Super-zoom Trend Enhancement

One of the long-standing limitations of the Adroit classic UI trend window has to do with zooming, particularly on long-term trends. The following scenario neatly sums up this limitation:
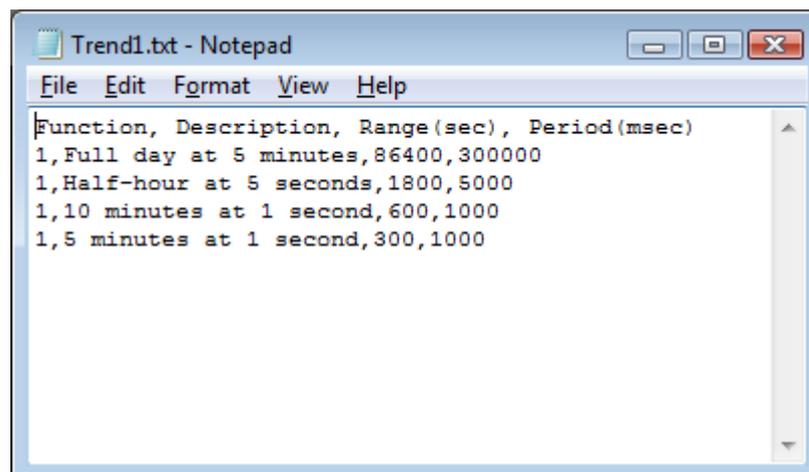
A trend is engineered to display trend lines of the last week having rate of 5 minutes. This gives the user a general overview of the behaviour of the machine during the last week. When the user sees in this general view that there is a machine failure, then he has the need to "zoom-in" around that time in order to see more details. For this, the standard zooming function is inadequate, because effectively, the existing image is enlarged, with no additional data points being shown

In the above scenario, what would be ideal is to show samples in a smaller time window (e.g. 1 hour) with smaller rate (e.g. 1 second)

The option to engineer the trend display to always show samples with rate of 1 second over 1 week is not practical: it takes too much time to load trend view, and maximum amount of samples will be limited to 9999, anyway

In order to address this limitation the classic UI trend window for both Adroit 7.0 and Adroit 8.0 has been enhanced to have what we term a new "super-zoom" capability
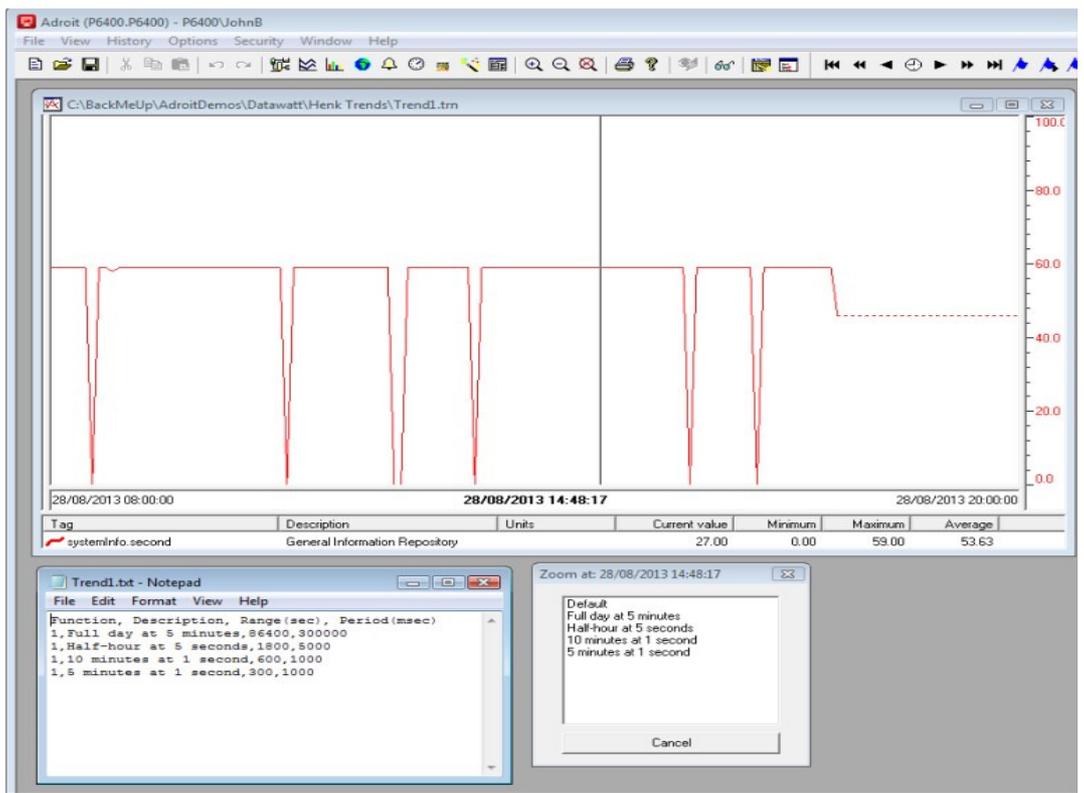
With this new capability in place, if a user right clicks somewhere on a trend, a search is done along the current Adroit path for a file with same name as the trend document with but with the .TXT extension. So if a trend is called Trend1.trn and file called Trend1.txt exists, the format of the text file should be, as follows…
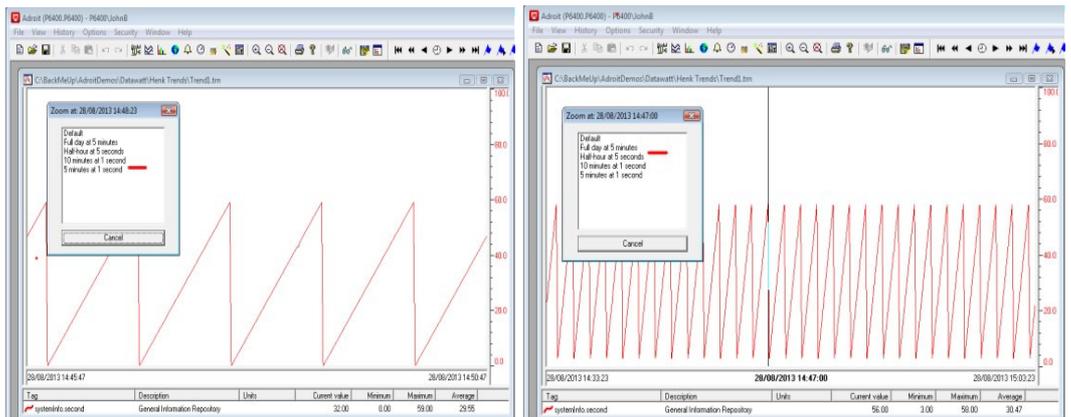

…where each line barring the heading contains a function code, free-format description, a trend window range in seconds, and a period or rate in milliseconds

The existence of such a text file causes a context menu to pop up. See the screenshot below showing a 12-hour history trend of systemInfo.second at 5-minute sample rate. Because the sample rate is so large (1 sample every 300 seconds) it doesn't look much like systemInfo.second which should be a saw-tooth. It also shows the text file, Trend1.txt, along with the pop up when right-clicking the trend

Next, a couple of screens, clearly showing different super-zoom selections: 5 minutes at 1 second, and 10 minutes at 1 second. Because the sample rate (Period) is 1 second, the proper saw-tooth is clearly seen...

Finally, a screenshot showing the best you can do with the existing trend zooming capability. This is not much better than the un-zoomed trend, and shows why the super-zoom trend enhancement is a very powerful new feature