* (the price of the last trade) or *Market Price* (the current mid-market value). If there is no current bid, then no *Market Price* will be displayed, and the user will be warned and prevented from enabling such an alert. Option instruments can also be set to trigger based on *Spot Price* or T*heo Price*. Note that *Spot Price* refers to the mid-market price of the underlying instrument. If your instrument has no (common) underlying instrument, and you try to trigger by *Spot Price* or you will be warned and prevented from enabling the alert. Similarly, if your instrument has no *Theo Price*, you will be warned and prevented from enabling the alert.
Alert Price	This text entry field sets the price at which your alert will be triggered. Enter your price as a decimal value, without commas (although the price will be displayed with commas as a convenience). You must enter a valid Alert Price to enable an alert. You will receive a warning if you do not enter a valid Alert Price or try to enable an alert without setting one.
Trigger Value	This un-editable field displays the current value of the instrument for the chosen trigger type, rounded to 5 decimal places. For example, if you have Trigger Type = Theo Price, this column will show the current Theo Price for the instrument. If empty, then there is no valid current price for the instrument and trigger type combination. For example, it's possible for there to be no offer for a chosen instrument, in which case there will be no current Market Price.
Delete	Clicking this button will remove the alert/row from the table, and from the Price Alert job. Deleting an alert cannot be undone, although of course you can always just re-create the alert. Note that you can check the log (see Show Log section below) if you need to find a record of a deleted alert.

Once you've set your Trigger Type and Alert Price, click the Enabled button to activate the alert.

So, for example, if you have an enabled alert for instrument ES-20151218-F, and you've chosen a Trigger Type of Last Trade, and an Alert Price of 2064.5, then you will receive a pop-up notification when that instrument's Last Trade price reaches or crosses 2064.5. The Trigger Value column for that instrument will show the current Last Trade for that instrument.

It's okay to change the Trigger Type or Alert Price on an enabled alert. The system will just use the newly chosen values for the alert in place of the old ones.

It's also okay to leave alerts in your table if they are not enabled or are missing fields. The system will remember the state of your alerts and restore them accordingly (this will be discussed later in the document).
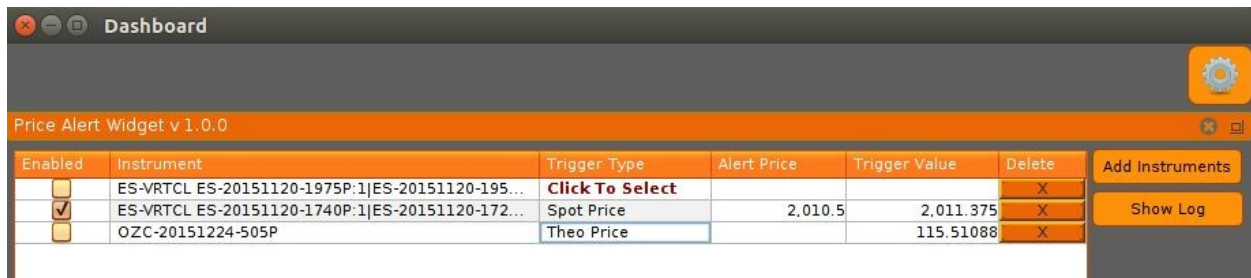
Once you've set up and enabled an alert, the system will monitor the alert to see if it reaches the alert price. If so, a pop-up notification will go out to the user who created the alert.

After an alert gets triggered, it is automatically disabled by the system.

Note that there is nothing preventing a user from creating duplicate alerts. In such an event, the user would just receive one notification for each of the alerts.

In the event that multiple alerts are issued before the user has cleared any of them, the alerts will queue on the user's screen with the most recent alert on top, the second most recent underneath, etc.

Cloning Alerts

If you want to create an alert for an instrument that you've already added to the main widget's alert table, rather than use Add Instruments, it can be easier to clone the alert and then change the Trigger Type or Alert Price as needed.

To clone an alert, just right click on any of the fields for the alert, then choose Clone Alert.
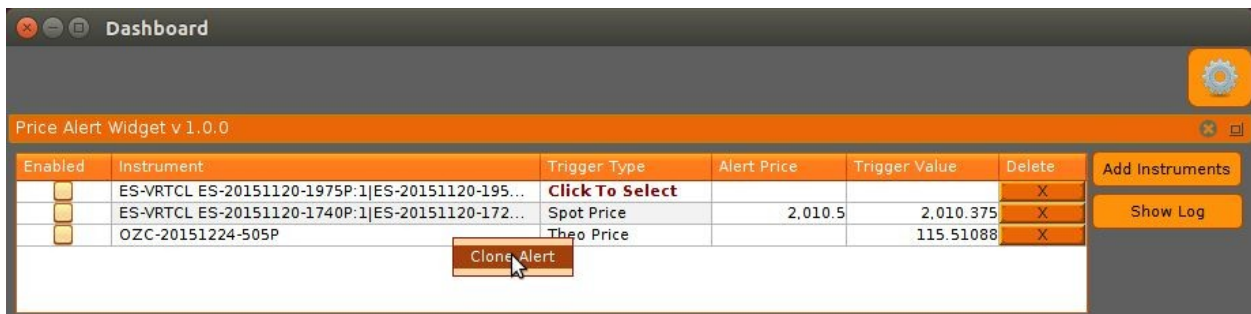
A copy of the alert will be added to the dashboard.

Note that if the original alert was enabled, the cloned alert will automatically be disabled to start.

Cloning an alert can be especially useful for tracking the same instrument using multiple Trigger Types. For example, if you wanted to track an instrument's Spot Price and Theo Price, even if you are only triggering off Theo Price, it's easy to clone the alert, and set the clone to Trigger Type = Spot Price, with no Alert Price set.
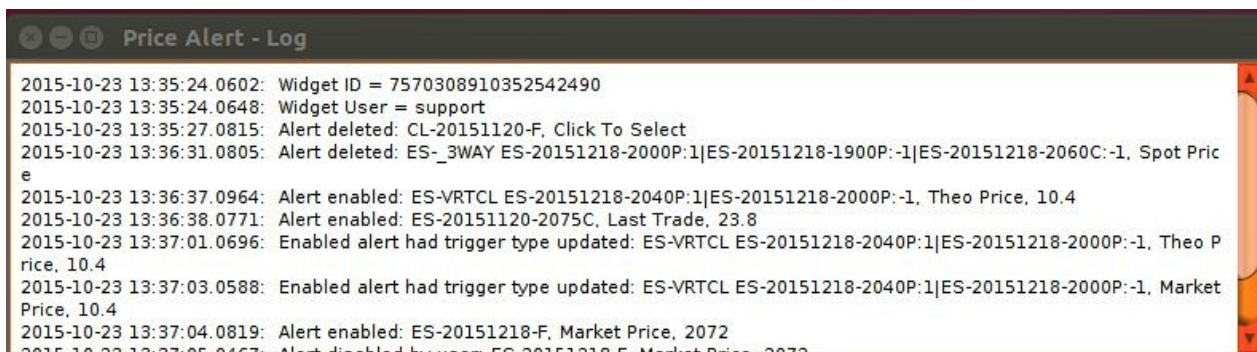
Show Log

Every Price Alert widget has an associated widget log. This log contains messages related to the user's activity in the widget.

To access the log, just click the Show Log button from the main dashboard.

The log should show a history of major changes related to the widget's alerts, such as if an alert is enabled, disabled, deleted, triggered, etc. The log may also be useful to Vela support if the user experiences any troubles.

If you right click anywhere in the log, an option to Clear Log will appear. Selecting this will clear the current contents of the log.

Persisting Alerts

The Price Alert job is constantly saving alert related changes that the user makes in the widget. If you close the Price Alert widget, or sign out of Metro NOW for the day, when you return to Price Alert your alerts should automatically load in the state in which you left them. This includes disabled or partially completed alerts, as well as enabled alerts.

Note that the alerts are repopulated based on the user account of the widget user. Two users at the same company with different Metro NOW logins will have only their respective alerts loaded in their widgets.
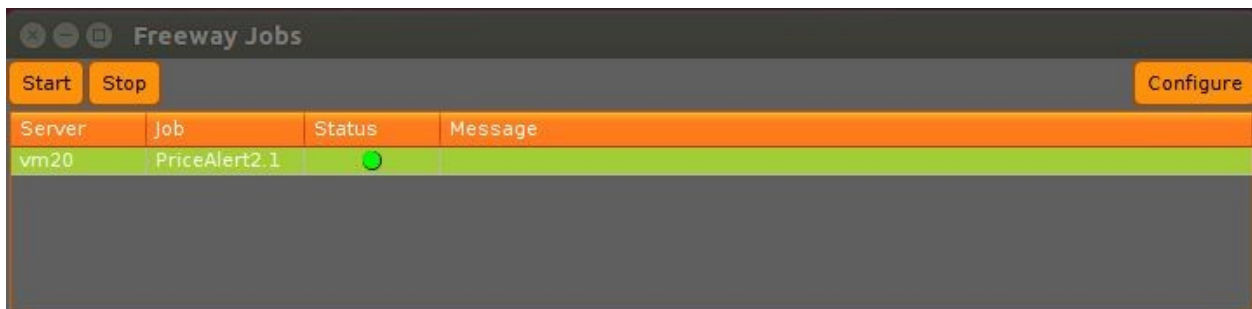
Job Configuration

The Price Alert job that drives the Price Alert widget has a handful of fields the user might need to be aware of.

To access the Price Alert job, right click on the inventory manager icon and select Job Control.
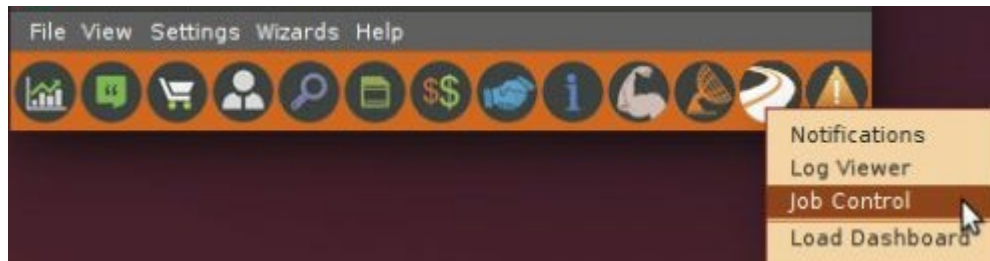
In the resulting screen, select the Price Alert job and then click the Configure button in the upper right corner.

You will now see the configurable fields for the Price Alert job.

The three fields of interest for Price Alert are *timer*, *wipeDatabase*, and *verboseLogging*.

The *timer* field defaults to 500 (milliseconds). This determines how frequently the Price Alert job sends Trigger Value updates to the widget and impacts how frequently the system checks for triggered alerts. You should not change this field unless directed to by Vela support.

If the *wipeDatabase* field is set to true, then when the Price Alert job next starts, all the alerts saved for all the users will be erased. The *wipeDatabase* field defaults to false and should not be changed to true unless you want to bulk clear out the alerts currently being saved by the system. The field is primarily intended as a debugging tool.

If the *verboseLogging* field is set to true, then debugging messages (they will begin with "DEBUG: ") will be recorded in the widget and job logs. The verboseLogging field defaults to false and should be turned to true only if Vela support needs to debug your instance.

Note that in order to change any of the configuration settings, the job must be stopped. You must also re-launch a new widget to make the new settings apply to the widget.