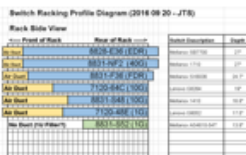


			Solution Rule		
MT	Model	Description	Min	Max	Comments
xxxx	xxx	Solution MTM			n/a
Deployment/Management Node : 8348-21C					
8348	21C	ServerConfig- S821LC	1	1	This section Defined the Common config of the Server node (in group servers) -- Next Section : Defined any unique config that you may need (Optional)
	Solution ID	Solution Specify Code (for grouping only)	1	1	Optional FC -- used to specify Solution specific config .. Need econfig support
	Pod Type	Compute Server Type 2 Specify Code	1	1	Optional FC -- used to specify node type/ config .. Need econfig support
	Processor	EP0A 8W P8 3.325/3.857GHZ PROC 190W/247W (VENICE W/TURISMO)	2	2	
	Memory	EM5C 16GB 2-RANK DDR3 1.35V IS DIMMS 1600MHZ (1333MHz max in system)	16	16	
	Bezel	n/a	1	1	12 LFF HDDs/SSDs Assembly
	Storage Adapter	Integrated Sata controller	1	1	Build-in HDDs : Integrate SATA controller + Optional SAS /RAID Controller
			0	1	Optional - External SAS adapter for Expansion SAS drawer
	Disks	ELD2 1TB 7200 RPM SATA HDD BARE DRIVE	1	1	OS Boot Disk (back side) +12 HDD/SSDs front side
			0		Optional HDDs/SSDs
8348-21C -- Required Inter-connect					
	Network Adapter	EN0T QUAD E'NET (2X1 + 2X10 10Gb) PCIe Gen 2 X8/SHORT LP-Fiber	1	1	(Required) For High Speed Network
			0		Some adapter Max config 1/3/4.. See econfig rule
	Power	EKLJ (PS #6665) PWR CBL DRWR TO IBM PDU, 2.8m (9.2ft), 250V/10A,	2	2	Select Proper Line cord if not connected to IBM PDU
	Cables	CAT5E SWITCH CABLE, BLUE (2M)	1	1	(Required) For OS 1G Network (Recommended 2M length min)
		CAT5E SWITCH CABLE, GREEN (2M)	1	1	(Required) For IPMI 1G Network (Recommended 2M length min)
		EN02 3M- Active Twinax cable	2	2	(Required) For High Speed Network (Recommended 2M length min)
		No rack integration	1	1	
		Country specific FCs (keyboards, language groups) are selectable	1	1	User select
		Shipping and Handling	1	1	User select

			Solution Rule		
			Native MTM		
MT	Model	Description	Min	Max	Comments
xxxx	xxx	Solution MTM	1	1	
Compute Node : 8335-GTB					
8335	GTB	S822LC (8335)	4	16	This section Defined the Common config of the Server node (in group servers) -- Next Section : Defined any unique config that you may need (Optional)
	Solution ID	Solution Specify Code (for grouping only)	1	1	Optional FC -- used to specify Solution specific config .. Need econfig support
	Pod Type	Compute Server Type 2 Specify Code	1	1	Optional FC -- used to specify node type/ config .. Need econfig support
	Processor	EP05 10W P8' 2.860/3.492GHZ PROC 192/247W (DELLOVO)	2	2	
	Memory	EM58 128GB (4X32GB) IS RDIMMS (1.2V) 1600MHZ 4GBIT DDR4 DRAM	8	8	
	Disks	E56A 2TB 7200 RPM 512E SATA HDD IN MODIFIED GEN3 CARRIER (SFF)	2	2	OS Boot Disk
	NVme PCI		0	0	
	GPU	EC4F COMPUTE INTENSIVE ACCELERATOR, GPU, Slot C1/4/7/9	1	1	
S822C Server -- Required Inter-connect					
	Network Adapter	EN0V QUAD E'NET (2X1 + 2X10 10Gb) PCIe Gen 2 X8/SHORT LP-Twinax	1	1	(Required) For High Speed Network
			0		optional second type of Network adapter
	Power	6665 PWR CBL DRWR TO IBM PDU, 2.8m (9.2ft), 250V/10A, IEC320/C13,	2	2	Select Proper Line cord if not connected to IBM PDU
	Cables	CAT5E SWITCH CABLE, BLUE (2M)	1	1	(Required) For OS 1G Network (Recommended 2M length min)
		CAT5E SWITCH CABLE, GREEN (2M)	1	1	(Required) For IPMI 1G Network (Recommended 2M length min)
		EKC1 3M- Active Twinax cable	2	2	(Required) For High Speed Network (Recommended 2M length min)
		No rack integration	1	1	
		Country specific FCs (keyboards, language groups) are selectable	1	1	User select
		Shipping and Handling	1	1	User select

General Rules			Comments			
Note (1)			e-config to present to the customer the (list of MTMs and FCs below) defining the default, minimum and maximum configuration. The rules listed below for the HPC Cluster solution supersede the current announce material rules for the stand-alone server.			
Note (2)			<p>* Top and Bottom 1U of rack must always be open (FCs ER1T & ER1B).</p> <p>* For optional switches, priority order starting as follows:</p> <ol style="list-style-type: none"> 1) 7120-64C 8828-E36 2) 8831-S48 8831-NF2 3) 8831-NF2 8831-F36 4) 8831-F36 7120-64C 5) 8828-E36 8831-S48 6) 7120-48E <p>* If no switches are ordered, leave these locations 41, 40, 39, & 38 reserved in first rack (4651)</p> <p>* If 8831-NF2 or 8828-E36 are ordered, 1U above and 1U below cannot be occupied by anyone of the other four switches (F36, 64C, S48, 48E), and will need to be left open. 8831-NF2 or 8828-E36 can be placed next to another non-switch MTM. Examples: 2xE36, or 2xNF2, or 1xE36 + 1xNF2, or E36 + 5146-GSx, or NF2 + 8247-Z2L side by side is OK, but E36 + 48E is not allowed, need a gap between switches.</p>			
Note (3)			<p>Config #1: Lenovo 1G SW + Lenovo 10G switch, Config #2: Lenovo 1G SW + Mellanox 10G SW, Config #3: Lenovo 1G + Mellanox IB Switch, Config #4: Mellanox 1G + Mellanox 10G</p>			
Note (4)						
Note (5)						
			Config #1	Per Rack		Comments
MT	Model	FC	Description	Min	Max	
1G Mount (Rear)	7120	48E	Lenovo G8052 1GbE Switch (48x 10GbE ports + 4x 10GbE ports)	1	1	* Qty 1 required per rack. An additional switch is needed, beyond the qty 1 per rack.
		1118	CAT5E SWITCH CABLE, 3M, YELLOW	1	1	
		6577	PWR CBL, DRWR TO IBM PDU, MFG SEL LENGTH, 200-240V/10A, IEC320/C13, IEC320/C14	2	2	
			Include all existing FCs; except FCs 0010, 0011, 0712, 0714, EGSx, EHKx, EHLA, 4649 (Rack Integration Services), and 0456 (Customer Specified Placement); do not include these FCs.			Note: FCs ESC0 & ESC1 are not announced and not applicable for switches
1G Mount (Rear)	8831	S52	Mellanox 1G Switch	0	0	* Qty 1 required per rack. An additional switch is needed, beyond the qty 1 per rack.
		1118	CAT5E SWITCH CABLE, 3M, YELLOW	1	1	
		465x	Rack Indicator - Rack #/x	1	1	FC 4651 min qty = 1. Use 4652 to 4666 min qty =1 for additional racks
		6577	PWR CBL, DRWR TO IBM PDU, MFG SEL LENGTH, 200-240V/10A, IEC320/C13, IEC320/C14	2	2	
			Include all existing FCs; except FCs 0010, 0011, 0712, 0714, EGSx, EHKx, EHLA, 4649 (Rack Integration Services), and 0456 (Customer Specified Placement); do not include these FCs.			Note: FCs ESC0 & ESC1 are not announced and not applicable for switches
10G Data Network	7120	64C	Lenovo G8264 ..10GB Switch (48x10G + 4x40G)	1	1*	
		Solution ID	Solution Specify Code (for grouping only)	1	1	
		Pod Type				
		1118	CAT5E SWITCH CABLE, 3M, YELLOW	1	1	
10G Data		EB28	IBM SFP+ SR TRANSCEIVER	1	1	
			Include all existing FCs; except FC 4649, FC 0456 (Customer Specified Placement) and ESC1 (Shipping & Handling), do not include these FCs	2	2	
	8831	S48	Mellanox 1410 ..10GB Switch (48x10G + 12x40G)	0	0	
		EDT6	1U AIR DUCT FOR S48	1	1	
			Include all existing FCs; except FC 4649, FC 0456 (Customer Specified Placement) and ESC1 (Shipping & Handling), do not include these FCs	1	1	
IB Data Network	8828	E36	EDR InfiniBand Switch	0	0	* Qty 1 required per rack. An additional switch is needed, beyond the qty 1 per rack.
		Solution ID	Solution Specify Code (for grouping only)	1	1	Need to announce FC on all MTMs in HPC Cluster
		Pod Type				
		465x	Rack Indicator - Rack #/x	1	1	FC 4651 min qty = 1. Use 4652 to 4666 min qty =1 for additional racks
		EDT4	1U AIR DUCT	1	1	
			Include all existing FCs; except FCs 0010, 0011, 0712, 0714, EGSx, EHKx, EHLA, 4649 (Rack Integration Services), and 0456 (Customer Specified Placement); do not include these FCs.			Note: FCs ESC0 & ESC1 are not announced & not applicable for switches. Power cable MFI BOMs and rail kit MFI BOMs are included with the 8828 & 8831 switches
			<p>Depth Supplier IBM MTM Comments:</p> <ol style="list-style-type: none"> 1) 24.75" (D) --Mellanox 1710 8831-NF2 - protrudes 50mm from the rear EIA surface; High Speed Eth 2) 27" (D) --Mellanox SB7700 8828-E36 - greatest depth ; Infiniband 3) 24.7" (D) --Mellanox SX6036 8831-F36 - 2nd greatest remaining depth; Infiniband 4) 19.0" (D) --Lenovo G8264 7120-64C - 3rd greatest remaining depth; High Speed Eth 5) 17.5" (D) --Lenovo G8052 7120-48E - 4th greatest remaining depth; Mgmt Network 6) 16.8" (D) --Mellanox 1410 8831-S48 - 5th greatest remaining depth; High Speed Eth <new assembly> 			



Suggested Racking Rules

Leave U42 open for accessibility (FC ER1T).

Reserve U37-U41 for rack-to-rack network switches to enable multi-rack expansion. This will reduce the maximum number of data servers containable by the first rack.

Ensure that any component inserted above 32U are approved by your compliance team to prevent rack tipping.

Reserve U24-U26 for In-rack (leaf) network switches. Multiple switches enable ...

Reserved for TF4 Display if selected

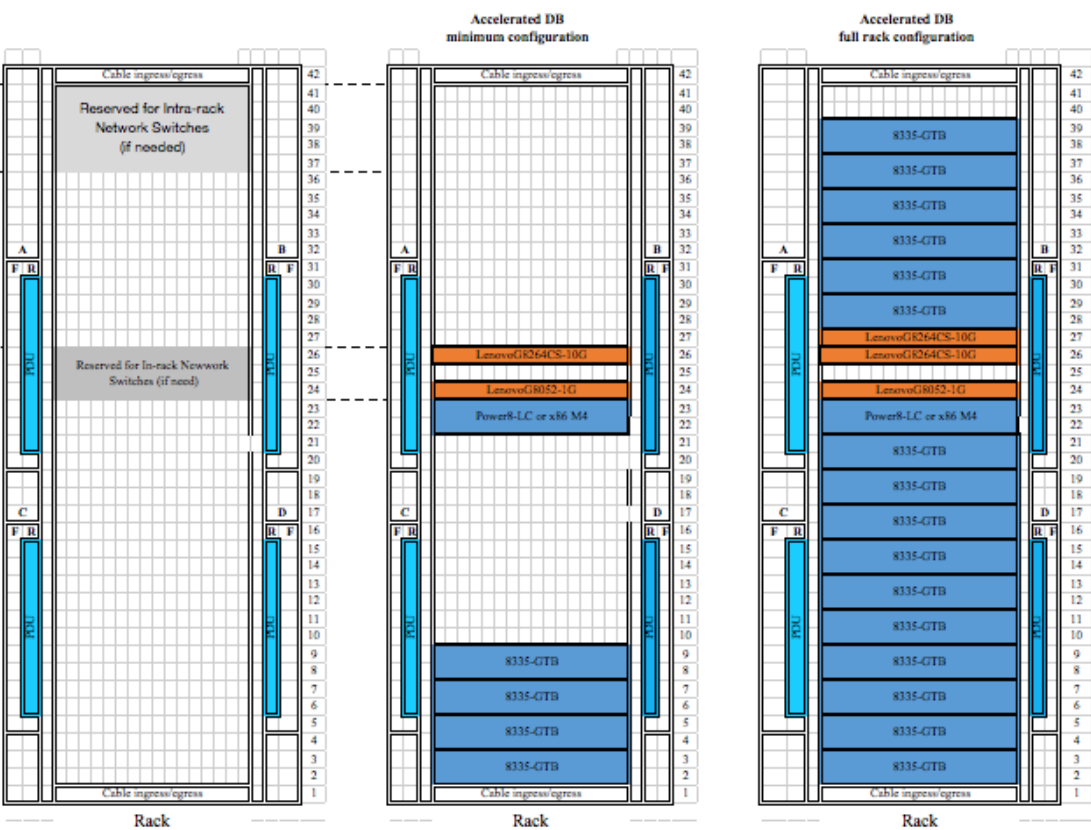
General rules:

- Place the 1st and heaviest components at U2 and work up.
- Keep common units (same MTMs, building blocks) together
- Follow ntlive MTM unique racking requirement.

Solution-specific rules:

- Place seeding node / license node at U2
- Place and cable between 4-18 2U servers per rack

Leave U1 open for accessibility (FC ER1B)

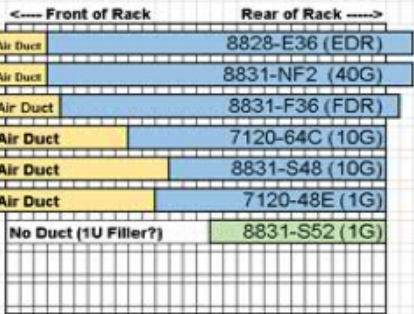


SolutionRacking Specifics:

Reference

Switch Racking Profile Diagram (2016 09 20 - JTS)

Rack Side View



Switch Description	Depth
Mellanox SB7700	27"
Mellanox 1710	27"
Mellanox Sx8036	24.7"
Lenovo G8264	19"
Mellanox 1410	16.8"
Lenovo G8052	17.5"
Mellanox AS4610-54T	13.8"

