infinite io ™

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As soon as I heard there was a solution that could speed up metadata requests while offloading storage to the cloud, I knew this was the answer. Now, when users call the FAU Research IT team, it's not to complain about bottlenecks, but rather to boast about how smoothly and quickly everything is running.

Rhian Resnick
Asst. Dir. of Middleware and HPC
Florida Atlantic University

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CUSTOMER SUCCESS

Florida Atlantic University

Research Computing team accelerates project workflow and expands funding opportunities through gains in metadata speed and agility

Challenge

Florida Atlantic University's (FAU) Research Computing team was challenged with meeting the needs of the university's researchers, as some key jobs were frustrating users by taking too long to complete. The root cause was identified as poor NAS performance with NFS metadata. More specifically, all the applications and programs were serially reading file attributes on large numbers of files—a very common problem for users with diverse inputs and simulations and a high percentage of metadata requests.

Just as in the commercial space, in a research setting, expedience is key. Being able to ask new questions quickly and publish in a timely, efficient manner could mean the difference between a successful program with documented results and continued grant funding, and one that's lost its competitive advantage and beaten out by other academic institutions.

FAU needed a way to optimize their system to get research done faster, which they believed required a new file system to change the way the data was handled. In short, they were looking to move off the existing NAS and onto a different piece of hardware with a completely new design—a potentially massive undertaking.

"Rip and replace" is extremely costly—not just with regard to new hardware acquisition, but on an ongoing basis as well. What's more, a new file system with new architecture would require some level of user training, which would ultimately prove disruptive to the workflow.

Solution

infinite io took FAU in a more innovative direction by delivering a simple, robust 2U network device that required no changes to their system design or disruption to their workflow. No new file system. No new mount points. No new storage.

The infinite io solution included a combination of in-memory metadata database plus deep packet inspection on the network. A one-time NAS system scan was performed at start-up to build the metadata map, then all network packets were parsed—prior to reaching the NAS. If the request was for metadata, infinite io could intercept the request and serve it in under 60 microseconds—which means the request never hit the NAS head.

By residing transparently in front of the client's current storage architecture, infinite io's network-based metadata accelerator brought intelligence straight into the network—and, in essence, optimized the existing network to do the heavy lifting. Today as a result, metadata is served on the network at rates unachievable by any file and storage system. For the university, this means minimal cost outlay, zero workflow disruption and unparalleled response times.

Result

With the ability to serve metadata requests anywhere from five to 100 times faster than even the fastest, largest storage system, infinite io's network-based metadata accelerator delivered an immediate boost in the client's performance; requests that were taking many minutes to complete are now being returned in seconds.

The full metadata repository within infinite io offers FAU a unique data management solution whereby inactive data is migrated and managed to a cheaper storage tier—securely, cost-effectively and seamless to the user. The FAU Research Computing team is looking forward to adding the infinite io Cloud Migration feature in the near future.

For FAU, infinite io is an unparalleled solution that offers a cheaper, faster and more robust workflow for staff research projects, and more opportunities for successful funding endeavors.

ABOUT US

Our mission at infinite io is to provide our customers with the best possible product experience. Our experienced technology teams have a track record of developing market-defining solutions in security and packet inspection, storage networking, network routing and storage systems. Designed to be remotely managed and easily upgradeable, our products proactively self-monitor to make initial configuration and ongoing support a straight-forward and hassle-free experience.

Infinite io has been cited by CRN, Network World, Information Week and Tech Target as a game-changing company engineered to disrupt the world of data storage forever.

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