\Orchestrating a brighter world

NEC

HYDRAstor®

The Urban Institute

Customer

- The Urban Institute

Industry

- Nonprofit research organization

Challenges

- Requirements for high security data storage
- Management of multiple small appliance infrastructure
- High cost and effort to expand past data storage
- Upgrades not integrating or in sync with other products
- Downtime from malfunction, system recall, reinstallation
- High backup window due to slow performance and inefficient deduplication
- Ongoing support issues and high cost of maintenance

Solution

- HYDRAstor® HS8 4000 high speed de-duplication, encryption, backup and recovery

Results

- Compliance with high-security requirements
- Decreased costs of upgrading capacity exceeded systems
- HYDRAstor's scalability and investment protection
- Enhanced operational efficiency with no downtime
- Savings of time and space due to high speed de-duplication
- Positive experience with NEC support

The Urban Institute

The Urban Institute's mission is to open minds, shape decisions, and offer solutions through economic and social policy research. Founded in 1968 to understand the problems facing America's cities and assess the programs of the War on Poverty, the Urban Institute has brought decades of objective analysis and expertise to elevate policy debates in city halls, state houses, Congress, the White House, and emerging democracies around the world, as well as within foundations and philanthropies. Their diverse research portfolio ranges from the social safety net to health and tax policies, the well-being of families and neighborhoods, and trends in work, earnings, and wealth building. Urban Institute's scholars have a distinguished track record of turning data into solutions.

> "The NEC solution gives us a better performance, and a better dollar value. It's just exactly what we've needed."

As an organization, the Urban Institute does not take positions on issues or pursue an advocacy agenda. Scholars are independent and empowered to share their evidence-based views and recommendations shaped by research.

Urban Institute researchers take advantage of dozens of existing quantitative data sets to study the world. These data come from the many federal, state, and local government agencies, as well as from dozens of private and proprietary sources.

We learned about NEC's ability to provide what you want right at the start. Our internal end-users get what they need, when they need it.

For many research questions the proper data do not exist, and Urban Institute researchers must undertake their own data collection. Though surveys are a primary method for generating new data, researchers have also employed a range of creative data-generating methods. Evaluating and creating rigorous public policy with ideas rooted in credible data and designed to improve lives and strengthen communities requires a broad portfolio of tools. Policy development extends over time and policymakers require evidence at each step to assist in diagnosing problems and underlying causes. Research provided by the Urban Institute helps to:

- Design new policy options and assess likely effects of alternatives
- Demonstrate and evaluate impacts of new, model programs
- Monitor program implementation, measuring its costs, performance, and sensitivity to different settings
- Evaluate existing programs' long-term impacts and cost-effectiveness

Since no single research methodology or dataset can deliver such a wide variety of evidential information, the Urban Institute employs a portfolio of rigorous instruments to effectively advance evidence-based policy.
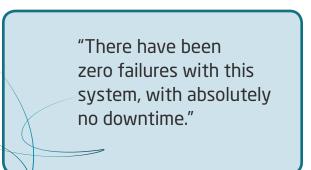
One Project Example: The goal of the USA's Prisoner Reentry Program is to actively reduce recidivism rates. For this project, the Urban Institute gathers and examines prison data to help determine the best way for incarcerated persons to reenter and become contributing members of society. Information is gathered and collated from institutions and individuals to assist in determining a course of action that will best guide former inmates in the right direction as they exit the prisons and reenter their communities.

This is one of many such projects made possible by the data the Urban Institute collects, analyzes and provides to policy makers and the general public.

Challenges

The Urban Institute strives to gain direct access to sources to gather the data, often yielding large volumes of highly confidential information that must be secured and protected with extreme care. Reliable storage, encryption, and accessibility is a critical part of this customer's daily operations. The weekly information load for which the Urban Institute must provide deduplication, encryption, storage, and back up generally ran between 25-30 TB of highly proprietary, most private, project data.

"There have been zero failures with this system, with absolutely no downtime."

To manage this process, Urban Institute had purchased a leading vendor's larger data storage solution, and quickly found that it had to be expanded--by forklifting another product in, which did not interact well with their other new products. The ensuing overhead associated with having the necessary redundancy to protect this hardware and their data began to multiply in costs and efforts.

Continuing to operate with slow deduplication rates and storage issues caused them to deal with a high backup window due to poor system performance and deduplication inefficiency.

A major malfunction eventually caused downtime, as the system was recalled and the entire chassis was replaced, and yet the vendor continued to charge Urban Institute high maintenance and renewal prices.

Solution

The decision was made to take action and replace the existing system with an efficient, high capacity solution, so three (3) major providers were carefully considered. Detailed comparisons indicated that NEC actually provided a better technology solution at a much lower cost.

NEC's offering was the state-of-the-art HYDRAstor® HS8 4000, the multi-year Best Products Award Winner that performs deduplication, encryption, backup and data recovery, and is widely recognized as the most scalable target "dedupe solution." HYDRAstor's grid storage platform with inline global deduplication can scale linearly up to 165 nodes, solving present and future challenges for long-term data storage. The solution's grid architecture will enable scalability of both performance and capacity, with its capacity optimization, advanced erasure-coded data protection, high availability with node-level resiliency, as well as in-place technology refresh with new generations of technology.

NEC provided to the Urban Institute a 60-day Proof of Concept (POC) trial, with "no strings attached," meaning, if dissatisfied, all was completely returnable following the trial. Because of this non-binding agreement, this customer's necessarily cautious Finance department approved NEC's flexible and low risk trial.

Sr. Networks Engineer at the Urban Institute, Hadi Jeddy, confirmed, "Installation was actually perfect--especially compared to our past vendor, which had a third party come out and do the hardware set up and afterwards we had to dig in and figure out how to get it the way we needed.
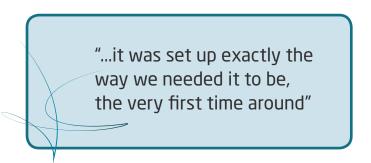
"NEC did it the right way. Their installation was right the first time: two NEC engineers came and set the system up, contacting NEC to get any issues clarified and our questions answered—and it was set up exactly the way we needed it to be, the very first time around. Afterwards, if any follow up was needed, response time was excellent."

Results

Urban Institute engineers have especially appreciated the encryption part of the process of the NEC solution; it has ability to speedily dedupe information and size it down, literally in the background, with very little intervention at all. During the trial they received an extremely good rate of compression and deduplication, and achieved 30% better performance in the very first backup, an increase of 3-5 times (with a 35:1 deduplication ratio and much shorter backup window).

Mr. Jeddy shared their reasons for ultimately choosing NEC when he said, "We learned about NEC's ability to provide what you want right at the start. Our internal end-users get what they need, when they need it. There have been zero failures with this system, with absolutely no downtime. We have the ability to add to the system, and it will talk across the platform and all sync accordingly. The NEC solution gives us a better performance, and a better dollar value. It's just exactly what we've needed."

> "…it was set up exactly the way we needed it to be, the very first time around"

NEC's Relationship with Our Customer

Urban Institute reports that the relationship building with NEC has been a positive experience throughout the entire process. From the very first meeting, through the NEC assessment and discovery stage, solution recommendations, Urban Institute's POC trial, and all ongoing follow up with this customer, Mr. Jeddy confirmed, "The NEC support has always been very helpful, with good response time and no issues at all."

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