**FAQ - UCP and VSP with VMware Tanzu, RedHat OpenShift, HKS – (Frequently Asked Questions)**

[Updated March 30,2022]

**Q: Why is VMware Tanzu or RedHat OpenShift important to customers.**

A: With business leaders focused on digital transformation to drive new revenue streams, activities such as faster delivery of new and update business services to their customer segments becomes a key strategic component. Leveraging containers has become popular component in application development. Containers encourages more granular development teams and re-use of open source application components enabling apps teams to delivery new services and improved customer experiences almost daily in some cases. In order for customers to manage these containers (100’s to 10,000), an orchestration platform like Kubernetes becomes paramount. Customers seek proven distributions of Kubernetes to enables their apps team while ensuring they can manage and operate these environments effectively within their existing IT governance processes.

**Q: What is VMware Tanzu and Tanzu Kubernetes Grid (TKG)?**

A: VMware Tanzu is VMware’s brand name they have for solutions around the Kubernetes ecosystem for both infrastructure and developers. TKG is VMware’s name for their upstream CNCF compliant K8s distribution. Upstream just means they have tested/curated/packaged a version prior to current open source code version. TKG distribution can run on any cloud. It integrates and runs on vSphere natively, (i.e. Kubernetes control plane running across ESXi hosts) and Kubernetes workload clusters typically operate as sets of VMs to provide those run time services for pods/containers. It provides essentially in a few clicks approach to turn a vSphere 7+ installation into a platform that can deliver VMs and Kubernetes clusters. The team used K8s extensibility (e.g. Cluster APIs) to have it seamlessly integrate into vSphere architecture and allow operations teams to use familiar VMware tools/concepts to manage those resources... It is however, still a CNCF compliant K8s distribution since the standard K8s APIs is unchanged. This is good link to get oriented on Tanzu <https://veducate.co.uk/tanzu-terminology/> and here is overview of Tanzu architecture see <https://docs.vmware.com/en/VMware-vSphere/7.0/vmware-vsphere-with-tanzu/GUID-3E4E6039-BD24-4C40-8575-5AA0EECBBBEC.html>

Tanzu will have a strong appeal with VI Admin since its integrated into their stack reducing the tooling needed to run and support container workloads.

**Q: Where can I find more information / links related to this containers space with Hitachi**

A: We have created a tab on the virtualization, containers, and cloud community site. Check here [Modern App Infra – Quick Links](https://teams.microsoft.com/l/channel/19%3Ac5f849ce4ade43ae84c39e02bef60477%40thread.skype/tab%3A%3Aef62fbf4-5d3b-45f7-9cf2-30363deada69?groupId=2c5b9103-f961-497f-992a-97b6e0f4ba10&tenantId=18791e17-6159-4f52-a8d4-de814ca8284a)

**Q: Kubernetes is open source, why are we offering VMware Tanzu / RedHat OpenShift solution**

A: We offer flexibility when it comes to Kubernetes platforms. Kubernetes open source community distribution is free from a license/subscription perspective, but can be costly to maintain, secure and support leading to high operational costs. Enterprise distributions like VMware Tanzu and Red Hat Openshift reduces these risks, add additional value such as curated packages of open source software for ops and developers and enables customers to focus on delivering Kubernetes services to their apps team versus focusing on running Kubernetes

Tanzu is well positioned for VMware customers and VMware focused admin/operations team providing an integrated consistent path to manage not only VMs but including containers. Tanzu portfolio provides more than a curated tested upstream version of Kubernetes.

RH Openshift is traditionally well positioned and more name recognition for those closer to the Developers (kubernetes administrator and/or dev-apps builders). There are some looking to minimize or eliminate VMware license costs (or blue tax) although OCP comes with its own red tax. Openshift has the flexibility to run on in vSphere or bare metal, or combination of the two and OpenShift sees predominant deployments on VMware vSphere ((70% of OpenShift runs on VMware)

Q: **What do we offer from Unified Compute Platform (UCP) solution perspective?**

A: [UCP Converged and Hyperconverged](https://www.hitachivantara.com/en-us/products/converged-hyperconverged-infrastructure.html) solutions are flexible in that we can provide flexible platforms to support bare metal, virtual, and combination of the two for various workloads. We provide an on-premise/hybrid container UCP platform choices between VMware Tanzu and Red Hat Openshift (OCP). We also have a managed service offering with HKS that is currently in private beta .In addition to quoting/selling VMware Tanzu editions via VMware ELA, we now offer VMware Tanzu Basic license subscriptions as part of UCP configuration (1 or 3 year). We can resell RH OCP subscriptions as well. For details of their architecture see the respective reference architecture documents.

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| **​** | **VMware Tanzu​** (Global OEM or ELA)**​** | **Red Hat OCP**(Resell)**​** |
| UCP CI​ | Tanzu Basic (OEM) / Tanzu Standard / TKO editions (via ELA) | RH OCP (resell) virtualized or with bare metal nodes |
| UCP RS​ | Tanzu Basic (OEM) / Tanzu Standard / TKO editions (via ELA) | RH OCP (resell) virtualized​ |
| UCP HC​ | Tanzu Basic (OEM) / Tanzu Standard / TKO editions (via ELA) | RH OCP (resell) virtualized​ |
| UCP BM​ | NA​ | RH OCP (resell) on bare metal nodes​ |
| VSP | Provide Tanzu Basic licensing | RH OCP (resell) |

Q: **What do we offer from a VSP only solution perspective?**

A: For VSP customers, we offer integrations focused on data services for Kubernetes. If they are using VMware to run their Kubernetes distribution (highly likely), we can give their devops teams access to VSP storage through integrations that we have delivered. This includes Hitachi VASA Provider to enable VMDK storage for containers with VMFS or vVols, HSPC CSI driver and associated software for bare metal Kubernetes environments to provision, clone, protect persistent storage from VSP. You can also quote/sell VMware Tanzu software to customer that they can apply to their existing VMware vSphere environment or quote/sell Red Hat Openshift. There are other storage options that containers will need such as S3 with HCP, file access with HNAS/HCSF that we have documented. More information on these integrations in our dashboard.

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Q: **How do I quote UCP solutions with container platform software?**

A:

* UCP platform can be quote with existing methods through Converged Solutions

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Tanzu Basic via Global OEM: UCP CI/RS/HC CPQ configurator will have options to include Tanzu Basic in the Software section of these configurators. See the Container Platform software section

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Red Hat Openshift will also be included in this UCP’s configurator in the future. For now, use the Red Hat Standalone configurator.

* For other situations (non-UCP) that wants Kubernetes software the standalone configurators can be used for VMware Tanzu and Red Hat Openshift.

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**Q: With so many permutations of our container offering, how do we position?**

A:

* Storage opportunity, upsell on our value add persistent storage services and data protection services. See related question below and inquire if customer looking to broaden into hybrid/multi cloud kubernetes management solution.
* (hyper) Converged opportunity, upsell with UCP offerings with the choice of VMware Tanzu path or OpenShift Container Platform (OCP) path.
  1. If buyers are heavily invested on VMware’s stack (like those who have ELA), Tanzu path would be the best fit due to their tight integrations with their existing infrastructure as well as pricing advantages. If buyers have strong developer focus or insisting on reducing their VMware license costs/spend, RH Openshift might be entry positioning but cost comparisons could be favorable to VMware. The majority of OCP deployments runs on top of VMware Hypervisor today. Note, VMware are making strong push into developer decision makers with some of their past acquisitions that are now part of VMware Tanzu advanced edition including Spring Framework usage by developers so we expect higher name recognition with Tanzu and VMware portfolio in subsequent timeframes.Graphical user interface, application, website

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  2. From an infrastructure perspective (bottoms up), If on-prem vSphere is the infrastructure, either vSphere with Tanzu or Openshift can be used. vSphere with Tanzu basic is obvious first choice and then UCP RS with VCF+Tanzu if customer is replatforming compute and wants longer term hybrid cloud solution including on-premise and multi-cloud kubernetes cluster management. Determine if the buyer considers VMware a long term partner for traditional and container platforms and has a high focus on operations consistency and compliance for these workloads. Developers would have more name recognition with OpenShift and If customer is trying to mitigate/hedge VMware costs with alternative vendors (or 2 vendor approach), then UCP with OpenShift could be right strategy. Inquire on the need for GPU’s in their eventual architecture, that may lend itself better to a UCP+VMware Tanzu+Nvidia solution
  3. If buyer is strictly bare metal focused, Red Hat Openshift.
  4. If customer seeking managed service offering, then HKS could be right positioning (note HKS currently in private beta).

Q: **What do we offer from storage solutions plugin perspective as part of customers Kubernetes deployment?**

A: . As containerized applications require data services for persistent data. We provide key storage integrations to allow DevOps team to easily access, consume, protect, and monitor Hitachi storage infrastructure.

* Hitachi VASA – Enables CNS-CSI with policy based persistent storage from VSP
* HSPC – This is Hitachi’s CSI. Dynamic provisioning of persistent volumes.  Including lifecycle capabilities including snapshots, cloning, and volume expansion.
* HRPC - Data protection, disaster recovery, and migration of persistent volume to remote Kubernetes cluster.
* HSPP - Storage monitoring into Prometheus and central dashboard in Grafana to enable observability.

This paper shows most of the above being used in a OCP on VMware/Bare Metal environment RA: Persistent Storage for OpenShift with bare metal, VMFS, vVols and vSAN (2020) ([link](https://knowledge.hitachivantara.com/Documents/Application_Optimized_Solutions/VMWare/Deployment_Options_for_Red_Hat_OpenShift_on_Hitachi_Unified_Compute_Platform_CI_with_Hitachi_Virtual_Storage_Platform_Family_Reference_Architecture_Guide)) and more recent information in dashboard.

More recent blogs here: <https://community.hitachivantara.com/blogs/jose-perez/2022/02/22/hitachi-storage-integration-for-kubernetes>

Other storage options like HCP, HCSF, HNAS, VSSB are listed below and being further evaluated for tighter integrated and adding additional value.

If customer undecided on their Kubernetes strategy We can quote/sell/provide VMware Tanzu and/or RedHat OpenShift licenses for their existing environments even if not investing in UCP platform

**Q: What questions should I ask**

**A:**

1. How prevalent is kubernetes in their environment today. On-premise, hybrid deployment with service provider, hyperscaler (Azure, AWS) or a mix of all ?
2. Existing environment today, are they running OpenShift/Kubernetes on VMware hypervisor or running it on bare metal compute or both bare metal and VMware (common) ?
3. Is the customer looking to do a tech refresh of infrastructure (compute+storage/converged) that is hosting their existing OpenShift/k8s environment or evaluating alternative Kubernetes stack + infrastructure solution ?
4. What obstacles is customer experiencing or improvements they are seeking providing K8s environments for development teams as part of tech refresh
5. Do they manage Kubernetes environments across on premise and service providers/public cloud today. How do they monitor your Kubernetes environments and manage security requirements and privileges across those environments today?
6. Both OpenShift portfolio and VMware Tanzu portfolios that we can supply can meet the infra and/or app-dev requirements. Is the customer open to consider both proposals or combination (e.g. Tanzu portfolio handing their CI/CD requirement for an openshift k8s clusters) or has certain preference.
7. Data services: Is there a requirement from the team managing their k8s/OCP environment to provide data services (e.g. Container persistent storage with Hitachi VSP+automation software and/or primary and backup s3 based storage with HCP) to their developers/apps teams?. It is quite typical for those teams to want access to enterprise quality storage as part of their SLAs as they move those containerized workloads to production and to provide a robust backup solution for those apps using persistent storage. We have good automation story to make that easy for app devs/Kubernetes admins to consume that storage (our HSPC CSI, HRPC and VASA integrations)
8. Backup services for these container services including the persistent storage. Have they an existing solution or looking to incorporate a solution as they add enterprise storage
9. Is there a set of requirements that dev apps/k8s administrators are requiring (beyond infrastructure) that are necessary for complete solution. E.g application integration, policy based management including security across multiple Kubernetes clusters (i.e.on-premise and hybrid)

**Q: Why should customer purchase VMware Tanzu from Hitachi Vantara ?**

A: Hitachi provides a one-stop shop for VMware Tanzu solution with our UCP converged offerings plus we provide a rich set of infrastructure automaton and data services offerings that k8s admins and app developers will need to meet various app data storage requirements. Tanzu enables a customer to move quickly to provide kubernetes services to developers and UCP provides reliable automated converged infrastructure that provides the solid foundation under VMware Tanzu. We have various converged options, general workhorse converged infrastructure with UCP CI, hyperconverged infrastructure with UCP HC, and hybrid cloud platform enabled with UCP RS using VMware Cloud Foundation. We also offering Tanzu licenses for existing vSphere deployments on non-UCP compute with VSP storage solutions.

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**Q: How to approach opportunity for Tanzu**

A: The ideal sales play is to introduce customer/prospect to Kubernetes platform solution via vSphere with Tanzu Basic capabilities but educate/move them into a VMware Tanzu edition such as Tanzu Standard which provides value add capabilities such as multi-cloud which is what they will eventually need. Ideally, if prospect is looking to rehost compute infrastructure, quote them a UCP RS with VMware Cloud Foundation with the inclusion of Tanzu Basic OEM skus or VMware Tanzu Standard or Tanzu for Kubernetes Operations (TKO) via ELA. Don’t forget to register the deal with VMware to protect account from other partners coming in with different discount structure. Here are a set of outcome/questions to consider. More below on registering deals

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**Q: How is VMware Tanzu Basic licensed**

A: It’s licensed the same way as vSphere. Per CPU licensing model

**Q: What is Tanzu Basic and what are the different versions of Tanzu**

A: VMware Tanzu is available in different packaging and editions. With regards to editions, Tanzu currently have four different editions: Community (free), Basic, Standard, and Advanced. Community edition is intended for education purposes and community supported. For enterprise customers, the focus is Basic, Standard, and Advanced. For comparison of these editions see [VMware’s Tanzu comparison site.](https://tanzu.vmware.com/tanzu/compare)

Tanzu Basic Solution Brief <https://d1fto35gcfffzn.cloudfront.net/tanzu/VMware-Tanzu-Basic-Solution-Brief.pdf>

**Q: Who provides product support for Tanzu / OpenShift, Hitachi or VMware**

A: UCP Platforms can be sold with Hitachi branded support for VMware and 3rd party support for RedHat OCP. For now, when Tanzu is added to a UCP configuration, the Tanzu component will be supported directly by VMware. Our intent is to pursue/enable GSC to get into position where they can provide Hitachi branded support for Tanzu. We are working on what that timeframe would be. So, at this time, specific to the Tanzu or Openshift component on UCP on VMware, our GSC will provide L1 and L2 support for the Hitachi HW stack along with Hitachi’s SW like UCP Advisor including VMware vSphere SW infrastructure. VMware support will need to be initiated by the customer for Tanzu related issue (or GSC will remind customer of this if confirmed to be Tanzu). Likewise, for Openshift customer will have to engage Red Hat’s support.

**Q: What about Professional Services in this space**

A: For right now for VMware Tanzu, we recommend lean in on VMware professional services and similar services provided by value added resellers/partners. VMware has many professional services options in this space. Check here [Explore VMware Tanzu Labs Services](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Ftanzu.vmware.com%2Fcontent%2Ftanzu-labs%2Fvmware-tanzu-labs-datasheets&data=04%7C01%7Cpaul.morrissey%40hitachivantara.com%7Cf7e3cc52d91b44bea80008da084b59bc%7C18791e1761594f52a8d4de814ca8284a%7C0%7C0%7C637831416984538616%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=2GO4PQLIGD78SnI9z%2FHU3fh3PJ9bXf3qWfGpDb9YHFw%3D&reserved=0) . Tanzu labs is brand name for services in this container/modern apps space. The activation service at the bottom of that page are install/deploy/first app running services (either prod or non-prod) that may/should be interesting to your customers who want to maximize usage of the platform. VMware recommends the app navigator (first service) for those that want to map out their app modernization strategy) Use the services in addition the reference architecture papers we have delivered. Will provide more info on RedHat services in next FAQ update.

**Q: How to contact my VMware sales counterparts**

A:Sales, leverage the regional alliance lead/partner sales manager in your region as first stop

|  |  |
| --- | --- |
| Jason Parmley | AMER, HV regional alliance lead |
| Patrick Bremer | EMEA, HV regional alliance lead |
| Li Kiang Low | APAC, HV regional alliance lead |
| Jim Klazura [jklazura@vmware.com](mailto:jklazura@vmware.com) | Director, Global Partner Sales |
| Devendra Vamathevan [dvamathevan@vmware.com](mailto:dvamathevan@vmware.com) | Director, Partner Solution Architect - |
| Amrith Sundar [asundar@vmware.com](mailto:asundar@vmware.com) | **AMER,** Global Partner Sales Manager |
| Greg Byrne [gbyrne@vmware.com](mailto:gbyrne@vmware.com) | **EMEA** PBM, Global Partners |
| Pradeepto Dey [pradeeptod@vmware.com](mailto:pradeeptod@vmware.com) | **APJ,** Director, Distribution Partner Business, |
| William Lum [wlum@vmware.com](mailto:wlum@vmware.com) | Technical, Alliance Staff Solution Architect |
| Katie McMillan [kfusco@vmware.com](mailto:kfusco@vmware.com) | Marketing Senior Marketing Manager |

**Q: Do we have containers and GPU related offering**

A: Yes, UCP + VMware + Nvidia is a combined solution that we have certified, and we continue to partner with Nvidia and certify newer Nvidia GPUs such as A30. We call this the “AI ready platform” that we want to leverage for both Lumada image processing based apps that require ML/DL/Inference workloads in addition to generalized AI/ML and inference workloads that customers want to run. Some of our initial work captured in this blog <https://www.hitachivantara.com/blog/accelerates-enterprise-outcomes-with-ai-powered-integrated-platform-in-collaboration-with-nvidia/>

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**Q: I want to know everything Tanzu from sales motion perspective and all the resources that VMware provides, where would you start**

A: I would suggest their partner deck which I have placed [here](https://hitachivantara.sharepoint.com/:p:/s/VirtualizationCloudandContainersCommunity/EZgcxAAifERIrzdoRCL_lwgBcefUyyiOeDD6QFZ4nH70wQ?e=Dmdd3Y). It covers tanzu value prop, sales motion, sales tools, marketing campaigns, role of partners etc.

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**Q: What is CSI?**

A: CSI stands for Container Storage Interface. It’s a plugin architecture for K8s for storage provider to expose their storage to containers. It’s a standard used by many storage providers. Our HSPC uses CSI standard. HSPC capabilities like dynamic provisioning, snapshot, cloning is developed using CSI specs. <https://kubernetes.io/blog/2019/01/15/container-storage-interface-ga/>

**Q: What are all the CSI/Persistent storage options we can provide from Hitachi Vantara**

**A:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Storage ​ | Plugin Description​ | Capabilities​ | Access​ | Data Services​ | Protocol​ | Comments​ |
| UCP RS /UCP HC /UCP CI with VSP​   ​  or VSP standalone​ | **HSPC** – Hitachi Storage Plug-in for Containers (CSI) ​  **HRPC** – Hitachi Storage Replication for Containers ​  **HSPP** – Hitachi Storage Plug-in for Prometheus​ | **Dynamic provision Snapshot**​  **Volume expansion**​  **Clone**​  RAW block volume​ | **RW single node**(RWO)​  **R Only Many**(ROX)​ | **Disaster Recovery**– 2DC​  **Data migration**to remote cluster​  **PV backup** to remote​  PV and storage **monitoring**​  Stretched PV – 2DC(future)​  Multi-tenant storage partition(future)​ | **FC/iSCSI**​  (iSCSI only for HSPC invSphere)​ | General use persistent volumes for container pods running in **bare metal K8s**nodes and option of **virtualized K8s**nodes.​ |
| **VMware CNS-CSI** with Hitachi VASA Provider (vVols, VMFS)​ | **Dynamic provision Snapshot**​  **Volume expansion**​  RAW block volume​ | **RW Single**(RWO)​ | 2xDC Disaster Recovery (VASA-vVols with Async and Sync replication​  ​ | **FC/iSCSI**​  ​ | General use persistent volumes for container pods running in **virtualized K8s**nodes.​ |
| UCP HC​ | **VMware CNS-CSI**​ | **Dynamic provision Snapshot**​  **Volume expansion**​  RAW block volume​ | **RW Single**(RWO)(block)​  **RW Multi**(RWX)(file)​  ​ | ​ | **FC/iSCSI**​  **NFS**(vSANfile services)​ | General use persistent volumes for container pods running in **virtualized K8s**nodes.​ |
| VSS Block​ | **HSPC** – Hitachi Storage Plug-in for Containers (CSI) ​ | **Dynamic provision**​ | **RW single node**(RWO)​  ​ | (future)​  ​ | **FC/iSCSI**​  (iSCSI onlyfor HSPC invSphere)​ | General use persistent volumes for container pods running in **bare metal K8s**nodes and option of **virtualized K8snodes**.​ |
| HNAS​ | **HNAS CSI**​ | **Dynamic provision Snapshot**​  **Clone**​ | **RW Multi**(RWX)​ | ​ | **NFS**​ | General use persistent volumes for container pods.  ​ |
| HCP ​ | CSI-S3 (future)​ | ​ | ​ | ​ | **S3 Object**​ | **S3 bucket for apps, backup target.  Quay container registry**. CSI PV capabilities for future.​ |
| HCSF (future)​ | (researching) | | | | | |

**Q: What do we offer from a HNAS, VSS Block perspective for container ecosystem**

A: We provide storage integrations (CSI) with HNAS and VSS Block to enable additional storage options for applications and deployment models that have needs outside of what our VSP SAN storage offers. HNAS provides multi-access file based persistent storage for multi-tiered web applications as an example. Or if the data needs accessibility outside of the containerized application. While block based single access persistent storage can be used for database applications as an example. VSS-Block provides a software defined scale out model based on x86 servers for block storage

**Q: What will be our plans for Hitachi Kubernetes Service (HKS)?**

A: HKS is currently in private beta and still being refined but current GTM is focused on XaaS model or more specifically a managed services offering. The managed service offering includes a SaaS based control plane and managed services would manage an on-prem component (e.g. UCP platform) that is running HKS/HKE based workload clusters. Other GTMs are being evaluated outside of managed service offering. This project is driven by XaaS team in Digital solutions business unit with UCP team contributing. Contact us for further details

**Q: Where can I find more information on UCP**

A:Seismic [here](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fhitachivantara.seismic.com%2Fapp%3FNewsId%3Dcdaf2ead-fc69-4cf6-b19e-86f4d26cb634%23%2Fnewscenterdocdetail%2Fdoc%2Ff519426a-883f-4888-873b-e1775c701c23%2Fbc5c480f-21fa-4c45-b2e0-c471cc5c9230%2Fgrid%2F%3Fp%3Dstory%26anchorId%3Dcd5e349e-22e6-4636-9467-dd9fe8d9101f&data=04%7C01%7Cpaul.morrissey%40hitachivantara.com%7C599603c3eabb48c9287508d9faeee80e%7C18791e1761594f52a8d4de814ca8284a%7C0%7C0%7C637816726666894400%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=GZ1upLx8wIt8hfLjzRI4DyUg7q0sa4osDa0bF0sykuk%3D&reserved=0)

**Q: Where can I find information on the Tanzu promotion**

A: Review content hereMake the most with Special 50% off [**VMware Tanzu Basic**](https://nam04.safelinks.protection.outlook.com/ap/p-59584e83/?url=https%3A%2F%2Fhitachivantara.sharepoint.com%2F%3Ap%3A%2Fr%2Fsites%2FVirtualizationCloudandContainersCommunity%2F_layouts%2F15%2FDoc.aspx%3Fsourcedoc%3D%257B2B40B44C-72D4-4A37-8525-0531093A9583%257D%26file%3DVMware%2520vSphere%2520with%2520Tanzu%2520Promotion%2520Partner%2520Overview%2520Deck%2520EN.pptx%26action%3Dedit%26mobileredirect%3Dtrue&data=04%7C01%7Cpaul.morrissey%40hitachivantara.com%7C599603c3eabb48c9287508d9faeee80e%7C18791e1761594f52a8d4de814ca8284a%7C0%7C0%7C637816726666894400%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=WnR4WhCNZwpQa9n%2FUB%2B4bI93NSE3KmH6DSRLILw363Q%3D&reserved=0) SKU. This is in addition to the existing VMware bounty programs [**Hybrid Cloud Bounty program**](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fhcpanywhere.hitachivantara.com%2Fa%2FGmYN_3ZmD18IZg3z%2Fd320d61c-bd21-43cd-92e3-4893ad9513f1%3Fl&data=04%7C01%7Cpaul.morrissey%40hitachivantara.com%7C599603c3eabb48c9287508d9faeee80e%7C18791e1761594f52a8d4de814ca8284a%7C0%7C0%7C637816726666894400%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=8J5%2BCZyW1iIy1FaQn0MvotGH%2B8eCSQeNQh%2Fr1t3RoZU%3D&reserved=0)

**Q: Reminder on how to register deals with VMware**

A::

1. Register your deal as quickly as you can, at VMware’s Partner Central to ensure an exclusive registration, that entitles the registering partner for financial benefits.
2. If you cannot register the deal yourself, ask your regional alliance lead:
   1. EMEA – Patrick Bremer: [Patrick.bremer@hitachivantara.com](mailto:Patrick.bremer@hitachivantara.com)
   2. APAC – Li Kiang Low: [li.kiang.low@hitachivantara.com](mailto:li.kiang.low@hitachivantara.com)
   3. AMERICAS – Jason Parmley: [Jason.parmley@hitachivantara.com](mailto:Jason.parmley@hitachivantara.com)
3. Potential for back-end rebates on Enterprise Level Agreement (ELA). Rebates are available on some (but not all) VMware products. The more strategic the product is to VMware corporate objectives, the greater the potential for rebates.
4. Any deal >$250k new VMware licenses could potentially quality for greater discounts via VMware ELA process. Working with your VMware Account manager on an ELA, increases the possibility of securing higher discounts for your ELA. If you need help, ask your regional alliance leads listed above.

**Q: Can we get better discounts with our Red Hat Openshift resell?**

A: For any Red Hat pricing support please contact our Red Hat Alliance Manager Seth Goodling <seth.goodling@hitachivantara.com>

**Q: Who can I contact for more information?**

A: The regional apps focused TE’s can provide 1st level of sales support in addition to your sales peers in VMware organization. For Product management assistance, you can reach UCP team at UCP PM [UCPPM@hitachivantara.com](mailto:UCPPM@hitachivantara.com) and someone in modern apps team will respond. See VMware partner sales contacts in previous question.

**Q: Is there any partner training materials?**

A:

* VMware Partner Connect has various courses for Tanzu and Modern Applications through their Partner University.

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Go to <https://www.vmware.com/partners/work-with-vmware/partner-connect.html>

* Red Hat has partner portal for various Openshift learning paths. Login at <https://connect.redhat.com/benefits/open-learning-paths-isvs>

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Q: **VMware ELA Process ?**

A: See below. Use your regional alliance lead to find counterparty.

Diagram

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**Q: What is Kubernetes (k8s)?**

A: K8s is a container orchestration (CO) platform. It has dominated the market against other COs like Docker Swarm and Mesosphere. K8s is not the engine that provides containerization. It manages and orchestrates the containers. Containerization itself is provided by the container runtime like Docker or CRI-O. containerd and CRI-O are most common standard runtime used in most enterprise K8s distributions like RH OCP or Tanzu. See [here for more info](https://kubernetes.io/docs/setup/production-environment/container-runtimes/).*.* In K8s, the most common tool is *kubectl*. For more information about K8s, see and its concepts: <https://kubernetes.io/docs/concepts/>

**Q: What other Kubernetes distributions will we encounter.**

A: Check here for sample of the popular Kubernetes distributions including Tanzu, OpenShift, Platform9 and Rancher. New offerings from Cisco like IKS also starting to appear <https://www.containiq.com/post/popular-kubernetes-distributions>

**Q: Tanzu naming assistance**

A:With regards to naming, you might find documents referring to as TKGs, TKGm TKGs (Tanzu Kubernetes Grid Service is the embedded service (supervisor cluster) that provides Kubernetes control plan and Tanzu basic license enables that functionality. TKGm (Tanzu Kubernetes Grid Multi-Cloud) or sometimes just called TKG is their name for their curated upstream version of open source Kubernetes that can run on any cloud including vSphere. .

**Q: What is Openshift?**

A: Red Hat Openshift (OCP) is Red Hat’s distribution of CNCF K8s. It includes support and enhanced security relative to vanilla K8s. It runs on Red Hat CoreOS which is built on RHEL. RH’s middleware products also have integration with OCP – providing a stronger appeal with developers.

**Q: What OS is supported with OpenShift?**

A: We support RHEL base OS for bare metal deployments. RH OCP natively uses RH CoreOS. RH CoreOS is built on RHEL. Our storage and container plugin support for RH CoreOS is based on its equivalency for RHEL. *Note: RH CoreOS is not available standalone, its only available in RH OCP. RH also does not provide a certification program specific for RH CoreOS.* Community Linux distributions like CentOS has compatibility, but during times of support cases, GSC may ask the issues reproduced on support OS.

**Q: What storage is supported?**

A: For list of supported VSP see our PCG: <https://compatibility.hitachivantara.com/products/hspc>

**Q: Where can I find more links / collateral on what is available**

A: We have created a tab on the virtualization, containers, and cloud community site. Check here [Modern App Infra - Quick Links](https://teams.microsoft.com/l/channel/19%3Ac5f849ce4ade43ae84c39e02bef60477%40thread.skype/tab%3A%3Aef62fbf4-5d3b-45f7-9cf2-30363deada69?groupId=2c5b9103-f961-497f-992a-97b6e0f4ba10&tenantId=18791e17-6159-4f52-a8d4-de814ca8284a)

**Appendix**

Terminologies

Cluster

* K8s – Kubernetes. K[8 letters – ubernete]s
* POD – smallest unit of object in K8s containing 1 or more containers
* Container Runtime – The engine that runs containers.
* Kubectl – CLI tool that communicates with K8s API server.
* Kublet – K8s cluster agent
* CSI – Container Storage Interface. Exposes storage systems to K8s
* CRD – Custom Resource Definition. Extension of K8s API not available as default install.

Storage

* PV – Persistent Volume. Has its own lifecycle independent of a POD.
* PVC – Persistent Volume Claim. Request for PV resource by a user. PVC consumes PV resources. PVC requests contain how to consume resources.
* SC – Storage Class. Provide admins method to describe tiers or profiles for storage.

Workloads

* Deployment – manages a replicated application using PODs that require no local state. The replicas are distributed among the nodes in a cluster.
* ReplicaSet – definition of number of replica PODs to run
* StatefulSet – manages the deployment and scaling of PODs. Used for applications that require local state.
* DaemonSet – used to deploy system daemons on each node. Ensures copy of POD is running on set of nodes.