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## Linux Find Out CPU Support 36-bit Physical Addressing Or Not

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**Q. [Physical Address Extension \(PAE\)](#)** <sup>[2]</sup> refers to a feature of x86 and x86-64 processors that allows more than 4G bytes of physical memory to be used in 32-bit systems. The x86 architecture presently uses only 36 bits out of 52 bits possible. On x86-64 processors, PAE is obligatory in native long mode; currently 40 bits are used out of 52 bits possible. How do I find out if my Linux kernel supports 36-bit or more physical addressing?

**A.** You can easily find this information by visiting `/proc/cpuinfo` file. `cat /proc/cpuinfo` and look for the physical address size. You can also use `grep` command extract exact information:

[1]

```
cat /proc/cpuinfo
```

OR

```
grep physical /proc/cpuinfo
```

Sample output:

```
physical id : 0
address sizes : 36 bits physical, 48 bits virtual
physical id : 3
address sizes : 36 bits physical, 48 bits virtual
physical id : 0
address sizes : 36 bits physical, 48 bits virtual
physical id : 3
address sizes : 36 bits physical, 48 bits virtual
```

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[1] Image: <http://www.cyberciti.biz/faq/category/linux/>

[2] Physical Address Extension (PAE): <http://www.cyberciti.biz/tips/redhat-enterprise-linux-4gb-plus-ram-support.html>