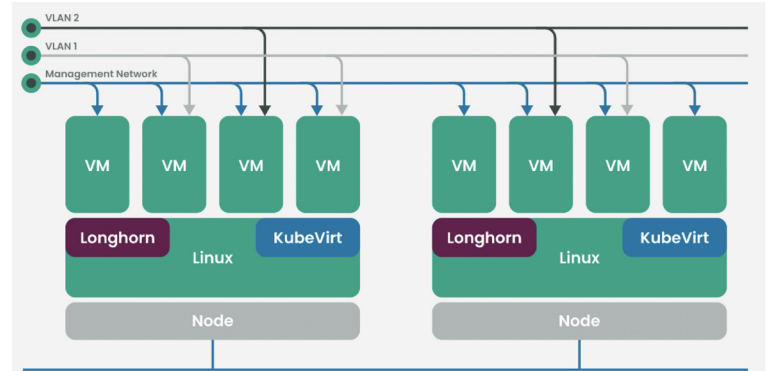


What's the Story?

Harvester is a turnkey hyperconverged infrastructure solution. A hyper-converged infrastructure (HCI) is a software-defined IT infrastructure that virtualizes all of the elements of conventional "hardware-defined" systems and converges them at the hypervisor level, resulting in a pool of shared compute and storage resources. Harvester manages this infrastructure, but unlike other solutions, it's built on cloud-native technology—so it can manage both virtualized SDI workloads as well as the cloud-native Kubernetes containers running in this software-defined environment. When used by itself, Harvester provides an easy-to-use management console to consolidate day-to-day operations for the VM environment. When combined with Rancher, Harvester helps operators establish a modern, agile IT environment built to

Harvester bridges classic VM and Kubernetes-based cloud-native infrastructure.



accelerate application development from the data center to the edge—providing a unified platform for both VM and container workload types. Think of Harvester as a solution like vSphere and vSAN, but it's open source.

With Harvester, your customers can:

- Consolidate VMs and container operations to bridge between cloud-native and legacy IT infrastructures and workloads.
- Hardware agnostic with broad platform support delivers significant savings, allowing IT to repurpose existing hardware investments.
- Built with industry standard cloud-native tools, reducing locking and future proofing you IT investments.
- Cloud-native lineage makes Harvester lightweight enough to be used across resource-constrained environments, including the edge.
- Eliminates the 'vTax' of proprietary solutions. Consolidates and simplifies IT operations to reduce CapEx expenditures.
- Brings legacy IT applications into the cloud-native world (through Rancher), providing the first steps toward IT modernization.

Problem / Challenge	Reason for Problem	Negative Organizational Impact	How We Solve the Problem	Benefit to the Customer
Enterprises need to reduce their dependence on single-vendor proprietary software	IT organizations are finding increasing costs and less innovation from their commercial HCI and Hypervisor. With no competition, proprietary vendors aren't incentivized to increase the value of their products.	Building applications on a stack that is controlled by a single vendor can engender higher costs, less flexibility, and solutions that don't innovate as fast.	Harvester is entirely open source and leverages open standards for its APIs and interfaces.	Customers get freedom of choice and the benefits of an innovative ecosystem of partners and vendors.
Specialty hardware-based storage and compute solutions become inflexible and costly.	The benefits of hardware-focused approaches have become less apparent with today's low cost, commodity storage that can rival the performance of these more expensive counterparts.	Hardware acquired over time becomes inconsistent and can't be managed with the same software. High TCO compared with commodity hardware.	Harvester is built to leverage commodity compute and storage hardware, and the same stack can run on multiple generations of hardware and form factors across all datacenters.	Simplified management, more predictable costs. Decouple HCI software from hardware.
Increasing silos between cloud-native and traditional HCI	As cloud-native and containers become more widely adopted, IT shops are having to maintain two siloed worlds of infrastructure tools, some of them redundant.	Maintaining two sets of tools, especially when they do similar things, is time consuming, complex, and difficult for IT staff to train and stay up to date on.	Harvester unifies the cloud-native and traditional HCI worlds through its Rancher integration. Containers and VMs can be managed with a single pane of glass.	Reduce the number of tools IT teams have to maintain. Gain comprehensive visibility into applications with unified deployment, monitoring and CI/CD tools.
Storage and data management at the edge	Edge presents a unique challenge because of the types of hardware available at the edge. Traditional full rack and specialty storage approaches are not always viable.	Edge initiatives are hampered because of the lack of flexible storage technologies that can work in these environments.	Harvester provides enterprise-grade storage for VM and container use cases that works in small and large form-factor deployments.	Source the edge hardware stack that is right for you. Enable applications that have data at the edge.

Customer Profile for a Good Opportunity	Primary Competitors
<p>Anyone running Kubernetes clusters (especially Rancher) that values an HCI that integrates deeply with cloud-native tools and simplifies cost and complexity.</p> <p>Anyone impacted by instability of pricing and products from their proprietary sw vendor.</p> <hr/> <p>Primary use cases: Enterprises looking at Kubernetes to drive digital transformation everywhere; enterprises with existing VM infrastructure, customers with both cloud-native and VM workloads, existing Nutanix/VMware customers, customers looking to modernize their stack.</p>	<p>VMware HCI/vSAN Positions themselves as the leader in the HCI market that is extensible to the public cloud. It is a complex solution with lots of additional costly add-ons. Users are locked into the VMware ecosystem when choosing VMware HCI and will incur costs from vSAN and additional VMware Tanzu licensing if they wish to also manage containers.</p> <p>Nutanix HCI Software-defined solution that virtualizes elements of conventional 'hardware-defined' systems. It offers more flexibility in terms of implementation and pricing compared to legacy HCI providers, but it is still a closed-source solution that encourages users to consume as many of their products and services as possible.</p> <p>Red Hat OpenStack Overly complicated solution that is built upon integrating as many Red Hat services as possible. Core HCI solution combines OpenStack with Ceph storage. You can run VMs and containers side by side the OpenShift console, but it has been commonly reviewed as a complicated and difficult setup that is expensive to use.</p> <p>Red Hat and Nutanix HCI This is another HCI solution that operates both container and virtualized workloads from Red Hat. The difference is that Red Hat partners with Nutanix instead of relying on their own OpenStack solution. This partnership HCI solution is designed for container-heavy environments to work alongside VMs, showcasing a lack of capability within Red Hat's own HCI offering.</p>

Defensible Differentiators			
Differentiator	Benefit	Alternate Approach	Alternative's Weakness
Open Source	Open-source platforms are extensible. Anyone can write a pull request to propose changes. They don't require license fees to use, and in some cases can be supported by multiple vendors..	HCI is dominated by VMware and Nutanix, both of which are proprietary offerings.	Proprietary software is completely controlled by a single vendor. Users can face rising costs without recourse as license fees increase. Integration and extensions are controlled by the vendor.
Deep Rancher Integration	Harvester integrates with Rancher for both centralized management and Kubernetes provisioning. While Rancher integrates with other HCI solutions for provisioning, only Harvester provides the single pane of glass for VM and container workloads with all the well-known benefits of Rancher's enterprise auth and RBAC functionality.	Hardware acquired over time becomes inconsistent and can't be managed with the same software. High TCO compared with commodity hardware.	Harvester is built to leverage commodity compute and storage hardware, and the same stack can run on multiple generations of hardware and form factors across all datacenters.
Uses Cloud-Native APIs	Kubernetes has become one of the most successful open standards for deploying applications. Its API is well understood and consumable by a rich ecosystem of tools. Harvester uses this API to power HCI, further increasing the return on the cloud-native investment. Popular CI/CD frameworks such as Argo and Fleet can be used to deploy both VMs and Containers.	VMware and Nutanix both have their own proprietary APIs. A user that is trying to deploy applications on Kubernetes but needs to first build infrastructure would have to manage two APIs to achieve what Harvester can do in one.	Proprietary APIs create dependency. As the systems around the infrastructure are designed around that API, the ability to adapt the platform to different infrastructure is limited. If you later decide to use other HCI solutions, you'll have to rewrite those dependent systems.