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Hewlett Packard Enterprise

HPE 3PAR STORESERV STORAGE AND TURBONOMIC

Assure Full-Stack Application Performance

GETTING THE MOST FROM VIRTUALIZATION?

The full value of virtualization can be lost due to unsolved and unanticipated problems relating to storage performance and availability. These issues can make the virtualization of business-critical applications a significant challenge.

Modern storage solutions, whether all-flash or hybrid, help to address many of the performance issues associated with virtualized data centers. As well as simplify management of the storage layer. However, problems in the compute, network or application layers can remain. Further, removing the storage performance bottleneck exposes performance problems in other data center layers.

With Turbonomic and HPE 3PAR StoreServ Storage, enterprises solve their pressing virtualization challenges, improve infrastructure performance and fully leverage their investment in high performance, high efficiency, high value flash arrays.

KEY BENEFITS

- Assure application performance, including I/O-intensive and mission-critical applications
- Maximize the value of flash storage
- Automate the placement of I/O-intensive workloads on HPE 3PAR
- Prevent bottlenecks at every layer of the stack: compute, storage and network
- Simplify and accelerate storage deployment and management
- Dramatically improve storage performance and space efficiency

REALIZE THE FULL POTENTIAL OF VIRTUALIZATION WITH TURBONOMIC AND HPE 3PAR STORESERV STORAGE

Turbonomic and HPE 3PAR StoreServ Storage integration enables enterprises to assure applications get the storage performance they require to operate virtual infrastructure reliably, while maximizing efficient use of storage infrastructure and preventing unnecessary over-provisioning.

Assure Workload Performance by Proactively Realigning Compute, Storage and Network

- Automate placement of workloads amongst disparate arrays using Turbonomic to account for flash and hybrid IOPS performance and provide I/O-intensive workloads the right capacity
- Optimize workload performance and efficiency of the hypervisor and underlying storage infrastructure through a broad set of resource allocation decisions including workload placement, movement and creation and sizing of storage volumes
- Minimize storage latency and I/O bottlenecks via resource allocation decisions across both virtualization and storage domains

Transform IT Operations

- Accurately map the end-to-end relationships from app workloads to blade servers, interconnects and storage arrays, empowering the same team to manage 10x more workloads
- Drive 20-60% improvements in infrastructure utilization by increasing VM density with Turbonomic
- Reach 100% virtualization, including business-critical applications

Quickly Deploy And See Value

- Out-of-the-box integration between Turbonomic and HPE 3PAR StoreServ Storage, no professional services required
- Turbonomic's agentless virtual instance deploys in 30 minutes
- Virtualization admins are equipped and empowered with actionable decisions within 1 hour, freeing up Storage Architects to focus on high value business and technical projects

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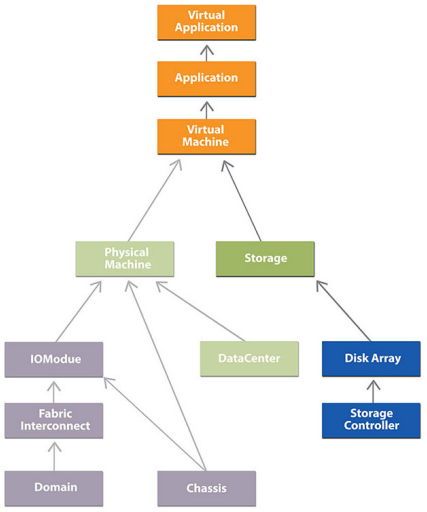
BRING CONTROL FURTHER INTO THE STACK

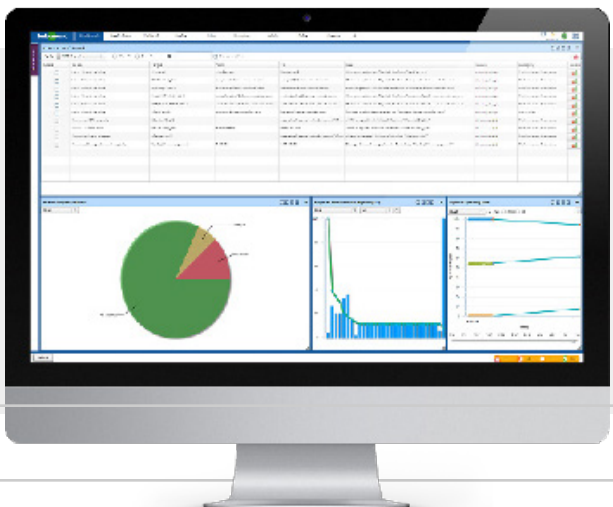
Turbonomic's Common Data Model relates every entity in the data center as a provider or consumer of resources enabling real-time placement, sizing and provisioning decisions.

TURBONOMIC AND HPE 3PAR STORESERV STORAGE

- Drives real-time placement across heterogeneous and all HPE 3PAR StoreServ Storage environments to deliver QoS adherence across every layer of the stack
- Enhances placement decisions for demanding workloads resulting optimal utilization of your HPE 3PAR StoreServ all flash storage
- Provides real-time decisions to move, provision or resize datastores mapped to underlying HPE 3PAR StoreServ arrays
- Provides real-time decisions to resize the underlying HPE 3PAR StoreServ array based on workload demand
- Intelligent provisioning decisions to provision additional HPE 3PAR StoreServ controllers based on workload demand
- Enables mapping and understanding from application workloads, to virtual layer and underlying physical HPE 3PAR StoreServ infrastructure



ENTITIES	PROVIDES	CONSUMES
Storage	Host resources for VMs to use: • Storage amount • IOPS • Latency	Disk arrays
Disk Array	Storage resources for datastores to use: • Storage amount • Storage provisioned • IOPS • Latency	Storage controllers
Storage Controller	CPU resources to manage disk arrays	NA



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For more information, visit turbonomic.com

For more information on HPE 3PAR, visit www.hpe.com