

# Scale-up solution for Oracle VM Server

## HPE Integrity MC990 X Server



HPE Integrity MC990 X is a modular, future-ready platform designed for large enterprise environments with data-intensive Linux applications. Leveraging high bandwidth, low latency HPE NUMalink® technology, MC990 X scales up seamlessly as a single system from 4 to 32 sockets and from 1 to 48 TBs of cache-coherent shared memory. Each 5U modular chassis contains 4 sockets with up to 192 threads. An advanced symmetric multiprocessing (SMP) system, MC990 X features the latest enterprise-class Intel Xeon E7-8800 v4 processors and robust reliability, availability, and serviceability.



Many organizations depend on scale-out clusters of small x86 servers to handle large Oracle workloads, accepting the increased costs, complexity, and performance drawbacks of scale-out deployments. Most large critical database applications perform better on scale-up systems, but for Oracle customers committed to Oracle VM Server (OVM) for virtualization, the choices have been limited—until now.

Are you ready to move beyond the limitations of scale out? Here's some good news—**HPE Integrity MC990 X Server** is certified with OVM 3.4 (and Oracle Linux® 7). MC990 X is a flexible answer for large environments with data-intensive Linux applications that scales up all the way from four sockets to thirty-two. Growing organizations can start with four processors and step up in increments of four when the time is right. Each modular, rack-mounted HPE MC990 X chassis features:

- The latest enterprise-class Intel® Xeon® Processor E7-8800 v4 family with up to 96 cores of powerful Xeon compute—built-in reliability helps you protect your applications from downtime

- Up to 6 TB of memory—providing a large boost in performance when paired with Oracle's in-memory database technology

### Scale-up your Oracle database and Oracle VM Server environment

Scale-up servers such as HPE MC990 X excel in typical online transaction processing (OLTP). Designed for data-intensive, I/O-heavy workloads, HPE MC990 X can accelerate analytics processing. Certified on Oracle Linux for up to 32 sockets and 48 TB, MC990 X enables you to run Oracle Database In-Memory on a single Intel®-based system with extraordinary scale-up capacity and no additional software. And it's a perfect partner for OVM:

- Create Oracle VM hard partitions to save on Oracle licensing costs while supporting multiple workloads, including web servers, production environments, and test and development environments.

## Solution brief

# 35%

savings with scale-up computing<sup>1</sup>

# 1-48 TB

High memory-to-processor ratio for in-memory databases

# 59%

better OLTP performance with HPE-ATX<sup>2</sup>

# 30+

years Oracle experience

- Leverage the power of HPE MC990 X to build a private cloud solution for Oracle workloads. HPE Services can help you make it happen.

When you deploy large Oracle workloads on HPE MC990 X instead of multiple small x86 servers, you eliminate the need for costly Oracle RAC (Real Application Clusters) software. In addition, you get more performance, lower latency, and reduced management complexity and costs.

With performance advantages come substantial cost savings. According to IDC, scale-up computing can save 35 percent over the cost of scale out, from reduced software licensing, infrastructure costs, energy consumption, and user-productivity losses along with increased utilization, IT productivity, and performance.<sup>1</sup>

## Get more from your Oracle licenses with HPE-ATX

Are you running OLTP workloads on Oracle? HPE scale-up servers can help you maximize the value of your current Oracle licenses. The HPE Application Tuner Express (HPE-ATX) software utility can improve application efficiency for OLTP workloads—boosting performance of HPE MC990 X by 59 percent when tested with eight processors (potentially reducing Oracle database per-core licensing for a given workload by nearly 40 percent).<sup>2</sup>

## Save the RAC for when you really need it

For high availability, HPE MC990 X with HPE Serviceguard for Linux offers fast recovery and enhanced downtime protection for your most demanding database workloads. For customers who require continuous

availability, HPE MC990 X fully supports Oracle RAC—but Oracle's licensing fees can run into many thousands of dollars per core.

## Right-sized solutions from HPE

For smaller workloads, HPE ProLiant DL580 Gen9 Server provides many of the same benefits as HPE MC990 X. Certified for Oracle VM Server and Oracle Linux, as well as expandable from two to four processors, the rack-mounted HPE ProLiant DL580 supports up to 6 TB of memory and provides up to 27 percent more performance with Intel Xeon E7-8800 v4 processors than the previous generation of processors.<sup>3</sup>

A broad portfolio of HPE services gives you peace of mind whether you deploy large workloads on HPE MC990 X or smaller workloads on HPE ProLiant DL580. With over 30 years of Oracle experience and innumerable Oracle deployments, Hewlett Packard Enterprise is committed to delivering the right compute for the right workload, at the right economics, every time.

	HPE Integrity MC990 X	HPE ProLiant DL580 Gen9
<b>Processors</b>	4-32	2-4
<b>Processor cores</b>	16-768	8-96
<b>Memory capacity</b>	6 TB (4 sockets) 48 TB (32 sockets)	6 TB
<b>Max. I/O connections</b>	8 (4 sockets) 92 (32 sockets)	9

Learn more at [hpe.com/servers/mc990x](http://hpe.com/servers/mc990x)

<sup>1</sup> "HPE's Superdome X: The Mission-Critical Scale-Up x86 Platform for SAP®, Oracle, and SQL Server," IDC, June 2016; [hpe.com/h20195/v2/GetPDF.aspx/4AA5-5789ENW.pdf](http://hpe.com/h20195/v2/GetPDF.aspx/4AA5-5789ENW.pdf)

<sup>2</sup> "HPE Integrity MC990 X shows significant OLTP performance improvement with HPE-ATX performance brief," September 2016; [h20195.www2.hp.com/v2/GetDocument.aspx?docname=4AA6-7992ENW](http://h20195.www2.hp.com/v2/GetDocument.aspx?docname=4AA6-7992ENW)

<sup>3</sup> Intel performance testing comparing measurements on platform with two E7-8800 v3 vs. E7-8800 v4, November 2015; [intel.com/performance](http://intel.com/performance)



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