

Case Study

Tintri VMstore



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✓ Review by a Real User

✓ Verified by PeerSpot

What is our primary use case?

It's our main enterprise storage for our in-house cloud.

How has it helped my organization?

In our old location, we had a data center that would have air conditioning or power issues. It just wasn't built to support our growth. If they had to do maintenance on the air conditioner, they would bring in portable air conditioning but that never kept the room cool enough while they repaired the facility. With VMstore, we were able to push a button—and it really is that simple—and flip our primary and secondary storage locations by failing over. Then we would migrate our VMs and be running out of our auxiliary data center. When the

repairs were done, we'd just click another button and fail back over to spread the resources out the way we had them previously.

When we migrated to our new facility, we had some single-mode fiber that was connecting the old facility to the new facility. We just paused our replication, then moved half of our VMware servers and half of our Tintri over to the new location and pushed a button to resync any replication that needed to occur over that two-hour period of moving devices. Then we pushed another button and we were running out of the new building. We then picked up half the resources, moved them into the new building, hit the button again and said, "Resync your replication." We never went down or lost any service. Anybody who was trying to e-file or do court work at that time was never affected by our migration.

Our friends on the Supreme Court of Georgia do not use the same technology as we do. They had to send out letters and emails to all the clerks in the 159 counties we have in Georgia to notify lawyers and the public that they were going to be unavailable for an extended three to five-day period while they migrated their stuff over to the new building. Meanwhile, our court was getting calls from counties that send us 50 to 100 cases a week asking, "When are you guys going to be offline? And we said, "We're not going to be down or offline at all." That was a significant win for us, and it was all because of Tintri and its technology.

Another advantage is that VMstore has reduced administrative time, without question. Previously, we used a product from LeftHand Networks, which was eventually purchased by HP. We had iSCSI connectivity that came with its own set of chores. When you wanted to set up a new LUN, you had to carve it up and do some other steps. With NFS, you create your connection to your storage blob and then you carve it up by folders or however you want. It makes it incredibly easy. Provisioning storage is so simple that it takes clicks to provision it. And once you've done that, you're done. You configure your storage and you present that much storage to your VMware hosts and then decide, by folder, what you want to call it or how you want to carve it up. It becomes very easy and very easy to expand. We're also able to do a lot of thin provisioning. Back in the day, you had to care about how

many spinning disks, how many spindles, about carving out LUNs, and what the performance would be. You had to make all these decisions when you were using older types of storage arrays. All of that has been taken away. It has freed up some staff time to assume more responsibilities in the infrastructure because we're not spending our time carving up LUNS and migrating a VM from one LUN to the next because we're running out of space. It is very easy to use and you can teach somebody how to use it in an afternoon. You can be an IT generalist and understand it.

What is most valuable?

We love the real-time replication ease of use when connecting our servers to the storage level of redundancy inside the box. In terms of the redundancy, with our previous SANs, anytime we wanted to do upgrades or firmware updates, we would have to set aside a maintenance window. But because Tintri has two controllers and everything is redundant, we can do one of them during the day. That means my team will upgrade and fail over from one control to the next, and none of our applications will go down, and our databases don't lose transactions. It's a very steady platform.

It's also simple software and integrates well with VMware so we get a lot of information about all of the VMs, how they're performing individually, and about network latency. That's very helpful

when you're troubleshooting a slowdown.

Prior to using this solution, it was hard to get that kind of information. That was before virtual volumes came out in VMware, which was supposed to be designed to give you more individual information. But Tintri is designed like that out-of-the-box. A user will say, "Hey, this transaction was slow," or "This application seems slow today." A lot of times in the past, when we had an iSCSI or fiber connection, it was hard to know which link in the chain was the problem, or whether it was just the user's perception or the application was busy because it was swallowing a high load at that particular time. Now, we're able to go in and look at what the flash use is by the application and whether there are any network latencies. It becomes helpful because we can eliminate many of those issues and conclude that it was an application-level problem, or the service was busy at that particular moment in time with transactions. We can tell that it's not an underlying hardware or infrastructure issue.

I also absolutely love that VMstore enables replication, snapshots, and setting the QoS at the virtual machine level. For QoS, we let the algorithm within the machine itself handle that because our current device is a hybrid T850. It has a set of spinning disks and about five terabytes of flash. You can look at the management console and see how much your applications or VMs are hitting the flash and how many hits are going to disk. The software determines when there are some volumes in

your VMs that aren't currently accessed very often and it will put them on the spinning disk. If an indexing program runs and touches those files, or somebody wants to go back and touch files that haven't been touched in a long time, it will read them from disk, which can be slightly slower. But when we will look at the Tintri control panel, our rate of flash hits is almost 99 percent, meaning all of our most important data, the things that people use every day and rely on, are sitting at that flash level and they get the highest level of performance.

And we're leveraging more and more of the snapshotting capabilities for disaster and ransomware recovery. It's becoming one of the tiers that we have. We use Zerto for replication backup and to our offsites, and we're now using the snapshots as another tier of backup and restores. But more importantly, we have two separate Tintri units that we use for real-time replication of "protection groups," things that are our most critical systems. They're replicating between the two.

The graphical user interface for monitoring performance is sufficient and colorful. You can mouse over the items that you want to see and it will break them out. I don't think you could present that data any better. We've recently upgraded the software and there are some additional improvements, but it has been very user-friendly and very easy to read.

What needs improvement?

Our biggest bump was going from the 4x software to 5x software and getting them to understand the nuances of how we did real-time replication. They have an automated failover that requires a third-party server to be a watchman over the storage cluster, which is very common. When we were doing that upgrade, it turns out we didn't need that. We were doing manual failovers but we still installed that watchman because we thought we needed it to do our upgrade from 4x to 5x. But once we got it up to 5x, we never had to tell our existing replication settings to use the watching node and to do automated failover. It took multiple phone calls and conversations until we finally got to our local sales engineer who has known the product for a longer period of time than some of the support people we were dealing with to clear up that inconsistency.

For how long have I used the solution?

We have been using Tintri VMstore for somewhere around five years.

What do I think about the stability of the solution?

The stability has been excellent. We are never a first-mover. We don't get a lot of budget in the state courts, so I'm always looking for things that

are cutting-edge, that are enterprise-wide, that I can be an early adopter of, provided that it works really well. We have constitutional requirements that all of our cases be decided within two terms and we're up until 11 o'clock at night finishing those last cases, six times a year. Whatever I install has to be absolutely rock-solid and wholly reliable for those times. We're over 100 years old and we've never missed a deadline. Now that it's all computerized, I don't want to be responsible for them missing that deadline. The software has always been stable. We're always a point or so behind on upgrades. We watch the VMware, SAN, and Zerto upgrades. All that has to float along. But we watch upgrades to see how they go for a month or so before we do them. That means we haven't really seen a lot of bugs or issues with Tintri.

Tintri has introduced new features that we're currently not using. For example, we've been running a MySQL database for five years, but now they've increased their capability to run much larger databases than we run. They handle the performance and other issues people have when they have really large systems. We aren't leveraging those things, which means we don't know if there is a bug in them. But all the features we use, like real-time replication, snapshotting, and provisioning have been very solid.

What do I think about the scalability of the solution?

The scalability of Tintri is where it could possibly be expensive.

When we had LeftHand SAN, each storage node was like a mini server so to grow your storage you had to buy a very expensive device to put in there. That would increase the spindles, computing power, and throughput. You got everything, but if you just needed storage, you couldn't do that.

With Tintri, you're doing the same thing. Now, it does allow you to add a unit and then cluster them together to increase the volume size of your scale out. If you are just looking for storage, and you're having to scale out by buying a whole new Tintri node, you're getting additional compute and everything else. I'm not sure that it's the most cost-effective way of doing it. It might be better, instead of scaling it out in their traditional sense, to just add a node, carve it up, and have it be another target for VMware.

However, in a lot of the newer storage arrays from Tintri, you have a lot more flash space. If you're only buying a unit at a certain size, there are empty slots for you to add to it. That aspect is different with the flash version versus our T850, which was fully provisioned. It's a box of spinning disks and flash. You don't grow it that way. But you can grow the newer units by adding more flash disks.

How are customer service and support?

We're an old customer. When we call in to do a software upgrade, or one of our staff wants to make sure they've read the documentation properly before they do a during-the-day upgrade, their support staff just doesn't have the experience with all of the products that we're running. They don't know the 850 series like we do because it's five years old. There is a little bit of a gap, and that may just be because we're an old customer running on platforms that their staff hasn't seen. I would like to see an improvement in their in-depth knowledge of their older products.

Other than that, their support has always been excellent and responsive.

How would you rate customer service and support?

Positive

How was the initial setup?

It took less than an hour to get VMstore rack-mounted, installed, and starting to serve virtual machines, and the majority of that was unboxing.

We were apprehensive because it was a new device for us. We asked for some help in installing it and they said, "You're really not going to need any help, but our system sales

engineer is going to come out to help." We thought it was going to be all about the configuration. Their engineer showed up with a pair of gloves and a strap to help protect his back when lifting it in but we had already racked it, plugged it in, and added it to our VLAN.

We thought all the work was going to be around how we connect this thing. We didn't understand the NFS stores and how all this works. We wanted to set up replication and didn't know what that was going to be like. But he was expecting that the hardest part of his job was going to be helping us stick the thing in the rack. Once he settled in, we told him, "Hey, we're ready to turn it on." It was a matter of a set of questions, add some IPs and a replication channel. We carved out the storage and had our first VM. In an hour, we had migrated from one of our LeftHand HP storage test servers to this solution.

Maintenance consists of the occasional software upgrade, but every storage has that. We haven't had a flash drive fail or anything else fail and we haven't had to replace a controller on the 850s that we've had running for the last five years.

What was our ROI?

We've had Tintri for so long that it is hard for me to compare total cost of ownership. But I would think the TCO would be less due to lower administrative costs, less downtime, and the overall ease of management.

When we were buying it originally, the price of

Fujitsu, Hitachi, Nimble, and Tintri were all very close to one another in a competitive bid environment. The real cost and savings are going to be the administrative and management costs, which become very negligible in comparison to what you were having to do with a traditional LUN, iSCSI fiber-channel solution.

What's my experience with pricing, setup cost, and licensing?

I've always gotten excellent pricing. I'm very satisfied with the pricing that I receive.

The licensing has gotten simpler. When we bought it, everything was an add-on. If you wanted real-time replication, you bought that as a feature. There were three different levels of software that you could buy, based on what you wanted it to do. Now, that is all wrapped into one SKU and it all comes with it. So it does appear like it is more expensive.

I could see that there may be an issue where some people don't need this or that and don't want to have to license it. Maybe they have licensing options that I haven't discussed with my sales team.

But flash arrays are very expensive, per terabyte. But if you're looking at the fact that they're doing deduplication and compression, and now they're doing on-disk encryption, you're getting a tremendous number of features so I think they offset each other. If you're not

using one feature, you're probably going to use another.

We still buy our array from the point of view of what the real, raw storage is versus the compressed storage that they market it at. They'll say, "This is a 60-terabyte array," but you find out that it's really 36 terabytes and they're anticipating maybe a two-to-one or better compression rate. We're an appellate court and 99 percent of what we deal with are huge volumes of PDFs. Those things just don't compress.

I haven't looked at what some of the other solutions are charging these days for some of the individual software pieces, but I feel that there is a lot of value in the simplicity, ease of use, and hands-off nature of Tintri. You're getting tremendous value based on time. You're avoiding having to have another staff member, at some point, to manage your storage because it is so simply managed and takes care of itself. You can task the people you have doing that to do other things. That's what we did.

Which other solutions did I evaluate?

We looked at Fujitsu and Nimble, which was purchased by HPE. We were looking for real-time replication. Fujitsu had an option for doing real-time replication but it didn't fully support vVols yet. But that's where you were going to get that additional detail, by having it defined as a virtual volume. There were APIs

that would allow you to see more individual information about each VMware guest server that you're running.

That was a key difference. Once we dug into it, it was a no-brainer. With Tintri, you don't have to define anything or go through all these extra steps of configuration. It was actually something we were apprehensive about because it seemed too good to be true, that it was going to be that easy and would work that well. I've been doing this for about over 26 years and I've spent a lot of time in rooms listening to sales engineers and marketing people tell us how things are going to work and how easy they are. But when you actually get them into your data center and try to do those things, it turns out there are 15 other things you have to do or it doesn't work quite that way. Marketing and engineering don't always meet. We were very pleasantly surprised that that was not the case here. We were actually kind of shocked.

The situation with Nimble was that they were working on synchronous replication and that was something we really wanted. With our LeftHand network solution, we were able to do a stretch cluster because it was a network RAID. We had so many nodes running in one data center and so many nodes running in the other. If we had to turn them off, or they went out in one of them, the storage would stay up, but we would be running in a degraded, slower manner. We wanted to keep it up in the event of having to fail.

With Nimble, we thought synchronous replication was in alpha or beta, but when we sat down to get the demo and started asking the guy questions, he was showing us an animation. It wasn't real servers doing real devices. It was just a very fancy simulation of how it was supposed to work and there really wasn't a product yet.

What other advice do I have?

Don't be afraid to try something different, because Tintri is different in the sense that it's an NFS volume and a simple blob of storage. You have to trust that it's going to give you the performance that you need. In so many other solutions you are in control of that performance: How many spindles you assign to a database and how much of it is flash. Are you creating this LUN? Are you running it over multiple devices so that you can get the most performance out of it? What RAID level do you use? What protection level are you going to run? Is it RAID 5, RAID 10, or RAID 20? All that goes away, and when you're used to doing and thinking in those terms you'll say, "Well, how could it be this easy?" You will think, "I've been doing it this way always, how could it be so different?" But it really can be and it works very well.

Around the time we bought from Tintri, they went public, and by the time we owned it and had it in production, they imploded. We looked at the product and said, "HPE or Dell is about to buy this. They're buying everything else and this

stuff is too good." We couldn't understand how Tintri could not be doing well. It was an absolute no-brainer when we bought it. When DDN bought the company, I did a little research and said, "DDN is a very solid company." It looked like they were trying to get into the small-enterprise market with their storage, versus the stuff that they were building. Having such an old, solid company purchase Tintri and put resources into it and support it, told me that they recognized how good the technology was and that it was worth having. And they've been nothing but solid ever since.

I'm a fan of Tintri. I think more about people clicking on bad emails these days than I ever do about my storage. That was not always the case. I used to always worry about things like, "Hey, that RAID 6, if there's a bad drive you have to replace it. Are two drives going to go? Do we get four-hour response? Do we have a cold spare?" I don't even think about that stuff anymore. I give Tintri a 10 out of 10.

Which deployment model are you using for this solution?

On-premises



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