Hewlett Packard Enterprise

Performance brief
February 2019

HPE Synergy is the BEST virtualization platform today

HPE Synergy 480 Gen10 with Synergy D3940 storage modules takes world record

Key takeaways

The HPE Synergy 480 Gen10 Compute Module competitive benchmark claims are based on having:

- **The world record as the largest number of nodes on a virtualized platform running the VMmark 3.0 benchmark**
- **HPE 8-node, 16-node, and 24-node VMmark results demonstrate that HPE Synergy is highly scalable for private cloud deployment**
- **HPE Synergy is the best platform to run mixed workloads**
- **for the 8 node result:**
  - #1 8-node 2P result
  - #1 8-node composable infrastructure result
- **for the 16 node result:**
  - #1 and first 16-node result
  - #1 and first 16-node 2P result
  - #1 and first 16-node composable infrastructure result
- **for the 24 node result**
  - #1 overall result
  - #1 and first 24-node result
  - #1 and first 24-node 2P result
  - #1 and first 24-node composable infrastructure result

Server configurations:

HPE Synergy 480 Gen10
Intel Xeon Gold 6140 2.5 GHz processors, 12 x 64 GB 4Rx4 DDR4 RDIMMs at 2666 MHz

8 nodes/16 sockets, 16 processors/ 288 cores/ 576 threads
Score: 15.25 @ 16 tiles

16 nodes/32 sockets; 32 processors/ 576 cores/ 1152 threads
Score: 30.13 @ 32 tiles

24 nodes/48 sockets; 48 processors/ 864 cores/ 1728 threads
Score: 46.10 @ 48 tiles

For more information:

HPE Synergy 480 Gen10

HPE servers performance benchmarks

About VMmark 3.0

VMmark 3.0 generates a realistic measure of platform performance by incorporating a variety of platform-level workloads, such as shared nothing migration, virtual machine migration, clone and deploy, snapshotting, and storage migration operations, in addition to traditional application-level workloads.

Executive summary

With its leading record result of 46.10 @ 48 tiles on the HPE Synergy 480 Gen10 Compute Module, HPE demonstrates that HPE Synergy is the best virtualization platform available today. The system configuration included 24 servers with a total of 48 Intel® Xeon® Platinum processors (48P/24-node) running VMware® ESXi® 6.7 EP 03 and eight HPE Synergy D3940 storage modules with SSDs for an all flash storage solution using VMware vSAN 6.7. Additionally, the HPE Synergy 480 Gen10 achieved a record 16-node result and an outstanding 8-node score. These results are proof of the virtual and software-defined platform leadership of the HPE Synergy 480 Gen10.

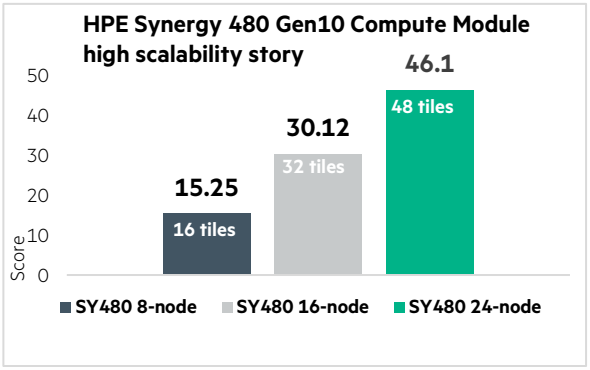
Highly scalable hardware platform

HPE's 8-node, 16-node, and 24-node virtualization benchmark results show that HPE Synergy provides predictable scaling platforms to support different traditional applications as well as cloud native workloads including private cloud deployments such as VMware's Cloud Foundation (VCF). VMware's latest version of VCF 3.5 is supported on HPE Synergy. HPE Synergy with VMware Cloud Foundation delivers a simplified and secure on-premises cloud that is automated, software-defined, and flexible to meet changing workload demands. HPE is the first vendor to bring composability features into VMware Cloud Foundation with the new integration of HPE OneView 4.1 and VCF SDDC Manager and VMware vRealize Orchestrator.

HPE Synergy is the best platform to run mixed workloads

VMware's VMmark 3.0 virtualization benchmark contains a scalable web application workload, a complex OLTP application, and data center activities. The scalable web application workload is a simulated auction website with both static and bursty loads, while the OLTP application is an e-commerce simulation of an online DVD store. Data center activities include typical operations found in a data center such as VM migration (vMotion), storage migration (storage vMotion), and provisioning. HPE Synergy, combined with all-flash VMware vSAN storage, is a proven solution that can handle mixed workloads.

Figure 1. The HPE Synergy 480 Gen 10 shows nearly perfect scalability. The number of tiles corresponds to the workload the environment can handle while maintaining the QoS metric. Each tile in VMmark 3.0 represents 18 active VMs and 1 standby VM.



HPE OneView for VMware vCenter w/ Operations Manager and Log Insight

HPE OneView for VMware vCenter with Operations Manager and Log Insight seamlessly integrates the manageability features of HPE Synergy and HPE Storage with VMware solutions. Customers can gain deep insight and control of virtualized HPE Converged Infrastructure environments while reducing the time it takes to make important changes, to increase capacity, or to manage planned and unplanned downtime.

HPE Synergy is a perfect choice for vSAN

A core value proposition of vSAN is that it aggregates all local storage disks – SSD, HDD, and NVMe – available on the hosts (compute modules) into a single datastore shared by all compute modules. With traditional rack servers, compute and storage generally do not scale independently, but with HPE Synergy, businesses can scale storage and compute separately.

Disaggregated storage and compute

HPE Synergy with VMware vSAN provides the flexibility of thinly provisioning software-defined storage volumes, independent of compute resources.

High-speed interconnect between frames

HPE Synergy provides a flat east-west Ethernet topology. This allows iSCSi storage to be shared on a low-latency server-to-server connection, including between HPE Synergy frames.

Single infrastructure for any workload

HPE Synergy helps enterprises run vSAN in a single infrastructure, addressing the needs of both traditional and emerging business applications.

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