

Re: Model and CPU

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"Peter Keller" <psilord@buzzard.cs.wisc.edu> wrote in message
news:3f4c4ac4\$0\$423\$80265adb@spool.cs.wisc.edu...

> *Gerry Thome* <gthome1@new.rr.com> wrote:

> > *Last I checked "man uname" had the CPU list in it. Not all new machines*

> > *have a unique machine IDs.*

> >

> > *Read the uname man page here:*

> >

> >

http://publib16.boulder.ibm.com/doc link/en_US/a doc lib/cmds/aixcmds5/uname.htm

> >

>

> *Hmm... I had found that man page earlier, but it also seemed out of date*

> *and I thought I was just not finding the right page. So I suppose my next*

> *question is: Is there a list of CPU types associated with model? For*

> *example, a pSeries 610 uses a 64-bit POWER3-II architecture, but a*

> *pSeries 620 Model 6F0 has a 64-bit RS64 IV architecture.*

I think it will answer part of your question:

This document applies to AIX Versions 4 and 5.

While there is not a direct command to determine processor speed in AIX V4,
the best place to start is with the uname command. Executing `uname -m`
produces output of the following form:

xyyyyyymmss

The meanings of the placeholders are as follows:

xx = 00

yyyyyy = Unique CPU ID

mm = Model ID <- these are the numbers to use to determine CPU
speed

ss = 00 (Submodel)

By cross-referencing the values from the `uname -m` output with the table
below, you can easily determine the processor speed.

To determine cpu speed with AIX V5, use the following command:

lsattr -El proc0

The frequency line returns the speed of the cpu. Note on some machines the value represented by the frequency line will have to be rounded to the nearest integer. For example, the frequency reported on a 7025-F80 is 451200000, which is then rounded to 450MHz.

Model ID Machine Type Processor Speed Architecture

02 7015-930 25 Power
10 7013-530 25 Power
10 7016-730 25 Power
11 7013-540 30 Power
14 7013-540 30 Power
18 7013-53H 33 Power
1C 7013-550 41.6 Power
20 7015-930 25 Power
2E 7015-950 41 Power
30 7013-520 20 Power
31 7012-320 20 Power
34 7013-52H 25 Power
35 7012-32H 25 Power
37 7012-340 33 Power
38 7012-350 41 Power
41/45 7011-220 33 PowerPC
42 7006-41T/41W 80 PowerPC
43 7008-M20 33 Power
43 7008-M2A 33 Power
46 7011-250 66 PowerPC
47 7011-230 45 RSC
48 7009-C10 80 PowerPC
4C 70XX See Note 1
57 7012-390 67 Power2
57 7030-3BT 67 Power2
57 9076-SP2 Thin 67 Power2
58 7012-380 59 Power2
58 7030-3AT 59 Power2
59 7012-39H 67 Power2
59 9076-SP2 Thin w/L2 67 Power2
5C 7013-560 50 Power
63 7015-970 50 Power
63 7015-97B 50 Power
64 7015-980 62.5 Power
64 7015-98B 62.5 Power
66 7013-580 62.5 Power
67 7013-570 50 Power
67 7015-R10 50 Power
70 7013-590 66 Power2
70 9076-SP2 Wide 66 Power2
71 7013-58H 55 Power2
72 7013-59H 66 Power2
72 7015-R20 66 Power2
72 9076-SP2 Wide 66 Power2

75 7012-370 62 Power
75 7012-375 62 Power
75 9076-SP1 Thin 62 Power
76 7012-360 50 Power
76 7012-365 50 Power
77 7012-350 41 Power
77 7012-355 41 Power
77 7013-55L 41.6 Power
79 7013-591 77 Power2
79 9076-SP2 Wide 77 Power2
80 7015-990 71.5 Power2
81 7015-R24 71.5 P2SC
89 7013-595 135 P2SC
89 9076-SP2 Wide 135 P2SC
90 7009-C20 120 PowerPC
91 7006-42W/42T 120 PowerPC
94 7012-397 160 P2SC
94 9076-SP2 Thin 160 P2SC
A0 7013-J30 75 PowerPC
A1 7013-J40 112 PowerPC
A3 7015-R30 See Note 2 PowerPC
A4 7015-R40 See Note 2 PowerPC
A4 7015-R50 See Note 2 PowerPC
A4 9076-SP2 High See Note 2 PowerPC
A6 7012-G30 See Note 2 PowerPC
A7 7012-G40 See Note 2 PowerPC
C0 7024-E20 See Note 3 PowerPC
C0 7024-E30 See Note 3 PowerPC
C4 7025-F30 See Note 3 PowerPC
F0 7007-N40 50 ThinkPad

NOTES:

1.. Systems where uname -m outputs a model ID of 4C:

In general, the only way to determine the processor speed of a machine with a model ID of 4C is to reboot into System Management Services and choose the system configuration options. However, in some cases the information gained from the uname -M command can be helpful.

```
uname -M Machine Type Processor Speed Processor  
Architecture  
IBM,7017-S70 7017-S70 125 RS64  
IBM,7017-S7A 7017-S7A 262 RD64-II  
IBM,7017-S80 7017-S80 450 RS-III  
IBM,7017-S85 pSeries 680 600 RS64-IV  
IBM,7025-F40 7025-F40 166/233 PowerPC 604e  
IBM,7025-F50 7025-F50 See Note 4 PowerPC 604e  
IBM,7025-F80 7025-F80 See Note 5 RS64-III  
IBM,7025-6F0 pSeries 620 See Note 7 See Note 7  
IBM,7025-6F1 pSeries 620 See Note 7 See Note 7  
IBM,7026-H10 7025-H10 166/233 PowerPC 604e  
IBM,7026-H50 7025-H50 See Note 4 PowerPC 604e
```

IBM,7026-H80 7025-H80 See Note 5 RS64-III
IBM,7026-M80 7026-M80 500 RS64-III
IBM,7026-B80 pSeries 640 See Note 9 Power3-II
IBM,7026-H10 7026-H10 166/233 PowerPC
IBM,7026-H50 7026-H50 See Note 4 PowerPC
IBM,7026-H70 7026-H70 340 RS64-II
IBM,7026-H80 7026-H80 450 PowerPC
IBM,7026-M80 7026-M80 500 PowerPC
IBM,7026-6H0 pSeries 660 450MHz RS64 III
IBM,7026-6H0 pSeries 660 600MHz RS64 IV
IBM,7026-6H1 pSeries 660 See Note 7 See Note 7
IBM,7026-6M1 pSeries 660 See Note 8 See Note 8
IBM,7028-6C1 pSeries 610 See Note 9 POWER3 II
IBM,7028-6E1 pSeries 610 See Note 9 POWER3 II
IBM,7040-681 pSeries 690 1.1 or 1.3GHz POWER4
IBM,Model 7042/7043
 (ED) 7043-140 166/200/233/332 PowerPC
IBM,Model 7042/7043
 (ED) 7043-150 375 PowerPC
IBM,Model 7042/7043
 (ED) 7043-240 166/233 PowerPC
IBM,7043-260 7043-260 200 Power3
IBM,7044-170 7044-170 See Note 6 POWER3 II
IBM,7044-270 7044-270 375/450 POWER3 II
IBM,7046-B50 7046-B50 375 PowerPC 604e
IBM,7248 7248-100 100 PowerPersonal
IBM,7248 7248-120 120 PowerPersonal
IBM,7248 7248-132 132 PowerPersonal
2.. J-Series, R-Series, and G-Series systems:

You can determine the processor speed in an MCA SMP system from the FRU number of the CPU card by using the following command:

```
lscfg -vl cpucard0 | grep FRU
```

This will produce the following output:

```
FRU Number.....CID  
FRU Number Processor Type Processor Speed  
E1D PowerPC 601 75  
C1D PowerPC 601 75  
C4D PowerPC 604 112  
E4D PowerPC 604 112  
X4D PowerPC 604e 200
```

3.. E-Series and F-30 systems:

For the E-series and F-30 systems, use the following process to determine CPU speed. Execute:

```
lscfg -vp | more
```

Look for the following stanza:

```
procF0 CPU Card  
Part Number.....093H5280
```

EC Level.....00E76527
Serial Number.....17700008
FRU Number.....093H2431
Displayable Message.....CPU Card
Device Specific.(PL).....
Device Specific.(ZA).....PS=166,PB=066,PCI=033,NP=001,CL=02,PBH
Z=64467000,PM=2.5,L2=1024
Device Specific.(RM).....10031997 140951 VIC97276
ROS Level and ID.....03071997 135048
In the section Device Specific.(ZA), the section PS= (boldface here) is the
processor speed in MHz.

4.. F-50 and H-50 systems and SP Silver Node:

The following commands can be used to determine the processor speed of an
F-50 system. Execute:

```
lscfg -vp | more
```

Look for the following stanza:

Orca M5 CPU:

Part Number.....08L1010
EC Level.....E78405
Serial Number.....L209034579
FRU Number.....93H8945
Manufacture ID.....IBM980
Version.....RS6K
Displayable Message.....OrcaM5 CPU DD1.3
Product Specific.(ZC).....PS=0013c9eb00,PB=0009e4f580,SB=0004f27
ac0,NP=02,PF=461,PV=05,KV=01,CL=1

In the line containing Product Specific.(ZC), the entry PS= (boldface here),
is the processor speed in hexadecimal notation. To convert this to an actual
speed, use the following conversions:

0009E4F580 = 166 MHz
0013C9EB00 = 332 MHz

The valuePF= indicates the processor configuration.

251 = 1 way 166 MHz
261 = 2 way 166 MHz
451 = 1 way 332 MHz
461 = 2 way 332 MHz

Each 2 way processor resides on one CPU card. 4 way systems will display
two entries for the Orca M5 CPU card.

5.. Only 6-way (F-80) systems run at 500 MHz, all others run at 450 MHz.

6.. Use the L2cache size to determine the speed of the cpu:

```
lsattr -El L2cache0
```

L2cache size CPU speed

1mb 333MHz
4mb 400MHz
8mb 450MHz

7.. It can be configured with 1-, 2-, 4-, or 6-way, RS64 III or RS64 IV, 64-bit processors. Systems configured with the maximum of six processors run at 668 MHz, while other configurations run at 600 MHz (RS64 IV) or 450MHz (RS64 III).

To determine the number of processors on the system run `lsdev -Cc processor` and to determine the type of processor run `lsattr -El proc0`.

8.. The Model 6M1 delivers a cost-efficient growth path to the future including 64-bit system scalability providing 2-, 4-, 6-, and 8-way configurations with combinations of the following processor options:

2-way 750 MHz RS64 IV with 8 MB L2 cache per processor
4-way 750 MHz RS64 IV with 8 MB L2 cache per processor
2-way 500 MHz RS64 III with 4 MB L2 cache per processor

To determine the number of processors on the system run `lsdev -Cc processor` and to determine the type of processor run `lsattr -El proc0`.

9.. For pSeries servers that use a 350 MHz or 450 MHz processor, run the following command

```
lscfg -vp | more
```

Then look for the Processor Card entry. The PF field, in the Product Specific (ZC) line, indicates the processor type as follows:

PF Value Card type FRU p/n
754 375 MHz One way card w/ 4 MB L2 cache 09P0399
764 375 MHz Two way card w/ 4 MB L2 cache 09P0406
768 375 MHz Two way card w/ 8 MB L2 cache 09P0143

>

> *If both model numbers happen to be the same, then how do I tell the machines*

> *apart? Also, is there some big list somewhere that contains what model*

> *matches with what architecture? And what is binary compatible with what?*

just think about 32-bit vs. 64-bit: 64-bit applications in most cases require 64-bit kernel and 64-bit h/w, the 32-bit application will run on all pSeries machines.

about architecture look at ibm web site and at rootvg.org

in short POWERII was a predecessor to POWER4 (I mean by design they are very similar, same MMC packaging), the RS64 IV was a way back, I think.

>

> *I'm trying to figure out all of the architectures IBM uses and how they relate*

> *to each other....*

>

> *Thanks.*

>

comp.unix.aix: Re: Model and CPU

> *-pete*
>