PowerFlex Appliance Quoting Guide

This guide is intended to give you the relevant information you need to accurately quote the PowerFlex appliance. This guide will focus on **what you need to know** to make the right selections, but is not intended as a deep dive into product specs. For deeper product information, check the **PowerFlex appliance on Dell Support**

****This guide changes frequently and the latest version can always be found here****

https://www.dellemc.com/resources/en-us/auth/asset/sales-documents/products/storage/powerflex-appliance-quoting-guide.pdf

****Looking for current drive and other commodity offerings? See the appendix below****

****Urgent quoting tool issues or questions? Contact that team here****

https://opsandcs.onecloud.dell.com/sites/Global_Presales/APPS/ISG_EMAIL/SitePages/ISG_Intake_Form.aspx?_InfoPath_Sentinel=1

Version 4.1 (August 2025)

Revision History

Date	Version	Changes	By
8/14/2019	1.0	Initial version	Ryan Steed
8/27/2019	1.1	MyQuotes updates	Ryan Steed
9/5/2019	1.2	Manager server sizing updates	Ryan Steed
9/18/2019	1.3	OS, networking, cool logo additions	Ryan Steed
9/25/2019	1.4	R840, R740xd launch, physical management server	Ryan Steed
11/15/2019	1.5	Cluster size changes, MISC process	Ryan Steed
1/14/2020	1.6	Q4 launch items	Ryan Steed
3/17/2020	1.7	Q1 launch items, updated MISC process	Ryan Steed
3/24/2020	1.8	PowerFlex launch updates, deployment updates	Ryan Steed
4/3/2020	1.9	APOS process	Ryan Steed
5/29/2020	2.0	Updated for WW adoption of PowerFlex	Ryan Steed
6/10/2020	2.1	PSS quoting update	Ryan Steed
6/16/2020	2.2	New branding, F release	Ryan Steed
10/16/2020	2.3	Link updates, EIPT	Ryan Steed
11/9/2020	2.4	G release, appliance management node, RPQ, others	Ryan Steed
12/14/2020	2.5	Additional G release items, various updates	Ryan Steed
1/22/2021	2.6	Network updates	Ryan Steed
4/2/2021	2.7	APOS, PowerFlex licensing updates, pagination, partners	Ryan Steed
6/29/2021	2.8	H release items	Ryan Steed
7/15/2021	2.9	RPQ requirements update	Ryan Steed
11/4/2021	3.0	15G launch	Ryan Steed
1/28/2022	3.1	Dell-sourced management adapter, minor fixes	Ryan Steed
8/16/2022	3.2	PowerFlex 4.0 updates: File Services Nodes, licensing	Ryan Steed
11/16/2022	3.3	CSTL update, various other updates	Ryan Steed
2/13/2023	3.4	Node integrated licensing, MG and FG capacities	Ryan Steed
11/17/2023	3.5	4.5 updates, link updates, minor fixes	Ryan Steed
5/10/2024	3.6	16G, VMware updates	Ryan Steed
6/10/2024	3.7	Minor updates	Ryan Steed
11/26/2024	3.8	Appendix, 15G removal, other minor updates	Ryan Steed
2/3/25	3.9	New licensing model, removed outdated APOS info	Ryan Steed
5/2/25	4.0	System expansions, Nutanix	Ryan Steed
8/11/25	4.1	Gen 2 licensing	Ryan Steed

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RPQ Process Reminder

- When customers require a customized or non-standard PowerFlex environment, submit an RPQ through the PSS-DASH portal prior to quoting – a few examples:
    - Any hardware or software not found in the Intelligent Catalog
    - Any scenario where fully Managed Mode is not possible
    - Any APOS components outside of drives and memory (NICs, GPUs, etc)
- Without an approved RPQ, there is risk the deployment team is unable to proceed

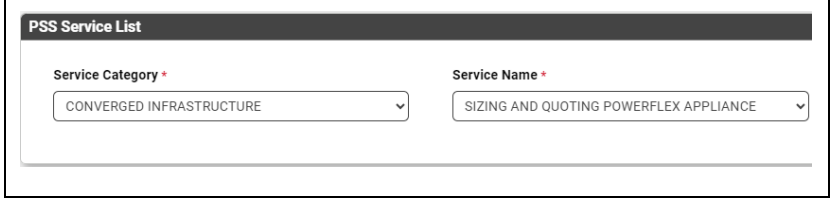
Certified Partner Deploy/Support Enablement

- The new Global Channel Services site should have everything needed to maintain existing partnerships, as well as onboarding new partners
- Contact the Channel Services Helpdesk with questions or any additional services support needs
- The list of partners achieving competency may be found here

Let Presales Solution Services (PSS) Create Your Quote

- The PSS team can size a best-practice PowerFlex solution and/or create a PowerFlex quote
- Service includes Quote Analysis Report and email summary, which includes details on key indicators about performance, power, cooling, usable capacity, and datacenter real estate
- Service benefits:
    - Enable Sales and Presales resources to focus on higher-value activities, pursue incremental opportunities, and spend more time with customers
    - Average time savings for Presales resources: 1-2 hours for each request
    - Configuration validation to ensure correct components and licenses are included
- Two ways to request service via the PSS-DASH portal:
    1. Solution sizing via Live Optics Optical Prime Report ID or the customer's sizing parameters
        (a) Select **Solution Sizing, Assessments and Proposals** from the PSS services menu
        (b) Select **#GetModern for Hyperconverged** service after entering BU information
    2. Quoting based on specific configuration requirements
        (a) Fill in demographics details
        (b) Select **Converged Infrastructure** and then **Sizing and Quoting Appliance**

fig. 1 – PSS Dash menu



PowerFlex Appliance Configuration & Quoting Considerations

- The PowerFlex sizing tool is highly recommended to determine the best configurations.
- For additional pre-sales assistance, contact the SPS team - distros by region:
  - Americas SPS distro here
  - EMEA SPS distro here
  - APJ SPS distro here
- PowerFlex appliance support matrix (Intelligent Catalog releases – filter to PowerFlex appliance)
- PowerFlex appliance is made up of multiple components, all found in DSC or Dellstar depending on sub-region:
  - PowerFlex appliance hardware, PowerFlex software, and deployment services
  - Networking and rack infrastructure (customer may supply their own)
  - Cloudlink (optional) software and maintenance – ordering guides

- Alternatively, account teams may request their own access to both tools:
  - Dell DSC/DSA access: Dell MyIT
  - Dell DSC/DSA training: Dell My Learning

- Other useful links:
  - PowerFlex Resources Sharepoint
  - PowerFlex Technical Workshop: ESGB5355
  - PowerFlex 301: ESGB8600
  - Q1 FY25 Global Focus Week including high level and technical trainings
  - The PowerFlex Knowledge Center: PowerFlex Knowledge Center

- Minimum cluster sizes:
  - **Gen 1 (medium granularity / fine granularity PowerFlex 4.x):**
    - Hyperconverged environments: three hyperconverged nodes (new HCI nodes no longer offered)
    - Hyperconverged, moving to mixed environments:
      - Two compute nodes initially, one incremental subsequently
      - Three storage nodes if creating a new protection domain
    - Disaggregated / two-layer environments:
      - Three storage and one to three compute nodes (OS dependent)
  - **Gen 2 (erasure coding PowerFlex 5.x):**
    - Five storage nodes (2+2) or 11 storage nodes (8+2) and one to three compute nodes (OS dependent)
    - Hyperconverged not supported with erasure coding
  - For additional details including minimums and maximums, consult the PowerFlex appliance product documentation

- Bare metal and third party / external compute nodes:
  - Powerflex Manager's Reserved Mode (KB article) may be used to monitor and lifecycle PowerFlex appliance hardware and firmware (bare metal)
  - Non-PowerFlex hardware (even non-Dell) require customer intervention for all activities (deploy, lifecycle manage, update, etc)
  - Professional support will not provide support on any issue involving external compute nodes outside of the SDC itself

Management Server Considerations

- A PowerFlex cluster requires multiple management and gateway VMs to function, and *must reside outside* the PowerFlex cluster
- These servers run as VMs on a single management node, or highly available management cluster, based on ESXi
- The recommended management solution is the PowerFlex Management Controller as a single node or a highly available PowerFlex Management Controller cluster – see configuration guidance below
- Alternatively, customers may provide their own standalone node or highly available cluster that support the below application VM requirements
    - Customer cluster environments leveraging NSX-T are not supported
- Single node PowerFlex Management Controllers require one VMware vSphere Enterprise Plus license per socket, and sub-100ms access to a vCenter Standard server (for external vCenter servers) – storage layer: RAID – this is not a highly available solution
- **PFMC v1.0 (14G-based)** PowerFlex Management Controller clusters require one VMWare vSphere Enterprise Plus license and one vSAN Standard license per socket of each node, and sub-100ms access to a vCenter Standard server (for external vCenter servers) – storage layer: vSAN
- **PFMC v2.0 (15/16G-based)** PowerFlex Management Controller clusters require one VMWare vSphere Enterprise Plus license per socket, PowerFlex software licensing covering the node capacity drives, and sub-100ms access to a vCenter Standard server (for external vCenter servers) – storage layer: PowerFlex
- Best practices state the vCenter version match (or be newer than) the vSphere version

Application VM (3.6)	***RAM (GB)***	***CPU (vCPU)***	***Storage (GB)***
Jump Server	4	2	300
PowerFlex Gateway	8	2	16
PowerFlex UI	6	2	16
SCG	4	2	16
PowerFlex Manager	32	8	200
CloudLink (optional)	6	4	64
vCenter (Non-HA)	32	16	1065 - 1765
vCenter (HA)	64	32	2130 - 3530

Application VM (4.x)	***RAM (GB)***	***CPU (vCPU)***	***Storage (GB)***
Jump Server	8	2	320
SCG	4	2	16
PowerFlex Manager	96	42	1800
CloudLink (optional)	6	4	64
vCenter (Non-HA)	32	16	1065 - 1765
vCenter (HA)	64	32	2130 - 3530
NSX Manager (up to 3)	48	12	300

Locating PowerFlex Order Codes

- Typically, searching is the quickest way to find the desired order code

fig. 2 - Gii search

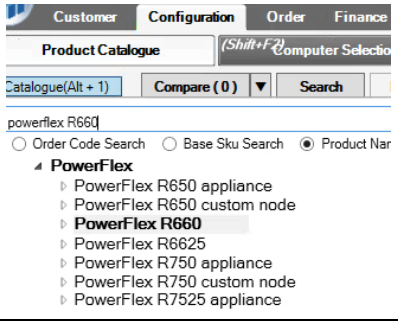


fig. 3 - Dellstar search

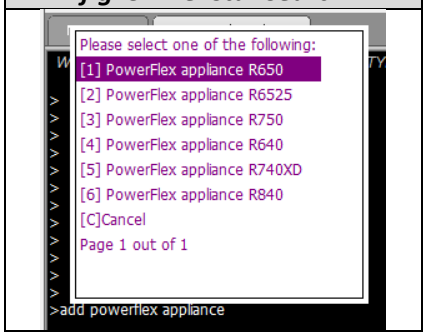
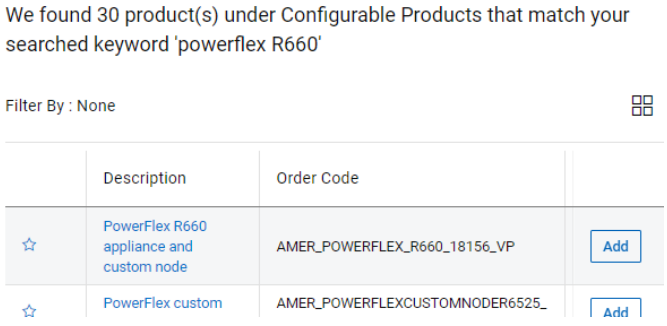
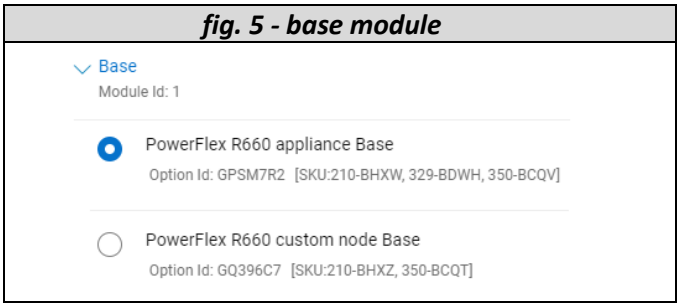


fig. 4 - DSC search



- Platforms available for use with PowerFlex appliance clusters:
  - PowerFlex R660 appliance and custom node – most use cases
  - PowerFlex R760 appliance and custom node – SAS dense and DW GPU use cases
  - PowerFlex R6625 appliance and custom node – AMD compute only use cases
  - PowerFlex R7625 appliance and custom node – AMD compute and DW GPU use cases
  - PowerFlex R860 appliance and custom node – dense compute and in-memory use cases
- Beginning with 16G, both appliance and custom node are configurable through the same order code – be careful to select the correct base option

fig. 5 - base module



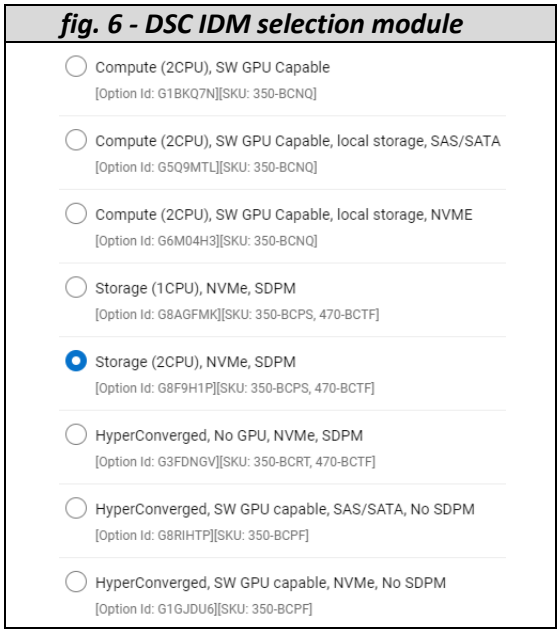
Configuring PowerFlex Appliance

- It should be reiterated, the PowerFlex sizing tool is highly recommended to determine the optimal configurations
- There are several items to be aware of when configuring a PowerFlex appliance, most of which leverage configuration tool rules to guide the user to a legal configuration:
    - Custom node and appliance are in the same order code – as mentioned above, make sure the intended node type base option is selected
    - Standard PowerFlex network design requires exactly 4 x 25Gb
    - RPQs may be submitted, but are not required, for review for environments utilizing dual networking or ACI that do not fundamentally change PowerFlex network traffic
    - Single socket configurations available on select SO and CO nodes only; however, replication will not work on a SO node with single socket
    - New for 16G, Software Defined Persistent Memory (SDPM) technology has replaced NVDIMM technology, and is included in all SO nodes, while optional on HC nodes
    - New for 16G, the data storage layout is now a selectable option as it impacts node capacity and drive rules

16G node types – IDM selection

- To improve the quoting experience, selecting the IDM automatically selects several other options including:
    - Chassis, backplane, and riser configurations
    - Storage controller and RAID configurations
- To achieve this, in general, the IDM selection module breaks down each node type into IDM, processors, drive type, and GPU capability

fig. 6 - DSC IDM selection module



- No OEM operating system is included in PowerFlex appliance order codes
- For ESXi-based CO, HCI, and management nodes, vSphere licensing must be acquired by the customer
- SO nodes leverage the Dell Embedded OS, which is included in the price of the node

Drive considerations

- Supported drive populations:
  - 1U SO nodes: minimum 5, maximum 10
  - 2U SO nodes: minimum 5, maximum 24
  - All CO nodes: 0 drives (CO local storage available)
- Drive type does not require a selection as it is already selected via the IDM module
- See below for further details regarding Gen 1 and Gen 2 drive rules

Memory population

- **16G Intel nodes** support up to 16 DIMMs per socket
- Balanced configurations use multiples of four DIMMs per socket, with a minimum of eight, so a two-socket node should have memory populations of 16, 24, or 32
- Currently, populations outside 16/24/32 are not available on SO and HCI nodes
- Quoting tool rules will guide the user to a legal configuration
- **16G AMD nodes** support up to 12 per socket
- Balanced and "near balanced" configurations support memory populations of 12, 16, 20, and 24

Additional Node Configuration Considerations

- Storage – PowerFlex appliance uses an HBA controller for SAS/SATA-based cluster nodes
- Storage – NVMe drives connect directly to the PCI bus and do not require a dedicated storage controller
- Storage – the single node management controller uses a PERC RAID controller while the HA three-node management controller uses an HBA controller per node
- Boot – all nodes leverage a 960GB BOSS for boot activities (CO nodes may downgrade to 480GB)
- Network – standard network configuration is 4x 25Gb ports, though there are cases where 6x ports may be needed, or 100Gb ports

Software Defined Persistent Memory (SDPM)

- SDPM replaces NVDIMM technology and does not require any configuration – it is automatically included or excluded based on the IDM selection

A Note About Fine and Medium Granularity available with Gen 1 licensing

- **Fine Granularity (FG)** maximum capacity is 128TB per node for both 3.6.x and 4.x environments
- **Medium Granularity (MG)** maximum capacity in 128TB per node for 3.6.x environments, and 160TB per node in 4.x environments
- 15TB and larger drives are currently only supported in Medium Granularity 4.x environments
- The PowerFlex Management cluster requires the MG storage layout

A Note About Erasure Coding available with Gen 2 licensing

- **Erasure Coding (EC)** maximum capacity is 192TB
- Drive capacities available are limited to ISE 3.84TB, 7.68TB, and 15.36TB and FIPS 7.68TB

PowerFlex Manager Licensing

- PowerFlex Manager pricing is included in the price of PowerFlex capacity licensing
- PowerFlex Manager uplift SKUs are no longer required in the node configuration and have been removed

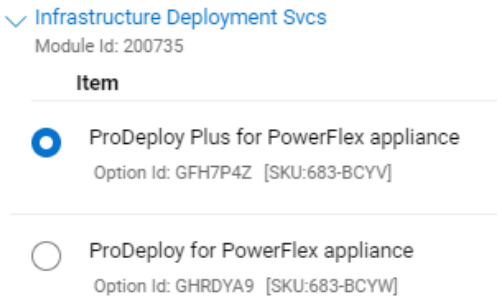
Variable Services Pricing

- PowerFlex appliance utilizes variable services pricing (VSP)
- VSP allows ProSupport pricing to change dynamically based on node configuration
- VSP is not available for sub-regions still leveraging Dellstar and instead utilize averaged pricing

Deployment Services

- PowerFlex deployment services are configured per node in DSC/Dellstar
- **PowerFlex appliance requires ProDeploy for all deployments**
- ProDeploy is a purely remote (both hardware and software) interaction, while ProDeploy Plus is a fully onsite experience

fig. 7 - DSC Deployment Services module



Software Upgrades

- PowerFlex software upgrades are supported via the Infrastructure Software Deployment order code - search for "**Infrastructure SW Deploy**" to locate it
- This is a shared order code so PowerFlex upgrade services may be found in the Hyperconverged SW Deploy Svcs module
- Proper quoting requires the upgrade base offering in addition to the four-node add-on of the number of total upgrades needed – for upgrades requiring multiple hops, consult a services SME

Scope of Software Support

- PowerFlex ProSupport will only provide assistance with PowerFlex Core software and the Dell Embedded OS on storage nodes
- For the other node types where customers acquired their own licensing, they will need to seek assistance from that vendor (even in situations where it was purchased through Dell)

Configuring the PowerFlex Management Node

- There are three methods for running the PowerFlex Management VMs (MVMs):
    1. Bring your own management hardware: MVM deployment in an existing ESXi environment, entirely managed by the customer (non-ESXi KVM available via RPQ)
    2. Highly available cluster: suitable if MVMs required be highly available and/or CloudLink encryption is in use
    3. Single node: suitable if neither highly available MVMs nor CloudLink are required
    - **Important:** if PowerFlex encryption is in use (CloudLink), a highly available solution (options 1 and 2 above) is required to ensure consistency of the encryption keys
- Locate the **PowerFlex appliance R660** order code as seen in the Locating Order Codes section above, select **Management Cluster Node** or **Management Single Node** from the **IDM Configuration** module – most modules are pre-selected at this point
- Processor: dual Intel 6526Y
- Memory: 512GB (this is to future-proof for upcoming feature releases)
- Storage – highly available nodes:
    - HBA with minimum five 1.92TB SAS drives for VM datastore
    - No RAID controller configuration
- Storage – single node:
    - PERC with minimum five 1.92TB SAS drives for VM datastore
    - RAID 5 controller configuration
- Networking – 25Gb and 100Gb clusters:
    - Three dual port 25Gb cards (two PCI, one OCP), two with redundant connections to the access switches, one with a single connection to the Out of Band Management switch (1/10Gb)
    - For customers leveraging 100Gb environments, the management node may use the cheaper 25Gb cards, albeit with four (two per switch) 25/100Gb adapters – Cisco sourced part CVR-QSFP28-SFP25G
    - For customers with 10Gb RJ45-based Out of Band Management switches, use Dell adapter 407-BDDG (in the optics and cables module) – it supports both Mellanox and Broadcom based 25Gb NICs
- Deployment: requires minimum ProDeploy just as the cluster nodes
- Support: match the ProSupport level and duration to the cluster nodes
- Software: see Management Server Considerations above for specific software requirements
- **For customers supplying their own network**, especially if they expect to deploy with Partial Network Automation (PNA), it is highly recommended to include the 4-Hour Networking - Resource ProDeploy Additional Deployment Time (ADT) SKU as seen in the Additional Deployment Services module – at this time use non-tied SKU **870-6358**

Gen 1 licensing (PowerFlex 4.x)

- For customers deploying PowerFlex 4.x, only Gen 1 licensing is available for use on PowerFlex hardware (rack, appliance, custom node) - activated against the cluster Installation ID
- Gen 1 licensing allows licensing from multiple entitlements in single clusters, as well as splitting single entitlements across multiple clusters
- This model uses a single vector: cluster capacity measured in raw terabytes

Configuring Gen 1 licensing

- As seen in the Locating Order Codes section above, search for "**PowerFlex Standard Subscription**" to locate the desired PowerFlex software order code
- ProSupport selection (Plus, NBD, MC) ideally should match the level of the nodes and other licensing in the cluster
- Always round **up** to the nearest whole number

fig. 8 - DSC capacity selections

Gen 2 licensing (PowerFlex 5.x)

- Early quoting requires training – contact PowerFlex product management for details
- Gen 2 licensing supports the erasure coding (EC) storage layout
- Gen 2 licensing also supports MG/FG storage layouts with PowerFlex 4.x deployments for customers planning to repurpose this licensing for Gen 2 in the near future
- Like Gen 1 licensing, Gen 2 licensing allows licensing from multiple entitlements in single clusters, as well as splitting single entitlements across multiple clusters
- Gen 2 licensing supports 16G and 15G hardware
- Nutanix AHV does not currently support EC-based nodes as a storage target
- This model uses a single vector: cluster capacity measured in raw terabytes

PowerFlex enabler requirement

- Configuring the PowerFlex appliance enabler requires an additional order code - search for "**PowerFlex appliance solution type**" to locate it
- Ensure the SW enabler is selected with the appropriate quantity unless this is a node upgrade to an existing cluster - **it is vital to automated alerting and is a deployment requirement**
- Typically, for new clusters, quantity one enabler is required, for expansions, zero

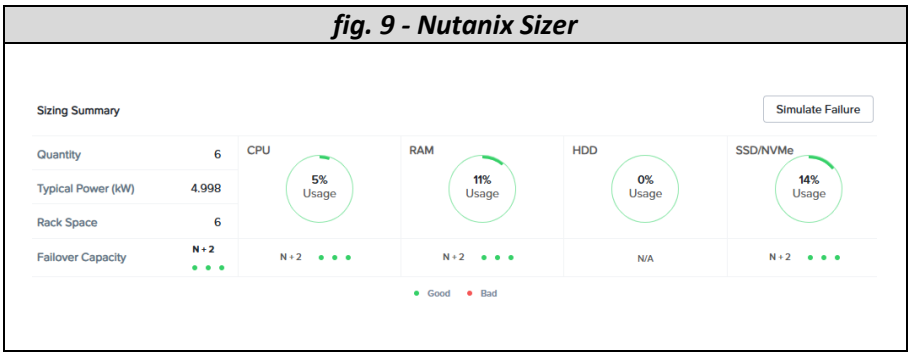
Nutanix support

- Nutanix AHV is now a supported hypervisor for Nutanix Compute nodes
- Must be deployed as disaggregated compute and storage (2-layer)
- Can be applied to Brownfield PowerFlex nodes (for customers with existing hardware) or Greenfield (customers who wish to purchase new nodes for this solution)
- Non-PowerFlex nodes are not supported for this solution (and conversion services are not available)
- All PowerFlex 15G and 16G appliance and rack nodes are applicable; 14G nodes require an RPQ to be considered for this solution
- PowerFlex Manager lifecycle management support:
    - Storage nodes – embedded OS, BIOS, firmware, drivers, and SDS
    - Compute nodes – BIOS, firmware, drivers
- Nutanix lifecycle management support:
    - Storage nodes – no support
    - Compute nodes – AHV, AOS, and SDC
- Support entitlements:
    - Dell ProSupport will continue to support all PowerFlex hardware and software related issues
    - Dell ProSupport will assist in initial triage but will require customers to contact Nutanix should any issue be identified as Nutanix related

Registering and sizing Nutanix opportunities

- Deal registration is currently available through Dell SFDC
    - **Greenfield:** select “Nutanix Compute License” along with the typical PowerFlex licensing
    - **Brownfield:** when purchasing Nutanix licensing for an existing PowerFlex environment, only registering for “Nutanix Compute License” is required
- At this time, all Nutanix licensing must be procured through Nutanix
- Nutanix have created a sizer located here in the partner portal available once the user has created a portal account

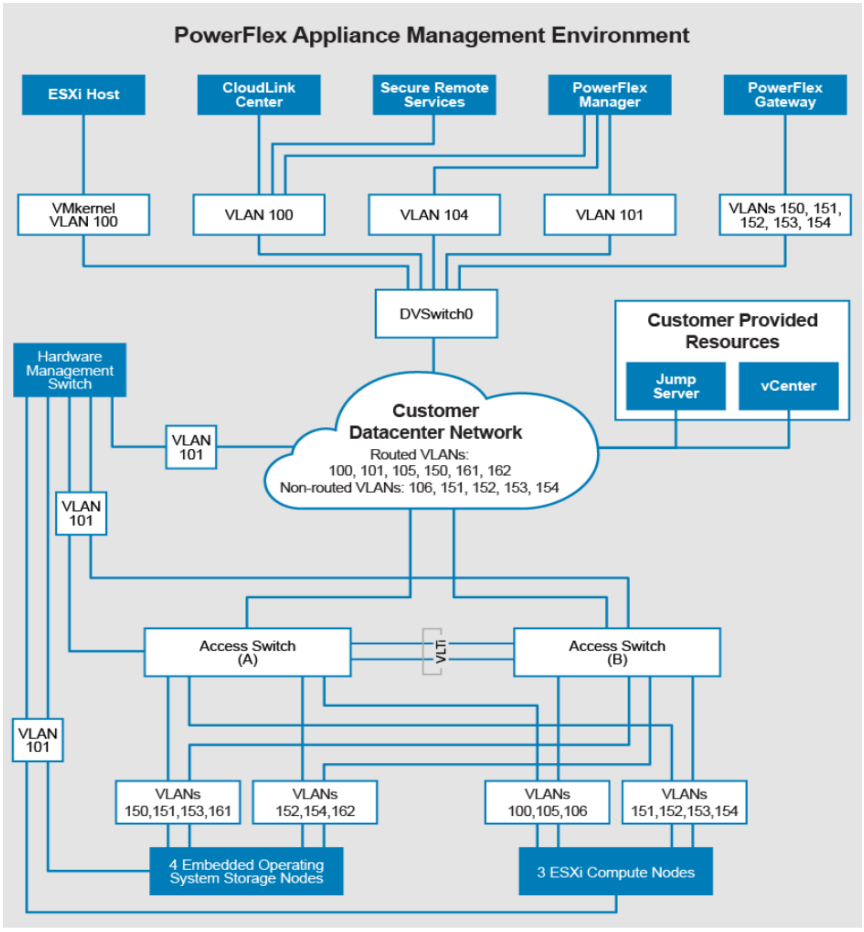
fig. 9 - Nutanix Sizer



Network Switch Configuration

- Since December 2020, PowerFlex appliance customers may supply their own switches provided the environment meets the guidelines set in the Network Planning Guide
- Configurations outside those depicted in the Network Planning Guide must be approved by an RPQ before quoting / ordering activities
- Switches listed in the Intelligent Catalog support varying levels of automation
- **Dell switches:** PowerFlex appliance supports both **deployment and lifecycle management** of Dell switches connected directly to the PowerFlex appliance nodes themselves
- **Cisco switches:** PowerFlex appliance supports **deployment only** of Cisco switches connected directly to the PowerFlex appliance nodes themselves
- **Unlisted switches:** pre-deployment configuration and post-deployment management requires customer intervention – see Partial Network Automation in the System Design Guide
- **Management switches**: the Dell S4148T-ON and Cisco 31108TC-V have been used in testing and are the current recommendations, however, any enterprise-grade switch should suffice
- PowerFlex appliance does not support deployment or lifecycle management activities of any switches beyond those immediately connected to the PowerFlex appliance nodes themselves

fig. 10 - typical 25Gb cluster layout



Configuring Dell-Branded Switches (OSC/Gii/Dellstar)

- Search for the switch model as seen in the above section **Configuring PowerFlex Appliance**
- Select the correct air flow based on customer rack layout, as well as OS10, in the base module
- Configure optics, cables, etc. as needed leveraging the latest networking interop matrix
- ProSupport level must match the level selected for the node and PowerFlex software
- ProDeploy Plus is recommended, however customers may deploy their own network environment meeting the guidelines stated in the PowerFlex Appliance Network Planning Guide

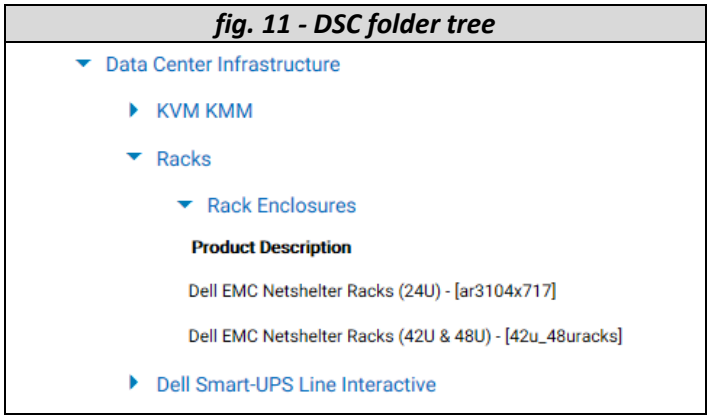
Configuring Cisco-Branded Switches (OSC/Gii/Dellstar)

- Cisco is not a standard offer in Dell systems – customers requiring Cisco will need to provide their own

Configuring infrastructure items (OSC/Gii/Dellstar)

- Find the Data Center Infrastructure section in the folder tree for rack, power, and console
- PDUs, cabling, cooling, and more may be found within the rack order codes
- For 25Gb environments, Twinax DACs are typically the easiest cabling solution as it includes both the cable and connectors in one part
- Other cabling options can be found in the networking interop matrix
- Specific networking environment discussion may be found in the PowerFlex Appliance Network Planning Guide

fig. 11 - DSC folder tree



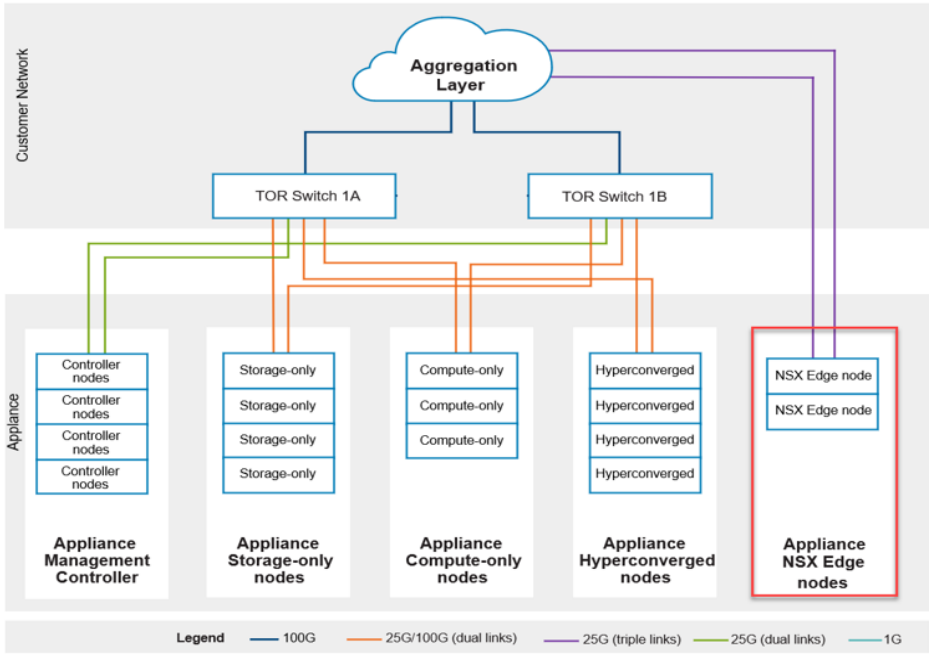
Configuring the PowerFlex Software Defined Networking Node (SDN)

- PowerFlex appliance offers an NSX-T validated edge node to be used in NSX-T environments
- Locate the **PowerFlex R660** order code as seen in the Locating Order Codes section above, select **Software Defined (SDN) node** from the **IDM Configuration** module
- Little configuration is required for the NSX-T edge node as its configuration is already sized appropriately
- Processor: dual Intel 6426Y
- Memory: 256GB
- Storage:
  - PERC H755 with five 1.92TB MU SAS SSDs
  - RAID 10 controller configuration
  - BOSS card with RAID 1 for boot
- Networking: three dual port 25Gb cards, with triple links to the aggregation layer (typical)

A note about PowerFlex appliance in NSX-T environments

- VMware NSX-T is a networking and security virtualization platform that empowers customers to manage the entire network from a single pane of glass
- To support NSX-T, PowerFlex appliance requires a four-node cluster management controller plus two, four, six, or eight NSX Edge Nodes
- Dell Professional Services will install and deploy the PowerFlex appliance cluster as usual, but VMware services, ordered separately, will be required to deploy the NSX-T Data Center
- Properly sizing this environment requires great care so consider contacting a PowerFlex specialist should there be any doubts

fig. 12 - typical PowerFlex appliance NSX-T configuration



System Expansions

- Expanding existing PowerFlex systems with new protection domains is the preferred expansion scenario
- Differences in drive type or network vendor and speed **will** require a new protection domain (minimum three nodes required)
- If expanding existing protection domains, some additional consideration may be required (seen in the PowerFlex appliance expansion guide found in SolVe)
    - *There is no restriction in mixing the generations of PowerFlex nodes in a cluster. If you are mixing the multiple generations of PowerFlex nodes in the same protection domain, ensure that such PowerFlex nodes have the same network topology, speed, drive capacity, and type.*
    - *The operational performance is dictated by the slowest PowerFlex node in the protection domain. Any expected operational performance gains are not realized until all the older PowerFlex nodes are removed.*

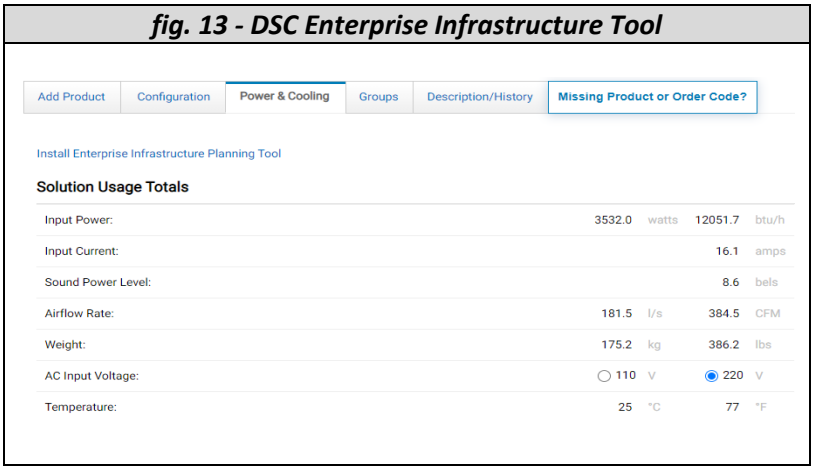
Critical Information Required for each Sales Order

- Sales teams should add PowerFlex opportunities in the SFDC instance used by their sales segment
- As of Q1FY20, both DSA and Gii quoting tools support a new feature named *Install AT* within the quote and order screens
- Online guidance for correctly utilizing ESITE ID may be found below:
    - DSA work instructions: Install AT – DSA
    - Gii work instructions: Install AT – Gii
- If the UCID cannot be found or needs to be created, submit a request through the iMAP Portal (iMAP user guide here)

Enterprise Infrastructure Planning Tool

- PowerFlex appliance is now included in the Enterprise Infrastructure Planning Tool (EIPT)
- The power, cooling, and other related information may be found under the Power & Cooling tab

fig. 13 - DSC Enterprise Infrastructure Tool



After Point of Sale (APOS) Process

- At this time, only DIMM and drive upgrades are supported, conversely, upgrading PCIe cards, processors, risers, and other components is not supported
- With APOS in general, the exact same commodities (speed, capacity, make, model, etc) should be quoted as were ordered at POS
- After adding new drives, the drive count should be consistent among all nodes in the storage pool, with no existing or new storage pools exceeding 300 disks
- Drive customer kit SKUs are largely agnostic – contact PowerFlex product management for guidance on if the desired SKU includes PowerFlex validated drives, particularly for SAS drives
- If the DIMMs sold at POS are EOL, higher speed DIMMs will suffice, they will operate at the slowest speed in the node
- For nodes leveraging the fine granularity storage layout, a subsequent NVDIMM capacity increase may be required
- POS order configuration details may be viewed in the Qi tool via service tag
- **As always, nodes within protection domains should have similar hardware profiles**
- For larger APOS activities, the Custom Solution Engagement team should be leveraged
- Account teams should reference the official Expansion Guide found in SolVe covering most activities related to APOS sales

PowerFlex Appliance Country Ship-to List

Americas	EMEA			APJ
1. Argentina	1. Algeria	24. Ireland	47. Romania	1. Australia
2. Barbados	2. Andorra	25. Israel	48. San Marino	2. Bangladesh
3. Bermuda	3. Angola	26. Italy	49. Saudi Arabia	3. Brunei
4. Bolivia	4. Austria	27. Ivory Coast	50. Serbia	4. China
5. Brazil	5. Azerbaijan	28. Jordan	51. Slovakia	5. Hong Kong
6. Canada	6. Bahrain	29. Kazakhstan	52. Slovenia	6. India
7. Chile	7. Belgium	30. Kenya	53. South Africa	7. Indonesia
8. Columbia	8. Botswana	31. Kuwait	54. Spain	8. Japan
9. Costa Rica	9. Bulgaria	32. Latvia	55. Sweden	9. Macau
10. Dominican Republic	10. Croatia	33. Lichtenstein	56. Switzerland	10. Malaysia
11. Ecuador	11. Czech Rep	34. Lithuania	57. Tanzania	11. Nepal*
12. El Salvador	12. Denmark	35. Luxembourg	58. Tunisia	12. New Zealand
13. Guatemala	13. Egypt	36. Monaco	59. Turkey	13. Pakistan
14. Honduras	14. Estonia	37. Morocco	60. Uganda	14. Philippines
15. Mexico	15. Finland	38. Mozambique	61. Ukraine	15. Singapore
16. Nicaragua	16. France	39. Namibia	62. United Arab Emirates	16. South Korea
17. Panama	17. Georgia	40. Netherlands	63. United Kingdom	17. Sri Lanka
18. Paraguay	18. Germany	41. Nigeria	64. Uzbekistan	18. Taiwan
19. Peru	19. Ghana	42. Norway	65. Vatican City/Holy See	19. Thailand
20. Puerto Rico	20. Greece	43. Oman		20. Vietnam
21. Trinidad & Tobago	21. Hungary	44. Poland		
22. United States	22. Iceland	45. Portugal		
23. Uruguay	23. Iraq	46. Qatar		

**available only via partner*

Program contacts

PowerFlex appliance global product manager	Ryan Steed
PowerFlex Manager global product manager	Igal Moshkovich

Appendix

fig. 14 – NVMe drive support

Description	tech	WPD	capacit	crypto
1.6TB Data Center NVMe Mixed Use AG Drive U2 Gen4 with carrier	DC NVMe	3	1600	ISE
1.6TB Enterprise NVMe Mixed Use AG Drive U.2 Gen4 with carrier	NVMe	3	1600	ISE
1.92TB Data Center NVMe Read Intensive AG Drive U2 Gen4 with Carrier	DC NVMe	1	1920	ISE
1.92TB Enterprise NVMe Read Intensive AG Drive U.2 Gen4 with carrier	NVMe	1	1920	ISE
3.2TB Data Center NVMe Mixed Use AG Drive U2 Gen4 with carrier	DC NVMe	3	3200	ISE
3.2TB Enterprise NVMe Mixed Use AG Drive U.2 Gen4 with carrier	NVMe	3	3200	ISE
3.84TB Data Center NVMe Read Intensive AG Drive U2 Gen4 with Carrier	DC NVMe	1	3840	ISE
3.84TB Enterprise NVMe Read Intensive AG Drive U.2 Gen4 with carrier	NVMe	1	3840	ISE
6.4TB Enterprise NVMe Mixed Use AG Drive U.2 Gen4 with carrier	NVMe	3	6400	ISE
7.68TB Data Center NVMe Read Intensive AG Drive U2 Gen4 with Carrier	DC NVMe	1	7680	ISE
7.68TB Enterprise NVMe Read Intensive AG Drive U.2 Gen4 with carrier	NVMe	1	7680	ISE
15.36TB Enterprise NVMe Read Intensive AG Drive U.2 Gen4 with carrier	NVMe	1	15360	ISE

fig. 15 – SAS drive support

Description	tech	WPD	capacity	crypto
800GB SSD SAS Mixed Use up to 24Gbps 512e 2.5in Hot-Plug, AG Drive	SAS	3	800	ISE
800GB SSD SAS, Mixed Use, up to 24Gbps FIPS-140 512e 2.5in Hot-Plug 3DWPD , AG Drive	SAS	3	800	FIPS
1.6TB SSD SAS Mixed Use up to 24Gbps 512e 2.5in Hot-Plug 3WPD, AG Drive	SAS	3	1600	ISE
1.6TB SSD SAS, Mixed Use, up to 24Gbps FIPS-140 512e 2.5in Hot-Plug 3DWPD , AG Drive	SAS	3	1600	FIPS
1.92TB SSD SAS, Read Intensive, up to 24Gbps FIPS-140 512e 2.5in Hot-Plug, AG Drive	SAS	1	1920	FIPS
1.92TB SSD SAS, RI, up to 24Gbps 512e 2.5in Hot-Plug, AG Drive	SAS	1	1920	ISE
1.92TB SSD up to SAS 24Gbps ,Read Intensive, 512e 2.5in Hot-Plug	SAS	1	1920	ISE
3.2TB SSD up to SAS 24Gbps FIPS-140 MU 512e 2.5in Hot-Plug, AG	SAS	3	3200	FIPS
3.84TB SSD SAS RI 24Gbps 512e 2.5in Hot-Plug 1DWPD , AG Drive	SAS	1	3840	ISE
3.84TB SSD SAS, Read Intensive, up to 24Gbps FIPS-140 512e 2.5in Hot-Plug, AG Drive	SAS	1	3840	FIPS
7.68TB SSD SAS Read Intensive 24Gbps 512e 2.5in Hot-Plug, AG Drive	SAS	1	7680	ISE
7.68TB SSD up to SAS 24Gbps FIPS-140 RI 512e 2.5in Hot-Plug, 1DWPD, AG	SAS	1	7680	FIPS

fig. 16 – 16G GPU support

16G Option	Description	TDP (v	Architectu	RTS	Statu
NA	NVIDIA Tesla T4 16GB, Passive, Single Wide, Full Height GPU	75	Turing		GA
NA	NVIDIA Tesla T4 16GB, Passive, Single Wide, Low Profile GPU	75	Turing		GA
GP5OIYC	NVIDIA Ampere A100, PCIe, 300W, 80GB Passive, Double Wide, Full Height GPU	300	Ampere		GA
GJY3T7C	NVIDIA Ampere A40, PCIe, 300W, 48GB Passive, Double Wide, Full Height GPU	300	Ampere		GA
G2XVIZU	NVIDIA Ampere A30, PCIe, 165W, 24GB Passive, Double Wide, Full Height GPU	165	Ampere		GA
G1H6KZB	NVIDIA Ampere A16, PCIe, 250W, 64GB Passive, DW, FH GPU, Requires vGPU SW for VDI	250	Ampere		GA
NA	NVIDIA Ampere A10, PCIe, 150W, 24GB Passive, Single Wide, Full Height GPU	150	Ampere		GA
GW6QCXN	NVIDIA L40, PCIe, 300W, 48GB Passive, Double Wide, Full Height GPU	300	Ada Lovelace		GA
GQVL80M	NVIDIA L40S, PCIe, 350W, 48GB Passive, Double Wide, Full Height GPU	350	Ada Lovelace		GA
GA8YK6S	NVIDIA Ampere A800, PCIe, 300W, 80GB Passive, Double Wide, Full Height GPU	300	Ampere	EOL	NPI
GV570X9	NVIDIA Ampere A2, PCIe, 60W, 16GB Passive, Single Wide, Full Height GPU,V2	60	Ampere		GA
NA	NVIDIA Ampere A2, PCIe, 60W, 16GB Passive, Single Wide, Low Profile GPU,V2	60	Ampere		GA
G1UIYQ5	NVIDIA L4, PCIe, 72W, 24GB Passive, Single Wide Full Height GPU	72	Ada Lovelace	Aug FY24	GA
NA	NVIDIA L4, PCIe, 72W, 24GB Passive, Single Wide Low Profile GPU	72	Ada Lovelace	Aug FY24	GA
GA7P9L2	NVIDIA Hopper H100, PCIe, 300W-350W, 80GB Passive, Double Wide,GPU	350	Hopper	Aug FY24	GA
GGQZTM3	AMD MI210,300W PCIe, 64GB Passive, Double Wide, Full Height GPU	300	CDNA 2	Dec FY24	GA
GD9FIYK	NVIDIA H100 NVL, PCIe, 350W-400W, 94GB Passive, Double Wide, Full Height GPU	400	Hopper	Dec FY25	NPI

fig. 17 – 16G PCI card dimensions

PCI cards

module	Card option	Card	Fits in: DW FLFH x16	HLFH x16	HLFH x8	HLLP x16	HLLP x8
1516	G0SWIFX	Emulex LPe35002 Dual Port FC32 Fibre Channel HBA, PCIe Low Profile				✓	✓
1516	G2H8ZPK	Emulex LPe35002 Dual Port FC32 Fibre Channel HBA, PCIe Full Height	✓	✓	✓		
1516	GCUH9DP	Emulex LPe36002 Dual Port FC64 Fibre Channel HBA, PCIe Low Profile				✓	✓
1516	GKX6ODF	Emulex LPe36002 Dual Port FC64 Fibre Channel HBA, PCIe Full Height	✓	✓	✓		
1514	G7BFQ2Y	Broadcom 57414 Dual Port 10/25GbE SFP28 Adapter, PCIe Low Profile, V2				✓	✓
1514	G4I7XJV	Broadcom 57414 Dual Port 10/25GbE SFP28 Adapter, PCIe Full Height, V2	✓	✓	✓		
1514	G5AKPFM	Nvidia ConnectX-6 Lx Dual Port 10/25GbE SFP28, No Crypto, PCIe Low Profile				✓	✓
1514	G1K3YJS	Nvidia ConnectX-6 Lx Dual Port 10/25GbE SFP28, No Crypto, PCIe Full Height	✓	✓	✓		
1514	GMONYW5	Mellanox ConnectX-6 DX Dual Port 100GbE QSFP56 Network Adapter, Low Profile				✓	
1514	GI6UGQR	Mellanox ConnectX-6 DX Dual Port 100GbE QSFP56 Network Adapter, Full Height	✓	✓			
1624	GP5OIYC	NVIDIA Ampere A100, PCIe, 300W, 80GB Passive, Double Wide, Full Height GPU	✓				
1624	GJY3T7C	NVIDIA Ampere A40, PCIe, 300W, 48GB Passive, Double Wide, Full Height GPU	✓				
1624	G2XVIZU	NVIDIA Ampere A30, PCIe, 165W, 24GB Passive, Double Wide, Full Height GPU	✓				
1624	G1H6KZB	NVIDIA Ampere A16, PCIe, 250W, 64GB Passive, DW, FH GPU, Requires vGPU SW for VDI	✓				
1624	GW6QCXN	NVIDIA L40, PCIe, 300W, 48GB Passive, Double Wide, Full Height GPU	✓				
1624	GA8YK6S	NVIDIA Ampere A800, PCIe, 300W, 80GB Passive, Double Wide, Full Height GPU	✓				
1624	GV570X9	NVIDIA Ampere A2, PCIe, 60W, 16GB Passive, Single Wide, Full Height GPU,V2	✓	✓	✓		
1624	G1UIYQ5	NVIDIA L4, PCIe, 72W, 24GB Passive, Single Wide Full Height GPU	✓	✓			
1624	GA7P9L2	NVIDIA Hopper H100, PCIe, 300W-350W, 80GB Passive, Double Wide,GPU	✓				
1624	GD9FIYK	NVIDIA H100 NVL, PCIe, 350W-400W, 94GB Passive, Double Wide, Full Height GPU	✓				
1624	GGQZTM3	AMD MI210.300W PCIe. 64GB Passive. Double Wide. Full Height GPU	✓				

fig. 18 – 16G PCI riser support

R660

module	Riser option	Riser	DW FLFH x16	HLFH x16	HLFH x8	HLLP x16	HLLP x8
1510	G83PJMY	Riser Config 1, Low Profile, 3x16 LP Slots (Gen4)	0	0	0	3	0
1510	GVO4JRC	Riser Config 2, Low Profile 3x16 LP Slots (2xLP Gen5 + 1xLP Gen4)	0	0	0	3	0
1510	GS4VHME	Riser Config 4, Low Profile, 2x8 LP Slots (Gen5) + 1x16 LP Slot (Gen4), 1CPU	0	0	0	1	2
1510	G8VL3IK	Riser Config 10	0	0	0	1	1

R760

module	Riser option	Riser	DW FLFH x16	HLFH x16	HLFH x8	HLLP x16	HLLP x8
1510	G0WKPNM	Riser Config 1, 6x8 FH Slots (Gen4), 2x16 LP Slots (Gen4)	0	0	6	2	0
1510	G975M18	RC3,Full Length,2x8 FH Slots(Gen4),2x16 LP Slots(Gen4),2x16 FH DW GPU Capable Slots(Gen5)	2	0	2	2	0
1510	G7H3YCX	RC5 , Half Length, 2x16 FH Slots (Gen4), 2x16 LP Slots (Gen4), 2x16 FH Slots (Gen5)	0	4	0	2	0
1510	GNTWM2Q	Riser Config 11, 2x8 FH Slots (Gen4), 2x16 LP Slots (Gen4)	0	0	2	2	0

R6625

module	Riser option	Riser	DW FLFH x16	HLFH x16	HLFH x8	HLLP x16	HLLP x8
1510	G5WH98Z	Riser Config 1, 1 x16 LP + 2 x16 LP	0	0	0	3	0
1510	GARL0U1	Riser Config 2, 1 x16 LP (Gen4) + 2 x16 LP (Gen5)	0	0	0	3	0

R7625

module	Riser option	Riser	DW FLFH x16	HLFH x16	HLFH x8	HLLP x16	HLLP x8
1510	G6S4AKN	Riser Config 2, 6 x8 FH + 2 x16 LP (Gen4)	0	0	6	2	0
1510	GCM1AQR	Riser Config 4, 2 x16 LP + 2 x8 FH + 2 x16 DW, Full Length	2	0	2	2	0

R860

module	Riser option	Riser	DW FLFH x16	HLFH x16	HLFH x8	HLLP x16	HLLP x8
1510	GT1A60G	RC2 2 x16 LP +6 x16 FH (Gen5)	0	6	0	0	0