## Usage data, from CISER

Mostly of value to just Oliver. Data link for Oliver: [http://ciser.cornell.edu/beta/usage/subtrack.aspx](http://ciser.cornell.edu/beta/usage/subtrack.aspx)

Oliver records of usage data from CISER are located for ChemIT access at:

- R:IChem ITVInfrastructureICISER


## Interpreting usage date

## memUsedMinutes

Oliver confirmed that it's reasonable that one instance (lasting 14 days) of "memUsedMinutes" can clock in at over 1,004 years (528032188.7 minutes). This is why:

The metric is not only minutes. Memory (RAM) is measured in terms of megabyte minutes. So the arithmetic would have to account of the amount of RAM he was using each minute. It would be simpler to think in terms of GB of RAM per day, for illustrative purposes. The formula to show GB per day for his system use would go as follows:

$$
528032188.7 \mathrm{mb} / \mathrm{min}=528032188.7 / 1024 / 1440 / 14=\sim 25.6 \mathrm{~GB} / \mathrm{day}
$$

## Where

$528032188.7=$ total $\mathrm{mb} / \mathrm{min}$ over 14 days
$1024=\mathrm{mb}$ in a gb
$1440=$ minutes in a day
14 = number of days
So a computationally expensive process could reasonably be expected to consume 25GB of RAM per day. CPU is similarly measured in terms of capacity consumed over time, not simply how much time was spent using it.

Oliver's use is to calculate GB RAM days:

- memUsedMinutes//1024/1440

