

USE CASE

Cell Tower Log Analytics

Telecom provider relies on Pure Storage® for high-performance, reliable analytics data storage.

The Challenge

A major global telecom provider (referred to as “the telco”) had deployed a solution to monitor data from cell phone towers. The effort began as a way to improve security by looking for anomalous behavior, such as DDOS attacks. But it soon expanded into more generalized network monitoring and support for business analytics, such as text and cell call traffic patterns. The result is the organization is processing as much as 10TiBs of real-time data a day.

The telco began the project using over 4PB of disk-based NFS storage. The data pipeline included a suite of different software applications like Elastic, Redis, Splunk, and homegrown scripts with workloads running in Linux containers. Large amounts of data needed to be written to the storage, while data was simultaneously read for report and alert generation. Nearly 100 nodes access the data repository.

The telco experienced major problems with constant failures of their disk-based storage. With over 750 hard drives in the environment and a drive failure rate of 2%, technicians needed to replace drives on average every 24 days, which also involved replacing servers. These infrastructure failures were, in turn, causing application failures.

With a large maintenance renewal coming up on their NFS storage, the telco thought it was time to evaluate other options. After looking at Pure Storage® FlashBlade®, it was clear that switching to flash was the way to go.

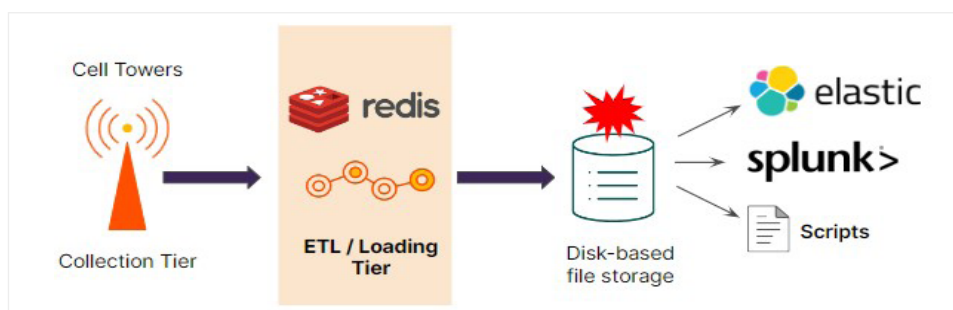


FIGURE 1 The data pipeline for the analytics solution relied heavily on NFS storage. Continual failures in the disk environment caused application failures and imposed a heavy maintenance toll. An alternative was needed.

Industry

- Telecommunications

Key Challenges

- Disk-based storage was unreliable and too slow
- Continual disk replacements were needed
- Storage outages led to application failures

Pure Storage Solutions

- FlashBlade

The Solution

The telco replaced their disk storage with an ultra-reliable, high performance Pure Storage [FlashBlade](#) unified file and object array. FlashBlade excels at both data reads and writes, allowing it to handle both sides of the data pipeline. The telco saw multiple benefits from moving to Pure Storage.

Performance

The initial FlashBlade was deployed as a test system. Despite being only 364TiBs, it showed performance nearly identical to the full 4PB disk system. With near-linear scaling from FlashBlade, it was clear that the full deployment would show a massive performance gain over the disk environment. In addition, unlike the disk environment, FlashBlade doesn't require any performance tuning, thereby lowering management overhead.

As further evidence, the telco had several VMware clusters that were running on Pure Storage FlashArray™, and they had seen excellent results with that platform.

Reliability and Ease of Use

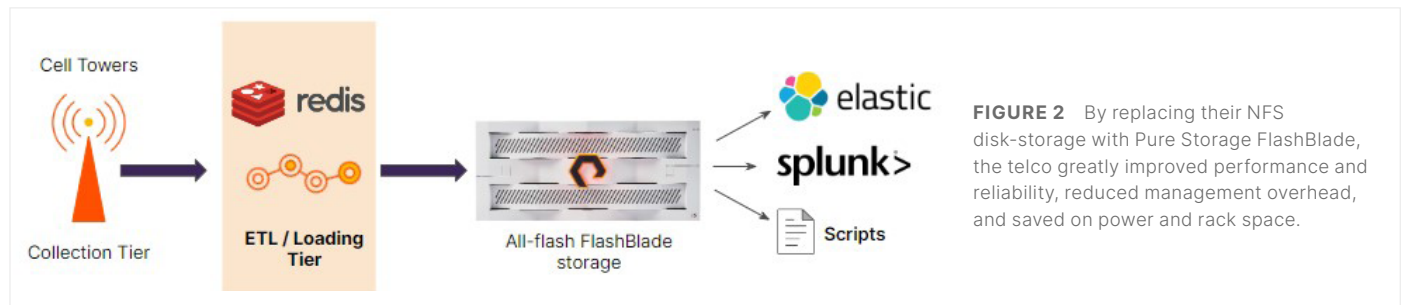
The telco staff has to handle many different infrastructure components: storage, servers, networking, security, etc.

An easy-to-use and reliable platform was critical to reducing the IT stress the disk storage created. The FlashBlade platform is not just far more reliable, it's also easier to scale and operate.

Because of their negative experience from spinning disk failures, the telco staff made sure FlashBlade could handle component failures. They tested by removing different FlashBlade components while the system was running, and saw that there was no impact to processing. This was a decisive factor in making the change.

Environmental Improvements

Switching to FlashBlade netted the telco a 50% reduction in power and cooling needs. These savings are vital because the data center is power-constrained and additional power is not available. Rack space was also reduced, freeing up 2 1/2 full racks.



Conclusion

After suffering multiple outages using a disk-based system, the telco switched to FlashBlade, gaining better performance, reliability, and ease of use, plus valuable power and space savings. Consult the information below to learn more about why 11 of the Top 15 Global Telecoms rely on Pure Storage.

Additional Information

- Visit our telecom [industry page](#) and [telecom blog](#)
- Learn more about the performance oriented Pure [FlashBlade//S™](#) and the capacity optimized Pure [FlashBlade//E™](#).
- Learn how Pure Storage enhances [OpenStack deployments](#).

