



Dell EMC™ PowerEdge™ MX platform
powered by Intel® Xeon® Scalable processors*



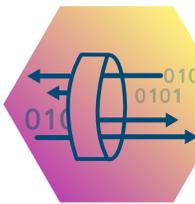
Executive summary

Migrate VMs faster with a new Dell EMC PowerEdge MX solution

Scalable SmartFabric boosted throughput and reduced latency vs. HPE Synergy and Cisco UCS solutions



Move VMs
in up to **42.3%**
less time



Move more data per second over the network
with up to **1.7X**
the throughput



Increase responsiveness for vMotion
with up to **73.0%**
lower latency

Investing in a new modular server solution is a capital expenditure that requires careful consideration to ensure the greatest long-term return. It is important to assess things like chassis networking speed, application requirements, and platform longevity to make sure the solution can handle your most demanding workloads today and into the future. Efficient networking at the chassis level ensures multiple chassis and compute nodes talk to each other imperceptibly to the end user, functioning as a true unit for a more seamless experience. To test networking capabilities, we created multi-chassis solutions from popular vendors in the Principled Technologies datacenter and moved virtual machines from one chassis to another using VMware vSphere® vMotion®.

The modular Dell EMC PowerEdge MX solution we tested was more responsive than comparable HPE Synergy and Cisco® UCS™ blade solutions, moving VMs from one server to another in less time. By moving workloads quickly from chassis to chassis, you can minimize the time it takes to do routine maintenance or complete hardware updates. The Dell EMC PowerEdge MX solution also delivered more throughput and lower latency than the other solutions, showing the impressive bandwidth and responsiveness of the MX scalable SmartFabric. This first-generation kinetic infrastructure from Dell EMC introduces the next generation of modular infrastructure (replacing the longstanding M1000e architecture), so organizations can expect to see new, compatible server, storage, and networking options for the PowerEdge MX platform over the years as new technologies emerge.

*Image provided by Dell EMC.

Our network performance comparison

In modular server solutions, where a chassis enables a collection of servers and storage to work as a unit, fast networking is crucial to prevent delays. One task that relies heavily on fast networking for success is VM evacuation—moving VMs from one chassis to another—which organizations do to complete maintenance or reallocate resources.

That's what we tested in our datacenter. We completed a VMware vMotion live migration of virtual machines from a server on one chassis to a server on another to see which solution of the following solutions offered the best networking performance:

- Dell EMC PowerEdge MX solution (2x Dell EMC PowerEdge MX740c servers powered by Intel Xeon Platinum 8164 processors and Intel Ethernet Network Adapters XXV710 in 2x MX7000 chassis)
- HPE Synergy solution (2x similarly configured HPE Synergy 480 Gen10 compute modules in 2x HPE Synergy 12000 Frame)
- Cisco UCS solution (2x similarly configured Cisco UCS B200 M5 blade servers in 2x Cisco UCS 5108 Blade Chassis)

Dell EMC PowerEdge MX solution moved VMs faster to reduce maintenance times

Faster VM migration times can help admins complete routine maintenance and updates more quickly, and end users are less likely to notice performance issues as VMs migrate quicker during automatic resource re-balancing. The Dell EMC PowerEdge MX solution moved VMs in 42.3 percent less time than the Cisco UCS solution and in 20.0 percent less time than the HPE Synergy solution.



Move VMs in up to 42.3% less time

Less time is better | minutes:seconds
Dell EMC PowerEdge MX solution



HPE Synergy solution



Cisco UCS solution



Dell EMC PowerEdge MX solution boosted throughput and reduced network latency

Two metrics that show the strength or a weakness of chassis networking are throughput—the amount of data per second that a solution can send over a network—and latency, or wait times. The Dell EMC PowerEdge MX solution took advantage of its maximum available bandwidth of 25 Gbps (compared to 20 Gbps max for the competition), achieving 1.7x the throughput of the Cisco UCS solution and 1.2x that of the HPE Synergy solution. The Dell EMC PowerEdge MX solution integrating Intel Ethernet Network Adapters XXV710 also reduced network latency by as much as 73.0 percent compared to the Cisco UCS solution and 25.2 percent vs. the HPE Synergy solution.



Transfer more data with up to 1.7X the throughput

More is better

Dell EMC PowerEdge MX solution

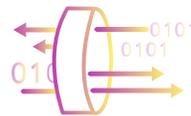
19,544 Mb/s

HPE Synergy solution

15,643 Mb/s

Cisco UCS solution

11,312 Mb/s



Reduce network latency with up to 73.0% lower latency

Less is better

Dell EMC PowerEdge MX solution

0.61 ms

HPE Synergy solution

0.82 ms

Cisco UCS solution

2.27 ms

To find out more about the components of the Dell EMC PowerEdge MX solution, visit <https://www.dell EMC.com/en-us/servers/modular-infrastructure.htm>

Read the report at <http://facts.pt/hw47yq>



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