CASE STUDY

# Bauhaus-Universität Weimar Deploys Tintri VMstore™ to Accelerate Virtual Workloads

VMstore

Bauhaus-Universität Weimar

The Bauhaus-Universität Weimar is located at the founding site of the Bauhaus in Weimar, and is the most influential design school of the 20th century. Distinguished experts from various disciplines and countries have since left a permanent mark on the design of the living world through modern art, technology, and science. The modern-day university combines four faculties: Architecture and Urbanism, Civil Engineering, Art and Design, and Media, that together offer 40-degree programs for more than 4,000 students.

## The Challenge: Poor Application Performance

To support more than 4,000 students, professors, and staff at the university with IT services, the university runs its own data center on campus, spread over two sites for redundancy purposes. Steffen Ille is the university's IT-Manager for the department of Infrastructure and also responsible for the virtual footprint running under VMware. "We are running more than 240 VMs in our VMware-environment and have labeled them with traffic light colors, according to their importance to us", explains Ille. "Our email application, for example, is a dark red as it is critical for everybody that it always work. Our users were not satisfied with the performance of the existing EMC storage as it just could not cope with the random I/O of the growing virtual footprint. Application performance was slow, and timeout interruptions on the email server were frequent as were user complaints." It was apparent to Ille and the team that the existing storage was unable to support their current environment and they started actively looking for an alternative.

## The Solution: Tintri VMstore and Tintri Global Center

"With our growing virtual footprint, it became more and more apparent that the EMC Isilon was not apt to deal with the mixed traffic of sequential and random I/Os," explained Ille. "Capacity was not an issue and the Isilon has its strengths when it comes to streaming video, for example. But with more and more random I/O, the system's performance just dropped to painstakingly low levels and we decided to buy a separate storage system that could cope with those workloads." Apart from being able to support all critical workloads, the new storage system needed to offer several features to not provide high performance as well as to simplify management.

Being a part of a wider network of German universities, Steffen Ille was aware of similar projects that had been completed recently. "I read the detailed case study of the University of Freiburg, where the team had successfully deployed a new storage system, comprising one part for mass file storage and another part specialized for virtual workloads. We had very similar problems and benefited from the groundwork the team there had laid with their approach."

The team at University Weimar had some core requirements that soon made the list of possible solutions a very short one. "I am the virtualization manager, and the new storage for virtualization should be included in my sphere of work," said Ille. "It should be tightly integrated into the hypervisor and very easy to manage. I just could not see a solution with any old-fashioned and complex LUN or volume management to be implemented. Also, we wanted to use NFS as the protocol of choice to be able to use the existing 10Gb ethernet, which eliminated basically all SAN-based solutions. The final requirement was Synchronous Replication to be able to make the solutions very safe to run. As I said, the list of systems that could provide all that was short: VMstore!"

The public bidding process for vendors to offer a new storage solution initially included twelve different vendors. Only Tintri was able to tick all the boxes and University Weimar decided to put the VMstore system to the test with a PoC, which it passed with flying colors.

## Challenge

- Poor application performance
- Easier management of storage for virtual environment
- Updates disrupted live operations
- Needed NFS support to use existing 10Gb network

## Solution

- Tintri VMstore and Tintri Global Center

## Results

- Simplified storage management supported by virtualization team
- Increased visibility, enabling faster troubleshooting across infrastructure
- Avoided storage-focused maintenance
- Improved performance

Tintri
*Intelligent Infrastructure*

The University quickly realized the difference between their legacy standard infrastructure and VM-optimized Intelligent Infrastructure. Following the successful bidding process, Tintri's partner Concat AG delivered a set of two VMstore systems with a total capacity of 132TB. Michael Gosch, Director Sales Higher Education at Concat AG commented: "University Weimar has come to the same conclusion as many other organizations. Random I/O and growing virtual environments that produce those I/Os cannot be dealt with by classic, hardware-centric storage systems. VMstore is a great choice for the University as it ticks all the boxes for them."

Thanks to VMstore's unique feature set, the entire selection and bidding process was done extremely fast. University Weimar managed to deploy the new storage only six months after the decision was made to upgrade, which is extremely fast considering the university is government-funded and bound to a long-winded and at times tedious public bidding process. Deployment of the two systems was easy and took around four and a half hours in total, before the first workloads could be migrated from the Isilon to the new VMstore.

## The Results: Increased Performance, Simplified Overhead

Since the implementation of VMstore, Ille has had no problem with his red-labelled workloads. "Performance issues are a thing of the past. Where the EMC was overwhelmed, VMstore is now running all our 240 VMs at only 30% of its performance. I call it the 'Drop and Forget storage' as I just have exactly zero trouble with it since implementation. I also like that I see the VMs running on it exactly in the same way I see them in my vCenter. And should there be any issue, I can see exactly where it is coming from as VMstore shows not only storage but also network latencies and throttle. This level of visibility was impossible with the non VM-centric EMC solution. I can now even offer a level of self-support for certain users, who can set their own rules for snapshots."

By deploying VMstore, University Weimar has solved their performance issues within their virtualized infrastructure. The new storage is also placed under the realm of the virtualization team, which requires it to be managed by non-storage professionals. With storage simplified and plenty of performance left, the virtualization team around Steffen Ille can now go back to doing what they really want to do: not constantly fixing performance problems but driving their virtual footprint further.

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*Steffen Ille, IT-Manager Infrastructure and Virtualization, University Weimar*

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