

Innovating the future of fresh produce

Nature Fresh Farms accelerates sustainable growing with faster, scalable access to high-resolution video and evolution toward AI, robotics and automation.



Business needs

As greenhouse acreage doubled in two years at Nature Fresh Farms, its IT team was running out of space to store video generated by greenhouse cameras and automation. The company consolidated video storage and file shares onto Dell PowerScale to provide fast, streamlined access to data vital to better decision-making on creating optimal growing conditions.

Business results

- Greenhouse innovation for fresher produce accelerated with AI, robotics and automation.
- Robots inspect plants for pests and recommend “good bugs” for control.
- Business doubles in size without adding IT staff.
- Better greenhouse growing conditions with easy access to high-resolution video.
- Faster access to vital video files, which drives better business decisions.
- Transformation from growers to data scientists.

Customer profile



Agriculture | Canada



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Keith Bradley

Vice President of Information Technology and Security,
Nature Fresh Farms, Sales Inc.

Solutions at a glance

- [Dell PowerScale](#)
- [VMware](#)



“Before PowerScale, there was a lot of work involved in moving files across the servers so a single server wouldn’t explode. The joy of PowerScale is that we simply define the files in smart pools and PowerScale does all the work for us. We’re now able to make sure everyone can get their files as fast as possible with confidence and ease.”

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Have you ever watched a tomato plant grow? Probably not, but the employees at Nature Fresh Farms, one of Canada’s largest independent greenhouse produce growers, certainly have. Nature Fresh Farms knows that analyzing time-lapse video of the lifecycle of vegetables is key to delivering exceptional quality in its state-of-the-art greenhouses.

As Nature Fresh Farms grew from 64 to 128 greenhouse acres and added new greenhouses in only two growing seasons, its IT team was struggling to find space to store all the video captured, which was spread across multiple video servers. The team also developed issues with reliable, fast access to video.

Eventually, Nature Fresh Farms upgraded its existing Dell Technologies environment to PowerScale scale-out storage running the Milestone VMS video surveillance solution. Nature Fresh Farms also uses VMware SD-WAN by VeloCloud to provide a unified view of data and video across the greenhouses.

Accelerating AI and robotics in the greenhouse

With this solution, Nature Fresh Farms has the ability to analyze data collected from automation in the greenhouse to analyze diseases and pests within the greenhouse. “The data is collected, analyzed by AI and checked by our data scientists, allowing them to make real-time changes to growing conditions and release the ‘good bugs’ needed to stop the ‘bad bugs.’ This data is all organized inside the PowerScale,” explains Keith Bradley, Vice President of Information Technology and Security at Nature Fresh

Farms, Sales Inc. The data not only helps to forecast Labour Management and Packing Line Volumes but also the volume that will be available to Nature Fresh Farms, Sales Inc.

Bradley comments, “At Nature Fresh Farms, stepping over the edge of technology to reach a new threshold in producing quality is ingrained in our culture. PowerScale provides the extreme scalability and performance to accelerate our evolution toward automation, robotics and innovation in our greenhouse and packing lines.”

Bradley continues, “Looking ahead, Nature Fresh Farms envisions automation in inspecting plants for health and disease control, analyzing video in real time and allowing AI to respond in real time



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Higher-resolution video drives better quality control

With the scalability and performance of PowerScale, new use cases for video footage pop up regularly. “Because we can store extremely high-quality video for longer time periods, PowerScale has opened our eyes to new things we can do,” explains Bradley. “We can zoom in from a camera 10 feet in the air to look inside a box of peppers for signs of decay and look around the greenhouse for potential causes. The possibilities for quality control are huge.”

Less TLC required, more joy

Even as Nature Fresh Farms has doubled in size over the last two seasons, the IT team has remained just four people. Bradley recalls, “Before PowerScale, there was a lot of work involved in moving files across the servers so a single server wouldn’t explode. The joy of PowerScale is that we simply define the files in smart pools and PowerScale does all the work for us. We’re now able to make sure everyone can get their files as fast as possible with confidence and ease.”

A partnership for growth

Nature Fresh Farms views Dell Technologies as a long-term partner as it evolves to incorporate more AI, robotics and automation into its state-of-the-art greenhouses. Bradley concludes, “We have great faith in Dell Technologies solutions since they have worked so well for us over the years. The people at Dell Technologies make us feel that we are part of the family and show us they are invested in helping us succeed and grow.”

to assist the data scientists and growers. This speed allows us to achieve results with the all-flash offering, which has opened up the performance that makes this possible.”

Growing data scientists in the greenhouse

Nature Fresh Farms found it was easier to train growers to become data scientists than teaching computer science-trained data scientists how to analyze seeds, perform taste tests, evaluate shelf life and gain other growing skills.

Already, Nature Fresh Farms data scientists use AI to analyze the plants — how they look and how they are growing. This data is now stored on PowerScale, increasing the speed of access yet allowing IT to expand seamlessly.

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