ftServer CRU Part Replacement Ordering

Version – 112

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Revision History

Rev.	Description	Date
38.0	Updated 2510/4410/6210 links to reference documents	06/05/08
39.0	Added new vendor part numbers for 146, and 500GB disks on 25xx/44xx/62xx systems and new 300GB part on 25xx/44xx/62xx	09/01/08
40.0	Fixed page 49, step information for tools to determine Riser Adapters	09/23/08
41.0	Added new Vendor SPD MFG part numbers for 44xx/62xx 4GB DIMMs (609-01639-000)	10/02/08
42.0	Added new DVD model Teac for 25xx/44xx/62xx, fixed or 260-01651-000 added back in ProductID = ST3146855SS. Updated CPU 062-03056-000 to -001 and Disk 260-01649-000 to -001	03/23/2009
43.0	CPU 062-0356-001 was not released, ECO modified to class 3B. Added missing MAX3073RC for 260-01650-000	3/30/2009
44.0	Added E0 stepping processor and kit information on 2510, 4410 and 6210	4/13/2009
45.0	Added new vendor SPD for 609-01642-000 and 609-01643-000.	4/23/2009
46.0	Added disk drives 260-01690-000, 260-01691-000, 260-01688-000 and 260-01689-000. Update various other 2500, 4400 and 6200 disk drives.	5/20/2009
47.0	Added 2600, 4500 and 6300 products	09/18/2009
48.0	Added new vendor SPD for 609-01658-000	01/10/2010
49.0	Updated CRU determination to use P-Package (P2600, P4500 and P6300) and fixed 500GB disk identifier key name for 2600/4500/6300	01/28/2010
50.0	Fixed Note 5 page 50 on 2500 system not supporting 2GB DIMMs. Only 1GB DIMMs max 6GB memory.	06/24/2010
51.0	Added 6310, 2600 and 4500 model –C versions. Added note on use of Atlas ftServer Orderable Part Numbers (OPN) disaggregation.	12/27/2010
52.0	Added PCI adapters for 2600, 4500 and 6300 operating ftSSS 7.0.0.x	12/29/2010
53.0	Fixed 6600 1GB AA-M22900 DIMMs vendor part numbers, added VI4CR287224DYHS2 or VI4CR287224DYHS1	02/10/2011
54.0	Fixed broken links, added new 300MGB and 1TB disks for Draco. Added new vendor part #s for Draco DIMMs, added 6300 model –C	06/14/2011
55.0	Add new vendor SPD for DIMM on 2600, 4500 and 63x0 products.	10/28/2011
56.0	Added specific information for V2302 and V2404 CRU and processor ordering in V2302/V2404 section. Different from Windows/Linux and ESX base systems	01/3/2012
57.0	Added specific information for V6408 CRU and processor ordering in V2302/V2404/V6408 section. Add vendor product ID for 146GB disk on 2600, 4500, 6300 and 6310. Included Internal platform codenames.	2/4/2012
58.0	Added new 2700, 4700 and 6400 platform section.	10/10/2012
59,0	Corrected Cygnus DIM part numbers	03/22/2013

60.0	Add 8GB DIMM M393B1K70CH0-YH9 for 6300	09/30/2013

Revision History

Rev.	Description	Date
64.0	Added new 2710, 4710 and 6410 platform section. General housekeeping cleanup of other sections	4/14/2014
65.0	Minor updates to section 13	5/2/2014
66.0	Minor updates to section 13	5/2/2014
67.0	Change Cygnus 16 gb Dimm typo 1765 to 1675 Update Cygnus Mem config to include Cygnus-I mem types	5/7/2014
68.0	Clean up Cygnus approved mem 3ims	5/12/2014
69.0	Update Draco section for Draco prime motherboards	7/10/2014
70.0	Updated Riser ordering notes for Cygnus and Cygnus-I models	9/23/2014
71.0	Added Backpanel information for models Draco, Draco', Cygnus and Cygnus-I models. Added Mem config ordering info for V2404/V6408	3/21/2015
72.0	Added ftserver 2800/4800/6800 Pegasus system info	7/21/2015
73.0	Minor updates and formatting	7/30/2015
74.0	Drive vendor updates	9/01/2015
75.0	Update TOC to include Pegasus. Add memory warning to Cygnus section	11/18/2015
76.0	Added Mem p/n 609-01683-000 64G dims released by eco-150222 for VMware 1 TB config	02/09/2016
77.0	Add info about V6624 early release modules Update Cygnus-I mem info to include 609-01680-000 D die 32G dimm	01/16/2017
78.0	Add info about Pegasus-memory Dimms 2810/4810/6810	04/06/2017
79.0	Minor changes and updates to Pegasus Memory tables	04/06/2017
80.0	Add Pegasus B information	05/25/2017
81.0	Update TOC , Update U112 U112A fw info	06/27/2017
82.0	Add CRU power supply part number info	05/08/2018
83.0	Add model 6805 info	07/25/2018
84.0	Add Aquarius info ftServer 2900, 4900, 6900	07/25/2018
85.0	Add V-Pegasus CRU info for V2608/V4612/V6616/V6624	10/30/2018
86.0	More updates to V Pegasus section	11/01/2018
87.0	More updates to V Pegasus section	11/01/2018
88.0	Add updates to Pegasus Peg B section for eco-190141	11/01/2018
89.0	Corect 6810-1S CRU part number pg 104	05/02/2019
90.0	Corect U117 – U117A part numbers for Pegasus and Aquarius	05/02/2019

91.0	Update Aquarius CPU naming convention, Change processor '21' to '41' Add appendix 1	05/20/2019
92.0	Add V-Peg-B section. Correct V-Peg Vos model name table. Added list boards info from a V6728 Added dims released in eco-190142	06/18/2019
93.0	Add V-6512 section.	07/30/2019
94.0	Add Paymentech V-6512 section.	09/04/2019
95.0	Add V-Fusion-H section.	11/18/2019
96.0	Add updates to Pegasus Peg B section for eco-180108 missed previously	01-31-2020
96.0	Add note about Alert 3277 to section 8.2	01-31-2020
97.0	Clean up supported memory dimms	02-03-2020
98.0	Clean up supported Peg-B memory dimms	04-24-2020
99.0	Add riser card ordering info to section 12.1 V2404/V4408/V6408 V Series CPU & Processor	05-21-2020
100.0	Add new supported 16G Peg-B memory dims eco-200280 Aquarius 16G dim qualified for use on Peg-B. Add info for model 6900-1S	07-22-2020
101.0	Add Aquarius-C model	01-13-2021
102.0	Add identifying info for NVME/SAS hybrid or SAS only CRUs	01-13-2021
103.0	Added Chase specific configured CRU for V-Aquarius V6832 Corrected Index page numbering	02-11-2021
104.0	Added V-Aquarius V6832, V4820, V2810 part numbers	11-10-2021
105.0	Correct V-Aquarius-C V4820, V2810 part numbers	12-29-2021
106.0	Aquarius and Aquarius-C mem dimms to AVL Samsung and Smart technologies eco-220127	03-10-2022
107.0	Add Aquarius-C+ ftServer P2920, P4920, P6920	03-10-2022
108.0	Enhance Aquarius-C+ ftServer P2920, P4920, P6920	03-16-2023
109.0	Added info about Aquarius-C ftServer model P6910-2SR2 Which has a different incompatible NVME incompatible NVME card 01762-000 U122 NVME PCI CARD Broadcom 9500-16i	03-27-2023
110.0	Correct the text in Aquarius C+ CRU part descriptions to remove reference to 'No Processors' since the CRUs part numbers include Processors.	12-20-2023
111.0	Correct a typo in the V2810 V4820 processor type	01-18-2024
112.0	Table of contents changes to Aq C+ models	03-19-2024

Table of Contents

Document Overview

1.1 Introduction

This document details the how to determine the proper CRU configuration for ftServer products when ordering a replacement for Windows based OS systems. The information documented uses ftServer Management Console (ftSMC) to gather information required to determine proper CRU configuration.

Atlas and ASM contain the ability to provide orderable part numbers (OPN) from the system inventory. This tool has been implemented for 3300 and above ftServer platforms and should be used as the PRIMARY source for determining all orderable RUs, including proper CRU configurations

Click on the following links to get CRU ordering procedures for the specific system type.

- 2300 ftServer - (Encore)
  - CPU and I/O CRU
- 32x0 ftServer - (Tune)
  - CPU CRU
  - I/O CRU
- 2400/4300/4600/5700 ftServer - (Aria)
  - CPU and I/O CRU
- 2500/4400/6200 ftServer (Fusion)
  - CPU and I/O CRU

- 2600/4500/6300 ftServer - (Draco/Draco')
  - CPU and I/O CRU
- 6310 ftServer - (Draco-W)
  - CPU and I/O CRU
- 2700/4700/6400 ftServer - (Cygnus)
  - CPU and I/O CRU
- 2510/4410/6210 ftServer - (Fusion-H)
  - CPU and I/O CRU
- 5200 ftServer - (Melody)
  - CPU CRU
- 5240 ftServer (Hale)
  - CPU CRU
- 6500 ftServer - (Hale)
  - CPU CRU
- 3300 ftServer - (Sonic-P or N)
  - CPU CRU
  - I/O CRU
- 5600 ftServer - (Sonic-P or N)
  - CPU CRU
  - I/O CRU
- 6600 ftServer - (Sonic-G)
  - CPU CRU
  - I/O CRU

Note: Each procedure is unique per CRU, based on system type.

I am interested in your comments regarding the accuracy and effectiveness of this documentation. Your feedback is welcome. Please send all comments via email to Jim.Rivela@stratus.com.

2 References

- **Customer Care ftServer illustrated parts lists. (Stratus access only)**
  http://www.stratus.ecacsupport.com/servicedocinternal/ftserveripb/ftserverframe.htm
- **Customer Care ftServer Technical Service Guides. (Stratus access only)**
  http://www.stratus.ecacsupport.com/servicedocinternal/

- **ftServer Management Console information**
  See Stratus ftServer System Administrator's Guide for system type at http://stratadoc4ftserver.stratus.com/

- **Stratus System Configuration specifications. (ES specs, Stratus access only)**
  http://sales.corp.stratus.com/technical/configs.htm
  http://websurfer.sw.stratus.com/groups/records.dir/FindDocs/findDocsForm.cgi?Org=stratus&AllowTS=true
- **Stratus Alerts (Stratus access only)**
  http://www.stratus.com/alerts/

3 ftServer CPU CRU Configuration

3.1 32x0 ftServer (Tune) CPU CRU

The following are snapshots of the ftServer Management Console on a 32x0 system. Follow the steps below to determine the CPU CRU configuration.

You need the following information to properly order a replacement CPU CRU.

- CPU Enclosure part number
- Memory DIMM part number and quantity.

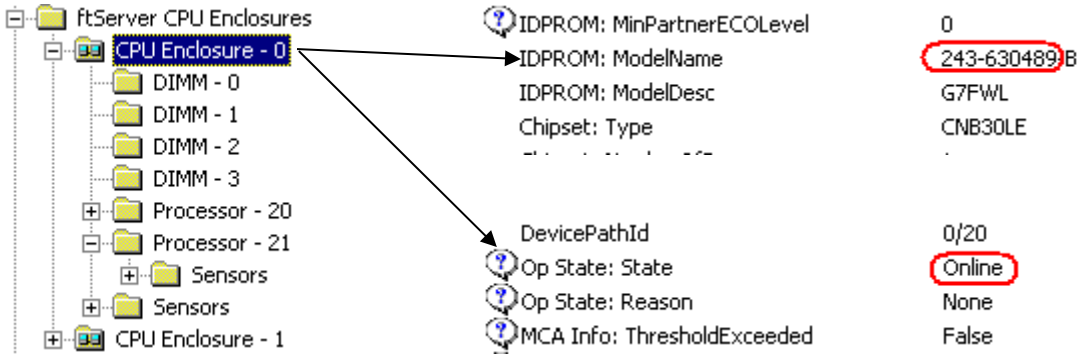
Steps to determine CRU configuration:

1. Open ftServer Management Console (ftSMC).
2. Expand ftServer CPU Enclosures, then the online CPU 0, or 1
3. Highlight the “CPU Enclosure X”.
4. In the right pane look for “IDPROM: ModelName” field. The following is a reference between the ModelName field and the CPU CRU assembly part number, which on a 32x0 includes one (uni) or two (twin) processors.

   For: 243-630153-X Order Part: 062-01887-000 - CPU Enclosure, w/800MHz CPU, Qty 1 (no memory)
   For: 243-630489-X Order Part: 062-01888-000 - CPU Enclosure, w/800MHz CPU, Qty 2 (no memory)

   Note: The “-X” denotes the revision of the part and can be ignored when determining the required CPU Enclosure.

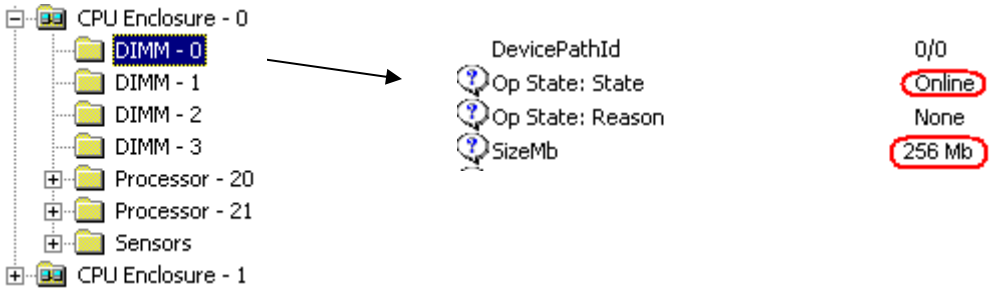
ftSMC (Right Pane) ftSMC (Left Pane)



Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above the ModelName field is 243-630489-B and both “Processor -20” and “Processor -21” exist, so the CPU enclosure to order would be 062-01888-000. The right pane shown depicts Processor 20 – online and processor 21 would display similar information.

5. Highlight the “DIMM – X”.
6. In the right pane look for “Op State: State” field to determine if DIMM exists. The state will be “Online” if it does.

ftSMC (Right Pane) ftSMC (Left Pane)



7. If the State is “Online”, then determine the part to order based on the size shown in the “SizeMb” field. The following is a reference between the SizeMb field and the memory DIMM part number.

   For: SizeMb = 256 Mb Order Part: 609-01531-000 - DIMM 256MB
   For: SizeMb = 512 Mb Order Part: 609-01532-000 - DIMM 512MB

8. For “DIMM 0 thru 3” which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered.

   Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “DIMM – 0” thru “DIMM - 3” exist and they were all verified to be 512MB size, so quantity 4 of 609-01532-000 would be ordered. The right pane shown depicts DIMM - 0 – Online with a size of 512Mb, DIMM – 1 thru DIMM – 3 would display similar information.

9. Once the CPU CRU enclosure part number, memory DIMM part number, slot configuration and quantity is determined a properly configured replacement CPU CRU can be ordered.

   Note: In the example given above the CPU CRU replacement order would include:
   - 1 – 062-01888-000
   - 4 – 609-01532-000

Notes:

1. Memory DIMMs on 32x0 are installed in quantities of 1. Valid configurations are 1 to 4 DIMMs.
2. 1or 2 processor configurations are valid configurations for 32x0 CPU CRU. Populated as “Processor – 20” and “Processor – 21” in ftSMC.
3. 32x0 part Illustrated list
4. 32x0 Technical Service Guide
5. 32x0 configuration specification ES-000125 - (Stratus access only)
6. The ftSMC Processor “QDFNumber” number field is unique for each Intel processor. The 808-815085-656A (800Mhz) QDFNumber = Not displayed by ftSMC.

Valid Part Numbers:

- The following are valid 32x0 CPU CRU enclosures and DIMM part numbers.

  062-01887-000 - CPU Enclosure, w/800MHz CPU, Qty 1 (no memory)
  243-630153-X - PCB, Motherboard (used in 062-01887-000 CPU Enclosure)

  062-01888-000 - CPU Enclosure, w/800MHz CPU, Qty 2 (no memory)
  243-630489-X - PCB, Motherboard (used in 062-01888-000 CPU Enclosure)

  609-01531-000 - DIMM 256MB (Mfg part# M390S3320CT1-C75)
  609-01532-000 - DIMM 512MB (Mfg part# M390S6450BT1-C75)

3.2 5200 ftServer (Melody) CPU CRU

The following are snapshots of the ftServer Management Console on a 5200 system. Follow the steps below to determine the CPU CRU configuration.

You need the following information to properly order a replacement CPU CRU.

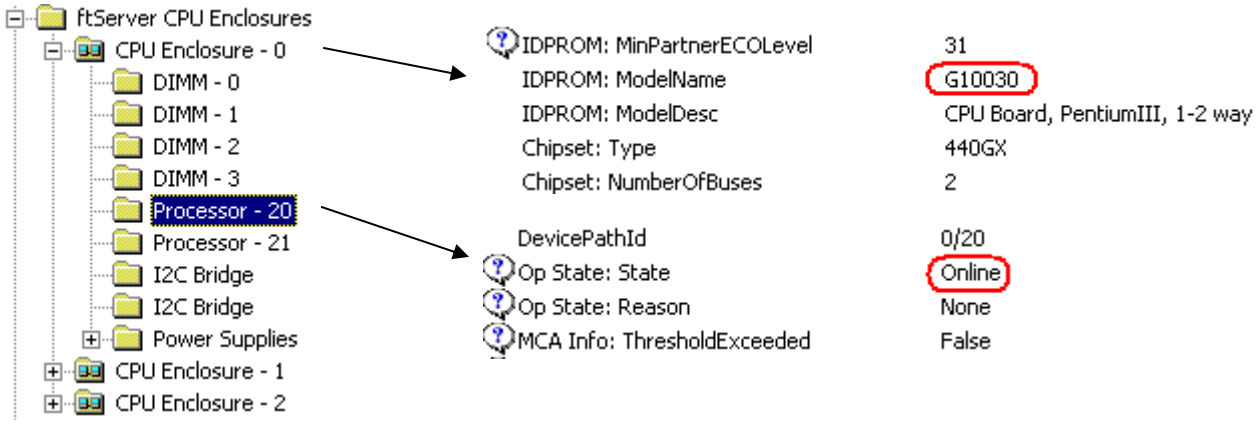
- CPU Enclosure part number
- AS processor kit part number and quantity
- Memory DIMM part number and quantity.

Steps to determine CRU configuration:

1. Open ftServer Management Console (ftSMC).
2. Expand ftServer CPU Enclosures, then the online CPU 0, 1 or 2.
3. Highlight the “CPU Enclosure X”.
4. In the right pane look for “IDPROM: ModelName” field. The following is a reference between the ModelName field and the CPU CRU assembly part number.

   For: G10020 Order Part: AA-G11020 - CPU Enclosure (no memory or processor)
   For: G10030 Order Part: AA-G11030 - CPU Enclosure (no memory or processor)

ftSMC (Right Pane) ftSMC (Left Pane)



5. The same processor kit is used on both 5200 CPU CRU enclosures.

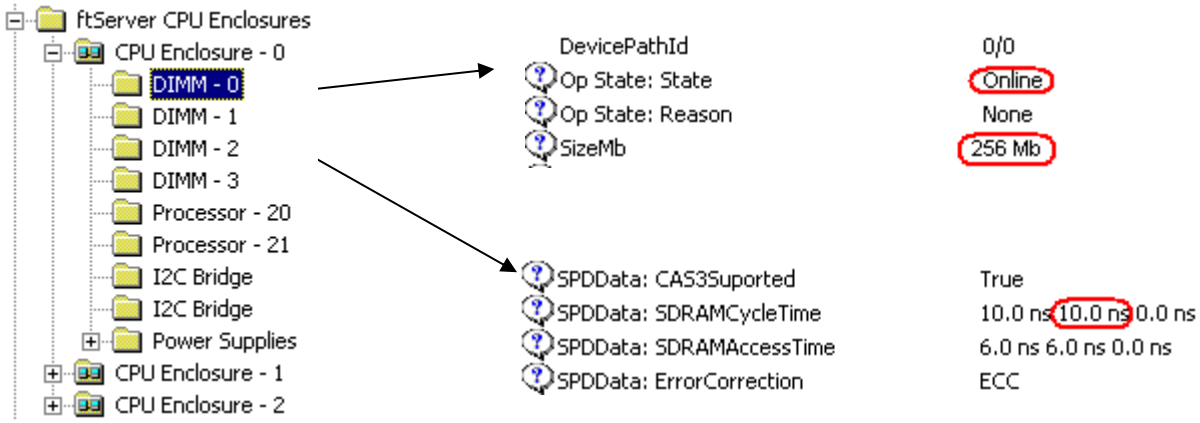
   For: AA-G11020 or AA-G11030 Order Part: AS-000380 - Processor Assembly: Processor 750Mhz, 256MB cache

6. Determine the quantity of AK processor kits required by the “Processor –xx” shown as online.

   Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “Processor -20” and “Processor -21” exist, so quantity 2 of AS-000380 would be ordered. The right pane shown depicts Processor 20 – online and processor 21 would display similar information.

7. Highlight the “DIMM – X”.
8. In the right pane look for “Op State: State” field to determine if DIMM exists. The state will be “Online” if it does.

ftSMC (Right Pane) ftSMC (Left Pane)



9. If the State is “Online”, then determine the part to order based on the size shown in the “SizeMb” field. If the size is 256MB go to step 10. The following is a reference between the SizeMb field and the memory DIMM part number.

For: SizeMb = 512 Mb Order Part: AA-M22200 - DIMM 512MB

10. In addition to 256MB size determined in step 9. The 256MB DIMMs require the “SPDData: SDRAMCycleTime” field be used to determine the part number to order. The following is a reference between the SPDData: SDRAMCycleTime field and the memory DIMM part number

    For: SizeMb = 256 Mb and SPDData: SDRAMCycleTime = 10.0ns, 12.0ns, 0.0ns;
    Order Part: AA-M22300 - DIMM 256MB

    For: SizeMb = 256 Mb and SPDData: SDRAMCycleTime = 10.0ns, 10.0ns, 0.0ns;
    Order Part: AA-M22310 - DIMM 256MB

11. For “DIMM 0 thru 3” which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered.

    Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “DIMM – 0” thru “DIMM - 3” exist and they were all verified to be 256MB size and the Cycle Time is “10.0ns”, so quantity 4 of AA-M22310 would be ordered. The right pane shown depicts DIMM - 0 – Online with a size of 256Mb, DIMM – 1 thru DIMM – 3 would display similar information.

12. Once the CPU CRU enclosure part number, AS processor kit part number and quantity and memory DIMM part number, slot configuration and quantity is determined a properly configured replacement CPU CRU can be ordered.

    Note: In the example given above the CPU CRU replacement order would include:
    - 1 – AA-G11030
    - 2 – AS-000380
    - 4 – AA-M22310

Notes:
1. Memory DIMMs on 5200 are installed in quantities of 1. Valid configurations are 1 to 4 DIMMs.
2. 1or 2 processor (AS kit) configurations are valid configurations for 5200 CPU CRU. Populated as “Processor – 20” and “Processor – 21” in ftSMC.
3. 5200 part Illustrated list
4. 5200 Technical Service Guide
5. 5200 configuration specification ES-000123 - (Stratus access only)
6. Alert 1933 - (Stratus access only)
7. The ftSMC Processor “QDFNumber” number field is unique for each Intel processor. The AS-000380 QDFNumber = SL4HE.

Valid Part Numbers:
- The following are valid 5200 CPU CRU enclosures, AS processor kit and DIMM part numbers.

  AA-G11020 - CPU Enclosure (no memory or processor)
  AA-G10020 - PCB, Motherboard (used in AA-G11020 CPU Enclosure)
  AS-000380 - Processor Assembly: Processor 750Mhz, 256MB cache

AA-G11030 - CPU Enclosure (no memory or processor)
AA-G10030 - PCB, Motherboard (used in AA-G11030 CPU Enclosure)
AS-000380 - Processor Assembly: Processor 750Mhz, 256MB cache

AA-M22300 - DIMM 256MB (Mfg part# KMM377S3323T-GL or M377S3323MT0-C1L)
Not compatible with AA-M22310
AA-M22310 - DIMM 256MB (Mfg part# M377S3323MT0-C1H) Not compatible with AA-M22300
AA-M22200 - DIMM 512MB (Mfg part# HB52E649E12-A6B or M377S6450AT3-C1H)

3.3 5240 ftServer (Hale) CPU CRU

The following are snapshots of the ftServer Management Console on a 5240 system. Follow the steps below to determine the CPU CRU configuration.

You need the following information to properly order a replacement CPU CRU.

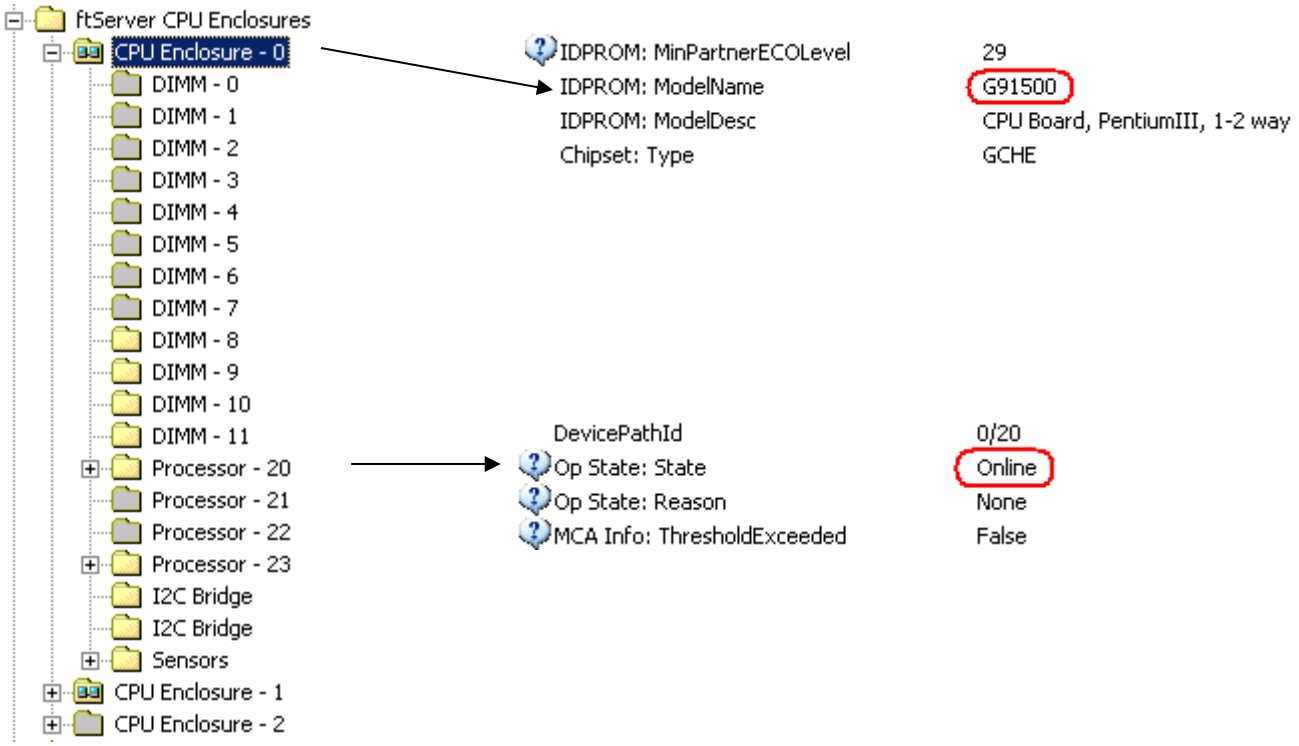
- CPU Enclosure part number
- AK processor kit part number and quantity
- Memory DIMM part number and quantity.

Steps to determine CRU configuration:

1. Open ftServer Management Console (ftSMC).
2. Expand ftServer CPU Enclosures, then the online CPU 0, or 1
3. Highlight the “CPU Enclosure X”.
4. In the right pane look for “IDPROM: ModelName” field. The following is a reference between the ModelName field and the CPU CRU assembly part number.

   For: G91500 Order Part: AA-G91500 - CPU Enclosure (no memory or processor)
   For: G91600 Order Part: AA-G91600 - CPU Enclosure (no memory or processor)

   ftSMC (Right Pane) ftSMC (Left Pane)



5. Based on CPU CRU part number the processor kit to order can be determined.

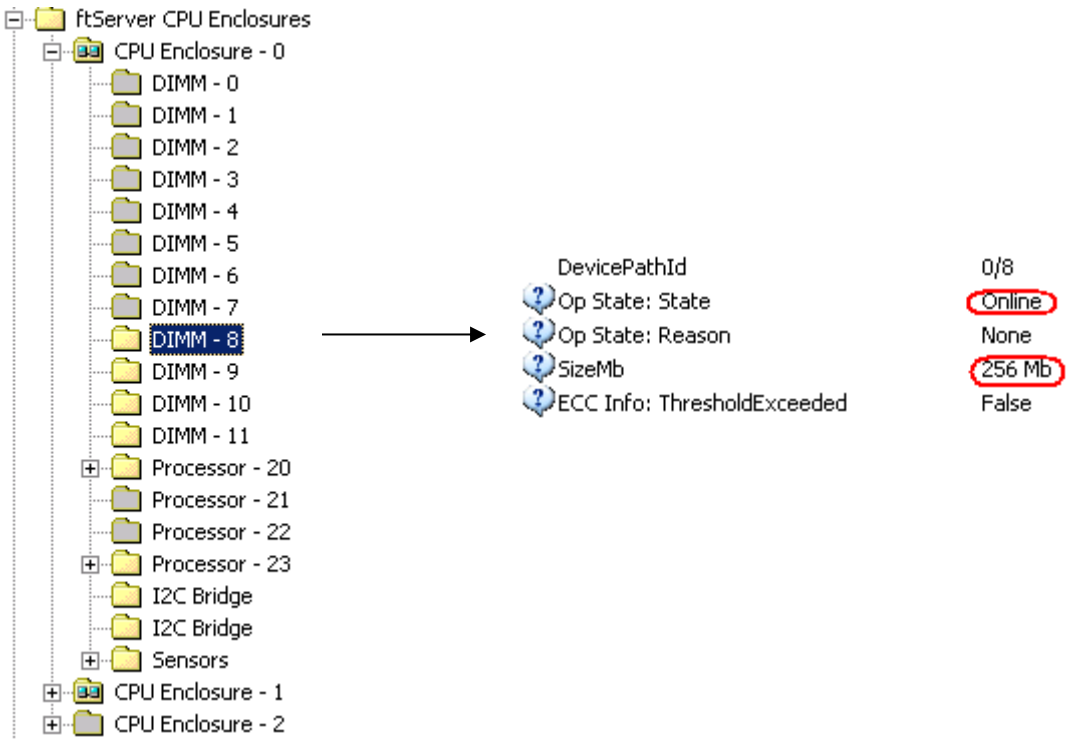
For: AA-G91500 Order Part: AK-000418 - Processor Kit: Processor 2.4 GHz CPU, Heatsink, clip and VRM
For: AA-G91600 Order Part: AK-000425 - Processor Kit: Processor 2.8 GHz CPU, Heatsink, clip and VRM

6. Determine the quantity of AK processor kits required by the “Processor –xx” shown as Online.

   Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “Processor -20” and “Processor -23” exist, so quantity 2 of AK-000418 would be ordered. The right pane shown depicts Processor 20 – Online and processor 23 would display similar information.

7. Highlight the “DIMM – X”.
8. In the right pane look for “Op State: State” field to determine if DIMM exists. The state will be “Online” if it does.

ftSMC (Right Pane) ftSMC (Left Pane)



9. If the State is “Online”, then determine the part to order based on the size shown in the “SizeMb” field. The following is a reference between the SizeMb field and the memory DIMM part number.

   For: SizeMb = 256 Mb Order Part: AA-M86600 - DIMM 256MB
   For: SizeMb = 512 Mb Order Part: AA-M86700 - DIMM 512MB
   For: SizeMb = 1024 Mb Order Part: AA-M86800 - DIMM 1GB

10. For “DIMM 0 thru 11” which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered.

    Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above “DIMM – 8” thru “DIMM - 11” exist and they were all verified to be 256MB size so quantity 4 of AA-M86600 would be ordered. The right pane shown depicts DIMM - 8 – Online

with a size of 256Mb, DIMM – 9 thru DIMM – 11 would display similar information.

11. Once the CPU CRU enclosure part number, AK processor kit part number and quantity and memory DIMM part number, slot configuration and quantity is determined a properly configured replacement CPU CRU can be ordered.

    Note: In the example given above the CPU CRU replacement order would include:
    - 1 – AA-G91500
    - 2 – AK-000418
    - 4 – AA-M86600

Notes:
1. Memory DIMMs on 5240 are installed in quantities of 4 of equal size referred to as banks. Valid configurations are 4, 8 or 12 DIMMs.
2. 1or 2 processor (AK kits) configurations are valid configurations for 5240 CPU CRU. Populated as “Processor – 20” and “Processor – 23” in ftSMC.
3. 5240 part Illustrated list
4. 5240 Technical Service Guide
5. 5240 configuration specification ES-000137 – (Stratus access only)
6. The ftSMC Processor “QDFNumber” number field is unique for each Intel processor. The AK-000418 QDFNumber = SL6EP, and AK-000425 QDFNumber = SL6M7

Valid Part Numbers:
- The following are valid 5240 CPU CRU enclosures, AK processor kits and DIMM part numbers.

  AA-G91500 - CPU Enclosure (no memory or processor)
  AA-G90000 - PCB, Motherboard (used in AA-G91300 CPU Enclosure)
  AK-000418 - Processor Kit: Processor 2.4 GHz CPU, Heatsink, clip and VRM

  AA-G91600 - Enclosure (no memory or processor)
  AA-G90000 - PCB, Motherboard (used in AA-G91300 CPU Enclosure)
  AK-000425 - Processor Kit: Processor 2.8 GHz CPU, Heatsink, clip and VRM

  AA-M86600 - DIMM 256MB (Mfg part# M383L3310CT1-CA0 or M383L3310DTS-CB0)
  AA-M86700 - DIMM 512MB (Mfg part# DTM63645A)
  AA-M86800 - DIMM 1GB (Mfg part# HB54R1G9F2-B75B)

3.4 6500 ftServer (Hale) CPU CRU

The following are snapshots of the ftServer Management Console on a 6500 system. Follow the steps below to determine the CPU CRU configuration.

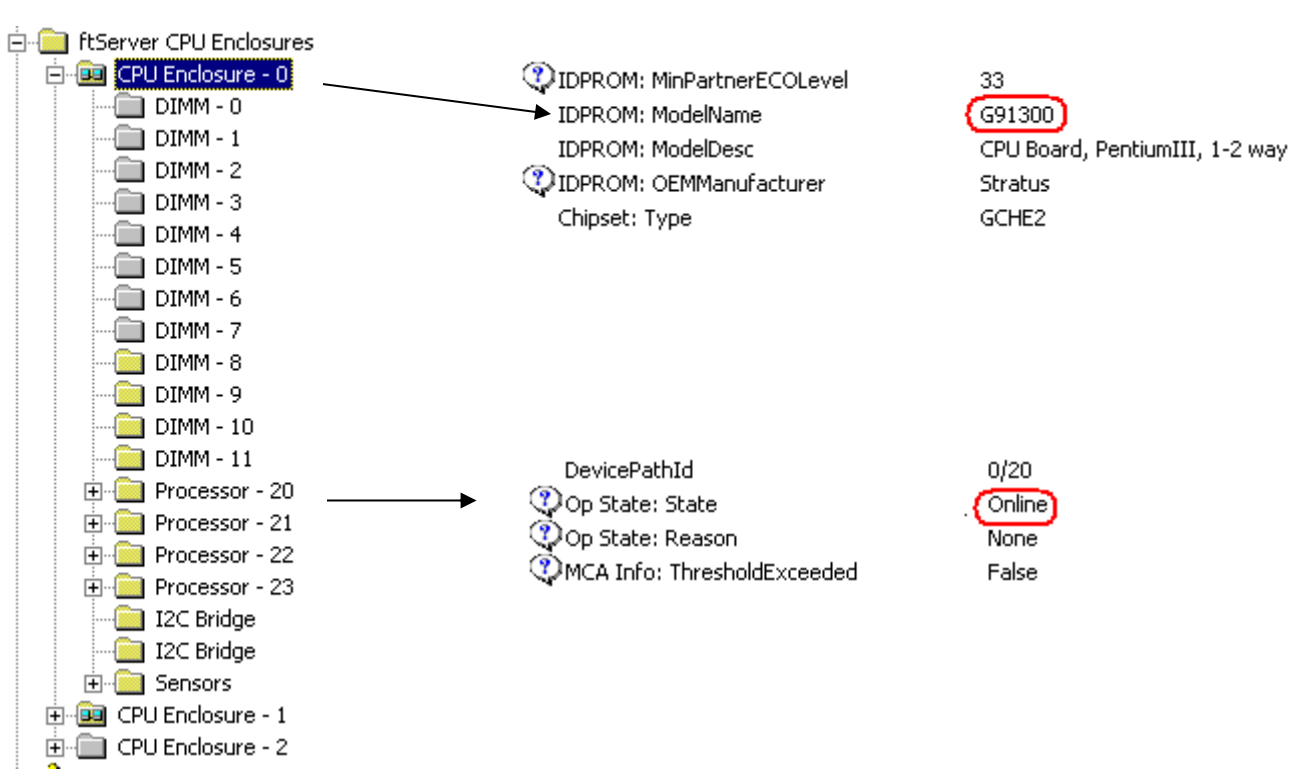
You need the following information to properly order a replacement CPU CRU.

- CPU Enclosure part number
- AK processor kit part number and quantity
- Memory DIMM part number and quantity.

Steps to determine CRU configuration:

1. Open ftServer Management Console (ftSMC).
2. Expand ftServer CPU Enclosures, then the online CPU 0, 1 or 2.
3. Highlight the “CPU Enclosure X”.
4. In the right pane look for “IDPROM: ModelName” field. The following is a reference between the ModelName field and the CPU CRU assembly part number.

   For: G91300 Order Part: AA-G91300 - CPU Enclosure (no memory or processor)
   For: G91700 Order Part: AA-G91700 - CPU Enclosure (no memory or processor)



5. Based on CPU CRU part number the processor kit to order can be determined.

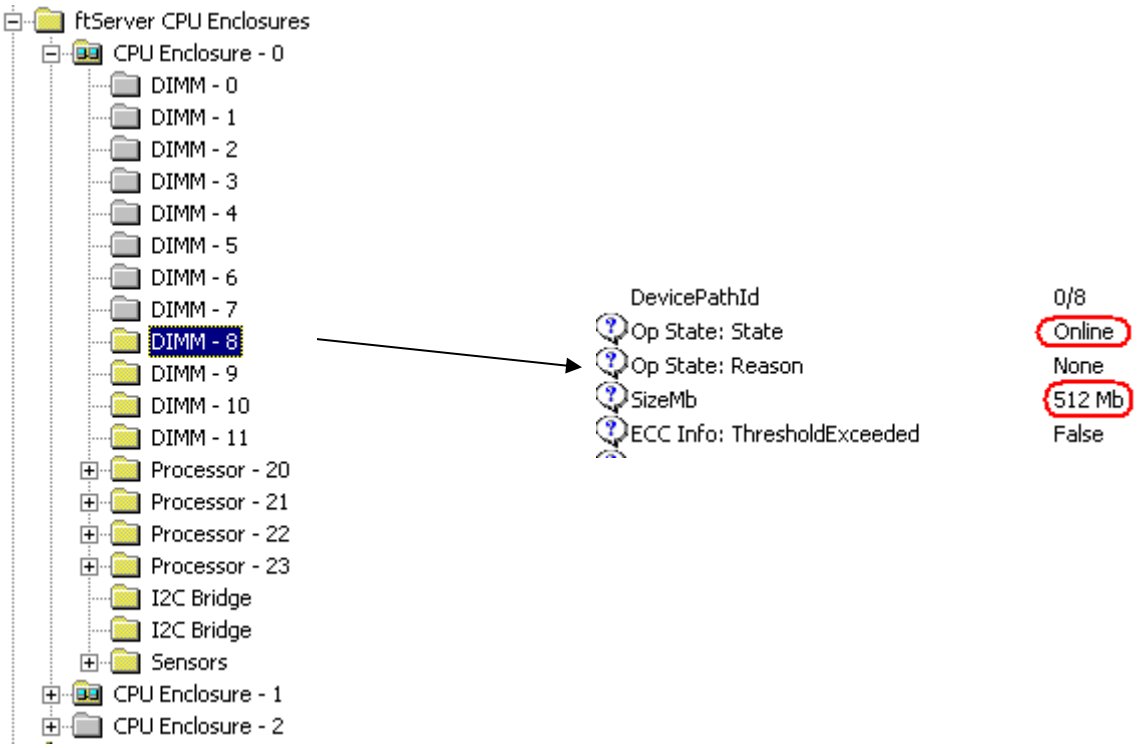
For: AA-G91300 Order Part: AK-000388 - Processor Kit: Processor 1.6 GHz CPU, Heatsink, clip and VRM
For: AA-G91700 Order Part: AK-000422 - Processor Kit: Processor 2.0 GHz CPU, Heatsink, clip and VRM

6. Determine the quantity of AK processor kits required by the “Processor –xx” shown as Online.

   Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “Processor -20”, “Processor -23”, “Processor -21” and “Processor -22” exist, so quantity 4 of AK-000388 would be ordered. The right pane shown depicts Processor 20 – Online and processor 21 thru 23 would display similar information.

7. Highlight the “DIMM – X”.
8. In the right pane look for “Op State: State” field to determine if DIMM exists. The state will be “Online” if it does.

ftSMC (Right Pane) ftSMC (Left Pane)



9. If the State is “Online” then determine the part to order based on the size shown in the “SizeMb” field. The following is a reference between the SizeMb field and the memory DIMM part number.

   For: SizeMb = 256 Mb Order Part: AA-M86600 - DIMM 256MB
   For: SizeMb = 512 Mb Order Part: AA-M86700 - DIMM 512MB
   For: SizeMb = 1024 Mb Order Part: AA-M86800 - DIMM 1GB

10. For “DIMM 0 thru 11” which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered.

    Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above “DIMM – 8” thru “DIMM - 11” exist and they were all verified to be 512MB size so quantity 4 of AA-M86700 would be ordered. The right pane shown depicts DIMM - 8 – Online

with a size of 512Mb, DIMM – 9 thru DIMM – 11 would display similar information.

11. Once the CPU CRU enclosure part number, AK processor kit part number and quantity and memory DIMM part number, slot configuration and quantity is determined a properly configured replacement CPU CRU can be ordered.

    Note: In the example given above the CPU CRU replacement order would include:
    - 1 – AA-G91300
    - 4 – AK-000388
    - 4 – AA-M86700

Notes:
1. Memory DIMMs on 6500 are installed in quantities of 4 of equal size referred to as banks. Valid configurations are 4, 8 or 12 DIMMs.
2. 2 or 4 processor (AK kits) configurations are valid configurations for 6500 CPU CRU. Populated as “Processor – 20” and “Processor -23” for Twin system and “Processor – 21” and “Processor – 22” are added to make a Quad system.
3. 6500 part Illustrated list
4. 6500 Technical Service Guide
5. 6600 configuration specification ES-000124 – (Stratus access only)
6. The ftSMC Processor “QDFNumber” number field is unique for each Intel processor. The AK-000388 QDFNumber = SL5G8 and AK-000422 QDFNumber = SL66Z

Valid Part Numbers:
- The following are valid 6500 CPU CRU enclosures, AK processor kits and DIMM part numbers.

  AA-G91300 - CPU Enclosure (no memory or processor)
  AA-G90000 - PCB, Motherboard (used in AA-G91300 CPU Enclosure)
  AK-000388 - Processor Kit: Processor 1.6 GHz CPU, Heatsink, clip and VRM

  AA-G91700 - Enclosure (no memory or processor)
  AA-G90000 - PCB, Motherboard (used in AA-G91300 CPU Enclosure)
  AK-000422 - Processor Kit: Processor 2.0 GHz CPU, Heatsink, clip and VRM

  AA-M86600 - DIMM 256MB (Mfg part#
  AA-M86700 - DIMM 512MB (Mfg part# DTM63645A)
  AA-M86800 - DIMM 1GB (Mfg part# HB54R1G9F2-B75B)

3.5 3300 ftServer (Sonic-P or N) CPU CRU

The following are snapshots of the ftServer Management Console on a 3300 system. Follow the steps below to determine the CPU CRU configuration.

You need the following information to properly order a replacement CPU CRU.

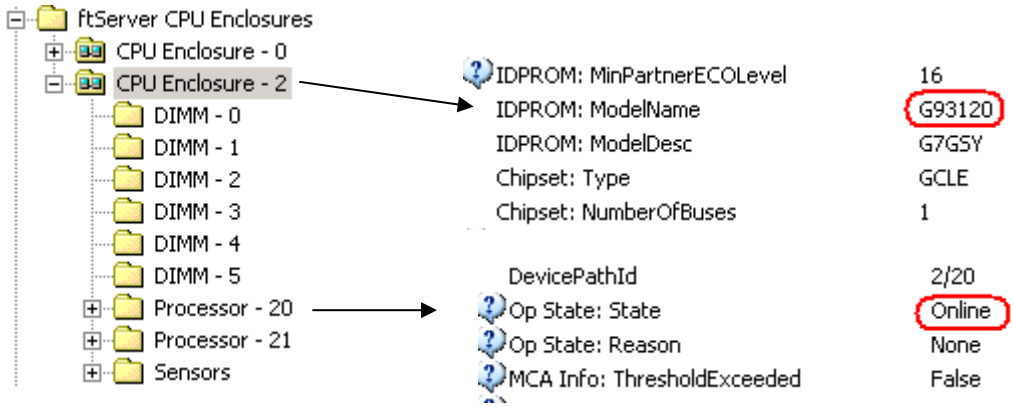
- CPU Enclosure part number
- AK processor kit part number and quantity
- Memory DIMM part number and quantity.

Steps to determine CRU configuration:

1. Open ftServer Management Console (ftSMC).
2. Expand ftServer CPU Enclosures, then the online CPU 0 or 2.
3. Highlight the “CPU Enclosure X”.
4. In the right pane look for “IDPROM: ModelName” field. The following is a reference between the ModelName field and the CPU CRU assembly part number.

   For: G93110 Order Part: AA-G92300 - CPU Enclosure (no memory or processor)
   For: G93120 Order Part: AA-G92320 - CPU Enclosure with rev. 1.5 CIOB (no memory or processor)
   For: G93130 Order Part: AA-G92330 - CPU Enclosure with rev. 1.5 CIOB, D-step (no memory or processor)
   For: G94210 Order Part: AA-G92810 - CPU Enclosure (no memory or processor)
   For: G94220 Order Part: AA-G92820 - CPU Enclosure (no memory or processor)

ftSMC (Right Pane) ftSMC (Left Pane)



5. Based on CPU CRU part number the processor kit to order can be determined.

   For: AA-G92300
   Order Part: AK-000424 - Processor Kit: Processor 2.4GHz, Heatsink & Adhesive (C-step processor)

   For: AA-G92320
   Order Part: AK-000424 - Processor Kit: Processor 2.4GHz, Heatsink & Adhesive (C-step processor)

   For: AA-G92330
   Order Part: AK-000506 - Processor Kit: Processor 2.4GHz, Heatsink & Adhesive (D-step processor)

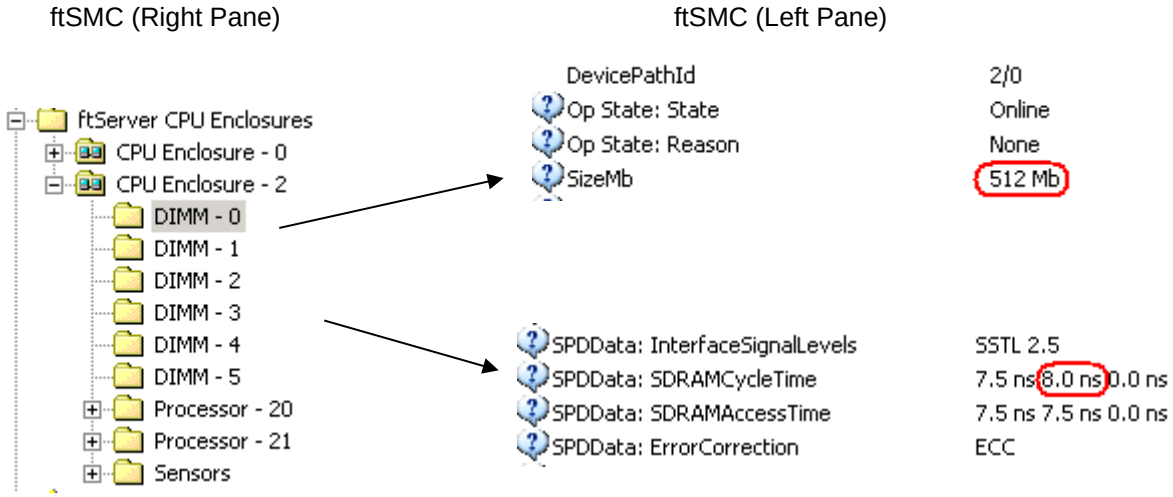
For: AA-G92810
Order Part: AK-000492 - Processor Kit: Processor 3.06GHz, Heatsink & Adhesive

For: AA-G92820
Order Part: AK-000492 - Processor Kit: Processor 3.06GHz, Heatsink & Adhesive

6. Determine the quantity of AK processor kits required by the "Processor –xx" shown as Online.

   Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State "Online or Empty". In the example above both "Processor -20" and "Processor -21" exist, so quantity 2 of AK-000424 would be ordered. The right pane shown depicts Processor 20 – Online and processor 21 would display similar information.

7. Highlight the "DIMM – X".
8. In the right pane look for "Op State: State" field to determine if DIMM exists. The state will be "Online" if it does.



9. If the State is "Online" then determine the part to order based on the size shown in the "SizeMb" field. If the size is 512MB go to step 10. The following is a reference between the SizeMb field and the memory DIMM part number.

   For: SizeMb = 256 Mb Order Part: AA-M22708 - DIMM 256MB

   For: SizeMb = 512 Mb, go to step 10

   For: SizeMb = 1024 Mb and SPDData: MfgPartNr = VI4CR287224DYHS2 or VI4CR287224DYHS1
   Order Part: AA-M22900 - DIMM 1GB

   For: SizeMb = 1024 Mb and SPDData: MfgPartNr = VR4CR287224DYHS1
   Order Part: AA-M23500-LF - DIMM 1GB

10. In addition to 512MB size determined in step 9. The 512MB DIMMs require the "SPDData: SDRAMCycleTime" field be used to determine the part number to order. The following is a reference between the SPDData: SDRAMCycleTime field and the memory DIMM part number

    For: SizeMb = 512 Mb and SPDData: SDRAMCycleTime = 7.5ns 7.5ns 0.0ns
    Order Part: AA-M22800 - DIMM 512MB

    For: SizeMb = 512 Mb and SPDData: SDRAMCycleTime = 7.5ns 8.0ns 0.0ns

Order Part: AA-M22808 - DIMM 512MB

11. For “DIMM 0 thru 5” which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered.

    Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “DIMM – 0” thru “DIMM - 5” exist and they were all verified to be 512MB size and the Cycle Time is “8.0ns”, so quantity 6 of AA-M22808 would be ordered. The right pane shown depicts DIMM - 0 – Online with a size of 512Mb, DIMM – 1 thru DIMM – 5 would display similar information.

12. Once the CPU CRU enclosure part number, AK processor kit part number and quantity and memory DIMM part number, slot configuration and quantity is determined a properly configured replacement CPU CRU can be ordered.

    Note: In the example given above the CPU CRU replacement order would include:
    1. 1 – AA-G92320
    2. 2 – AK-000424
    3. 6 – AA-M22808

Notes:
1. Memory DIMMs on 3300 are installed in quantities of 2 of equal size referred to as banks. Valid configurations are 2, 4 or 6 DIMMs.
2. 1or 2 processor (AK kits) configurations are valid configurations for 3300 CPU CRU. Populated as “Processor – 20” and “Processor – 20” in ftSMC.
3. AA-G92820 CPU CRU requires CPU BIOS revision 14.0 and above.
4. AA-M22900 and AA-M23500-LF , 1GB DIMM, 3.06 GHz systems only, minimum of 2GB maximum of 6GB.
5. AA-M23500-LF and AA-M22900 are bank compatible in same CPU CRU and partner CPU CRU.
6. 3300 part Illustrated list
7. 3300 Technical Service Guide
8. 3300 configuration specification ES-000131 – (Stratus access Only)
9. Alert 2080 – (Stratus access Only)
10. The ftSMC Processor “QDFNumber” number field is unique for each Intel processor. The AK-000424 QDFNumber = SL6EP, AK-000506 QDFNumber = SL6W8 and AK-000492 QDFNumber = SL6VP.

Valid Part Numbers:
- The following are valid 3300 CPU CRU enclosures, AK processor kits and DIMM part numbers.

  AA-G92300 - CPU Enclosure (no memory or processor)
  AA-G93110 - PCB, Motherboard (used in AA-G92300 CPU Enclosure)
  AK-000424 - Processor Kit: Processor 2.4Ghz, Heatsink & Adhesive (C-step processor)

  AA-G92320 - CPU Enclosure with rev. 1.5 CIOB (no memory or processor)
  AA-G93120 - PCB, Motherboard (used in AA-G92320 CPU Enclosure)
  AK-000424 - Processor Kit: Processor 2.4Ghz, Heatsink & Adhesive (C-step processor)

  AA-G92330 - CPU Enclosure with rev. 1.5 CIOB (no memory or processor)
  AA-G93130 - PCB, Motherboard (used in AA-G92330 CPU Enclosure)
  AK-000506 - Processor Kit: Processor 2.4Ghz, Heatsink & Adhesive (D-step processor)

  AA-G92810 - CPU Enclosure (no memory or processor)

AA-G94210 - PCB, Motherboard (used in AA-G92810 CPU Enclosure)
AK-000492 - Processor Kit: Processor 3.06Ghz, Heatsink & Adhesive

AA-G92820 - CPU Enclosure (no memory or processor)
AA-G94220 - PCB, Motherboard (used in AA-G92820 CPU Enclosure)
AK-000492 - Processor Kit: Processor 3.06Ghz, Heatsink & Adhesive

AA-M22708 - DIMM 256MB (Mfg part# DTM63645A)
AA-M22800 - DIMM 512MB (Mfg part# MH64D72ALTG-75A) Not compatible with AA-M22808
AA-M22808 - DIMM 512MB (Mfg part# DTM63631B or DTP63631D or DTP63631G)
Not compatible with AA-M22800
AA-M22900 - DIMM 1GB (Mfg part# VI4CR287224DYHS2 or VI4CR287224DYHS1) - (See Note 4 above)
AA-M23500-LF - DIMM 1GB, ROHS (Mfg part# VR4CR287224DYHS1) - (See Notes 4 and 5 above)

3.6 5600 ftServer (Sonic-P or N) CPU CRU

The following are snapshots of the ftServer Management Console on a 5600 system. Follow the steps below to determine the CPU CRU configuration.

You need the following information to properly order a replacement CPU CRU.

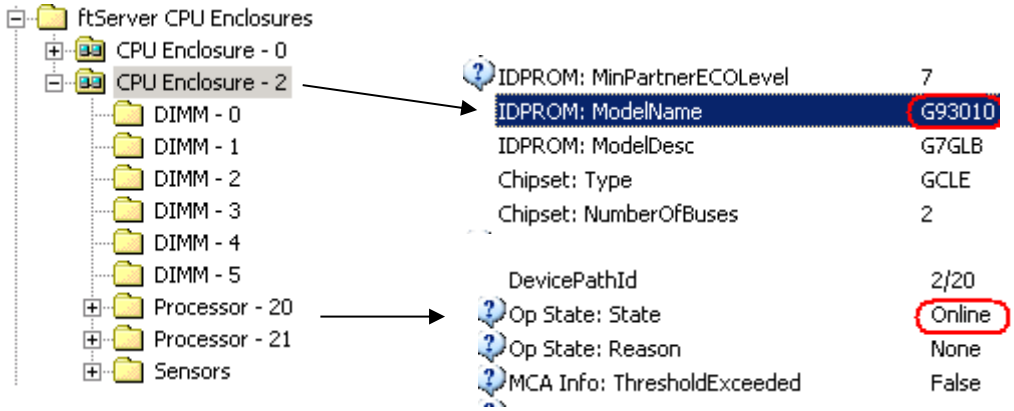
- CPU Enclosure part number
- AK processor kit part number and quantity
- Memory DIMM part number and quantity.

Steps to determine CRU configuration:

1. Open ftServer Management Console (ftSMC).
2. Expand ftServer CPU Enclosures, then the online CPU 0 or 2.
3. Highlight the “CPU Enclosure X”.
4. In the right pane look for “IDPROM: ModelName” field. The following is a reference between the ModelName field and the CPU CRU assembly part number.

   For: G93010 Order Part: AA-G92400 - CPU Enclosure (no memory or processor)
   For: G93020 Order Part: AA-G92420 - CPU Enclosure with rev. 1.5 CIOB (no memory or processor)
   For: G93030 Order Part: AA-G92430 - CPU Enclosure with rev. 1.5 CIOB, D-step (no memory or processor)
   For: G94010 Order Part: AA-G92610 - CPU Enclosure (no memory or processor)
   For: G94020 Order Part: AA-G92620 - CPU Enclosure (no memory or processor)

ftSMC (Right Pane) ftSMC (Left Pane)



5. Based on CPU CRU part number the processor kit to order can be determined.

   For: AA-G92400
   Order Part: AK-000472 - Processor Kit: Processor 2.8GHz, Heatsink & Adhesive (C-step processor)

   For: AA-G92420
   Order Part: AK-000472 - Processor Kit: Processor 2.8GHz, Heatsink & Adhesive (C-step processor)

   For: AA-G92430
   Order Part: AK-000507 - Processor Kit: Processor 2.8GHz, Heatsink & Adhesive (D-step processor)

   For: AA-G92610
   Order Part: AK-000493 - Processor Kit: Processor 3.2GHz, Heatsink & Adhesive

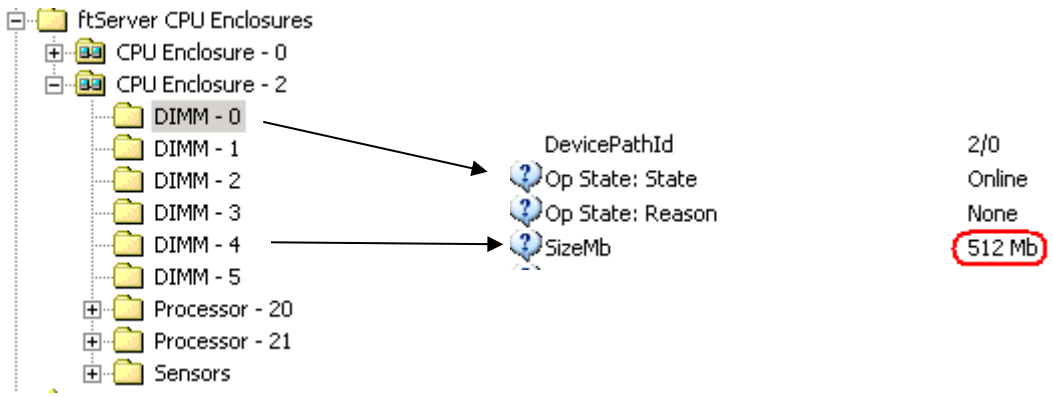
For: AA-G92620
Order Part: AK-000493 - Processor Kit: Processor 3.2GHz, Heatsink & Adhesive

6. Determine the quantity of AK processor kits required by the “Processor –xx” shown as on-line.

   Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “Processor -20” and “Processor -21” exist, so quantity 2 of AK-0000472 would be ordered. The right pane shown depicts Processor 20 – Online and processor 21 would display similar information.

7. Highlight the “DIMM – X”.
8. In the right pane look for “Op State: State” field to determine if DIMM exists. The state will be “Online” if it does.

ftSMC (Right Pane) ftSMC (Left Pane)



9. If the State is “Online” then determine the part to order based on the size shown in the “SizeMb” field. The following is a reference between the SizeMb field and the memory DIMM part number.

   For: SizeMb = 256 Mb Order Part: AA-M22708 - DIMM 256MB
   For: SizeMb = 512 Mb Order Part: AA-M22808 - DIMM 512MB

   For: SizeMb = 1024 Mb and SPDData: MfgPartNr = VI4CR287224DYHS2 or VI4CR287224DYHS1
   Order Part: AA-M22900 - DIMM 1GB

   For: SizeMb = 1024 Mb and SPDData: MfgPartNr = VR4CR287224DYHS1
   Order Part: AA-M23500-LF - DIMM 1GB

   For: SizeMb = 2048 Mb Order Part: AA-M23000 - DIMM 2GB

10. For “DIMM 0 thru 5” which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered.

    Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above “DIMM – 0” thru “DIMM - 5” exist and they were all verified to be 512MB size so quantity 6 of AA-M22808 would be ordered. The right pane shown depicts DIMM - 0 – Online with a size of 512Mb, DIMM – 1 thru DIMM – 5 would display similar information.

11. Once the CPU CRU enclosure part number, AK processor kit part number and quantity and memory DIMM part number, slot configuration and quantity is determined a properly configured replacement CPU CRU can be ordered.

    Note: In the example given above the CPU CRU replacement order would include:
    - 1 – AA-G92400
    - 2 – AK-000472
    - 6 – AA-M22808

Notes:
1. Memory DIMMs on 5600 are installed in quantities of 2 referred to as banks. Valid configurations are 2, 4 or 6 DIMMs.
2. 1or 2 processor (AK kits) configurations are valid configurations for 5600 CPU CRU. Populated as “Processor – 20” and “Processor – 20” in ftSMC.
3. 5600 part Illustrated list
4. 5600 Technical Service Guide
5. 5600 configuration specification ES-000140 – (Stratus access Only)
6. The ftSMC Processor “QDFNumber” number field is unique for each Intel processor. The AK-000472 QDFNumber = SL6M7, AK-000507 QDFNumber = SL6WA and AK-000493 QDFNumber = SL72Y.
7. Supported on ftServer 5600 2.8 GHz systems – Maximum 6GB total memory.
8. Supported on ftServer 5600 3.2 GHz systems – Maximum 12GB total memory. 8GB or above requires W2K3 and ftSSS 3.0 or greater.
9. AA-G92620 CPU CRU requires CPU BIOS revision 14.0 and above.
10. AA-M23000 2GB DIMM requires CPU BIOS revision 18.0 and above
11. AA-M23500-LF and AA-M22900 are bank compatible in same CPU CRU and partner CPU CRU.
12. AA-M23500-LF requires a minimum of revision 21.0 CPU BIOS on 2.8Ghz CPUs. See Alert 2326.

Valid Part Numbers:
- The following are valid 5600 CPU CRU enclosures, AK processor kits and DIMM part numbers.

  AA-G92400 - CPU Enclosure (no memory or processor)
  AA-G93010 - PCB, Motherboard (used in AA-G92400 CPU Enclosure)
  AK-000472 - Processor Kit: Processor 2.8GHz, Heatsink & Adhesive (C-step processor)

  AA-G92420 - CPU Enclosure with rev. 1.5 CIOB (no memory or processor)
  AA-G93020 - PCB, Motherboard (used in AA-G92420 CPU Enclosure)
  AK-000472 - Processor Kit: Processor 2.8GHz, Heatsink & Adhesive (C-step processor)

  AA-G92430 - CPU Enclosure with rev. 1.5 CIOB (no memory or processor)
  AA-G93030 - PCB, Motherboard (used in AA-G92430 CPU Enclosure)
  AK-000507 - Processor Kit: Processor 2.8GHz, Heatsink & Adhesive (D-step processor)

  AA-G92610 - CPU Enclosure (no memory or processor)
  AA-G94010 - PCB, Motherboard (used in AA-G92610 CPU Enclosure)
  AK-000493 - Processor Kit: Processor 3.2GHz, Heatsink & Adhesive

  AA-G92620 - CPU Enclosure (no memory or processor)
  AA-G94020 - PCB, Motherboard (used in AA-G92620 CPU Enclosure)
  AK-000493 - Processor Kit: Processor 3.2GHz, Heatsink & Adhesive

  AA-M22708 - DIMM 256MB (Mfg part# DTM63645) – (See Note 6 above)
  AA-M22808 - DIMM 512MB (Mfg Part# DTM63631B or DTP63631D or DTP63631G) - (See Note 6 above)
  AA-M22900 - DIMM 1GB (Mfg part# VI4CR287224DYHS2 or VI4CR287224DYHS1) - (See Note 7 above)
  AA-M23000 – DIMM 2GB (Mfg part# VI4CR567224EYHS2 or VI4CR567224EYHS7) - (See Note 7 and 10

above)
AA-M23500-LF - DIMM 1GB, ROHS (Mfg part# VR4CR287224DYHS1) - (See Notes 11 and 12 above)

3.7 6600 ftServer (Sonic-G) CPU CRU

The following are snapshots of the ftServer Management Console on a 6600 system. Follow the steps below to determine the CPU CRU configuration.

You need the following information to properly order a replacement CPU CRU.

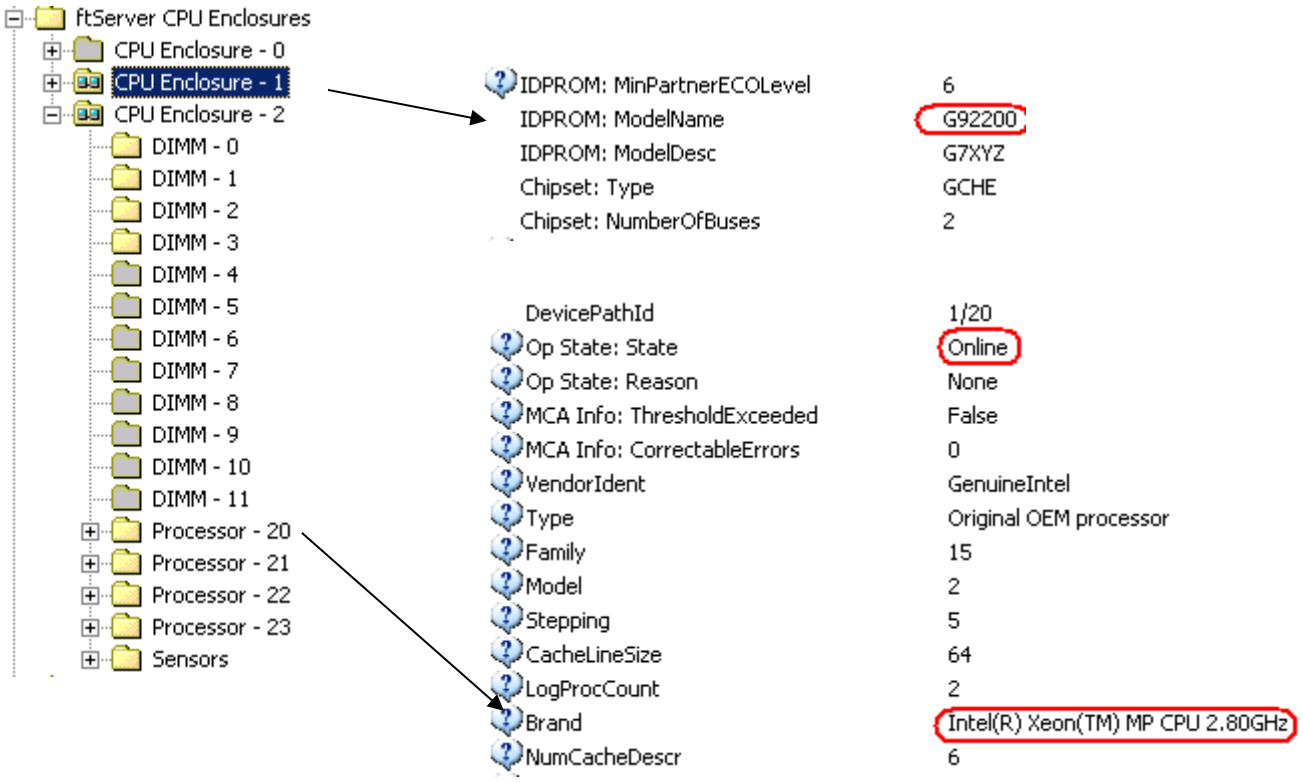
- CPU Enclosure part number
- AK processor kit part number and quantity
- Memory DIMM part number and quantity.

Steps to determine CRU configuration:

1. Open ftServer Management Console (ftSMC).
2. Expand ftServer CPU Enclosures, then the online CPU 0, 1 or 2.
3. Highlight the “CPU Enclosure X”.
4. In the right pane look for “IDPROM: ModelName” field. The following is a reference between the ModelName field and the CPU CRU assembly part number.

   For: G92200 Order Part: AA-G92200 - CPU Enclosure (no memory or processor)
   For: G90200 Order Part: AA-G92200 - CPU Enclosure (no memory or processor) (See Note 8)

ftSMC (Right Pane) ftSMC (Left Pane)



5. Highlight the “Processor - 20”.
6. In the right pane look for “Brand” field. The following is a reference between the “Brand” field and the AK kit part number.

   For: Brand = Intel(R) Xeon(TM) MP CPU 2.80GHz
   Order Part: AK-000431- Processor Kit: Processor 2.8Ghz, 2MB Cache, Heatsink & Adhesive

   For: Brand = Intel(R) Xeon(TM) MP CPU 2.00GHz
   Order Part: AK-000440 - Processor Kit: Processor 2.0Ghz, 1MB Cache, Heatsink & Adhesive

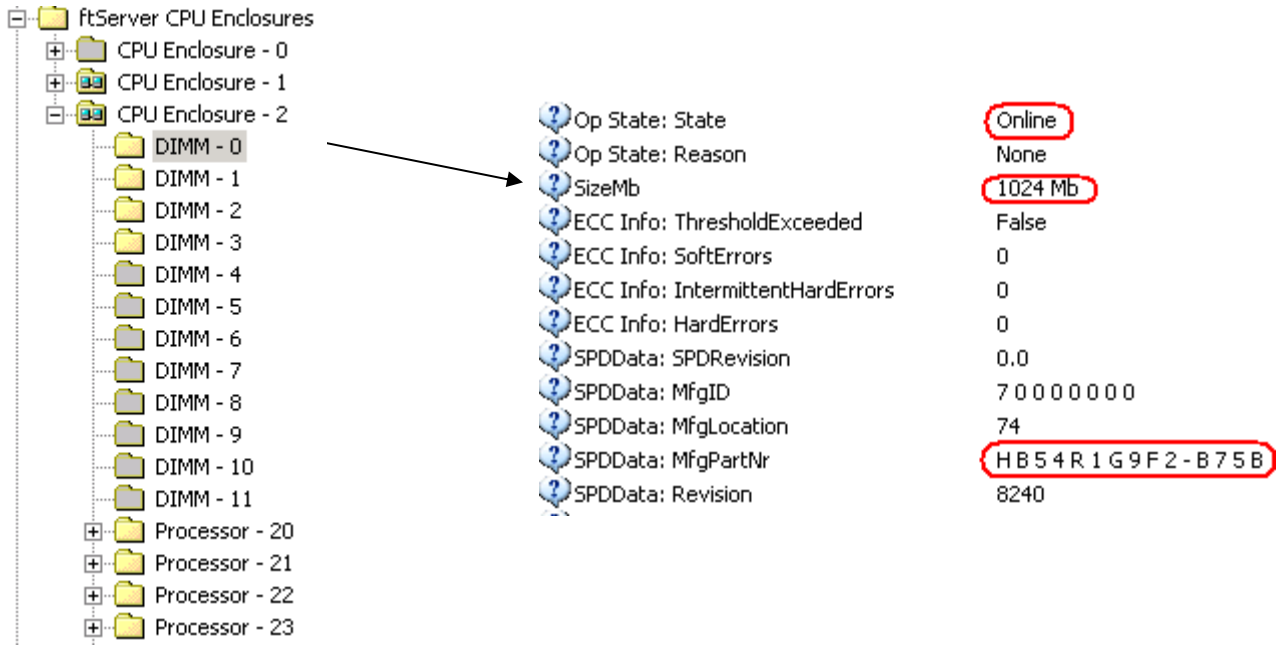
   For: Brand = Intel(R) Xeon(TM) MP CPU 3.00GHz
   Order Part: AK-000502 - Processor Kit: Processor 3.0Ghz, 4MB Cache, Heatsink & Adhesive

7. Determine the quantity of AK processor kits required by the “Processor –xx” shown as Online.

   Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “Processor -20”, “Processor -21”, “Processor -22” and “Processor -23” exist, so quantity 4 of AK-000431 would be ordered. The right pane shown depicts Processor 20 – Online and processor 21 thru 23 would display similar information.

8. Highlight the “DIMM – X”.
9. In the right pane look for “Op State: State” field to determine if DIMM exists. The state will be “Online” if it does.

ftSMC (Right Pane) ftSMC (Left Pane)



10. If the State is “Online” then determine the part to order based on the “SizeMb” and the “SPDData: MfgPartNr fields for DIMMs. The following is a reference between the SizeMb and SPDData: MfgPartNr fields and the memory DIMM part number.

    For: SizeMb = 512 Mb and SPDData: MfgPartNr = M383L6420DTS-CB0
    Order Part: AA-M86700 - DIMM 512MB
    For: SizeMb = 512 Mb and SPDData: MfgPartNr = M383L6420CT1-CA0
    Order Part: AA-M86700 - DIMM 512MB

    For: SizeMb = 512 Mb and SPDData: MfgPartNr = DTP63664B
    Order Part: AA-M86710 - DIMM 512MB

    For: SizeMb = 1024 Mb and SPDData: MfgPartNr = HB54R1G9F2-B75B
    Order Part: AA-M86800 - DIMM 1GB

    For: SizeMb = 1024 Mb and SPDData: MfgPartNr = <no data displayed in field> or
    Order Part: AA-M22900 - DIMM 1GB VI4CR287224DYHS2 or VI4CR287224DYHS1

    For: SizeMb = 1024 Mb and SPDData: MfgPartNr = VR4CR287224DYHS1
    Order Part: AA-M23500-LF - DIMM 1GB

    For: SizeMb = 2048 Mb Order Part: AA-M23000 - DIMM 2GB

11. For “DIMM 0 thru 11” which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered.

    Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above “DIMM – 0” thru “DIMM - 3” exist and they were all verified to be 1024MB size so quantity 4 of AA-M86800 would be ordered. The right pane shown depicts DIMM - 0 – Online with a size of 1024Mb, DIMM – 1 thru DIMM – 3 would display similar information.

12. Once the CPU CRU enclosure part number, AK processor kit part number and quantity and memory DIMM part number, slot configuration and quantity is determined a properly configured replacement CPU CRU can be ordered.

    Note: In the example given above the CPU CRU replacement order would include:
    - 1 – AA-G92200
    - 4 – AK-000431
    - 4 – AA-M86800

Notes:
1. Memory DIMMs on 6600 are installed in quantities of 4 of equal size referred to as banks. Valid configurations are 4, 8 or 12 DIMMs.
2. AA-M22900, AA-M23000 and AA-M86800 are compatible in same CPU CRU and partner CPU CRU. Can not be mixed within a bank.
3. 2 or 4 processor (AK kits) configurations are valid configurations for 6600 CPU CRU.
4. AA-M86700 and AA-M86710 are compatible in same CPU CRU and partner CPU CRU, but can not be mixed within a bank
5. AA-M22900 and AA-M23500-LF are compatible in same CPU CRU and partner CPU CRU. Can not be mixed within a bank.
6. AA-M23500-LF and AA-M86800 are NOT compatible in same CPU CRU, but are compatible in partner CPU CRU.
7. 6600 part Illustrated list

8. 6600 Technical Service Guide
9. 6600 configuration specification ES-000144 – (Stratus access only)
10. Alert 2088 – (Stratus access only)
11. The ftSMC Processor "QDFNumber" number field is unique for each Intel processor. The AK-000440 QDFNumber = SL6YJ, AK-000431 QDFNumber = SL6YL, and AK-000502 QDFNumber = SL79V.

Valid Part Numbers:

- The following are valid 6600 CPU CRU enclosures, AK processor kits and DIMM part numbers.

AA-G92200 - CPU Enclosure (no memory or processor)
AA-G90200 - PCB, Motherboard (used in AA-G92200 CPU Enclosure)
AK-000431 - Processor Kit: Processor 2.8Ghz, 2MB Cache, Heatsink & Adhesive
AK-000440 - Processor Kit: Processor 2.0Ghz, 1MB Cache, Heatsink & Adhesive
AK-000502 - Processor Kit: Processor 3.0Ghz, 4MB Cache, Heatsink & Adhesive

AA-G92500 - CPU Enclosure, 2.0GHz, 1MB Cache
(Obsolete - Order AA-G92200 with AK-000440 CPU Kits)

AA-M86700 - DIMM 512MB (Mfg part# M383L6420DTS-CB0 or M383L6420CT1-CA0) (See Note 4 above)
AA-M86710 - DIMM 512MB (Mfg part# DTM63631B or DTP63631D or DTP63631G) (See Note 4 above)
AA-M86800 - DIMM 1GB (Mfg part# HB54R1G9F2-B75B) (See Note 2 above)
AA-M22900 - DIMM 1GB (Mfg part# V14CR287224DYHS2 or V14CR287224DYHS1) (See Note 2 above)
AA-M23000 – DIMM 2GB (Mfg part# VI4CR567224EYHS2 or VI4CR567224EYHS7) (See Note 2 above)
AA-M23500-LF - DIMM 1GB, ROHS (Mfg part# VR4CR287224DYHS1) - (See Notes 5 and 6 above)

4 ftServer I/O CRU Configuration

4.1 32x0 ftServer (Tune) I/O CRU

The following are snapshots of the ftServer Management Console on a 32x0 system. Follow the steps below to determine the I/O CRU configuration.

You need the following information to properly order a replacement I/O CRU.

- I/O CRU Enclosure part number

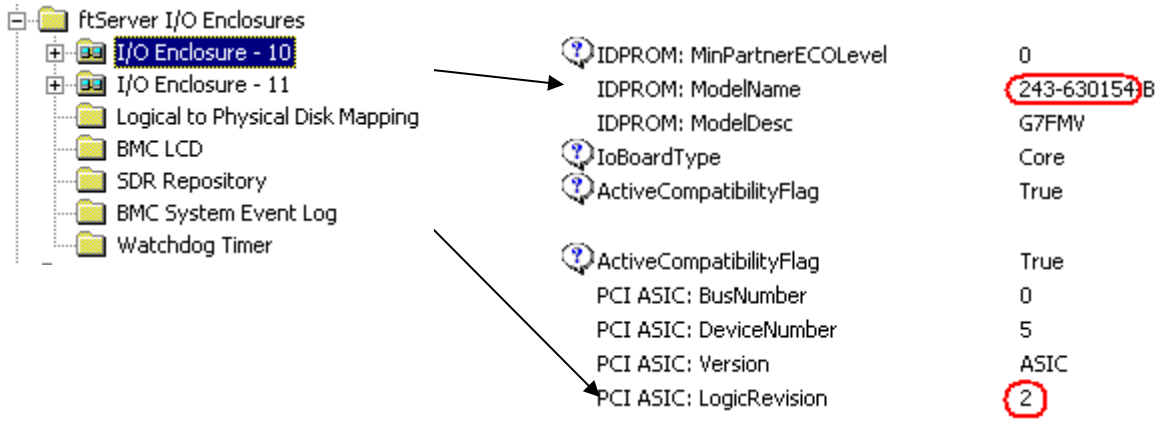
Steps to determine I/O CRU part number:

1. Open ftServer Management Console (ftSMC).
2. Expand ftServer I/O Enclosures.
3. Highlight the “I/O Enclosure - xx” 10 or 11.
4. In the right pane look for “IDPROM: ModelName” field. The following is a reference between the ModelName field and the I/O CRU assembly part number.

   For: 243-630154-X Order Part: 062-01886-000 – I/O Enclosure, Rev 2 PCI ASIC (No PCI Adapters)
   For: 243-630788-X Order Part: 062-01886-001 – I/O Enclosure, Rev 3 PCI ASIC (No PCI Adapters)

   Note: The “-X” denotes the revision of the part and can be ignored when determining the required I/O Enclosure.

ftSMC (Right Pane) ftSMC (Left Pane)



Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above the ModelName field is 243-630154-B, so the I/O enclosure to order would be 062-01886-000.

5. Once the I/O CRU enclosure part number is determined, a replacement I/O CRU can be ordered.

   Note: In the example given above the I/O CRU replacement order would be:
   - 1 – 062-01886-000

Notes:
1. 062-01886-000 and 062-01886-001 are NOT compatible due to the different revisions for the PCI ASIC.
2. 32x0 part Illustrated list
3. 32x0 Technical Service Guide
4. 32x0 configuration specification ES-000125 - (Stratus access only)

Valid Part Numbers:
- The following are valid 32x0 I/O CRU enclosure part numbers.

  062-01886-000 – I/O Enclosure, Rev 2 PCI ASIC (No PCI Adapters)
  243-630154-X - PCB, Motherboard Rev 2 PCI ASIC (used in 062-01886-000 I/O Enclosure)

  062-01886-001 – I/O Enclosure, Rev 3 PCI ASIC (No PCI Adapters)
  243-630788-X - PCB, Motherboard Rev 3 PCI ASIC (used in 062-01886-001 I/O Enclosure)

4.2 3300 ftServer (Sonic-P or N) I/O CRU

The following are snapshots of the ftServer Management Console on a 3300 system. Follow the steps below to determine the I/O CRU configuration.

You need the following information to properly order a replacement I/O CRU.

- I/O CRU Enclosure part number

Steps to determine I/O CRU part number:

1. Verify system type by viewing My Computer -> Properties -> General Tab. Under the “Manufactured and supported by” section it will display the ftServer 3300.
2. Open ftServer Management Console (ftSMC).
3. Expand ftServer I/O Enclosures.
4. Highlight the Core “I/O Enclosure – xx”, 10 or 11.
5. Determine the Core I/O enclosure part to order based on the CPU enclosure “IDPROM:ModelName” and the I/O enclosure “IDPROM:ModelName” fields. The following is a reference between the CPU enclosure IDPROM:ModelName and I/O enclosure IDPROM:ModelName fields and the Core I/O enclosure part number.

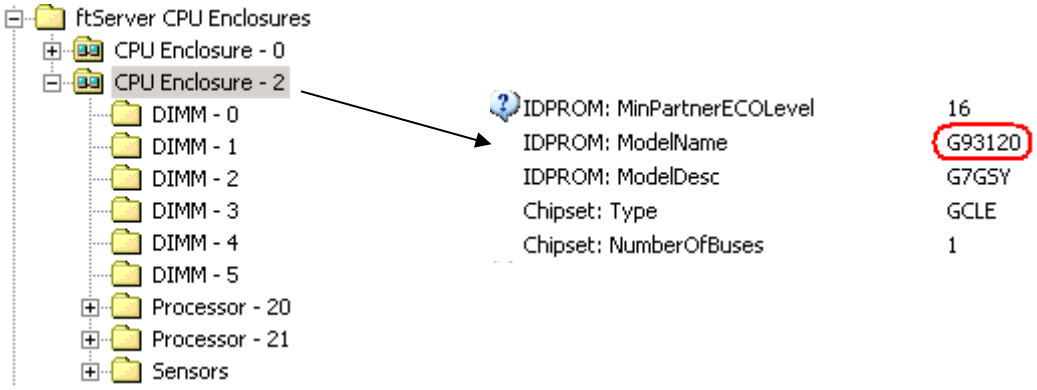
   For: CPU IDPROM:ModelName = G93110 or G93120 or G93130
   and
   Core I/O IDPROM:ModelName = E70000
   Order Part: AA-E89800 - Core I/O Assembly, less than 3.0 GHz processors,
   NEC BMC Firmware (Silver ejectors, does NOT
   contain AK-000477, Minimum Load Resister Kit)

   or
   Core I/O IDPROM:ModelName = E70000
   Order Part: AA-E90400 - Core I/O Assembly, less than 3.0 GHz processors,
   NEC BMC Firmware (Black ejectors - cosmetic only)

   For : CPU IDPROM:ModelName = G94210 or G94220
   and
   Core I/O IDPROM:ModelName = E70000
   Order Part: AA-E90100 - Core I/O Assembly, greater than 3.0 GHz processors,
   Stratus BMC Firmware (No PCI Adapters)

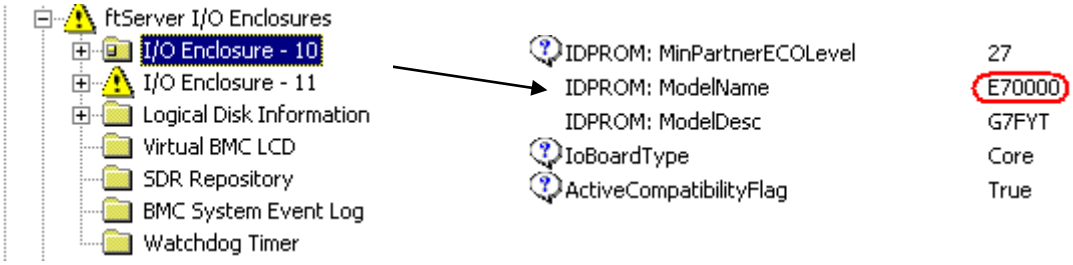
CPU Enclosure

ftSMC (Right Pane) ftSMC (Left Pane)



Core I/O Enclosure

ftSMC (Right Pane) ftSMC (Left Pane)



Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State "Online or Empty". In the examples above the CPU enclosure ModelName field is G93120, and the I/O enclosure ModelName field as E70000, so the Core I/O enclosure to order would be AA-G89800 or AA-G90400.

6. The AA-E89800 and AA-E90400 are not compatible. AA-E89800 has silver or black ejectors and no Minimum Load Resister Kit and AA-E90400 as black ejectors and the Minimum Load Resister Kit. To get the correct part number, than the white part number label on the back of the Core I/O CRU will have to be verified. There is no on-line way to tell the difference. Go to step 9.

   Note: The Minimum Load Resister Kit AK-000477 is required to support Core I/Os with no internal hard disk drives. If an AA-E89800 contains no internal disk drives, the Core I/O may not power on until at least one disk is inserted. An AA-E90400 can be substituted for a AA-E89800 (may have different color ejectors) if necessary, but not vise versa.

7. Once the I/O CRU enclosure part number is determined, a replacement I/O CRU can be ordered.

   Note: In the example given above the Core I/O CRU replacement order would be:
   - 1 – AA-E89800 or AA-E90400 (See step 7 for additional information)

Notes:

1. AA-E89800, AA-E90400 and AA-E90100 replacements are shipped with NO PCI adapters.
2. AA-E89800 does NOT contain AK-000477, Minimum Load Resister Kit, required for supporting core I/Os with NO internal HDDs.
3. AA-E90400 and AA-E90100 DOES contain AK-000477, Minimum Load Resister Kit and can support core I/Os with NO internal HDDs.
4. AA-E89800 and AA-E90400 used in the ft3300/5600 systems are NOT compatible with the AA-E90100 even thought the ModelName field is the same “E70000”. Each contains different BMC firmware, which can NOT be changed by the on-line or off-line firmware burn tools.
5. AA-E90100 contains Stratus BMC Firmware and is the same Core I/O used in ft6600 system.
6. 3300 part Illustrated list
7. 3300 Technical Service Guide
8. 3300 configuration specification ES-000131 – (Stratus access Only)

Valid Part Numbers:

- The following are valid 3300 Core I/O CRU enclosures part numbers.

AA-E89800 – Core I/O Assembly, less than 3.0 GHz processors, NEC BMC Firmware
(No PCI Adapters, Silver ejectors, does NOT contain AK-000477, Minimum Load Resister Kit)
AA-E70000 - PCB, Motherboard, NEC BMC Firmware (used in AA-E89800 core I/O Enclosure)

AA-E90400 – Core I/O Assembly, less than 3.0 GHz processors, NEC BMC Firmware
(No PCI Adapters, Black ejectors - cosmetic only)
AA-E70000 - PCB, Motherboard, NEC BMC Firmware (used in AA-E90400 core I/O Enclosure)

AA-E90100 – Core I/O Assembly, greater than 3.0 GHz processors, Stratus BMC Firmware (No PCI Adapters)
AA-E70000 - PCB, Motherboard, Stratus BMC Firmware (used in AA-E90100 core I/O Enclosure)

4.3 5600 ftServer (Sonic-P or N) I/O CRU

The following are snapshots of the ftServer Management Console on a 5600 system. Follow the steps below to determine the I/O CRU configuration.

You need the following information to properly order a replacement I/O CRU.

- I/O CRU enclosure part number

Steps to determine I/O CRU part number:

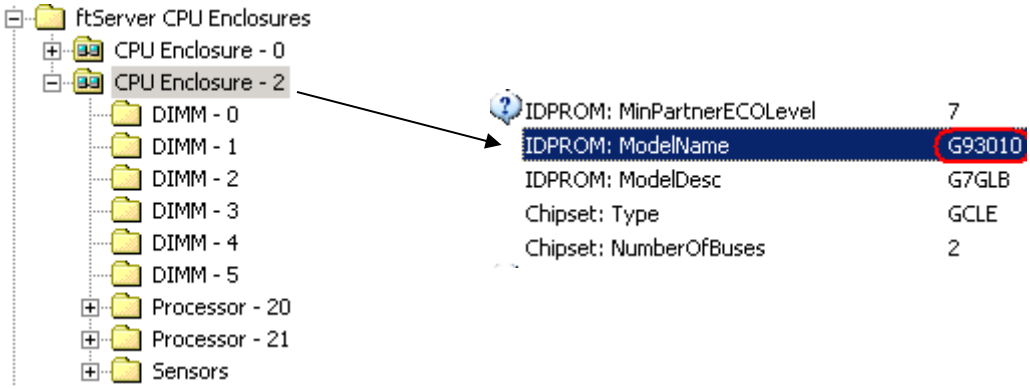
1. Verify system type by viewing My Computer -> Properties -> General Tab. Under the “Manufactured and supported by” section it will display the ftServer 5600.
2. Open ftServer Management Console (ftSMC).
3. Expand ftServer I/O Enclosures.
4. Highlight the Core “I/O Enclosure – xx”, 10 or 11, go to step 6.
5. Highlight the Expansion “I/O Enclosure – xx”, 12 or 13, go to step 8.
6. Determine the Core I/O enclosure part to order based on the CPU enclosure “IDPROM:ModelName” and the I/O enclosure “IDPROM:ModelName” fields. The following is a reference between the CPU enclosure IDPROM:ModelName and I/O enclosure IDPROM:ModelName fields and the Core I/O enclosure part number.

   For: CPU IDPROM:ModelName = G93010 or G93020 or G93030
   and
   Core I/O IDPROM:ModelName = E70000
   Order Part: AA-E90400 - Core I/O Assembly, less than 3.0 GHz processors,
   NEC BMC Firmware (Black ejectors)

   For: CPU IDPROM:ModelName = G94010
   and
   Core I/O IDPROM:ModelName = E70000
   Order Part: AA-E90100 - Core I/O Assembly, greater than 3.0 GHz processors,
   Stratus BMC Firmware (No PCI Adapters)

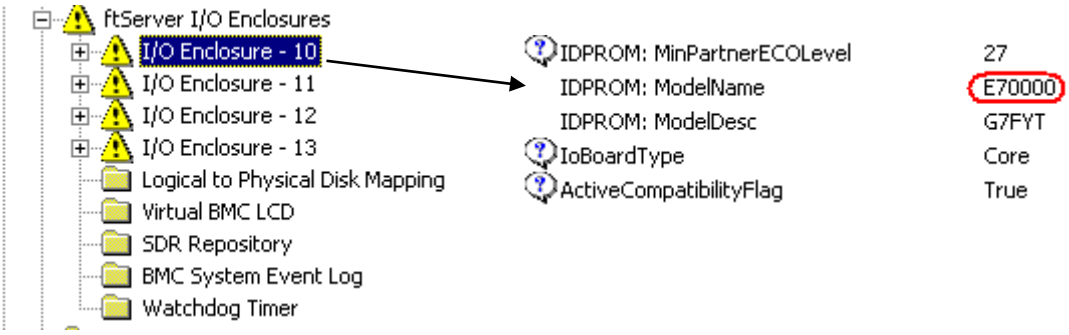
CPU Enclosure

ftSMC (Right Pane) ftSMC (Left Pane)



Core I/O Enclosure

ftSMC (Right Pane) ftSMC (Left Pane)

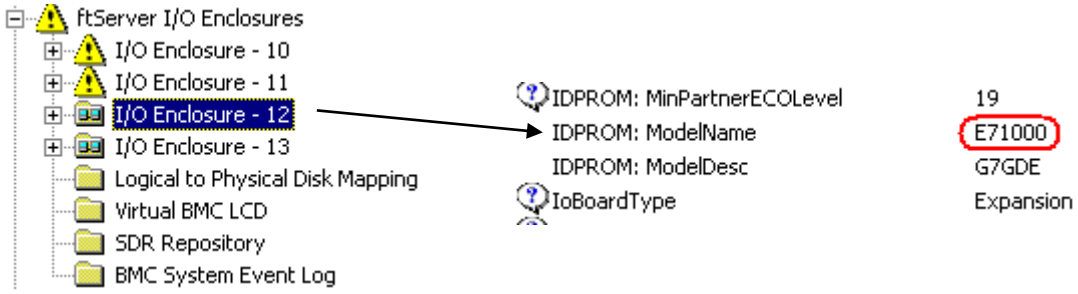


Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State "Online or Empty". In the examples above the CPU enclosure ModelName field is G93010, and the I/O enclosure ModelName field as E70000, so the Core I/O enclosure to order would be AA-E90400.

7. In the right pane look for "IDPROM: ModelName" field. The following is a reference between the ModelName field and the Expansion I/O CRU assembly part number.

   For: E71000 Order Part: AA-E89900 - Expansion I/O Assembly, (No PCI Adapters)

ftSMC (Right Pane) ftSMC (Left Pane)



8. Once the I/O CRU enclosure part number is determined, a replacement I/O CRU can be ordered.

   Note: In the example given above the Core I/O CRU replacement order would be:
   - 1 – AA-E90400

   Note: In the example given above the Expansion I/O CRU replacement order would be:
   - 1 – AA-E89900

1. AA-E90400 and AA-E90100 replacements are shipped with NO PCI adapters.
2. AA-E90400 and AA-E90100 DOES contain AK-000477, Minimum Load Resister Kit and can support core I/Os with NO internal HDDs.
3. AA-E90400 used in the 5600 systems is NOT compatible with the AA-E90100 even thought the ModelName field is the same “E70000”. Each contains different BMC firmware, which can NOT be changed by the on-line firmware burn tools.
4. AA-E90100 contains Stratus BMC Firmware and is the same Core I/O used in 6600 system.
5. 5600 part Illustrated list
6. 5600 Technical Service Guide
7. 5600 configuration specification ES-000140 – (Stratus access Only)

Valid Part Numbers:

- The following are valid 5600 I/O CRU enclosures part numbers.

AA-E90400 – Core I/O Assembly, less than 3.0 GHz processors, NEC BMC Firmware
(No PCI Adapters, Black ejectors)
AA-E70000 - PCB, Motherboard, NEC BMC Firmware (used in AA-E90400 core I/O Enclosure)

AA-E90100 – Core I/O Assembly, greater than 3.0 GHz processors, Stratus BMC Firmware (No PCI Adapters)
AA-E70000 - PCB, Motherboard, Stratus BMC Firmware (used in AA-E90100 core I/O Enclosure)

AA-E89900 – Expansion I/O Assembly, (No PCI Adapters)
AA-E71000 - PCB, Motherboard, (used in AA-E89900 expansion I/O Enclosure)

4.4 6600 ftServer (Sonic-G) I/O CRU

The following are snapshots of the ftServer Management Console on a 6600 system. Follow the steps below to determine the I/O CRU configuration.

You need the following information to properly order a replacement I/O CRU.

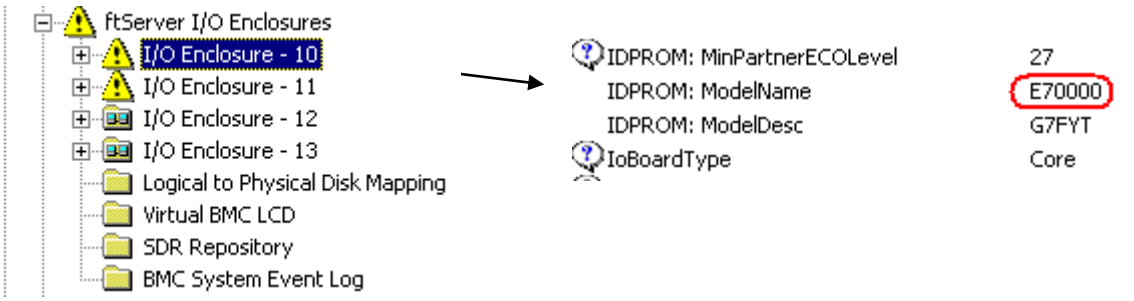
- I/O CRU Enclosure part number

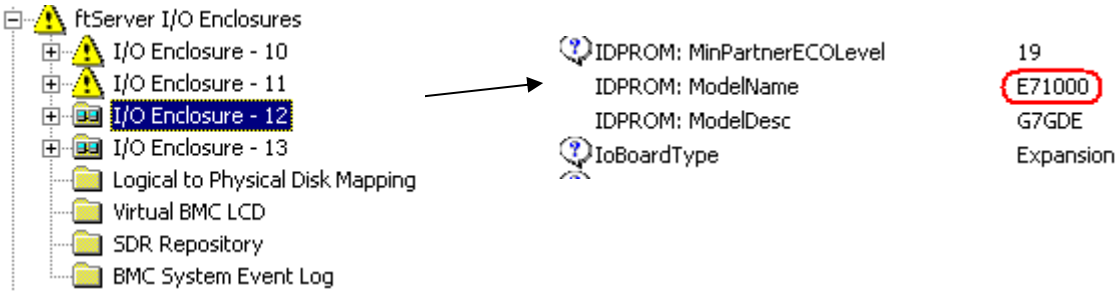
Steps to determine Core or Expansion I/O CRU part number:

1. Verify system type by viewing My Computer -> Properties -> General Tab. Under the “Manufactured and supported by” section it will display the ftServer 6600.
2. Open ftServer Management Console (ftSMC).
3. Expand ftServer I/O Enclosures.
4. Highlight the “I/O Enclosure - xx” Core = 10 or 11 and Expansion = 12 or 13.
5. In the right pane look for “IDPROM: ModelName” field. The following is a reference between the ModelName field and the Core or Expansion I/O CRU assembly part number.

   For: E70000 Order Part: AA-E90100 - Core I/O Assembly, Stratus BMC Firmware (No PCI Adapters)
   For: E71000 Order Part: AA-E89900 - Expansion I/O Assembly, (No PCI Adapters)

ftSMC (Right Pane) ftSMC (Left Pane)





Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the examples above the first ModelName field is E70000, so the Core I/O enclosure to order would be AA-E90100. The second ModelName field is E71000, so the Expansion I/O enclosure to order would be AA-E89900

6. Once the I/O CRU enclosure part number is determined, a replacement I/O CRU can be ordered.

   Note: In the example given above the Core I/O CRU replacement order would be:
   - 1 – AA-E90100

Notes:
1. AA-E90100 and AA-E89900 replacements are shipped with NO PCI adapters.
2. AA-E89800 and AA-E90400 used in the 3300/5600 systems are NOT compatible with the AA-E90100 even thought the ModelName field is the same “E70000”. Each contains different BMC firmware, which can NOT be changed by the on-line or off-line firmware burn tools.
3. AA-E90100 contains Stratus BMC Firmware and is the same Core I/O used in 3300/5600 systems with CPU CRUs that contain greater than 3.0 GHz processors.
4. 6600 part Illustrated list
5. 6600 Technical Service Guide
6. 6600 configuration specification ES-000144 – (Stratus access only)

Valid Part Numbers:
- The following are valid 6600 I/O CRU enclosure part numbers.

  AA-E90100 – Core I/O Assembly, Stratus BMC Firmware (No PCI Adapters)
  AA-E70000 - PCB, Motherboard, Stratus BMC Firmware (used in AA-E90100 core I/O Enclosure)

  AA-E89900 – Expansion I/O Assembly, (No PCI Adapters)
  AA-E71000 - PCB, Motherboard, (used in AA-E89900 expansion I/O Enclosure)

5 ftServer 2300 System CRU Configuration

5.1 2300 ftServer (Encore) CPU and I/O CRU

The following are snapshots of the ftServer Management Console on a 2300 system. Follow the steps below to determine the system CRU configuration. In a 2300 system, the CPUs (0 and 2) and I/Os (10 and 11), are contained on one motherboard within one CRU enclosure.

You need the following information to properly order a replacement 2300 system CRU.

- System CRU (CPU and I/O) enclosure part number
- Memory DIMM part number and quantity.

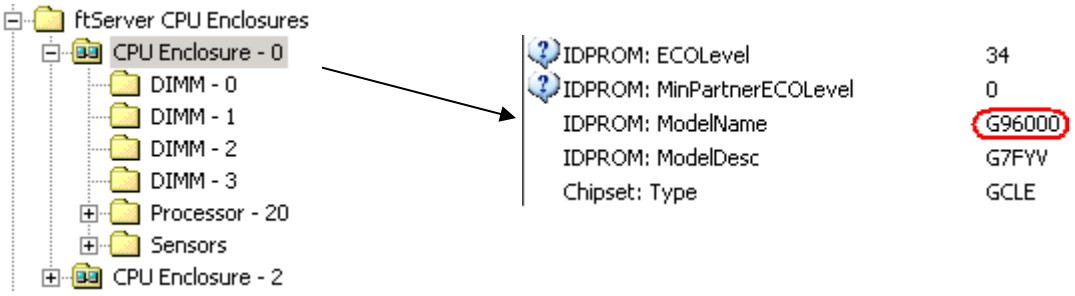
Steps to determine CRU configuration:

1. Open ftServer Management Console (ftSMC).
2. Expand ftServer CPU Enclosures, then the online CPU 0 or 2.
3. Highlight the “CPU Enclosure X”.
4. In the right pane look for “IDPROM: ModelName” field. The following is a reference between the ModelName field and the system CRU assembly part number.

   Note: The “ModelName” field will display the same value for each CPU (0 and 2) or I/O (10 and 11) since they all reside on the same motherboard.

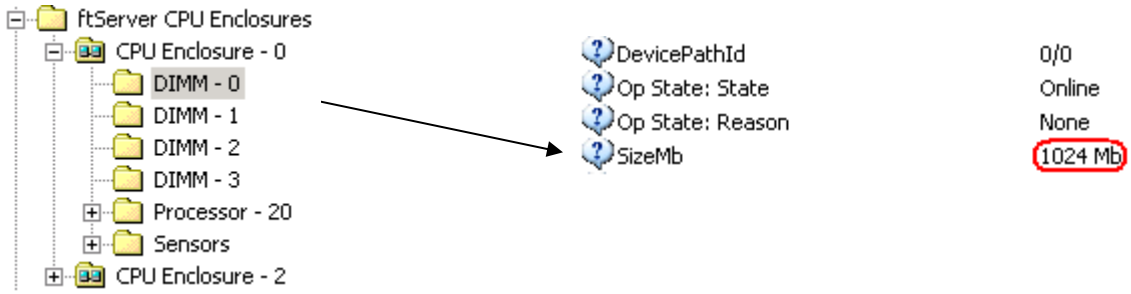
   For: G96000 Order Part: AA-G96100 – ft2300 System CRU Enclosure, w/ 3.06 GHz processors, Qty 2
   (no Memory, VTMs, PCI adapters, CD or DVD, or SATA disk drives)

ftSMC (Right Pane) ftSMC (Left Pane)



5. Highlight the “DIMM – X”.
6. In the right pane look for “Op State: State” field to determine if DIMM exists. The state will be “Online” if it does.

ftSMC (Right Pane) ftSMC (Left Pane)



7. If the State is “Online” then determine the part to order based on the size shown in the “SizeMb” field. The following is a reference between the SizeMb field and the memory DIMM part number.

   For: SizeMb = 512 Mb Order Part: AA-M22808 - DIMM 512MB
   For: SizeMb = 1024 Mb Order Part: AA-M22900 - DIMM 1GB

8. For “DIMM 0 thru 3” which are Online, determine the quantity, slot configuration and size of memory DIMMs, per CPU side, which are required to be ordered. Add DIMM quantities from both CPU 0 and CPU 2, to get the total DIMMs per size required.

   Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “DIMM – 0” thru “DIMM - 3” exist and they were all verified to be 1024MB size per CPU side, so quantity 8 (4=CPU 0 and 4=CPU 2) of AA-M22900 would be ordered. The right pane shown depicts DIMM - 0 – Online with a size of 1024Mb, DIMM – 1 thru DIMM – 3 would display similar information.

9. Once the System CRU enclosure part number and memory DIMM part number, slot configuration and quantity is determined, a properly configured replacement 2300 system CRU can be ordered.

   Note: In the example given above the CPU CRU replacement order would include:
   4. 1 – AA-G96100
   5. 8 – AA-M22900

Notes:

1. Memory DIMMs on 2300 are installed in quantities of 2 of equal size referred to as banks. Valid configurations are 2 or 4 DIMMs per CPU side and a total of 8 DIMMs per 2300 system CRU.
2. Processors on 2300 are installed in quantities of 2, one per CPU side, is the only valid configuration for 2300 system CRU enclosure. Populated as “Processor – 20” per CPU enclosure in ftSMC.
3. 2300 part Illustrated list
4. 2300 Technical Service Guide
5. 2300 configuration specification ES-000145 – (Stratus access Only)
6. Replacing an ftServer 2300 System (R567)
7. On a 2300 system the QFDNumber is not displayed in ftSMC.

Valid Part Numbers:

- The following are valid 2300 system CRU and DIMM part numbers.

AA-G96100 - CPU Enclosure (no memory or processor)
AA-G96000 - PCB, Motherboard (used in AA-G96100 System Enclosure)

AA-M22808 - DIMM 512MB (Mfg part# DTM63631B or DTP63631D or DTP63631G)
AA-M22900 - DIMM 1GB (Mfg part# VI4CR287224DYHS2 or VI4CR287224DYHS1)

6 ftServer 2400/4300/4600/5700 CPU & I/O CRU Configuration

6.1 2400/4300/4600/5700 ftServer (Aria) CPU & I/O CRU

The following are snapshots of the ftServer Management Console on a 4300 system. Follow the steps below to determine the CPU & I/O CRU configuration. In a 2400/4300/4600/5700 system, the CPU (0) and I/O (10) are contained on one motherboard, within one CRU enclosure, and the CPU (1) and I/O (11) are contained on one motherboard, within one CRU enclosure

You need the following information to properly order a replacement CPU & I/O CRU.

- CPU & I/O CRU enclosure part number
- AK processor kit part number and quantity
- Memory DIMM part number and quantity.

Steps to determine CPU & I/O CRU configuration:

1. Open ftServer Management Console (ftSMC).
2. Expand ftServer CPU Enclosures, then the online CPU 0 or 1.
3. Highlight the “CPU Enclosure X”.
4. In the right pane look for “IDPROM: ModelName” field. The following is a reference between the ModelName field and the CPU & I/O CRU assembly part number.

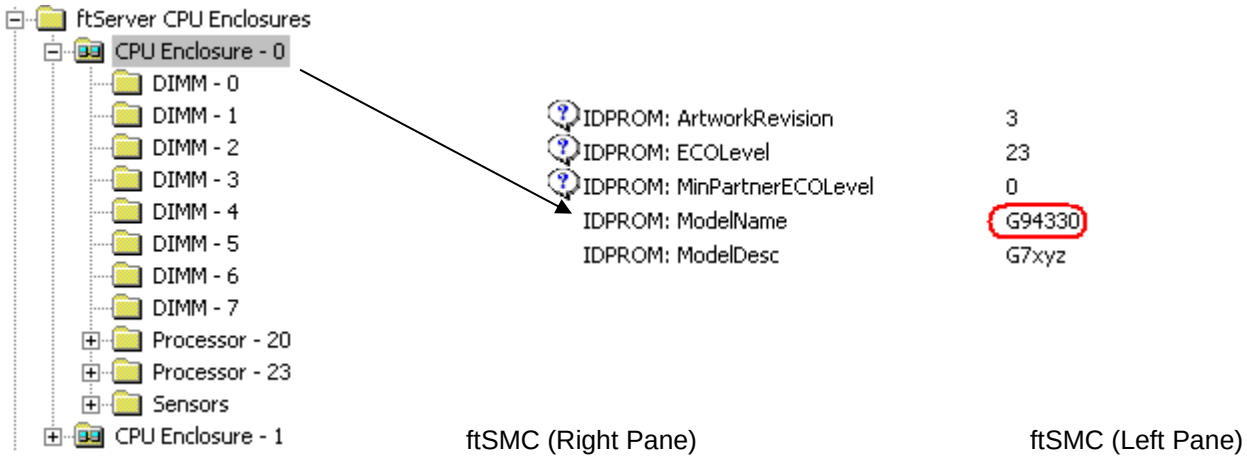
   Note: The “ModelName” field will display the same value for each CPU (0 or 1) and I/O (10 and 11) CRU since they all reside on the same motherboard. The CPU (on-line) information is used to order a replacement CPU & I/O CRU when either CPU or I/O is defective and needs replacement.

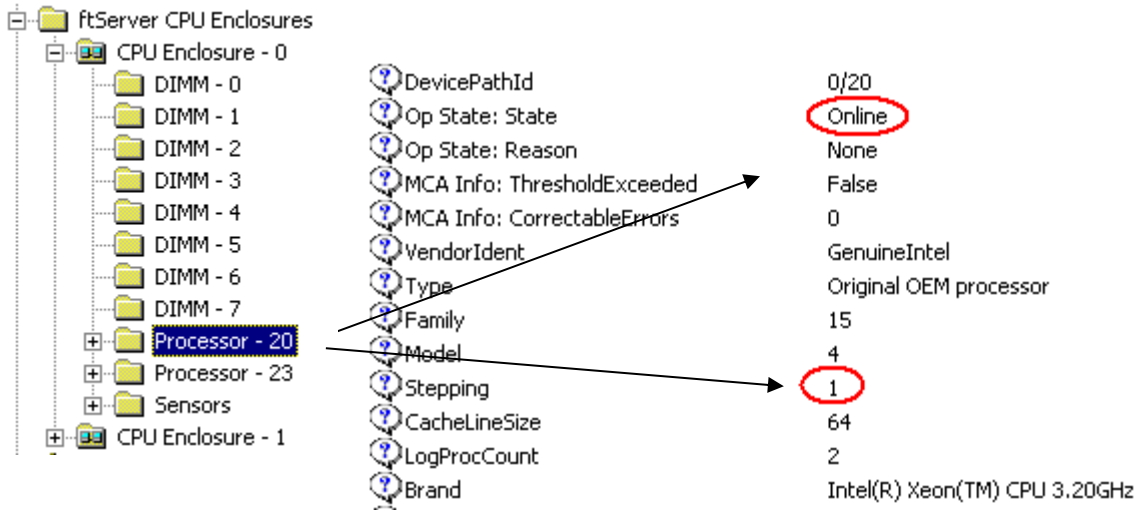
   For: G94330 Order Part: AA-G90730 – 2400/4300/4600 CPU & I/O CRU Enclosure, (No Processors, Memory, VTMs, PCI adapters, PCI Riser, CD or DVD, or SATA disk drives)

   For: G94340 Order Part: AA-G90740 – 5700 CPU & I/O CRU Enclosure, (No Processors, Memory, VTMs, PCI adapters, PCI Riser, CD or DVD, or SATA disk drives)

   For: G94340-LF Order Part: AA-G97200 – 2400/4300/4600/5700 CPU & I/O CRU Enclosure, ROHS (No Processors, Memory, VTMs, PCI adapters, PCI Riser, CD or DVD, or SATA disk drives)

   ftSMC (Right Pane) ftSMC (Left Pane)





5. Highlight the “Processor - 20”.
6. In the right pane look for “Stepping” field. The following is a reference between the “Stepping” field and the AK kit part number.

   For: Stepping = 1
   Order Part: AK-000527 - Processor Kit: Processor 3.2GHz, Heatsink & Adhesive (2400/4300)

   For: Stepping = 9
   Order Part: AK-000563 - Processor Kit: Processor 3.2GHz, (G-1) Heatsink & Adhesive (2400/4300)

   For: Stepping = 3
   Order Part: AK-000541 - Processor Kit: Processor 3.6GHz, Heatsink & Adhesive (4600)

   For: Stepping = 8
   Order Part: AK-000555 - Processor Kit: Dual Core Processor 2.8GHz, Heatsink & Adhesive (5700)

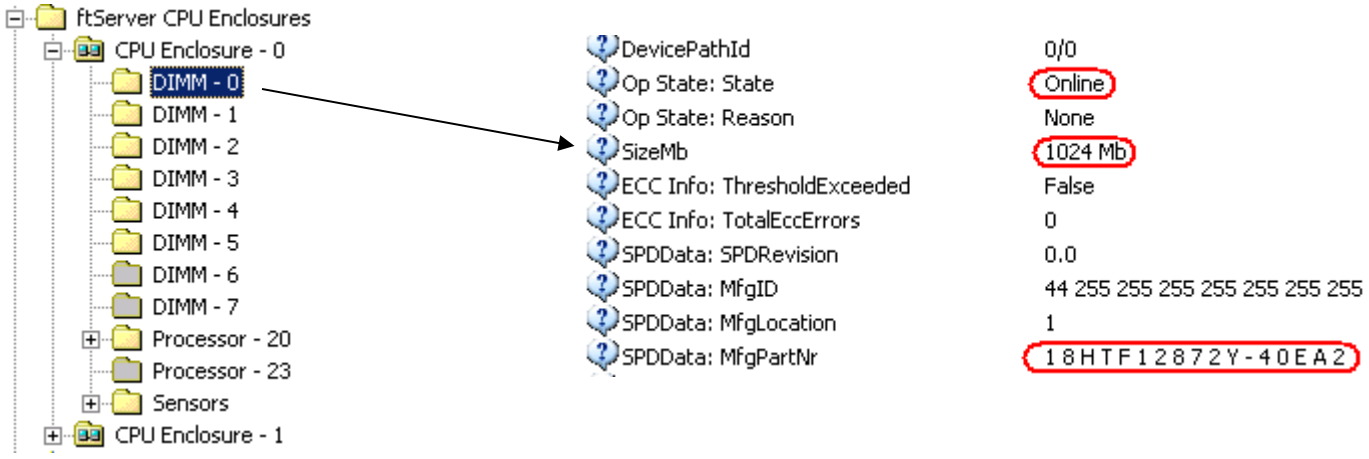
7. Determine the quantity of AK processor kits required by the “Processor –xx” shown as Online.

   Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “Processor -20”and “Processor -23” exist, so quantity 2

of AK-000527 would be ordered. The right pane shown depicts Processor 20 – Online and processor 23 would display similar information.

8. Highlight the “DIMM – X”.
9. In the right pane look for “Op State: State” field to determine if DIMM exists. The state will be “Online” if it does.

ftSMC (Right Pane) ftSMC (Left Pane)



10. If the State is “Online” then determine the part to order based on the size shown in the “SizeMb” field. The following is a reference between the SizeMb field and the memory DIMM part number.

    For: SizeMb = 1024 Mb and SPDData: MfgPartNr = 18HTF12872Y-40EA2 or 18HTF12872Y-40EB3 or
    Order Part: AA-M23100 - DIMM 1GB or 18HTF12872Y-40ED6 or VR5ER287214EBPS3
    For: SizeMb = 2048 Mb and SPDData: MfgPartNr = 18HTF25672Y-40EA2 or 18HTF25672Y-40EE1
    Order Part: AA-M23200 - DIMM 2GB

11. For “DIMM 0 thru 7” which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered.

    Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “DIMM – 0” thru “DIMM - 5” exist and they were all verified to be 1024MB size per CPU side, so quantity 6 of AA-M231000 would be ordered. The right pane shown depicts DIMM - 0 – Online with a size of 1024Mb, DIMM – 1 thru DIMM – 7 would display similar information.

12. Once the CPU & I/O CRU enclosure part number and memory DIMM part number, slot configuration and quantity is determined, a properly configured replacement 2400, 4300, 4600 or 5700 CPU & I/O CRU can be ordered.

    Note: In the example given above the CPU CRU replacement order would include:
    6. 1 – AA-G90730
    7. 2 – AK-000527
    8. 6 – AA-M23100

Notes:
1. Replacement AA-G90730 – CPU CRU. Parts expected to be swapped between defective CRU and replacement are: PCI Riser (PCI Adapter Support Bracket Dual-PCI Cover), PCI adapters full and half height, CD or DVD, VTMs and SATA Disks.
2. Memory DIMMs on 4300/4600/5700 are installed in quantities of 2, of equal size referred to as banks. Valid configurations are 2 and 4 DIMMS for 2400 and 2, 4, 6 or 8 DIMMs for 4300/4600/5700 per CPU & I/O CRU.

3. Memory DIMMs on 2400 are installed in quantities of 2 of equal size referred to as banks. Exception being 1, 1GB DIMM can be installed per CPU in Slot 0/B4. Valid configurations are 1, 2 and 4 DIMMS for 2400 per CPU & I/O CRU.
4. AA-M23100, 1GB DIMM, on 2400 system ONLY, minimum 1GB maximum 4GB
5. AA-M23100, 1GB DIMM, on 4300/4600/5700 systems, minimum of 2GB maximum of 8GB.
6. AA-M23200, 2GB DIMM, on 4600/5700 systems ONLY, Minimum of 4GB maximum of 16GB.
7. 1 processor (AK kits) configuration is valid for 2400 CPU &I /O CRU. Populated as “Processor – 20”
8. 1or 2 processor (AK kits) configurations are valid for 4300 CPU &I /O CRU. Populated as “Processor – 20” and “Processor – 23” in ftSMC.
9. ONLY 2 processor (AK kits) configurations are valid for 4600/5700 CPU & I/O CRU. Populated as “Processor – 20” and “Processor – 23”
10. Processor stepping is incompatible and will not allow CPU-I/O to duplex. Order the correct AK processor kit based on “Stepping” value.
11. 2400/4300/4600/5700 part Illustrated list
12. 4300/4600 Technical Service Guide
13. 2400 configuration specification ES-000150 – (Stratus access Only)
14. 4300 configuration specification ES-000146 – (Stratus access Only)
15. 4600 configuration specification ES-000147 – (Stratus access Only)
16. 5700 configuration specification ES-000153 – (Stratus access Only)
17. On a 2400/4300/4600/5700 system the processor QFDNumber is not displayed in ftSMC.
18. AK kits and Memory DIMMs are ROHS compliant. Can be used in Non-ROHS or ROHS CPU-/O Enclosures.
19. ROHS CPU-I/O enclosure is NOT partner compatible with Non-ROHS CPU-I/O enclosures.
20. See Alert 2285 for ftServer 2400/4300/4600/5700 CRU handling and part orders.

Valid Part Numbers:

- The following are valid 24004300/4600/5700 CPU & I/O CRU enclosures, AK processor kits and DIMM part numbers for Non-ROHS systems.

  AA-G90730 - CPU & I/O Enclosure (no memory or processor)
  AA-G94330 - PCB, Motherboard (used in AA-G90730 CPU & I/O Enclosure).
  AK-000527 - Processor Kit: Processor 3.2GHz, Heatsink & Adhesive (2400/4300)
  AK-000563 - Processor Kit: Processor 3.2GHz (G-1), Heatsink & Adhesive (2400/4300)
  AK-000541 - Processor Kit: Processor 3.6GHz, Heatsink & Adhesive (4600)

  AA-G90740 - CPU & I/O Enclosure (no memory or processor)
  AA-G94340 - PCB, Motherboard (used in AA-G90740 CPU & I/O Enclosure)
  AK-000555 - Processor Kit: Dual Core Processor 2.8GHz, Heatsink & Adhesive (5700)

  AA-M23100 - DIMM 1GB (Mfg part# MT18HTF12872Y-40EA2 or MT18HTF12872Y-40EB3 or MT18HTF12872Y-40ED6 or VR5ER287214EBPS3)
  AA-M23200 - DIMM 2GB (Mfg part# MT18HTF25672Y-40EA2 or MT18HTF25672Y-40EE1)

- The following are valid 24004300/4600/5700 CPU & I/O CRU enclosures, AK processor kits and DIMM part numbers for ROHS systems.

  AA-G97200 - CPU & I/O Enclosure ROHS (no memory or processor, See Note 19)
  AA-G94340-LF - PCB, Motherboard ROHS (used in AA-G97200 CPU & I/O Enclosure).
  AK-000527 - Processor Kit: Processor 3.2GHz, Heatsink & Adhesive (2400/4300, See Note 18)
  AK-000563 - Processor Kit: Processor 3.2GHz (G-1), Heatsink & Adhesive (2400/4300, See Note 18)
  AK-000541 - Processor Kit: Processor 3.6GHz, Heatsink & Adhesive (4600, See Note 18)
  AK-000555 - Processor Kit: Dual Core Processor 2.8GHz, Heatsink & Adhesive (5700, See Note 18)

  AA-M23100 - DIMM 1GB (Mfg part# part# MT18HTF12872Y-40EA2 or MT18HTF12872Y-40EB3 or

or MT18HTF12872Y-40ED6 or VR5ER287214EBPS3) (See Note 18)
AA-M23200 - DIMM 2GB (Mfg part# MT18HTF25672Y-40EA2 or MT18HTF25672Y-40EE1) (See Note 18)

7 ftServer 2500/4400/6200 CPU & I/O CRU Configuration

7.1 2500/4400/6200 ftServer (Fusion) CPU & I/O CRU

The following are snapshots of the ftServer Management Console on a 6200 system. Follow the steps below to determine the CPU & I/O CRU configuration. In a 2500/4400/6200 system, the CPU (0) and I/O (10) are contained on one motherboard, within one CRU enclosure, and the CPU (1) and I/O (11) are contained on one motherboard, within one CRU enclosure

You need the following information to properly order a replacement CPU & I/O CRU.

- CPU & I/O CRU enclosure part number
- AK processor kit part number and quantity
- Memory DIMM part number and quantity.
- PCI riser adapter part number.

Steps to determine CPU & I/O CRU configuration:

1. Open ftServer Management Console (ftSMC).
2. Expand ftServer CPU Enclosures, then the online CPU 0 or 1.
3. Highlight the an Online CPU enclosure.
4. In the right pane look for “ModelName” and “Brand” field. The following is a reference between the motherboard “ModelName and Processor “Brand” field and the CPU & I/O CRU assembly part number.

   Note: For a specific system the “ModelName” field will display the same on each CPU (0 or 1) and I/O (10 and 11) CRU since they all reside on the same motherboard. The CPU (on-line) information is used to order a replacement CPU & I/O CRU when either CPU or I/O is defective and needs replacement.

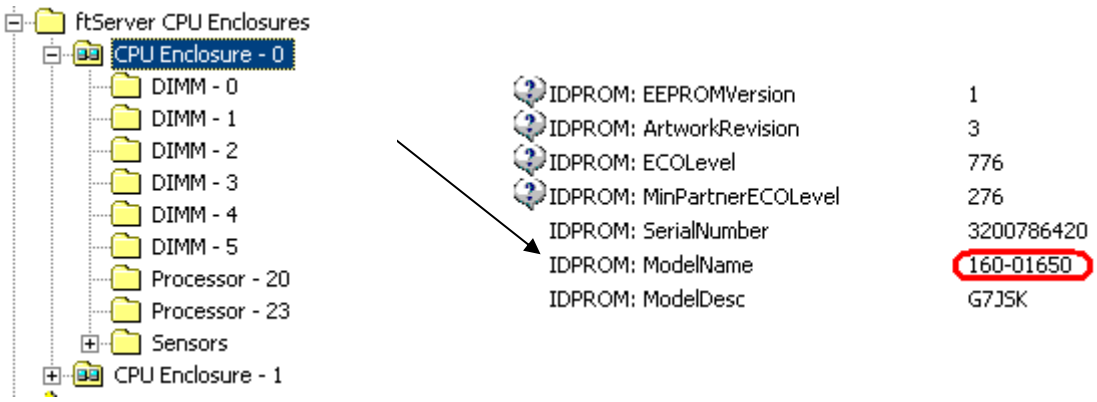
   For: ModelName = 160-01650 and Brand = Intel(R) Xeon(R) CPU 5130 @ 2.00GHZ
   Order Part: 062-01872-000 – 4400 CPU & I/O CRU Enclosure, (No Processors, Memory, VTMs, PCI adapters, PCI Riser, DVD-R/W, or SATA/SAS disk drives)

   For: ModelName = 160-01650 and Brand = Intel(R) Xeon(R) CPU X5355 @ 2.66GHZ
   Order Part: 062-01873-000 – 6200 CPU & I/O CRU Enclosure, (No Processors, Memory, VTMs, PCI adapters, PCI Riser, DVD-R/W, or SATA/SAS disk drives)

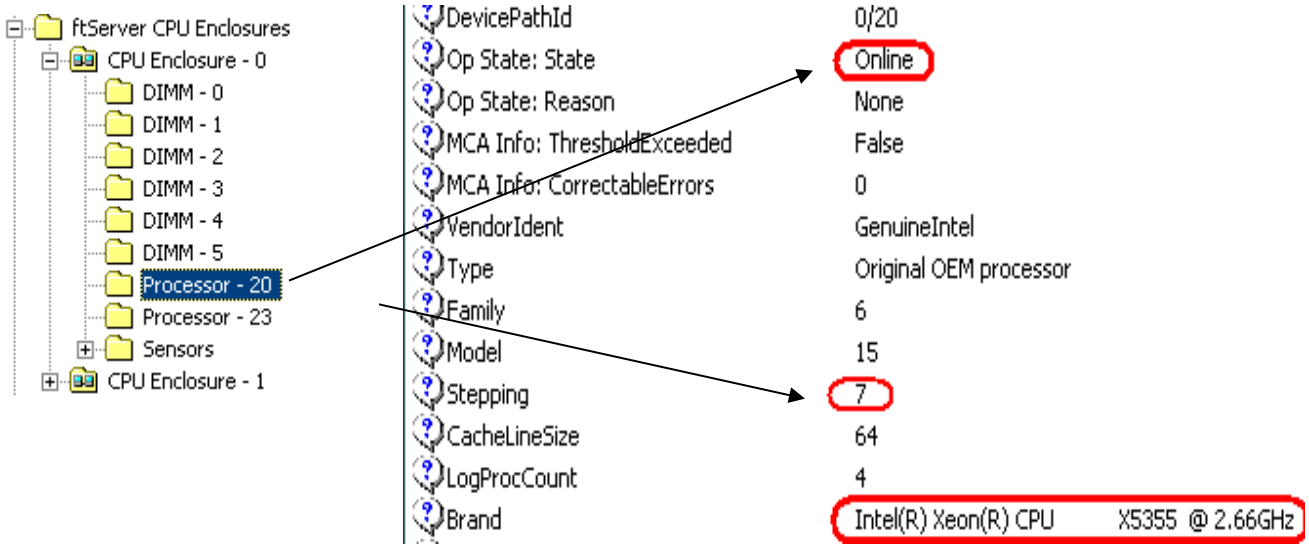
   For: ModelName = 160-01695 and Brand = Intel(R) Xeon(R) CPU 5130 @ 2.00GHZ
   Order Part: 062-01742-000 – 2500/4400 CPU & I/O CRU Enclosure, (No Processors, Memory, VTMs, PCI adapters, PCI Riser, DVD-R/W, or SATA/SAS disk drives)

   For: ModelName = 160-01695 and Brand = Intel(R) Xeon(R) CPU X5355 @ 2.66GHZ
   Order Part: 062-01743-000 – 6200 CPU & I/O CRU Enclosure, (No Processors, Memory, VTMs, PCI adapters, PCI Riser, DVD-R/W, or SATA/SAS disk drives)

ftSMC (Left Pane) ftSMC (Right Pane)



ftSMC (Left Pane) ftSMC (Right Pane)



5. Highlight the “Processor - 20”.
6. In the right pane look for “Stepping” field and “Brand” field. Use the “Brand” field information and the “Stepping field to determine processor kit required. The following is a reference between the “Brand” and “Stepping” field and the Processor kit part number.

   For: Brand = Intel(R) Xeon(R) CPU 5130 @ 2.00GHZ

   And Stepping = 6

Order Part: 062-01988-000 - Processor Kit: Processor 2.0GHz (B2 Step), Heatsink & Adhesive (2500/4400)

And Stepping = 11
Order Part: 062-02998-000 - Processor Kit: Processor 2.0GHz (G0 Step), Heatsink & Adhesive (2500/4400)

For: Brand = Intel(R) Xeon(R) CPU X5355 @ 2.66GHZ

And Stepping = 7
Order Part: 062-01987-000 - Processor Kit: Processor 2.66GHz (B3 Step), Heatsink & Adhesive (6200)

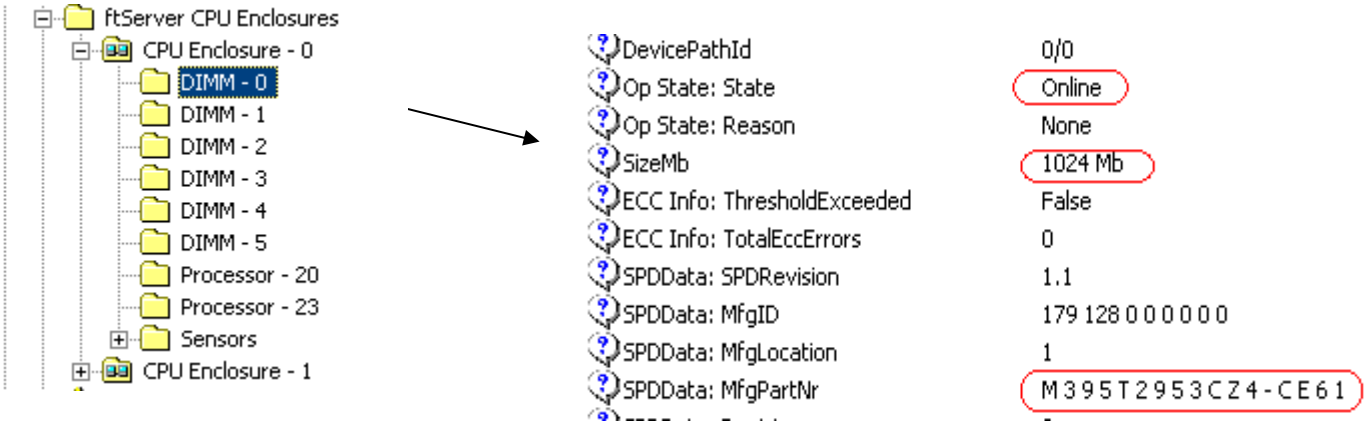
And Stepping = 11
Order Part: 062-02997-000 - Processor Kit: Processor 2.66GHz (G0 Step), Heatsink & Adhesive (6200)

7. Determine the quantity of processor kits required by the “Processor –xx” shown as Online.

   Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “Processor -20”and “Processor -23” exist, so quantity 2 of 062-01987-000 would be ordered. The right pane shown depicts Processor 20 – Online and processor 23 would display similar information.

8. Highlight the “DIMM – X”.
9. In the right pane look for “Op State: State” field to determine if DIMM exists. The state will be “Online” if it does.

ftSMC (Left Pane) ftSMC (Right Pane)



10. If the State is “Online” then determine the part to order based on the size shown in the “SizeMb” and “MfgPartNr” fields. The following is a reference between the SizeMb and MfgPartNr fields and orderable part number.

    For: SizeMb = 1024 Mb and SPDData: MfgPartNr = M395T2953CZ4-CE61
    Order Part: 609-01629-000 – 1GB FB-DIMM
    For: SizeMb = 1024 Mb and SPDData: MfgPartNr = M395T2953EZ4-CE66 or M395T2953GZ4-CE66
    Order Part: 609-01642-000 – 1GB FB-DIMM

    For: SizeMb = 2048 Mb and SPDData: MfgPartNr = M395T5750CZ4-CE61
    Order Part: 609-01630-000 – 2GB FB-DIMM
    For: SizeMb = 2048 Mb and SPDData: MfgPartNr = M395T5750EZ4-CE66 or M395T5750GZ4-CE66

Order Part: 609-01643-000 – 2GB FB-DIMM

For: SizeMb = 4096 Mb and SPDData: MfgPartNr = M395T5160CZ4-CE66 or M395T5160QZ4-CE66
Order Part: 609-01639-000 – 4GB FB-DIMM

11. For “DIMM 0 thru 5” which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered.

    Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “DIMM – 0” thru “DIMM - 5” exist and they were all verified to be 1024MB size and Mfg Part Nr to be M395T2953CZ4-CE61 per CPU side, so quantity 6 of 609-01629-000 would be ordered. The right pane shown depicts DIMM - 0 – Online with a size of 1024Mb, DIMM – 1 thru DIMM – 5 would display similar information.

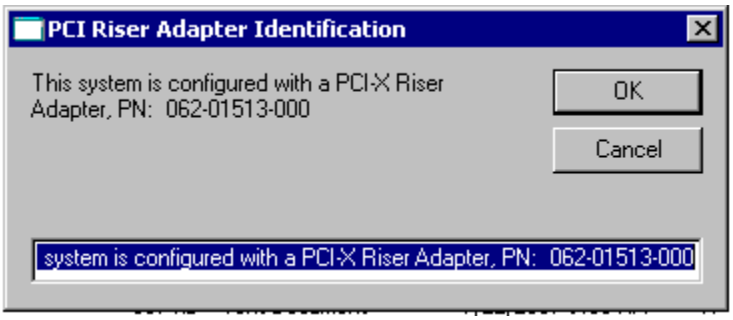
12. Once the CPU & I/O CRU enclosure part number and memory DIMM part number, slot configuration and quantity is determined, a properly configured replacement 2500, 4400 and 6200 CPU & I/O CRU can be ordered.

    Note: In the example given above the CPU CRU replacement order would include:
    9. 1 – 062-01873-000
    10. 2 – 062-01987-000
    11. 6 – 609-01629-000

13. If operating ftServer System Software 5.1 or above go to step 14, else go to step 16.
14. If a PCI riser adapter needs to be ordered as part of the CPU-I/O CRU use the following procedure to determine part number required.
    a. Open ftServer Management Console (ftSMC).
    b. Expand ftServer I/O Enclosures.
    c. Highlight the “I/O Enclosure - XX”, 10 or 11
    d. In the right pane look for “PCIRiserID” field. The following is a reference between the “PCIRiserID” field and the PCI riser adapter part number.

    For: PCIRiserID = 1x PCI-E, 1x PCI-X
    Order Part: 062-01514-000 – PCI Riser Adapter, PCI-X/PCI-E
    For: PCIRiserID = 2x PCI-X
    Order Part: 062-01513-000 – PCI Riser Adapter, PCI-X

15. Go to step 20.
16. If operating ftServer System Software 5.0.0.2 and above go to step 17, else go to step 19.
17. If a PCI riser adapter needs to be ordered as part of the CPU-I/O CRU use the following tool to determine part number required. Note: Riser adapter information is not available thru ftSMC.
    a. Open an explorer window and go to the directory C:\Program Files\FTSYS\CUSTOMERSERVICE\SUPPORTTOOLS
    b. Run the tool IDENTIFY_RISER_CARD.VBE. : Riser adapter part number to order will be displayed as seen in the example below



18. Go to step 20.
19. If a PCI riser adapter needs to be ordered as part of the CPU-I/O CRU use the following DBG command to determine part number required. Note: This utility will work on all ftServer System Software releases.
    a. Open a “cmd” window
    b. C:\>cd "Program Files\FTSYS\CUSTOMERSERVICE\SUPPORTTOOLS"
    Run the command “dbg –r funcs”. The following is partial output that automatically gets executed.

```
RHAPSODY HARDWARE VERSION INFO ...
- SYSTEM
ModName P6101-2D
    ModDesc ftServer 4400
    SerNum  3340564445
    OEM     OEM_STRATUS
    MAC     00 04 fc 02 07 ce
    RISER   SHADOW    <<<<<<<<<<<< Codename
.
.
.
dbg: virt> Quit  (to exit dbg)
```

    c. Close “cmd” window.

    d. Use the “RISER” field information from step 12b above to determine PCI Riser required. The following is a reference between the “RISER” field and the Riser part number.

    For: RISER = SHADOW
    Order Part: 062-01514-000 – PCI Riser Adapter, PCI-X/PCI-E
    For: RISER = CAMOUFLAGE
    Order Part: 062-01513-000 – PCI Riser Adapter, PCI-X

20. Part order information and configuration for the 2500/4400/6200 CPU-I/O CRU completed.

Notes:

1. The last three digits of the RU part number will change from -000 (initial release) to -0xx due to post release ECOs revisions, but are compatible. LMS will reflect the orderable RU part number.
2. If not specifically requested in LMS CRU part order, the following parts are expected to be swapped between defective CRU and replacement CRU are: PCI adapters full and half height, DVD, VTMs, Internal SAS and SATA Disks and PCI Riser. Note: VTMs are optional on 2500/4400/6200 systems.
3. Memory DIMMs on 2500/4400/6200 are installed in quantities of 2, of equal size referred to as channels. Valid configurations are 2, 4, and 6 DIMMs per CPU & I/O CRU. See specifications for physical location rules.
4. 609-01629-000, 1GB FB-DIMM, on 2500/4400 systems, minimum of 2GB maximum of 6GB.
5. 609-01630-000, 2GB FB-DIMM, on 4400/6200 systems, minimum of 4GB maximum of 12GB.

6. 609-01642-000 and 609-01643-000 1 & 2 GB (C-Step) FB-DIMM require a minimum CPU BIOS or 2.2.56 or above.
7. 609-01639-000, 4GB FB-DIMM, on 6200 systems, minimum of 16GB maximum or 24GB for systems operating CPU BIOS below 2.2.56. Valid configurations are 4, and 6 DIMMs per CPU & I/O CRU. If system is operating CPU BIOS 2.2.56 or above minimum of 8GB maximum or 24GB is supported. Valid configurations are 2, 4, and 6 DIMMs per CPU & I/O CRU.
8. 062-01742-000 and 062-01743-00x CPU-I/O are required to support ftServer System Software and Windows 64-bit.
9. MUST not mix the A1.5 memory (609-01629-000, 1GB FB-DIMM or 609-01630-000, 2GB FB-DIMM) with C-Step memory (609-01642-000 - 1GB FB-DIMM, or 609-01643-000 - 2GB FB-DIMM or 609-01639-000 - 4GB FB-DIMM) with in or between CPU-I/O CRUs.
10. 1 processor (kit) configuration is valid for 2500 CPU &I /O CRU. Populated as “Processor – 20” in ftSMC.
11. 1or 2 processor (kits) configurations are valid for 4400 CPU &I /O CRU. Populated as “Processor – 20” and “Processor – 23” in ftSMC.
12. 2 processor (kits) configuration is valid for 6200 CPU &I /O CRU. Populated as “Processor – 20” and “Processor – 23” in ftSMC
13. G0 Step processors (062-02998-000 or 062-02997-000) require 062-01742-00x or 062-01743-00x CPU-I/O CRU and a minimum of 2.2.58 CPU BIOS.
14. A PCI riser adapter is a requirement for 2500/4400/6200 CPU-I/O CRUs to support the internal disk drives. There are two PCI risers available on 2500/4400/6200, one with 2 – PCI-X slots, the second with 1, PCI-X and 1, PCI-E slot.
15. PCI Slot – 6 in ftSMC, is the low profile slot. PCI slot – 7 and 8 are the riser adapter PCI slots. PCI Slot – 8 is the PCI-E slot, when 062-01514-000 riser adapter is installed.
16. PCI riser adapters are verified during CPU-I/O bring-up. If they are different from the on-line CRU or missing, the replacement I/O CRU will get a hardware compatibility mismatch and will not come into service.
17. On 2500/4400/6200 systems the Boot/System disk MUST be of type SAS.
18. Internal Disk 260-01649-000 (FW SN05) is RDR partner compatible with 260-01649-001 (FW SN06).
19. See Alert 2440 for details.
20. Internal Disk 260-01651-000, 260-01691-000, 260-01693-000 (FW 0004) is RDR partner compatible with 260-01651-001, 260-01691-001, 260-01693-001 (FW 0005).
21. 2500/4400 part Illustrated list
22. 6200 part Illustrated list
23. 2500/4400/6200 Customer Manuals (Windows versions)
24. 2500 configuration specification ES-000160 – (Stratus access Only)
25. 4400 configuration specification ES-000158 – (Stratus access Only)
26. 6600 configuration specification ES-000159 – (Stratus access Only)

Valid Part Numbers:

- The following are valid 2500/4400/6200 CPU & I/O CRU enclosures, processor kits, FB-DIMM and PCI riser adapter part numbers.

  062-01872-000 – 4400 CPU & I/O Enclosure (no memory or processors)
  160-01650 - PCB, Motherboard (used in 062-01872-000 CPU & I/O Enclosure).
  062-01988-000 - Processor Kit: Dual Core Processor 2.0GHz, Heatsink & Adhesive (B2 Step)

  062-01742-000 – 2500/4400 CPU & I/O Enclosure (no memory or processors)
  160-01695 - PCB, Motherboard (used in 062-01742-000 CPU & I/O Enclosure).
  062-01988-000 - Processor Kit: Dual Core Processor 2.0GHz, Heatsink & Adhesive (B2 Step)
  062-02998-000 - Processor Kit: Dual Core Processor 2.0GHz, Heatsink & Adhesive (G0 Step)

  062-01873-000 - 6200 CPU & I/O Enclosure (no memory or processors)
  160-01650 - PCB, Motherboard (used in 062-01873-000 CPU & I/O Enclosure).
  062-01987-000 - Processor Kit: Quad Core Processor 2.66GHz, Heatsink & Adhesive (B3 Step)

062-01743-000 - 6200 CPU & I/O Enclosure (no memory or processors)
160-01695 - PCB, Motherboard (used in 062-01743-000 CPU & I/O Enclosure).
062-01987-000 - Processor Kit: Quad Core Processor 2.66GHz, Heatsink & Adhesive (B3 Step)
062-02997-000 - Processor Kit: Quad Core Processor 2.66GHz, Heatsink & Adhesive (G0 Step)

609-01629-000 - 1GB FB-DIMM (Mfg part# M395T2953CZ4-CE61)
609-01630-000 - 2GB FB-DIMM (Mfg part# M395T5750CZ4-CE61)
609-01642-000 - 1GB FB-DIMM (C-Step AMB) (Mfg # M395T2953EZ4-CE66 or M395T2953GZ4-CE66)
609-01643-000 - 2GB FB-DIMM (C-Step AMB) (Mfg # M395T5750EZ4-CE66 or M395T5750GZ4-CE66)
609-01639-000 - 4GB FB-DIMM (C-Step AMB) (Mfg # M395T5160CZ4-CE66 or M395T5160QZ4-CE66)

062-01513-000 - ASSY, PCI-X RISER (CAMOUFLAGE)
062-01514-000 - ASSY, PCI-E/PCI-X RISER (SHADOW)

Note: The last three digits of the RU part number will change from -000 (initial release) to -0xx due to post release ECOs revisions, but are compatible. LMS will reflect the orderable RU part number.

- The following are valid RU list parts for 2500/4400/6200. Included is the field in ftSMC that provides the vendor provided key information in determining the RU part number. Note: field name highlighted in blue, field contents highlighted in red.

Orderable Part Number	Description	ftServer Management Console key field for determining orderable part
062-01994-000	ASSY, DVD-R/W	Standard System Devices ->MATSHITA DVD-RAM UJ-8405 PnPDeviceId = IDE\CDROMMATSHITA_DVD-RAM_UJ-840S or Standard System Devices ->MATSHITA DVD-RAM UJ-8505 PnPDeviceId = IDE\CDROMMATSHITA_DVD-RAM_UJ-850S or Standard System Devices ->TEAC DV-W28E-R ATA PnPDeviceId = IDE\CDROMTEAC_DV-W28E-R
160-01677-008	VTM ADVANCED SYS MNGMT	Enclosure - 10 or 11 / VTM Adapter - x / VTM - x PartNumber = U46300
260-01650-000	HDD, SAS 73GB, 15K	Storage Enclosure – 40 / Disk –x / Slot –x Vendor = ST373455SS or ProductID = MAX3073RC
260-01690-000 See Note 19	HDD, SAS 73GB, 15K	Storage Enclosure – 40 / Disk –x / Slot –x Vendor = ST373455SS or ProductID = MAX3073RC and Capacity = 68.37
260-01651-001 See Note 20	HDD, SAS 146GB, 15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = MAX3174RC or ProductID = ST3146356SS or ProductID = ST3146855SS
260-01691-001 See Note 19 and 20	HDD, SAS 146GB, 15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = MAX3174RC or ProductID = ST3146356SS or ProductID = ST3146855SS and Capacity = 136.73
260-01648-000	HDD, SATA 250GB,7200	Storage Enclosure – 40 / Disk –x / Slot –x Vendor = ST325062
260-01688-000 See Note 19	HDD, SATA 250GB,7200	Storage Enclosure – 40 / Disk –x / Slot –x Vendor = ST325062 and Capacity = 233.88
260-01693-001 See Note 20	HDD, SAS 300GB, 15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST3300656SS
260-01649-001 See Note 18	HDD, SATA 500GB, 7200	Storage Enclosure – 40 / Disk –x / Slot –x Vendor = ST350063 or Vendor = ST350032

260-01689-001 See Note 18 and 19	HDD, SATA 500GB, 7200	Storage Enclosure – 40 / Disk –x / Slot –x Vendor = ST350063 or Vendor = ST350032 and Capacity = 765.76
160-01683-000	Ultra320 SCSI PCI Adapter (connects to tape drives, U527)	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = Adaptec SCSI Card 29320ALP - Ultra320 SCSI or PnPDeviceId[1] = pci\ven_9005&dev_8017&subsys_00449005
160-01599-000	Emulex LP-1150-F4, **PCI-X** (ftScalable storage)	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = Emulex LightPulse LP1150-F4 and PnPDeviceId[1] = pci\\ven_10df&dev_f0d5&subsys_f0d510df
160-01679-000	Emulex LP1150-E (EMC) **PCI-X**	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = Emulex LightPulse LP1150-E and PnPDeviceId[1] = pci\ven_10df&dev_f0d5&subsys_f0d510df
160-01678-000	Emulex LPe1150 **PCI-E** (ftScalable storage)	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = Emulex LightPulse LPe1150 and PnPDeviceId[1] = pci\ven_10df&dev_f0e5&subsys_f0e510df
160-01680-000	Emulex LPe1150-E (EMC) **PCI-E**	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = Emulex LightPulse LPe1150-E and PnPDeviceId[1] = pci\ven_10df&dev_f0e5&subsys_f0e510df
160-01681-000	Dual-Port Fiber Gigabit Ethernet Adapter, 1000Base-Sx (U574)	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x Folder labeled = Stratus U574 Dual Port Fiber Gigabit Adapter or PnPDeviceId[1] or [2] = pci\ven_8086&dev_107a&subsys_7126159c
160-01682-000	Dual-Port Copper Gigabit Ethernet Adapter, 1000Base-TX 2-port (U575)	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x Folder labeled = Stratus U575 Dual Port Fiber Gigabit Adapter or PnPDeviceId[1] or [2] = pci\ven_8086&dev_1079&subsys_7125159c
062-01878-000	ASSY, FAN 80MM, CPU 2500/4400/6200, PS 2500/4400 ONLY Physically CPU 0 Fan = CPU Fan1#<0 or 1> in ftSMC and is the right assembly, when viewed from front of CPU-I/O CRU. Physically CPU 1 Fan = CPU Fan2#<0 or 1> in ftSMC and is the left assembly, when viewed from front of CPU-I/O CRU.	CPU Enclosure – x / Sensors / CPU Fan1#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) CPU Enclosure – x / Sensors / CPU Fan2#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) CPU Enclosure – x / Sensors / PSU Fan#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors)

	Physically Power Supply Fan assembly = PSU Fan#<0 or 1>in ftSMC and is located just behind the power supply	Note: The last digit “0 or 1” in the name of the fan sensor is the CPU Enclosure number the fan resides.
062-01877-000	ASSY, FAN 60MM, HDD 2500/4400/6200 Physically HDD / I/O Fan assembly = IO Fan#<0 or 1> in ftSMC and is located just behind the internal disk backplane.	CPU Enclosure – x / Sensors / IO Fan#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) Note: The last digit “0 or 1” in the name of the fan sensor is the CPU Enclosure number the fan resides.
062-01879-000	ASSY, FAN 60MM, PS 6200 ONLY Physically Power Supply Fan assembly = PSU Fan#<0 or 1> in ftSMC and is located just behind the power supply	CPU Enclosure – x / Sensors / PSU Fan#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) Note: The last digit “0 or 1” in the name of the fan sensor is the CPU Enclosure number the fan resides.

8 ftServer 2510/4410/6210 CPU & I/O CRU Configuration

8.1 2510/4410/6210 ftServer (Fusion-H) CPU & I/O CRU

The following are snapshots of the ftServer Management Console on a 6210 system. Follow the steps below to determine the CPU & I/O CRU configuration. In a 2510/4410/6210 system, the CPU (0) and I/O (10) are contained on one motherboard, within one CRU enclosure, and the CPU (1) and I/O (11) are contained on one motherboard, within one CRU enclosure

Note: If ordering V2302/V4304/V6308 V Series CRU enclosure and processor kit, see section 8.2 for details.

You need the following information to properly order a replacement CPU & I/O CRU.

- CPU & I/O CRU enclosure part number
- AK processor kit part number and quantity
- Memory DIMM part number and quantity.
- PCI riser adapter part number.

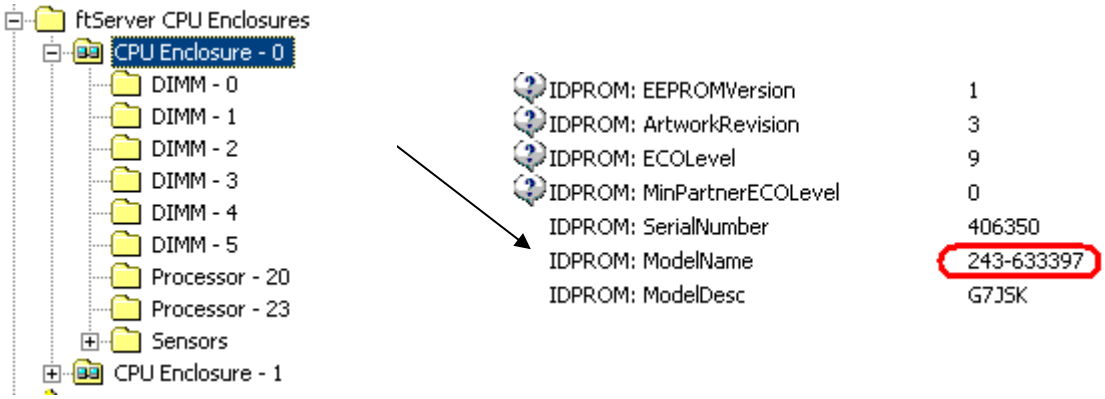
Steps to determine CPU & I/O CRU configuration:

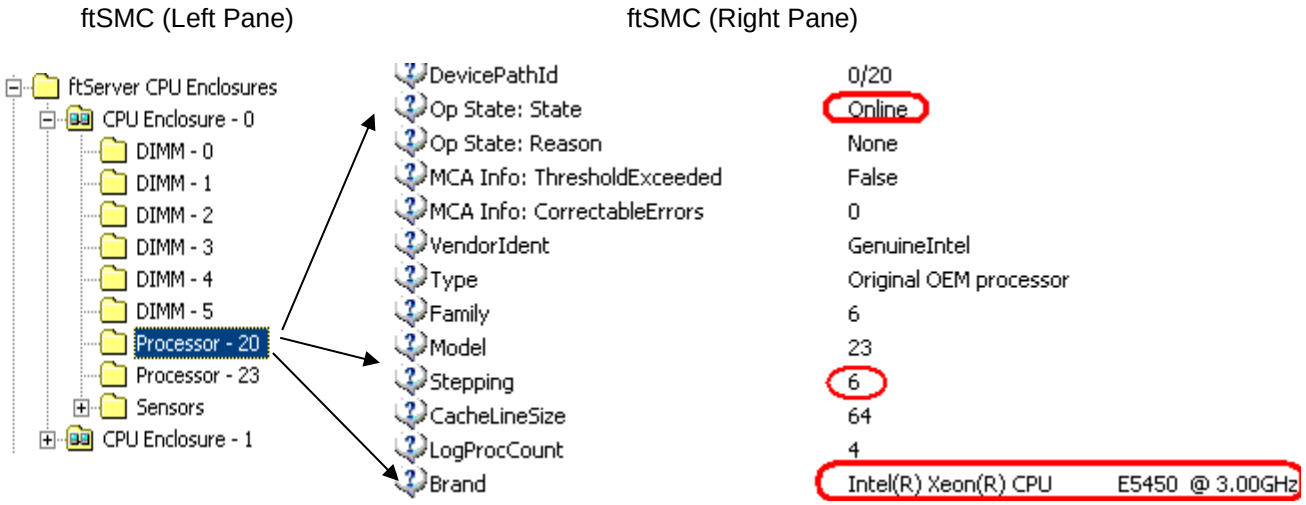
1. Open ftServer Management Console (ftSMC).
2. Expand ftServer CPU Enclosures, then the online CPU 0 or 1.
3. Highlight the an Online CPU enclosure
4. In the right pane look for “ModelName”. The following is a reference between the motherboard “ModelName” field and the CPU & I/O CRU assembly part number.

   Note: For a specific system the “ModelName” field will display the same on each CPU (0 or 1) and I/O (10 and 11) CRU since they all reside on the same motherboard. The CPU (on-line) information is used to order a replacement CPU & I/O CRU when either CPU or I/O is defective and needs replacement.

   For: ModelName = 243-633397
   Order Part: 062-03056-000 – 2510, 4410 or 6210 CPU & I/O CRU Enclosure, (No Processors, Memory, VTMs, PCI adapters, PCI Riser, DVD-R/W, or SATA/SAS disk drives) See note 14

ftSMC (Left Pane) ftSMC (Right Pane)





5. Highlight the “Processor - 20”.
6. In the right pane look for “Stepping” field and “Brand” field. Use the “Brand” field information and the “Stepping field to determine processor kit required. The following is a reference between the “Brand” and “Stepping” field and the Processor kit part number.

   For: Brand = Intel(R) Xeon(R) CPU E5405 @ 2.00GHz

   And Stepping = 6
   Order Part: 062-03054-000 - Processor Kit: Processor 2.0GHz (C0 Step), Heatsink & Adhesive (2510/4410)

   And Stepping = 10
   Order Part: 062-03084-000 - Processor Kit: Processor 2.0GHz (E0 Step), Heatsink & Adhesive (2510/4410)

   For: Brand = Intel(R) Xeon(R) CPU E5450 @ 3.00GHz

   And Stepping = 6
   Order Part: 062-03053-000 - Processor Kit: Processor 3.00GHz (C0 Step), Heatsink & Adhesive (6210)

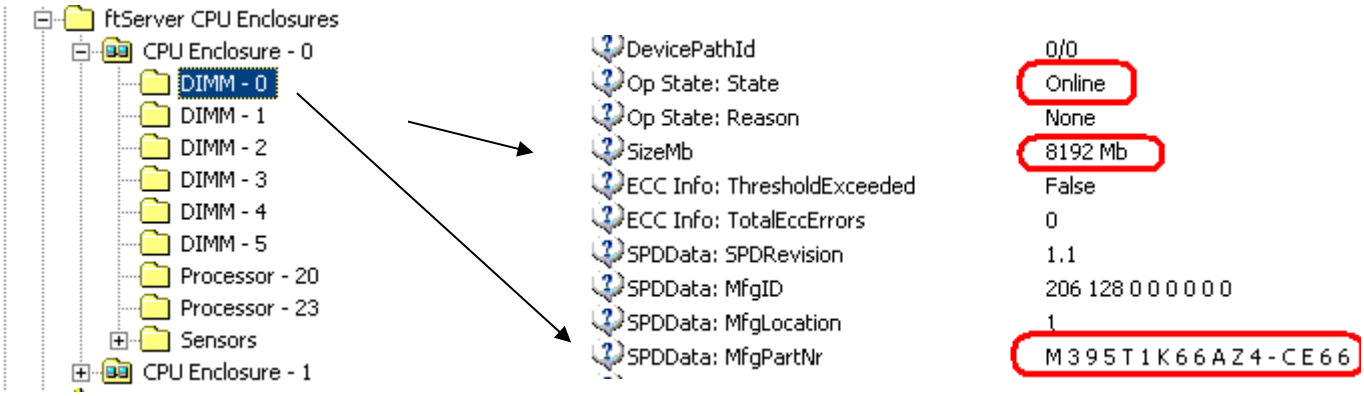
   And Stepping = 10
   Order Part: 062-03083-000 - Processor Kit: Processor 3.00GHz (E0 Step), Heatsink & Adhesive (6210)

7. Determine the quantity of processor kits required by the “Processor –xx” shown as Online.

   Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “Processor -20”and “Processor -23” exist, so quantity 2 of 062-03053-000 would be ordered. The right pane shown depicts Processor 20 – Online and processor 23 would display similar information.

8. Highlight the “DIMM – X”.
9. In the right pane look for “Op State: State” field to determine if DIMM exists. The state will be “Online” if it does.

ftSMC (Left Pane) ftSMC (Right Pane)



10. If the State is “Online” then determine the part to order based on the size shown in the “SizeMb” and “MfgPartNr” fields. The following is a reference between the SizeMb and MfgPartNr fields and orderable part number.

    For: SizeMb = 1024 Mb and SPDData: MfgPartNr = M395T2953EZ4-CE66 or M395T2953GZ4-CE66
    Order Part: 609-01642-000 – 1GB FB-DIMM

    For: SizeMb = 2048 Mb and SPDData: MfgPartNr = M395T5750EZ4-CE66 or M395T5750GZ4-CE66
    Order Part: 609-01643-000 – 2GB FB-DIMM

    For: SizeMb = 4096 Mb and SPDData: MfgPartNr = M395T5160CZ4-CE66 or M395T5160QZ4-CE66
    Order Part: 609-01639-000 – 4GB FB-DIMM

    For: SizeMb = 8192 Mb and SPDData: MfgPartNr = M395T1K66AZ4-CE66
    Order Part: 609-01647-000 – 8GB FB-DIMM

11. For “DIMM 0 thru 5” which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered.

    Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “DIMM – 0” thru “DIMM - 5” exist, DIMM - 0 is a 8196MB DIMM which means that DIMM 1 – 5 must also be determined, since they will not be 8196MB DIMMs. In this system, “DIMM - 1 thru DIMM – 5” were 4096MB DIMMs which means the maximum memory configuration of 32GB. The Mfg Part number of M395T1K66AZ4-CE66 for the 8196MB DIMM one per CPU side, and Mfg Part number of M395T5160CZ4-CE66 for the 4096MB DIMM 4 per CPU side so quantity 1 of 609-01647-000 and 5 of 609-01639-000 would be ordered.

12. Once the CPU & I/O CRU enclosure part number and memory DIMM part number, slot configuration and quantity is determined, a properly configured replacement 2510, 4410 and 6210 CPU & I/O CRU can be ordered.

    Note: In the example given above the CPU CRU replacement order would include:
    12. 1 – 062-03056-000
    13. 2 – 062-03053-000

14. 2 – 609-01647-000
15. 4 – 609-01639-000

13. If a PCI riser adapter needs to be ordered as part of the CPU-I/O CRU use the following procedure to determine part number required.
    a. Open ftServer Management Console (ftSMC).
    b. Expand ftServer I/O Enclosures.
    c. Highlight the "I/O Enclosure - XX", 10 or 11
    d. In the right pane look for "PCIRiserID" field. The following is a reference between the "PCIRiserID" field and the PCI riser adapter part number.

    For: PCIRiserID = 2x PCI-X
    Order Part: 062-03057-000 – PCI Riser Adapter, PCI-X
    For: PCIRiserID = 1x PCI-E, 1x PCI-X
    Order Part: 062-03058-000 – PCI Riser Adapter, PCI-X/PCI-E

Notes:

1. The last three digits of the RU part number will change from -000 (initial release) to -0xx due to post release ECOs revisions, but are compatible. LMS will reflect the orderable RU part number.
2. If not specifically requested in LMS CRU part order, the following parts are expected to be swapped between defective CRU and replacement CRU are: PCI adapters full and half height, DVD, VTMs, Internal SAS and SATA Disks and PCI Riser. Note: VTMs are optional on 2510/4410/6210 systems.
3. Memory DIMMs on 2510/4410/6210 are installed in quantities of 2, of equal size referred to as channels. Valid configurations are 2, 4, and 6 DIMMs per CPU & I/O CRU. See specifications for physical location rules.
4. 609-01642-000, 1GB FB-DIMM, on 2510 systems ONLY, minimum of 2GB maximum of 6GB.
5. 609-01643-000 - 2GB FB-DIMM and 609-01639-000, 4GB FB-DIMM, and 609-01647-000 - 8GB FB-DIMM on 4410/6200 systems, minimum of 4GB maximum or 32GB. The 32GB configuration requires 2, 8GB DIMMs to be installed in Slot 0 of each channel and 4, 4GB DIMMs in Slot 1 & 2.
6. 1 processor (kit) configuration is valid for 2510 CPU &I /O CRU. Populated as "Processor – 20" in ftSMC.
7. 1or 2 processor (kits) configurations are valid for 4410 CPU &I /O CRU. Populated as "Processor – 20" and "Processor – 23" in ftSMC.
8. 2 processor (kits) configuration is valid for 6210 CPU &I /O CRU. Populated as "Processor – 20" and "Processor – 23" in ftSMC
9. Processor stepping is incompatible and will not allow CPU-I/O to duplex. Order the correct AK processor kit based on "Stepping" value. E0 stepping processors require a minimum of 3.1.16 CPU BIOS.
10. A PCI riser adapter is a requirement for 2510/4410/6210 CPU-I/O CRUs to support the internal disk drives. There are two PCI risers available on 2510/4410/6210, one with 2 – PCI-X slots, the second with 1, PCI-X and 1, PCI-E slot.
11. PCI Slot – 6 in ftSMC, is the low profile slot. PCI slot – 7 and 8 are the riser adapter PCI slots. PCI Slot – 8 is the PCI-E slot, when 062-03058-000 riser adapter is installed.
12. PCI riser adapters are verified during CPU-I/O bring-up. If they are different from the on-line CRU or missing, the replacement I/O CRU will get a hardware compatibility mismatch and will not come into service.
13. On 2510/4410/6210 systems the Boot/System disk MUST be of type SAS.
14. Internal 500GB SATA Disk 260-01649-000 (FW SN05) is RDR partner compatible with 260-01649-001 (FW SN06).
15. 2510, 4410 and 6210 part Illustrated list
16. 2510/4410/6210 Customer Manuals (Windows versions)
17. 2510 configuration specification ES-000163 – (Stratus access Only)
18. 4410 configuration specification ES-000161 – (Stratus access Only)
19. 6610 configuration specification ES-000162 – (Stratus access Only)

Valid Part Numbers:

- The following are valid 2510/4410/6210 CPU & I/O CRU enclosures, processor kits, FB-DIMM and PCI riser adapter part numbers.

  062-03056-000 – 2510, 4410 or 6210 CPU & I/O CRU Enclosure, (No Processors, Memory, VTMs, PCI adapters, PCI Riser, DVD-R/W, or SATA/SAS disk drives)
  243-633397 - PCB, Motherboard (used in 062-03056-000 or -001 CPU & I/O Enclosure).
  062-03054-000 - Processor Kit: Dual Core Processor 2.0GHz C0 stepping, Heatsink & Adhesive (2510, 4410)
  062-03084-000 - Processor Kit: Dual Core Processor 2.0GHz E0 stepping, Heatsink & Adhesive (2510, 4410)
  062-03053-000 - Processor Kit: Dual Core Processor 3.0GHz C0 stepping, Heatsink & Adhesive (6210)
  062-03083-000 - Processor Kit: Dual Core Processor 3.0GHz E0 stepping, Heatsink & Adhesive (6210)

  609-01642-000 - 1GB FB-DIMM (C-Step AMB) (Mfg part# M395T2953EZ4-CE66 or M395T2953GZ4-CE66) (See note 4)
  609-01643-000 - 2GB FB-DIMM (C-Step AMB) (Mfg part# M395T5750EZ4-CE66 or M395T5750GZ4-CE66)
  609-01639-000 - 4GB FB-DIMM (C-Step AMB) (Mfg part# M395T5160CZ4-CE66 or M395T5160QZ4-CE66)
  609-01647-000 - 8GB FB-DIMM (C-Step AMB) (Mfg part# M395T1K66AZ4-CE66)

  062-03057-000 - ASSY, PCI-X RISER
  062-03058-000 - ASSY, PCI-E/PCI-X RISER

Note: The last three digits of the RU part number will change from -000 (initial release) to -0xx due to post release ECOs revisions, but are compatible. LMS will reflect the orderable RU part number.

- The following are valid RU list parts for 2510/4410/6210. Included is the field in ftSMC that provides the vendor provided key information in determining the RU part number. Note: field name highlighted in blue, field contents highlighted in red.

Orderable Part Number	Description	ftServer Management Console key field for determining orderable part
062-03052-000	ASSY, DVD-R/W	Standard System Devices ->MATSHITA DVD-RAM UJ870QJ PnPDeviceId = IDE\CDROMMATSHITA_DVD-RAM_UJ870QJ or Standard System Devices ->TEAC DV-W28E-R ATA PnPDeviceId = IDE\CDROMTEAC_DV-W28E-R
160-01677-008	VTM ADVANCED SYS MNGMT	Enclosure - 10 or 11 / VTM Adapter - x / VTM - x PartNumber = U46300
260-01651-000	HDD, SAS 146GB, 15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = MAX3174RC or ProductID = ST3146356SS or ProductID = ST3146855SS
260-01693-000	HDD, SAS 300GB, 15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST3300656SS
260-01649-001 See Note 13	HDD, SATA 500GB, 7200	Storage Enclosure – 40 / Disk –x / Slot –x Vendor = ST350063 or Vendor = ST350032
160-01683-000	Ultra320 SCSI PCI Adapter (connects to tape drives, U527)	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = Adaptec SCSI Card 29320ALP - Ultra320 SCSI or PnPDeviceId[1] = pci\ven_9005&dev_8017&subsys_00449005
160-01679-000	Emulex LP1150-E **PCI-X** (External Storage FC HBA)	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = Emulex LightPulse LP1150-E and PnPDeviceId[1] = pci\ven_10df&dev_f0d5&subsys_f0d510df
160-01680-000	Emulex LPe1150-E **PCI-E** (External Storage FC HBA)	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = Emulex LightPulse LPe1150-E and PnPDeviceId[1] = pci\ven_10df&dev_f0e5&subsys_f0e510df
160-01681-000	Dual-Port Fiber Gigabit Ethernet Adapter, 1000Base-Sx (U574)	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x Folder labeled = Stratus U574 Dual Port Fiber Gigabit Adapter or PnPDeviceId[1] or [2] = pci\ven_8086&dev_107a&subsys_7126159c
160-01682-000	Dual-Port Copper Gigabit Ethernet Adapter, 1000Base-TX 2-port (U575)	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x Folder labeled = Stratus U575 Dual Port Fiber Gigabit Adapter or PnPDeviceId[1] or [2] = pci\ven_8086&dev_1079&subsys_7125159c
062-03049-000	ASSY, FAN 80MM, CPU Physically CPU 0 Fan = CPU Fan1#<0 or 1> in ftSMC and is	CPU Enclosure – x / Sensors / CPU Fan1#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors)

	the right assembly, when viewed from front of CPU-I/O CRU. Physically CPU 1 Fan = CPU Fan2#<0 or 1> in ftSMC and is the left assembly, when viewed from front of CPU-I/O CRU.	CPU Enclosure – x / Sensors / CPU Fan2#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) Note: The last digit “0 or 1” in the name of the fan sensor is the CPU Enclosure number the fan resides.
062-01877-000	ASSY, FAN 60MM, HDD Physically HDD / I/O Fan assembly = IO Fan#<0 or 1> in ftSMC and is located just behind the internal disk backplane.	CPU Enclosure – x / Sensors / IO Fan#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) Note: The last digit “0 or 1” in the name of the fan sensor is the CPU Enclosure number the fan resides.
062-03050-000	ASSY, FAN 60MM, PS Physically Power Supply Fan assembly = PSU Fan#<0 or 1> in ftSMC and is located just behind the power supply	CPU Enclosure – x / Sensors / PSU Fan#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) Note: The last digit “0 or 1” in the name of the fan sensor is the CPU Enclosure number the fan resides.

8.2 V2302/V4304/6308 ftServer (Fusion / Fusion-H) CPU & I/O CRU

You need the following information to properly order a replacement CPU & I/O CRU.

Mother board Model Name
Processor type and speed
Processor stepping
Backpanel model name
Number and size of Dimms
Type of Riser

Use the following analyze_system commands to gather this information.

```
as:  match  'Model Name:' ; lbl -board_type cpu
   Model Name:          243-633397

as:  match  'Intel(R) Xeon(R) CPU'; lbl -board_type cpu
   Intel(R) Xeon(R) CPU          E5405  @ 2.00GHz

as:  match 'Stepping' ; lbl -board_type cpu
      Stepping:                    10

as:  match  'Model Name:' ; lbl -board_type backpanel
      Model Name:                  P6308-2D

as:  lbl -board_type cpu

as:  match ' Riser Type' ; lbl -board_type pcib
 Riser Type:                  2x PCI-X
```

Order the CRU

```
as:  match  'Model Name:' ; lbl -board_type cpu
            Model Name:          243-633397  <---------
```

For: ModelName = 243-633397
Order Part: 062-03056-000 – 2510, 4410 or 6210 CPU & I/O CRU Enclosure, (No Processors, Memory, VTMs, PCI adapters, PCI Riser, DVD-R/W, or SATA/SAS disk drives)

Determine the processor Kit required

as: match 'Intel(R) Xeon(R) CPU'; lbl -board_type cpu
Intel(R) Xeon(R) CPU E5405 @ 2.00GHz ←---------

as: match 'Stepping' ; lbl -board_type cpu
Stepping: 10 ←---------

For: Brand = Intel(R) Xeon(R) CPU 5130 @ 2.00GHz

And Stepping = 11
Order Part: 062-02998-000 - Processor Kit: Processor 2.0GHz (G0 Step), Heatsink & Adhesive (**V2302**)

For: Brand = Intel(R) Xeon(R) CPU E5405 @ 2.00GHz

And Stepping = 6
Order Part: 062-03054-000 - Processor Kit: Processor 2.0GHz (C0 Step), Heatsink & Adhesive (2510/4410)

And Stepping = 10
Order Part: 062-03084-000 - Processor Kit: Processor 2.0GHz (E0 Step), Heatsink & Adhesive (2510/4410)

For: Brand = Intel(R) Xeon(R) CPU E5450 @ 3.00GHz

And Stepping = 6
Order Part: 062-03053-000 - Processor Kit: Processor 3.00GHz (C0 Step), Heatsink & Adhesive (6210)

And Stepping = 10
Order Part: 062-03083-000 - Processor Kit: Processor 3.00GHz (E0 Step), Heatsink & Adhesive (6210)

Determine the number of processor Kits required

NOTE: Please review alert-3277 for information regarding the number of CPUs present
Vos 17.1 analyze_system command list_boards -long may report an incorrect number of physical CPUs

“Physical Processors”, should default to “1” on the V2302 and V 4304.

as: match 'Model Name:' ; lbl -board_type backpanel
Model Name: P6308-2D

V2302 contains 1	Dual-core	2.0 GHz	(Woodcrest)
V4304 contains 1	Quad-core	2.0 GHz	(Harpertown)
V6308 contains 2	Quad-core	3.0 GHz	(Harpertown)

For: Backpanel Model Name: P6308 Order 2 processors identified above.
For: Backpanel Model Name: P4304 Order 1 processors identified above.
For: Backpanel Model Name: P2302 Order 1 processors identified above.

Determine the memory configuration

as: lbl -board_type cpu

```
DIMM #              0
    Size (MB):      2048
    Part #:         M395T5750GZ4-CE66 (Samsung)
DIMM #              1
    Size (MB):      2048
    Part #:         M395T5750GZ4-CE66 (Samsung)
DIMM #              3
    Size (MB):      2048
    Part #:         M395T5750GZ4-CE66 (Samsung)
DIMM #              4
    Size (MB):      2048
    Part #:         M395T5750GZ4-CE66 (Samsung)
```

The following is a reference between the SizeMb and MfgPartNr fields and orderable part number.

For: SizeMb = 1024 Mb and SPDData: MfgPartNr = M395T2953CZ4-CE61
Order Part: 609-01629-000 – 1GB FB-DIMM
For: SizeMb = 1024 Mb and SPDData: MfgPartNr = M395T2953EZ4-CE66 or M395T2953GZ4-CE66
Order Part: 609-01642-000 – 1GB FB-DIMM

For: SizeMb = 2048 Mb and SPDData: MfgPartNr = M395T5750CZ4-CE61
Order Part: 609-01630-000 – 2GB FB-DIMM
For: SizeMb = 2048 Mb and SPDData: MfgPartNr = M395T5750EZ4-CE66 or M395T5750GZ4-CE66
Order Part: 609-01643-000 – 2GB FB-DIMM

For: SizeMb = 4096 Mb and SPDData: MfgPartNr = M395T5160CZ4-CE66 or M395T5160QZ4-CE66
Order Part: 609-01639-000 – 4GB FB-DIMM

Determine Riser Type

as: match ' Riser Type' ; lbl -board_type pcib

```
Riser Type:             2x PCI-X
```

PCIRiserID = 2x PCI-X Part: 062-03057-000 – PCI Riser Adapter, PCI-X
PCIRiserID = 1x PCI-E, 1x PCI-X Part: 062-03058-000 – PCI Riser Adapter, PCI-X/PCI-E

An example order for this configuration would be

QTY

1 Part: 062-03056-000 – 2510, 4410 or 6210 CPU & I/O CRU Enclosure,
1 Part: 062-03084-000 - Processor Kit: Processor 2.0GHz (E0 Step), Heatsink & Adhesive (2510/4410)
4 Part: 609-01643-000 – 2GB FB-DIMM
1 Part: 062-03057-000 - PCI Riser Adapter, PCI-X

1

9 ftServer 2600/4500/6300 CPU & I/O CRU Configuration

9.1 2600/4500/6300 ftServer (Draco and Draco Prime) CPU & I/O CRU

The following are snapshots of the ftServer Management Console on a 6300 system. Follow the steps below to determine the CPU & I/O CRU configuration. In a 2600/4500/6300 system, the CPU (0) and I/O (10) are contained on one motherboard, within one CRU enclosure, and the CPU (1) and I/O (11) are contained on one motherboard, within one CRU enclosure. Please read Note 2 which describes how to determine the version of 2600/4500.

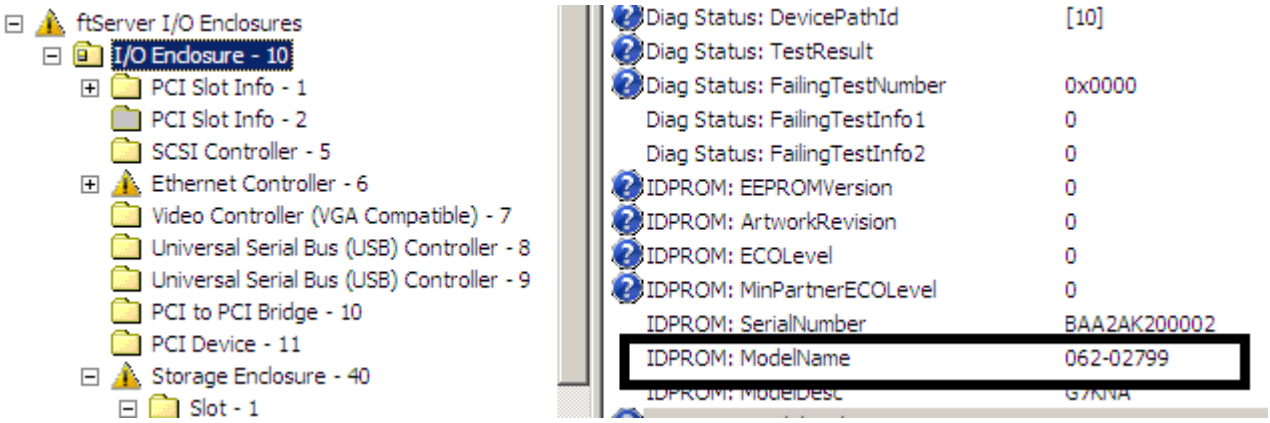
Note: If ordering V2404 V Series CRU enclosure and processor kit, go to "V2404 V Series CPU & Processor" section for details.

You need the following information to properly order a replacement CPU & I/O CRU.

- CPU & I/O CRU enclosure part number
- AK processor kit part number and quantity
- Memory DIMM part number and quantity.
- PCI riser adapter part number.

Steps to determine CPU & I/O CRU configuration:

1. Open ftServer Management Console (ftSMC).
2. Expand ftServer I/O Enclosures or CPU Enclosures.
3. Highlight I/O Enclosure – n or
   CPU Enclosure - n.
4. In the right pane look for IDPROM: ModelName
   (This is the motherboard model name and is the same for the I/O display or the CPU display)



For IDPROM: ModelName 062-02801-000
Order Part: 062-03473-000 – 2600, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives)

For IDPROM: ModelName 062-02800-000
Order Part: 062-03474-000 – 4500, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives)

For IDPROM: ModelName 062-03633-000
Order Part: 062-03630-000 – 2600 (-C), CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives) (See Note 2)

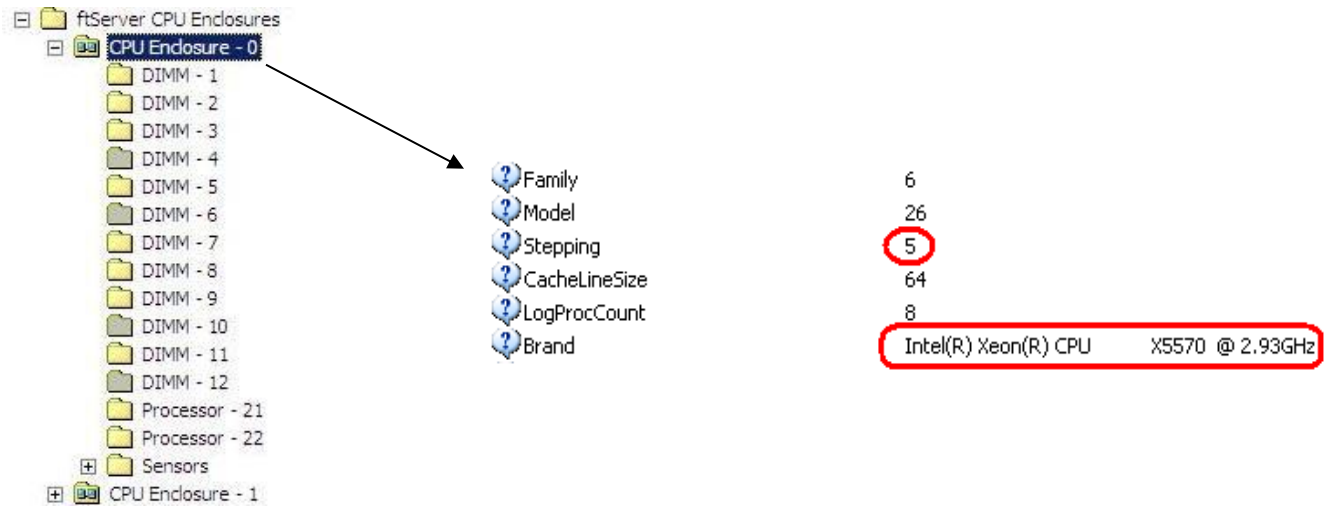
For IDPROM: ModelName 062-03632-000
Order Part: 062-03629-000 – 4500 (-C), CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives) (See Note 2)

For IDPROM: ModelName 062-02799-000
Order Part: 062-03475-000 – 6300, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives)

For IDPROM: ModelName 062-03645-000
Order Part: 062-03646-000 – 6300 (-C), CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives)

5. Expand ftServer CPU Enclosures, then the online CPU 0 or 1
6. Highlight the “Processor - 21”.

ftSMC (Left Pane) ftSMC (Right Pane)



7. In the right pane look for “Stepping” field and “Brand” field. Use the “Brand” field information and the “Stepping field to determine processor kit required. The following is a reference between the “Brand” and “Stepping” field and the Processor kit part number.

   For: Brand = Intel(R) Xeon(R) CPU E5504 @ 2.00GHz

   Order Part: 062-03476-000 - Processor Kit: Processor 2.0GHz (D0 Step), Heatsink & Adhesive (2600/4500 and -C)

   For: Brand = Intel(R) Xeon(R) CPU X5570 @ 2.93GHz

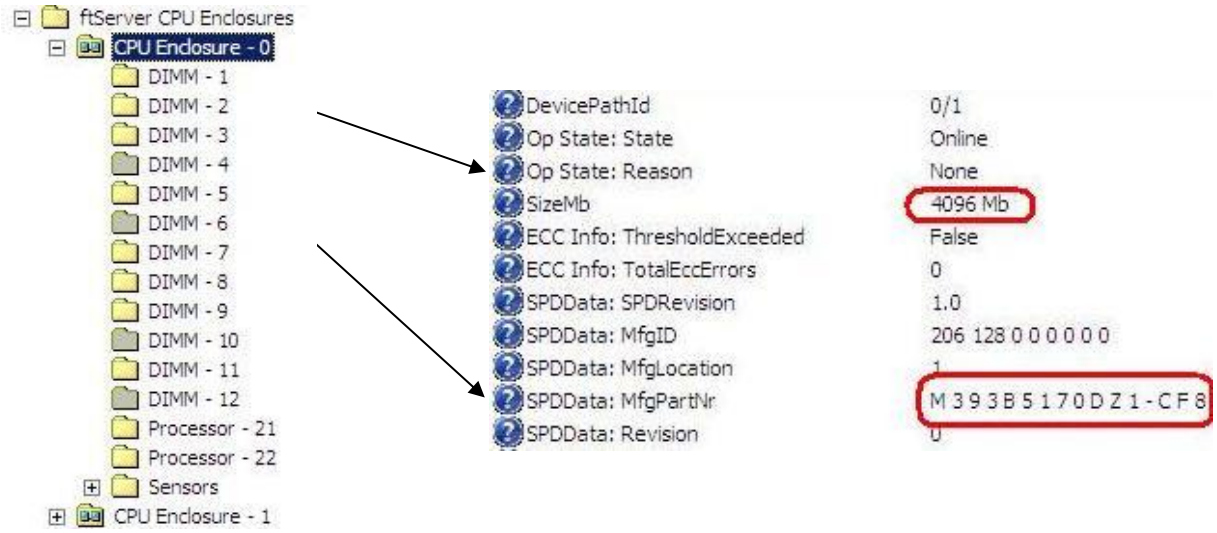
   Order Part: 062-03477-000 - Processor Kit: Processor 2.93GHz (D0 Step), Heatsink & Adhesive (6300 and -C)

8. Determine the quantity of processor kits required by the “Processor –xx” shown as Online.

   Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “Processor -21”and “Processor -22” exist, so quantity 2 of 062-03477-000 would be ordered. The right pane shown depicts Processor 21 – Online and processor 22 would display similar information.

9. Highlight the “DIMM – X”.
10. In the right pane look for “Op State: State” field to determine if DIMM exists. The state will be “Online” if it does.

ftSMC (Left Pane) ftSMC (Right Pane)



11. If the State is “Online” then determine the part to order based on the size shown in the “SizeMb” and “MfgPartNr” fields. The following is a reference between the SizeMb and MfgPartNr fields and orderable part number.

    For: SizeMb = 4096 Mb and SPDData: MfgPartNr = M393B5170DZ1-CF8 or M393B5170EH1-CF8 or HMT151R7TFR4C-G7

    Order Part: 609-01658-000 – 4GB FB-DIMM

    For: SizeMb = 8192 Mb and SPDData: MfgPartNr = M393B1K70BH1-CF8 or HMT31GR7BFR4C-G7

Order Part: 609-01659-000 – 8GB FB-DIMM

For: SizeMb = 4096 Mb and SPDData: MfgPartNr = M393B5170FH0-CH9 or MT36JSZF51272PZ-1G or M393B5170GB0-YH9
Order Part: 609-01671-000 – 4GB FB-DIMM DDR3 1333MHZ (See Note 9)

For: SizeMb = 8192 Mb and SPDData: MfgPartNr = M393B1K70CH0-CH9 or MT36JSZF1G72PZ-1G M393B1K70CH0-YH9 or M393B1K70DH0-YH9
Order Part: 609-01672-000– 8GB FB-DIMM DDR3 1333MHZ (See Note 9)

12. For "DIMM 1, 2, 3, 5, 7, 8, 9 and 11" which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered.

    Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State "Online or Empty". In the example above DIMM - 1 is a 4096MB DIMM, all "Online" DIMMs in slots 1 – 12 must also be determined, since they may not be all 4096MB DIMMs. In this system, "DIMM - 1, 2, 3, 5, 7, 8, 9 and 11 were determined to be 4096MB DIMMs, which means a memory configuration of 32GB. The Mfg Part number of M393B5170DZ1-CF8 for a 4096MB DIMM is 609-01658-000, quantity of 8.

13. Once the CPU & I/O CRU enclosure part number and memory DIMM part number, slot configuration and quantity is determined, a properly configured replacement 2600, 4500 and 6200 CPU & I/O CRU can be ordered.

    Note: In the example given above the CPU – I/O CRU replacement order would include:
    16. 1 – 062-03475-000
    17. 2 – 062-03477-000
    18. 8 – 609-01658-000

14. If a PCI riser adapter needs to be ordered as part of the CPU - I/O CRU, use the following procedure to determine part number required.
    a. Open ftServer Management Console (ftSMC).
    b. Expand ftServer I/O Enclosures.
    c. Highlight the "I/O Enclosure - XX", 10 or 11
    d. In the right pane look for "PCIRiserID" field. The following is a reference between the "PCIRiserID" field and the PCI riser adapter part number.

    For: PCIRiserID = 2x PCI-E2 (x4)
    Order Part: 062-03483-000 – PCI Riser Adapter, PCI-E
    For: PCIRiserID = 2x PCI-X
    Order Part: 062-03482-000 – PCI Riser Adapter, PCI-X

Notes:

1. The last three digits of the RU part number will change from -000 (initial release) to -0xx due to post release ECOs revisions and in most cases will compatible. LMS will reflect the orderable RU part number and compatibility.
2. There are two versions of the 2600, 4500 and 6300 systems, which have RUs that are not compatible. The following is how to determine the versions. The model name field is displayed when dbg: is entered
   2 examples are shown here.

```
DRACO' HARDWARE VERSION INFO ...
 - SYSTEM
 ModName P4500-2S-C    <----------------
 ModDesc ftServer 4500
```

```
DRACO HARDWARE VERSION INFO ...
- SYSTEM
ModName P6300-2S  ←----------------------
ModDesc ftServer 6300
```

a. 2600 (Modelname/P-Package=P2600-1S) and 4500 (Modelname/P-Package P4500-1S and -2S) – FCS SEPT-2009, supported on ftSSS 6.0.0.x, 6.0.1.x and 7.0.0.x
b. 2600 (Modelname/P-Package=P2600-1S-C) and 4500 (Modelname/P-Package P4500-1S-C and -2S-C) – Cut in 2011, supported on ftSSS 6.0.1.x and 7.0.0.x
c. 6300 (Modelname/P-Package=P6300-2S) and 6300 (Modelname/P-Package=P6300-2S-C) – Cut in 2011, supported on ftSSS 6.1.x.x and 7.0.0.x
d. This document will refer to the newer 2600/4500/6300 as "-C" version

3. If not specifically requested in LMS CRU part order, the following parts are expected to be swapped between defective CRU and replacement CRU are: PCI adapters full and half height, Internal SAS Disks and PCI Riser.
4. 1 processor (kit) configuration is valid for 2600 CPU &I /O CRU. Populated as "Processor – 21" in ftSMC.
5. 1or 2 processor (kits) configurations are valid for 4500 CPU &I /O CRU. Populated as "Processor – 21" and "Processor – 22" in ftSMC.
6. 2 processor (kits) configuration is valid for 6300 CPU &I /O CRU. Populated as "Processor – 21" and "Processor – 22" in ftSMC.
7. On 2600 and 1 processor 4500 only 6 DIMM slots per CRU, optimal DIMM configuration, populate Odd slots 1, 3 and 5, than even slots 2, 4 and 6. This should be the default way of DIMM population. DIMM slot location and size must match between CRU slots 1-6 or a hardware configuration error will be detected. See ES-000164 for details on configuration and max memory supported.
8. On 2 processor 4500/6300 12 DIMM slots per CRU, optimal DIMM configuration, populate Odd slots 1/7, 3/9 and 5/11 than even slots 2/8, 4/10 and 6/12 and . This should be the default way of DIMM population. DIMM slot location and size must match between processor 1 & 2 and CRU DIMM slots or a hardware configuration error will be detected. See ES-000164 or 165 for details on configuration and max memory supported.
9. 609-01671-00x and 609-01672-00x DIMMs are only supported on 2600 and 4500 "-C" version.
10. PCI Slot Info – 1 and 2 in ftSMC, are the low profile slots which are PCI-E. PCI Slot Info – 3 and 4 are the riser adapter PCI slots. The PCI riser slots are either both, PCI-E or PCI-X depending on the version of riser installed.
11. PCI riser adapters are verified during CPU-I/O bring-up. If they are different from the on-line CRU or missing, the replacement I/O CRU will get a hardware compatibility mismatch and will not come into service.
12. 2600, 4500, and 6300 part Illustrated list
13. 2600/4500/6300 Customer Manuals (Windows versions)
14. 2600 configuration specification ES-000164 – (Stratus access Only)
15. 4500 configuration specification ES-000165 – (Stratus access Only)
16. 6300 configuration specification ES-000166 – (Stratus access Only)

Valid Part Numbers:

- The following are valid 2600/4500/6300 CPU & I/O CRU enclosures, processor kits, DIMM and PCI riser adapter part numbers.

062-03473-000 – 2600 CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser or SAS disk drives)
062-03630-000 – 2600 (-C) CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser or SAS disk drives) (See Note 2)
062-03476-000 - Processor Kit: Processor 2.0GHz (D0 Step), Heatsink & Adhesive (2600/4500)

062-03474-000 – 4500, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives)
062-03629-000 – 4500 (-C), CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives) (See Note 2)
062-03476-000 - Processor Kit: Processor 2.0GHz (D0 Step), Heatsink & Adhesive (2600/4500)

062-03475-000 – 6300, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives)
062-03477-000 - Processor Kit: Processor 2.93GHz (D0 Step), Heatsink & Adhesive (6300)

062-03646-000 – 6300 (-C), CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives)
062-03477-000 - Processor Kit: Processor 2.93GHz (D0 Step), Heatsink & Adhesive (6300)

609-01658-000 - 4GB DIMM (Mfg part# M393B5170DZ1-CF804 or M393B5170EH1-CF804 or HMT151R7TFR4C-G7)
609-01659-000 - 8GB DIMM (Mfg part# M393B1K70BH1-CF804 or M393B1K70BH1-CF8Q4 or HMT31GR7BFR4C-G7)

609-01671-000 - 4GB DIMM DDR3 1333MHz (Mfg part# M393B5170FH0-CH9 or MT36JSZF51272PZ-1G4G1 or M393B5170GB0-YH9) (See note 9)
609-01672-000 - 8GB DIMM DDR3 1333MHz (Mfg part# M393B1K70BH1-CF804 or MT36JSZF1G72PZ-1G4D1 or M393B1K70DH0-YH9) (See note 9)

062-03482-000 - ASSY, PCI-X RISER
062-03483-000 - ASSY, PCI-E RISER

Note: The last three digits of the RU part number will change from -000 (initial release) to -0xx due to post release ECOs revisions, and in most cases will compatible. LMS will reflect the orderable RU part number and compatibility.

- The following are valid RU list parts for 2600/4500/6300. Included is the field in ftSMC that provides the vendor provided key information in determining the RU part number. Note: field name highlighted in blue, field contents highlighted in red.

Orderable Part Number	Description	ftServer Management Console key field for determining orderable part
062-03543-000	ASSY, DVD-R/W	Standard System Devices ->MATSHITA DVD-RAM UJ870BJ USB Device PnPDeviceId = USBSTOR\CDROM&VEN_MATSHITA&PROD_DVD-RAM_UJ870BJ&REV_1.31 or USBSTOR\CDROM&VEN_MATSHITA&PROD_DVD-RAM_UJ870BJ&REV_1.50 or Standard System Devices -> MATSHITA DVD-RAM UJ8A0AS USB Device PnPDeviceId = CDROM&VEN_MATSHITA&PROD_DVD-RAM_UJ8A0AS&REV_1.00 or REV_1.20
062-03515-000	HDD, SAS 73GB, 2.5",15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST973452SS
062-03515-001	HDD, SAS 73GB, 2.5",15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST973452SS, HUC151473CSS600
062-03516-000	HDD, SAS 146GB, 2.5",15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST9146852SS or ST9146853SS
062-03516-001	HDD, SAS 146GB, 2.5",15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST9146852SS, ST9146853SS, HUC151473CSS600, MBE2147RC, MK1401GRRB
062-03648-000	HDD, SAS 300GB, 2.5",15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST9300653SS, ST300MP0005, MK3001GRRB
062-03517-000	HDD, SAS 500GB, 2.5",15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST9500430SS
062-03644-000	HDD, SAS 1TB, 2.5",7.2K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST91000640SS
160-01680-000 **(Table Note 2)**	U539F - Emulex LPe1150-E – PCI-E (External Storage FC HBA)	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = Emulex LightPulse LPe1150-E and PnPDeviceId[1] = pci\ven_10df&dev_f0e5&subsys_f0e510df
160-01728-000 **(Table Note 1)**	U104 - Dual-port Ethernet Server PCIe Adapter 1000BASE-SX (LC Fiber Optic) – PCI-E	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x PnPDescription[1] = Stratus 82576 2-Port Fiber Gigabit Adapter or PnPDeviceId[1] or [2] = pci\ven_8086&dev_10e6&subsys_712d159c
160-01727-000 **(Table Note 1)**	U105 - Dual-port Ethernet Server PCIe Adapter 10/100/1000BASE-T (RJ-45 copper) – PCI-E	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x PnPDescription[1] = Stratus 82576 2-Port Copper Gigabit Adapter or PnPDeviceId[1] or [2] = pci\ven_8086&dev_10c9&subsys_712e159c
160-01737-000 **(Table Note 3)**	U105-C - Dual-port Ethernet Server PCIe Adapter 10/100/1000BASE-T (RJ-45	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x PnPDescription[1] = Stratus 82576 2-Port Copper Gigabit Adapter

	copper, E1G42ET Retail/OEM) – PCI-E	or PnPDeviceId[1] or [2] = pci\\ven_8086&dev_10c9&subsys_7130159c
160-01729-000 **(Table Note 1)**	U106 - SAS 8-Port Host Bus PCIe Adapter (connects to SAS tape drives)	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = FTSYS LSI Adapter, SAS 300 Series, 8-Port with 1068E - StorPort or PnPDeviceId[1] = pci\ven_1000&dev_0058&subsys_30801000
Orderable Part Number	**Description**	**ftServer Management Console key field for determining orderable part**
160-01733-000 **(Table Note 4)**	U107 – 8BG Fibre Channel 1-Port Host Bus PCIe Adapter for EMC and external Storage (QLogic QLE2560) – PCI-E	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = QLogic Fibre Channel Adapter or PnPDeviceId[1] = pci\ven_1077&dev_2532&subsys_015c1077
160-01736-000 **(Table Note 4)**	U108 - Single-port Ethernet PCIe adapter 10 Gigabit (Intel E10G41BFSR) (LC Fiber Optic)	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x PnPDescription[1] = Stratus 82599 Fiber 10 Gigabit Adapter or PnPDeviceId[1] = pci\ven_8086&dev_10fb&subsys_712f159c
062-03540-000	ASSY, FAN 80MM, x4, w/Bracket Physically Baseboard Fan1 thru Baseboard Fan4 is one replaceable unit. The Fans can not be replaced individually. See IPB Item 6	CPU Enclosure – x / Sensors / Baseboard Fan1#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) CPU Enclosure – x / Sensors / Baseboard Fan2#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) CPU Enclosure – x / Sensors / Baseboard Fan3#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) CPU Enclosure – x / Sensors / Baseboard Fan4#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) Note: The last digit “0 or 1” in the name of the fan sensor is the CPU Enclosure number the fan resides.
062-03541-000	ASSY, FAN 40MM, PS, w/Bracket Physically located just in front of the Power-BP board. See IPB Item 7	CPU Enclosure – x / Sensors / Baseboard Fan5#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) Note: The last digit “0 or 1” in the name of the fan sensor is the CPU Enclosure number the fan resides.
Backpanel Assembly Infoformation		ftServer Configuration > Customer Info > Model Name field also displayed when dbg is entered HARDWARE VERSION INFO ... - SYSTEM ModName P6300-2S
062-03618-000	Backpanel assy Model 2600-1S	
062-03617-000	Backpanel assy Model	

	4500-1S and 4500-2S	
062-03545-000	Backpanel assy Model 6300-2S	
062-03643-000	Backpanel assy Model 2600-1S-C	
062-03642-000	Backpanel assy Model 4500-1S-C and 4500-2S-C	
062-03647-000	Backpanel assy Model 6300-2S-C	
CRU Power Supply		
856-851367-101-A	**Power Supply, DS850-3-401-01**	

Table Notes:

1. PCI adapters are supported on ftSSS 6.0.0.x, 6.0.1.x and 7.0.0.x
2. U539F supported on ftSSS 6.0.0.x and 6.0.1.x only.
3. U105-C (OEM or Retail) supported on 7.0.0.x only.
4. PCI adapters are supported on ftSSS 7.0.0.x only.

10 6310 ftServer CPU & I/O CRU Configuration

10.1 2600/4500/6300 ftServer (Draco and Draco Prime) CPU & I/O CRU

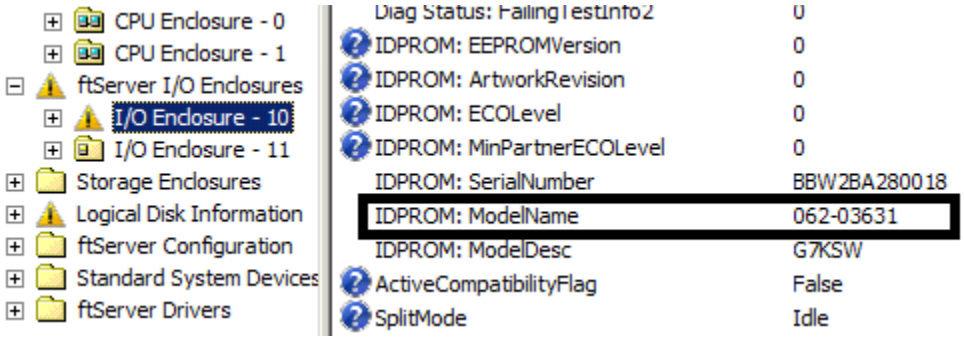
The following are snapshots of the ftServer Management Console on a 6310 system. Follow the steps below to determine the CPU & I/O CRU configuration. In a 6310 system, the CPU (0) and I/O (10) are contained on one motherboard, within one CRU enclosure, and the CPU (1) and I/O (11) are contained on one motherboard, within one CRU enclosure

You need the following information to properly order a replacement CPU & I/O CRU.

- CPU & I/O CRU enclosure part number
- Processor kit part number and quantity
- Memory DIMM part number and quantity.
- PCI riser adapter part number.

Steps to determine CPU & I/O CRU configuration:

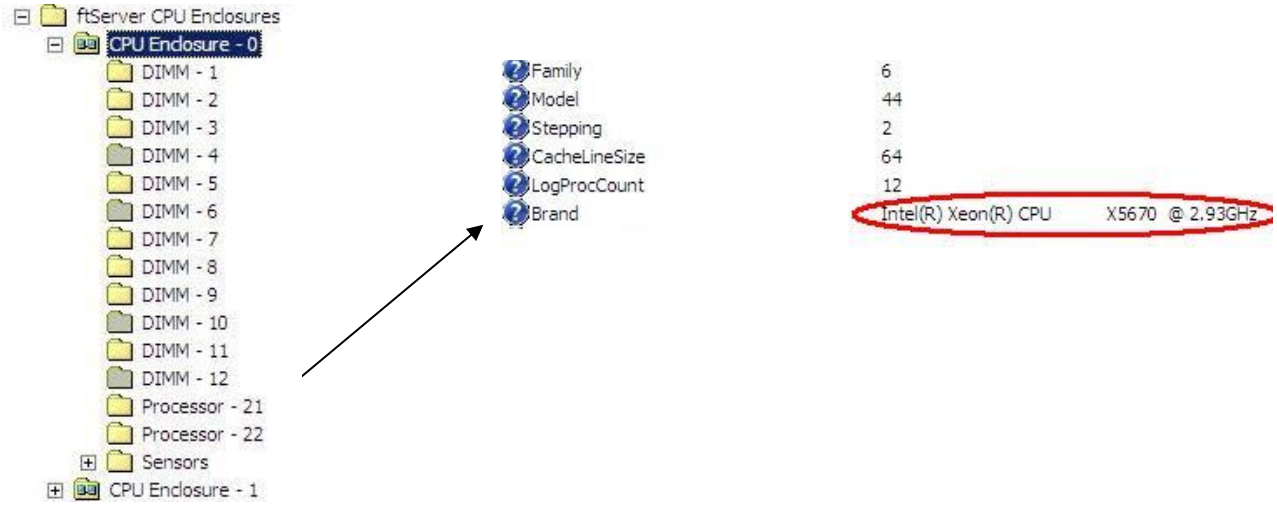
1. Open ftServer Management Console (ftSMC).
2. Expand ftServer I/O Enclosures or CPU Enclosures.
3. Highlight I/O Enclosure – n or
   CPU Enclosure - n.
4. In the right pane look for IDPROM: ModelName
   (This is the motherboard model name and is the same for the I/O display or the CPU display)



For IDPROM: ModelName 062-03631-000
Order Part: 062-03628-000 – 6310, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives)

1. Expand ftServer CPU Enclosures, then the online CPU 0 or 1
2. Highlight the “Processor - 21”.

ftSMC (Right Pane) ftSMC (Left Pane)



3. In the right pane look for “Brand” field.

   For: Brand = Intel(R) Xeon(R) CPU X5670 @ 2.93GHz

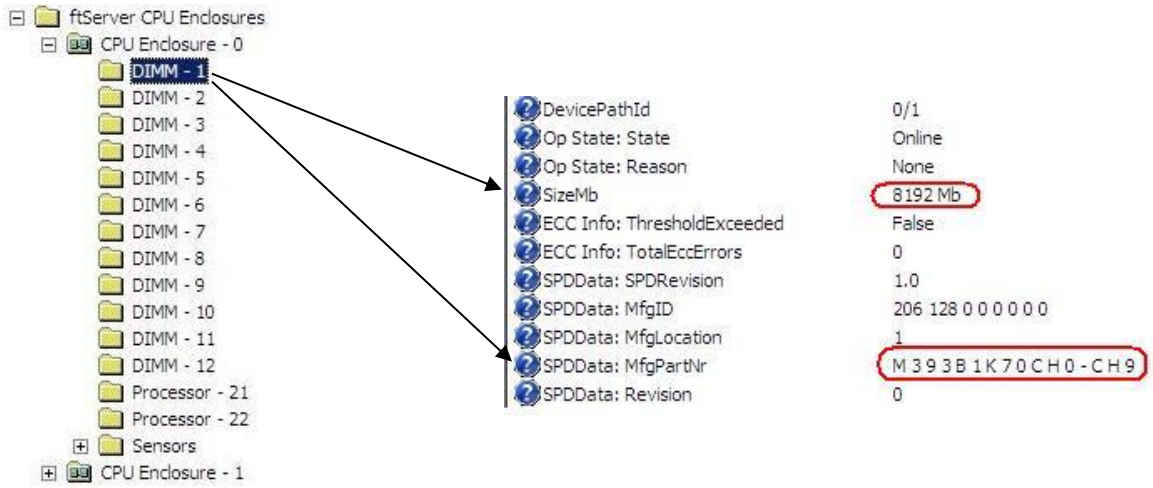
   Order Part: 062-03635-000 - Processor Kit: Processor 2.93GHz (B1 Step), Heatsink & Adhesive (6310)

4. On a 6310 system, the quantity of processor kits required is always going to be “2”.

   Note: In the example above both “Processor -21”and “Processor -22” exist, so quantity 2 of 062-03635-000 would be ordered. The right pane shown depicts Processor 21 – Online and processor 22 would display similar information.

5. Highlight the “DIMM – X”.
6. In the right pane look for “Op State: State” field to determine if DIMM exists. The state will be “Online” if it does.

ftSMC (Left Pane) ftSMC (Right Pane)



7. If the State is “Online” then determine the part to order based on the size shown in the “SizeMb” and “MfgPartNr” fields. The following is a reference between the SizeMb and MfgPartNr fields and orderable part number.

   For: SizeMb = 4096 Mb and SPDData: MfgPartNr = M393B5170FH0-CH9 or MT36JSZF51272PZ-1G M393B5170GB0-YH9
   Order Part: 609-01671-000 – 4GB FB-DIMM DDR3 1333MHZ

   For: SizeMb = 8192 Mb and SPDData: MfgPartNr = M393B1K70CH0-CH9 or MT36JSZF1G72PZ-1G or M393B1K70DH0-YH9
   Order Part: 609-01672-000– 8GB FB-DIMM DDR3 1333MHZ

8. For “DIMM 1 thru 12” which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered.

   Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above DIMM - 1 is a 8129MB DIMM, all “Online” DIMMs in slots 1 – 12 must also be determined, since they may not be all 4096MB DIMMs. In this system, “DIMM – 1 thru 12 were determined to be 8192MB DIMMs, which means a memory configuration of 96GB. The Mfg Part number of M393B1K70CH0-CH9 for 8192MB DIMM is 609-01659-000, quantity of 12.

9. Once the CPU & I/O CRU enclosure part number and memory DIMM part number, slot configuration and quantity is determined, a properly configured replacement 6310 CPU & I/O CRU can be ordered.

Note: In the example given above the CPU – I/O CRU replacement order would include:

19. 1 – 062-03475-000
20. 2 – 062-03477-000
21. 12 – 609-01672-000

10. If a PCI riser adapter needs to be ordered as part of the CPU - I/O CRU, the 6310 supports only one type of PCI Riser, PCI-E.

    Order Part: 062-03483-000 – PCI Riser Adapter, PCI-E

Notes:

1. The last three digits of the RU part number will change from -000 (initial release) to -0xx due to post release ECOs revisions and in most cases will compatible. LMS will reflect the orderable RU part number and compatibility.
2. If not specifically requested in LMS CRU part order, the following parts are expected to be swapped between defective CRU and replacement CRU are: PCI adapters full and half height, Internal SAS Disks and PCI Riser.
3. 2 processor (kits) configuration is valid for 6310 CPU &I /O CRU. Populated as “Processor – 21” and “Processor – 22” in ftSMC.
4. On a 6310 12 DIMM slots per CRU, optimal DIMM configuration, populate Odd slots 1/7, 3/9 and 5/11 than even slots 2/8, 4/10 and 6/12 and . This should be the default way of DIMM population. DIMM slot location and size must match between processor 1 & 2 and CRU DIMM slots or a hardware configuration error will be detected. See ES-000167 for details on configuration and max memory supported.
5. PCI Slot Info – 1 and 2 in ftSMC, are the low profile slots which are PCI-E. PCI Slot Info – 3 and 4 are the riser adapter PCI slots and on a 6310 will be PCI-E riser only.
6. PCI riser adapters are verified during CPU-I/O bring-up. If they are different from the on-line CRU or missing, the replacement I/O CRU will get a hardware compatibility mismatch and will not come into service.
7. U105-C and U108 support both the OEM/Retail versions on 6310. The Vendor an Device ID will be mapped by Stratus software to be the same on both Retail and OEM versions.
8. 6310 part Illustrated list
9. 6310 Customer Manuals (Windows versions)
10. 6310 configuration specification ES-000167 – (Stratus access Only)

Valid Part Numbers:

- The following are valid 6310 CPU & I/O CRU enclosures, processor kits, DIMM and PCI riser adapter part numbers.

  062-03628-000 – 6310, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives)
  062-03635-000 - Processor Kit: Processor 2.93GHz (B1 Step), Heatsink & Adhesive (6310)

  609-01671-000 - 4GB DIMM DDR3 1333MHz (Mfg part# M393B5170FH0-CH9 or MT36JSZF51272PZ-1G4G1 or M393B5170GB0-YH9)
  609-01672-000 - 8GB DIMM DDR3 1333MHz (Mfg part# M393B1K70BH1-CF804 or MT36JSZF1G72PZ-1G4D1 or M393B1K70DH0-YH9)

  062-03483-000 - ASSY, PCI-E RISER

Note: The last three digits of the RU part number will change from -000 (initial release) to -0xx due to post release ECOs revisions and in most cases will compatible. LMS will reflect the orderable RU part number and compatibility

- The following are valid RU list parts for 6310. Included is the field in ftSMC that provides the vendor provided key information in determining the RU part number. Note: field name highlighted in blue, field contents highlighted in red.

Orderable Part Number	Description	ftServer Management Console key field for determining orderable part
062-03543-000	ASSY, DVD-R/W	Standard System Devices ->MATSHITA DVD-RAM UJ870BJ USB Device PnPDeviceId= USBSTOR\CDROM&VEN_MATSHITA&PROD_DVD-RAM_UJ870BJ&REV_1.50 or Standard System Devices -> MATSHITA DVD-RAM UJ8A0AS USB Device PnPDeviceId = CDROM&VEN_MATSHITA&PROD_DVD-RAM_UJ8A0AS&REV_1.00 or REV_1.20
062-03515-001	HDD, SAS 73GB, 2.5",15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST973452SS, HUC151473CSS600
062-03516-001	HDD, SAS 146GB, 2.5",15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST9146852SS, ST9146853SS, HUC151473CSS600, MBE2147RC, MK1401GRRB
062-03648-000	HDD, SAS 300GB, 2.5",15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST9300653SS, ST300MP0005, MK3001GRRB
062-03517-000	HDD, SAS 500GB, 2.5",15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST9500430SS
062-03644-000	HDD, SAS 1TB, 2.5",7.2K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST91000640SS
160-01728-000	U104 - Dual-port Ethernet Server PCIe Adapter 1000BASE-SX (LC Fiber Optic) – PCI-E	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x PnPDescription[1] = Stratus 82576 2-Port Fiber Gigabit Adapter or PnPDeviceId[1] or [2] = pci\ven_8086&dev_10e6&subsys_712d159c
160-01737-000	U105-C - Dual-port Ethernet Server PCIe Adapter 10/100/1000BASE-T (RJ-45 copper, E1G42ET Retail/OEM) – PCI-E	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x PnPDescription[1] = Stratus 82576 2-Port Copper Gigabit Adapter or PnPDeviceId[1] or [2] = pci\\ven_8086&dev_10c9&subsys_7130159c
160-01729-000	U106 - SAS 8-Port Host Bus PCIe Adapter (connects to SAS tape drives) – PCI-E	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = FTSYS LSI Adapter, SAS 300 Series, 8-Port with 1068E - StorPort or PnPDeviceId[1] = pci\ven_1000&dev_0058&subsys_30801000
160-01733-000	U107 – 8BG Fibre Channel 1-Port Host Bus PCIe Adapter for EMC and external Storage (QLogic QLE2560) – PCI-E	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = QLogic Fibre Channel Adapter or PnPDeviceId[1] = pci\ven_1077&dev_2532&subsys_015c1077

160-01736-000	U108 - Single-port Ethernet PCIe adapter 10 Gigabit (Intel E10G41BFSR) (LC Fiber Optic)	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x PnPDescription[1] = Stratus 82599 Fiber 10 Gigabit Adapter or PnPDeviceId[1] = pci\ven_8086&dev_10fb&subsys_712f159c
Orderable Part Number	**Description**	**ftServer Management Console key field for determining orderable part**
062-03540-000	ASSY, FAN 80MM, x4, w/Bracket Physically Baseboard Fan1 thru Baseboard Fan4 is one replaceable unit. The Fans cannot be replaced individually. See IPB Item 6	CPU Enclosure – x / Sensors / Baseboard Fan1#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) CPU Enclosure – x / Sensors / Baseboard Fan2#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) CPU Enclosure – x / Sensors / Baseboard Fan3#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) CPU Enclosure – x / Sensors / Baseboard Fan4#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) Note: The last digit “0 or 1” in the name of the fan sensor is the CPU Enclosure number the fan resides.
062-03541-000	ASSY, FAN 40MM, PS, w/Bracket Physically located just in front of the Power-BP board. See IPB Item 7	CPU Enclosure – x / Sensors / Baseboard Fan5#<0 or 1> Op State: State = On-Line or (Broken) State = Normal or (Threshold errors) Note: The last digit “0 or 1” in the name of the fan sensor is the CPU Enclosure number the fan resides.
062-03636-000	Backpanel assy Model 6310-2S	ftServer Configuration > Customer Info > Model Name field also displayed when dbg is entered HARDWARE VERSION INFO ... - SYSTEM ModName P6310-2S
CRU Power Supply		
856-851367-101-A	Power Supply, DS850-3-401-01	

11 ftServer 2700/4700/6400 CPU & I/O CRU Configuration

11.1 2700/4700/6400 ftServer (Cygnus) CPU & I/O CRU

The following are snapshots of the ftServer Management Console on an 6400 system. Follow the steps below to determine the CPU & I/O CRU configuration. In a 2700/4700/6400 system, the CPU (0) and I/O (10) are contained on one motherboard, within one CRU enclosure, and the CPU (1) and I/O (11) are contained on one motherboard, within one CRU enclosure.

You need the following information to properly order a replacement CPU & I/O CRU.

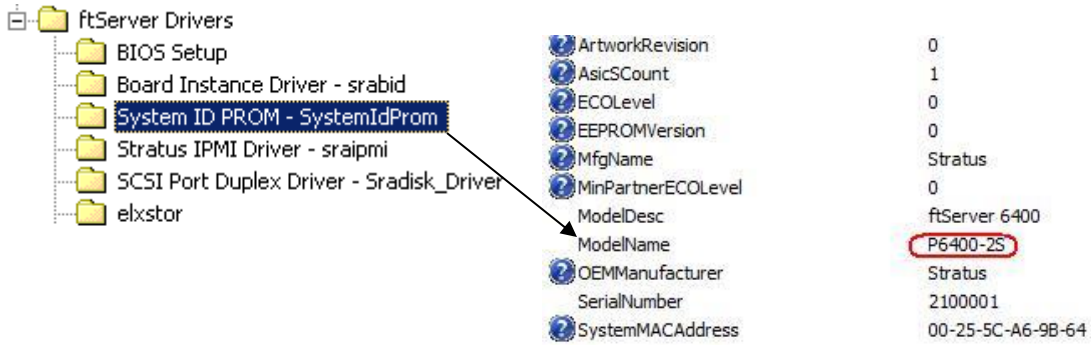
- CPU & I/O CRU enclosure part number
- AK processor kit part number and quantity
- Memory DIMM part number and quantity.
- PCI riser adapter part number.

Steps to determine CPU & I/O CRU configuration:

1. Open ftServer Management Console (ftSMC).
2. Expand ftServer Drivers.
3. Highlight System ID Prom – SystemIdProm.
4. In the right pane look for “ModelName”.

Note: The “ModelName” field will display the system P-package.

ftSMC (Left Pane) ftSMC (Right Pane)



For System ID Prom – SystemIdProm ModelName = P2700-1S
Order Part: 062-01205-000 – 2700, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, or SAS disk drives)

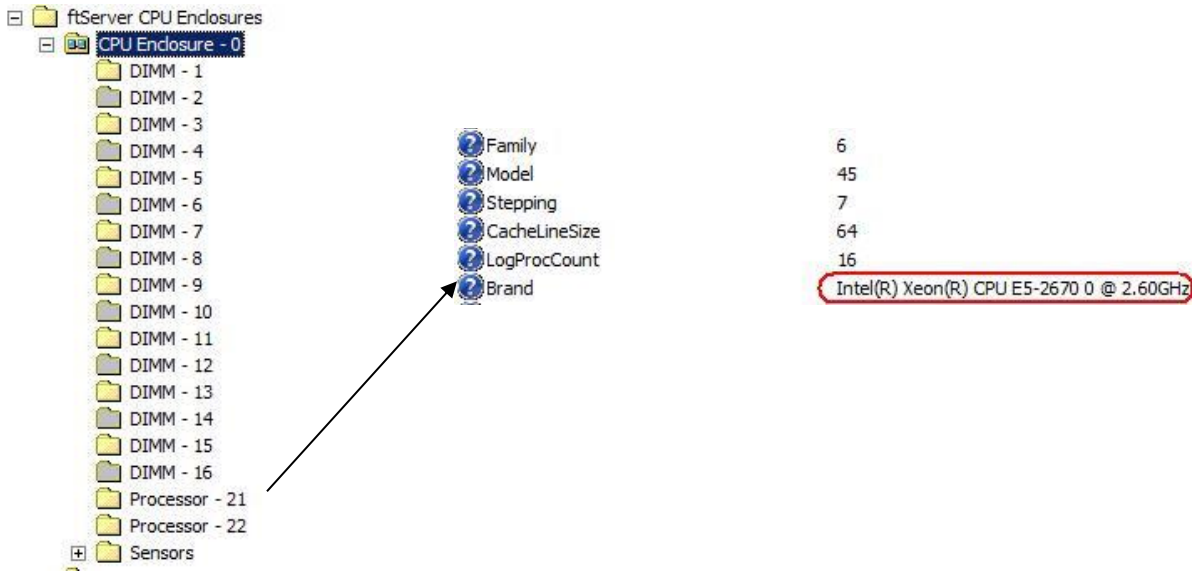
For System ID Prom – SystemIdProm ModelName = P4700-1S or P4700-2S
Order Part: 062-01204-000 – 4700, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives)

For System ID Prom – SystemIdProm ModelName = P6400-2S
Order Part: 062-01203-000 – 6400, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters or

SAS disk drives, **PCI Riser is included**)

SEE NOTES ON RISER ORDERING.

ftSMC (Left Pane) ftSMC (Right Pane)



5. Expand ftServer CPU Enclosures, then the online CPU 0 or 1
6. Highlight the “Processor - 21”.
7. In the right pane look for “Stepping” field and “Brand” field. Use the “Brand” field information and the “Stepping field to determine processor kit required. The following is a reference between the “Brand” and “Stepping” field and the Processor kit part number.

   For: Brand = Intel(R) Xeon(R) CPU E5-2603 0 @ 1.80GHz

   Order Part: 062-03650-000 - Processor Kit: Processor 1.8GHz, Heatsink & Adhesive (2700/4700)

   For: Brand = Intel(R) Xeon(R) CPU E5-2670 0 @ 2.60GHz

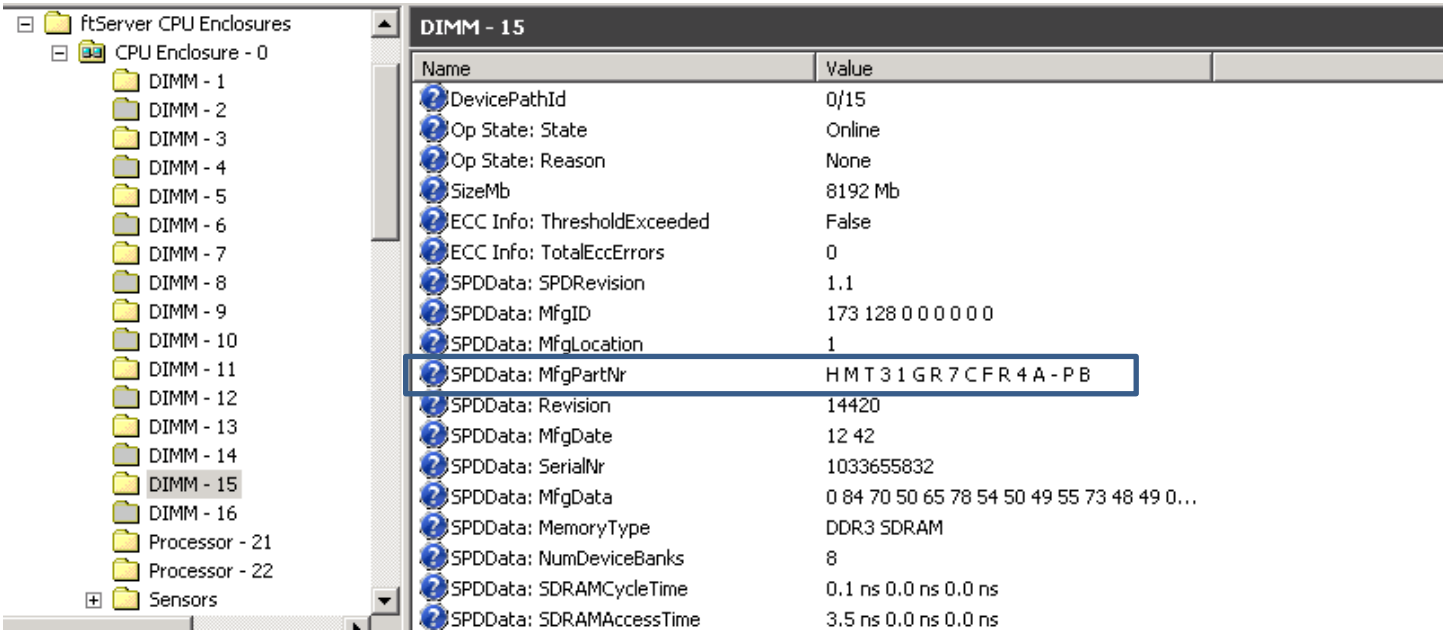
   Order Part: 062-03649-000 - Processor Kit: Processor 2.6GHz, Heatsink & Adhesive (6400)

8. Determine the quantity of processor kits required by the “Processor –xx” shown as Online.

   Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above both “Processor -21”and “Processor -22” exist, so quantity 2 of 062-03649-000 would be ordered. The right pane shown depicts Processor 21 – Online and processor 22 would display similar information.

9. Highlight the “DIMM – X”
10. In the right pane look for “Op State: State” field to determine if DIMM exists. The state will be “Online” if it does.

ftSMC (Left Pane) ftSMC (Right Pane)



11. If the State is “Online” then determine the part to order based on the size shown in the “SizeMb” and “MfgPartNr” fields. The following is a reference between the SizeMb and MfgPartNr fields and orderable part number.
12. Reference the following table for the size and Mfg Part # that you have .

Model	Mktg ID	Part #	Vendor	Mfg Part #	Type	Speed
Cygnus						
Size GB						
4	M251	609-01673-000	Hynix Samsung	HMT351R7CFR4A-PBT8 M393B5270DH0-YK0	DDR3	1333mhz
8	M252	609-01674-000	Hynix Samsung	HMT31GR7CFR4A-PBT8 M393B1K70DH0-YK0	DDR3	1333mhz
16	M253	609-01675-000	Hynix Hynix Samsung	HMT42GR7MFR4A-PBT8 HMT42GR7AFR4A-PBT8 M393B2G70BH0-YK0	DDR3	1333mhz
NEW 16	M253	609-01675-000	Hynix Samsung Samsung	HMT42GR7BFR4A-PBT8 M393B2G70QH0-YK00 M393B2G70EB0-YK0	DDR3	1600mhz

4	M254	609-01676-000	Hynix Hynix Micron	HMT451R7AFR8A-PB T8 HMT451R7BFR8A-PB T8 HMT451R7DFR8A-PB T8 MT9KSF51272PZ-1G6E2	DDR3	1600mhz
8	M255	609-01677-000	Hynix Samsung Samsung	HMT41GR7BFR4A-PBT8 M393B1G70QH0-YK008 M393B1G70EB0-YK0	DDR3	1600mhz

NOTE: Marketing Product Announcement# 886 February 25, 2014 announces the successful qualification of 2710/4710/6410 memory dims for use in 2700/4700/6400 systems.

Old and new memory DIMMs may not be intermixed within an ftServer system.

It is not permitted to mix
609-01673-000 (M251) and 609-01676-000 (M254) dims within a system in any way !

It is not permitted to mix
609-01674-000 (M252) and 609-01677-000 (M255) dims within a system in any way !

You must identify and order the dims that the remaining unit already has in order to correctly configure a replacement CRU.

Beginning March 1, 2014, ftServer 2700/4700/6400 system CRUs may be configured with the following memory DIMMS:

13. For: SizeMb = 4096 Mb and SPDData: MfgPartNr = HMT451R7AFR8A-PBxx
    Order Part: 609-01676-000 – 4GB DDR3, 1600MHZ

    For: SizeMb = 8192 Mb and SPDData: MfgPartNr = M393B1G70QH0-YK0xx
    Order Part: 609-01677-000 – 8GB DDR3, 1600MHZ

14. Once the CPU & I/O CRU enclosure part number and memory DIMM part number, slot configuration and quantity is determined, a properly configured replacement 2700, 4700 and 6400 CPU & I/O CRU can be ordered.

    Note: In the example given above the CPU – I/O CRU replacement order would include:
    22. 1 – 062-01203-000
    23. 2 – 062-03649-000
    24. 8 – 609-01675-000

15 **PCI riser adapters please read carefully.**

15a. PCI riser adapters are excluded from the
SystemIdProm ModelName = P2700-1S Part: 062-01205-000– 2700, CPU & I/O CRU Enclosure
and should not be ordered with the CRU.

15b. PCI riser adapters **OPTIONAL** components for the
SystemIdProm ModelName = P4700-1S or -2S Part: 062-01204-000 4700, CPU & I/O CRU Enclosure
If you have a model 4700 and you also have a riser card
Order Part: 062-01207-000 – PCI Riser Adapter, PCI-E.

15c. PCI riser adapters **are PRE-CONFIGURED** components for the
SystemIdProm ModelName = P6400-2S Part: 062-01203-000 – 6400, CPU & I/O CRU Enclosure
And should not be ordered with the CRU.

Notes:

1. The last three digits of the RU part number will change from -000 (initial release) to -0xx due to post release ECOs revisions and in most cases will compatible. LMS will reflect the orderable RU part number and compatibility.
2. If not specifically requested in LMS CRU part order, the following parts are expected to be swapped between defective CRU and replacement CRU are: PCI adapters full and half height, Internal SAS Disks and PCI Riser.
3. 1 processor (kit) configuration is valid for 2700 CPU &I /O CRU. Populated as “Processor – 21” in ftSMC.
4. 1or 2 processor (kits) configurations are valid for 4700 CPU &I /O CRU. Populated as “Processor – 21” and “Processor – 22” in ftSMC.
5. 2 processor (kits) configuration is valid for 6400 CPU &I /O CRU. Populated as “Processor – 21” and “Processor – 22” in ftSMC.
6. On 2700 and 1 processor 4700 only 8 DIMM slots per CRU, o*ptimal* DIMM configuration, populate slots 1, 3 then 5, 7 then 2, 4 then 6, 8. This should be the default way of DIMM population. DIMM slot location and size must match between CRU slots 1 - 8 or a hardware configuration error will be detected. See ES-000168 or 169 for details on configuration and max memory supported.
7. On 2 processor 4700/6400 16 DIMM slots per CRU, optimal DIMM configuration, populate slots 1,9 and 3,11 then 5,13 and 7,15 then 2, 10 and 4,12 then 6, 14 and 8, 16. This should be the default way of DIMM population. DIMM slot location and size must match between processor 1 & 2 and CRU DIMM slots or a hardware configuration error will be detected. See ES-000169 or 170 for details on configuration and max memory supported.
8. PCI Slot Info – 1 and 2 in ftSMC, are the low profile slots which are PCI-E. PCI Slot Info – 3 and 4 are the riser adapter PCI slots.
9. PCI riser adapter is verified during CPU-I/O bring-up. If PCI riser configured different per CRU, a hardware compatibility mismatch will be detected and will not come into service.
10. 2700, 4700, and 6400 part Illustrated list
11. 2700/4700/6400 Customer Manuals (Windows versions)
12. 2700 configuration specification ES-000168 – (Stratus access Only)
13. 4700 configuration specification ES-000169 – (Stratus access Only)
14. 6400 configuration specification ES-000170 – (Stratus access Only)

Valid Part Numbers:

- The following are valid 2700/400/6400 CPU & I/O CRU enclosures, processor kits, DIMM and PCI riser adapter part numbers.

  062-01205-000 – 2700 CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, or SAS/SSD disk drives)
  062-03650-000 - Processor Kit: Processor 1.8GHz, Heatsink & Adhesive (2700/4700)

  062-01204-000 – 4700, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, **Optional** PCI Riser, or SAS/SSD disk drives)
  062-03650-000 - Processor Kit: Processor 1.8GHz, Heatsink & Adhesive (2700/4700)

  062-01203-000 – 6400, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, **included** PCI Riser, or SAS/SSD disk drives)
  062-03649-000 - Processor Kit: Processor 2.6GHz, Heatsink & Adhesive (6400)

  609-01673-000 - 4GB DIMM DDR3 1333MHz (Mfg part# M393B5270DH0-YK0)
  609-01674-000 - 8GB DIMM DDR3 1333MHz (Mfg part# M393B1K70DH0-YK0)

609-01675-000 - 16GB DIMM DDR3 1333MHz (Mfg part# M393B2G70BH0-YK0)
609-01676-000 - 4GB DIMM DDR3 1333MHz (Mfg part# HMT451R7AFR8A-PBxx)
609-01677-000 - 8GB DIMM DDR3 1333MHz(Mfg part# M393B1G70QH0-YK0xx)

062-01207-000 - ASSY, PCI-E RISER

Note: The ftServer 6400 **includes** a PCI Riser Kit that provides 2 additional high profile slots in addition to the low-profile slots on the motherboard.

Note: The last three digits of the RU part number will change from -000 (initial release) to -0xx due to post release ECOs revisions, and in most cases will compatible. LMS will reflect the orderable RU part number and compatibility.

- The following are valid RU list parts for 2700/4700/6400. Included is the field in ftSMC that provides the vendor provided key information in determining the RU part number. Note: field name highlighted in blue, field contents highlighted in red.

Orderable Part Number	Description	ftServer Management Console key field for determining orderable part
062-03543-000	ASSY, DVD-R/W	Standard System Devices -> MATSHITA DVD-RAM UJ8A0AS USB Device PnPDeviceId = CDROM&VEN_MATSHITA&PROD_DVD-RAM_UJ8A0AS&REV_1.20
062-02805-000	HDD, SAS 146GB, 2.5",15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST9146853SS
062-02806-000	HDD, SAS 300GB, 2.5",15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST9300653SS, ST300MP0005
062-02886-000	HDD, SSD 200GB, 2.5"	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = LB206S
062-02887-000	HDD, SSD 200GB, 2.5" 24nm	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = LB206M
062-02804-000	HDD, SAS 1TB, 2.5",7.2K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST91000640SS
062-03729-000	HDD, SSD 400GB, 2.5"	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = PX02SMF040
062-03730-000	HDD, SAS 1.2TB, 2.5",10K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST1200MM0007
160-01737-000	U105-C - Dual-port Ethernet Server PCIe Adapter 10/100/1000BASE-T (RJ-45 copper, E1G42ET Retail/OEM) – PCI-E	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x PnPDescription[1] = Stratus 82576 2-Port Copper Gigabit Adapter or PnPDeviceId[1] = pci\\ven_8086&dev_10c9&subsys_7130159c
160-01733-000	U107 – 8BG Fibre Channel 1-Port Host Bus PCIe Adapter for EMC and external Storage (QLogic QLE2560) – PCI-E	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = QLogic Fibre Channel Adapter or PnPDeviceId[1] = pci\ven_1077&dev_2532&subsys_015c1077
160-01739-000	U584 - Dual-port 10 Gigabit Ethernet Server Adapter (LC	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x PnPDescription[1] = Stratus 82576 2-Port Fiber 10 Gigabit Adapter

	Fiber Optic INTEL E10G42BFSR) – PCI-E	or PnPDeviceId[1] = pci\\ven_8086&dev_10fb&subsys_7132159c
160-01740-000	U110 - SAS 6Gb/s 8-Port PCIe Host Bus Adapter (LST SAS9212-414e)	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x PnPDescription[1] = FTSYS LSI 2008 PCI-E MPT 9212 4I+4E SAS2 Adapter or PnPDeviceId[1] = pci\\ven_1000&dev_0072&subsys_30601000
Backpanel Assembly Infoformation		ftServer Configuration > Customer Info > Model Name field also displayed when dbg is entered HARDWARE VERSION INFO ... - SYSTEM ModName
062-01202-000	Backpanel assy Model 2700-1S	
062-01201-000	Backpanel assy Model 4700-2S	
062-01200-000	Backpanel assy Model 6400-2S	
CRU Power Supply		
856-851445-202-C	POWER SUPPLY, DELTA DPS-800QB	

12 V2404/V4408/V6408 CPU CRU Configuration

12.1 V2404/V4408/V6408 V Series CPU & Processor

Follow the steps below to determine the motherboard and processor (CRU) configuration for V2404 or V6408.
Use sections 9 and 10 for determining all other CRU orderable replacement parts.

You need the following unique information to properly order a replacement CPU CRU.

- CPU & I/O CRU enclosure part number
- Processor kit part number and quantity

Steps to determine CPU & Processor CRU configuration for V2404 and V4408:

1. Use “analyze_system”, “list_boards” to display the appropriate information.

   Note: For a specific system the “Model Name” field will display the same on each CPU (0 or 1) and I/O (10 and 11) CRU since they all reside on the same motherboard. The CPU (on-line) information is used to order a replacement CPU & I/O CRU when either CPU or I/O is defective and needs replacement.

2. The following is a reference between the motherboard “Model Name” field and the CPU & I/O CRU assembly part number.

```
as:  lb -long -slot 0
Module: %s2#m1  (ftServer 4500)

Slot 0:  CPU Module
    Model Name:           062-03632
    State:                  (00180016)  STATE_DUPLEX
    Status:                 Online Partnered
    Diagnostics Status
```

   For Model Name = 062-03632
   Order Part: 062-03629-000 – V2404 & V4408 CPU & I/O CRU Enclosure,
   (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives) Note: 4500-xx-C base CRU.

3. Use the “Brand” field to determine processor kit required. The following is a reference between the “Brand” field and the Processor kit part number. Determine the quantity of processor kits required “Physical Processors:”,

   should always default to “1” on the V2404
   should always default to “2” on the V4408

```
as:  lb -long -slot 0
Module: %s2#m1  (ftServer 4500)

Brand:
  Intel(R) Xeon(R) CPU           E5504  @ 2.00GHz
Family:                           6
Model:                            26
Stepping:                         5
```

   For: Brand = Intel(R) Xeon(R) CPU E5504 @ 2.00GHz
   Order Part: 062-03476-000 - Processor Kit: Processor 2.0GHz (D0 Step), Heatsink & Adhesive
   (V2404 & V4408) (Note: Processor used on 2600-xx-x)

4. Determine the number of memory dims installed by using the analyze_system command

   as: list_boards -long -board_type cpu

   V2404/V4408/V6408 V Series servers only use some number of the following dimm.

   Part # 609-01670-000 DIMM, 2GB DDR3 1333MHZ

Steps to determine CPU & Processor CRU configuration for V6408:

1. Use “analyze_system”, “list_boards” to display the appropriate information.

   Note: For a specific system the “Model Name” field will display the same on each CPU (0 or 1) and I/O (10 and 11) CRU since they all reside on the same motherboard. The CPU (on-line) information is used to order a replacement CPU & I/O CRU when either CPU or I/O is defective and needs replacement.

2. The following is a reference between the motherboard “Model Name” field and the CPU & I/O CRU assembly part number.

```
as:  lb -long -slot 0
Module: %s2#m1  (ftServer 6310)

Slot 0:  CPU Module
    Model Name:           062-03631
    State:                  (00180016)  STATE_DUPLEX
    Status:                 Online Partnered
    Diagnostics Status
```

   For Model Name = 062-03631
   Order Part: 062-03628-000 – V6408 CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives) (Note: 6310 base CRU)

3. Use the “Brand” field to determine processor kit required. The following is a reference between the “Brand” field and the Processor kit part number. Determine the quantity of processor kits required “Physical Processors:”, should default to “2” always on the V6408

```
as:  lb -long -slot 0
Module: %s2#m1  (ftServer 6310)
Brand:
  Intel(R) Xeon(R) CPU           X5570  @ 2.93GHz
```

   For: Brand = Intel(R) Xeon(R) CPU X5570 @ 2.93GHz

   Order Part: 062-03477-000 - Processor Kit: Processor 2.93GHz (D0 Step), Heatsink & Adhesive (V6408) (Note: Processor used on 6300-xx-x)

4. Determine the number of memory dims installed by using the analyze_system command
   as: list_boards -long -board_type cpu

   V2404/4408/V6408 V Series servers only use some number of the following dimm.

Part # 609-01670-000 DIMM, 2GB DDR3 1333MHZ

RISER CARD :

V4408, V6408 and V6512 systems optionally include 2 x PCI-Express full height slots on a riser card.
Only one type of PCI Riser is supported, PCI-E.

PCI riser adapters are verified during CPU-I/O bring-up. If they are different from the on-line CRU or missing, the replacement I/O CRU will get a hardware compatibility mismatch and will not come into service.

If a PCI riser adapter needs to be ordered as part of the CPU - I/O CRU,

Order Part: 062-03483-000 – PCI Riser Adapter, PCI-E 2x PCI-E2 (x4)

12.2 V-6512 V Series CPU & Processor

Steps to determine CPU & Processor CRU configuration for V6512:

1. Use “analyze_system”, “list_boards” to display the appropriate information.

   Note: For a specific system the “Model Name” field will display the same on each CPU (0 or 1) and I/O (10 and 11) CRU since they all reside on the same motherboard. The CPU (on-line) information is used to order a replacement CPU & I/O CRU when either CPU or I/O is defective and needs replacement.

2. The following is an example list_boards output from a V6512 system.

```
as:  lb -board_type cpu -long
Module: %s1#m1  (ftServer 6512)  <----------

Slot 0:  CPU Module
    Model Name:           062-03631  <----------
    State:                  (00180016)  STATE_DUPLEX
    Status:                Online Partnered
    Diagnostics Status
       Time of Last Run:            19-07-27 09:12:42 EDT
       All diagnostics passed
    EEPROMVersion:                  0
    OEMManufacturer:                0
    Serial Number:                  BBW2BE520015
    Artwork Revision:               0
    ECO Level:                      0
    Min. Partner ECO:               0
    Model Description:              G7KSW
    Model Name:                     062-03631
    Bios Stratus Version:           BIOS Version 5.0:17
    Bios Vendor Version:
       PhoenixBIOS 4.0 Release 6.1
    FPGA Version:                   26.00
    North ASIC Version:             4200253
    Physical Processors:            2
    Brand:
       Intel(R) Xeon(R) CPU          X5670  @ 2.93GHz <----------
    Family:                         6
    Model:                          44
    Stepping:                       2
```

```
 DIMM #                          1
       Size (MB):                2048
       Part #:                   M393B5670FH0-CH9  (Samsung)
 DIMM #                          2
       Size (MB):                2048
       Part #:                   M393B5670FH0-CH9  (Samsung)
 DIMM #                          3
       Size (MB):                2048
       Part #:                   M393B5670FH0-CH9  (Samsung)
 DIMM #                          5
       Size (MB):                2048
       Part #:                   M393B5670FH0-CH9  (Samsung)
 DIMM #                          7
       Size (MB):                2048
       Part #:                   M393B5670FH0-CH9  (Samsung)
 DIMM #                          8
       Size (MB):                2048
       Part #:                   M393B5670FH0-CH9  (Samsung)
 DIMM #                          9
       Size (MB):                2048
       Part #:                   M393B5670FH0-CH9  (Samsung)
 DIMM #                          11
       Size (MB):                2048
       Part #:                   M393B5670FH0-CH9  (Samsung)
 Total Memory Present (MB):      16384
ECC Threshold Exceeded:         FALSE
 MCA Threshold Exceeded:         FALSE
 Sensor Information              All Sensors Normal
 MTBF Information:               Uncorrectable
    Type:                        Use Threshold
    Uptime started:              19-07-27 09:13:52 EDT
    Total faults:                0
    Replacement threshold:       7884000
    Eviction threshold:          7200
    Fault records kept:          4
 MTBF Information:               Correctable
    Type:                        Use Threshold
    Uptime started:              19-07-27 09:13:52 EDT
    Total faults:                0
    Replacement threshold:       7200
    Eviction threshold:          1800
    Fault records kept:          4
 MTBF Information:               Microsync
    Type:                        Use Threshold
    Uptime started:              19-07-27 09:13:52 EDT
    Total faults:                0
    Replacement threshold:       1728
    Eviction threshold:          -1
    Fault records kept:          50
 Fault Data:             No Faults
```

For Model Name = 062-03631
Order Part: 062-03628-000 – V6512 CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives) (Note: 6310 base CRU)

For: Brand = Intel(R) Xeon(R) CPU X5670 @ 2.93GHz
Order Part: 062-03635-000 - Processor Kit: Processor 2.93GHz (B1 Step), Heatsink & Adhesive (6310)

Note: On a 6310 system, the quantity of processor kits required is always going to be “2”.

Determine the number of memory dims installed from the output of the analyze_system list_boards -long -board_type cpu command

V2404/V6408/V6512 V Series servers only use some number of the following dimm.

Vendor Part #: M393B5670FH0-CH9 (Samsung)
Startus Part # 609-01670-000 DIMM, 2GB DDR3 1333MHZ

You must also order a PCIe riser. The 6310 supports only one type of PCI Riser, PCI-E.

Order Part: 062-03483-000 – PCI Riser Adapter, PCI-E

Note: In the example given above the V-6512 CPU – I/O CRU replacement order would include:
1 – 062-03628-000- V6512 CPU & I/O CRU Enclosure,
2 – 062-03635-000 - Processor Kit: Processor 2.93GHz (B1 Step), Heatsink & Adhesive (6310)
8 – 609-01670-000 - DIMM, 2GB DDR3 1333MHZ
1 - 062-03483-000 – PCI Riser Adapter, PCI-E

Paymentech V6512 CPU CRU Configuration

V6512 V Series System is released in this specific configuration at Vos release 19.0 for Paymentech.

```
as:  lbl -slot 0
Module: %s8#m1  (ftServer 6512)

Slot 0:  CPU Module
   Model Name:          062-03631
   State:               (00180016)  STATE_DUPLEX
   Status:              Online Partnered
   Diagnostics Status
(…)
   Physical Processors:           2
Brand:
      Intel(R) Xeon(R) CPU          X5670  @ 2.93GHz
   Family:                        6
   Model:                         44
   Stepping:                      2


DIMM #                        1
        Size (MB):               2048
        Part #:                 M393B5670FH0-CH9  (Samsung)
   DIMM #                       2
        Size (MB):               2048
        Part #:                 M393B5670FH0-CH9  (Samsung)
   DIMM #                       3
        Size (MB):               2048
        Part #:                 M393B5670FH0-CH9  (Samsung)
   DIMM #                       5
        Size (MB):               2048
        Part #:                 M393B5670FH0-CH9  (Samsung)
   DIMM #                       7
        Size (MB):               2048
        Part #:                 M393B5670FH0-CH9  (Samsung)
   DIMM #                       8
        Size (MB):               2048
        Part #:                 M393B5670FH0-CH9  (Samsung)
   DIMM #                       9
        Size (MB):               2048
        Part #:                 M393B5670FH0-CH9  (Samsung)
   DIMM #                       11
        Size (MB):               2048
        Part #:                 M393B5670FH0-CH9  (Samsung)
   Total Memory Present (MB):       16384
```

This is the only CPU & Processor CRU configuration in place at Paymentech at this time. In all cases replacement units are preconfigured under the following CRU part

Number . The BOM for the part is shown.

AS-000452 ASM CRU REPLACEMENT PAYMENTECH V6512 SPECIAL ORDER

Qty

1 – 062-03628-000- V6512 CPU & I/O CRU Enclosure,
2 – 062-03635-000 - Processor Kit: Processor 2.93GHz (B1 Step), Heatsink & Adhesive (6310)
8 – 609-01670-000 - DIMM, 2GB DDR3 1333MHZ
1 - 062-03483-000 – PCI Riser Adapter, PCI-E

1	AA-U58000	2-port 8 Gbps Fibre Channel HBA, V-Series, with packaging	PCI Slot 1
1	AA-U58200	4-port Ethernet Adapter 10/100/1000Base-T (RJ45), V-Series,	PCI Slot 2
1	AA-U58300	Silicom PEG4SFPi6-ROHS Quad Port Gigabit Ethernet PCI-E NIC,	PCI Slot 3
1	AA-U58400	2-port 10 Gigabit Ethernet Adapter (LC Fiber Optic), V-Series,	PCI Slot 4

13 ftServer 2710/4710/6410 CPU & I/O CRU Configuration

13.1 2710/4710/6410 ftServer (Cygnus-I) CPU & I/O CRU

The following are snapshots of the ftServer Management Console on an 6400 system. Follow the steps below to determine the CPU & I/O CRU configuration. In a 2710/4710/6410 system, the CPU (0) and I/O (10) are contained on one motherboard, within one CRU enclosure, and the CPU (1) and I/O (11) are contained on one motherboard, within one CRU enclosure.

You need the following information to properly order a replacement CPU & I/O CRU.

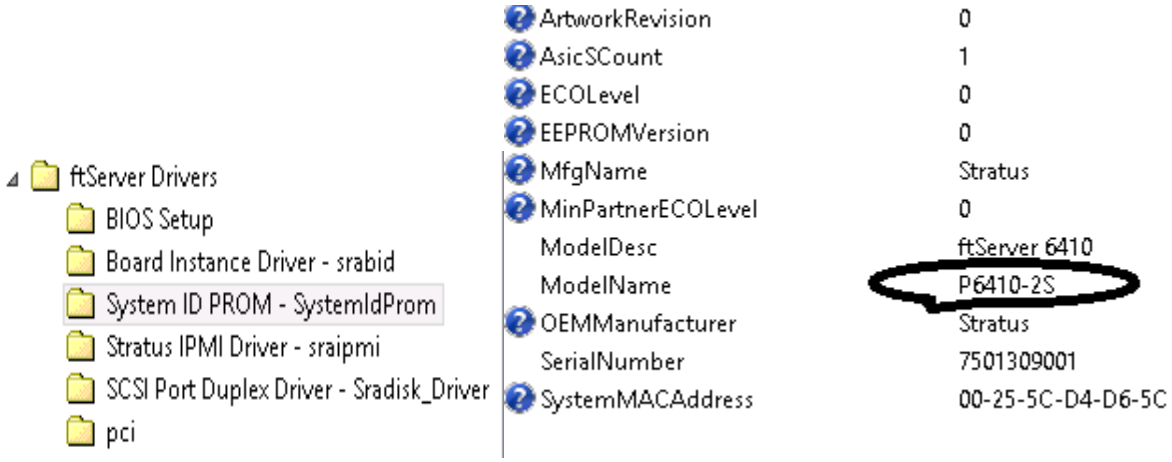
- CPU & I/O CRU enclosure part number
- AK processor kit part number and quantity
- Memory DIMM part number and quantity.
- PCI riser adapter part number.

Steps to determine CPU & I/O CRU configuration:

1. Open ftServer Management Console (ftSMC).
2. Expand ftServer Drivers.
3. Highlight System ID Prom – SystemIdProm.
4. In the right pane look for “ModelName”.

   Note: The “ModelName” field will display the system P-package.

ftSMC (Left Pane) ftSMC (Right Pane)

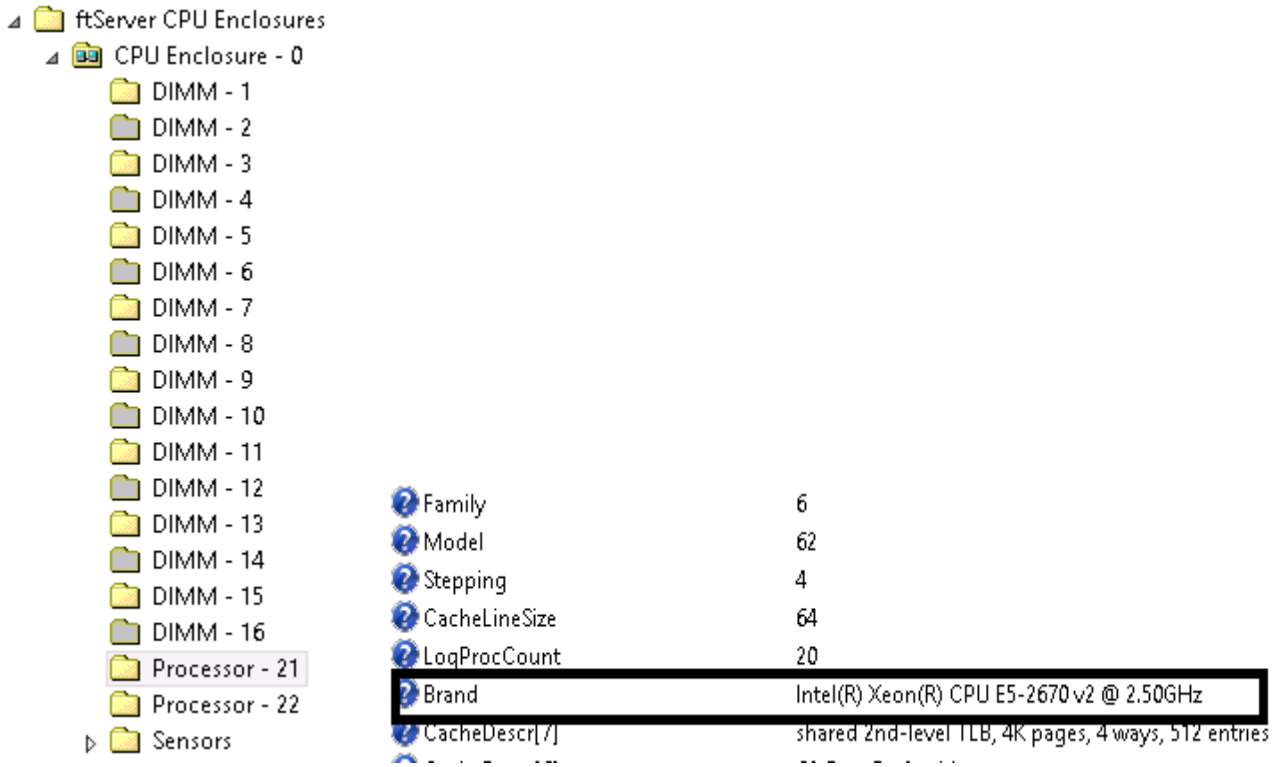


For System ID Prom – SystemIdProm ModelName = P2710-1S
Order Part: 062-03704-000 – 2710, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, or SAS disk drives)

For System ID Prom – SystemIdProm ModelName = P4710-1S
Order Part: 062-03703-000 – 4710, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives)

For System ID Prom – SystemIdProm ModelName = P6410-2S
Order Part: 062-03710-000 – 6410, CPU & I/O CRU Enclosure, , (No Processors, Memory, PCI adapters or SAS disk drives, **PCI Riser is included**)

ftSMC (Left Pane) ftSMC (Right Pane)



5. Expand ftServer CPU Enclosures, then the online CPU 0 or 1
6. Highlight the “Processor - 21”.
7. In the right pane look for “Stepping” field and “Brand” field. Use the “Brand” field information and the “Stepping field to determine processor kit required. The following is a reference between the “Brand” and “Stepping” field and the Processor kit part number.

For: Brand = Intel(R) Xeon(R) CPU E5-2620v2 @ 2.1 GHz

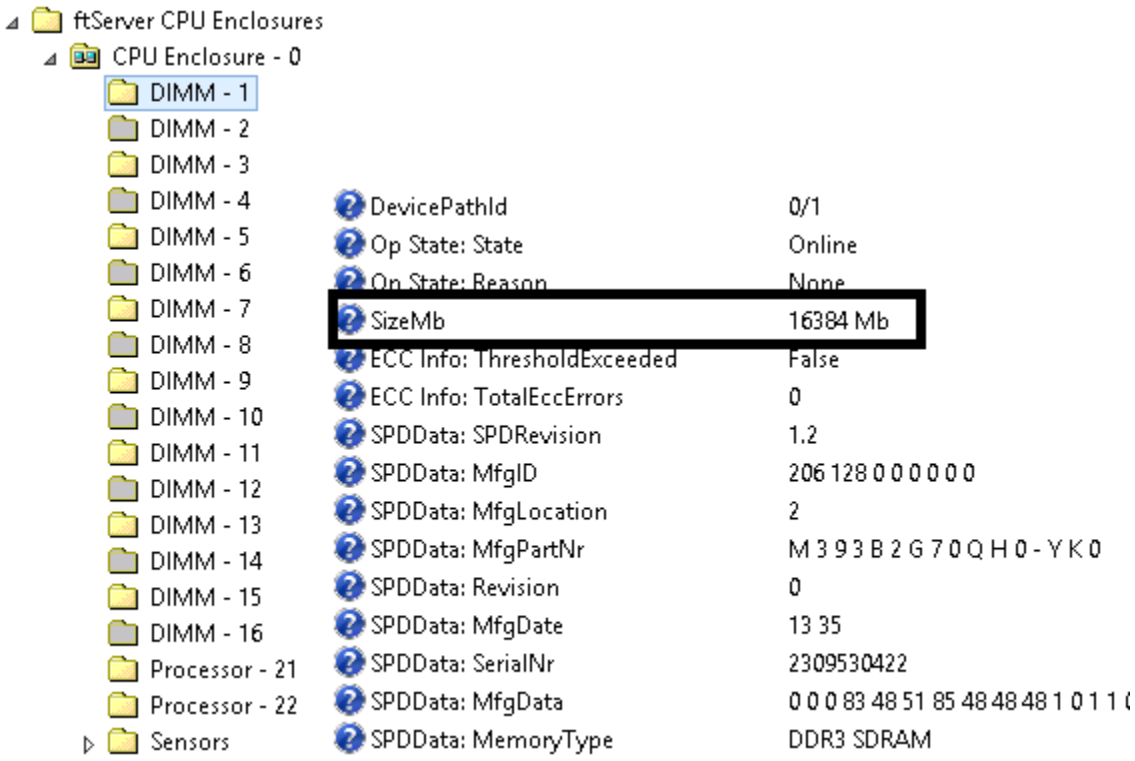
Order Part: 062-03709-000 - Processor Kit: Processor 2.1GHz Hz, Heatsink & Adhesive
(2710) CPU IVYBRIDGE 6-CORE

For: Brand = Intel(R) Xeon(R) CPU E5-2670v2 @ 2.5 GHz

Order Part: : 062-03708-000 - Processor Kit: Processor 2.5GHz, Heatsink & Adhesive
(6410, 4710) CPU IVYBRIDGE 10-CORE
****Note: 4710 has qty = 1 062-03708-000

8. Processor kits required are
2710 = 1 socket @ 2.1GHz 6-CORE
4710 = 1 socket @ 2.5GHz 10-CORE
6410 = 2 sockets @ 2.5GHz 10-CORE

ftSMC (Left Pane) ftSMC (Right Pane)



If the State is “Online” then determine the part to order based on the size shown in the “SizeMb” and “MfgPartNr” fields. The following is a reference between the SizeMb and MfgPartNr fields and orderable part number. Reference the following table for the size and Mfg Part # that you have .

Model	Mktg ID	Part #	Vendor	Mfg Part #	Type	Speed
Cygnus-I						
Size GB						
4	M254	609-01676-000	Hynix Hynix Hynix Micron	HMT451R7AFR8A-PB T8 HMT451R7BFR8A-PB T8 HMT451R7DFR8A-PB T8 MT9KSF51272PZ-1G6E2	DDR3	1600mhz
8	M255	609-01677-000	Hynix Samsung Samsung	HMT41GR7BFR4A-PBT8 M393B1G70QH0-YK008 M393B1G70EB0-YK0	DDR3	1600mhz
16	M256	609-01678-000	Hynix Samsung Samsung	HMT42GR7BFR4A-PBT8 M393B2G70QH0-YK008 M393B2G70EB0-YK0	DDR3	1600mhz
32	M257	609-01679-000	Samsung	M386B4G70BM0-YK00	DDR3	1600mhz
32	M257D	609-01680-000	Samsung	M386B4G70DM0-YK03	DDR3-1600 D-die	1600mhz

NOTE: Part: 609-01679-000 and Part: 609-01680-000 Can be mixed within a system but Can not be mixed within a CRU

9. Once the CPU & I/O CRU enclosure part number and memory DIMM part number, slot configuration and quantity is determined, a properly configured replacement 2710, 4710 and 6410 CPU & I/O CRU can be ordered.

   Note: In the example given above the CPU – I/O CRU replacement order would include:
   - 1 – 062-03710-000
   - 2 – 062-03708-000
   - 8 – 609-01678-000

10. **PCI riser adapters please read carefully.**

    12a. PCI riser adapters are excluded from the
    SystemIdProm ModelName = P2710-1S Part: 062-03704-000 – 2710, CPU & I/O CRU Enclosure
    and should not be ordered with the CRU.

    12b. PCI riser adapters **OPTIONAL** components for the
    SystemIdProm ModelName = P4710-1S Part: 062-03703-000 – 4710, CPU & I/O CRU Enclosu
    If you have a model 4710 and you also have a riser card
    Order Part: 062-01207-000 – PCI Riser Adapter, PCI-E.

    12c. PCI riser adapters **are PRE-CONFIGURED** components for the
    SystemIdProm ModelName = P6410-2S Part: 062-03710-000 – 6410, CPU & I/O CRU Enclosure

And should not be ordered with the CRU.

Notes:

1. The last three digits of the RU part number will change from -000 (initial release) to -0xx due to post release ECOs revisions and in most cases will compatible. LMS will reflect the orderable RU part number and compatibility.
2. If not specifically requested in LMS CRU part order, the following parts are expected to be swapped between defective CRU and replacement CRU are: PCI adapters full and half height, Internal SAS Disks and PCI Riser.
3. 1 processor (kit) configuration is valid for 2710 and 4710 CPU &I /O CRU. Populated as “Processor – 21” in ftSMC.
4. 2 processor (kits) configuration is valid for 6410 CPU &I /O CRU. Populated as “Processor – 21” and “Processor – 22” in ftSMC.
5. On 2710 and 4710 only 8 DIMM slots per CRU, o*ptimal* DIMM configuration, populate slots 1, 3 then 5, 7 then 2, 4 then 6, 8. This should be the default way of DIMM population. DIMM slot location and size must match between CRU slots 1 - 8 or a hardware configuration error will be detected. See ES-000171 or 172 for details on configuration and max memory supported.
6. On 2 processor 6410 16 DIMM slots per CRU, optimal DIMM configuration, populate slots 1,9 and 3,11 then 5,13 and 7,15 then 2, 10 and 4,12 then 6, 14 and 8, 16. This should be the default way of DIMM population. DIMM slot location and size must match between processor 1 & 2 and CRU DIMM slots or a hardware configuration error will be detected. See ES-000173 for details on configuration and max memory supported.
7. PCI Slot Info – 1 and 2 in ftSMC, are the low profile slots which are PCI-E. PCI Slot Info – 3 and 4 are the riser adapter PCI slots.
8. PCI riser adapter is verified during CPU-I/O bring-up. If PCI riser configured different per CRU, a hardware compatibility mismatch will be detected and will not come into service.
9. 2710, 4710, and 6410 part Illustrated list
10. 2710/4710/6410 Customer Manuals (Windows versions)
11. 2710 configuration specification ES-000171 – (Stratus access Only)
12. 4700 configuration specification ES-000172 – (Stratus access Only)
13. 6400 configuration specification ES-000173 – (Stratus access Only)

Valid Part Numbers:

- The following are valid 2710/4710/6410 CPU & I/O CRU enclosures, processor kits, DIMM and PCI riser adapter part numbers.

062-03704-000 – 2710 CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, or SAS/SSD disk drives)
062-03709-000 - Processor Kit: Processor 2.1GHz Hz, Heatsink & Adhesive (2710) CPU IVYBRIDGE 6-CORE

062-03703-000 – 4710, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, **Optional** PCI Riser, or SAS/SSD disk drives)
062-03708-000 - Processor Kit: Processor 2.5GHz, Heatsink & Adhesive (6410) CPU IVYBRIDGE 10-CORE

062-03710-000 – 6410, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, **included** PCI Riser, or SAS/SSD disk drives)
062-03708-000 - Processor Kit: Processor 2.5GHz, Heatsink & Adhesive (6410) CPU IVYBRIDGE 10-CORE

609-01676-000 – 4GB DDR3, 1600MHZ,
609-01677-000 – 8GB DDR3, 1600MHZ

609-01678-000 – 16GB DDR3, 1600MHZ
609-01679-000 – 32GB DDR3, Load-Reduced,1600MHz (B-Die)
609-01680-000 – 32GB DDR3, Load-Reduced,1600MHz (D-Die)
062-01207-000 - ASSY, PCI-E RISER

Note: The ftServer 4710 and 6410 **includes** a PCI Riser Kit that provides 2 additional high profile slots in addition to the low-profile slots on the motherboard.

System Back Panel:

062-03707-000 SYSTEM Back PANEL LOW END 2710 (CYGNUS-I)
062-03706-000 SYSTEM Back PANEL MID 4710 (CYGNUS-I)
062-03705-000 SYSTEM Back PANEL HIGH END 6410 (CYGNUS-I)

All other board options are the same for Cygnus-I as they are for Cygnus except for the backpanel assemblies.

Orderable Part Number	Description	ftServer Management Console key field for determining orderable part
Backpanel Assembly Infoformation		ftServer Configuration > Customer Info > Model Name field also displayed when dbg is entered HARDWARE VERSION INFO ... - SYSTEM ModName
062-03707-000	Backpanel assy Model 2710-1S	
062-03706-000	Backpanel assy Model 4710-1S	
062-03705-000	Backpanel assy Model 6410-2S	
D		
CRU Power Supply		
856-851445-202-D	POWER SUPPLY, DELTA DPS-800QB A	

14 ftServer 2800/4800/6800/6805 CPU & I/O CRU Configuration

14.1 2800/4800/6800/6805 ftServer (Pegasus) CPU & I/O CRU

The following are snapshots of the ftServer Management Console on an 6800 system. Follow the steps below to determine the CPU & I/O CRU configuration. In a 2800/4800/6800 system, the CPU (0) and I/O (10) are contained on one motherboard, within one CRU enclosure, and the CPU (1) and I/O (11) are contained on one motherboard, within one CRU enclosure.

You need the following information to properly order a replacement CPU & I/O CRU.

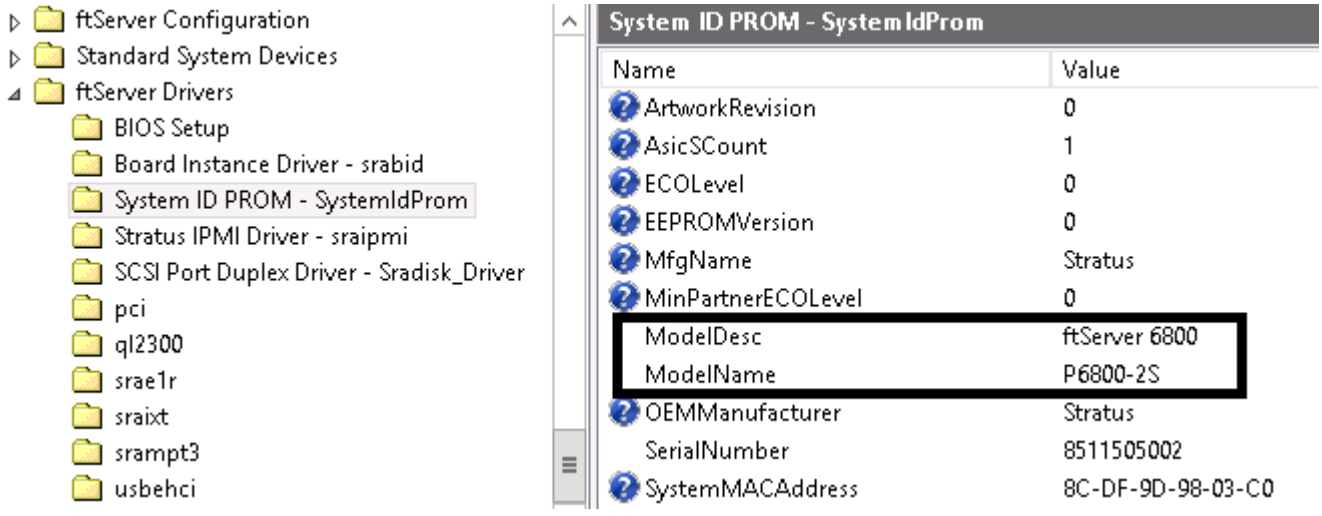
- CPU & I/O CRU enclosure part number
- AK processor kit part number and quantity
- Memory DIMM part number and quantity.
- PCI riser adapter part number.

Steps to determine CPU & I/O CRU configuration:

1. Open ftServer Management Console (ftSMC).
2. Expand ftServer Drivers.
3. Highlight System ID Prom – SystemIdProm.
4. In the right pane look for “ModelName”.

Note: The “ModelName” field will display the system P-package.

ftSMC (Left Pane) ftSMC (Right Pane)



For System ID Prom – SystemIdProm ModelName = P2800-1S
Order Part: 062-03716-000 – 2800, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, or SAS disk drives)

For System ID Prom – SystemIdProm ModelName = P4800-1S
Order Part: 062-03715-000 – 4800, CPU & I/O CRU Enclosure, (No Processors, Memory, PCI adapters, PCI Riser, or SAS disk drives)

For System ID Prom – SystemIdProm ModelName = P6800-2S
Order Part: 062-03714-000 – 6800, CPU & I/O CRU Enclosure, , (No Processors, Memory, PCI adapters or SAS disk drives, **PCI Riser is included**)

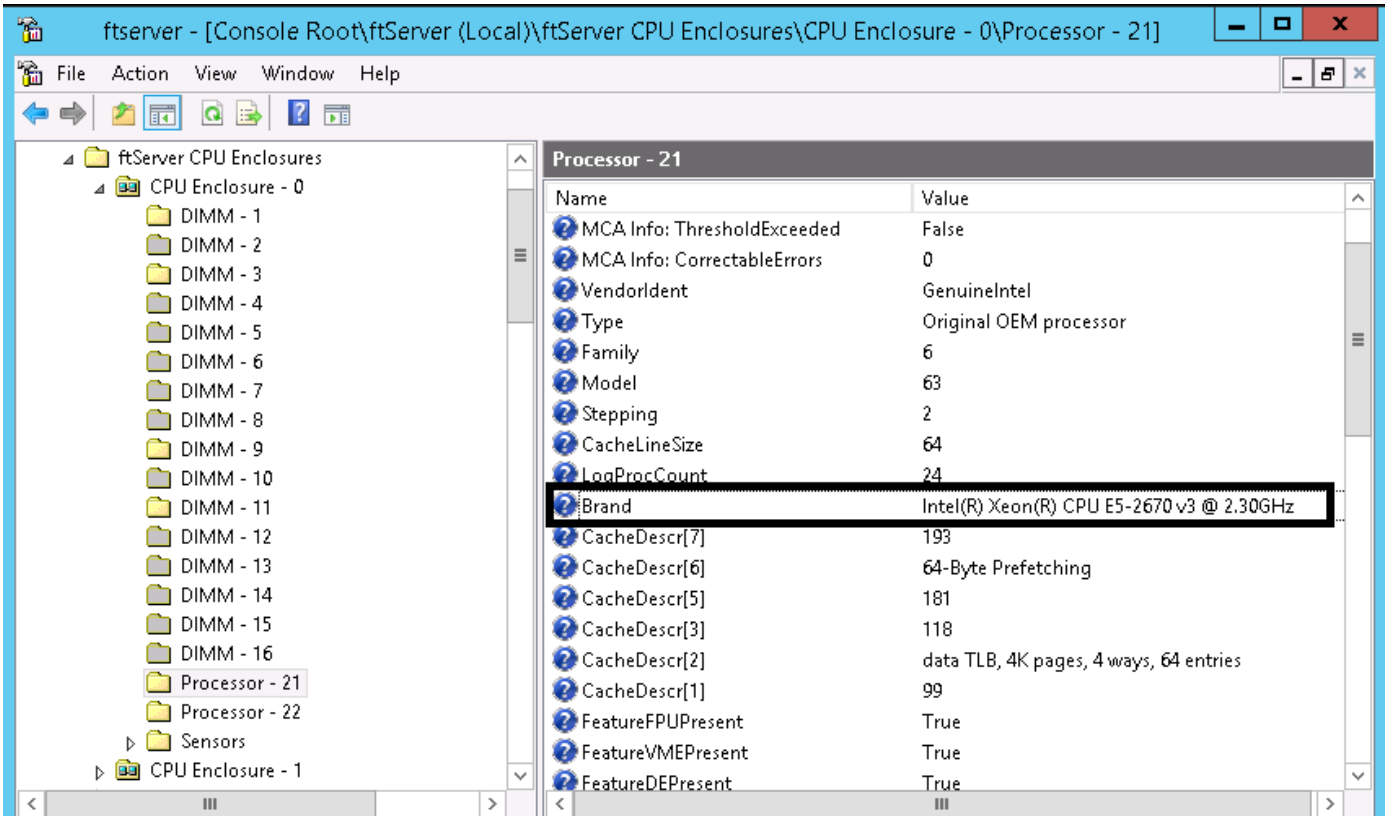
For System ID Prom – SystemIdProm ModelName = P6805-2S
Order Part: 062-03800-000 – 6805, CPU & I/O CRU Enclosure, , (No Processors, Memory, PCI adapters or SAS disk drives, **PCI Riser is included**)

Verify the Processor model type and memory configuration.

5. Expand ftServer CPU Enclosures, then the online CPU 0 or 1
6. Highlight the “Processor - 21”.
7. In the right pane look for “Stepping” field and “Brand” field. Use the “Brand” field information and the “Stepping field to determine processor kit required. The following is a reference between the “Brand” and “Stepping” field and the Processor kit part number.

Processor kits required are

1	2800 = 1 socket	@ 2.4GHz	8-CORE	062-03725-000	CPU E5-2630v3	CPU 2.4GHZ 8-CORE
1	4800 = 1 socket	@ 2.3GHz	12-CORE	062-03726-000	CPU E5-2670v3	CPU 2.3GHZ 12-CORE
2	6800 = 2 sockets	@ 2.3GHz	12-CORE	062-03726-000	CPU E5-2670v3	CPU 2.3GHZ 12-CORE
…..2….	6805 = 2 sockets	@ 3.2GHz	8-CORE	062-03803-000	CPU E5-2667v3	CPU 3.2GHZ 8-CORE



For CRU 062-03716-000 – 2800, CPU & I/O CRU Enclosure, ModelName = P2800-1S
Order 1 CPU 062-03725-000 CPU E5-2630v3 2.4GHZ 8-CORE
and 1 to 8 of your configured Memory.

For CRU 062-03715-000 – 4800, CPU & I/O CRU Enclosure, ModelName = P4800-1S
Order 1 CPU 062-03726-000 CPU E5-2670v3 CPU 2.3GHZ 12-CORE
and 1 to 8 of your configured Memory.

For CRU 062-03714-000 – 6800, CPU & I/O CRU Enclosure, ModelName = P6800-2S
Order 2 CPU 062-03726-000 CPU E5-2670v3 CPU 2.3GHZ 12-CORE
and 2 to 16 of your configured Memory.

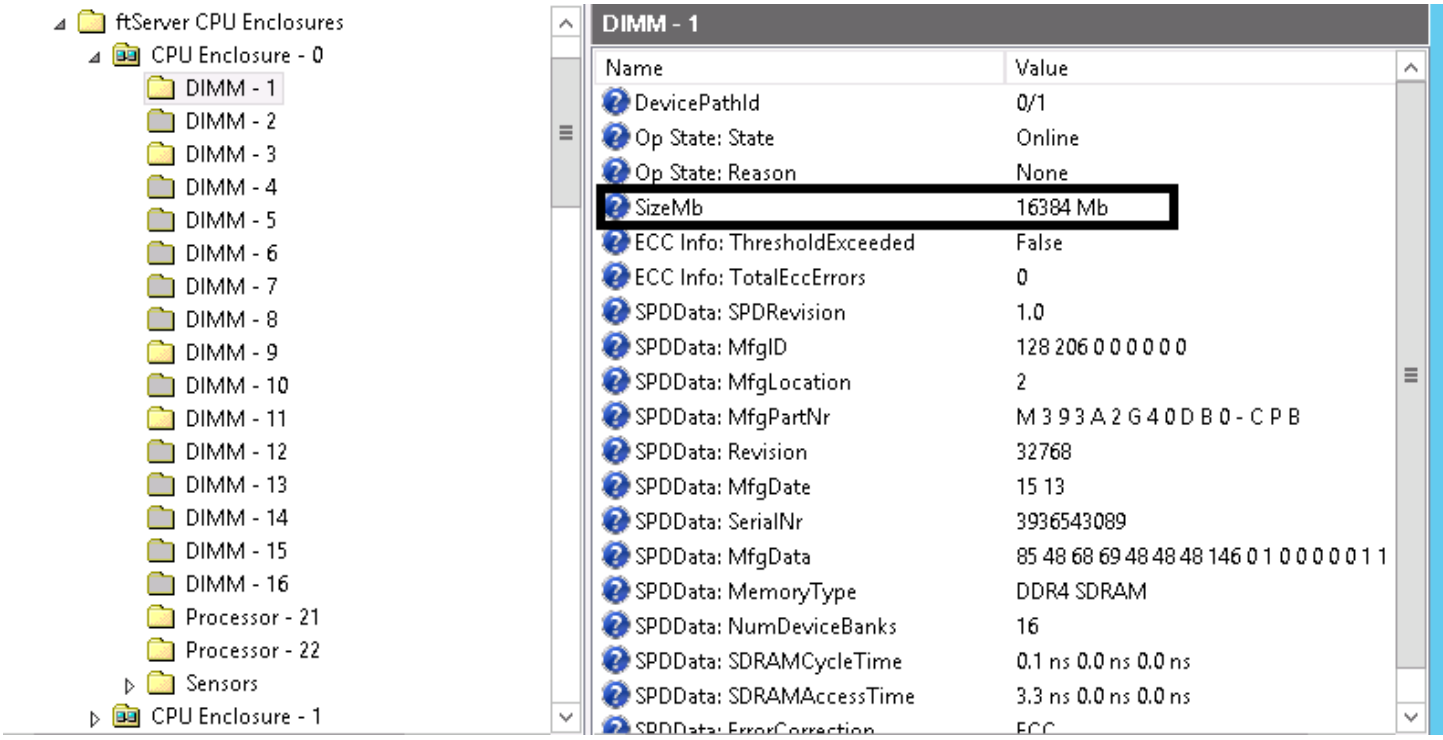
For CRU 062-03800-000 – 6805, CPU & I/O CRU Enclosure, ModelName = P6805-2S
Order 2 CPU 062-03803-000 CPU E5-2667v3 CPU 3.2GHZ 8-CORE
and 2 to 16 of your configured Memory.

NOTE: Size and manufacturing part number (MfgPartNr) must be verified to order the correct DIMMS

Memory options: See below:		MfgPartNr
609-01684-000	DIMM, 8 GB DDR4 2133 or 2400 MHz	(See table 1 below)
609-01681-000	DIMM, 16 GB DDR4 2133 or 2400 MHz	(See table 1 below)
609-01682-000	DIMM, 32 GB DDR4 2133MHz	M386A4G40DM0-CPB
609-01687-000	RDIMM 32 GB 2133 or 2400 MHz	(See table 1 below)
609-01683-000	DIMM, 64 GB DDR4 2133MHz	M386A8K40BM1-CPB (VMware 1TB config only)

SMART Modular Technologies added to AVL eco-190141

609-01682-000 DIMM, 32 GB is not system compatible with 609-01687-000 RDIMM 32 GB .



8. If the State is “Online” then determine the part to order based on the size shown in the “SizeMb” field. The following is a reference between the SizeMb and MfgPartNr fields and orderable part number.

For: SizeMb = 8192 Mb and SPDData: (See table 1 below)
Order Part: 609-01684-000 LR-DIMM, 8 GB DDR4 2133MHz

For: SizeMb = 16384 Mb and SPDData: (See table 1 below)
Order Part: 609-01681-000 LR-DIMM, 16 GB DDR4 2133MHz

For: SizeMb = 32000 Mb and SPDData: (See table 1 below)
Order Part: 609-01682-000 LR-DIMM, 32 GB DDR4 2133MHz

For: SizeMb = 32000 Mb and SPDData: (See table 1 below)
Order Part: 609-01687-000 RDIMM, 32 GB 2400 MHz

For: SizeMb = 64000 Mb and SPDData: (See table 1 below)
Order Part: 609-01683-000 DIMM, 64 GB DDR4 2133MHz (VMware 1TB configuration only)

See notes Table 1.

9. For “DIMM 1, 3, 9, and 11” which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered.

   Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above DIMM - 1 is a 16384MB DIMM. All other “Online” DIMMs must also be determined in order to replicate the configuration of the CRU. In this system, “1, 3, 9, and 11” were determined to be 16384MB DIMMs, which means a memory configuration of 64GB. The Mfg Part number of a 16384MB DIMM M393A2G40DB0-CPB *is Stratus part number 609-01681-000 , quantity of 4.*

10. Once the CPU & I/O CRU enclosure part number and memory DIMM part number, slot configuration and quantity is determined, a properly configured replacement 2800, 4800 and 6800 CPU & I/O CRU can be ordered.

    Note: In the example given above the CPU – I/O CRU replacement order would include:
    - 1 – 062-03714-000
    - 2 – 062-03726-000
      4 – 609-01681-000

11. **PCI riser adapters please read carefully.**

    11a. PCI riser adapters are excluded from the
    SystemIdProm ModelName = P2800-1S Part: 062-03716-000 – 2800, CPU & I/O CRU Enclosure
    and should not be ordered with the CRU.

    11b. PCI riser adapters **OPTIONAL** components for the
    SystemIdProm ModelName = P4800-1S Part: 062-03715-000 – 4800, CPU & I/O CRU Enclosure

    If you have a model 4800 and you also have a riser card
    Order Part: 062-03724-000– PCI Riser Adapter, PCI-E (Pegasus).

    11c. PCI riser adapters **are PRE-CONFIGURED** components for the
    SystemIdProm ModelName = P6800-2S Part: 062-03714-000 – 6800, CPU & I/O CRU Enclosure
    And should not be ordered with the CRU.

    11d. PCI riser adapters **are PRE-CONFIGURED** components for the
    SystemIdProm ModelName = P6805-2S Part: 062-03800-000– 6805, CPU & I/O CRU Enclosure
    And should not be ordered with the CRU.

Notes:

12. The last three digits of the RU part number will change from -000 (initial release) to -0xx due to post release ECOs revisions and in most cases will compatible. LMS will reflect the orderable RU part number and compatibility.
13. If not specifically requested in LMS CRU part order, the following parts are expected to be swapped between defective CRU and replacement CRU: PCI adapters full and half height, Internal SAS Disks and PCI Riser.
14. 1 processor (kit) configuration is valid for 2800 and 4800 CPU &I /O CRU. Populated as “Processor – 21” in ftSMC.
15. 2 processor (kits) configuration is valid for 6800 CPU &I /O CRU. Populated as “Processor – 21” and “Processor – 22” in ftSMC.
16. On 2800 and 4800 only 8 DIMM slots per CRU, o*ptimal* DIMM configuration, populate slots 1, 3 then 5, 7 then 2, 4 then 6, 8. This should be the default way of DIMM population. DIMM slot location and size must match between CRU slots 1 - 8 or a hardware configuration error will be detected. See ES-000174 or 175 for details on configuration and max memory supported.
17. On 2 processor 6800 16 DIMM slots per CRU, optimal DIMM configuration, populate slots 1,9 and 3,11 then 5,13 and 7,15 then 2, 10 and 4,12 then 6, 14 and 8, 16. This should be the default way of DIMM population. DIMM slot location and size must match between processor 1 & 2 and CRU DIMM slots or a hardware configuration error will be detected. See ES-000176 for details on configuration and max memory supported.
18. PCI Slot Info – 1 and 2 in ftSMC, are the low profile slots which are PCI-E. PCI Slot Info – 3 and 4 are the riser adapter PCI slots.
19. PCI riser adapter is verified during CPU-I/O bring-up. If PCI riser configured different per CRU, a hardware compatibility mismatch will be detected and will not come into service.
20. 2800, 4800, and 6800 part Illustrated list
21. 2800/4800/6800 Customer Manuals (Windows versions)
22. 2800 configuration specification ES-000174 – (Stratus access Only)
23. 4800 configuration specification ES-000175 – (Stratus access Only)
24. 6800 configuration specification ES-000176 – (Stratus access Only)

Valid Part Numbers:

- The following are valid 2800/4800/6800/6805 CPU & I/O CRU enclosures, processor kits, DIMM and PCI riser adapter part numbers.

  062-03716-000 – 2800, CPU & I/O CRU Enclosure, ModelName = P2800-1S
  (No Processors, Memory, PCI adapters, or SAS/SSD disk drives)
  062-03725-000 Processor Kit: Processor E5-2630v3 2.4GHZ 8-CORE

  062-03715-000 – 4800, CPU & I/O CRU Enclosure, ModelName = P4800-1S
  (No Processors, Memory, PCI adapters, or SAS/SSD disk drives)
  062-03726-000 Processor Kit: Processor E5-2670v3 CPU 2.3GHZ 12-CORE

  062-03714-000 – 6800, CPU & I/O CRU Enclosure, ModelName = P6800-2S
  062-03726-000 Processor Kit: Processor E5-2670v3 CPU 2.3GHZ 12-CORE
  (No Processors, Memory, PCI adapters, or SAS/SSD disk drives, PCI Riser is **included**)

  062-03800-000 – 6805, CPU & I/O CRU Enclosure, ModelName = P6805-2S
  062-03803-000 Processor Kit: Processor CPU E5-2667v3 CPU 3.2GHZ 8-CORE
  (No Processors, Memory, PCI adapters, or SAS/SSD disk drives, PCI Riser is **included**)

  609-01684-000 DIMM, 8 GB DDR4 2133MHz
  609-01681-000 DIMM, 16 GB DDR4 2133MHz
  609-01682-000 DIMM, 32 GB DDR4 2133MHz
  609-01687-000 RDIMM, 32 GB 2400 MHz

  062-03724-000– PCI Riser Adapter, PCI-E (Pegasus).

Note: The ftServer 4800, 6800, and 6805 **include** a PCI Riser Kit that provides 2 additional high profile slots in addition to the low-profile slots on the motherboard.

System Back Panel:

062-03717-000, ASM, SYS BP HI (Pegasus)
062-03718-000, ASM, SYS BP MID (Pegasus)
062-03719-000, ASM, SYS BP LO (Pegasus)
062-03801-000 ASM, SYS BP P6805-2S

Backpanel assemblies.

Orderable Part Number	Description	ftServer Management Console key field for determining orderable part
Backpanel Assembly Infoformation		ftServer Configuration > Customer Info > Model Name field also displayed when dbg is entered HARDWARE VERSION INFO ... - SYSTEM ModName
062-03719-000	Backpanel assy Model 2800-1S	
062-03718-000	Backpanel assy Model 4800-1S	
062-03717-000	Backpanel assy Model 6800-2S	
062-03801-000	Backpanel assy Model 6805-2S	

Other part Numbers:

Orderable Part Number	Description	
062-03724-000	Riser PCI-E (Pegasus)	
062-03164-000	300 GB 15K RPM, SAS 2.5", 12G Drive	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST300MP0005
062-03166-000	600 GB 15K SAS 2.5" Drive	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST600MP0005
062-03740-000	400 GB SSD 2.5" , 12G Drive	Storage Enclosure – 40 / Disk –x / Slot –x Toshiba Phoenix-M2 Model PX02SMF040
062-03168-000	1.2TB 10K 2.5" drive	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST1200MM0088
160-01743-000	U112 Qlogic QLE2670-E Single Port 16 Gb FC HBA **w/7.04.01 FW**	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = QLogic Fibre Channel Adapter or PnPDeviceId[1] = pci\ven_1077&dev_2031&subsys_024111077
160-01748-000	U112A Qlogic QLE2670-E Single Port 16 Gb FC HBA **w/8.03.06 FW** **AUL 11 only**	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = QLogic Fibre Channel Adapter or PnPDeviceId[1] = pci\ven_1077&dev_2031&subsys_024111077
160-01741-000	U113 Intel I350T2V2 Dual Port 1 Gbit Copper Ethernet Adapter	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x PnPDescription[1] = Stratus I350 2-Port Copper Gigabit Adapter or PnPDeviceId[1] = pci\\ven_8086&dev_1521&subsys_7135159c
160-01744-000	U114 LSI Logic 12Gb SAS 8-Port Host Bus Adapter (9300-4i4e) for tape	

160-01742-000	U115 Intel X540T2 Dual Port 10 Gbit Copper Ethernet Adapter	
AA-U11600	U116 10 GbE PCIe Fiber adapter with 2 SFP modules	
160-01747-000	U117 Intel X710 Dual-Port 10 Gbit Fiber Ethernet Adapter with SFPs	
CRU Power Supply		
856-851529-002-B	POWER SUPPLY, FPS-800	

Table 1: Memory Options for Pegasus

Model	Mktg ID	Part #	Vendor	Mfg Part #	Type	Speed
Pegasus						
size						
8	M258	609-01684-000	SAMSUNG	M393A1G40DB0-CPB	LR-DIMM DDR4	2133mhz
8	M258	609-01684-000	SAMSUNG	M393A1G40EB1-CRC		2400mhz
8	M258	609-01684-000	Hynix	HMA41GR7BJR4N-UH		2400mhz
8	M258	609-01684-000	Hynix	HMA41GR7MFR4N-TF		2133ghz
8	M258	609-01684-000	Hynix	HMA41GR7AFR4N-TF		2133mhz
8	M258	609-01684-000	SMART	ST5721G4STR24KP1SE	LR-DIMM DDR4	2133mhz
16	M259	609-01681-000	SAMSUNG	M393A2G40DB0-CPB	LR-DIMM DDR4	2133mhz
16	M259	609-01681-000	SAMSUNG	M393A2G40EB1-CRC		2400mhz
16	M259	609-01681-000	SMART	ST2047RD410472SE	LR-DIMM DDR4	2133mhz
16	M259	609-01681-000	Hynix	HMA42GR7AFR4N-TF		2133mhz
16	M259	609-01681-000	Hynix	HMA42GR7MFR4N-TF		2133mhz
16	M259	609-01681-000	Hynix	HMA42GR7BJR4N-UH		2400mhz
32	M260	609-01682-000	SAMSUNG	M386A4G40DM0-CPB	LR-DIMM DDR4	2133mhz
32	M264	609-01687-000	SAMSUNG	M393A4K40BB1-CRC	RDIMM	2400mhz
32	M264	609-01687-000	Samsung	M393A4K40CB2-CTD	RDIMM DDR4	2400mhz
32	M264	609-01687-000	Smart	ST4097RD420493-SC	RDIMM DDR4	2400mhz
32	M264	609-01687-000	Smart	SH4097RD420472-SB		2400mhz
64	M261	609-01683-000	NEC	M386A8K40BM1-CPB	LR-DIMM DDR4	2133mhz

NOTE: Size and manufacturing part number (MfgPartNr) must be verified to order the correct DIMMS

NOTE:
Part number: 609-01682-000 is NOT system compatible with
Part number: 609-01687-000

15 V-Series Pegasus Configs

Paymentech V6624 CPU CRU Configuration

V6624 V Series System is released in this specific configuration at Vos release 19.0 for Paymentech.

```
as:  lbl -slot 0
Module: %s8#m1  (ftServer 6624)

Slot 0:  CPU Module
   Model Name:          062-03774
   State:               (00180016)  STATE_DUPLEX
   Status:              Online Partnered
   Diagnostics Status
(…)
   Physical Processors:           2
   Brand:
     Intel(R) Xeon(R) CPU E5-2670 v3 @ 2.30GHz
   Family:                        6
   Model:                         63
   Stepping:                      2
   DIMM #                         1
        Size (MB):                8192
        Part #:                   M393A1G40DB0-CPB  (Samsung)
   DIMM #                         3
        Size (MB):                8192
        Part #:                   M393A1G40DB0-CPB  (Samsung)
   DIMM #                         5
        Size (MB):                8192
        Part #:                   M393A1G40DB0-CPB  (Samsung)
   DIMM #                         7
        Size (MB):                8192
        Part #:                   M393A1G40DB0-CPB  (Samsung)
   Total Memory Present (MB):     32768
```

This is the only CPU & Processor CRU configuration in place at Paymentech at this time. In all cases replacement units are preconfigured under the following CRU part Number . The BOM for the part is shown.

AS-000462 ASM CPU CRU REPLACEMENT V6624 SPECIAL ORDER

Qty		
1	062-03714-000	ASM, CPU/IO HI (PEGASUS)
2	062-03726-000	BTO, CPU 2.3GHZ 12-CORE (PEGASUS)
4	609-01684-000	DIMM, 8GB DDR4
2	AA-U59500	4-port 10 Gigabit Ethernet Adapter 10 GBase-SR (LC Fiber Optic)
1	AA-U59600	2-port 16 Gbps FC HBA, V-Series

V Pegasus systems are generally available in the following models.

Model	Sockets	Cores	Speed	Processor kit
V2608	1	8	2.4 GHZ	062-03725-000
V4612	1	12	2.3 GHZ	062-03726-000
V6616	2	8	2.4 GHZ	062-03725-000
V6624	2	12	2.3 GHZ	062-03726-000

To complete a (Pegasus) V series CRU order you must order

1 Enclosure – CRU part number 062-03757-000 ASM CPU/IO V-PEGASUS
(PCI Riser is included)

1 or 2 CPUs
8 Core 2.4 ghz 062-03725-000 Processor Kit: E5-2630v3 2.4GHZ 8-CORE
or 12 Core 2.3 ghz 062-03726-000 Processor Kit: E5-2670v3 2.3GHZ 12-CORE

and 1 to 4 609-01684-000 LR-DIMM, 8 GB DDR4 2133MHz Memory Dimms
Notes:
Vos has a maximum of 16GB addressable memory
All V series dimm configurations populate CPU socket 0 dimm slots
V6616 and V6624 have 4X8GB memory in order to populate all four dimm channels.
The extra memory is used in ECC scrub and CPU duplex operations.

Mktg Model	**Vos Model name**	**Qty**	**Processor p/n**	**Qty**	**Dimm p/n**	**Dimm slots populated**
V2608	062-03774-000	1	062-03725-000	1	609-01684-000	1
V4612	062-03774-000	1	062-03726-000	1 or 2	609-01684-000	1 (3)
V6616	062-03774-000	2	062-03725-000	4	609-01684-000	1,3,5,7
V6624	062-03774-000	2	062-03726-000	4	609-01684-000	1,3,5,7

An example of a correct order for a V6624 would be

Qty 1 062-03757-000
Qty 2 062-03726-000
Qty 4 609-01684-000

16 ftServer 2810/4810/6810 CPU & I/O CRU Configuration

16.1 2810/4810/6810 ftServer (Pegasus-B) CPU & I/O CRU

The following are snapshots of the ftServer Management Console on an 6810 system. Follow the steps below to determine the CPU & I/O CRU configuration. In a 2810/4810/6810 system, the CPU (0) and I/O (10) are contained on one motherboard, within one CRU enclosure, and the CPU (1) and I/O (11) are contained on one motherboard, within one CRU enclosure.

You need the following information to properly order a replacement CPU & I/O CRU.

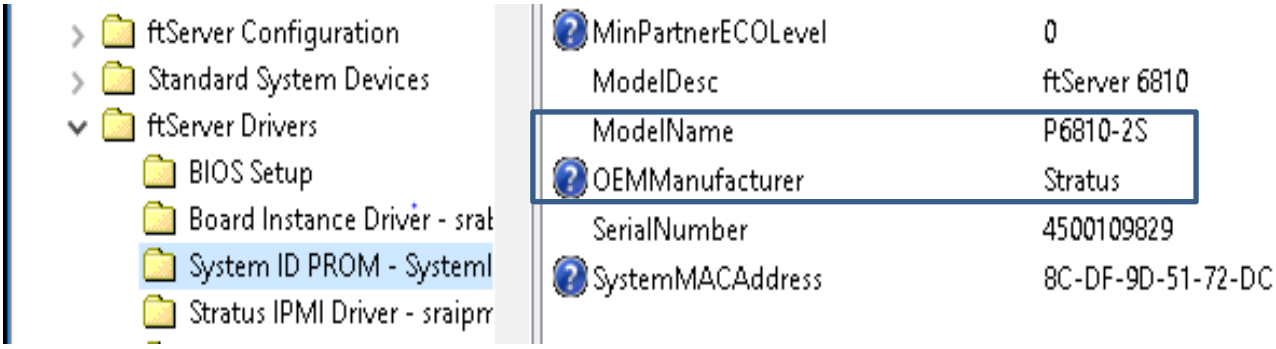
- CPU & I/O CRU enclosure part number
- AK processor kit part number and quantity
- Memory DIMM part number and quantity.
- PCI riser adapter part number.

Steps to determine CPU & I/O CRU configuration:

5. Open ftServer Management Console (ftSMC).
6. Expand ftServer Drivers.
7. Highlight System ID Prom – SystemIdProm.
8. In the right pane look for “ModelName”.

Note: The “ModelName” field will display the system P-package.

ftSMC (Left Pane) ftSMC (Right Pane)



For System ID Prom – SystemIdProm ModelName = P2810-1S
Order Part: 062-03745-000 – 2810, CPU & I/O CRU Enclosure,
(No Processors, Memory, PCI adapters, or SAS disk drives)

For System ID Prom – SystemIdProm ModelName = P4810-2S
Order Part: 062-03744-000 – 4810, CPU & I/O CRU Enclosure,
(No Processors, Memory, PCI adapters, or SAS disk drives)

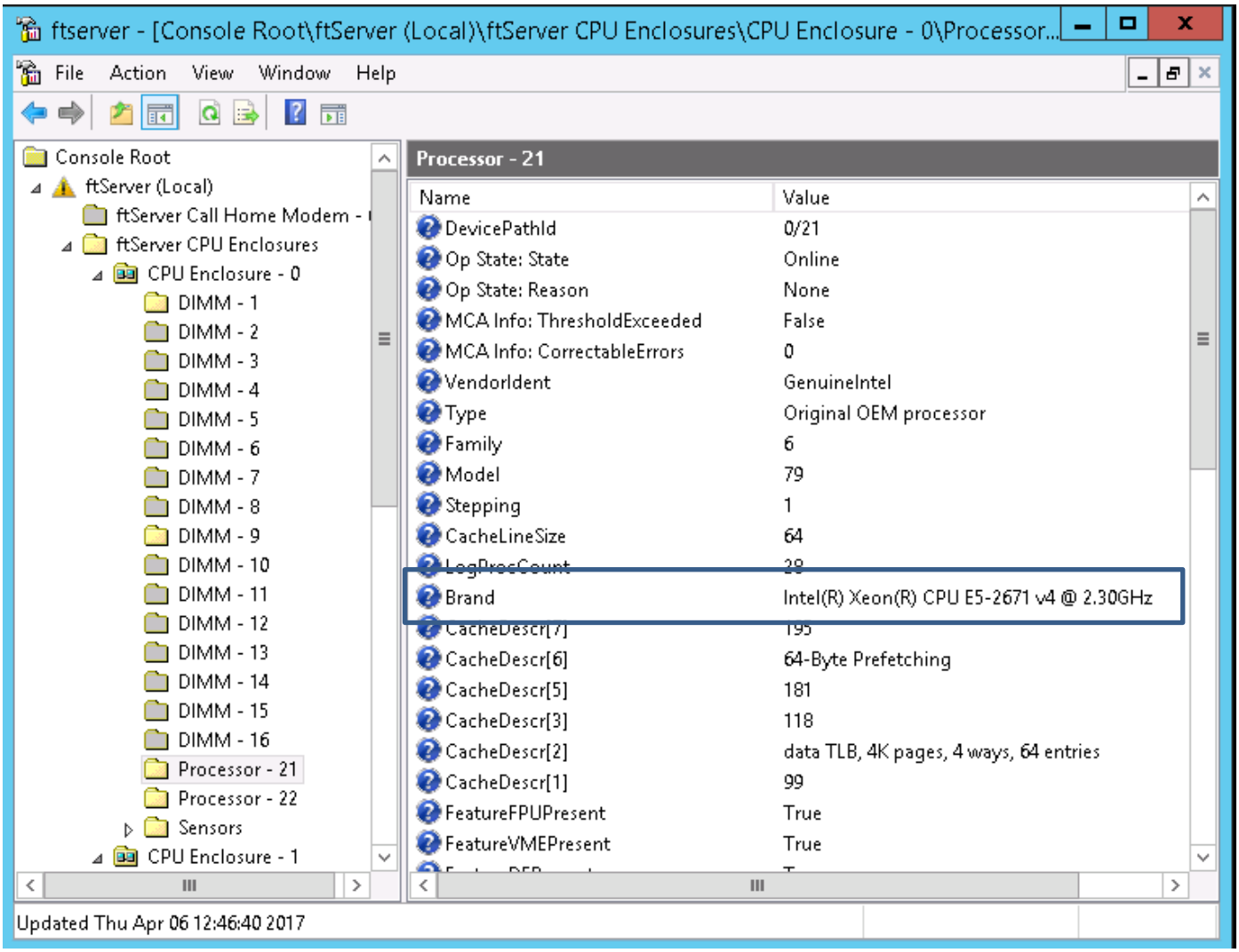
For System ID Prom – SystemIdProm ModelName = P6810-1S
Order Part: 062-03743-000 – 6810, CPU & I/O CRU Enclosure,
(No Processors, Memory, PCI adapters, or SAS disk drives)
(PCI Riser is included)

For System ID Prom – SystemIdProm ModelName = P6810-2S
Order Part: 062-03754-000 – 6810, CPU & I/O CRU Enclosure,
(No Processors, Memory, PCI adapters, or SAS disk drives)
(PCI Riser is included)

Verify the Processor model type and memory configuration.

1. Expand ftServer CPU Enclosures, then the online CPU 0 or 1
2. Highlight the “Processor - 21”.
3. In the right pane look for “Stepping” field and “Brand” field. Use the “Brand” field information and the “Stepping field to determine processor kit required. The following is a reference between the “Brand” and “Stepping” field and the Processor kit part number.

Processor kits required are
2810 = 1 socket @ 2.2GHz 10-CORE 1 CPU 062-03749-000 E5-2630v4 2.2GHZ 10-CORE
4810 = 2 socket @ 2.2GHz 10-CORE 2 CPU 062-03749-000 E5-2630v4 2.2GHZ 10-CORE
6810 = 1 socket @ 2.3GHz 14-CORE 1 CPU 062-03750-000 .. E5-2671v4 2.3GHZ 14-CORE
6810 = 2 sockets @2.3GHz 14-CORE 2 CPU 062-03750-000 .. E5-2671v4 2.3GHZ 14-CORE



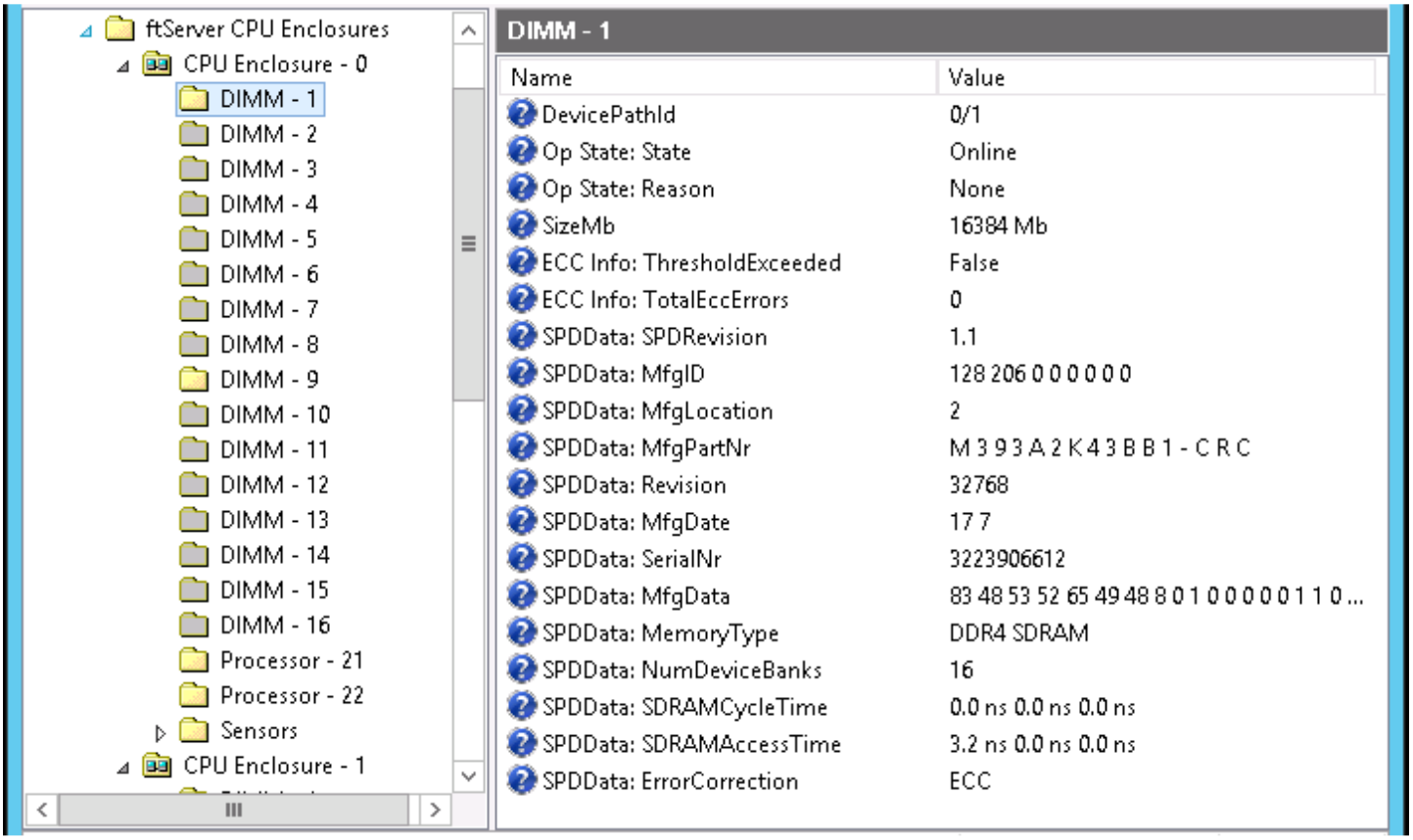
For CRU 062-03745-000 – 2810, CPU & I/O CRU Enclosure, ModelName = P2810-1S
Order 1 CPU 062-03749-000 CPU E5-2630v4 2.2GHZ 10-CORE
and 1 to 8 of your configured Memory.

For CRU 062-03744-000 – 4810, CPU & I/O CRU Enclosure, ModelName = P4810-2S
Order 2 CPU 062-03749-000 CPU E5-2630v4 CPU 2.2GHZ 10-CORE
and 1 to 8 of your configured Memory.

For CRU 062-03743-000 – 6810-1S, CPU & I/O CRU Enclosure, ModelName = P6810-1S
Order 1 CPU 062-03750-000..CPU E5-2671v4 CPU 2.3GHZ 14-CORE
and 2 to 16 of your configured Memory.

For CRU 062-03754-000 – 6810, CPU & I/O CRU Enclosure, ModelName = P6810-2S
Order 2 CPU 062-03750-000 ..CPU E5-2671v4 CPU 2.3GHZ 14-CORE
and 2 to 16 of your configured Memory.

Memory options



Memory options: See below

Model	Mktg ID	Part #	Vendor	Mfg Part #	Type	Speed
Pegasus-B						
size GB						
8	M262	609-01685-000	NEC	M393A1G43EB1-CRC	RDIMM	2400mhz
8	M262	609-01685-000	SMART	ST1027RD451872SE	RDIMM	2400mhz
8	M262	609-01685-000	Hyinx	HMA41GR7BJR8N-UH	RDIMM	2400mhz
16	M263	609-01686-000	NEC	M393A2K43CB2-CTD (eco – 200280)	RDIMM	2400mhz
16	M263	609-01686-000	Samsung	M393A2K43BB1-CRC	RDIMM	2400mhz
16	M263	609-01686-000	SMART	SH2047RD410872-SB (eco-180108)	RDIMM	2400mhz
32	M264	609-01687-000	NEC	M393A4K40BB1-CRC	RDIMM	2400mhz
32	M264	609-01687-000	Samsung	M393A4K40CB2-CTD (eco-190142)	RDIMM	2400mhz

32	M264	609-01687-000	Smart Modular	SH4097RD420472-SB	RDIMM	2400mhz
32	M264	609-01687-000	Smart Modular	ST4097RD420493-SC (eco-190142)	RDIMM	2400mhz
64	M261	609-01683-000	NEC	M386A8K40BM1-CPB	LR-DIMM DDR4	

If the State is “Online” then determine the part to order based on the size shown in the “SizeMb” field.
The table above is a reference between the SizeMb and MfgPartNr fields and orderable part number.

SMART Modular Technologies added to AVL (eco-190141).

For: SizeMb = 8192 Mb and SPDData: MfgPartNr M393A1G43EB1-CRC or ST1027RD451872SE or HMA41GR7BJR8N-UH
Order Part: 609-01685-000 RDIMM, 8 GB DDR4 2400MHz

For: SizeMb = 16384 Mb and SPDData: MfgPartNr M393A2K43BB1-CRC or SH2047RD410872-SB or M393A2K43CB2-CTD
Order Part: 609-01686-000 DIMM, 16 GB DDR4 2400MHz

For: SizeMb = 32000 Mb and SPDData: MfgPartNr M393A4K40BB1-CRC, or M393A4K40CB2-CTD or SH4097RD420472-SB or ST4097RD420493-SC (eco-190142)
Order Part: 609-01687-000 DIMM, 32 GB DDR4 2400MHz

For: SizeMb = 64000 Mb and SPDData: MfgPartNr M386A8K40BM1-CPB
Order Part: 609-01683-000 DIMM, 64 GB DDR4 2133MHz)

For “DIMMs” which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered. *Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above DIMM - 1 is a 16384MB DIMM. All other “Online” DIMMs must also be determined in order to replicate the configuration of the CRU. In this system, “1, and 9” were determined to be 16384MB DIMMs, which means a memory configuration of 32GB. The Mfg Part number of a 16384MB DIMM* M393A2K43BB1-CRC *is Stratus part number* 609-01686-000 *, quantity of 2.*

Once the CPU & I/O CRU enclosure part number and memory DIMM part number, slot configuration and quantity is determined, a properly configured replacement 2810, 4810 and 6810 CPU & I/O CRU can be ordered.

Note: In the example given above the CPU – I/O CRU replacement order would include:
1 – 062-03754-000
2 – 062-03750-000
2 – 609-01686-000

PCI riser adapters please read carefully.

. PCI riser adapters are excluded from the

SystemIdProm ModelName = P2810-1S Part: 062-03745-000 2810, CPU & I/O CRU Enclosure and should not be ordered with the CRU.

. PCI riser adapters **OPTIONAL** components for the
SystemIdProm ModelName = P4810-2S Part: 062-03744-000 – 4810, CPU & I/O CRU Enclosure
If you have a model 4810 and you also have a riser card
Order Part: 062-03724-000– PCI Riser Adapter, PCI-E (Pegasus).

. PCI riser adapters **are PRE-CONFIGURED** components for the
SystemIdProm ModelName = P6810-2S Part: 062-03754-000 – 6810, CPU & I/O CRU Enclosure
And should not be ordered with the CRU.

Notes:

1. The last three digits of the RU part number will change from -000 (initial release) to -0xx due to post release ECOs revisions and in most cases will compatible. LMS will reflect the orderable RU part number and compatibility.
2. If not specifically requested in LMS CRU part order, the following parts are expected to be swapped between defective CRU and replacement CRU: PCI adapters full and half height, Internal SAS Disks and PCI Riser.
3. 1 processor (kit) configuration is valid for 2810 and 6810-1S CPU &I /O CRU.
   Populated as “Processor – 21” in ftSMC.
4. 2 processor (kits) configuration is valid for 4810-2S and 6810-2S CPU &I /O CRU.
   Populated as “Processor – 21” and “Processor – 22” in ftSMC.
5. The DIMMs in the slots must be supplied by Stratus **and memory population must conform to a Stratus supported configuration for the platform and model.**
   Reference the Config specs noted below.
   DIMM slot location and size must match between processor 1 & 2 and CRU DIMM slots or a hardware configuration error will be detected. See config specs for details on configuration and max memory supported.
6. . PCI Slot Info – 1 and 2 in ftSMC, are the low profile slots which are PCI-E. PCI Slot Info –
   , 3 and 4 are the riser adapter PCI slots.
7. . PCI riser adapter is verified during CPU-I/O bring-up. If PCI riser configured different per CRU, a hardware compatibility mismatch will be detected and will not come into service.
8. . 2810, 4810, and 6810 part Illustrated list
9. . 2810/4810/6810 Customer Manuals (StrataDoc)
10. . 2810 configuration specification ES-000180 – (Stratus access Only)
11. . 4810 configuration specification ES-000181 – (Stratus access Only)
12. . 6810 configuration specification ES-000182 – (Stratus access Only)

The latest config spec documents can be found on an internal SharePoint page at

https://stratustechnologies.sharepoint.com/engineering/ftServer/SitePages/Home.aspx?RootFolder=%2Fengineering%2FftServer%2FShared%20Documents%2FConfiguration%20Specifications&FolderCTID=0x012000E23EEDEE93F54F4D9410B74D825F0C44&View=%7B9755A29F-6324-46A2-9C2E-65D64A54F52A%7D

Valid Part Numbers:

For CRU 062-03745-000 – 2810, CPU & I/O CRU Enclosure, ModelName = P2810-1S
Order 1 CPU 062-03749-000 CPU E5-2630v4 2.2GHZ 10-CORE
and 1 to 8 of your configured Memory.

For CRU 062-03744-000 – 4810, CPU & I/O CRU Enclosure, ModelName = P4810-2S
Order 2 CPU 062-03749-000 CPU E5-2630v4 CPU 2.2GHZ 10-CORE
and 1 to 8 of your configured Memory.

For CRU 062-03743-000 – 6810-1S, CPU & I/O CRU Enclosure, ModelName = P6810-1S
Order 1 CPU 062-03750-000..CPU E5-2671v4 CPU 2.3GHZ 14-CORE
and 2 to 16 of your configured Memory.

For CRU 062-03754-000 – 6810-2S, CPU & I/O CRU Enclosure, ModelName = P6810-2S
Order 2 CPU 062-03750-000..CPU E5-2671v4 CPU 2.3GHZ 14-CORE
and 2 to 16 of your configured Memory.

Memory options: See below

609-01685-000 RDIMM, 8 GB DDR4 2400MHz SPDData: MfgPartNr M393A1G43EB1-CRC
609-01685-000 RDIMM, 8 GB DDR4 2400MHz SPDData: MfgPartNr ST1027RD451872SE
609-01685-000 RDIMM, 8 GB DDR4 2400MHz SPDData: MfgPartNr HMA41GR7BJR8N-UH
609-01686-000 RDIMM, 16 GB DDR4 2400MHz SPDData: MfgPartNr M393A2K43CB2-CTD
609-01686-000 RDIMM, 16 GB DDR4 2400MHz SPDData: MfgPartNr M393A2K43BB1-CRC
609-01686-000 RDIMM, 16 GB DDR4 2400MHz SPDData: MfgPartNr SH2047RD410872-SB
609-01687-000 RDIMM, 32 GB DDR4 2400MHz SPDData: MfgPartNr M393A4K40BB1-CRC
609-01687-000 RDIMM, 32 GB DDR4 2400MHz SPDData: MfgPartNr M393A4K40CB2-CTD
609-01687-000 RDIMM, 32 GB DDR4 2400MHz SPDData: MfgPartNr SH4097RD420472-SB
609-01687-000 RDIMM, 32 GB DDR4 2400MHz SPDData: MfgPartNr ST4097RD420493-SC
609-01683-000 LR DIMM, 64 GB DDR4 2133MHz SPDData: MfgPartNr M386A8K40BM1-CPB

062-03724-000– PCI Riser Adapter, PCI-E (Pegasus).

Note: The ftServer 6810 **includes** a PCI Riser Kit that provides 2 additional high profile slots in addition to the low-profile slots on the motherboard.

System Back Panel:
062-03755-000, ASM, SYS BP HI (Pegasus-B) 2 socket
062-03746-000 ASM, SYS BP HI (Pegasus-B) 1 socket
062-03747-000, ASM, SYS BP MID (Pegasus-B) 2 socket
062-03748-000, ASM, SYS BP LO (Pegasus-B)

Orderable Part Number	Description	ftServer Management Console key field for determining orderable part
Backpanel Assembly Information		ftServer Configuration > Customer Info > Model Name field also displayed when dbg is entered HARDWARE VERSION INFO ... - SYSTEM ModName
062-03748-000	Backpanel assy Model 2810-1S	
062-03747-000	Backpanel assy Model 4810-2S	
062-03746-000	Backpanel assy Model 6810-1S	
062-03755-000	Backpanel assy Model 6810-2S	

Other part Numbers:

Orderable Part Number	Description	
062-03724-000	Riser PCI-E (Pegasus, Pegasus B)	
062-03164-000	300 GB 15K RPM, SAS 2.5”, 12G Drive	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST300MP0005
062-03166-000	600 GB 15K SAS 2.5” Drive	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST600MP0005
062-03740-000	400 GB SSD 2.5” , 12G Drive	Storage Enclosure – 40 / Disk –x / Slot –x Toshiba Phoenix-M2 Model PX02SMF040
062-03742-000	800 GB SSD 2.5” , 12G Drive	Storage Enclosure – 40 / Disk –x / Slot –x
062-03168-000	1.2TB 10K 2.5” drive	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST1200MM0088
160-01748-000	U112A Qlogic QLE2670-E Single Port 16 Gb FC HBA **w/8.03.06 FW**	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = QLogic Fibre Channel Adapter or PnPDeviceId[1] = pci\ven_1077&dev_2031&subsys_024111077
160-01741-000	U113 Intel I350T2V2 Dual Port 1 Gbit Copper Ethernet Adapter	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x PnPDescription[1] = Stratus I350 2-Port Copper Gigabit Adapter or PnPDeviceId[1] = pci\\ven_8086&dev_1521&subsys_7135159c
160-01744-000	U114 LSI Logic 12Gb SAS 8-Port Host Bus Adapter (9300-4i4e) for tape	
160-01742-000	U115 Intel X540T2 Dual Port 10 Gbit Copper Ethernet Adapter	

160-01747-000	U117 Intel X710 Dual-Port 10 Gbit Fiber Ethernet Adapter with SFPs	
CRU Power Supply		
856-851529- 002-B	POWER SUPPLY, FPS-800 (2810 / 4810)	
856-851529-003-B	POWER SUPPLY, DPS-1200AB-4A (6810)	

Table 1: Memory Options for Pegasus-B

Model	Mktg ID	Part #	Vendor	Mfg Part #	Type	Speed
Pegasus-B						
size GB						
8	M262	609-01685-000	NEC	M393A1G43EB1-CRC	RDIMM	2400mhz
8	M262	609-01685-000	SMART	ST1027RD451872SE	RDIMM	2400mhz
16	M263	609-01686-000	NEC	M393A2K43CB2-CTD (eco – 200280)	RDIMM	2400mhz
16	M263	609-01686-000	NEC	M393A2K43BB1-CRC	RDIMM	2400mhz
16	M263	609-01686-000	SMART	SH2047RD410872-SB	RDIMM	2400mhz
32	M264	609-01687-000	NEC	M393A4K40BB1-CRC	RDIMM	2400mhz
32	M264	609-01687-000	Samsung	M393A4K40CB2-CTD (eco-190142)	RDIMM	2400mhz
32	M264	609-01687-000	Smart Modular	ST4097RD420493-SC (eco-190142)	RDIMM	2400mhz
64	M261	609-01683-000	NEC	M386A8K40BM1-CPB	LR-DIMM DDR4	

17 V-Series Pegasus-B Configs

Paymentech V6728 CPU CRU Configuration

V6728 V Series System is released in this specific configuration at Vos release 19.2 for Paymentech.

```
as:  list_boards -long -slot 0
Module: %s1#m1  (ftServer V6728)

Slot 0:  CPU Module
   Model Name:          062-03786
   State:               (00180016)  STATE_DUPLEX
   Status:              Online Partnered
   Diagnostics Status
     All diagnostics passed
   EEPROMVersion:              0
   OEMManufacturer:            0
   Serial Number:              DCA2BH450002
   Artwork Revision:           0
   ECO Level:                  0
   Min. Partner ECO:           0
   Model Description:          G7MQA
   Model Name:                 062-03751
   Bios Stratus Version:       BIOS Version 9.1:33
   Bios Vendor Version:        BIOS Version 5.0
   FPGA Version:               24.00
   North ASIC Version:         10600105
   Physical Processors:        2
   Brand:
     Intel(R) Xeon(R) CPU E5-2671 v4 @ 2.30GHz
   Family:                     6
   Model:                      79
   Stepping:                   1
   DIMM #                      1
        Size (MB):             8192
        Part #:                M393A1G43EB1-CRC  (Samsung)
   DIMM #                      3
        Size (MB):             8192
        Part #:                M393A1G43EB1-CRC  (Samsung)
   DIMM #                      5
        Size (MB):             8192
        Part #:                M393A1G43EB1-CRC  (Samsung)
   DIMM #                      7
        Size (MB):             8192
        Part #:                M393A1G43EB1-CRC  (Samsung)
   Total Memory Present (MB):       32768
```

This is the only CPU & Processor CRU configuration in place at Paymentech.
In all cases replacement units are preconfigured under the following CRU part Number. The BOM for the part is shown.

AS-000463 ASM CPU CRU REPLACEMENT V6728 SPECIAL ORDER

Qty
1 062-03787-000 ASM, CPU/IO V-PEG-B
2 062-03750-000 BTO, CPU 2.3GHZ 14-CORE (PEGASUS-B)
4 609-01685-000 RDIMM, 8GB DDR4 2400 mhz x8-based 2 Rank
2 AA-U59500 4-port 10 Gigabit Ethernet Adapter 10 GBase-SR (LC Fiber Optic)
1 AA-U59600 2-port 16 Gbps FC HBA, V-Series

Future product release:

V Pegasus-B systems will be generally available in the following models.

Model	Sockets	Cores	Speed	Processor kit
V6728	2	14	2.3 GHZ	062-03750-000
V6624 TO V6728 UPGRADE Kit	UPC6728V			

To complete a (Pegasus-B) V series CRU order you must order

1 Enclosure – CRU part number 062-03787-000 ASM CPU/IO V-PEGASUS-B
(PCI Riser is included)

2 CPUs
2 062-03750-000 CPU E5-2671v4 CPU 2.3GHZ 14-CORE

and 4 609-01685-000 RDIMM, 8GB DDR4 2400 mhz x8-based 2 Rank

Notes: Vos has a maximum of 16GB addressable memory
All V series dimm configurations populate CPU socket 0 dimm slots.
V6728 has 4X8GB memory in order to populate all four dimm channels.

The extra memory is used in ECC scrub and CPU duplex operations.

Mktg Model	Vos Model name	Qty	Processor p/n	Qty	Dimm p/n	Dimm slots populated
V6728	062-03786-000	2	062-03750-000	4	609-01685-000	1,3,5,7

An example of a correct order for a V6728 would be

Qty 1 062-03787-000
Qty 2 062-03750-000
Qty 4 609-01685-000

18 ftServer 2900/4900/6900 CPU & I/O CRU Configuration

18.1 2900/4900/6900 ftServer (Aquarius) CPU & I/O CRU

The following are snapshots of the ftServer Management Console on an 6900 system. Follow the steps below to determine the CPU & I/O CRU configuration. In a 2900/4900/6900 system, the CPU (0) and I/O (10) are contained on one motherboard, within one CRU enclosure, and the CPU (1) and I/O (11) are contained on one motherboard, within one CRU enclosure.

You need the following information to properly order a replacement CPU & I/O CRU.

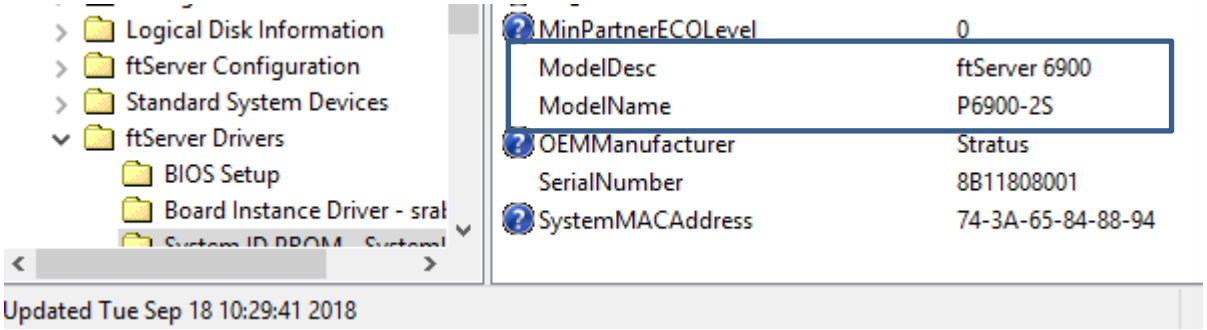
- CPU & I/O CRU enclosure part number
- AK processor kit part number and quantity
- Memory DIMM part number and quantity.
- PCI riser adapter part number.

Steps to determine CPU & I/O CRU configuration:

9. Open ftServer Management Console (ftSMC).
10. Expand ftServer Drivers.
11. Highlight System ID Prom – SystemIdProm.
12. In the right pane look for “ModelName”.

Note: The “ModelName” field will display the system P-package.

ftSMC (Left Pane) ftSMC (Right Pane)



For System ID Prom – SystemIdProm ModelName = P2900-1S
Order Part: 062-03779-000 – 2900, CPU & I/O CRU Enclosure,
(No Processors, Memory, PCI adapters, or SAS disk drives)

For System ID Prom – SystemIdProm ModelName = P4900-2S
Order Part: 062-03778-000 – 4900, CPU & I/O CRU Enclosure,
(No Processors, Memory, PCI adapters, or SAS disk drives)

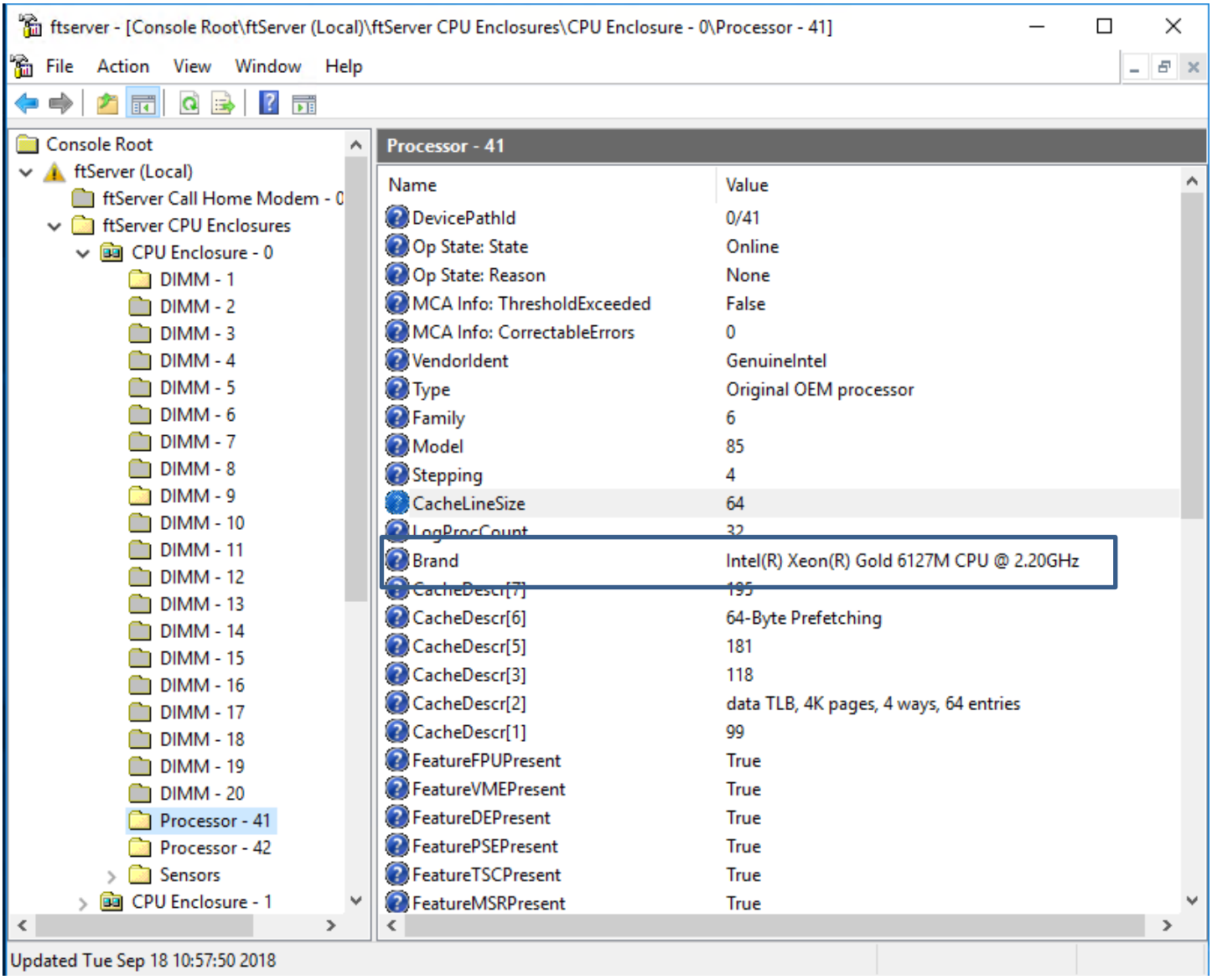
For System ID Prom – SystemIdProm ModelName = P6900-1S
Order Part: 062-03813–000 6900, CPU & I/O CRU Enclosure,
(No Processors, Memory, PCI adapters, or SAS disk drives)
(PCI Riser is included)

For System ID Prom – SystemIdProm ModelName = P6900-2S
Order Part: 062-03777-000 – 6900, CPU & I/O CRU Enclosure,
(No Processors, Memory, PCI adapters, or SAS disk drives)
PCI Riser is included)

Verify the Processor model type and memory configuration.

4. Expand ftServer CPU Enclosures, then the online CPU 0 or 1
5. Highlight the “Processor - 41”.
6. In the right pane look for “Stepping” field and “Brand” field. Use the “Brand” field information and the “Stepping field to determine processor kit required. The following is a reference between the “Brand” and “Stepping” field and the Processor kit part number.

Processor kits required are
2900 = 1 socket @ 2.2GHz 10-CORE 1 CPU 062-03783-000 Silver 4114 2.2GHZ 10-CORE
4900 = 2 socket @ 2.2GHz 10-CORE 2 CPU 062-03783-000 Silver 4114 2.2GHZ 10-CORE
6900-1S = 1 socket @ 2.2GHz 16-CORE 1 CPU 062-03784-000. Gold 6127M 2.2GHZ 16-CORE
6900-2S = 2 socket @ 2.2GHz 16-CORE 2 CPU 062-03784-000. Gold 6127M 2.2GHZ 16-CORE



For CRU 062-03779-000 – 2900, CPU & I/O CRU Enclosure, ModelName = P2900-1S
Order 1 CPU 062-03783-000 Silver 4114 2.2GHZ 10-CORE
and your configured Memory.

- M265 16gb 609-01688-000
- M266 32gb 609-01689-000

For CRU 062-03778-000 – 4900, CPU & I/O CRU Enclosure, ModelName = P4900-2S
Order 2 CPU 062-03783-000 Silver 4114 2.2GHZ 10-CORE
and your configured Memory.

- M265 16gb 609-01688-000
- M266 32gb 609-01689-000

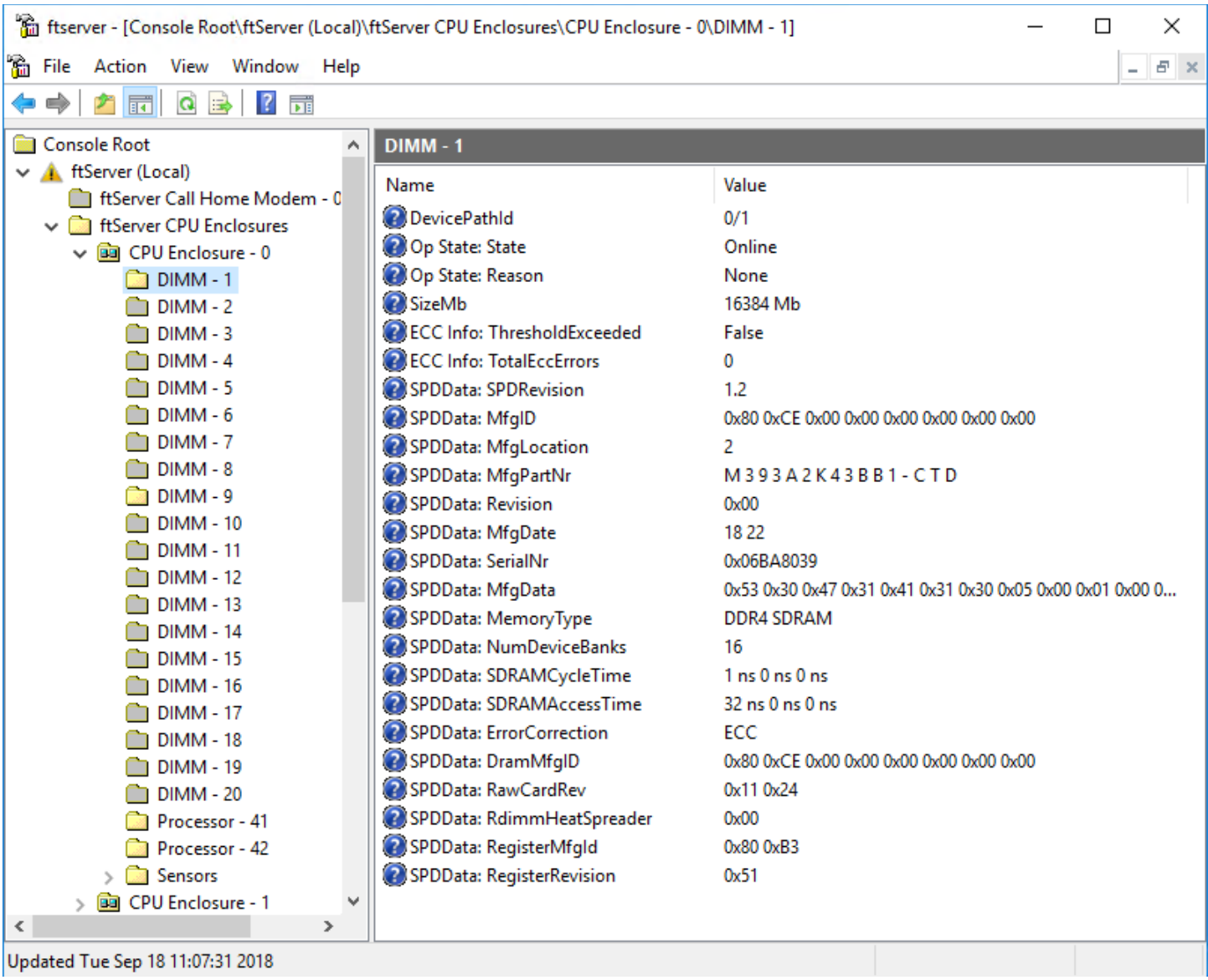
For CRU 062-03813–000 – 6900-1S, CPU & I/O CRU Enclosure, ModelName = 6900-1S
Order 1 CPU 062-03784-000. Gold 6127M 2.2GHZ 16-CORE
and your configured Memory.

M266 32gb 609-01689-000

For CRU 062-03777-000 – 6900-2S, CPU & I/O CRU Enclosure, ModelName = 6900-2S
Order 2 CPU 062-03784-000. Gold 6127M 2.2GHZ 16-CORE
and your configured Memory.
M266 32gb 609-01689-000

Memory options:
There are only two dimms on Aquarius 16gb & 32gb.
The high ONLY uses 32gb.

- M265 16gb 609-01688-000
- M266 32gb 609-01689-000



Memory options: See below

If the State is “Online” then determine the part to order based on the size shown in the “SizeMb” field.
The table above is a reference between the SizeMb and MfgPartNr fields and orderable part number.

For: SizeMb = 16384 Mb and SPDData: MfgPartNr M393A2K43BB1-CTD , or M393A2K43CB2-CTD,
or MTA18ASF2G72PDZ-2G9E1 (eco 210140) or
M393A2K43DB3-CWE or ST2047RD410825-SD (eco-220127)
Order Part: 609-01688-000 DIMM, 16 GB DDR4

For: SizeMb = 32000 Mb and SPDData: MfgPartNr M393A4K40BB2-CTD, or M393A4K40CB2-CTD,
or ST4097RD420493-SC (SMART Modular Technologies eco-190142)
or M393A4K40DB3-CWE, ST4097RD420425-SD (eco-220127)
Order Part: 609-01689-000 DIMM, 32 GB DDR4

For “DIMMs” which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered. *Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above DIMM - 1 is a 16384MB DIMM. All other “Online” DIMMs must also be determined in order to replicate the configuration of the CRU. In this system, “1, and 9” were determined to be 16384MB DIMMs, which means a memory configuration of 32GB. The Mfg Part number of a 16384MB DIMM* M393A2K43BB1-CTD *is Stratus part number* 609-01688-000 *, quantity of 2.*

Once the CPU & I/O CRU enclosure part number and memory DIMM part number, slot configuration and quantity is determined, a properly configured replacement 2900, 4900 or 6900 CPU & I/O CRU can be ordered.

Note: In the example given above the CPU – I/O CRU replacement order would include:
1 – 062-03777-000
2 – 062-03784-000
2 – 609-01688-000

PCI riser adapter (062-03724-000) please read carefully.

A PCI Riser Kit provides 2 additional high profile slots in addition to the low-profile slots on the motherboard.

. PCI riser adapters are excluded from the
SystemIdProm ModelName = P2900-1S Part: 062-03779-000 2900, CPU & I/O CRU Enclosure and should not be ordered with the CRU.

. PCI riser adapters **OPTIONAL** components for the
SystemIdProm ModelName = P4900-2S Part: 062-03778-000 – 4900, CPU & I/O CRU Enclosure
If you have a model 4900 and you also have a riser card
Order Part: 062-03724-000– PCI Riser Adapter, PCI-E (Pegasus).

. PCI riser adapters **are PRE-CONFIGURED** components for the
SystemIdProm ModelName = P6900-2S Part: 062-03777-000 – 6900, CPU & I/O CRU Enclosure
And should not be ordered with the CRU.

Notes:

13. The last three digits of the RU part number will change from -000 (initial release) to -0xx due to post release ECOs revisions and in most cases will compatible. LMS will reflect the orderable RU part number and compatibility.
14. If not specifically requested in LMS CRU part order, the following parts are expected to be swapped between defective CRU and replacement CRU: PCI adapters full and half height, Internal SAS Disks.
15. 1 processor (kit) configuration is valid for 2900 CPU &I /O CRU.
    Populated as “Processor – 41” in ftSMC.
16. 2 processor (kits) configuration is valid for 4900-2S and 6900-2S CPU &I /O CRU.
    Populated as “Processor – 41” and “Processor – 42” in ftSMC.
17. The DIMMs in the slots must be supplied by Stratus **and memory population must conform to a Stratus supported configuration for the platform and model.**
    Reference the Config specs noted below.
    DIMM slot location and size must match between processor 1 & 2 and CRU DIMM slots or a hardware configuration error will be detected. See config specs for details on configuration and max memory supported.
18. . PCI Slot Info – 1 and 2 in ftSMC, are the low profile slots which are PCI-E. PCI Slot Info –
    , 3 and 4 are the riser adapter PCI slots.
19. . PCI riser adapter is verified during CPU-I/O bring-up. If PCI riser configured different per CRU, a hardware compatibility mismatch will be detected and will not come into service.
20. . 2900, 4900, and 6900 part Illustrated list
21. . 2900, 4900, and 6900 Customer Manuals (StrataDoc)
22. . 2900/4900/6900 configuration specification ES-000185 – (Stratus access Only)
    https://stratustechnologies.sharepoint.com/:f:/r/engineering/ftServer/Shared%20Documents/Configuration%20Specifications/Aquarius?csf=1

Orderable Part Number	Description	ftServer Management Console key field for determining orderable part
Backpanel Assembly Information		ftServer Configuration > Customer Info > Model Name field also displayed when dbg is entered HARDWARE VERSION INFO ... - SYSTEM ModName
062-03782-000	Backpanel assy Model 2900-1S	
062-03781-000	Backpanel assy Model 4900-2S	
062-03814-000	Backpanel assy Model 6900-1S	
062-03780-000	Backpanel assy Model 6900-2S	

Other part Numbers:

Orderable Part Number	Description	
062-03724-000	Riser PCI-E (Pegasus, Pegasus B, Aquarius)	
062-03815-000	1.2 TB 10K RPM,	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST1200MM0009
062-03819-000	600 GB 15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST600MP0006
062-03817-000	800 GB SSD	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST800FM0233
160-01748-000	U112A Qlogic QLE2670-E Single Port 16 Gb FC HBA **w/8.03.06 FW**	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = QLogic Fibre Channel Adapter or PnPDeviceId[1] = pci\ven_1077&dev_2031&subsys_024111077
160-01741-000	U113 Intel I350T2V2 Dual Port 1 Gbit Copper Ethernet Adapter	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x PnPDescription[1] = Stratus I350 2-Port Copper Gigabit Adapter or PnPDeviceId[1] = pci\\ven_8086&dev_1521&subsys_7135159c

160-01744-000	U114 LSI Logic 12Gb SAS 8-Port Host Bus Adapter (9300-4i4e) for tape	
160-01749-000	U118 BRD,ENET,PCIe,10Gbit, 2-Port, Cu, Intel X550,AQ	
160-01751-000	U117A Intel X710 Dual-Port 10 Gbit Fiber Ethernet Adapter with SFPs	
CRU Power Supply		
856-851529-002-B or 856-851529-002-C	POWER SUPPLY (2900 / 4900)	
856-851529-003-B or 856-851529-003-C	POWER SUPPLY, (6900)	

Table 1: Memory Options for Aquarius

Model	Mktg ID	Part #	Vendor	Mfg Part #	Type	Speed
Aquarius						
size GB						
16	M265	609-01688-000	NEC	M393A2K43BB1-CTD M393A2K43CB2-CTD	RDIMM	2666MHz
32	M266	609-01689-000	NEC	M393A4K40BB2-CTD M393A4K40CB2-CTD	RDIMM	2666MHz
32	M266	609-01689-000	Smart Modular	ST4097RD420493-SC	RDIMM	2666MHz

(V-Aquarius)

18.2 Chase V6832 CPU CRU Configuration

V6832 Series System is released in this specific configuration at Vos release 19.3 for Chase Paymentech.

This is the only CPU & Processor CRU configuration in place at Chase Paymentech at this time. In all cases replacement units are preconfigured under the following CRU part Number . The BOM for the part is shown.

AS-000464 CPU CRU REPLACEMENT Chase PAYMENTECH V6832 SPECIAL ORDER

Qty

1 - 062-03852-000 ASM CPU/IO V-Aqua 2 SKT (V6832) (V6832 CPU & I/O CRU Enclosure,***riser is included)
2 - 062-03784-000 CPU 2.2GHZ 16-CORE (AQUARIUS)
4 - 609-01688-000 RDIMM, 16GB, DDR4, 2666MHz, x8-based, 2 Rank
2 - AA-U59500 4-port 10 Gigabit Ethernet Adapter 10 GBase-SR (LC Fiber Optic)
1 - AA-U59600 2-port 1 6 Gbps FC HBA, V-Series

18.3 V Aquarius systems are generally available in the following models.

Model	Sockets	Cores	Speed	Processor kit
V6832 V-Aq	2	16	2.2ghz	062-03784-000
V4820 V-Aq-C	2	10	2.2ghz	062-03838-000
V2810 V-Aq-C	1	10	2.2ghz	062-03838-000

To complete an V-Aquarius/ V-Aquarius-C series CRU order you must order an enclosure, Cpus and Dimms

Processor kits required are:

V6832 = 2 socket @ 2.2GHz 16-CORE 2 CPU 062-03784-000. Intel Xeon Gold 6127M 2.2GHZ 16-CORE Skylake
V4820 = 2 socket @ 2.2GHz 10-CORE 2 CPU 062-03838-000 Intel Xeon Silver 4210 2.2GHZ 10-CORE Cascade Lake
V2810 = 1 socket @ 2.2GHz 10-CORE 1 CPU 062-03838-000 Intel Xeon Silver 4210 2.2GHZ 10-CORE Cascade Lake

6832

1 - Enclosure – V6832 CRU part number 062-03852-000
ASM CPU/IO V-Aqua 2 SKT (V6832) (V6832 CPU & I/O CRU Enclosure,***riser is included)

2 – CPUs	062-03784-000	CPU 2.2GHZ 16-CORE (AQUARIUS)
4 – Dimms	609-01688-000	RDIMM, 16GB, DDR4, 2666MHz, x8-based, 2 Rank

4820

1 - Enclosure – V4820-C CRU part number 062-03851-000
ASM CPU/IO V-Aqua 2 SKT (V4820) (V4820 CPU & I/O CRU Enclosure,***riser is included)

2 – CPUs	062-03838-000	CPU 2.2GHZ 10-CORE (AQUARIUS-C)
4 – Dimms	609-01688-000	RDIMM, 16GB, DDR4, 2666MHz, x8-based, 2 Rank

2810

1 - Enclosure – V2810-C CRU part number 062-03850-000
ASM CPU/IO V-Aqua 2 SKT (V4820) (V4820 CPU & I/O CRU Enclosure,***riser is included)

1 – CPU	062-03838-000	CPU 2.2GHZ 10-CORE (AQUARIUS-C)
4 – Dimms	609-01688-000	RDIMM, 16GB, DDR4, 2666MHz, x8-based, 2 Rank

Notes: Vos has a maximum of 16GB addressable memory
All V series dimm configurations populate CPU socket 0 dimm slots.
V-Aquarius Crus have 4X16GB memory in order to populate all four dimm channels.
The extra memory is used in ECC scrub and CPU duplex operations.

An example of a correct orders would be

V6832
Qty 1 062-03852-000
Qty 2 062-03784-000
Qty 4 609-01688-000

V4820
Qty 1 062-03851-000
Qty 2 062-03838-000
Qty 4 609-01688-000

V2810
Qty 1 062-03850-000
Qty 1 062-03838-000
Qty 4 609-01688-000

19 ftServer 2910/4910/6910 CPU & I/O CRU Configuration

19.1 2910/4910/6910 ftServer (Aquarius-C) CPU & I/O CRU

The following are snapshots of the ftServer Management Console on an 4910 system. Follow the steps below to determine the CPU & I/O CRU configuration. In a 2910/4910/6910 system, the CPU (0) and I/O (10) are contained on one motherboard, within one CRU enclosure, and the CPU (1) and I/O (11) are contained on one motherboard, within one CRU enclosure.

You need the following information to properly order a replacement CPU & I/O CRU.

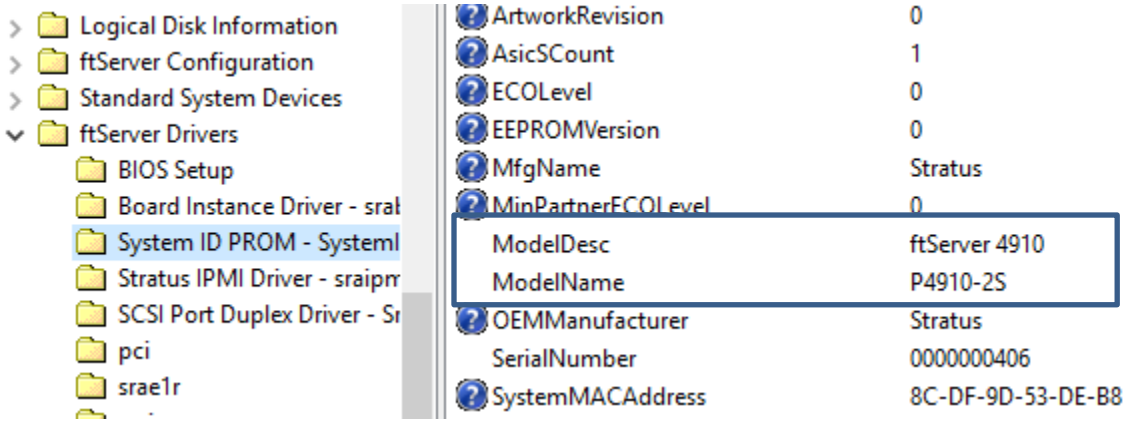
- CPU & I/O CRU enclosure part number
- AK processor kit part number and quantity
- Memory DIMM part number and quantity.
- PCI riser adapter part number.

Steps to determine CPU & I/O CRU configuration:

13. Open ftServer Management Console (ftSMC).
14. Expand ftServer Drivers.
15. Highlight System ID Prom – SystemIdProm.
16. In the right pane look for “ModelName”.

Note: The “ModelName” field will display the system P-package.

ftSMC (Left Pane) ftSMC (Right Pane)



For System ID Prom – SystemIdProm ModelName = P2910-1S
Order Part: 062-03900-000– 2910, CPU & I/O CRU Enclosure, NVM
(No Processors, Memory, PCI adapters, or SAS disk drives)

For System ID Prom – SystemIdProm ModelName = P2910-1S
Order Part: 062-03906-000 2910, CPU & I/O CRU Enclosure, SAS
(No Processors, Memory, PCI adapters, or SAS disk drives)

For System ID Prom – SystemIdProm ModelName = P4910-2S
Order Part: 062-03901-000– 4910, CPU & I/O CRU Enclosure, NVM
(No Processors, Memory, PCI adapters, or SAS disk drives)

For System ID Prom – SystemIdProm ModelName = P4910-2S
Order Part: 062-03907-000– 4910, CPU & I/O CRU Enclosure, SAS
(No Processors, Memory, PCI adapters, or SAS disk drives)

For System ID Prom – SystemIdProm ModelName = P6910-2S
Order Part: 062-03902-000– 6910, CPU & I/O CRU Enclosure, NVM
(No Processors, Memory, PCI adapters, or SAS disk drives)
PCI Riser is included)

For System ID Prom – SystemIdProm ModelName = P6910-2SR2

- Order Part: 062-03955-000– 6910, CPU & I/O CRU Enclosure, NVM
(No Processors, Memory, PCI adapters, or SAS disk drives)
PCI Riser is included)
160-01762-000 U122 NVME PCI CARD Broadcom 9500-16i is included

Note: Crus for model P6910-2SR2 NVME enclosures contain a
160-01762-000 U122 NVME PCI CARD Broadcom 9500-16i.
This is incompatible with the
160-01757-000 U120 NVME PCI CARD Broadcom 9400.

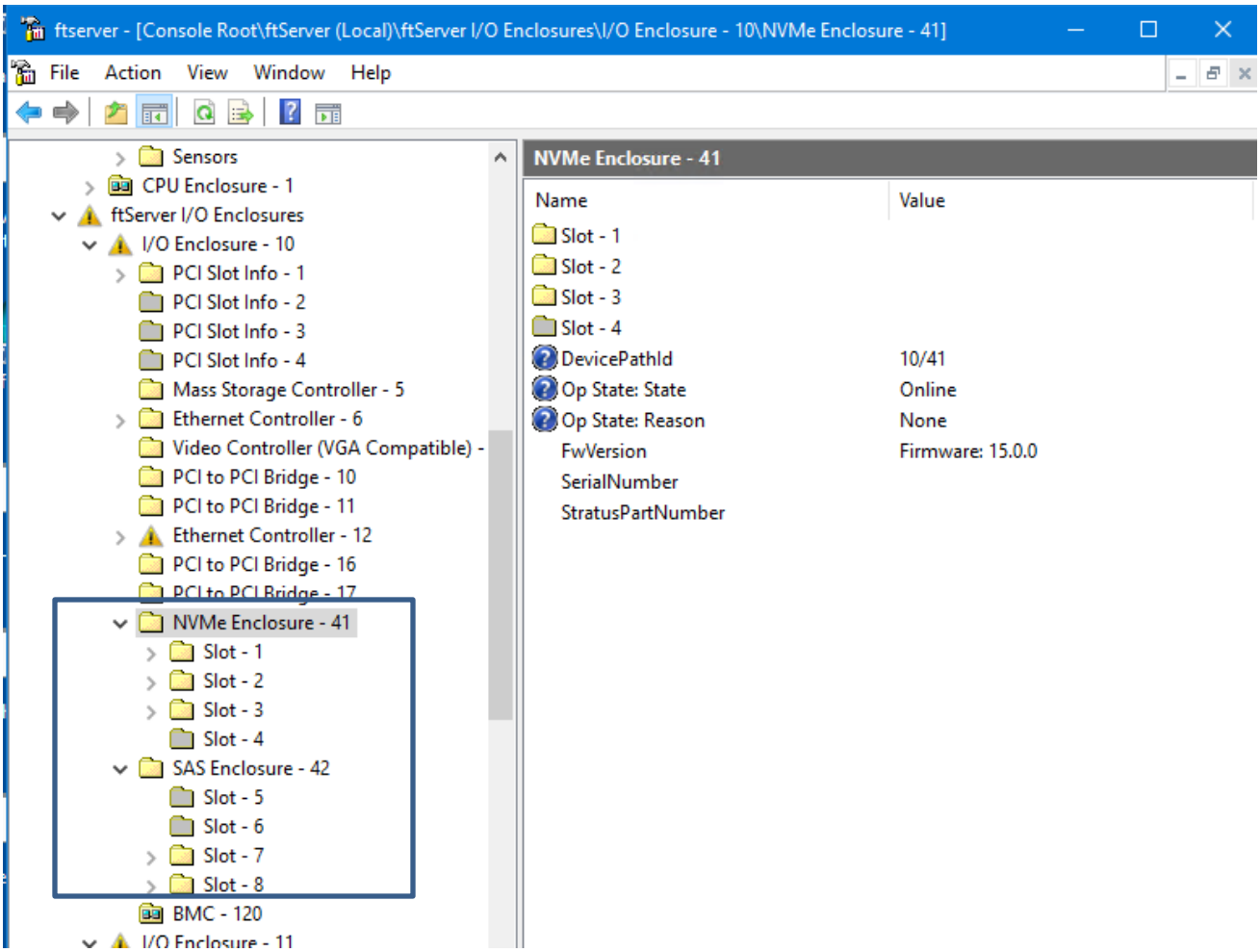
For System ID Prom – SystemIdProm ModelName = P6910-2S
Order Part: 062-03908-000– 6910, CPU & I/O CRU Enclosure, SAS
(No Processors, Memory, PCI adapters, or SAS disk drives)
PCI Riser is included)

There are several ways to check the disk subsystem configuration to determine of the CRU is Hybrid NVME/SAS or just SAS.

For Windows:

A Windows system would have the Storage Enclosure “10/41” and “11/41” for NVMe enclosures. If there is no such enclosure inventory entry, then the system is SAS only.

Ftsmc will display the disk configuration beneath the I/O enclosure details as shown below.



This is a NVMe/SAS split Aquarius-C server, therefore and NVM CRU would be appropriate to order

For System ID Prom – SystemIdProm ModelName = P4910-2S
Order Part: 062-03901-000– 4910, CPU & I/O CRU Enclosure, NVM ←----------
(No Processors, Memory, PCI adapters, or SAS disk drives)

For ESX and Linux:

ESX/Linux do not have the 10/41 10/42 enclosures. All ESX/Linux disks exist in the 10/40.
You can tell if there is an NVME controller in the system via dbg in th e following ways.

Look for the presence of an NVME driver using the dbg command ‘version’

This can be found using DBG version command.
On an Aquarius-C SAS only system, the sranvme driver will not be present.

Example:

Output of the dbg> version command.

Aquarius-C with SAS backplane

SOFTWARE VERSION INFO ...
- DBG CC: 1.18.127.main built on 11/16/2020 23:40
  OS: 13.2.0.0 x64 Build:3690 (main,Free,w2k19) built on 12/18/2020 at 12:15
  ARCH: amd64
- SRACC CC: 1.18.127.main built on 11/16/2020 23:40
  OS: 13.2.0.0 x64 Build:3690 (main,Free,w2k19) built on 12/18/2020 at 12:15
- SRABID 13.2.0.0 x64 Build:3690 (main,Free,w2k19) built on 12/18/2020 at 12:16
- SRALINK 13.2.0.0 x64 Build:3690 (main,Free,w2k19) built on 12/18/2020 at 12:16
- SRAIPMI 13.2.0.0 x64 Build:3690 (main,Free,w2k19) built on 12/18/2020 at 12:16
- SRADISK
- SRASCSIF 13.2.0.0 x64 Build:3690 (main,Free,w2k19) built on 12/18/2020 at 12:17
- SRACOMFLT 13.2.0.0 x64 Build:3690 (main,Free,w2k19) built on 12/18/2020 at 12:16
- SRAUSBF 13.2.0.0 x64 Build:3690 (main,Free,w2k19) built on 12/18/2020 at 12:16
- SRAE1R 13.2.0.0 x64 Build:3690 (main,Free,w2k19) built on 12/18/2020 at 12:19
- SRAASNTUN 13.2.0.0 x64 Build:3690 (main,Free,w2k19) built on 12/18/2020 at 12:17
- SRAMPT3 13.2.0.0 x64 Build:3690 (main,Free,w2k19) built on 12/18/2020 at 12:18 **<------**
- SRAP3VID 13.2.0.0 x64 Build:3690 (main,Free,w2k19) built on 12/18/2020 at 12:16

Aquarius-C with NVMe/SAS backplane

SOFTWARE VERSION INFO ...
- DBG CC: 1.18.127.main built on 11/16/2020 23:40
  OS: 13.2.0.0 x64 Build:3696 (main,Free,w2k19) built on 1/5/2021 at 19:19
  ARCH: amd64
- SRACC CC: 1.18.127.main built on 11/16/2020 23:40
  OS: 13.2.0.0 x64 Build:3686 (main,Free,w2k19) built on 12/4/2020 at 12:40
- SRABID 13.2.0.0 x64 Build:3686 (main,Free,w2k19) built on 12/4/2020 at 12:40
- SRALINK 13.2.0.0 x64 Build:3686 (main,Free,w2k19) built on 12/4/2020 at 12:40
- SRAIPMI 13.2.0.0 x64 Build:3685 (main,Free,w2k19) built on 12/3/2020 at 15:53
- SRADISK 13.2.0.0 x64 Build:3675 (main,Free,w2k19) built on 11/10/2020 at 15:38
- SRASCSIF 13.2.0.0 x64 Build:3675 (main,Free,w2k19) built on 11/10/2020 at 15:38
- SRACOMFLT 13.2.0.0 x64 Build:3686 (main,Free,w2k19) built on 12/4/2020 at 12:40
- SRAUSBF 13.2.0.0 x64 Build:3686 (main,Free,w2k19) built on 12/4/2020 at 12:40
- SRAE1R 13.2.0.0 x64 Build:3690 (main,Free,w2k19) built on 12/18/2020 at 12:19
- SRAASNTUN 13.2.0.0 x64 Build:3675 (main,Free,w2k19) built on 11/10/2020 at 15:39
- SRAIXS 13.2.0.0 x64 Build:3690 (main,Free,w2k19) built on 12/18/2020 at 12:19
- SRAMPT3 13.2.0.0 x64 Build:3675 (main,Free,w2k19) built on 11/10/2020 at 15:39
- SRANVME 13.2.0.0 x64 Build:3675 (main,Free,w2k19) built on 11/10/2020 at 15:40 **<----**
- SRAP3VID 13.2.0.0 x64 Build:3675 (main,Free,w2k19) built on 11/10/2020 at 15:38
dbg: virt>

You can also look for the Broadcom adapter PCI vendor/device ID by looking at the output of the 'iosx' command.
It will be in slot 10/1 and 11/1 as built by the factory, but it could be anywhere.

This will work on Windows, Linux, ESX

Output of the dbg 'iosx' command

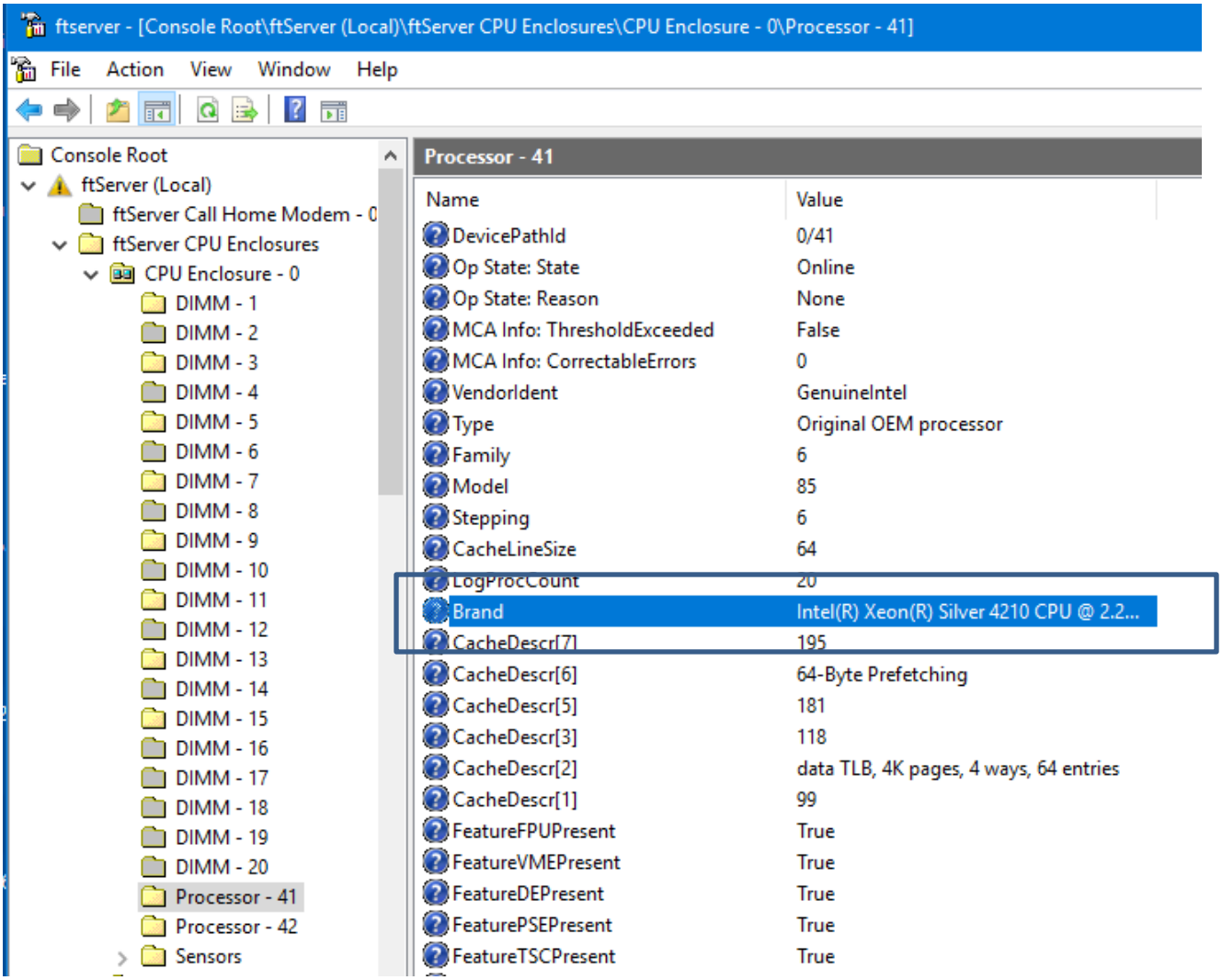
```
   11/1: HW_ONLN 66,0 Slot STATE_DUPLEX REASON_NONE Led=off
        Func=0 STD_HDR: Class=MassStorageCtlr
              STD_HDR: VenId=1000 DevId=00ac Cmd=0007
              STD_HDR: SubVenId=1000 SubSysId=3000
              CAP_PCIE: Cap=0002 DevCtrl=2830 DevStat=0009 LinkCtrl=0000 LinkStat=1083 RootCtrl=0000
              CAP_PCIE: - CapVer=2 CapType=PcieEndpt Speed=GEN3 Width=x8 MaxPayldSize=256
              CAP_PCIE: DevCtrl2=0010 DevCap2=101f LinkCtrl2=0003
              CAP_PCIE: - PcieComp:Tout=0,Dis=1,Support=1f
              EXTCAP_ADV_ERR_RPT: UncErrMask=00400000 UncErrSev=00462030 CorrErrMask=00006000
UncErrStat=00000000 CorrErrStat=00002000
   11/2: HW_NTPS 82,0 Slot STATE_EMPTY REASON_NONE Led=off
   11/3: HW_NTPS 176,0 Slot STATE_EMPTY REASON_NONE Led=off
   11/4: HW_NTPS 192,0 Slot STATE_EMPTY REASON_NONE Led=off
```

[add note here to check Warranty DB if you are still unsure]

Verify the Processor model type and memory configuration.

7. Expand ftServer CPU Enclosures, then the online CPU 0 or 1
8. Highlight the "Processor - 41".
9. In the right pane look for "Stepping" field and "Brand" field. Use the "Brand" field information and the "Stepping field to determine processor kit required. The following is a reference between the "Brand" and "Stepping" field and the Processor kit part number.

Processor kits required are
2910-1S = 1 socket @ 2.2GHz 10-CORE 1 CPU 062-03838-000 Cascade Lake-EP multi-core processors
4910-2S = 2 socket @ 2.2GHz 10-CORE 2 CPU 062-03838-000 Cascade Lake-EP multi-core processors
6910-2S = 2 socket @ 2.2GHz 18-CORE 2 CPU 062-03839-000 Cascade Lake-EP multi-core processors


ftserver - [Console Root\ftServer (Local)\ftServer CPU Enclosures\CPU Enclosure - 0\Processor - 41]
File Action View Window Help
Console Root
ftServer (Local)
ftServer Call Home Modem - 0
ftServer CPU Enclosures
CPU Enclosure - 0
DIMM - 1
DIMM - 2
DIMM - 3
DIMM - 4
DIMM - 5
DIMM - 6
DIMM - 7
DIMM - 8
DIMM - 9
DIMM - 10
DIMM - 11
DIMM - 12
DIMM - 13
DIMM - 14
DIMM - 15
DIMM - 16
DIMM - 17
DIMM - 18
DIMM - 19
DIMM - 20
Processor - 41
Processor - 42
Sensors
Processor - 41
Name
Value
DevicePathId 0/41
Op State: State Online
Op State: Reason None
MCA Info: ThresholdExceeded False
MCA Info: CorrectableErrors 0
VendorIdent GenuineIntel
Type Original OEM processor
Family 6
Model 85
Stepping 6
CacheLineSize 64
LogProcCount 20
Brand Intel(R) Xeon(R) Silver 4210 CPU @ 2.2...
CacheDescr[7] 195
CacheDescr[6] 64-Byte Prefetching
CacheDescr[5] 181
CacheDescr[3] 118
CacheDescr[2] data TLB, 4K pages, 4 ways, 64 entries
CacheDescr[1] 99
FeatureFPUPresent True
FeatureVMEPresent True
FeatureDEPresent True
FeaturePSEPresent True
FeatureTSCPresent True

For CRU 062-03900-000 or 062-03906-000– 2910, CPU & I/O CRU Enclosure,
ModelName = P2910-1S
Order 1 CPU 062-03838-000 Cascade Lake-EP multi-core processors
and your configured Memory.

- M266 32gb 609-01689-001

For CRU 062-03901-000 or 062-03907-000– 4910, CPU & I/O CRU Enclosure,
ModelName = P4910-2S
Order 2 CPU 062-03838-000 Cascade Lake-EP multi-core processors
and your configured Memory.

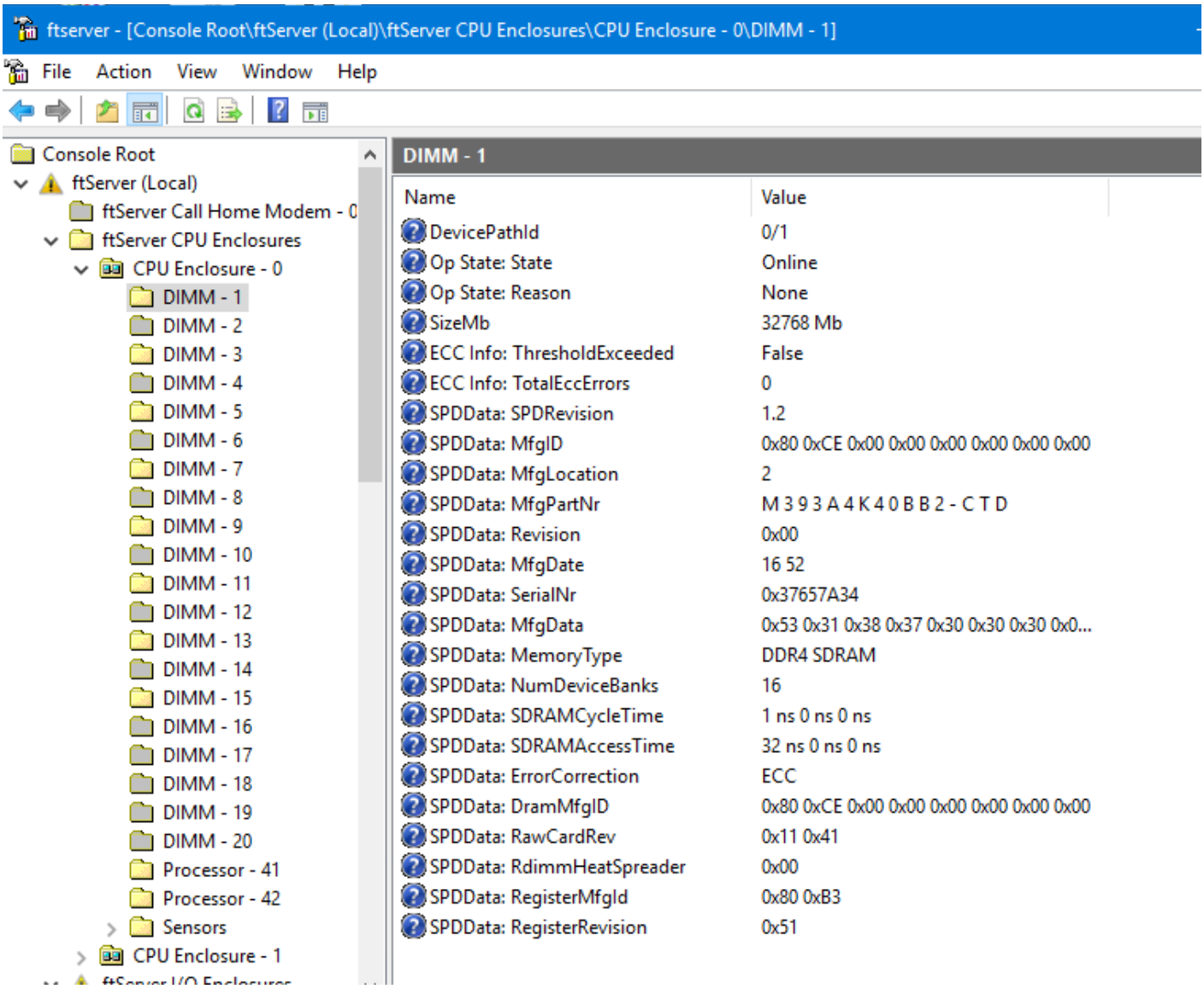
- M266 32gb 609-01689-001
- M267 64gb 609-01690-000

For CRU 062-03902-000 or 062-03908-000– 6910-2S, CPU & I/O CRU Enclosure, ModelName = 6910-2S
Order 2 CPU 062-03839-000 Cascade Lake-EP multi-core processors
and your configured Memory.

- M266 32gb 609-01689-001
- M267 64gb 609-01690-000

Memory options:
There are only two dimms on Aquarius-C 32gb & 64gb
The low ONLY uses 32gb.

- M266 32gb 609-01689-001
- M267 64gb 609-01690-000



Memory options: See below

If the State is “Online” then determine the part to order based on the size shown in the “SizeMb” field.
The table above is a reference between the SizeMb and MfgPartNr fields and orderable part number.

For: SizeMb = 32000 Mb and SPDData: MfgPartNr, M393A4K40BB2-CTD, or
M393A4K40DB3-CWE, ST4097RD420425-SD (eco-220127)
Order Part: 609-01689-001 DIMM, 32 GB DDR4

For: SizeMb = 64000 Mb and SPDData: MfgPartNr, M393A8G40MB2-CVF,
Order Part: 609-01690-000 DIMM, 32 GB DDR4

For “DIMMs” which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered. *Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above DIMM - 1 is a 32768MB DIMM. All other “Online” DIMMs must also be determined in order to replicate the configuration of the CRU. In this system, all dimms were determined to be 32768MB DIMMs, which means a memory configuration of 256MB. The Mfg Part number of a 32768MB DIMM* 393A4K40BB2-CTD *is Stratus part number* 609-01689-001*, quantity of 8.*

Once the CPU & I/O CRU enclosure part number and memory DIMM part number, slot configuration and quantity is determined, a properly configured replacement 2910, 4910 or 6910 CPU & I/O CRU can be ordered.

Note: In the example given above the CPU – I/O CRU replacement order would include:
1 – 062-03901-000
2 – 062-03838-000
8 – 609-01689-001
1 – 062-03724-000

PCI riser adapter (062-03724-000) please read carefully.

A PCI Riser Kit provides 2 additional high profile slots in addition to the low-profile slots on the motherboard.

. PCI riser adapters are excluded from the
SystemIdProm ModelName = P2910-1S Part: 062-03900-000 or 062-03906-000
CPU & I/O CRU Enclosure and should not be ordered with the CRU.

. PCI riser adapters **OPTIONAL** components for the
SystemIdProm ModelName = P4910-2S Part: 062-03901-000 or 062-03907-000
CPU & I/O CRU Enclosure
If you have a model 4900 and you also have a riser card
Order Part: 062-03724-000– PCI Riser Adapter, PCI-E .

. PCI riser adapters **are PRE-CONFIGURED** components for the
SystemIdProm ModelName = P6910-2S Part: 062-03902-000 or 062-03908-000,
CPU & I/O CRU Enclosure And should not be ordered with the CRU.

Notes:

1. The last three digits of the RU part number will change from -000 (initial release) to -0xx due to post
2. release ECOs revisions and in most cases will compatible. LMS will reflect the orderable RU part number and compatibility.

3. If not specifically requested in LMS CRU part order, the following parts are expected to be swapped between defective CRU and replacement CRU: PCI adapters full and half height, Internal SAS Disks.
4. 1 processor (kit) configuration is valid for 2910 CPU &I /O CRU.
5. Populated as “Processor – 41” in ftSMC.
6. 2 processor (kits) configuration is valid for 4910-2S and 6910-2S CPU &I /O CRU.
7. Populated as “Processor – 41” and “Processor – 42” in ftSMC.
8. The DIMMs in the slots must be supplied by Stratus **and memory population must conform to a Stratus supported configuration for the platform and model.**
9. **Reference the Config specs noted below.**
10. DIMM slot location and size must match between processor 1 & 2 and CRU DIMM slots or a hardware configuration error will be detected. See config specs for details on configuration and max memory supported.
11. PCI Slot Info – 1 and 2 in ftSMC, are the low profile slots which are PCI-E. PCI Slot Info – 2 and 4 are the riser adapter PCI slots.
12. PCI riser adapter is verified during CPU-I/O bring-up. If PCI riser configured different per CRU, a hardware compatibility mismatch will be detected and will not come into service.

Documentation Links:

1 2910, 4910, and 6910 part Illustrated list
https://stratus.ecacsupport.com/servicedocinternal/ftserveripb/ft2910_4910_6910/html/ft2910_4910_6910.html

2 ftServer 29x0, 49x0, and 69x0 System Customer Manuals (StrataDoc)
https://stratadoc.stratus.com/ftserver/13.0.0.0/desc/aqusyst.html

3 . 2910/4910/6910 configuration specification ES-000AAA– (Stratus access Only)
https://stratustechnologies.sharepoint.com/engineering/ftServer/Shared%20Documents/Configuration%20Specifications/Aquarius-C

Orderable Part Number	Description	ftServer Management Console key field for determining orderable part
Backpanel Assembly Information		ftServer Configuration > Customer Info > Model Name field also displayed when dbg is entered HARDWARE VERSION INFO ... - SYSTEM ModName
062-03903-000	Backpanel assy Model 2910-1S	
062-03904-000	Backpanel assy Model 4910-2S	
062-03905-000	Backpanel assy Model 6910-2S	

Other part Numbers:

Orderable Part Number	Description	
062-03724-000	Riser PCI-E (Pegasus, Pegasus B, Aquarius, Aquarius-C)	
062-03815-000 MID DAQ1P2T10K	1.2 TB 10K RPM,	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST1200MM0009
062-03819-000 MID DAQ600G15K	600 GB 15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST600MP0006
062-03817-000 MID DAQ800GSSD	800 GB SSD	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST800FM0233
062-03820-000 MID DAQ2P4T10K	2.4 TB 10K RPM,	
062-03822-000 MID DAC1P6TNVME	1.6TB NVMe U.2 SSD	
160-01748-000	U112A Qlogic QLE2670-E Single Port 16 Gb FC HBA **w/8.03.06 FW**	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = QLogic Fibre Channel Adapter or PnPDeviceId[1] = pci\ven_1077&dev_2031&subsys_024111077
160-01741-000	U113 Intel I350T2V2 Dual Port 1 Gbit Copper Ethernet Adapter	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x PnPDescription[1] = Stratus I350 2-Port Copper Gigabit Adapter or

		PnPDeviceId[1] = pci\\ven_8086&dev_1521&subsys_7135159c
160-01744-000	U114 LSI Logic 12Gb SAS 8-Port Host Bus Adapter (9300-4i4e) for tape	
160-01756-000	U118A BRD,ENET,PCIe,10Gbit, 2-Port, Cu, Intel X550,AQ Fw version 2.00	
160-01755-000	U117B Intel X710 Dual-Port 10 Gbit Fiber Ethernet Adapter with SFPs Fw version 6.80	
160-01757-000	U120 NVME PCI CARD Broadcom 9400	
CRU Power Supply		
GXA-056150-001-00	1300 W POWER SUPPLY	

Table 1: Memory Options for Aquarius-C

Model	Mktg ID	Part #	Vendor	Mfg Part #	Type	Speed
Aquarius						
size GB						
32	M266	609-01689-001	NEC	M393A4K40CB2-CTD	RDIMM	2666MHz
64	M267	609-01690-000	NEC Smart	M393A8G40MB2-CVF	RDIMM	2666MHz

20 ftServer 2920/4920/6920 CPU & I/O CRU Configuration

20.1 2920/4920/6920 ftServer (Aquarius-C+) CPU & I/O CRU

Follow the steps below to determine the CPU & I/O CRU configuration. In an Aquarius-C + system.
CPU (0) and I/O (10) are contained on one motherboard, within one CRU enclosure.
CPU (1) and I/O (11) are contained on one motherboard, within one CRU enclosure.

You need the following information to properly order a replacement CPU & I/O CRU.

- CPU & I/O CRU enclosure part number (Either NVME hybrid or SAS only disk environment)
- Memory DIMM part number and quantity.
- PCI riser adapter part number.

CPU CRU's and BP assemblies

- 062-03940-000 NVME LO
- 062-03941-000 NVME MID
- 062-03942-000 NVME HI
-
- 062-03943-000 SAS LO
- 062-03944-000 SAS MID
- 062-03945-000 SAS HI

- 062-03948-000 BP LO
- 062-03947-000 BP MID
- 062-03946-000 BP HI

Note: In Aquarius C+ processors are part of the CRU BOM.
You do not have to add a separate line item for the Processors in LMS like we currently do.

The model numbers are

2920-1S = 1 socket @ 2.4GHz 10-CORE 1 CPU Cascade Lake-EP multi-core processors
4920-2S = 2 socket @ 2.4GHz 10-CORE 2 CPU Cascade Lake-EP multi-core processors
6920-2S = 2 socket @ 2.2GHz 22-CORE 2 CPU Cascade Lake-EP multi-core processors

Order the CPU CRU and DIMMS as part of the LMS configuration.

For System ID Prom – SystemIdProm ModelName = P2920-1S
Order Part: 062-03940-000 – 2920, CPU & I/O CRU Enclosure, NVM
(No Memory, PCI adapters, or SAS disk drives)

For System ID Prom – SystemIdProm ModelName = P2920-1S
Order Part: 062-03943-000 2920, CPU & I/O CRU Enclosure, SAS
(No Memory, PCI adapters, or SAS disk drives)

For System ID Prom – SystemIdProm ModelName = P4920-2S
Order Part: 062-03941-000 – 4920, CPU & I/O CRU Enclosure, NVM
(No Memory, PCI adapters, or SAS disk drives)

For System ID Prom – SystemIdProm ModelName = P4920-2S
Order Part: 062-03944-000 – 4920, CPU & I/O CRU Enclosure, SAS
(No Memory, PCI adapters, or SAS disk drives)

For System ID Prom – SystemIdProm ModelName = P6920-2S
Order Part: 062-03942-000 – 6920, CPU & I/O CRU Enclosure, NVM
(No Memory, PCI adapters, or SAS disk drives)
PCI Riser is included)

For System ID Prom – SystemIdProm ModelName = P6920-2S
Order Part: 062-03945-000 – 6920, CPU & I/O CRU Enclosure, SAS
(No Memory, PCI adapters, or SAS disk drives)
PCI Riser is included)

Memory options: See below

If the State is “Online” then determine the part to order based on the size shown in the “SizeMb” field.
The table above is a reference between the SizeMb and MfgPartNr fields and orderable part number.

For: SizeMb = 32000 Mb and SPDData: MfgPartNr, M393A4K40BB2-CTD, or
M393A4K40DB3-CWE, ST4097RD420425-SD (eco-220127)
Order Part: 609-01689-001 DIMM, 32 GB DDR4

For: SizeMb = 64000 Mb and SPDData: MfgPartNr, M393A8G40MB2-CVF,
Order Part: 609-01690-000 DIMM, 32 GB DDR4

For “DIMMs” which are Online, determine the quantity, slot configuration and size of memory DIMMs which are required to be ordered. *Note: A yellow folder denotes online hardware and when the node is highlighted the left pane will display the Op State: State “Online or Empty”. In the example above DIMM - 1 is a 32768MB DIMM. All other “Online” DIMMs must also be determined in order to replicate the configuration of the CRU. The Mfg Part number of a 32768MB DIMM* 393A4K40BB2-CTD *is Stratus part number* 609-01689-001**.**

Once the CPU & I/O CRU enclosure part number and memory DIMM part number, slot configuration and quantity is determined, a properly configured replacement 2920, 4920 or 6920 CPU & I/O CRU can be ordered.

PCI riser adapter (062-03724-000) please read carefully.

A PCI Riser Kit provides 2 additional high profile slots in addition to the low-profile slots on the motherboard.

. PCI riser adapters are excluded from the
SystemIdProm ModelName = P2920-1S Part: 062-03940-000 or 062-03943-000
CPU & I/O CRU Enclosure and should not be ordered with the CRU.

. PCI riser adapters **OPTIONAL** components for the
SystemIdProm ModelName = P4920-2S Part: 062-03941-000 or 062-03944-000
CPU & I/O CRU Enclosure
If you have a model 4920 and you also have a riser card
Order Part: 062-03724-000– PCI Riser Adapter, PCI-E .

. PCI riser adapters **are PRE-CONFIGURED** components for the
SystemIdProm ModelName = P6920-2S Part: 062-03942-000 or 062-03945-000 ,
CPU & I/O CRU Enclosure And should not be ordered with the CRU.

Notes:

1. The last three digits of the RU part number will change from -000 (initial release) to -0xx due to post
2. release ECOs revisions and in most cases will compatible. LMS will reflect the orderable RU part number and compatibility.

3. If not specifically requested in LMS CRU part order, the following parts are expected to be swapped between the defective CRU and replacement CRU: PCI adapters full and half height, Internal SAS Disks.
4. 1 processor (kit) configuration is valid for 2920 CPU &I /O CRU.
   Populated as “Processor – 41” in ftSMC.
5. 2 processor (kits) configuration is valid for 4920-2S and 6920-2S CPU &I /O CRU.
   Populated as “Processor – 41” and “Processor – 42” in ftSMC.
6. The DIMMs in the slots must be supplied by Stratus **and memory population must conform to a Stratus supported configuration for the platform and model.**
   Reference the Config specs noted below.
7. DIMM slot location and size must match between processor 1 & 2 and CRU DIMM slots or a hardware configuration error will be detected. See config specs for details on configuration and max memory supported.
8. PCI Slot Info – 1 and 2 in ftSMC, are the low profile slots which are PCI-E. PCI Slot Info – 2 and 4 are the riser adapter PCI slots.
9. PCI riser adapter is verified during CPU-I/O bring-up. If PCI riser configured different per CRU, a hardware compatibility mismatch will be detected and will not come into service.

Documentation Links:

1 2920, 4920, and 6920 part Illustrated list
https://stratus.ecacsupport.com/servicedocinternal/ftserveripb/ft2920_4920_6920/html/ft2920_4920_6920.html

2 ftServer 29x0, 49x0, and 69x0 System Customer Manuals (StrataDoc)
https://stratadoc.stratus.com/ftserver/14.0.0.0/desc/aqusyst.html

3 2920/4920/6920 configuration specification ES-000188– (Stratus access Only)
https://stratustechnologies.sharepoint.com/:f:/r/engineering/ftServer/Shared%20Documents/Configuration%20Specifications/Aquarius-C+?csf=1&web=1

Orderable Part Number	Description	ftServer Management Console key field for determining orderable part
Backpanel Assembly Information		ftServer Configuration > Customer Info > Model Name field also displayed when dbg is entered HARDWARE VERSION INFO ... - SYSTEM ModName
062-03948-000	Backpanel assy Model 2920-1S	
062-03947-000	Backpanel assy Model 4920-2S	
062-03946-000	Backpanel assy Model 6920-2S	

Other part Numbers:

Orderable Part Number	Description	
062-03724-000	Riser PCI-E (Pegasus, Pegasus B, Aquarius, Aquarius-C)	
062-03815-000 MID DAQ1P2T10K	1.2 TB 10K RPM,	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST1200MM0009
062-03819-000 MID DAQ600G15K	600 GB 15K	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST600MP0006
062-03817-000 MID DAQ800GSSD	800 GB SSD	Storage Enclosure – 40 / Disk –x / Slot –x ProductID = ST800FM0233
062-03820-000 MID DAQ2P4T10K	2.4 TB 10K RPM,	
062-03824-000 DAP1P6TNVME	1.6TB NVMe Gen 4 SSD Micron P/N MTFDKCC1T6TFS-1BC1ZABYY	
160-01760-000	U121 Marvell (QLogic) QLE2770-SR-SP 32Gb FC HBA **w/9.06.02 FW**	Enclosure - 10 or 11 / PCI Slot - x / PnPDescription[1] = QLogic Fibre Channel Adapter or PnPDeviceId[1] = pci\ven_1077&dev_2031&subsys_024111077
160-01741-000	U113 Intel I350T2V2 Dual Port 1 Gbit Copper Ethernet Adapter	Enclosure - 10 or 11 / PCI Slot - x / Ethernet controller – x PnPDescription[1] = Stratus I350 2-Port Copper Gigabit Adapter

		or PnPDeviceId[1] = pci\\ven_8086&dev_1521&subsys_7135159c
160-01756-000	U118A BRD,ENET,PCIe,10Gbit, 2-Port, Cu, Intel X550,AQ Fw version 2.00	
160-01755-000	U117B Intel X710 Dual-Port 10 Gbit Fiber Ethernet Adapter with SFPs Fw version 6.80	
160-01762-000	U122 NVME PCI CARD Broadcom 9500-16i	
CRU Power Supply		
GXA-056150-001-00	1300 W POWER SUPPLY	

Table 1: Memory Options for Aquarius-C+

Model	Mktg ID	Part #	Vendor	Mfg Part #	Type	Speed
Aquarius						
size GB						
32	M266	609-01689-001	NEC	M393A4K40CB2-CTD	RDIMM	2666MHz
64	M267	609-01690-000	NEC Smart	M393A8G40MB2-CVF	RDIMM	2666MHz

Apendix 1. Windows to V-Series Conversion chart.

Generation		Windows server model numbers					V-Series Server model numbers				
		A	B	C	D	E	A	B	C	D	E
2) Sonic		3300	5600	6600					V200		
Speed Bump		3300 N	5600 N	6600			V100		V400		
3) Aria		2300	2400	4300	4600	5700		V150	V250 V300		V500
4) Fusion		2500	4400	6200							
Fusion-H		2510	4410	6210			V2302	V4304	V6308		
5) Draco	Nehalem-EP	2600	4500	6300			V2404	V4408	V6408 2s-4 core		
Draco-W	Westmere			6310					V6512 V6512/XP		
6) Cygnus	Sandy Bridge	2700 1S-4 core	4700 1S or 2S-4 core	6400 2S-8 core							
7) Cygnus-I	Ivy Bridge	2710 1S-6 core	4710 1S-10 core	2S-10 core							
8) Pegasus	Haswell	2800 1S-8 core	4800 1S-12 core	6800 2S-12 core	6805 2S-8 core		V2608 1S-8core	V4612 1S-12 core	V6624 2S-12core	V6616 2S-8 core	
9) Pegasus-B	Broadwell	2810 1S-10 core	4810 2S-10 core	1S-14 core							
				6810 2S-14 core					Pymntch V6728 2S-14core		
10) Aquarius	SkyLake-EP	2900 1S-10 core	4900 2S-10 core	6900 2S-16 core					Pymntch P6832-32C V6832 2S-16core		
	Due to power supply shortage on the P2900-1S and P4900-2S Marketing ids P6900-1S29 and P6900-2S49 were created										
11) Aquarius-C	CascadeLake-EP	2910 1S-10 core	4910 2S-10 core	6910 2S-18 core			P2810-10C V2810 1S-10core	P4820-20C V4820 2S-10core	Tentative V6944 2S-22 core		

12) Aquarius-C+	**CascadeLake-EP**	2920 1S-10 core	4920 2S-10 core	6920 2S-22 core						