How FreeBSD Fuels NYI's Success as a Managed Infrastructure Services Provider

Summary

This case study examines how NYI has successfully leveraged FreeBSD's open source flexibility and performance over a twenty-five year period, enjoying deep levels of control, security and accountability. The analysis includes NYI's early adoption of FreeBSD as a foundation for its infrastructure, the ongoing use of FreeBSD in the running of internal NYI systems and managed services, and the evolution of the strategic partnership with the FreeBSD Project.

CHALLENGE

As an independent managed infrastructure services provider founded in 1996, NYI faced the challenges of delivering high-performance, customizable solutions while balancing stability, security, and cost-effectiveness. Competing with larger providers, NYI needed a flexible, open-source hosting infrastructure solution that provided full control over its infrastructure and could reliably support a variety of client and operational needs

SOLUTION

NYI adopted FreeBSD as the foundation for its infrastructure, leveraging its robust networking, security features, and tools like jails for process isolation and ZFS for data management. FreeBSD's consistent interface allowed NYI to customize its environment efficiently while avoiding the high costs associated with commercial solutions.

IMPACT

By building on FreeBSD, NYI achieved a reliable, scalable hosting environment that reduced downtime and maintenance needs. This strategic choice enabled NYI to offer high-performance, secure services to clients, solidifying its reputation in the tech community and leading to a long-term partnership with the FreeBSD Project.

CASE STUDY PRESENTED BY

Backstory

NYI needed to provide a stable and customizable hosting infrastructure for a diverse client base while maintaining control over all aspects of their setup. Traditional proprietary software lacked the flexibility and scalability required to support their unique operational needs.

"When we started back in 1996, we were just trying to understand the Internet… We needed something customizable that we could control completely without the massive costs and limitations of proprietary software."— Phil Koblence, COO and Co-Founder of NYI

Choosing FreeBSD

In addition to its robust performance, stability, and flexibility, FreeBSD's advanced networking and storage capabilities allowed NYI to create a secure, customizable environment for hosting a range of client services. The system's efficient networking stack and features like jails for process isolation and ZFS for data management gave NYI powerful tools to optimize its operations. FreeBSD's open-source nature and consistent interface allowed NYI to avoid licensing fees, making it a cost-effective solution for long-term infrastructure management.

"We've always valued accountability—FreeBSD gave us that, with administrators who understood every element of the operating system, down to how the kernel interacted with the hardware, allowing us to focus on tailoring each server to our clients' needs… FreeBSD's open-source nature allowed us to create exactly what we needed."— Phil Koblence, COO and Co-Founder of NYI

Implementation

NYI integrated FreeBSD into key aspects of their hosting environment, leveraging the system's stability and performance. They use FreeBSD's jails to isolate processes, allowing multiple services to run securely on a single server with minimal overhead. Poudriere manages custom package configurations, ensuring a consistent environment across systems, while ZFS provides reliable data storage and integrity checks, making backup and recovery seamless. These powerful tools enable NYI to tailor each server's functionality to client specifications, maintaining efficiency and security across their entire infrastructure.
"

"Jails allow us to run multiple services on a single machine without compromising security. We can do a significant number of things on a single server, which has been invaluable. FreeBSD's stability means we don't have to worry about core functionality changing unexpectedly. It's easy to move between versions without disrupting our services." — Mark Staudinger, VP of Systems Architecture at NYI

NYI and FreeBSD: A Strategic Partnership

In 2010, the FreeBSD Foundation selected NYI's Bridgewater NJ facility (now 365 Data Centers) for an East Coast US Mirror of their key West coast infrastructure. In 2016, NYI expanded its support by becoming the primary hosting provider for the FreeBSD Project's development and CI infrastructure. Recently, this partnership deepened with the establishment of a new FreeBSD cluster at NYI's Chicago facility, backed by a $100,000 investment from the FreeBSD Foundation and four racks contributed by NYI. This cluster includes essential components for network management, package building, CI testing, and mirrors, strengthening FreeBSD's global infrastructure and supporting its development needs.

"With the new cluster in Chicago, we're helping the FreeBSD Project strengthen its infrastructure. This partnership allows us to support the community, help FreeBSD grow, and facilitate emerging technologies."— Phil Koblence, COO and Co-Founder of NYI

Future Plans

NYI remains committed to supporting FreeBSD and is exploring additional ways to strengthen the partnership. They plan to expand infrastructure support for FreeBSD, further aligning with their dedication to open-source innovation. This commitment ensures that NYI can contribute meaningfully to the FreeBSD community while delivering enhanced client services.

"Stability is crucial for our clients, but we're always exploring ways to support FreeBSD's bleeding-edge projects in our Chicago lab... We are delighted to be able to serve as an incubator for open-source innovation and excited to see what's possible with FreeBSD in new tech fields such as AI and beyond."— Phillip Koblence, COO and Co-Founder of NYI

Conclusion

"NYI's journey with FreeBSD is a testament to what open-source collaboration can achieve. We're proud to support their work and grateful for the contributions they've made to the FreeBSD Project. Together, we're creating a resilient infrastructure that meets NYI's needs and strengthens FreeBSD for everyone who relies on it. This partnership embodies the power of shared values and the open-source spirit that drives us all forward."
— Deb Goodkin, Executive Director, The FreeBSD Foundation

NYI's strategic adoption of FreeBSD has been central to its success in delivering customizable, reliable, managed infrastructure solutions. From early adoption to hosting the FreeBSD Project's core infrastructure in New York, New Jersey and Chicago, NYI's partnership with FreeBSD has allowed them to build a stable, high-performance environment that meets diverse client needs. This collaboration exemplifies the benefits of open-source technology, driving innovation, flexibility, and community engagement as NYI and FreeBSD continue to support each other's growth and adapt to future challenges.