

8 AM Central Time US & Canada Session

1. SAP Support?

- SAP Support is on the road map, please see the PowerStore ESSM, https://elabnavigator.emc.com/vault/pdf/PowerStore_ESSM.pdf

2. What the key sales for PowerStore and what the different key between other brand,

- Latest technology for Hardware (e.g. NVMe, Storage Class Memory etc.) and Software (Container based OS architecture). Additionally, two different models, the X model with AppsON, the possibility to run storage intensive workloads directly on PowerStore and much more like the federated scale-out technology for the T model. For more details please contact local Dell EMC

3. PowerStore is a software?

- "PowerStore is the new next generation midrange storage platform by Dell EMC. To facilitate demos for you, without the need of buying a demo unit, Dell is providing online demo capabilities on democenter.dell.com

4. What is the difference between the T and X models?

- The X model can run VMware VMs on it! This enables ultrafast minimum latency for IO heavy and storage centric applications. The T model is the more classic midrange storage approach with federated scale-out clustering additionally to the standard storage scale-up architecture.

5. Is X model is the right choice for virtualized workloads & what is different between unity,

- The X model is running as pure VMware environment on ESXi/vSphere, therefore ideally tailored for virtualized workloads and perfectly integrable in a VMware environment. Unity XT is a classic midrange storage approach, more comparable with the PowerStore T-Model, but PowerStore T additionally offers the possibility of scale-out the capacity (clustering) which Unity XT is not offering.

6. Where can I download offline demo for PowerStore?

- Democenter.dell.com (PowerStore T Administration and Configuration), or follow the guidance in the PowerStore Demo Skills presentation.
Offline demo: <https://democenter.dell.com/> -> HOL-0515-01 PowerStore T - Administration and Management -> MORE INFO -> PowerStore Demo Edition

7. If all the intracluster dataswitch goes down, is it a DU event? What happens to the cluster? Is FC access affected?

- If only the intracluster network is failing (The intracluster network and iSCSI data network are using the same Ethernet ToR Switches in a dual switch HA configuration), all appliances in the cluster can still deliver LUN/Volume access through the remaining data networks (iSCSI and/or FC), due to the intracluster network failure only management through CLI or GUI would be limited (no configuration changes possible).

8. No ESRS available in PowerStore?

- ESRS is now Support Assist, and it is supported with PowerStore. Additionally, CloudIQ through the (ESRS) PowerStore Support Assist Gateway is supported from the first day on, as shown in the demo.

9. Is Support Assist is same as SRS?

- Former EMC ESRS is now an updated version called Support Assist, and it is supported with PowerStore. Additionally, CloudIQ through the (ESRS) PowerStore Support Assist Gateway is supported from the first day on, as shown in the demo.
10. **Any guideline how many workloads can be install on virtualized workloads on X model?**
- With PowerStore Sizer (<https://powerstoresizer.emc.com/>) you can size the virtual workloads (VMs) according to their profile (vCPU, MEM, storage) with the chosen PowerStore X model (1000, 3000,5000, 7000 or 9000 with different amount of cores and MEM capacities).
11. **Can you provide some examples of PowerStore using ssh connection to physical switch?**
- Best to turn to the KnowledgeLink portal to find all collateral, whitepapers, slidedecks, ... available for PowerStore. Generally, PowerStore use read-only access to the switches to validate that the configuration on the switches will support the cluster networks.
12. **CloudIQ required any specific license/cost to integrate existing ECS, VMAX along with PowerStore .. ,**
- PowerStore is supporting CloudIQ from the first day on without any license costs and can be added to an existing Dell EMC environment, monitoring and analyzing other storage systems out of the Dell EMC portfolio.
13. **Is that ""overall efficiency"" figure the one which is used for the DRR guarantee? Does the value increase the more you create snapshots?**
- The Overall Efficiency is composed out of the Data Reduction Rate (compression and deduplication) plus Snap savings and Thin savings. So, using PowerStore efficient snapshots would increase the overall efficiency.
14. **How often are the performance, capacity and other graphics updating?**
- The graphics are shown in the PowerStore Manager GUI per hour, the graphs can be zoomed to see the trends within the hour.
Sampling rates need to be confirmed by PowerStore Engineering, question is pending.
15. **What happen if port 0 & 1 not connected to switch?**
- Ports 0&1 on the mandatory embedded Mezz Card must be connected to the HA ToR switches, losing these connections would have an impact on both Model X in-band management (changing to read only) and iSCSI data access. Model T with out-of-band management is using these two ports for cluster interconnect and front-end access simultaneously, configured as LACP bonds for HA and load sharing. And of course, for both models T and X losing these two ports without any additional Ethernet connection would stop any iSCSI traffic accessing PowerStore Volumes/LUNs.
16. **PowerStore doesn't support VLAN tags on front end yet - correct?**
- Correct
17. **To replication on PowerStore?**
- PowerStore currently supports asynchronous replication (1:1 or 1:many or many:1) to PowerStore destination(s). Synchronous replication is on the PowerStore road map.
18. **Did you say the capacity of each NVRAM is 8GB?**
- Correct, PowerStore NVRAM write cache is either one mirrored pair of 8GB battery backed NMRAM drives (models 1000 and 3000) or two mirrored pairs of 8GB battery backed NMRAM drives (models 5000, 7000 and 9000)

19. **When you change the modules on the controllers from the original state does it require an array reset?**
 - Any module port configuration change does not require an “array reset” (the PowerStore nomenclature is talking about appliance instead of “Array”)
20. **Is there any guide, related this demo to download offline?**
 - Yes, with <https://democenter.dell.com/> -> HOL-0515-01 PowerStore T - Administration and Management -> MORE INFO -> you can download the Demo Guide which is guiding you through the Offline Demo
21. **Are the expansion enclosures for PowerStore are auto added or need a discovery?**
 - The PowerStore Expansion Enclosures are SAS connected (SAS ports BEport0 and BEport1 on the Embedded Module of each PowerStore Node) and would be scanned on the SAS bus.
22. **Is there such a thing as SP Collects or the like on PowerStore? If so, where are they downloaded from?**
 - As briefly shown in the demo, so called Support Materials can be collected and downloaded by using the PowerStore Manager GUI or uploaded to the Dell EMC Support Cloud using Support Assist.
23. **One volume can be moved between the appliances, like Live Volume on SC Series?**
 - Correct, in a federated Model T Appliance Cluster Volumes can be migrated between the PowerStore Cluster Appliances if needed.
24. **Possible to create Thin, or Thick volume?**
 - PowerStore always use virtual or thin provisioning, creating a thick volume on the host would use thin on PowerStore.
25. **Can we connect ISCSI and FC at the same time from the same appliance?**
 - With additional (optional) FC 4-port I/O cards, yes
26. **The volumes created are Thick or Thin Provisioned?**
 - Always Thin, giving the best efficiency
27. **How LUN failover occurs in cluster. Do I need to zone all controller’s fc ports to hosts?**
 - In a federated scale-out Model T cluster volume can be created on either appliance in the cluster in a shared nothing approach, therefore for both iSCSI and FC the host needs to have access to all appliances in the cluster.
Same of course is valid for migrating a volume from one Appliance to another in the same Model T cluster, if e.g. capacity trends are showing the need for or the cluster consists different T Models with different performance resources.
28. **Change size, increase and shrink or increase only??**
 - Increasing only
29. **Can we shrink the volumes as well?**
 - Increasing only
30. **Is the volume modification effect immediately to the host?**
 - Yes, host rescan required.
31. **If you do a shrink (I mean if you type a capacity lower than the initial capacity), it will let you do it?**
 - Volume capacities only can be increased
32. **Volume Group = CG (act as a CG)? Radu DECA?**

- Yes, a Volume Group can be configured to apply write-order consistency to protect all volume group members for both snapshot and replication policies
33. **When will it be certified for SAP Hana?**
- Road Map, please consult the PowerStore ESSM, https://elabnavigator.emc.com/vault/pdf/PowerStore_ESSM.pdf
34. **Can a host be a member of multiple host groups?**
- No, policies are only unattached hosts to storage and hosts with the same protocol can be added to a host group.
35. **Is it possible to decrease volume capacity?**
- Increasing only
36. **Will there be a recording shared of this video? sadly I have to miss some parts due to daily work?**
- YES
37. **Does it require additional PowerPath licensing for optimum?**
- Not mandatory, please see the supported PP and native MPIO & DMP combinations in the PowerStore ESSM, https://elabnavigator.emc.com/vault/pdf/PowerStore_ESSM.pdf
38. **Does the PS have VVOL capabilities?**
- YES
39. **What if my hosts are not in cluster and I added host to a host group?**
- Hosts in a Host Group must not be cluster members, policies are only unattached hosts to storage and hosts with the same protocol can be added to a host group. Native host cluster support please see the PowerStore ESSM, https://elabnavigator.emc.com/vault/pdf/PowerStore_ESSM.pdf
40. **Is there any technical reason at all not to initiate the PS with the NAS service, as we need to make this choice during deployment?**
- If the customer is sure and never ever has the plan to use PowerStore Unified / NAS support and needs all performance the system resources can provide, for this case block only mode should be considered. Suggestion is to deploy PowerStore T as Unifies for all other cases.
41. **Can you talk about powerstore automation capabilities?**
- In the demo it was shown how to let PowerStore decide on which appliance a new volume should be placed (“auto”) instead of choosing the appliance manually.
42. **Is the File system thin or thick?**
- Always thin, providing the best efficiency
43. **Please share information about the supported backup methodologies with powerstore**
- PowerStore supports supports 3-way NDMP for file and any backup / data protection using snaps or thin clones for block. Supported backup solutions and their versions please see the PowerStore ESSM, https://elabnavigator.emc.com/vault/pdf/PowerStore_ESSM.pdf
44. **How about migration from other storage models?**
- For Midrange storage out of the Dell EMC portfolio (e.g. SC, VNX2, Unity, PS, please check ESSM) DT is providing a direct method for importing data to PowerStore. Additionally Dell EMC provides Migration Services for any other use case.
45. **Is there any licensing issue to add multiple appliance in a single management windows?**

- All Model T appliances as cluster members will be managed as whole cluster by the PowerStore Management GUI without any additional license requirements
46. **Does PowerStore T and X support direct FC connect to hosts without SAN switch?**
- PowerStore supports direct FC attach (Host HBA must be in the ESSM), iSCSI direct attach is currently not supported (road map)
47. **The access to videos on Demo Center is restricted to employees or can we access to them as Partners?**
- Democenter.dell.com is available for all registered channel partners with partner login, including Hands-on labs, Interactive Demos and Videos
48. **Does PowerStore support Dell CTA?**
- Not at initial launch
49. **Any feature related to public cloud?**
- PowerStore is supported for VCF as CMP in VMware Multi-Cloud environment
50. **Is it possible to Migrate one volume at a time from one Powerstore appliance to another?**
- Yes, with PowerStore T migrating a Volume from one Appliance to another if both are in the same cluster
 - With PowerStore X using Storage vMotion between two independent PowerStore X Appliances

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1. **In my instance of democenter, there is no video icon ... how do I access the videos?**
 - In Democenter.dell.com you should see three different areas on top after login as registered partner, Hands-On-Labs, Interactive Labs and Videos, please click on Videos.
2. **Can you please post the link to download the offline demo exe on to the Q&A?**
 - Download the Offline Demo goto: <https://democenter.dell.com/> -> HOL-0515-01 PowerStore T - Administration and Management -> MORE INFO -> Download PowerStore Demo Edition
3. **For snapshots, is there any ability to make them immutable/WORM for a period of time?**
 - Snapshots per se are read only, additionally you can set a retention time of max 63 days
4. **For snapshots, is there any ability to make them immutable/WORM for a period of time?**
 - The graphics are shown in the PowerStore Manager GUI per hour, the graphs can be zoomed to see the trends within the hour.
Sampling rates need to be confirmed by PowerStore Engineering, question is pending.
5. **When you have more than 1 PowerStore in a cluster do you need a separate management server to manage the arrays? Or you can use the PowerStore OS from a single node?**
 - In a PowerStore T Cluster the first installed Appliance becomes Master Appliance, running the PowerStore Manager for the whole Cluster with configuration metadata mirroring to the other Appliance which becomes Master automatically in case the current Master Appliance is unavailable (data access remains, if its data network still is accessible).
6. **As an appliance, does PowerStore come with dual controller or single controller?**
 - Dual HA Controller, called PowerStore "Nodes" A and B
7. **Can we change volume size?**
 - Yes, online capacity increase is supported
8. **What are the encryption options for a volume?**
 - PowerStore supports NIST compliant Data at Rest Encryption (D@RE) which encrypts all user data that is written to a storage drive at 256-bit Advanced Encryption Standard (AES)
 - PowerStore utilizes Self Encrypting Drives (SEDs) to implement D@RE with local encryption keys (Backup with PowerStore Manager)
9. **Where should the vCenter run? At the PowerStore Appliance or at a separate system?**
 - PowerStore X needs an external vCenter (v6,7) for the initial deployment; PowerStore T can access an external vCenter to get information about VMs using PowerStore T as external storage.
10. **What RAID protection is used under the covers for the series X system?**
 - For both Models (X and T) RAID 5 (4+1 or 8+1 depending on the initial amount of installed drives, min 6 for 4+1, min 10 for 8+1, geometry set automatically at initial deployment) is used.
11. **And it must be Cloud Foundation?**

- PowerStore X is supported to be optionally included in a VMware environment (VCF Workload Domain) using VMware Cloud Foundation as Cloud Management Platform (CMP)

12. These container datastores can be mapped to other VMware host or they are just for PowerStore nodes/controllers?

- Other VMware hosts can of course access Volumes created on those Container Datastores using iSCSI or FC with optional 4-Port FC cards, as well as VMs running on PowerStore X AppsON

13. Are you forced to use vVols for the guest VMs ?

- The vVol Containers (default one Container) are the vVol Datastores where Guest VMs are carving out capacity for their VMDKs as vVols.