The *mySampler* User's Guide

Introduction

The *mySampler* utility extracts archived data from *Mya*. It differs from other providers of *Mya* data in that it creates time slice tables of channel history. *Mya* does not take regular samples of EPICS channels, but instead monitors the control system for changes in channel values; therefore raw *Mya* data neither has fixed time increments between updates nor can one channel be easily correlated with other channels. The sample below shows raw data obtained from the *myget* utility.

```
myget -b "2012-03-28 14:16" -e "2012-03-28 14:21" -c R121PMES
2012-03-28 14:16:35 158.1
2012-03-28 14:16:47 157.9
2012-03-28 14:18:24 158.1
2012-03-28 14:19:14 157.9
2012-03-28 14:19:44 158.1
2012-03-28 14:19:49 157.9
myget -b "2012-03-28 14:16" -e "2012-03-28 14:21" -c R221PMES
2012-03-28 14:16:21 -164.2
2012-03-28 14:17:19 -164
2012-03-28 14:17:27 -164.2
2012-03-28 14:17:54 -164
2012-03-28 14:19:12 -163.8
2012-03-28 14:20:21 -163.6
2012-03-28 14:20:27 -163.8
```

Sometimes it is easier to work with archived data as if it were sampled at a fixed interval. This can be useful when visually comparing channel values or analyzing results in a spread sheet. The same information above, obtained using *mySampler*, is shown next.

```
mySampler -b "2012-03-28 14:16" -s 30s -n11 R121PMES R221PMES
Date                R121PMES R221PMES
2012-03-28 14:16:00    157.9   -164.4
2012-03-28 14:16:30    157.9   -164.2
2012-03-28 14:17:00    157.9   -164.2
2012-03-28 14:17:30    157.9   -164.2
2012-03-28 14:18:00    157.9     -164
2012-03-28 14:18:30    158.1     -164
2012-03-28 14:19:00    158.1     -164
2012-03-28 14:19:30    157.9   -163.8
2012-03-28 14:20:00    157.9   -163.8
2012-03-28 14:20:30    157.9   -163.8
2012-03-28 14:21:00    157.9   -163.8
```

Usage

Enter “mySampler -h” to get a brief description of the command line syntax. When using the command line utility, you must supply the start date, step size, and number of samples; as well as a list of channel names. The start date is of the format “YYYY-MM-DD[HH:MM[:SS]]” or “HH:MM[:SS]”, where the square brackets denote optional fields. The second format assumes “today”. Like all *Mya* utilities that accept a date/time string, relative times are also accepted. The relative time format is “<number>[<units>]” and is interpreted relative to now. For example -10h means ten hours ago. The various unit characters are ‘s’, ‘m’, ‘h’, ‘d’, and ‘w’ for seconds, minutes, hours, days, and weeks respectively. Seconds are assumed when no units are provided in a relative time.

The time step format is identical to the relative time described above, except that negative values are not allowed. The argument “-s 30s” means increment time by thirty seconds each sample.

Time step sampling of *Mya* channel history is significantly slower than getting every channel value within a time span. Keeping the product of number of channels and number of samples low will keep your data gathering sessions brief. Using the *mySampler* example from the introduction, replacing “-n11” with “-n100000” took 1:43.75 to execute, which is a rate of about 2,000 samples per second. This rate compares very poorly to the 150,000 values per second rate achieved when getting blocks of channel values.