INgrooves

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New Storage Solution is Music to the Ears of Fast-Growing Digital Music Company

Digital music distribution and technology company INgrooves is growing rapidly, signing contract after contract to distribute music for independent labels and artists. The company had originally deployed a traditional storage platform from a large manufacturer, but as their business expanded, they found that the storage expansion they needed was too costly and began looking for a more efficient and cost-effective storage solution.

After reviewing a variety of alternatives, INgrooves worked with Silicon Mechanics to consolidate and modernize its storage using zStax, an enterprise-level software-defined storage platform based on open-source ZFS technology and powered by NexentaStor. Late in 2012, INgrooves deployed a zStax proof of concept (POC) high availability (HA) cluster, and has since deployed two additional zStax HA clusters, with a third scheduled for use in disaster recovery at a data center in Dallas, TX.

INgrooves estimates that using zStax has reduced its total storage expenditures by dramatically lowering both equipment and installation costs. The appliance's compact configuration means that INgrooves gets nearly three times more storage in the same amount of physical space as its prior solution. Future plans include transferring their entire storage infrastructure onto the zStax platform.

The sweet sound of success – and storage woes

San Francisco, CA-based INgrooves handles distribution for hundreds of independent labels and thousands of artists, and has distribution partnerships with such retailers as iTunes, Rhapsody, Amazon, and Spotify. The company offers an end-to-end digital asset management platform that automates distribution and administrative functions, serving as a content hub that connects directly to leading online and mobile stores worldwide.

As the company signed more distribution contracts, it became concerned that expanding its existing storage solution was proving extremely costly. In addition, the system could only handle block-level storage, and INgrooves wanted to be able to take advantage of the performance benefits of a solution that could handle both block-level and file-level storage.

Nicolas Ratineau, director of systems engineering for INgrooves, explains the company's storage conundrum. "As a music company, we are constantly storing more and more content. Nothing is ever deleted—no matter how old the music. We know we have to add storage as we grow, but the cost of adding a full rack to our existing system was prohibitive to our business. We needed to find a much more cost-effective, scalable option."

Ratineau was convinced that the company should not have to purchase a full rack of storage to handle a few terabytes of growth at a time. Also, while their existing storage system worked well, he found

deployment somewhat challenging, because it required adding infrastructure to the data center. The device was heavy and tricky to fit within their space, transportation was complex, and there was a need to involve on-site experts to evaluate the power situation and install proprietary connectors. "It took numerous steps and was a pain to deploy, as compared to simply ordering the system and racking it myself."

New unified storage appliance strikes the right note

After looking around for options, Ratineau consulted with Steve Scherer, storage solutions expert for Bothell, WA-based Silicon Mechanics. Scherer responded by suggesting Silicon Mechanics' zStax StorCore unified storage appliance, which is powered by NexentaStor, a fully featured NAS/SAN software platform with enterprise-class capabilities.

Says Scherer, "INgrooves needed to grow, and they had to make some hard choices on how to build their storage capacity. Every time they sign a new contract or label, they get new music. Their long-term success depended upon finding a lower cost storage alternative that would allow them to continue growing at a fast pace. They can also take advantage of built-in features like asynchronous replication, which represents an additional cost in most traditional storage systems. zStax is an easy and cost-effective way to expand storage capacity over the long run."

To test out the new storage concept, INgrooves deployed a zStax POC HA cluster late in 2012. Because zStax products are powered by NexentaStor, a hardware-independent storage platform, Silicon Mechanics can take advantage of its knowledge of Intel processor capabilities to select the right processor for the application, as compared to legacy storage systems that lock in the customer to a standard system configuration.

Silicon Mechanics selected processors from the Intel® Xeon® processor E5-2600 product family for zStax appliances. In the case of INgrooves, the Intel Xeon E5-2670 2.6GHz processor, with 8 cores and 20MB of L3 cache, is well equipped to handle the workload.

"Content distributors like INgrooves require the performance and low latency that the Intel Xeon processor delivers," said Bev Crair, general manager of Intel's Storage Division. "Pairing the processor with the flexibility, scalability, and cost-effectiveness of software-defined storage provides an open and efficient solution to the challenges facing today's content distribution networks."

The POC went extremely well. "I was impressed that Silicon Mechanics was not afraid to put together the hardware and software and let the customer play with it," adds Ratineau. INgrooves set up the appliance easily, without having to wait for an outside expert to come to the site and rack the device. He was especially happy that the hardware does not require a special power connection and can be used on existing racks, leveraging what

has already been installed in the data center.

Ratineau reports that he found the web interface to be simple to use, and was pleased that the system could be operated with very little training. Perhaps most important, the POC convinced Ratineau that they could grow the zStax system over time. "With the previous system, we had to create a folder that was limited in size. In our business, we are constantly adding assets and with zStax we can scale indefinitely to meet our needs."

Another consideration was disaster recovery, and replicating data from one site to another. INgrooves found setting up replication to be far easier with the zStax cluster than with their existing system.

Efficient and cost-effective storage with zStax
Customizable solution from high IOPS to pure storage
Block and file-level protocols
Scalable indefinitely
3X the amount of storage in the same physical space
Reduced power requirements
Faster time to deploy
Easy-to-use web-based management
Reduced acquisition and installation costs by 70%

Ratineau believes the power of the zStax product line lies in its flexibility. Built to respond to a variety of customer needs, from super IOPS to pure storage, zStax unified storage appliances can use specific hardware for particular requirements, but all share the same management interface. For example, INgrooves will be able to develop a virtualization system with high IOPS, designed to be much faster than the system it uses for storing music assets, but managed with the same interface they already know.

After the success of the POC, INgrooves deployed two additional zStax HA clusters, bringing their total to more than 600 TB of usable storage space. The latest zStax system to be deployed is being used in INgrooves' quality assurance/ development environment. Later this year, the company intends to deploy an additional zStax HA cluster for use in asynchronous disaster recovery at a data center in Dallas, TX. Their ultimate goal is have their entire storage infrastructure on zStax ZFS unified storage.

According to INgrooves, implementing the zStax storage solution reduces the company's storage equipment and installation costs by nearly 70 percent, money that can now be used to invest in other parts of the IT infrastructure to provide better service to customers. The zStax installation is also far more compact than their previous system, providing about three times the amount of useable storage in the same amount of physical space. Power consumption is another bonus. The previous system required its

own power circuit with a battery unit system that added to power consumption, whereas the zStax deployment uses power from the data center.

INgroove's Ratineau also sang the praises of the Silicon Mechanics engineering development team, who he said were always there to help throughout the system design. "I would describe a problem and they designed a feature in the system to solve the issue. I was impressed with their ability to quickly understand the client's issue and find an appropriate solution."

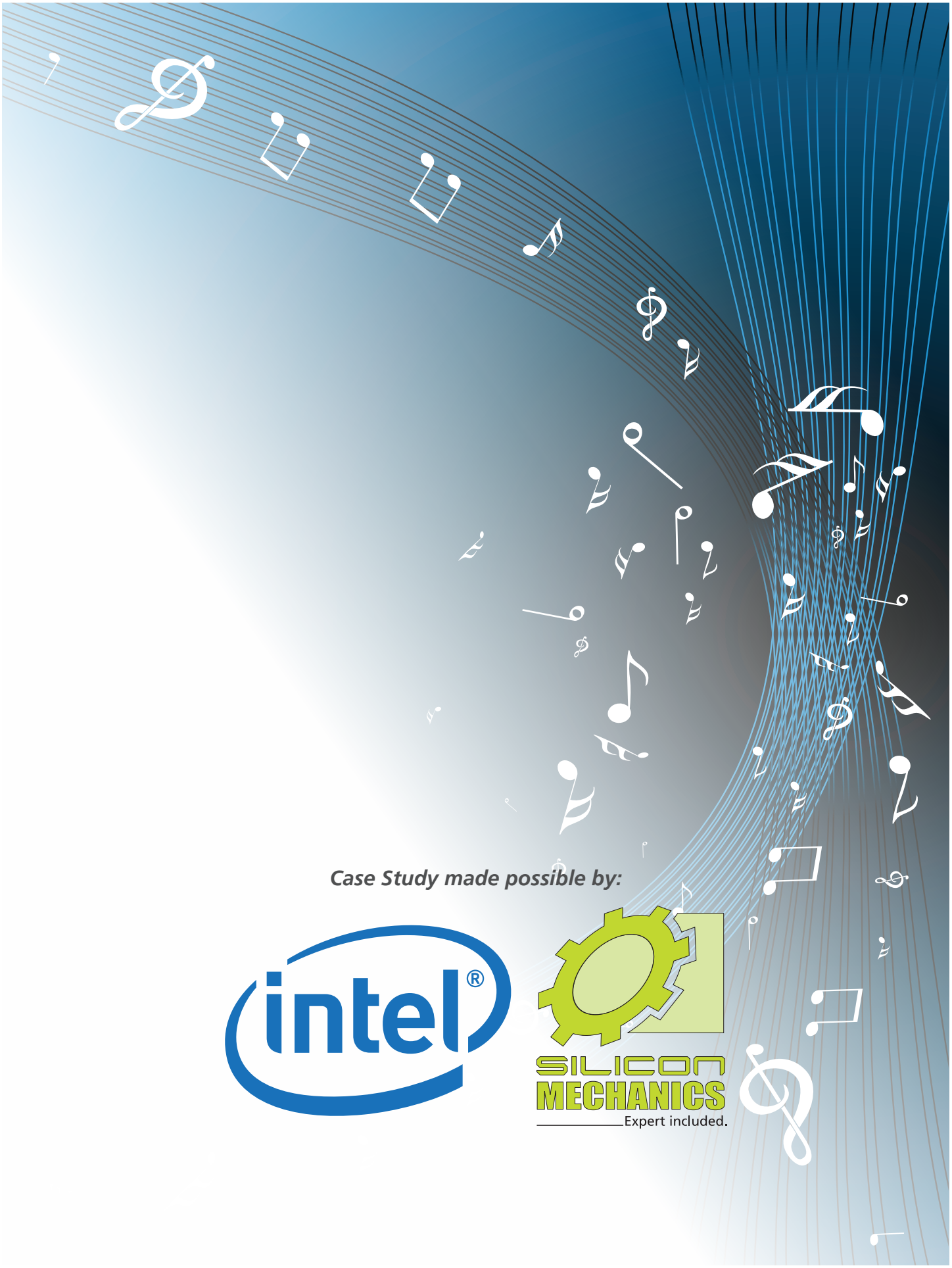
In the end, INgrooves has realized the immediate value they sought: scalable, cost-effective storage, coupled with a flexible, enterprise-ready management in a platform architected, built, and supported by an expert partner.

About Silicon Mechanics

Silicon Mechanics, Inc. is an industry-leading provider of rackmount server, storage, and high-performance computing solutions. Deploying the latest innovations in hardware and software technology, we work in collaboration with our customers to design and build the most efficient, cost-effective technology solution for their needs. Our guiding principle, "Expert included," is our promise that reflects our passion for complete customer satisfaction, from server and component selection to superior installation and ongoing technical support. Silicon Mechanics has been recognized as one of the fastest growing companies in the Greater Seattle Technology Corridor.

About INgrooves

INgrooves is a leading provider of digital distribution, marketing and promotion to the global music and video clients via its ONE Digital platform, including for Universal Music Group in North America and for hundreds of independent labels and thousands of artists globally. INgrooves works with over 600 digital and physical retail partners around the globe.



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