



Designing the Next Generation of OEM Solutions.

A software-defined lens.

How engineers can partner with Dell Technologies OEM Solutions to design and deliver on emerging technologies, and stay competitive and differentiated in their industry.

An emerging opportunity. An important decision.

All industries are digitally transforming. From smart factories and intelligent healthcare, to smart safety and security, telecom and marine, new capabilities are affecting every industry and show no sign of abating. Customer experience is a key differentiator, yet expectations are rising and there's the sheer pace of technology changes and vendors to contend with.

Smarter applications have evolved from single-purpose, single-OS and single-application to agile development, cloud-to-edge reach, elastic scalability, AI/ML enabled, highly available and software-defined everything. These are the elements of a mature digital business.

Technology scales to handle increased workloads.

The appliance workload is increasing all the time. Applications of the future will not run on the appliances of the past: Workloads are too intensive—scaling to 50TB and beyond. Plus, smart devices are continuing to feed even more data into the mix.

Compute's evolution means more applications running in more places. Virtualization for platform flexibility opens new use cases, and markets with a wide variety of options.

As an example: in the healthcare industry, there are a wide variety of requirements for capturing medical images, patient data and diagnostic info. This requires a wide variety of capabilities from GPU to storage-dense to compute-centric solutions.

The right software-defined appliance can easily fit into all of these scenarios. And while virtual computing has been around a while, virtualization has also expanded since into networking and storage.

The data-driven dilemmas.

Having an architecture that can handle a massive amount of data is critical. A software-defined storage array helps you capitalize on the capabilities on different hardware platforms.

Whether you require high-end or rugged servers, taking advantage of an expansive variety of options to cater to your workloads will help you deploy traditional IT-centric servers in places where they didn't work before. This will greatly open up markets for OEMs.



Smarter, more agile networks are paramount.

IoT, AI, machine learning, and analytics are merging. Networking is becoming incredibly complex—OEMs and their customers must be multi-cloud ready and connect as part of a system of intelligent systems. It will become impossible to meet new customer expectations by using traditional server appliances and the cloud. The workloads are too intense, and the environments of operation are too diverse—often needing to perform at the edge in small, rugged spaces. The appliance must evolve. There are more options now to give you a toolkit: This requires looking at VSAN, virtual storage appliances, open networking and NSX for starters.





The emergence of hyperconvergence.

Hyperconvergence integrates multiple system components into a single integrated turnkey solution. By focusing on IP instead of hardware drivers, this helps focus development on differentiating software.

OEMs have specialized use-cases like AI and high-performance streaming requirements and flexible databases. For example: an Oil & Gas services provider uses a Dell VxRail HCI solution for their customers to run systems on an oil rig in a difficult-to-support environment —where a helicopter is needed for on-site service.

The resiliency in the software-defined HCI appliance allows the provider to focus on their software as opposed to the hardware. It also allows their customers to completely isolate the system from their corporate or traditional IT datacenter environments for added security. This solution is extremely scalable—allowing dozens, even hundreds of application use-cases.

By wrapping functions in a virtual machine or container, you can treat that function as an atomic entity. The advantages are that you can independently roll out or replace virtual functions in a modular fashion without impacting other functions.

Applications and appliances tailored for your customers' needs.

HCI is great, but with the rise of purpose-built software-defined capabilities, you now have options to suit your needs. Currently, there's a wide offering of hypervisors (VMware, Hyper V, KVM, Openstack) available, as well as options for storage, and networking—with the rise of network function virtualization.

For example: one telecom network equipment provider leverages OEM Solutions to develop billing and telemetry solutions they deploy in their service provider customers at a variety of locations, from regional data centers, to mall closets, to towers in extreme environments. The software-defined design allows them to pick the right hardware to suit their unique use case.

Performance-centric, performance-intense design can drive Hyperconverged Infrastructure costs. Going software-defined helps with this in areas like block storage or crafting hardware-agnostic appliances. Integration with things like PKS adapts easily for the containerization world without abandoning the physical world.



The right partner makes the difference.

With broader access to a robust portfolio—from custom configurations, unique components, global support and services—OEMs can take advantage of unlocking new revenue streams, monetizing customer data, and ensuring the optimization of both operational technology & information technology.

For example: If a cloud provider wants to sell their custom cloud stack to a customer, but also wants to focus on a particular GPU that isn't available in standard server offerings, OEM Solutions helps the OEM test, qualify and support this specific requirement.

The benefits to OEMs include increased resiliency and scalability—values you can sell to your customers. Once you've virtualized, then you can properly assess our software-defined strategy, which falls into one of two buckets:

- General purpose virtualization (for example: Dell VxRail or Dell PowerFlex, HCI solutions, which offer GPU nodes, compute-centric nodes, and more coming soon.
- Purpose-built software-defined virtualization, depending on your requirements: if high-performance and small footprint, we encourage OEMs to look at PowerFlex OS. Or, if an OEM needs intense archival capabilities, then look at Dell PowerScale. If they are looking for object storage, then Dell ObjectScale should be considered, and for streaming data, Dell Streaming

Data Platform should be an option. If an OEM needs multi-protocol storage capabilities, Dell Unity VSA.

Each specific use-case has their own dedicated purpose-built solution, whether you're trying to enable a fast database or create a multi-petabyte image archive.

Dell Technologies OEM Solutions can help you design and deliver:

- Cloud-native and cloud-agnostic solutions that let you innovate faster.
- Agile, software-defined infrastructure that increases agility and flexibility for service delivery.
- Dedicated engineering that lets you work with Dell Technologies OEM Solutions talent to solve complexity.
- Customization and configuration services that help you tailor your underlying platform.
- Dedicated program management that helps you accelerate projects from sketch to scale.
- In-market manufacturing with pre-certified trusted platforms on a secure supply chain.
- Streamlined partnerships around the world.

The future is software-defined, purpose-built and hyperconverged.

Capitalize on our deep expertise in microservices for virtualization that makes IT simpler to own and operate, and in hyperconverged infrastructure that reduces complexity, cost and physical footprint.

To learn more, contact your account team representative or visit DellTechnologies.com/OEM