PCIE AGGREGATION

M.2-based solid-state storage provides measurable benefits, ranging from higher performance to lower TCO by reducing floor space and providing greater efficiency. When combined with a method of deployment that allows numerous M.2s to be connected inside a system via PCIe switching technology, M.2 SSDs can provide tangible benefits, including higher sequential and random read performance, higher capacity/density per server, and increased efficiency of each unit. Table 2 illustrates the net result when multiple M.2 SSDs are deployed into a single server.

Table 2: M.2 SSD Results Per Add-In-Card vs. Server

	4x M.2 Per Add-In-Card	6x Add-In-Card Per Server
# of M.2	4x M.2 per card	24x M.2 per server
Throughput	6 GB/s	36 GB/s
IOPS	1.25 M	7.5 M
Capacity	8 TB of SSD	48 TB of SSD

SUMMARY

The storage industry will continue to evolve and deliver more innovative solutions for deploying solid-state devices over time. The M.2 form-factor is the future of the data center and enables benefits not offered through legacy interfaces and legacy form-factors. Currently, 90% or more of any given NAND Flash producer's worldwide output is tailored to client-grade solutions, such as M.2 SSDs. As a result, there is a significant cost advantage by leveraging economies of scale enabled by M.2 SSDs. It may take time for the server industry to begin deploying these new devices natively, as they require new motherboards and new backplane technologies not currently available. However, solutions such as PCIe AICs will enable data centers to deploy these new M.2 devices today, in their current infrastructures, and realize higher performance and improved efficiency at lower operating costs.

ABOUT LIQID

Liqid is redefining how resources are used and managed within the data center by offering its customers an innovative solution to keep pace with the rapidly-changing IT landscape in real-time. Stay tuned – Big things are surfacing soon.

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