

Today

POWER8 Enterprise E870 from Hands-on Experience

Starting at 10:00 am UK time by Nigel Griffiths



Smart Meeting → Put questions into the Chat box
or AT&T Toll Free phone for better audio

- 0800-368-0638 = UK Toll Free
- 0203-059-6451 = UK but you pay for the call
- Then 6403785# Participant Code
- Other countries see chat box for the website
- Please Mute with *6



Previous Sessions:
Linux+Power: Best Practice
Linux for AIX/IBM i guys
PowerKVM Deep Dive
More Tricks Power Masters
POWER8 from hands-on
Power up your Linux
PowerVC
PowerVP
SSP4
Best Practices
Tricks of Power Masters
IBMi and External Storage
And more.....

Future Sessions →

- Feb 4th - The "Key" to IBM i Licensing & more – Part 1
- Feb 11th - The "Key" to IBM i Licensing & more – Part 2
- Mar 4th - HMC 8.20 User Interface Tech Preview
- Suggestions Welcome



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Website: <http://tinyurl.com/PowerSystemsTechnicalWebinars>

Youtube Channel: <http://tinyurl.com/IBMPowerVUGYoutubeChannel>

Speaker Name Gareth Coates & Nigel Griffiths
Job Role Power Advanced Technology Support (Europe), IBM



POWER8 High End machines from Hands-On experience

Previously given at the Las Vegas & Budapest Technical Universities in October 2014 but lots of added content from the last 3 months



2014
IBM Power Systems
Technical University



Gareth Coates

Nigel Griffiths



ATS computer room now in IBM Southbank London



Early Ship Programme (ESP)

- ESP machine shipped late Sept, 2014
- GA Generally Available 18th Nov, 2014

- First machine outside of the USA
- Test install, HW, SW, performance, tools & user experience

- Some beta Hardware
- Beta HMC, System Firmware, VIOS, AIX, IBM i

EMEA ATS ~~E880~~ → E870

- RAM = 16 x 256GB (4x 64GB) CDIMM
 - Activation 4TB= 96 x 1GB +
40 x 100 x 1GB
- Configured 64 way (8 core chips)
 - 4 GHz

9119-MME YC01DR
0265 1 AIX PARTITION SPECIFY (ONE PER
0465 4 SSD Admin - HomeRun Placement
0728 1 REMOTE LOAD SOURCE IN #5887 (H
2146 1 PRIMARY OPERATING SYSTEM INDIC
3456 1 SAS CABLE, 2X ADAPTERS TO ENCL
4650 1 INDICATOR - DRAWER NOT FACTORY
5228 0064 POWERVM, (ENTERPRISE APV)
5260 1 1Gb E`NET(UTP) 4-PORT ADPTR, P
5887 1 19" SAS (6Gbs) DASD DRWR, 2U,
6458 8 PWR CBL, DRWR TO IBM PDU, 14`
6474 6 LINECORD, TO WALL/OEM PDU, 9`
9300 1 LANGUAGE SPECIFY ENGLISH
A008 1 New Code/Early Build Area
EBA0 2 SYSTEM NODE (DRWR, LABELS, 4 C
EBA2 2 IBM BEZEL FOR BRAZOS MME
EBAA 2 AC POWER CHUNNELS, LEFT AND RI
EBK4 1 1.6M USB CABLE, MALE-TO-MALE
EC3A 1 2-PORT 40GbE RoCE SFP+ PCIe 3,
EC45 1 4-PORT USB 3.0 ADPTR, PCIE2 X
ECC8 4 10.0M CXP 16X ACTIVE OPTICAL C
ECCA 1 CABLE SET FOR BRAZOS DRAWER 1,
ECCB 1 CABLE SET FOR BRAZOS DRAWER 2,
EJ07 4 PCIE X16 TO OPTICAL CXP CONVER
EJ0J 4 PCIe3 RAID SAS DASD ADAPTER QU
EJR5 1 INDICATOR, FC 5887/EL1S FULL D
EM8L 0016 256GB (4X64GB) CDIMM (1.35V),
EMA5 0096 1GB DDR3 1600Mhz MEMORY ACTIVA
EMA6 0040 QTY 100 of FC EMA5, 1GB DDR3 1
EMX0 2 19-INCH PCIE GEN3 4U I/O EXP D
EMXA 2 AC POWER CHUNNEL, CORDS TO 2 P
EMXF 4 PCIE FANOUT MODULE FOR #EMX0,
EN0Y 1 FIBER CHANNEL (8Gbs) 4 PORT,
EPBA 2 0/32W (4 X 0/8W) 4.00GHZ PROC
EPBL 0064 1W PROCESSOR ACTIVATION FOR PR
ES0G 0024 775GB SAS SFF S/S DRIVE IN GEN
ESC0 1 SHIPPING AND HANDLING
EU0A 2 FSP2 FLEXIBLE SERVICE PROCESSO
EU13 1 SATA DVDROM WITH WRITE CACHE,

EMEA ATS E880

- 1 SAS 5887 EXP-24S drawer
 - With disks
- 2 CEC Nodes
 - No disks possible
- 2 “MEX” (EMX0) I/O drawers
 - No disks possible
- 4 Fanout modules
- 1 DVD

9119-MME YC01DR
0265 1 AIX PARTITION SPECIFY (ONE PER
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ESC0 1 SHIPPING AND HANDLING
EU0A 2 FSP2 FLEXIBLE SERVICE PROCESSO
EU13 1 SATA DVDRAM WITH WRITE CACHE,

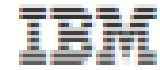
POWER8 E870 ESP

Pictures might have minor changes with GA



From this





Instructions are
specific and
unique for each
system

New Mfg-Order – 1AQH4Y3 –
9119-MME, SN 10-8D2C7 –
New System Installation Guide

To this

From this



Factory Integration or Field Integration



FIELD INTEGRATED

- Our ESP system was **field integrated**
- We put it into the rack on site
- Field Integration requires a Lift Tool, or removal of dozens of FRUs from each Node to reduce the weight.

FACTORY INTEGRATED

- All other ESPs will be **factory integrated**.

IBM strongly recommend that customers take the factory integration option.

It makes the deployment of the hardware quicker and easier.

The kit will have been tested in the rack, with all the cabling.

So, what is this session for?

There is still a lot of valuable information we can share with you.

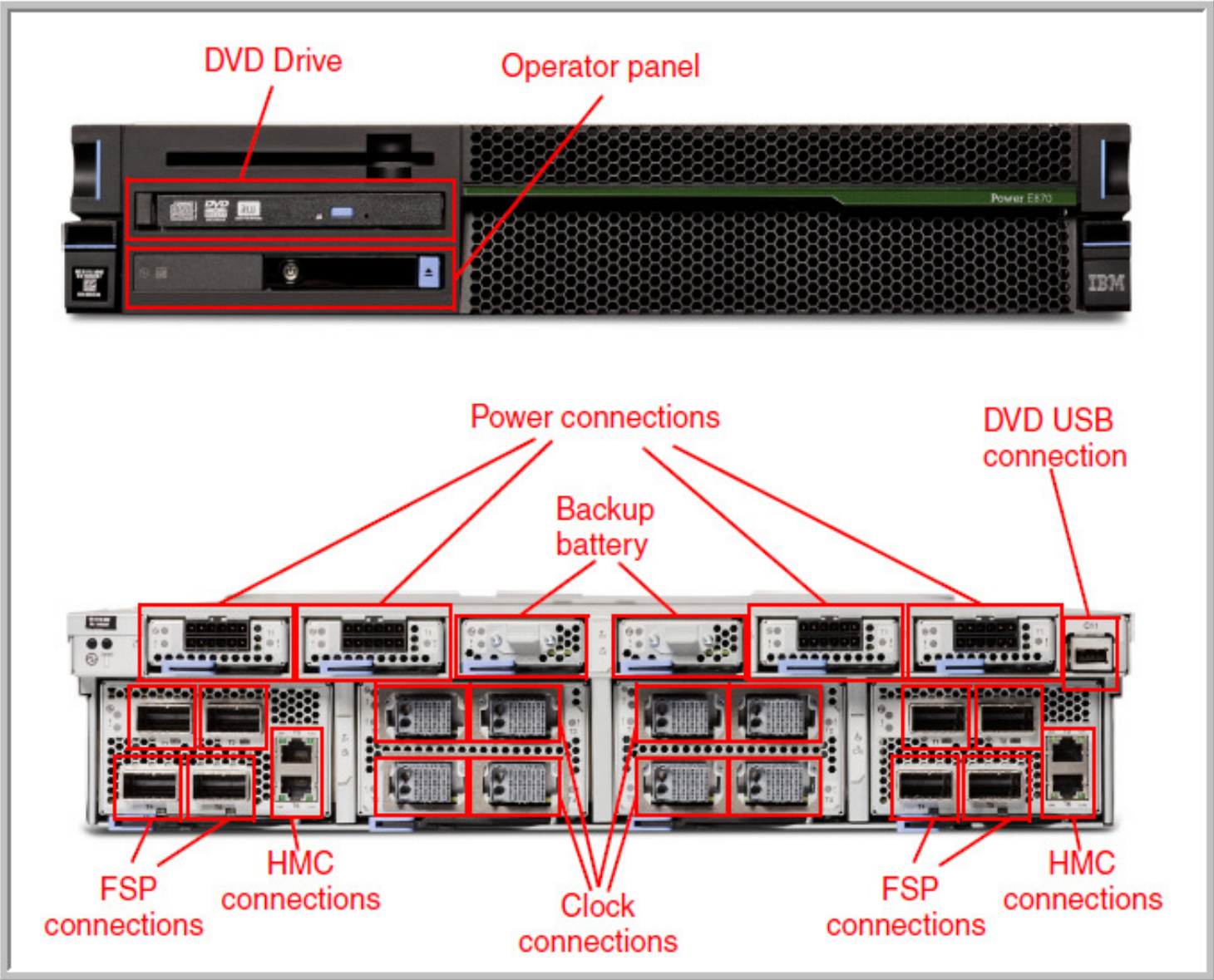
Pictures paint a thousand words.

MES upgrades will typically be field integrated.

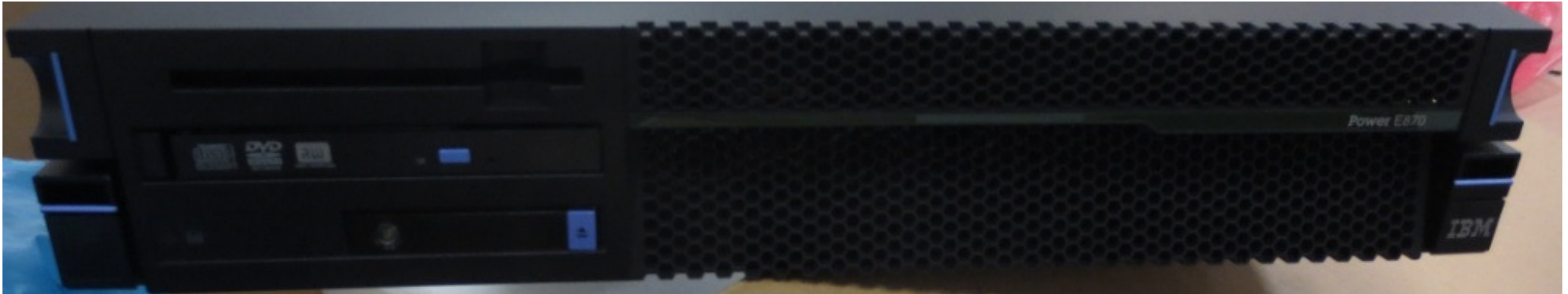
Taking photographs in a machine room, and getting the lighting, depth of focus, perspective and other factors right is tricky without spending ages composing each one

But we have done our best.

The System Control Unit



The System Control Unit



Every E870 and E880 needs exactly one of these.

The System Control Unit



2U

- Redundant FSPs
- Redundant Clocks
- No Power Supplies
- Redundant Power

- Optional DVD
Needs cable & USB adapter



Nodes



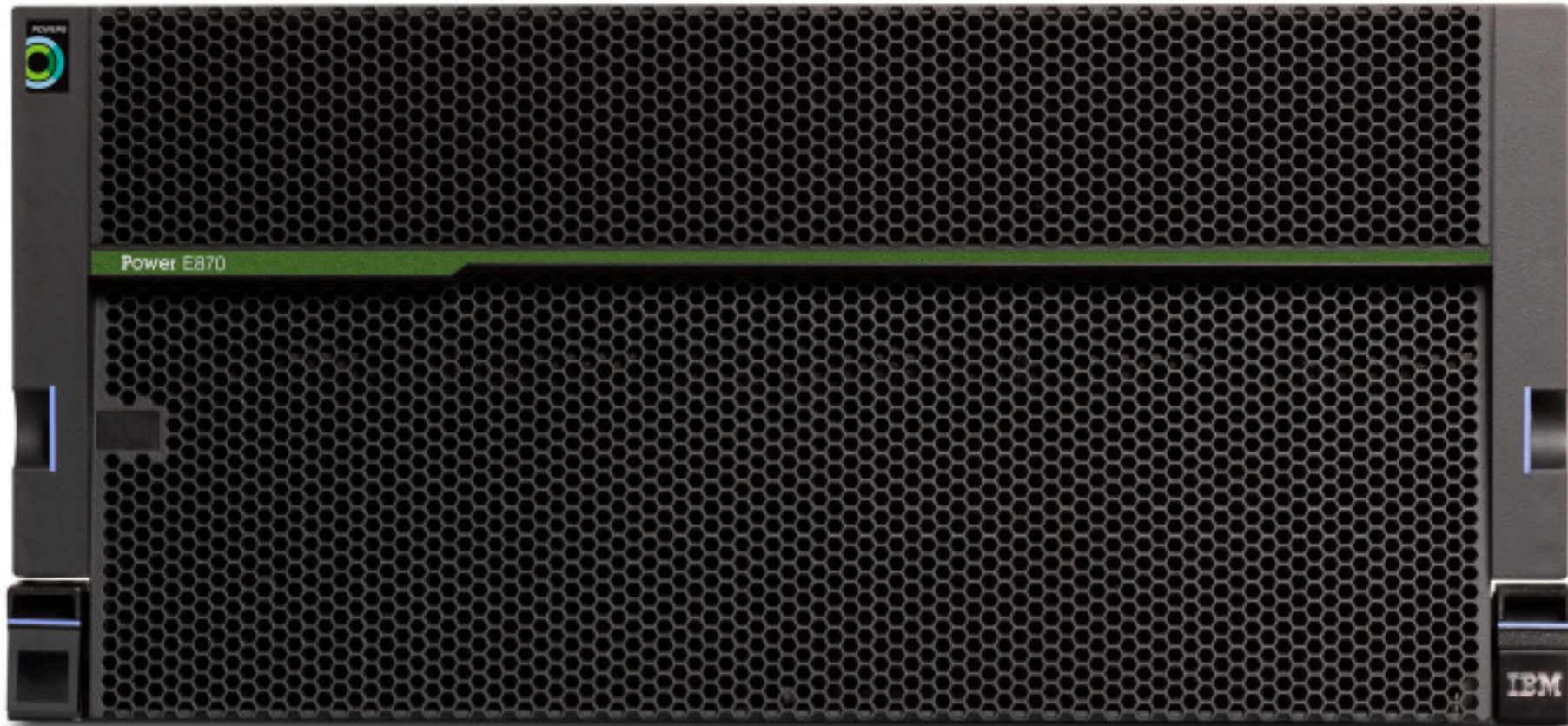
5U

- Heavy 55kg / 121 lbs
- No Full Height PCIe
- 8 Low Profile PCIe

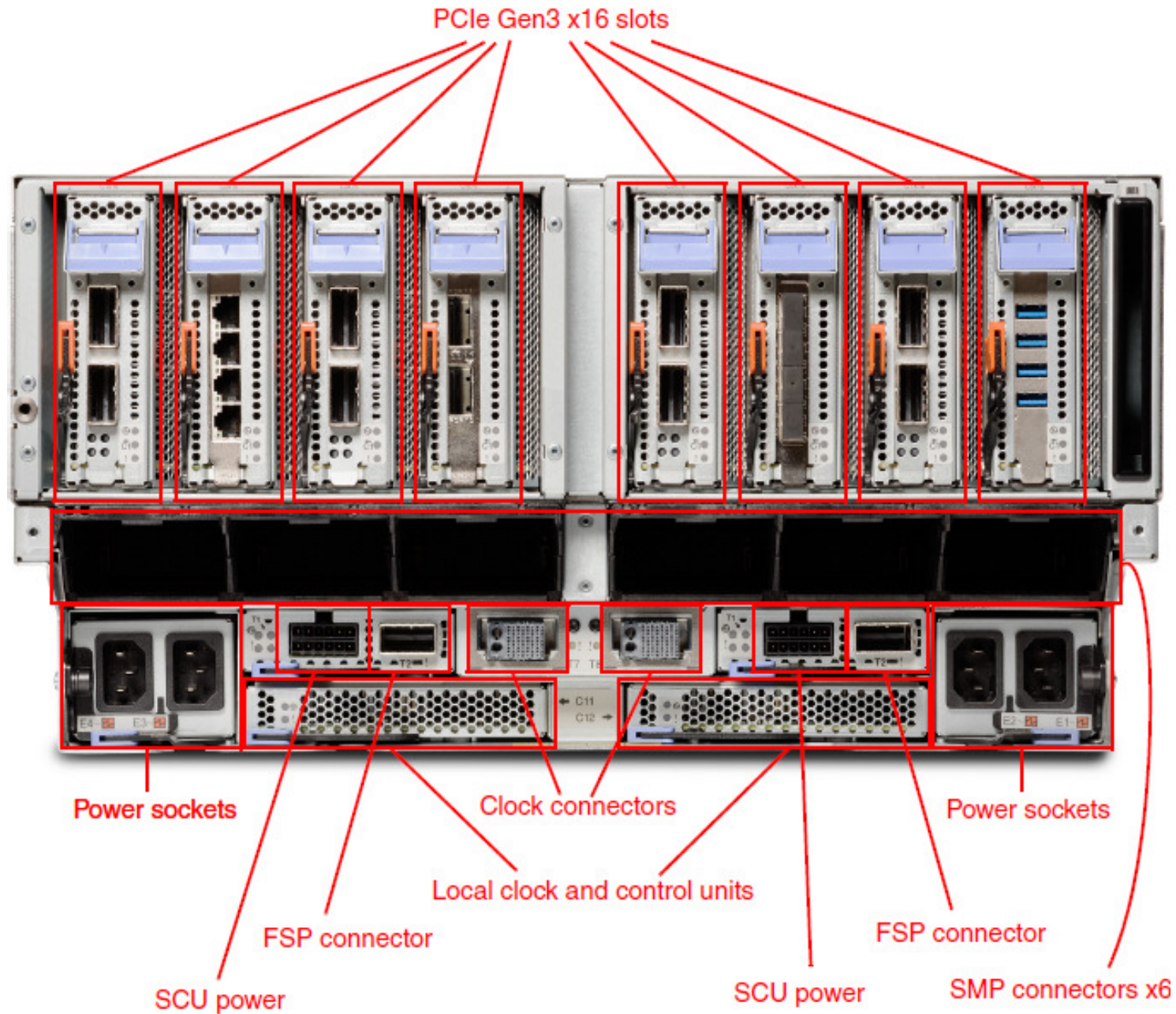


CEC Nodes (Central Electronic Complex)

CPU + RAM + 8 adapter slots



CEC Nodes

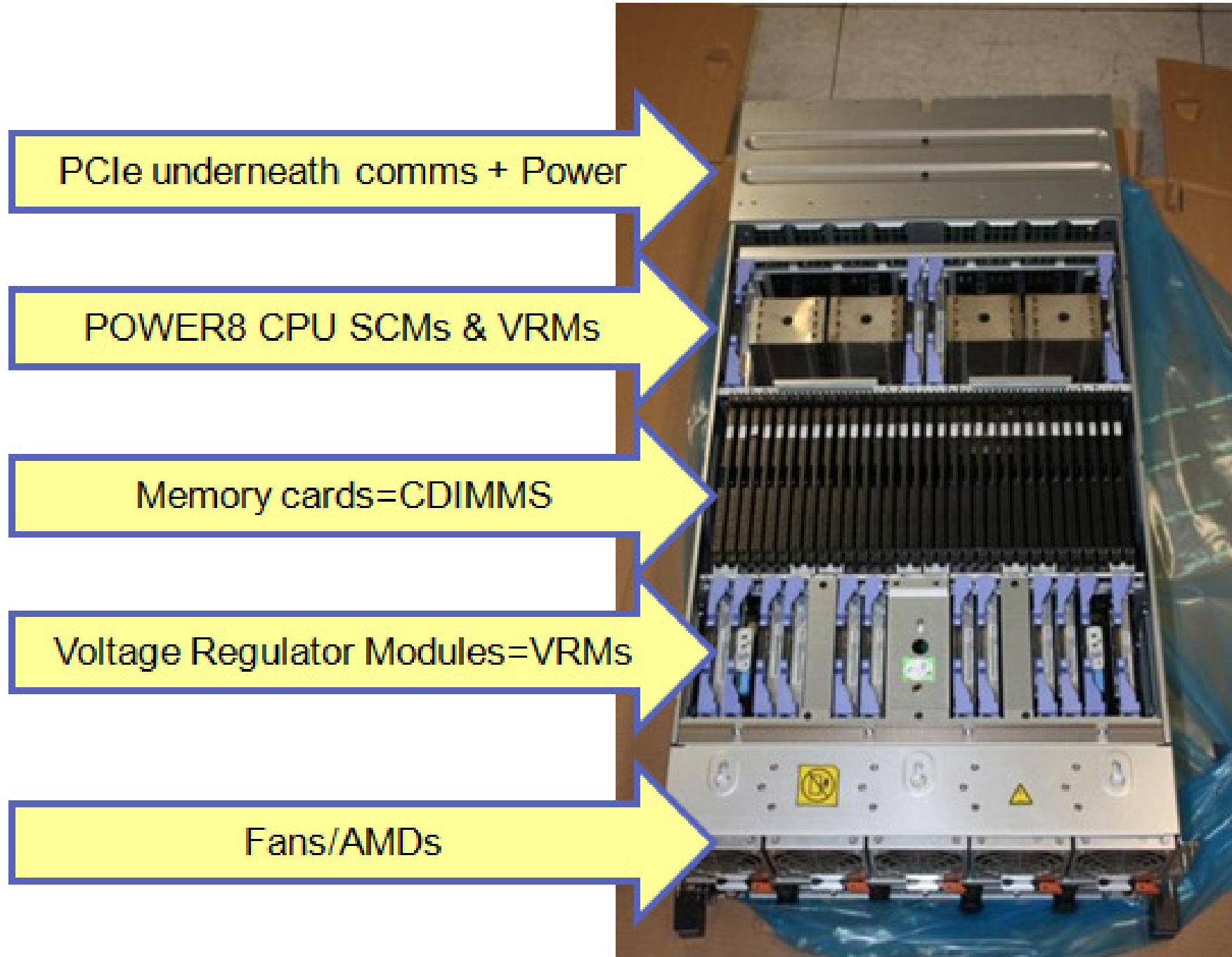


CEC Nodes

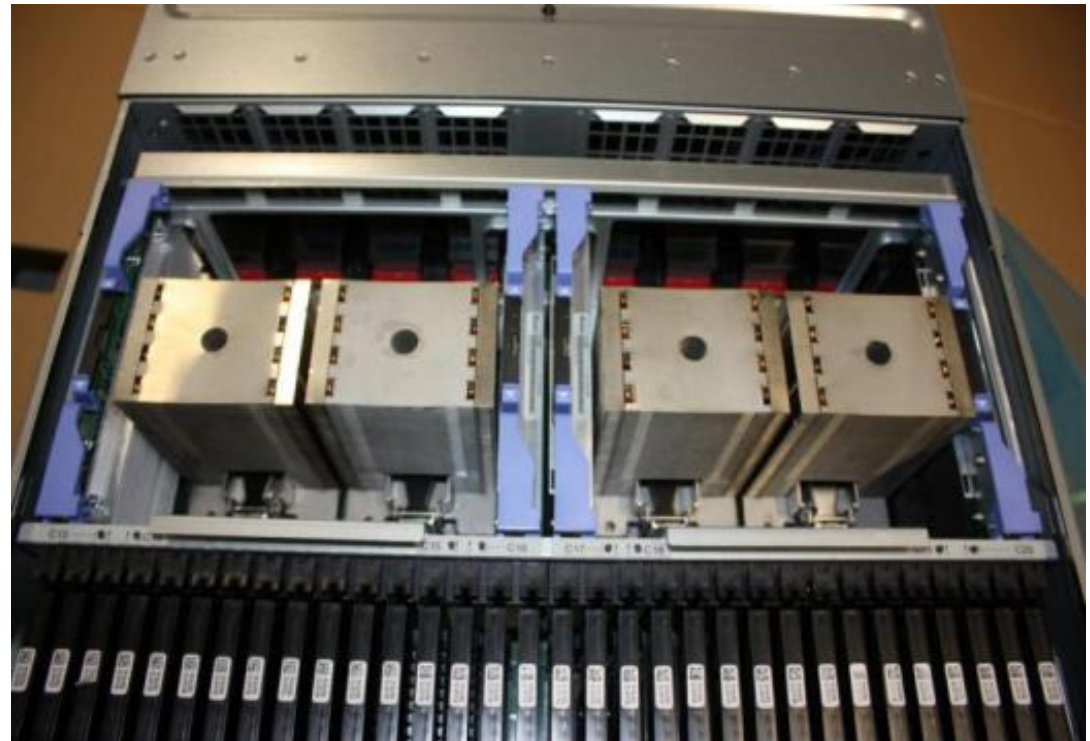
- PCle underneath comms + Power
- POWER8 CPU SCMs & VRMs
- Memory cards=CDIMMS
- Voltage Regulator Modules=VRMs
- Fans/AMDs



CEC Nodes



CEC Nodes – Memory cards with L4 cache



CEC Nodes – Low height adapter carrier



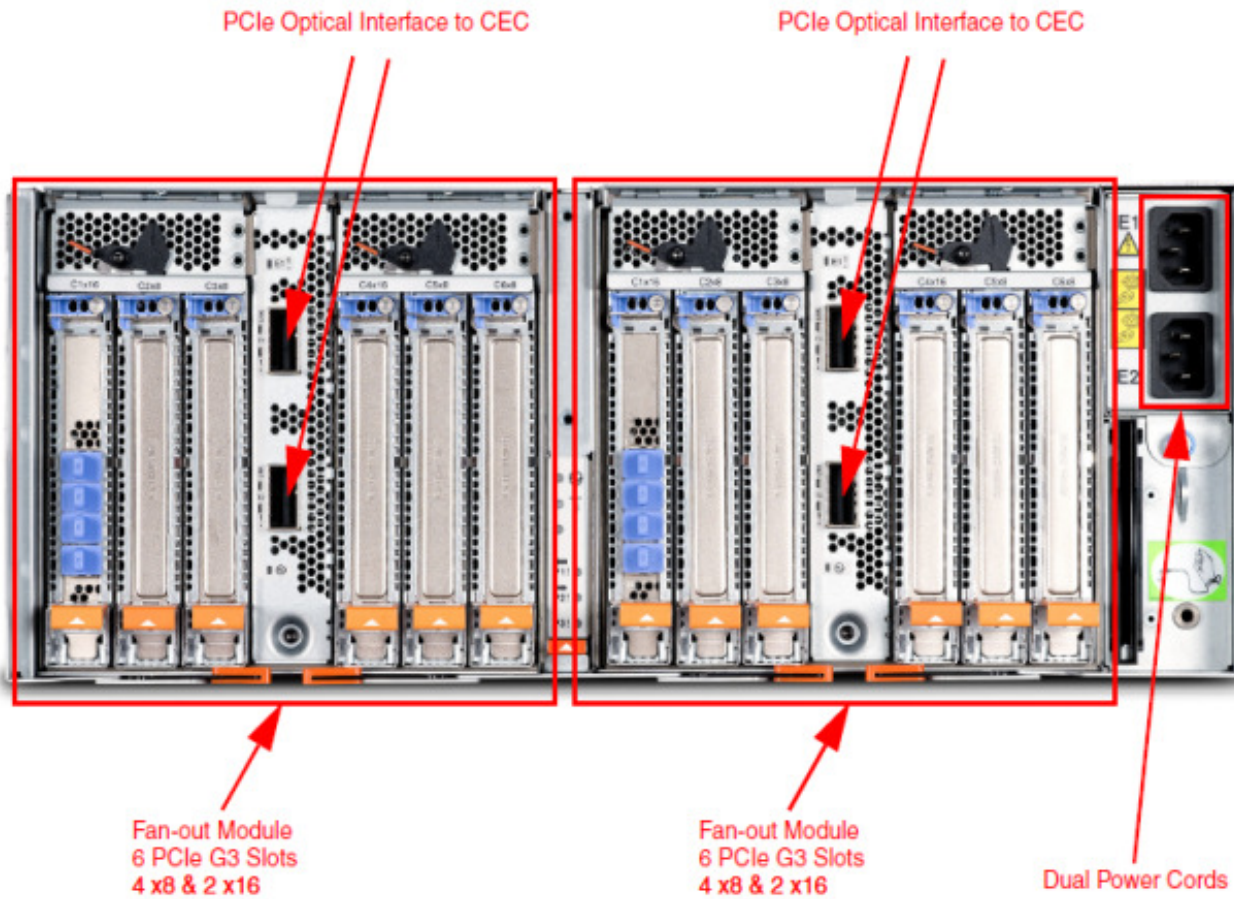
CEC Nodes – placed on rails



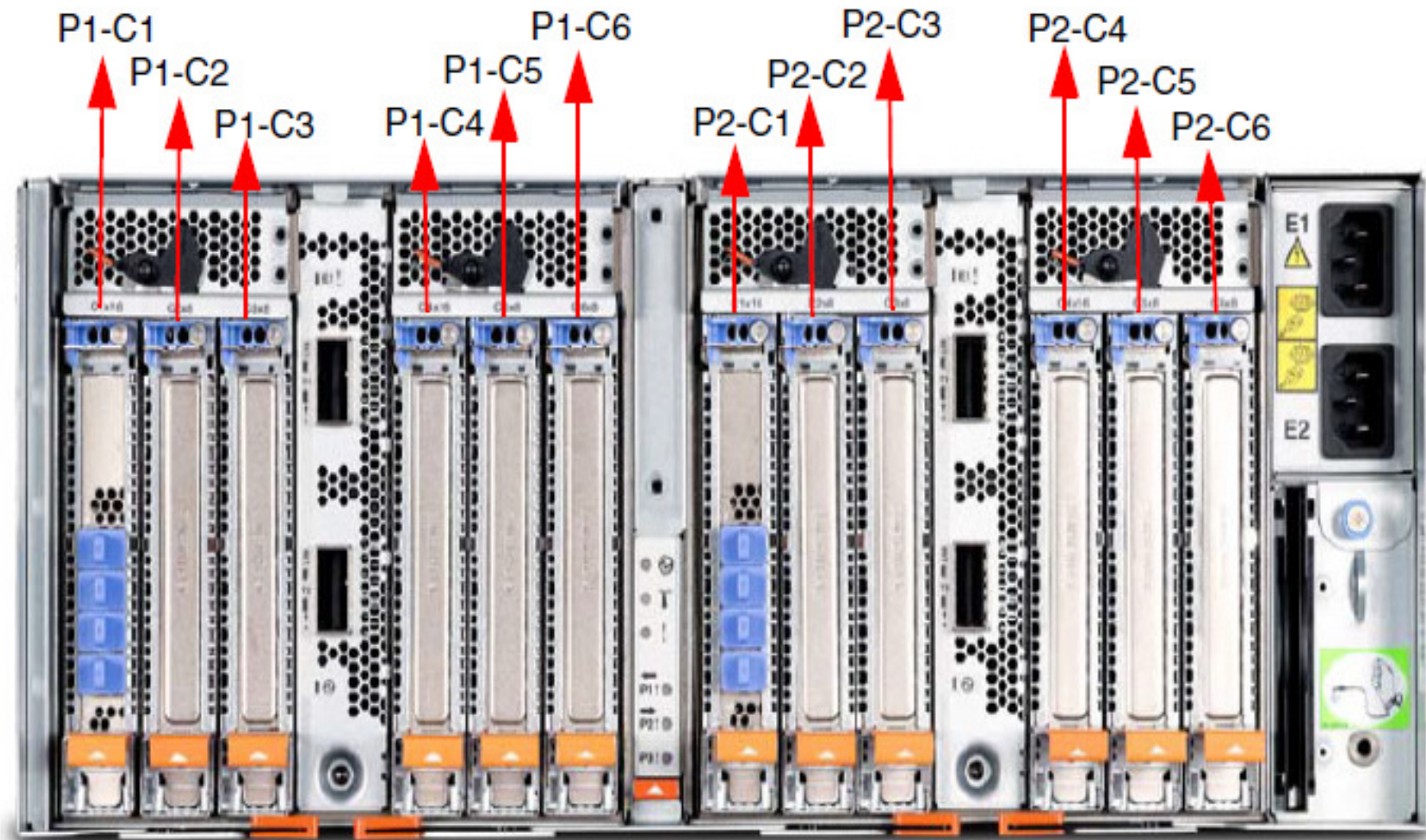
I/O Drawers



I/O Drawers



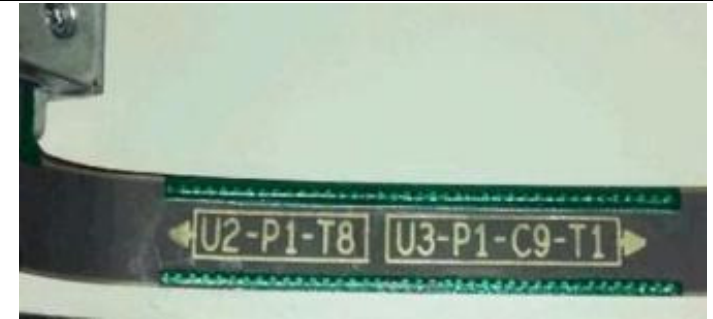
I/O Drawers



I/O Drawers - Fanout



SCU to CEC Cabling – clock flex cables

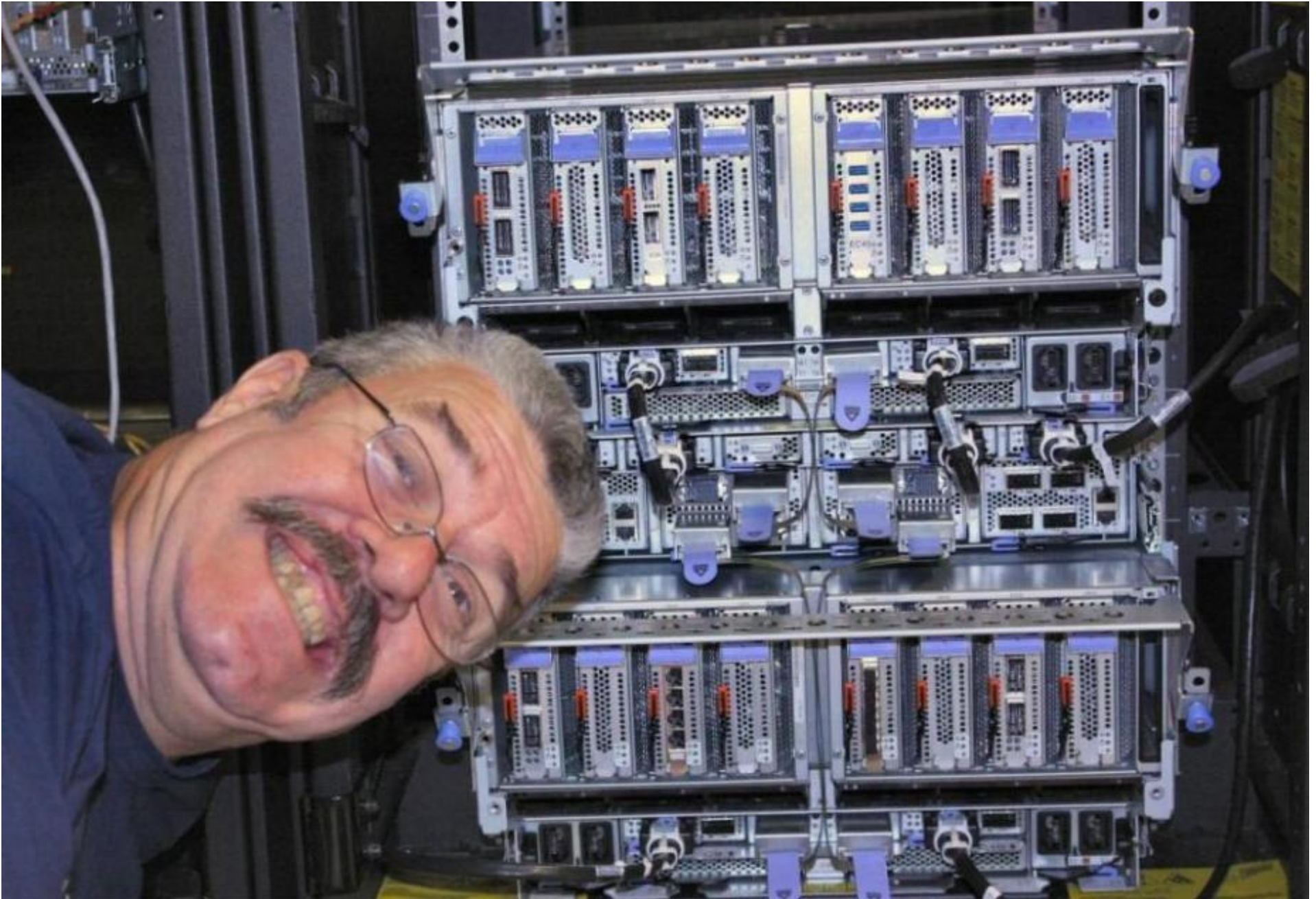


CEC to SCU Cabling – UPIC cables

- Universal Power Interface Cable



Cabling – Clock and UPIC cables



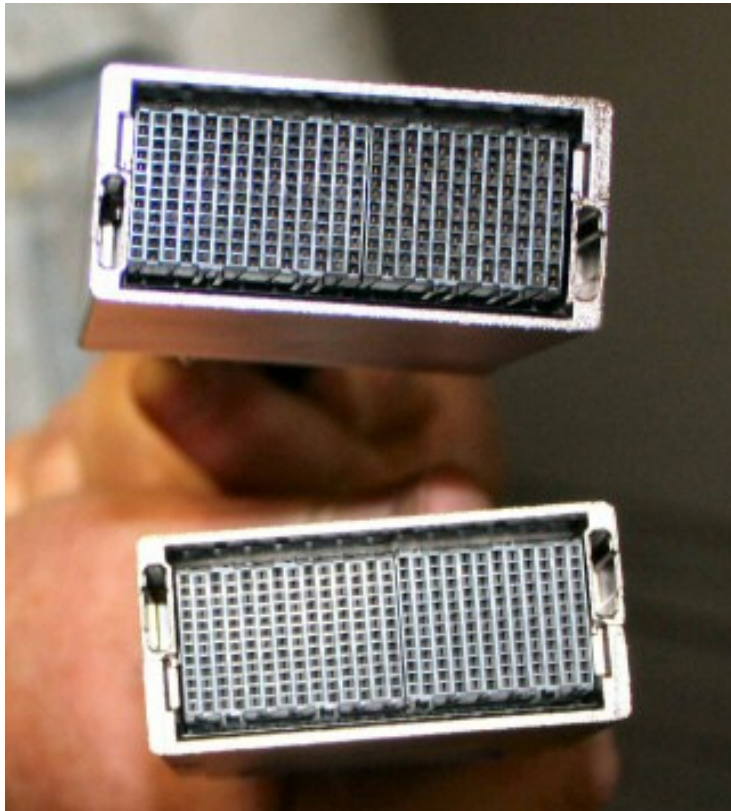
SCU to CEC Cabling – GFSP cables

- Global Flexible Service Processor Cable

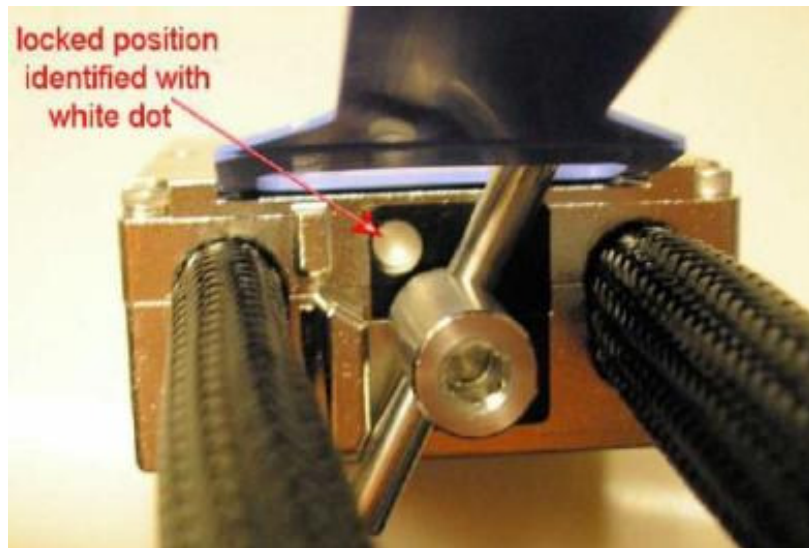


CEC to CEC Cabling – SMP cables

- Symmetric Multi Processor Cable



- 4mm Hex



12*26=312



Cabling to I/O drawers



•CEC NODE Adapter slot

•Intelligent cables!



•I/O Drawer



I/O Drawer – SAS Drawer cables

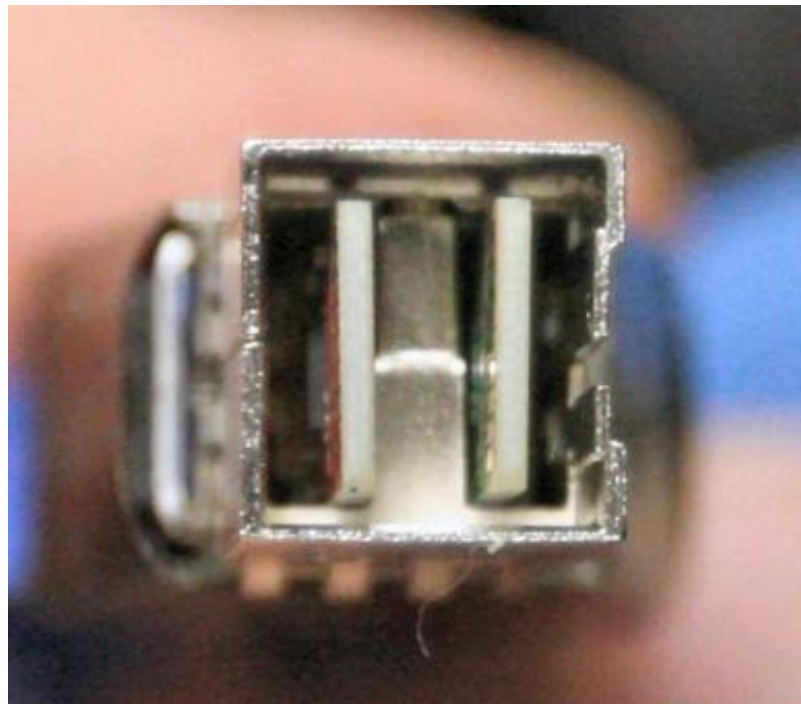
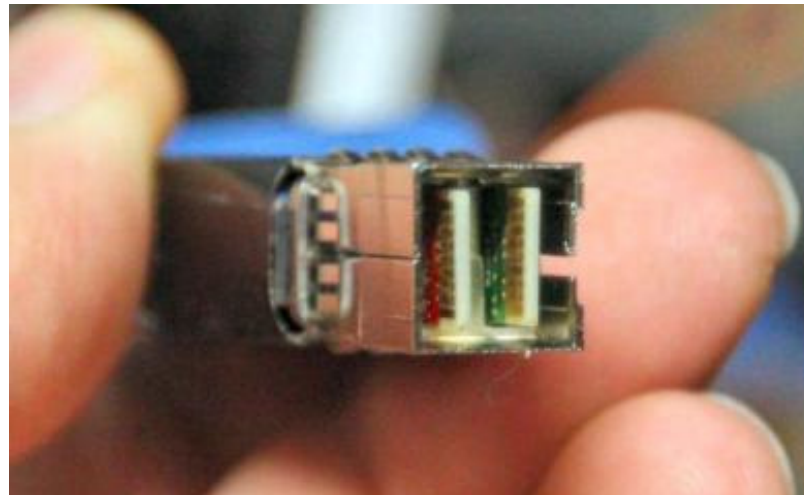
SAS Connectors

Make sure that you insert the plugs in the correct orientation.

They are square!

They lock into place with a click.

Pull the blue tab to release.



Cabling – lengths



Cabling – lengths





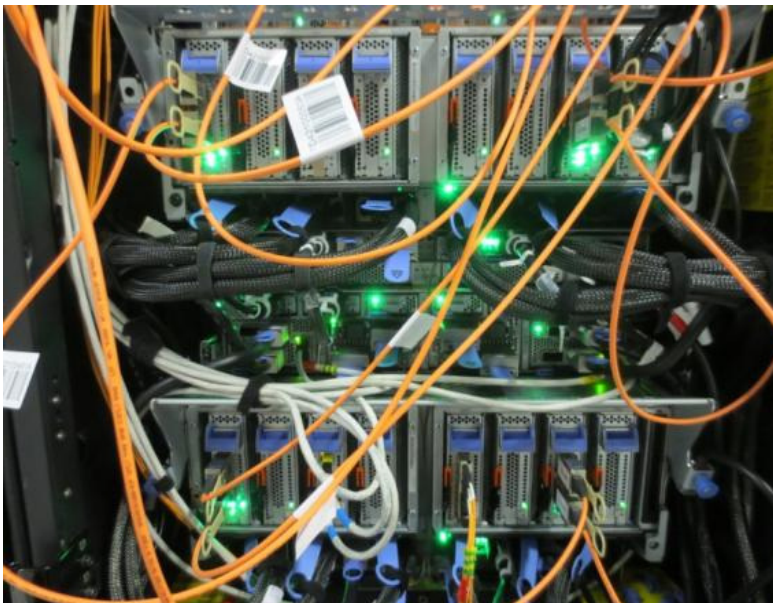
Don't make this mistake by just order the longer cabled to be safe

Initial quick plug-in to check the machine worked



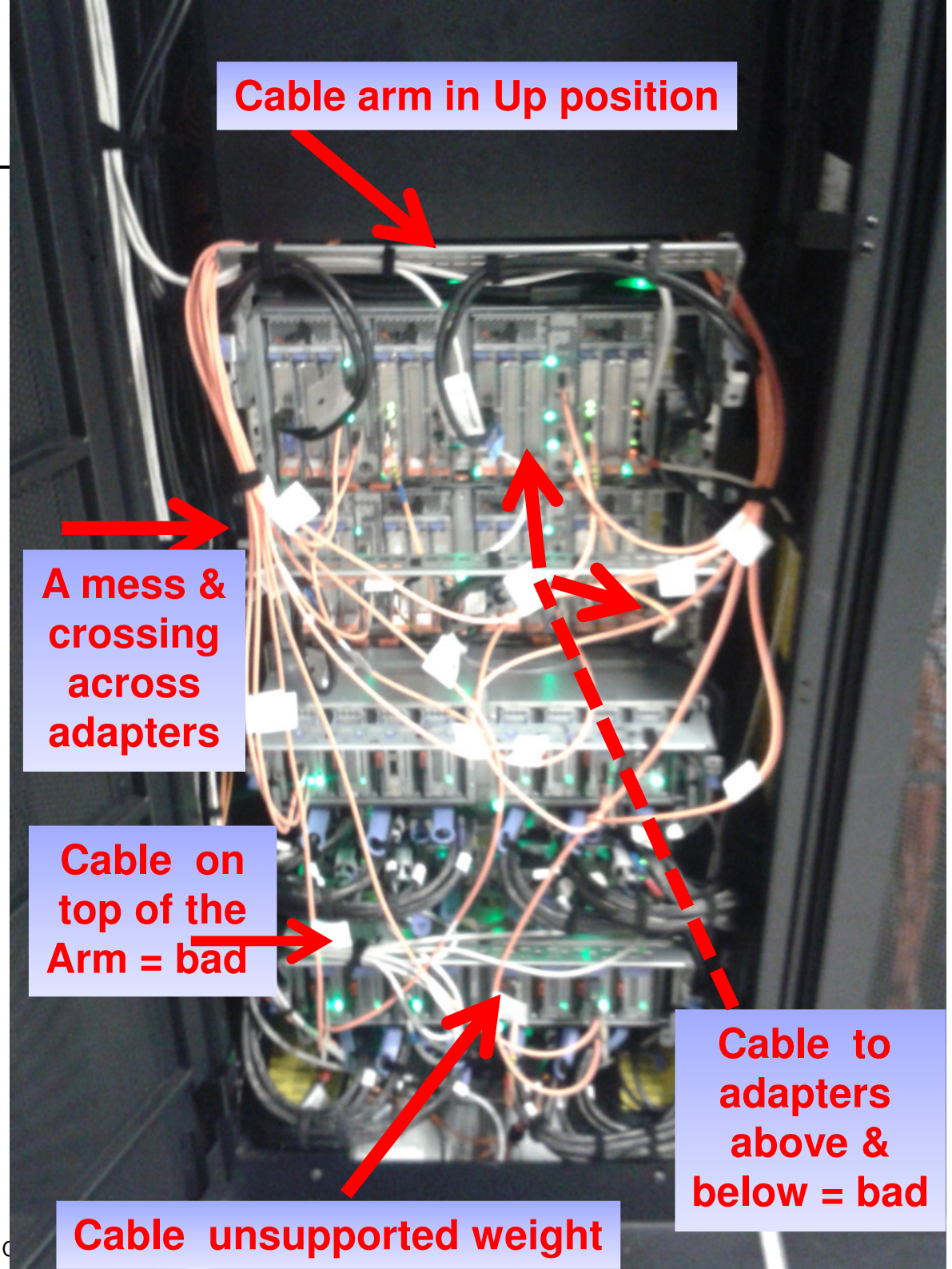
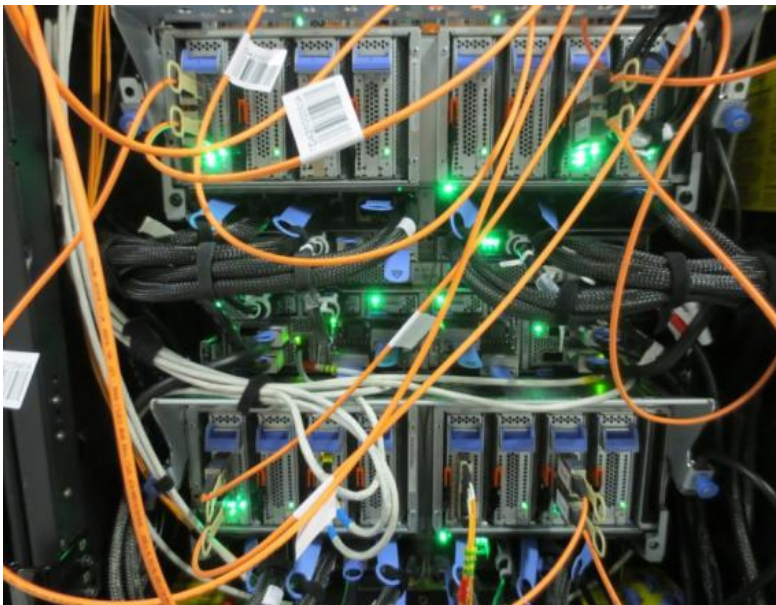
We did lots of testing of alternative I/O Drawer cabling options for Austin - Thick optical orange cables

Also eager to connect up Ethernet & FC to get VIOSs and VMs running to start testing



We planned for a tidying later!!

Quick tidy up



Cable arm in Up position

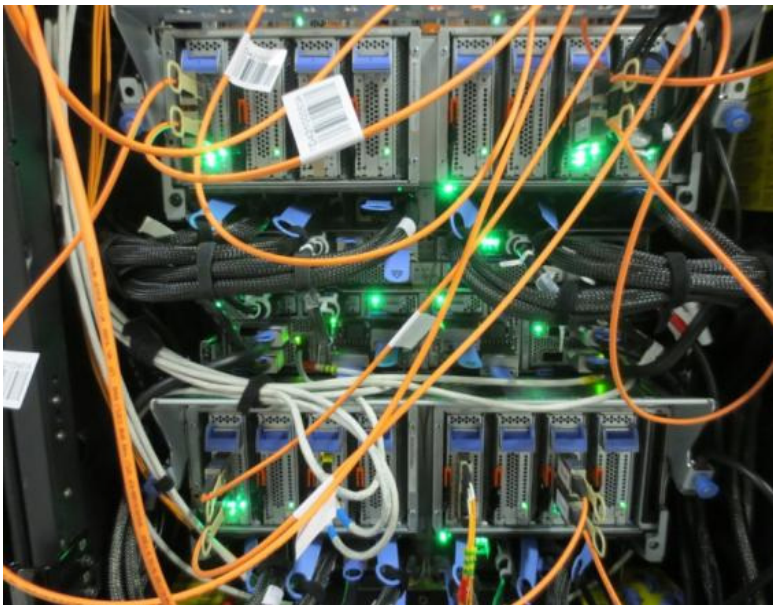
A mess & crossing across adapters

Cable on top of the Arm = bad

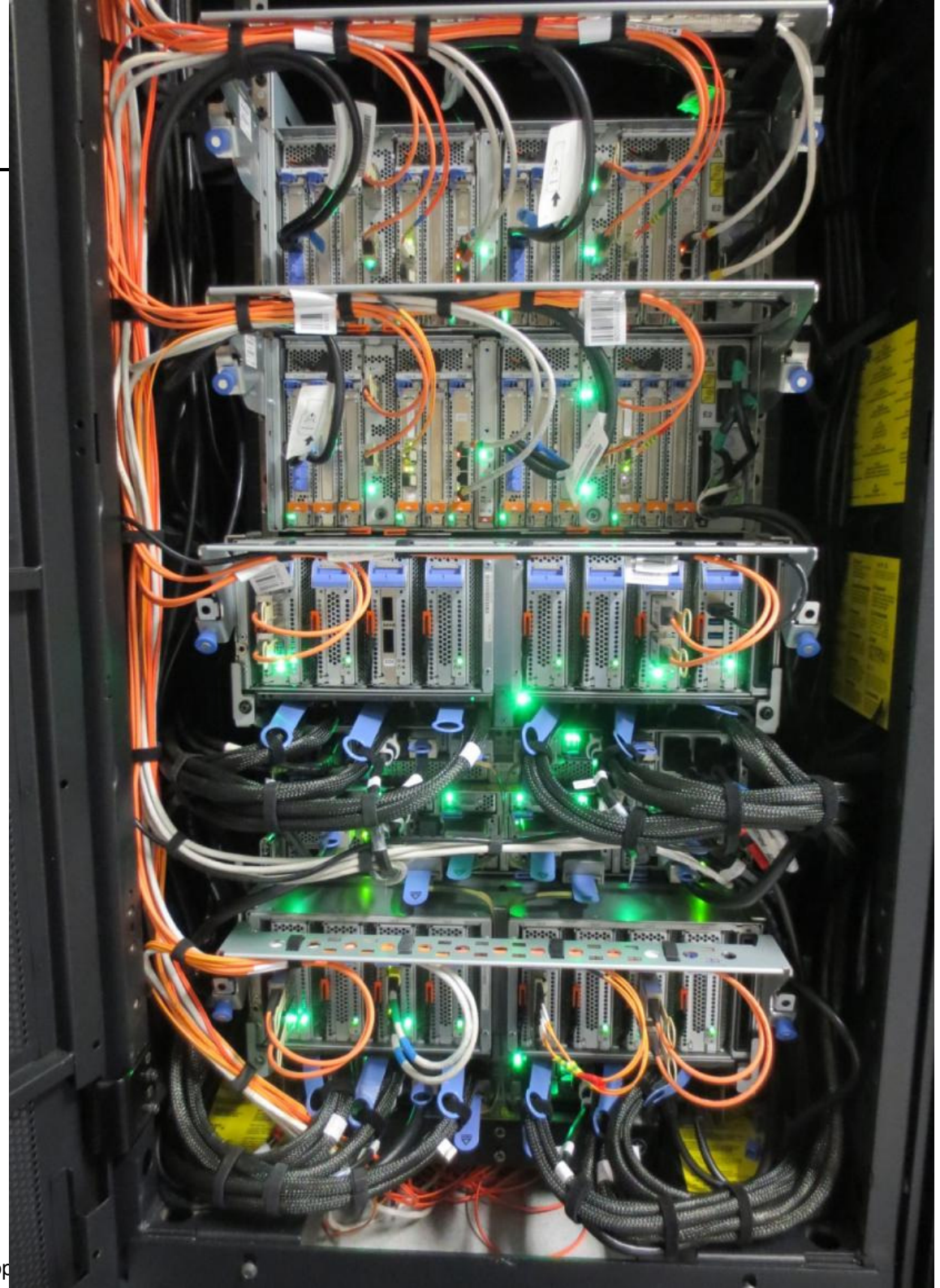
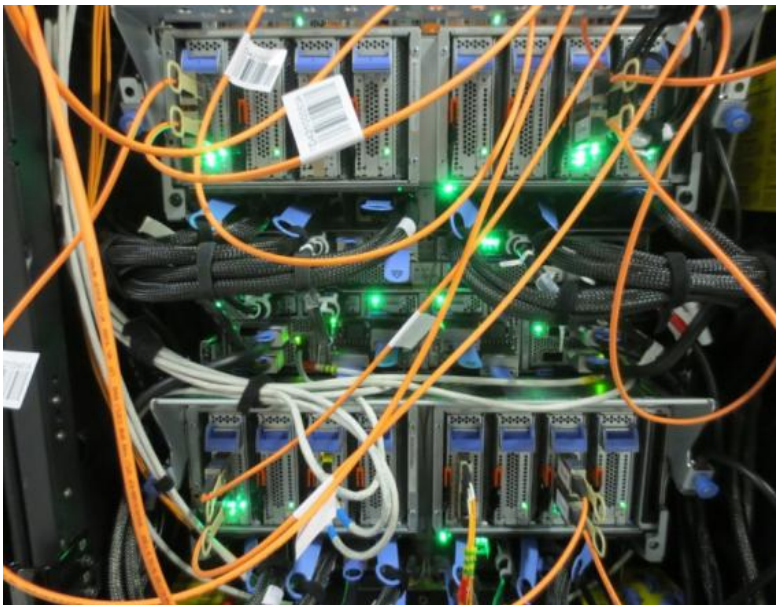
Cable unsupported weight

Cable to adapters above & below = bad

Then we let the export guru loose



Clive Benjamin UK PE



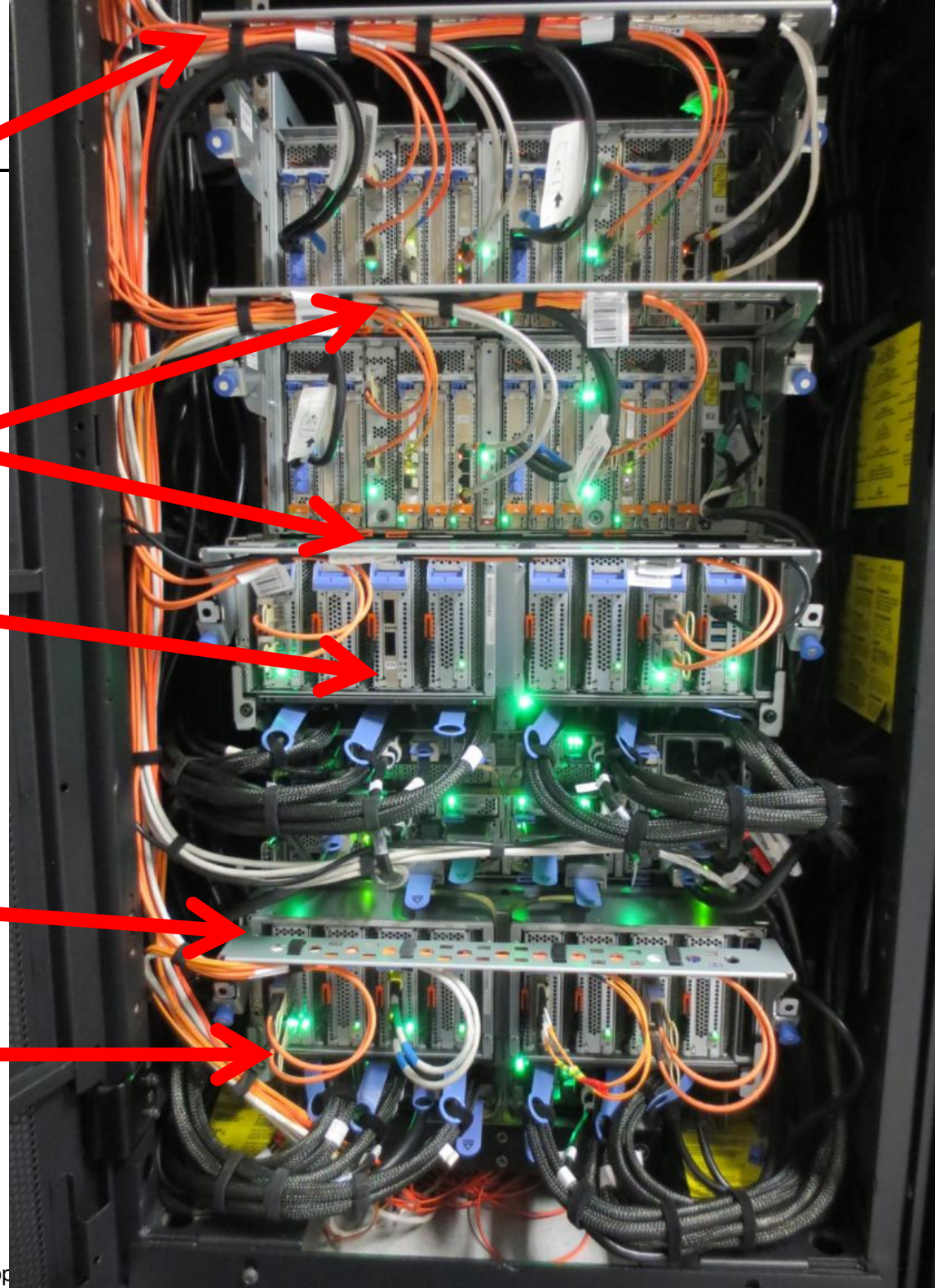
Every cable is support for entire length = no weight on plugs

Cables attached underneath so above adapters can be removed without snagging

Every adapter has a clear path for removal

Cables attached to the cable tidy arm in the high position so they aren't stretched

4 inches diameter for I/O Drawer cables (minimum)



POWER8 Enterprise mandatory HMC 8.20

- Will work with POWER6 and above
 - Not with POWER4 nor POWER5
- Check your POWER6, POWER7 have current System Firmware & VIOS
- Regular rules apply:
A Systems should not be connected to different HMC levels as in 7 and 8
- See [AIX Virtual User Group webinar on HMC8](#) for details

HMC 8.20 Adapter Slots

U78CA.001.CSS007R-P1-C1-C1

E870 → U78CA.001.CSS00**

CEC1 → 7R with slots C1 to C8

CEC2 → CF with slots C1 to C8

I/O drawer 1

→ U78CD.001.FZH0615

→ slots P1 C1 to C6

→ slots P2 C1 to C6

I/O drawer 2

→ U78CD.001.FZH0620

→ slots P1 C1 to C6

→ slots P2 C1 to C6

The screenshot shows the 'I/O' tab of the HMC interface for system 'ruby-9119-MME-SN108D2C7'. The table lists 40 I/O resources with columns for Slot, Description, and Bus. Red arrows point from the text on the left to specific rows in the table, and green dashed arrows point from the text to other rows.

Slot	Description	Bus
U78CA.001.CSS007R-P1-C1-C1	PCIe Expansion Drawer Cable Card	16
U78CA.001.CSS007R-P1-C2-C1	Empty slot	17
U78CA.001.CSS007R-P1-C7-C1	PCIe Expansion Drawer Cable Card	22
U78CA.001.CSS007R-P1-C8-C1	Universal Serial Bus UHC Spec	23
U78CA.001.CSS007R-P1-C3-C1	2-Port 40GbE RoCE QSFP+ Adapter	18
U78CA.001.CSS007R-P1-C4-C1	Empty slot	19
U78CA.001.CSS007R-P1-C5-C1	Empty slot	20
U78CA.001.CSS007R-P1-C6-C1	Empty slot	21
U78CA.001.CSS00CF-P1-C1-C1	PCIe Expansion Drawer Cable Card	32
U78CA.001.CSS00CF-P1-C2-C1	Empty slot	33
U78CA.001.CSS00CF-P1-C7-C1	PCIe Expansion Drawer Cable Card	38
U78CA.001.CSS00CF-P1-C8-C1	Empty slot	39
U78CA.001.CSS00CF-P1-C3-C1	1 Gigabit Ethernet (UTP) 4 Port Adapter PCIE-4x/Short	34
U78CA.001.CSS00CF-P1-C4-C1	Empty slot	35
U78CA.001.CSS00CF-P1-C5-C1	Quad 8 Gigabit Fibre Channel LP Adapter	36
U78CD.001.FZH0615-P1-C1	SAS RAID Controller, PCIe3 x8, Quad-port 6Gb	513
U78CD.001.FZH0615-P1-C2	Empty slot	514
U78CD.001.FZH0615-P1-C3	Empty slot	515
U78CD.001.FZH0615-P1-C4	PCIe2 16Gb 2-Port Fibre Channel Adapter	516
U78CD.001.FZH0615-P1-C5	Empty slot	517
U78CD.001.FZH0615-P1-C6	Dual 1 Gigabit Ethernet-TX PCI-E Adapter	518
U78CD.001.FZH0615-P2-C1	SAS RAID Controller, PCIe3 x8, Quad-port 6Gb	609
U78CD.001.FZH0615-P2-C2	Empty slot	610
U78CD.001.FZH0615-P2-C3	Empty slot	611
U78CD.001.FZH0615-P2-C4	PCIe2 16Gb 2-Port Fibre Channel Adapter	612
U78CD.001.FZH0615-P2-C5	Empty slot	613
U78CD.001.FZH0615-P2-C6	Quad 10/100/1000 Base-TX PCI-Express Adapter	614
U78CD.001.FZH0620-P1-C1	SAS RAID Controller, PCIe3 x8, Quad-port 6Gb	257
U78CD.001.FZH0620-P1-C2	Empty slot	258
U78CD.001.FZH0620-P1-C3	Empty slot	259
U78CD.001.FZH0620-P1-C4	8 Gigabit PCI Express Dual Port Fibre Channel Adapter	260
U78CD.001.FZH0620-P1-C5	Empty slot	261
U78CD.001.FZH0620-P1-C6	Quad 10/100/1000 Base-TX PCI-Express Adapter	262
U78CD.001.FZH0620-P2-C1	SAS RAID Controller, PCIe3 x8, Quad-port 6Gb	353
U78CD.001.FZH0620-P2-C2	Empty slot	354
U78CD.001.FZH0620-P2-C3	Empty slot	355
U78CD.001.FZH0620-P2-C4	8 Gigabit PCI Express Dual Port Fibre Channel Adapter	356
U78CD.001.FZH0620-P2-C5	Empty slot	357
U78CD.001.FZH0620-P2-C6	Empty slot	358

I/O

615-P1-C1 to C6
615-P2-C1 to C6

I/O

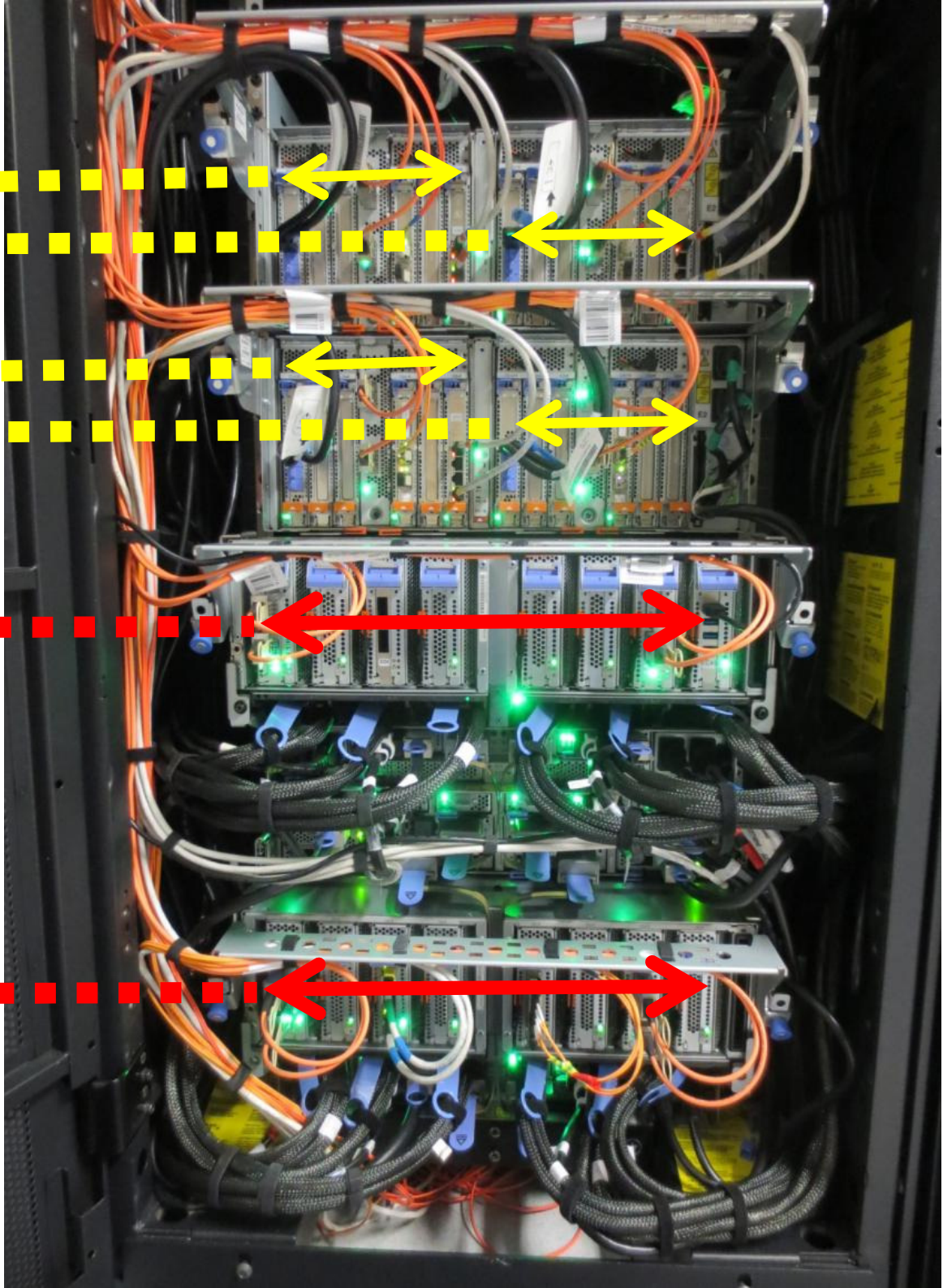
620-P1-C1 to C6
620-P2-C1 to C6

CEC

7R-C1 to C8

CEC

CF-C1 to C8

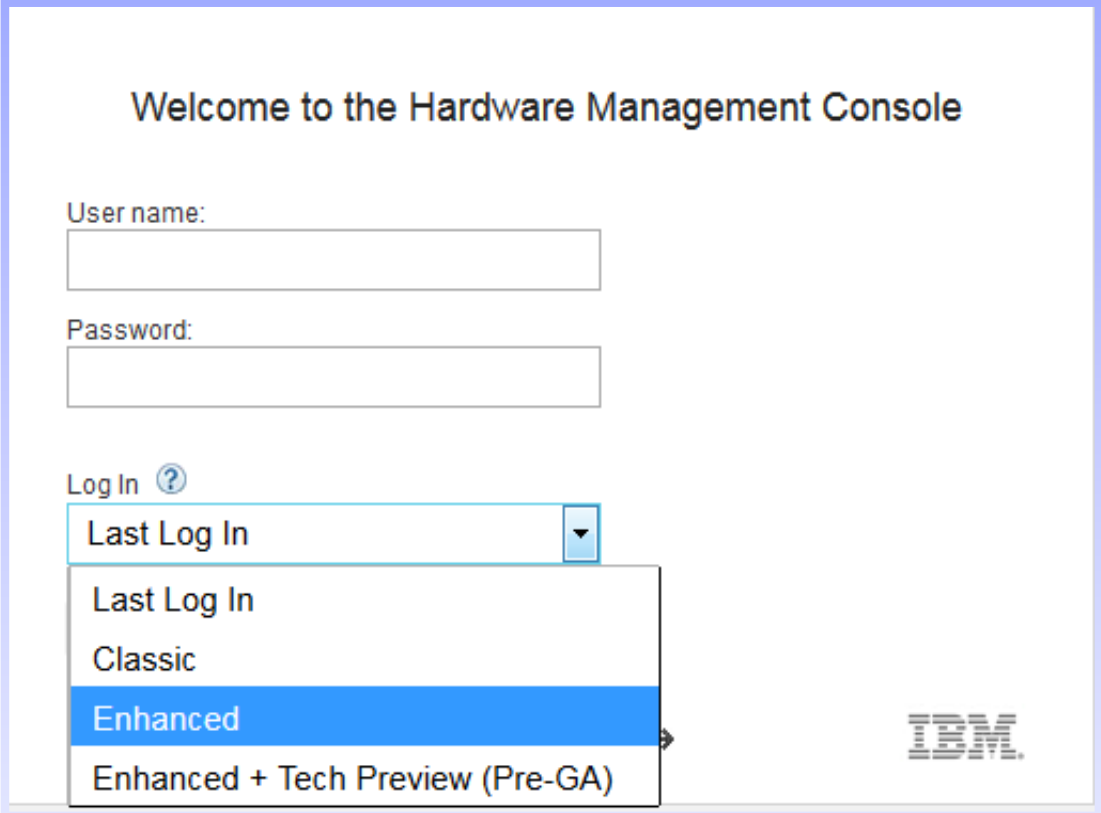


POWER8 Enterprise mandatory HMC 8.20

- HMC three modes
 - Classic
 - Enhanced GUI
 - Enhanced Technical Preview

Also called:

- Boring, clunky & click city
- Interesting ...
- Wow!



Welcome to the Hardware Management Console

User name:

Password:

Log In ?

Last Log In ▼

- Last Log In
- Classic
- Enhanced**
- Enhanced + Tech Preview (Pre-GA)

IBM

Enhanced – Performance Capacity

- ruby-9119-MME-SN108D2C7
- 10-8D2C7
- emerald3 AIX7 TL3 SP4 GA
- ruby10_OpenSUSE_no_boc
- ruby32-69f91be0-000000de
- ruby33-3a9e5ee8-000000f1
- ruby34-SLES113
- ruby35-RHEL65-U1410
- rubyvios1
- rubyvios2

Properties
 Manage Power/VM
 Templates
 Operations
 Configuration
 Connections
 Hardware Information
 Updates
 Serviceability
 Capacity On Demand (C)
Performance

Performance Monitoring Data Collection On

ruby-9119-MME-SN108D2C7

Auto-update in 1 Minute

Current Resource Utilization Nov 14, 2014 10:01:54 AM to Nov 14, 2014 10:02:54 AM

Processor Usage/Peak

Memory Assignment in GB

Network Traffic in KB/s

Storage Traffic in MB/s

Processor Utilization Nov 14, 2014 6:00:00 AM to Nov 14, 2014 10:00:00 AM

Change Interval ?

Trend - Server Level Utilization More Graphs ?

Processor Units

■ Total 64.0 ■ Allocated 64.0 — Overall Usage 13.96

5:36 AM 6:24 AM 7:12 AM 8:00 AM 8:48 AM 9:36 AM 10:24 AM

Breakdown by Partitions [Breakdown by Pools](#)

Filter by Partition Name ... ↔

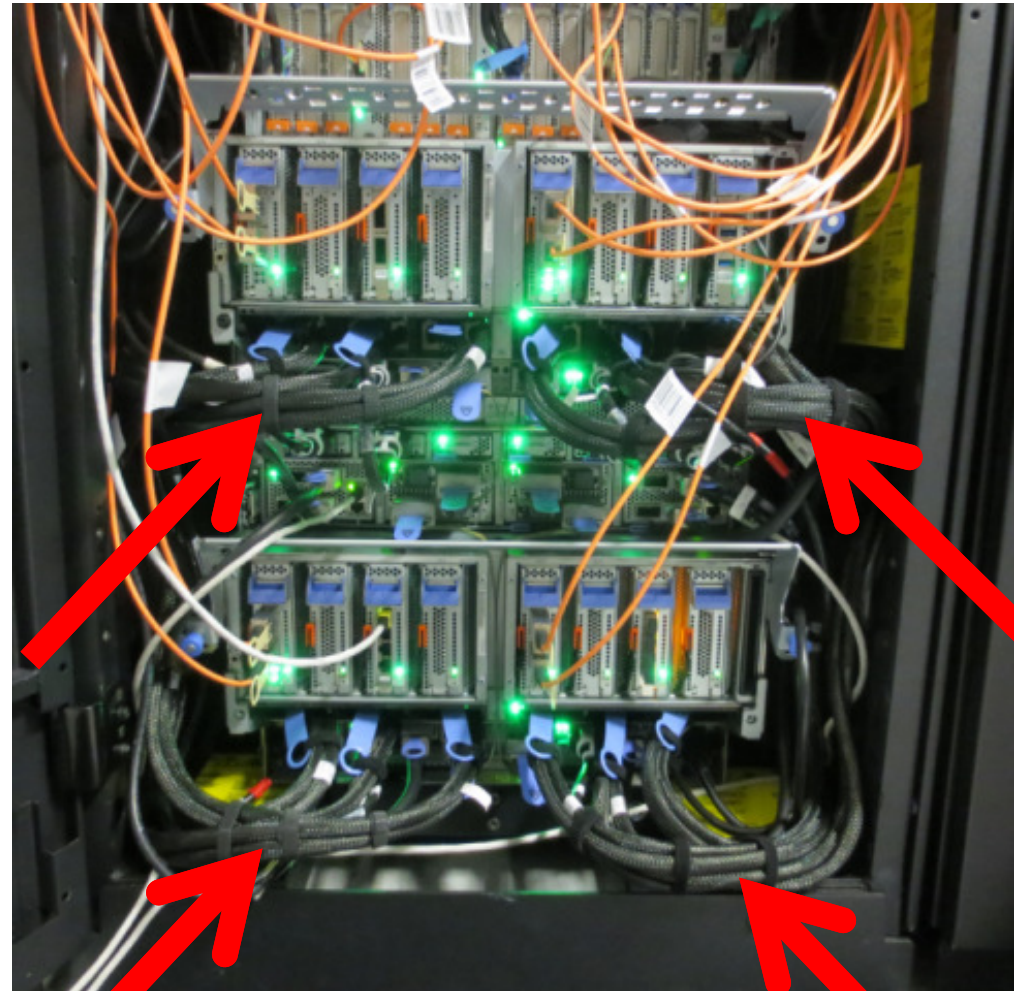
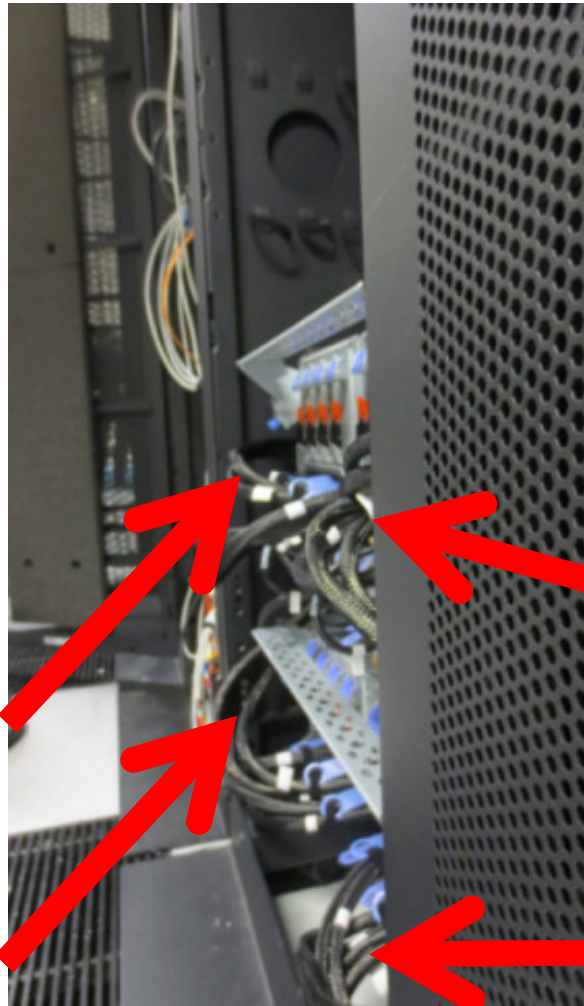
Partition Name	Mode	Pool	Entitled	Use	Max Usage	Usage Trends	Donated Units
vm160-90361a9e-000000f3	Shared	DefaultPool	8.0	6.88	7.33		0.0
vm161-c2e1cc1e-000000f4	Shared	DefaultPool	8.0	5.03	5.23		0.0
emerald3 AIX7 TL3 SP4 GA	Shared	DefaultPool	8.0	1.76	10.86		0.0
vm39-d2025233-000000f2	Shared	DefaultPool	8.0	0.22	8.0		0.0
rubyvios2	Shared	DefaultPool	2.0	0.05	0.19		0.0

Views

- Server
- Server Overview
- Processor
 - Processor Utilization Trend
- Memory
- Memory Utilization Trend
- Network
- Network Utilization Trend
- Storage
- Storage Utilization Trend

Be aware f the big SMP cables

Rear of CEC node
space is limited



- Now add 38 extra adapters and ~70 adapter cables !!!!

HMC 8.2+ has Enhanced – Tech Preview

The screenshot displays the IBM Hardware Management Console interface for system `ruby-9119-MME-SN108D2C7`. The main view is titled "Partitions" and shows a grid of 10 partition cards. Each card provides details on its status, processor allocation, and memory usage.

Partition Name	OS	Status	Processors	Memory Allocated	Memory Used
ruby10_OpenSUSE_r	AIX	Not Activated	2.00 PU 4 VP	32.000 GB	0%
10-8D2C7	AIX	Not Activated	1.00 Processors	1.000 GB	0%
ruby35-RHEL65-U1410	LINUX	Running	32 GB	89%	0%
ruby34-LES-13	AIX	Running	32 GB	93%	28%
emerald3 AIX7 TL3 SP4 GA	AIX	Running	128 GB	92%	83%
vm18-c8eb4d79-000	LINUX	Running	2 GB	92%	0%
vm88-6338af5b-00000079	LINUX	Running	2 GB	0%	0%
ruby32-69f91be0-00	AIX	Running	32 GB	96%	0%
ruby33-3a9e5ee8-00	AIX	Running	32 GB	93%	0%
vm39-d2025233-000	AIX	Running	128 GB	94%	0%

A large red watermark is overlaid diagonally across the center of the image, reading: "Wow!! Loads of eye Candy!"

“No changes round the front” says Mike Pearson



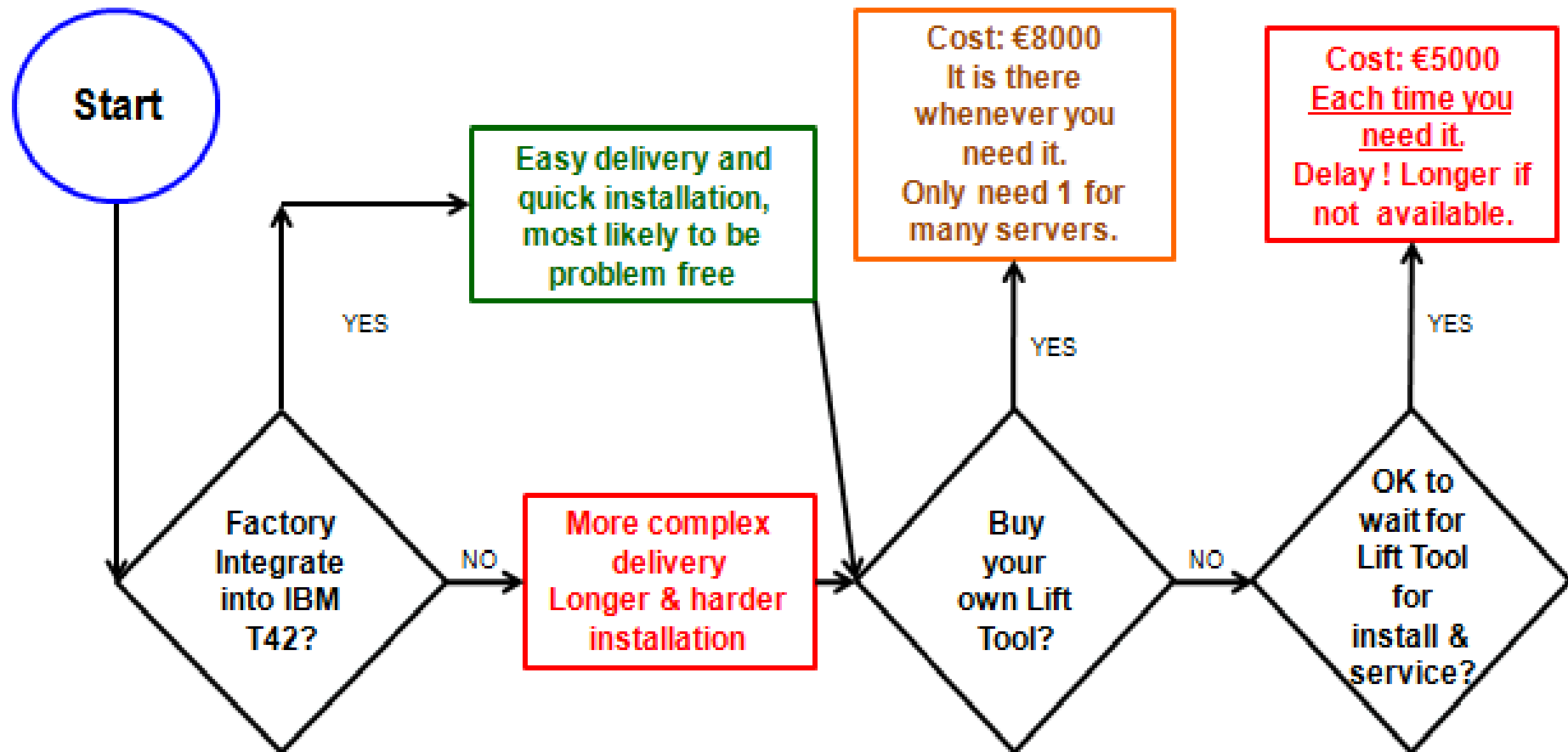
Next we have bits and bobs ...

POWER 8 Lifting Tool



Lift-tool – Gareth's chart

Ball park costs
Check with your local IBM rep.



Question: Should the customer select factory integration?
Answer: Yes, unless they have a very good reason.

Question: Should the customer buy a lift tool?
Answer: Yes, if the maximisation of uptime is important.

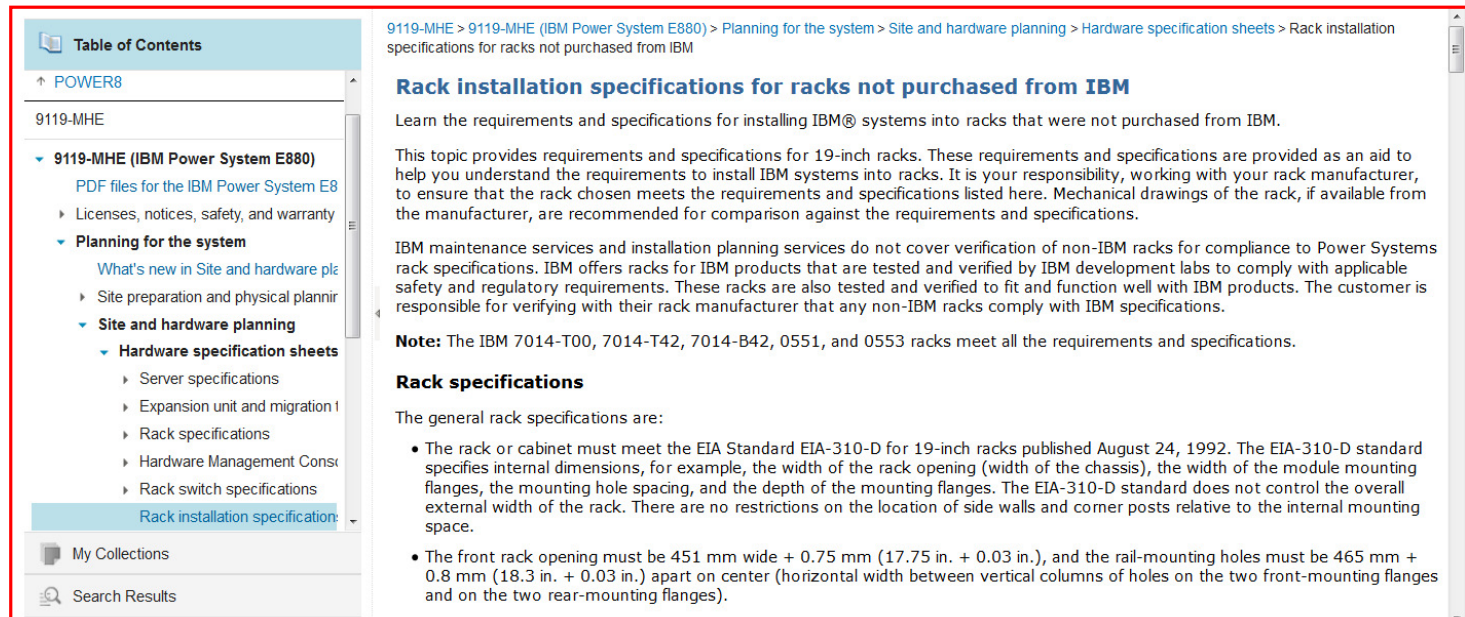
Very much longer installation and service.
Unplugging dozens of FRUs from €1M server.

OEM Racks

- IBM do not test or qualify OEM racks.
- Here is the URL on the specs that the rack has to meet:

http://www-01.ibm.com/support/knowledgecenter/9119-MHE/p8had/p8had_oemrack.htm

- If OEM rack meet these specs they should work but the customer is responsible for verifying with their rack manufacturer that the rack comply with IBM specifications.



The screenshot shows a web page with a left-hand navigation pane and a main content area. The navigation pane includes a 'Table of Contents' section with a tree view showing the path: POWER8 > 9119-MHE > 9119-MHE (IBM Power System E880) > Planning for the system > Site and hardware planning > Hardware specification sheets > Rack installation specifications for racks not purchased from IBM. The main content area has a breadcrumb trail: 9119-MHE > 9119-MHE (IBM Power System E880) > Planning for the system > Site and hardware planning > Hardware specification sheets > Rack installation specifications for racks not purchased from IBM. The main heading is 'Rack installation specifications for racks not purchased from IBM'. The text explains that the requirements are for 19-inch racks and that the customer is responsible for verifying with their rack manufacturer. A note lists compatible rack models: IBM 7014-T00, 7014-T42, 7014-B42, 0551, and 0553. A section titled 'Rack specifications' lists two requirements: 1) The rack must meet the EIA Standard EIA-310-D for 19-inch racks, published August 24, 1992, specifying internal dimensions like width of the rack opening, width of the module mounting flanges, mounting hole spacing, and depth of the mounting flanges. 2) The front rack opening must be 451 mm wide + 0.75 mm (17.75 in. + 0.03 in.), and the rail-mounting holes must be 465 mm + 0.8 mm (18.3 in. + 0.03 in.) apart on center (horizontal width between vertical columns of holes on the two front-mounting flanges and on the two rear-mounting flanges).

- Two observations:
 - We strongly recommend that IBM rails are used
 - The installation will probably take even longer than a field integration into an IBM T42 rack as the SSR/CE will not be familiar with the rack
- Thanks Gareth

Small points

1. How to spell POWER8 ?
2. Briefly the differences between E870 and E880
3. Racks – please, please buy it in a new T42 rack
 - Very heavy and limited “Lifting Tool” in field
 - MUST put the machine low down in the rack
4. OS levels can mean upgrades needed (if not reasonable current OS)
 - Pure virtual LPARs much more likely to work
5. CEC drawer adapter slots are low height but EMX0 I/O drawer adapter slots are full height
 - So you can’t move adapters between them!
 - We have a CEC Node USB adapter = dumb use of CEC Node slot but can’t move it

Acoustics & exhaust

- The machine is loud and could cause hearing damage
 - Check your countries legal limits
- More CEC nodes = more noise
- Higher GHz or Performance modes = more noise
- Both for typically 8 hours a day:
 - May require: warning signs,
 - Employee hearing test programs,
 - Hearing protection may need to be worn
- Seriously consider: Acoustic doors are normal



Power saving mode now from the HMC command line

- Static power saving or not ?
- export RUBY=ruby-9119-MME-SN108D2C7
- lspwrmgmt -m \$RUBY -r sys
name=ruby-9119-MME-SN108D2C7,type_model=9119-MME,serial_num=108D2C7,curr_power_saver_mode=**Disabled**, \
desired_power_saver_mode=**Disabled**

chpwrmgmt -m \$RUBY -r sys -o enable -t dynamic_favor_perf

- You did not used to be able to do that on the HMC CLI
- lspwrmgmt -m \$RUBY -r sys -F
name,curr_power_saver_mode,curr_power_saver_mode_type
ruby-9119-MME-SN108D2C7,**Enabled,dynamic_favor_perf**



SAFELY
Over clock
when busy
Under clock
when idle

ESP E870 – EMEA ATS (uk) - Tested

Tests

- Four VIOS 2.2.3.4 + fixes
- OSes:
 - AIX 6.9.4 & 7.3.5, RHEL6.5/7, SLES 11.3, Ubuntu 14.10, SLES12
- Local VIOS LV vSCSI disks – ok
- SSP with other P8 and P7 machines on VIOS 2.2.3.3 – ok
 - VIOS Shared Storage Pools
- LPM from other P8 and P7 – ok
- Full System mode with AIX 7.3.4
 - painful start up time due to 4TB RAM
- Stress: ncpu in the 58 CPU LPAR, nmem64, ndisk64
- PowerVC, Oracle, DB2, WAS, Day Trader
- ...
- ...

Little Endian not supported
yet but works



IBM i moves at last

- We failed to LPM IBM i 7.2 from S824 to E870
- Needed to clean up the LPAR
 - Remove virtual DVD = Optical devices
 - Checked all vSCSI devices connected to VIOS
- Stop the IBM i LPAR booting to the console for user action
- **Applied two fixes resulting from a PMR (known VIOS issue in migmgr logging)**
- And Live Partition Mobility worked fine = **Not a IBM i issue at all.**
 - This is a Shared Storage Pool based disk LPAR
- Thanks to Jyoti Dodhia and Rachel Meager for working with us
- Was a large LPAR on the S824 but seems tiny on the E870 ☺

IBM i

A system designed for business

Deliver services faster, with higher quality
and superior economics



Session so far summary

- The new POWER8 processor based Enterprise servers are beautifully engineered
- The ESP program has thrown up some things for us to fix before GA (this is a good thing), so you will never see them
- Plan carefully for racking and I/O
- IBM Recommend
 - Factory Integration
 - Acoustic doors
 - 8” Rack extension

Talking to A BIG International Bank

- Buying ~5000 POWER8 cores before end of 2015
- To move all their AIX workload to POWER8
 - Consolidate 10,000+ LPARs on 500 machines with 700 VIOS
 - All managed by 15 people → highly automated script and tools
- Standard Config
 1. E880 with 2 CECs
 2. 48 – 64 CPUs fastest GHz
 3. 1 TB RAM
 4. Both CECs full adapters
 5. **Dual VIOS** each with
 - two Network cards at 10 Gb
 - four FC cards at 8 Gb
 6. Other adapter slots for private LPM network and ultra encrypted net
 7. Every LPAR has a few TB space on non-IBM disks – uck!
 8. **No I/O Drawers so no internal disks**
 9. **FC boot everything**
 10. **T42 rack Factory Integrated** – “Mad not too!”
 11. “May” use **Shared Storage Pool** for migration P6/P7 to POWER8 to remove proprietary MPIO and move to AIX / VIOS MPIO



AIXpert Blog - <http://tinyurl.com/AIXpert>

- A. [POWER8 Enterprise Power E870 - First Look](#)
- B. [POWER8 Enterprise Power E870 - 2nd Look at the Cabling](#)
- C. [Power System E870/E880 - Reserved Memory too high by 100's GB?](#)
 - It's a feature you can switch off
- D. [Power System E870/E880 & HMC 8.2 Early Experience with Wrinkles](#)
 - 1) **Hidden Fixes on FixCentral** = annoying
 - 2) **AIX command smtctl on large LPARs (58 CPUs or more)**
 - Switch off probevue
 - 3) **HMC's new Graphical User Interface-Tech Preview** → Forum supported
 - <http://tinyurl.com/HMC8-Tech-Preview-Forum>
 - 4) **HMC Virtual Storage Management Panel shows the Shared Storage Pools LU disks . . . poorly** = annoying
 - 5) **Some non-critical AIX stats are wrong**
 - lparstat -E and nmon PURR stats after dozens of Dynamic LPAR changes
 - 6) **HMC 8.2 does not work with Nigel's Internet Explorer 11 Browser**
 - Say no more!



POWER8
You're going to need
bigger data

POWER8
You're going to need
bigger data

POWER8
You're going to need
bigger data

IBM

IBM

IBM

Next Time

Feb 4th
 The "Key" to IBM i Licensing & more - Part1
 with Andy Fellows



Previous Sessions:
 Linux on Power: Best Pract
 Linux for AIX/IBM i guys
 PowerKVM Deep Dive
 More Tricks Power Masters
 Power8 from hands-on
 Power up your Linux
 PowerVC
 PowerVP
 SSP4
 Best Practices
 Tricks of Power Masters
 IBMi and External Storage
 And more.....

Future Sessions →

- Feb 11th - The "Key" to IBM i Licensing & more - Part2
- Mar 4th - HMC 8.20 User Interface Tech Preview
- Suggestions Welcome



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Mandie Quartly @mandieq

Website: <http://tinyurl.com/PowerSystemsTechnicalWebinars>

Youtube Channel: <http://tinyurl.com/IBMPowerVUGYoutubeChannel>