
eServices

How To Use the SWX Website Quote Chart Display

Author(s):	Owen Boyle	Date:	2006-04-26
Classification:	Unrestricted	Reference:	
Keywords:	chart, FQS, website, SWX, eservices, ESV	Old Reference:	
Approval:		Distribution:	
Filename:		Documentum:	

Summary

SWX Swiss Exchange provides the possibility for customer websites to include an image consisting of a line-chart of any security's latest price. The chart can be intra-day or historical and can be real-time or 15-minutes delayed. One or more reference graphs can also be overlaid on the chart. The chart can be supplied with or without an accompanying volume bar chart and the overall size is selectable.

This document explains how to include a chart in a web page on a customer's site, what user parameters are available and how to define them.

Including the Image

Including an HTML *img* tag in the customer's web page produces the image. When the page is loaded into a browser, the browser will make an HTTP request to the SWX website and will receive the image which it can then display.

For example, the following HTML fragment will produce the chart for ABBN for the previous 30 days:

```

```

User Parameters

There are many user parameters that can be used to define the content and appearance of the image. All user parameters that are submitted in

the request are verified before being used and any illegal or non-conforming values are converted to legal values.

Wherever possible, sensible defaults are used so that only the minimum of data need be provided in the request. The only required parameter is the id that defines the security to be charted. For example, a query-string consisting only of `id=CH0012221716CHF1` will produce an intraday chart of ABBN with 15-minute delayed prices, no reference graphs and a volume bar chart. The overall image will be 350 x 350 pixels.

The complete list of parameters is described in the following table:

Name	Default	Description
id	-	<p><i>Required.</i> The unique 16-character identifier of the primary security to be charted.</p> <p>See below for instructions on how to determine the identifier for any security.</p> <p>An unrecognised id causes an image containing an error message to be generated.</p> <p>Example: <code>id=CH0012221716CHF1</code> selects ABBN</p>
ref	-	<p><i>Optional.</i> The unique 16-character identifier(s) of any reference securities to be charted.</p> <p>This parameter can be repeated to add more than one reference security to the chart. Unrecognised ref values are ignored.</p> <p>Example: <code>ref=CH0009980894CHF9&ref=CH0009987501CHF9</code> to add the SMI and SPI to the chart.</p>
domain	0	<p><i>Optional.</i> The extent of the time-axis (x-axis) in the chart.</p> <p>If omitted, this parameter defaults to 0. This corresponds to an intraday chart covering the period from 09.00h to 17.30h.</p> <p>If set to an integer N, in the range 2..1825, the chart is drawn extending from N days in the past until the current date. If N is greater than 1825 (5 years) it is reset to this value. If N is less than 2, it is reset to 0 (intraday).</p> <p>If set to any non-integer value (eg, a word or phrase), it is reset to 0 (intraday). The only exception is the word "max" – if set to this, the chart is drawn over the maximum range of data available for this security (which may be greater than 5 years).</p> <p>Note that the chart must always end on the latest price. It is not possible to select a time-period in the past.</p> <p>Example: <code>domain=90</code> shows a 3-month chart.</p>
rt	0	<p><i>Optional.</i> Switches on real-time data (if permitted).</p> <p>If omitted, this parameter defaults to 0. This corresponds to the latest price being 15-minutes delayed.</p> <p>If set to 1, the latest price is real-time.</p> <p>Any integer greater than 1 is reset to 1 and any integer less than 1 or any value not recognised as an integer is reset to 0.</p> <p>Note that the use of the real-time switch is controlled by the access control mechanism (see below). If a website requests <code>rt=1</code> but this is not authorised, then the value is reset to 0.</p> <p>Example: <code>rt=1</code> to select real-time.</p>

w	350	<p><i>Optional.</i> The overall image width in pixels.</p> <p>Any width up to a maximum of 1280 pixels can be selected. Values greater than this are reset to the maximum. Non-integer values are reset to the default.</p> <p>Note that in order to accommodate the axes legends, a minimum width of about 150 pixels is required.</p> <p>Example: <code>w=500</code> to select a width of 500 pixels.</p>
h	350	<p><i>Optional.</i> The overall image height in pixels.</p> <p>Any height up to a maximum of 1024 pixels can be selected. Values greater than this are reset to the maximum. Non-integer values are reset to the default.</p> <p>Note that in order to accommodate the axes legends, a minimum height of about 100 pixels is required.</p> <p>Example: <code>h=500</code> to select a height of 500 pixels.</p>
show_volume	true	<p><i>Optional.</i> Switches on and off the volume bar chart.</p> <p>If omitted (as normal), a volume bar chart is drawn just below the price line-chart. Setting <code>show_volume=false</code> switches off this chart, allowing all the image space to be used for the price chart.</p> <p>Note that this is the default for charts of indices because they do not have associated volume data.</p>

Determining the identifier for your security

Securities are selected unambiguously using a unique 16-character SecurityId. This is made up of the concatenation of the 12-character ISIN, 3-character TradingBaseCurrency and 1-digit ExchangeCode.

Example: `CH0012221716CHF1`

The simplest way to determine the SecurityId for your security is as follows:

- Enter the symbol or ISIN for your security into the Symbol/ISIN search window on the SWX homepage.
- The results page consists of a table of possible matches. Locate the security you are interested in and click on its highlighted symbol in column 1.
- You will be taken to a chart display page for the security. If you look in the browser's address bar, you will see the SecurityId at the end of the URL.

Access Control

Since all chart images are freely available on the SWX website, there is no real access control using passwords or cookies. However, to limit the possibility of third-party websites linking our images without our knowledge, we employ a checking mechanism using the HTTP-Referer [*sic*] header.

The HTTP-Referer header contains the URL of the page on which the image appears and is an optional header which most browsers send by default. We maintain a list of allowed referrers and check any requests for chart images against this list. If the referrer appears on our list, the image is generated and served to the client. If not, an image containing an error message is sent instead.

The checking mechanism checks the domain name and the IP address. Therefore, if the chart is referenced on several pages inside the same website, we need to know only the domain name of the site and not the full URL of each page. Also, if there are many aliases of the site that resolve to the same IP address, we need only one alias. If there are multiple addresses with multiple IPs, we need one domain name for each IP.

Pages referencing chart	Address used for authorisation
www.customer.com/dir1/page1, www.customer.com/dir2/page2	www.customer.com
www.customer.com/page www.client.ch/page www.kunde.ch/seite all aliases using 1 IP address	www.customer.com
www.customer.com www.kunde.ch resolving to different IP addresses	www.customer.com www.kunde.ch

The HTTP-Referer is checked in the context of the rt switch. If a request is made for a real-time chart but this is not authorised, then the check falls back to a delayed chart. If this is allowed, it is served. Otherwise, the error image is generated.

To aid debug and testing, we accept image requests where the referer is not present (the header is optional and there is no obligation for the browser to send it). Note that it is not possible for a web page to instruct a browser not to send a referer so this does not weaken the mechanism.

It should be noted that this checking mechanism is not intended to be a high-security method of access control. Rather, it is a spoiling tactic to discourage sites from illegally referencing our charts. If an unauthorised site does this, whether the chart works or not will depend on the local configuration of the client browser and so will lead to inconsistent performance.