

Optimize Dell VxRail Compute with DPUs (Data Processing Units)

The requirement for organizations to distribute infrastructure services has steadily risen as modern applications are commonly deployed in data centers, clouds, and edge locations. And as organizations focus on delivering optimized performance and experiences in the most operationally efficient way, the goal is to deploy these services as close as possible to the applications, without impacting the CPUs (compute processing units) supporting the applications.

Organizations' top goals for digital transformation (DX)



Become more **operationally efficient**,
52%



Provide better and more **differentiated customer experience**,
47%

“Deploying infrastructure services directly on the server impacts CPU performance and utilization; **appliance-based services introduce latency and costs.**”

- Bob Laliberte, *ESG Principal Analyst*

Organizations need to offload infrastructure services (network, security, visibility, etc.) from the CPU—but deploying individual appliances for each service introduces increased latency and additional costs. Leveraging multiple vendor technologies can also increase complexity.

1



Legacy infrastructure services are often deployed on standalone appliances in separate racks. This creates unwanted latency and support costs.

2



Modern software-based infrastructure services loaded on servers drain expensive CPU resources, impacting performance and utilization.

3



Leveraging solutions from multiple vendors increases complexity, impacting agility and time to roll out new services.

Distributed infrastructure service solutions running on DPUs deliver value

Dell and VMware have partnered to deliver distributed infrastructure services on DPUs in the VxRail that utilize vSphere® Distributed Services Engine™

1



Jointly engineered, developed, and tested solution from VMware, Dell, AMD Pensando, and NVIDIA provides turnkey DPU environment in VxRail.

2



Offloading infrastructure services to DPU ensures optimized application performance and CPU utilization.

3



Organizations can leverage familiar tools (NSX, vSphere Distributed Services Engine, vCenter, etc.) for both CPU and DPU.

Pre-tested and validated solutions accelerate time to value

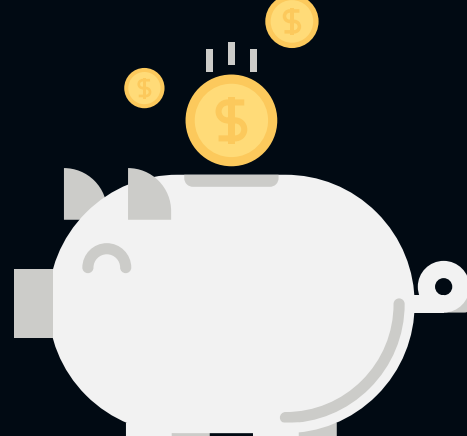
Turnkey VxRail deployment with choice of integrated DPU and VMware services simplifies and accelerates organizations' transition to leveraging distributed services. Organizations can quickly gain benefits to deliver differentiated application performance and ensure CPU utilization is optimized. Additional efficiencies are gained with a common operational model for both CPU and DPU leveraging vCenter and automated lifecycle management.

1



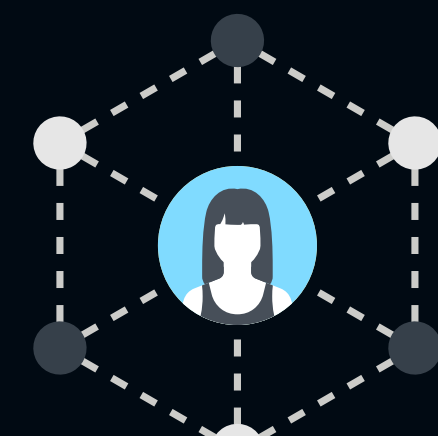
Save weeks, months, or even years of development, integration, and testing of multiple DPU solutions and infrastructure services. Minimize day-two efforts by taking advantage of integrated lifecycle management capabilities.

2



Reduce costs by unburdening CPUs and deploying fewer nodes. Leverage enterprise licenses to expand use of distributed services.

3



Improve customer experiences with more performant applications. Drive operational efficiencies with teams by leveraging familiar/already deployed software (vCenter) for managing CPU and DPU.

The Bigger Truth

Modern application environments are rapidly gaining ground in the enterprise. However, legacy architectures that require multiple infrastructure services (i.e., network, security, visibility, etc.) hosted on either individual appliances or server CPUs can impact performance, security, and cost-efficiency.

Organizations need turnkey solutions that take advantage of DPU-enabled SmartNICs, which enable infrastructure services to be offloaded from the CPU but still remain distributed with the applications and delivered in an operationally efficient manner.

Dell and VMware have partnered to deliver the DPU-enabled VxRail that today offloads infrastructure services such as NSX-T and will expand over time. This ensures optimized application performance and operational efficiency with a jointly engineered and tightly integrated CPU/DPU package leveraging a common tool set. This will support organizations looking to save time and money and deliver enhanced application experiences.

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