



# **Guide To Identifying Your Processor Family**



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## Disclaimer

This Guide to Identifying Your Processor Family (“Guide”) is provided for your convenience and is meant to be used solely as an aid to assist you in understanding some of the data needed to apply IBM’s Processor Value Unit software pricing. Errors in the guide are unintentional and will be addressed promptly upon being brought to IBM's attention. Should any such errors occur, this does not relieve customers from their responsibility to obtain licenses for, and to be in compliance with, the required level of authorized use for each product.

## Overview & How to Use this Guide

- This guide is an assistant to help identify the major processor families and their corresponding Value Units (VUs) per Processor Core.
- The guide helps clarify market inconsistencies across the major server brands when defining a “processor” or “N-Way”
- Processor Family Identification Support tables are arranged by Server Brand



## Definitions

- IBM<sup>®</sup> Software Group defines a Processor as a Core
  - ▶ IBM licenses Value Units per Processor Core
  
- Hardware vendors differ when defining the terms “Processor” and “N-Way”

Server Vendor	Define Processor as:	Define N-Way as:
IBM System p / System i	Core	Number of Cores
HP 9000	Core	Number of Cores
IBM BladeCenter	Chip	Number of Chips
IBM System x	Chip	Number of Chips
Dell PowerEdge	Chip	Number of Chips
Fujitsu	Chip	Number of Chips
HP	Chip	Number of Chips
Sun	Chip	Number of Chips



## Processor Family Identification Steps

Depending on the level of information known, there are two alternate ways to identify the number of PVUs per Core:

- **Method 1**
  - ▶ Processor Vendor and Brand, and Processor Type are known. Use the Processor Value Units per Core Table (page 7).
  - ▶ Eg. IBM® POWER5™ Dual-core: *100 VUs per core.*
- **Method 2**
  - ▶ Processor Vendor and Brand, and Processor Type are not known. However, server information is known. Use the attached detailed guide.
  - ▶ Eg. IBM® System x 3500: *Intel® Xeon® Dual-Core at 50 PVUs per Core*

Server Information		Processor Family Information		
Server Family	Server Model	Processor Vendor & Brand	Processor Type	PVUs Per Core
System x	3400	Intel® Xeon®		
System x	3455	AMD Opteron		
System x	3500	Intel® Xeon®	DC	50
System x	3550	Intel® Xeon®		
System x	3650	Intel® Xeon®		
System x	3755	AMD Opteron		
System x	3800	Intel® Xeon®		
System x	3850	Intel® Xeon®	SC	100
System x	3650 T	Intel® Xeon®		
System x	3950	Intel® Xeon®	SC	100

## Processor Value Units (PVU) per Core – By Processor Family

(i. e., Method 1)

Table: Processor Value Units (PVUs) per Core

Processor <sup>1</sup> Families			Processor Type					PVUs per Processor Core
Vendor	Brand	Number of cores	Single-Core	Dual-Core	Quad-Core	Hexa-Core	Octi-Core	
IBM	POWER6	2		■				120
IBM	POWER5	2		■				100
Fujitsu	SPARC64 VI	2		■				
HP	PA-RISC	2		■				
Intel®	Itanium®	2		■				
Sun	UltraSPARC IV	2		■				
IBM	System z	1	■ <sup>2</sup>					
Any	Any single core	1	■					
IBM	PowerPC 970	2		■				50
IBM	POWER5 QCM	4			■			
AMD	Opteron	2,4		■	■			
Intel®	Xeon®	2,4		■	■			
Sun	UltraSPARC T1	4,6,8			■	■	■	30

**Notes:** <sup>1</sup>IBM SW defines "Processor" as a Core

<sup>2</sup>One IFL or engine



## Processor Value Units – By Server Brand and Type

(i.e. Method 2)

- Locate your server to identify the Processor Family and PVUs per core.

<b>IBM® System x / xSeries</b>	.....	<b>9</b>
<b>IBM® BladeCenter</b>	.....	<b>10</b>
<b>IBM® System p / System i</b>	.....	<b>11</b>
<b>HP Proliant</b>	.....	<b>12</b>
<b>HP Proliant BladeSystem</b>	.....	<b>13</b>
<b>HP Integrity</b>	.....	<b>14</b>
<b>HP 9000 Server</b>	.....	<b>15</b>
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## IBM System x (xSeries) – Processor Family Identification Support

Server Information		Processor Family Information		
Server Family	Server Model	Processor Vendor & Brand	Processor Type	PVUs Per Core
System x	3200	Intel® Xeon®	DC/QC	50
System x	3400	Intel® Xeon®		
System x	3455	AMD Opteron		
System x	3500	Intel® Xeon®		
System x	3550	Intel® Xeon®		
System x	3650	Intel® Xeon®		
System x	3950	Intel® Xeon®		
System x	3755	AMD Opteron		
System x	3755	AMD Opteron		
System x	3650 T	Intel® Xeon®		
System x	3105	AMD Opteron/Athelon	SC (*) DC (*)	100 50
System x	3250	Intel® Pentium®/ Xeon®		
System x	3800	Intel® Xeon®		
System x	3850	Intel® Xeon®		
eServer	326m	AMD Opteron	SC	100
xSeries	226	Intel® Xeon®	SC	100
xSeries	236	Intel® Xeon®		
xSeries	260	Intel® Xeon®		
xSeries	366	Intel® Xeon®		
xSeries	100	Intel® Pentium®/Celeron®	SC (*) DC (*)	100 50
xSeries	336	Intel® Xeon®		
xSeries	346	Intel® Xeon®		
xSeries	460	Intel® Xeon®		
xSeries	206m	Intel® Pentium®		
xSeries	306m	Intel® Pentium®		
xSeries	Various Prior to 2005	Intel®/AMD	SC	100

SC: Single-Core QC: Quad-Core

DC: Dual-Core

\* : Utilize Microsoft System Manager if running Windows O/S, Refer to page 21 for identification methodology

Note: An alternative is contacting the System Administrator



## IBM BladeCenter – Processor Family Identification Support

Server Information		Processor Family Information		
Server Family	Server Model	Processor Vendor & Brand	Processor Type	PVUs Per Core
BladeCenter	HS20	Intel® Xeon®	SC	100
BladeCenter LP	HS20	Intel® Xeon®		
BladeCenter	JS20	IBM® PowerPC 970	SC	100
BladeCenter	JS21	IBM® PowerPC 970	SC (*) DC (*)	100 50
BladeCenter	JS21 Express	IBM® PowerPC 970		
BladeCenter	LS20	AMD Opteron	DC/QC	50
BladeCenter	HS21	Intel® Xeon®		
BladeCenter	LS21	AMD Opteron	DC	50
BladeCenter	LS41	AMD Opteron		
BladeCenter	Various Prior to 2005	Intel®/AMD	SC	100

SC: Single-Core QC: Quad-Core

DC: Dual-Core

\* : Utilize Microsoft System Manager if running Windows O/S, Refer to page 21 for identification methodology

Note: An alternative is contacting the System Administrator

## IBM System p (pSeries) & System i (iSeries) – Processor Family Identification Support

Server Information		Processor Family Information		
Server Family	Server Model	Processor Vendor & Brand	Processor Type	PVUs Per Core
System p System i	p 570 i 570	IBM® POWER6™	DC	120
System p	p 285 Express	IBM® POWER5/5+™	DC	100
	p5 505 Express			
	p5 510 / p5 510 Express			
	p5 520 / p5 520 Express			
	p5 550 / p5 550 Express			
	p5 570 / p5 570 Express			
	p5 575			
	p5 590			
	p5 595			
System p	p 185 Express	IBM® PowerPC 970	DC	50
System p	p5 505Q Express	IBM® POWER5/5+™ QCM	QCM	50
	p5 510Q Express			
	p5 520Q Express			
	p5 550Q Express			
	p5 560Q Express			
pSeries/iSeries	Various	IBM® POWER4/4+™	DC	100
pSeries/iSeries	Various	Prior to IBM® POWER4/4+™	SC	100
System i	All Models	IBM® POWER5/5+™	DC	100

SC : Single-Core

DC: Dual-core

QCM: Quad-core Module

Note: An alternative is contacting the System Administrator



## HP Proliant – Processor Family Identification Support

Server Information		Processor Family Information		
Server Family	Server Model	Processor Vendor & Brand	Processor Type	PVUs Per Core
Proliant	DL140 G3	Intel® Xeon®	DC/QC	50
Proliant	DL320s	Intel® Xeon®		
Proliant	DL360 G5	Intel® Xeon®		
Proliant	DL365	AMD Opteron		
Proliant	DL380 G4/G5	Intel® Xeon®		
Proliant	DL385 G2	AMD Opteron		
Proliant	DL580 G4	Intel® Xeon®		
Proliant	DL585 G2	AMD Opteron		
Proliant	ML350 G5	Intel® Xeon®		
Proliant	ML370 G5	Intel® Xeon®		
Proliant	ML570 G4	Intel® Xeon®		
Proliant	ML150 G3	Intel® Xeon®		
Proliant	ML310 G4	Intel® Xeon®		
Proliant	DL145 G2	AMD Opteron		
Proliant	DL320 G4/G5	Intel® Pentium®/Celeron®		
Proliant	DL360 G4p	Intel® Xeon®		
Proliant	DL365	AMD Opteron		
Proliant	DL385	AMD Opteron		
Proliant	DL580 G3	Intel® Xeon®		
Proliant	DL585	AMD Opteron		
Proliant	ML110 G3	Intel® Pentium®/Celeron®		
Proliant	ML310 G3	Intel® Pentium®/Celeron®		
Proliant	Various Prior to '05	Intel®/AMD	SC	100

SC : Single-Core QC: Quad-Core

DC : Dual-Core

\* : Utilize Microsoft System Manager if running Windows O/S, Refer to page 21 for identification methodology

# : Call HP Support Services at (800) 633-3600 with 9 Digit Model Number

Note: An alternative is contacting the System Administrator

## HP Proliant BladeSystem– Processor Family Identification Support

Server Information		Processor Family Information		
Server Family	Server Model	Processor Vendor & Brand	Processor Type	PVUs Per Core
Proliant BladeSystem	BL20p G4	Intel® Xeon®	DC/QC	50
Proliant BladeSystem	BL25p	AMD Opteron		
Proliant BladeSystem	BL45p	AMD Opteron		
Proliant BladeSystem	BL460c	Intel® Xeon®		
Proliant BladeSystem	BL465c	AMD Opteron		
Proliant BladeSystem	BL480c	Intel® Xeon®		
Proliant BladeSystem	BL685c	AMD Opteron		
Proliant BladeSystem	BL60p	Intel® Itanium 2®	SC	100
			DC	100
Proliant BladeSystem	BL35p	AMD Opteron	SC (* or #)	100
			DC (* or #)	50
Proliant BladeSystem	Various Prior to '05	Intel®/AMD	SC	100

SC: Single-Core

DC: Dual-Core

QC: Quad-Core

\* : Utilize Microsoft System Manager if running Windows O/S, Refer to page 21 for identification methodology

# : Call HP Support Services at (800) 633-3600 with 9 Digit Model Number

Note: An alternative is contacting the System Administrator

## HP Integrity – Processor Family Identification Support

Server Information		Processor Family Information		
Server Family	Server Model	Processor Vendor & Brand	Processor Type	PVUs Per Core
Integrity	rx1620	Intel® Itanium 2®	SC DC	100
Integrity	rx2620	Intel® Itanium 2®		
Integrity	rx3600	Intel® Itanium 2®		
Integrity	rx4640	Intel® Itanium 2®		
Integrity	Rx6600	Intel® Itanium 2®		
Integrity	rx7620	Intel® Itanium 2®		
Integrity	rx7640	Intel® Itanium 2®		
Integrity	rx8620	Intel® Itanium 2®		
Integrity	rx8640	Intel® Itanium 2®		
Integrity	Superdome	Intel® Itanium 2®		
Integrity	Various	Intel® Itanium 2®	SC DC	100 100
Integrity	Various	Intel® Itanium®	SC	100

SC: Single-Core

DC: Dual-Core

Note: An alternative is contacting the System Administrator

## HP 9000 – Processor Family Identification Support

Server Information		Processor Family Information		
Server Family	Server Model	Processor Vendor & Brand	Processor Type	PVUs Per Core
9000	Superdome	HP PA-RISC (8600-8900) / Intel® Itanium 2®	SC	100
			DC	100
9000	rp3410	HP PA-RISC (8800/8900)	DC	100
9000	rp3440	HP PA-RISC (8900)		
9000	rp4410	HP PA-RISC (8900)		
9000	rp4440	HP PA-RISC (8900)		
9000	rp7420	HP PA-RISC (8800/8900)		
9000	rp8420	HP PA-RISC (8800/8900)		
9000	Various	HP PA-RISC (8800-8900)	DC	100
9000	Various	HP PA-RISC (8600-8700)	SC	100

SC: Single-Core

DC: Dual-Core

Note: An alternative is contacting the System Administrator



## Sun with AMD Opteron – Processor Family Identification Support

Server Information		Processor Family Information		
Server Family	Server Model	Processor Vendor & Brand	Processor Type	PVUs Per Core
Fire	X2200 M2	AMD Opteron	DC	50
Fire	x4500	AMD Opteron		
Blade	8000 p Modular	AMD Opteron		
Blade	8000 Modular	AMD Opteron		
Fire	x2100	AMD Opteron	SC (* or #) DC (* or #)	100 50
Fire	x4100 or x4100 M2	AMD Opteron		
Fire	x4200 or x4200 M2	AMD Opteron		
Fire	x4600 or x4600 M2	AMD Opteron		
Fire	v40z	AMD Opteron		
Netra	CP3020	AMD Opteron		
Fire/Netra	Various Prior to 2005	AMD Opteron	SC	100

SC: Single-Core

DC: Dual-Core

\* : Utilize Microsoft System Manager if running Windows O/S, Refer to page 21 for identification methodology

# : Call Sun at 1-800-555-9SUN with server serial number

Note: An alternative is contacting the System Administrator





## Sun SPARC Enterprise / Fire / Netra – Processor Family Identification Support

Server Information		Processor Family Information		
Server Family	Server Model	Processor Vendor & Brand	Processor Type	PVUs Per Core
SPARC Enterprise	M4000	Fujitsu SPARC64 V1	DC	100
	M5000			
	M8000			
	M9000			
Fire	V490 / V890	Sun UltraSparc IV / IV+	DC	100
	E2900 / E4900 / E6900			
	E20K / E25K			
Netra	1290	Sun UltraSparc IV+	DC	100
SPARC Enterprise / Fire / Netra	T1000 / T2000 / CP3060	Sun UltraSparc T1	OC, HC, QC	30
Fire	V1280	Sun UltraSparc III / IIIi	SC	100
	V125 & V150			
	V210 & V215			
	V240 & V245			
	V440 & V445			
	V480			
	Various	Prior to Sun UltraSparc III / IIIi		
Netra	210	Sun UltraSparc III / IIIi	SC	100
	240			
	440			
	1280			
	CP3010			
	CT900			
	Various	Prior to Sun UltraSparc III / IIIi		

SC: Single-Core  
 DC: Dual-Core  
 QC: Quad-Core

HC: Hexa-Core  
 OC: Octi-Core  
 Note: An alternative is contacting the System Administrator



## Dell PowerEdge & Blade – Processor Family Identification Support

Server Information		Processor Family Information		
Server Family	Server Model	Processor Vendor & Brand	Processor Type	PVUs Per Core
PowerEdge	840	Intel® Xeon®	DC/QC	50
PowerEdge	1900	Intel® Xeon®		
PowerEdge	1950 & 1955	Intel® Xeon®		
PowerEdge	2900	Intel® Xeon®		
PowerEdge	2950	Intel® Xeon®		
PowerEdge	6950	AMD Opteron		
PowerEdge	SC1435	AMD Opteron		
PowerEdge	830	Intel® Pentium®/Celeron®	SC	100
PowerEdge	850 & 860	Intel® Pentium®/Celeron®		
PowerEdge	1800	Intel® Xeon®		
PowerEdge	SC1420	Intel® Xeon®		
PowerEdge	SC1425	Intel® Xeon®		
PowerEdge	SC430	Intel® Pentium®/Celeron®		
PowerEdge	SC440	Intel® Xeon®/Celeron®	SC (*) DC (*)	100 50
PowerEdge	2800	Intel® Xeon®		
PowerEdge	2850	Intel® Xeon®		
PowerEdge	6800	Intel® Xeon®		
PowerEdge	6850	Intel® Xeon®		
PowerEdge Blade	1855	Intel® Xeon®		
PowerEdge	Various Prior to 2005	Intel®	SC	100

SC: Single-Core QC: Quad-Core

DC: Dual-Core

\* : Utilize Microsoft System Manager if running Windows O/S, Refer to page 21 for identification methodology

Note: An alternative is contacting the System Administrator

## Fujitsu SPARC ENTERPRISE/PRIMEPOWER/PRIMEQUEST – Processor Family Identification Support

Server Information		Processor Family Information		
Server Family	Server Model	Processor Vendor & Brand	Processor Type	PVUs Per Core
SPARC Enterprise	M4000	Fujitsu SPARC64 VI	DC	100
	M5000			
	M8000			
	M9000			
SPARC Enterprise	T1000 / T2000	Sun UltraSparc T1	OC, HC, QC	30
PRIMEPOWER	250	Fujitsu SPARC64 V	SC	100
	450			
	650			
	850			
	900			
	1500			
	2500			
	Various			
PRIMEQUEST	420 / 440 / 480	Intel® Itanium 2®	SC	100
	520 / 540	Intel® Itanium 2®	DC	100
	548 / 580	Intel® Itanium 2®	DC	100
	Various	Intel® Itanium®	SC	100

SC: Single-Core

DC: Dual-Core

QC: Quad-Core

HC: Hexa-Core

OC: Octi-Core

Note: An alternative is contacting the System Administrator

## Fujitsu PRIMERGY– Processor Family Identification Support

Server Information		Processor Family Information		
Server Family	Server Model	Processor Vendor & Brand	Processor Type	PVUs Per Core
PRIMERGY	RX200 S2	Intel® Xeon®	SC	100
PRIMERGY	RX300 S2	Intel® Xeon®		
PRIMERGY	TX200FT S2	Intel® Xeon®		
PRIMERGY	BX620 S2	Intel® Xeon®		
PRIMERGY	RX200 S3	Intel® Xeon®	DC	50
PRIMERGY	RX300 S3	Intel® Xeon®		
PRIMERGY	RX600 S3	Intel® Xeon®		
PRIMERGY	RX620 S3	Intel® Xeon®		
PRIMERGY	TX200 S3	Intel® Xeon®		
PRIMERGY	TX150 S4	Intel® Pentium®/Celeron®	SC (*) DC (*)	100
PRIMERGY	RX100 S3	Intel® Pentium®/Celeron®		
PRIMERGY	TX200	Intel® Xeon®		50
PRIMERGY	RX600 S2	Intel® Xeon®		
PRIMERGY	Various Prior to 2005	Intel®	SC	100

SC: Single-Core

DC: Dual-Core

\* : Utilize Microsoft System Manager if running Windows O/S, Refer to page 21 for identification methodology

Note: An alternative is contacting the System Administrator

## Reference

### *Microsoft System Manager*

**Step 1** From the Start Menu,  
Go to Control Panel

**Step 2** From the Control  
Panel Window, Go to  
System

**Step 3**  
Under System  
Properties, Go to  
General

**Processor and System Details are  
listed here (example):**  
  
**Mobile Intel Pentium 4-M  
1.79/1.80GHz  
512 MB RAM**



**Intel Pentium 4:  
Single Core  
1 core  
100 PVU's per core**

