



# ParAccel™ Increases Database VM Responsiveness by 98 Percent while Reducing Storage Footprint by 90 Percent with Tintri VMstore

### Industry

High technology

### Location

Campbell, CA

### Virtualization environment

- VMware® vSphere™ 5.0, 6 ESX hosts
- Prior to Tintri: EMC Clariion CX4-240, FC

### VM profile

- Windows and Linux VMs running ParAccel database applications

### Key challenges

- Storage performance could not keep up with IO-intensive test-and-development database applications, leading to latencies of over 100ms and reduced productivity
- Overprovisioning storage for performance caused unusable storage capacity
- High operational costs to maintain a large virtual environment with many datastores

### Tintri solution

Tintri VMstore™ T540 dual-controller storage systems running about 100 IO-intensive database VMs

### Primary use case

VM storage for a test-and-development environment that hosts 70 ParAccel Analytic Platform database applications

### Business Benefits

- Cost-effective flash performance reduced latency by 98 percent, resulting in improved developer productivity
- Datacenter space reduced by 90 percent compared to previous storage systems
- Tintri VMstore performance enabled more VMs to run concurrently, increasing host resource utilization

### Overview

ParAccel, a leading analytic application software provider, opens the door for companies to accelerate, innovate and compete. ParAccel Analytic Platform combines an analytic database with extensibility and integration technology as a foundation for running big data analytics, anytime, anywhere. The company serves Fortune 1000 customers in digital media, retail, financial services, healthcare and government.

ParAccel found storage performance issues hindered developer productivity in its fully virtualized database test-and-development environment. Existing storage could not support more than a handful of VMs while delivering low latency for IO-intensive database applications. ParAccel wanted to deploy a VM storage solution that would not only improve database responsiveness, but allow it to run hundreds of database VMs concurrently while simplifying overall infrastructure management.

### Key Customer Challenges

ParAccel used traditional storage systems to support its database test-and-development VMs running the ParAccel Analytic Platform. “High latency and performance bottlenecks in our existing storage kept us from running more than a few VMs concurrently, severely affecting developer productivity. We could only safely run fewer than 10 VMs given the performance needs of the database VMs,” said Mike Torgersen, VP of IT at ParAccel in Campbell. “We wanted a solution that provided low latency and high IOPS to deploy hundreds of high-performance database VMs.”

Performance bottlenecks also led to wasted storage capacity and underutilization of host resources, as fewer than 10 VMs could run concurrently. “Even at this small scale, we started experiencing latencies exceeding 100ms on our existing storage, even though we added more than 70TB of storage capacity — occupying 30 rack units of datacenter space — to keep up with performance needs,” said Torgersen. “We wanted to reduce our datacenter footprint while delivering the performance needed for our virtual environment by leveraging flash technology.”

ParAccel also wanted to scale the environment to reduce time-to-market by enabling dozens of developers to work concurrently. “We wanted a storage solution that allowed us to run at least 70 VMs initially, and provided ample performance as we scaled our environment to hundreds of VMs,” said Torgersen. “We wanted to avoid adding more disks just to accommodate performance needs.”

*“Tintri provides a compelling, high-performance, small-footprint storage solution for our demanding test-and-development virtual environment. Compared to our previous storage, Tintri VMstore can run 10 times the VMs in less than a tenth of the data center footprint, and reduce latency by 98 percent at the same time.”*

Mike Torgersen  
VP of IT at ParAccel

## Business Benefits

Tintri VMstore helped ParAccel eliminate storage performance issues and measurably increased developer productivity in its test-and-development environment, running fully functional ParAccel database applications. “Tintri’s flash-based storage provides the high performance we need to concurrently run hundreds of database instances. We now run 70 database VMs that drive more than 10,000 IOPS aggregate on a single Tintri T540 VMstore system. Database latency is consistently less than 2ms even at this scale,” said Torgersen. “There is still plenty of room to add more VMs to accommodate our growth needs.”

Tintri also helped ParAccel eliminate storage overprovisioning. Tintri’s flash-based architecture delivers high performance in a small footprint, so there is no wasted capacity. “Tintri provides a compelling, high-performance, small-footprint storage solution for our demanding test-and-development virtual environment,” said Torgersen. “Compared to our previous storage, Tintri VMstore can run 10 times the VMs in less than a tenth of the data center footprint, and reduce latency by 98 percent at the same time.”

Tintri VMstore helped identify performance constraints elsewhere in ParAccel’s environment, given that storage is no longer a bottleneck. “Removing the storage bottleneck allowed us to run dozens of VMs concurrently, and our host resource utilization shot up. We had to add another host to accommodate the CPU and memory needs of the database VMs,” said Torgersen. “Tintri helped us realize a fundamental goal of virtualization — consolidate workloads and increase resource utilization, both on hosts and on storage.”

## Summary

Tintri’s flash-based VM-aware storage platform eliminated storage performance issues, greatly improved developer productivity and reduced time-to-market. Tintri also enabled ParAccel to reduce the storage footprint needed for running its test and development virtual environment, reducing operating costs from space, power and cooling. “We could not be happier with the Tintri solution. Tintri enabled us to realize greater efficiency throughout our test-and-development infrastructure, while reducing the overall cost,” said Torgersen.

The Tintri logo features the word "TINTRI" in a bold, dark blue, sans-serif font. A green leaf-like shape is positioned above the letter "I".