

## CASE STUDY

# Yellow Pages Dials Tintri IntelliFlash™ to Power VDI and SAN Upgrades

IntelliFlash



Online business directories and web searches are now standard tools for consumers looking to buy goods and services. But consumers still refer to Yellow Pages more than 15 billion times a year. So for US-Yellow, a Jacksonville, Florida-based independent yellow page publisher, print directories are still a strong revenue producer in addition to the company's online and CD directory products. The company is now a top resource for finding information online.

## The Challenge: Legacy Storage Could Not Support VDI and Database Workloads

The company operates a database-heavy IT infrastructure with multiple large SQL databases as well as Microsoft Exchange, PostgreSQL, and custom SAP applications. US-Yellow recently undertook a major IT upgrade, adopting server and desktop virtualization platforms for the first time and making the transition from local server-attached storage to a high-availability Storage Area Network.

Ben Croxton, IT Director at US-Yellow, was well aware of the storage challenges of a virtualized environment, such as the I/O blender effect of server virtualization and the extreme I/O demands of a Virtual Desktop Infrastructure deployment. To mitigate the I/O challenges of a virtualized infrastructure, Croxton sought out a flash-assisted storage solution but was frustrated by what he found.

"I was looking for SAN storage that I felt comfortable using both for production servers and VDI at the same time," he said. "But after speaking to several larger vendors I realized they either did not have an applicable solution, or their solution was far beyond my price range."

## The Solution: Tintri IntelliFlash T-Series

Croxton considered building his own solution based on a software defined storage product but decided that option was not suitable for the company's production environment. He then narrowed his choice down to two commercial SSD hard disk vendors. The decision was an easy one, he said, with IntelliFlash offering better hardware, better pricing, more storage capacity (IntelliFlash systems boast almost a 4x flash capacity advantage per device compared to other vendors), and an honest, up-front sales process with excellent customer service.

The IntelliFlash systems bring a new approach to high-performance network storage with an innovative design that leverages the high performance of SSDs and the low cost-per-terabyte of capacity hard disk drives. Unlike, conventional network storage designs that use tiers of SSD, geared towards optimizing either performance or capacity, and constantly migrate data between the tiers, IntelliFlash has architected the performance benefits of SSD throughout the data path, providing every application with the performance boost of flash storage.

The result of IntelliFlash's single-tier design is a storage system that delivers up to seven times the performance and uses up to 70% less capacity than legacy systems. And unlike those legacy systems where any additional storage services require additional license fees, everything needed is built into the system. This includes a full range of storage services such as backup, deduplication, application-optimized templates for fast, easy storage provisioning, and one-click deployment of virtual servers and desktops.

## Challenges

- Legacy storage could not support heavy database and enterprise application use
- VDI implementation pushed the performance envelope

## Solution

- Tintri IntelliFlash T-Series

## Results

- VDI challenges addressed
- Database latency reduced by over 5x
- Reduced capacity needs by over 65%



## The Results: VDI Performance Up, Database Latency Down by 5x

For US-Yellow, the virtualization support radically simplified and accelerated the usually complex and time-consuming task of provisioning seven VMware ESXi physical hosts, about twenty-four servers and thirty virtual desktops. Not surprisingly, the inline data deduplication functionality that is built into IntelliFlash has made a major impact in reducing the storage capacity required for the operating system volumes. Virtual machine images are highly redundant so VMware deployments respond very well when data deduplication is applied to those images.

Along with the one IntelliFlash system, US-Yellow installed a complete iSCSI SAN at its Jacksonville headquarters. The system is attached via four 10-Gigabit Ethernet connections to redundant network switches which then use multiple 1GE connections to seven VMware ESXi hosts. US-Yellow also has VDI users running VMware View, adding further stress to the network storage. But Croxton said IntelliFlash has handled the server and desktop virtualization load without a hitch. Croxton also had praise for the unified storage functionality of the system.

After its initial deployment with block storage in the iSCSI SAN, US-Yellow is planning to install additional IntelliFlash systems to handle the file storage requirements, replacing disk-based Network Attached Storage devices it currently uses for backup and disaster recovery, snapshots, remote replication, and inline compression.

Experience Different! For more information on how Tintri IntelliFlash can turbo-charge your business success through a simple, Intelligent Infrastructure, visit [tintri.com/intelliflash](http://tintri.com/intelliflash).

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*Ben Croxton, IT Director, US-Yellow*