

Pork Production Network Tracks Data on Five Million Hogs with Tintri IntelliFlash™

IntelliFlash

The Maschhoffs, headquartered in Carlyle, Illinois, is one of the largest family-owned hog production networks in North America. Founded in 1851, The Maschhoffs is owned by fifth-generation family farmers, bringing five million hogs to market every year (enough to feed 16 million consumers annually), and partners with nearly 550 family farmers across the Midwest. The Maschhoffs adopt modern technology to manage detailed records on the genetics, animal care, nutrition, and transportation for the entire operational cycle—creating an abundance of vital data to be stored.

The Challenge: Achieve Storage Performance and Capacity to Meet Growing Data Needs

Managing data for five million animals helps The Maschhoffs run an efficient business—and it also helps maintain the high quality of the product. “We have a whole system to produce Grade A pork,” says Mike Brimberry, the company’s Associate Director of Infrastructure and Operations. In addition, the company’s ERP system tracks feed levels, weaning of piglets, and transfers of animals to the company’s production partners. All told, the process of tracking animal progress, genetics, nutrition, animal health, and animal care records creates the need for 55TB of storage.

The company was using several legacy storage systems from two of the biggest vendors in the market, all spinning disk-based SANs. “Only one of the legacy systems supported deduplication,” Brimberry said, which meant the ability to compress and dedupe data was limited. Data backup windows were long, often taking hours to complete, and would often increase the array load to over 100 milliseconds of latency—making for a very poor user experience in applications and remote sessions.

“We didn’t have the capacity or the performance we needed—especially as we began to plan for future applications,” Brimberry says.

The Solution: Tintri IntelliFlash T-Series

The company was preparing to implement an ERP solution from Mtech. Brimberry and Senior Systems Engineer Nick Taylor realized that they needed more storage capacity to test the new solution. From their viewpoint, they had two options: build a complicated network of storage solutions on their own, or streamline all data storage through a single umbrella solution.

“We knew we needed a storage system that could run on Microsoft, since we’re a Microsoft shop,” Taylor says. The Maschhoffs also wanted a solution that enabled VM monitoring at the file level, and included support for the Microsoft Server Message Block (SMB) 3.0 network storage protocol.

In researching storage solutions, Taylor learned about IntelliFlash. “They fit what we were looking for. This was the only next-generation storage appliance we could find that supported both SMB 3.0 and iSCSI, and we need both of those to support file-based workloads on SMB 3.0,” Taylor says. “Other vendors offer both, but you have to license each feature individually, making it an additional cost.” IntelliFlash allowed The Maschhoffs to standardize on a single storage solution, with the option to choose all-flash or hybrid configurations.

To support the initial tests of its Mtech ERP system, the company first deployed a hybrid system. “We started out small with one application, but the performance was so outstanding that we decided to switch to an all-flash system for other applications,” Taylor says. All storage has been shifted to the IntelliFlash systems; all of the company’s tier 1 SQL Servers are on IntelliFlash.

Challenges

- Performance of legacy storage slowing operations
- Costs running out of control with high-capacity growth rates
- New VDI project not feasible on legacy storage

Solution

- Tintri IntelliFlash T-Series

Results

- Significant application acceleration
- Storage footprint reduced by 75%
- VDI project put in motion by moving to IntelliFlash

The Results: Improved Performance, Eliminated Capacity Constraints

“Before we went with IntelliFlash, we were crippled by performance and capacity problems,” Brimberry says. “Now, our SQL response times are incredible—we see virtually no latency.”

Average Citrix login time has been reduced by more than one minute. Average server boot time on the IntelliFlash hybrid shelf is under one minute, with a production load of 120 other VMs running. The result: a 60 to 90% reduction from spinning disk-based SANs.

Previously, the company only saw an 18% reduction on a 7.5TB volume. With IntelliFlash, SQL workloads compress and dedupe at 69.52%. SQL read latency fell from an average of 40ms to sub-5ms, while write latency fell from an average of 200+ms to sub-10ms. Before IntelliFlash, backup windows and morning login periods increased the array load to more than 100ms. After the migration to IntelliFlash, morning burst activity dropped to about 1ms on flash and under 5ms on hybrid.

“We now have the best combination of fast and affordable storage,” Brimberry says. “If we need performance, we have the flexibility to move between hybrid and all-flash.”

The ability to implement new solutions or maintain uptime is no longer dictated by storage limitations or lack of features, he adds. “We’re licensed for everything we need—we don’t have to add on features piecemeal. We can focus on gathering and managing data instead of worrying we won’t have capacity.”

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Mike Brimberry, Associate Director of Infrastructure and Operations, The Maschoffs

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