

## Testing the effect of different "rlimit memlock" directives in ntp.conf under Linux

Output taken from "cat /proc/\$pid/status" command

ntpd 4.2.6p5 (forks, so there are 2 processes, each with 1 thread)

no rlimit	rlimit memlock 0	rlimit memlock 32	rlimit memlock 128
Pid: 13214	Pid: 27240	Pid: 13307	Pid: 13358
VmPeak: 555916 kB	VmPeak: 547712 kB	VmPeak: 547712 kB	VmPeak: 547712 kB
VmSize: 555912 kB	VmSize: 547708 kB	VmSize: 547708 kB	VmSize: 547708 kB
VmLck: 0 kB	VmLck: 0 kB	VmLck: 0 kB	VmLck: 0 kB
VmPin: 0 kB	VmPin: 0 kB	VmPin: 0 kB	VmPin: 0 kB
VmHWM: 3040 kB	VmHWM: 2164 kB	VmHWM: 2164 kB	VmHWM: 2276 kB
VmRSS: 3040 kB	VmRSS: 2164 kB	VmRSS: 2164 kB	VmRSS: 2276 kB
VmData: 532916 kB	VmData: 524712 kB	VmData: 524712 kB	VmData: 524712 kB
VmStk: 136 kB	VmStk: 136 kB	VmStk: 136 kB	VmStk: 136 kB
VmExe: 540 kB	VmExe: 540 kB	VmExe: 540 kB	VmExe: 540 kB
VmLib: 3356 kB	VmLib: 3356 kB	VmLib: 3356 kB	VmLib: 3356 kB
VmPTE: 60 kB	VmPTE: 60 kB	VmPTE: 60 kB	VmPTE: 60 kB
VmSwap: 0 kB	VmSwap: 0 kB	VmSwap: 0 kB	VmSwap: 0 kB
Threads: 1	Threads: 1	Threads: 1	Threads: 1
Pid: 13217	Pid: 27238	Pid: 13304	Pid: 13355
VmPeak: 547712 kB	VmPeak: 555916 kB	VmPeak: 555916 kB	VmPeak: 555912 kB
VmSize: 547708 kB	VmSize: 555912 kB	VmSize: 555912 kB	VmSize: 555912 kB
VmLck: 0 kB	VmLck: 0 kB	VmLck: 0 kB	VmLck: 0 kB
VmPin: 0 kB	VmPin: 0 kB	VmPin: 0 kB	VmPin: 0 kB
VmHWM: 2392 kB	VmHWM: 3056 kB	VmHWM: 3108 kB	VmHWM: 2892 kB
VmRSS: 2392 kB	VmRSS: 3056 kB	VmRSS: 3108 kB	VmRSS: 2892 kB
VmData: 524712 kB	VmData: 532916 kB	VmData: 532916 kB	VmData: 532916 kB
VmStk: 136 kB	VmStk: 136 kB	VmStk: 136 kB	VmStk: 136 kB
VmExe: 540 kB	VmExe: 540 kB	VmExe: 540 kB	VmExe: 540 kB
VmLib: 3356 kB	VmLib: 3356 kB	VmLib: 3356 kB	VmLib: 3356 kB
VmPTE: 60 kB	VmPTE: 60 kB	VmPTE: 60 kB	VmPTE: 60 kB
VmSwap: 0 kB	VmSwap: 0 kB	VmSwap: 0 kB	VmSwap: 0 kB
Threads: 1	Threads: 1	Threads: 1	Threads: 1

**ntpd 4.2.8p3+patches** (doesn't fork, only 1 process with 2 threads)

<b>no rlimit</b>	<b>rlimit memlock 0</b>	<b>rlimit memlock 32</b>	<b>rlimit memlock 128</b>
Pid: 25912	Pid: 26320	Pid: 26691	Pid: 26957
VmPeak: 695608 kB	VmPeak: 695608 kB	VmPeak: 695608 kB	VmPeak: 695608 kB
VmSize: 630080 kB	VmSize: 630076 kB	VmSize: 630076 kB	VmSize: 630076 kB
VmLck: 630064 kB	VmLck: 0 kB	VmLck: 630060 kB	VmLck: 630060 kB
VmPin: 0 kB	VmPin: 0 kB	VmPin: 0 kB	VmPin: 0 kB
VmHWM: 605524 kB	VmHWM: 7260 kB	VmHWM: 604512 kB	VmHWM: 605524 kB
VmRSS: 605524 kB	VmRSS: 7260 kB	VmRSS: 604512 kB	VmRSS: 605524 kB
VmData: 598456 kB	VmData: 598452 kB	VmData: 598452 kB	VmData: 598452 kB
VmStk: 136 kB	VmStk: 136 kB	VmStk: 136 kB	VmStk: 136 kB
VmExe: 676 kB	VmExe: 676 kB	VmExe: 676 kB	VmExe: 676 kB
VmLib: 5540 kB	VmLib: 5540 kB	VmLib: 5540 kB	VmLib: 5540 kB
VmPTE: 1248 kB	VmPTE: 84 kB	VmPTE: 1244 kB	VmPTE: 1248 kB
VmSwap: 0 kB	VmSwap: 0 kB	VmSwap: 0 kB	VmSwap: 0 kB
Threads: 2	Threads: 2	Threads: 2	Threads: 2

### Conclusion:

- ntpd 4.2.6p5 doesn't seem to lock itself in memory at all
- ntpd 4.2.8p3+patches always seems to lock itself in memory unless “rlimit memlock 0” has been specified in ntp.conf. According to NTP bug 2817 ([http://bugs.ntp.org/show\\_bug.cgi?id=2817](http://bugs.ntp.org/show_bug.cgi?id=2817)), it should not lock itself in memory under Linux if no “rlimit” directive is specified in ntp.conf. Also, the specified size (32 vs. 128) doesn't seem to have any effect.

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