

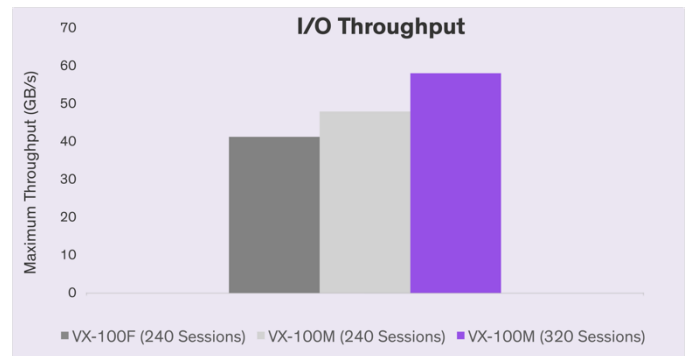
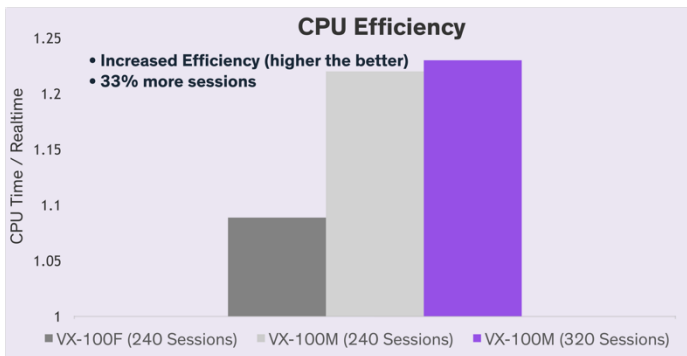
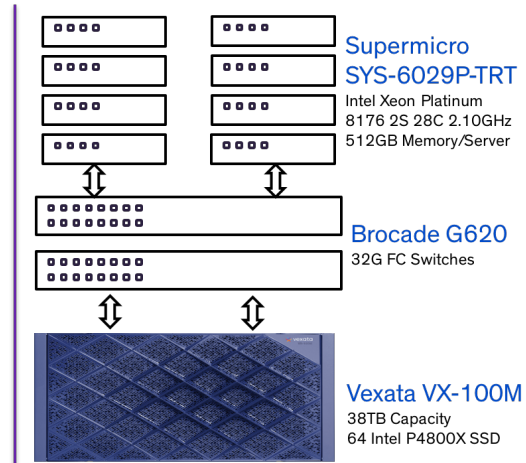


# STORAGE SOLUTIONS FOR SAS<sup>®</sup> WITH VEXATA VX-100M AND INTEL<sup>®</sup> OPTANE<sup>™</sup>

Unleash the power of the Vexata VX-100M Scalable Storage System for SAS Analytics

In a data-driven world centered on Artificial Intelligence, Machine Learning and Deep Learning frameworks, the importance of SAS Analytics for mining large datasets, creating compelling models and deriving fast and superior insights is growing exponentially. Multicore X86 processors from Intel offer enormous processing capabilities for large SAS grids, but this results in a pressing need for high performance storage to enable ultra-responsive I/O across large active data sets.

As enterprises add more analysts to derive faster insights from their data, the ability of the underlying storage array to serve up more SAS sessions is key to success of SAS Grid deployments. The Vexata VX-100F NVMe Flash Storage unlocked the potential of SAS software and servers with ability to serve up to 240 simultaneous sessions. Powered by Intel Optane SSDs and Intel Xeon SP platform based servers, the VX-100M array takes SAS Grid performance to new levels by serving up a record-breaking 320 simultaneous sessions.



## SAS Mixed Analytics Workload Aggregate Results

	Real Time (min)	User CPU Time (min)	System CPU Time (min)	Mean Value of CPU / Real Time Ratio
VX-100F * (240 Sessions)	1029.65	1112.63	117.77	1.09
VX-100M ** (240 Sessions)	705.61	777.41	82.21	1.22
VX-100M ** (320 Sessions)	1382.80	1469.81	229.73	1.23

\* Used 8-nodes with 2-socket 22-core Intel® Xeon® E5 v4 Series Processors, 3.10.0-327.el7.x86\_64 kernel and 256GB RAM per node

\*\* Used 8-nodes with 2-socket 28-core Intel® Xeon® Platinum 8176 Processors, 3.10.0-693.el7.x86\_64 kernel and 512GB RAM per node

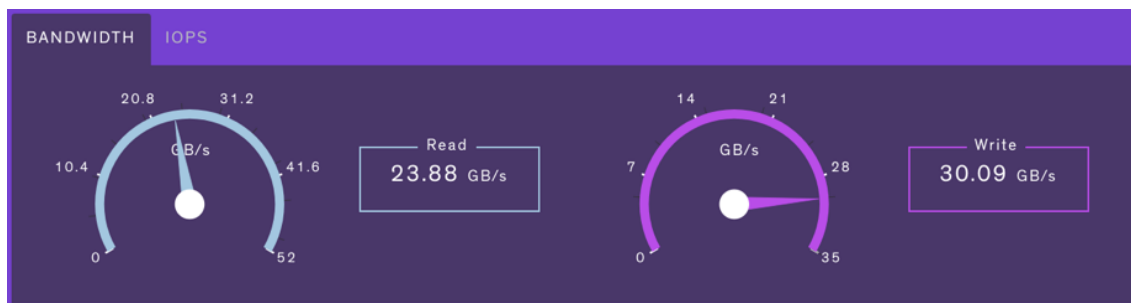
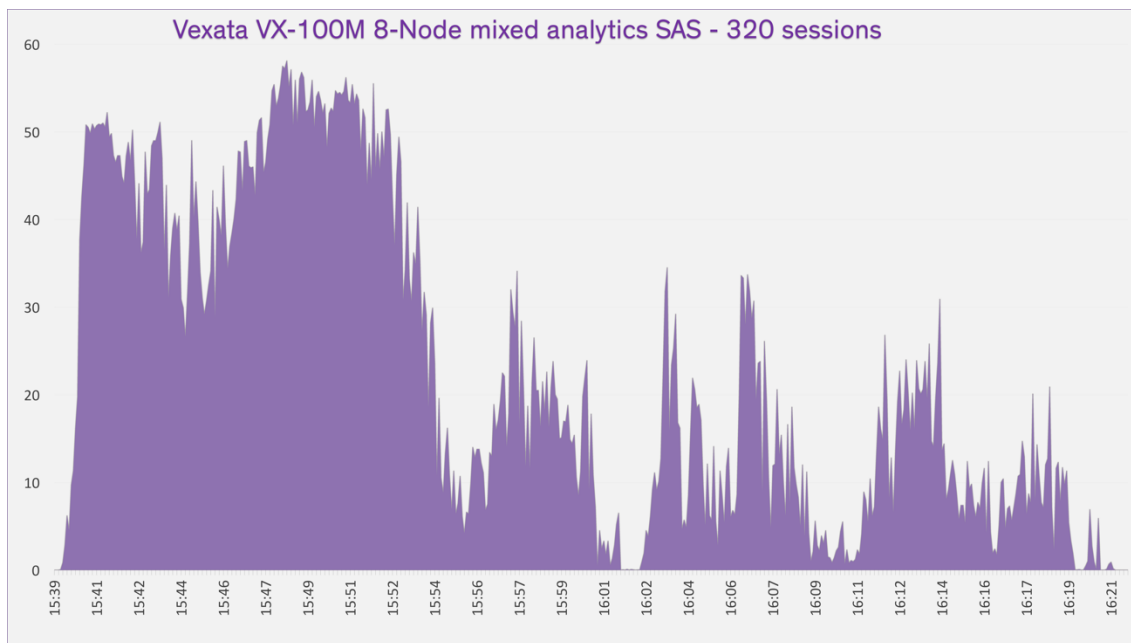


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## SAS Analytics mixed workload throughput

The Intel SAS Analytics team ran 8 simultaneous SAS40 Mixed Analytics sessions on 8 servers each using 2 sockets of the cutting edge 28-core Intel Scalable Platform (SP) processors, for a total of 320 sessions running over 448 cores. This is a very demanding workload requiring 35GB/s of writes and up to 30GB/s of reads. As shown in the graph below, in the 40-minute time span of this run, the workload jumps to greater than 58GB/s of total IO throughput.

In these runs, each node has its own dedicated SASDATA, SASWORK and UTILLOC file system totaling to around 4.5TB per server.



Vexata VX-Manager Screen Shot Illustrating SAS Read/Write Bandwidth Performance.

### ABOUT VEXATA

Vexata is the leader in active data management solutions. Vexata's unique breakthrough enterprise offerings enable transformative performance and scale from database and analytics applications. With unparalleled ability to consume the latest in media like NVMe Flash and Intel Optane<sup>™</sup> SSDs, Vexata systems deploy simply and seamlessly into existing storage environments. Learn more at [www.vexata.com](http://www.vexata.com)