CASE STUDY · FORTUNE 500 ENERGY LEADER

Fortune 500 Energy Leader Transforms Legacy Systems to Kubernetes-Based Microservices

The largest electric and natural gas power holding company in the US moved its legacy systems to a Kubernetes-based platform with Nirmata, growing from 120 to 930 applications and from 80 to 680 developers while increasing feature velocity four times.

120 → 930	80 → 680	4×	4×
APPLICATIONS (700%)	DEVELOPERS (750%)	OVERALL DEPLOYMENT SIZE	FEATURE VELOCITY

CUSTOMER	SERVES	INITIATIVE	DEPLOYMENT	STACK
Fortune 500 US electric and natural gas holding company	Over 7.6M electric and 1.6M natural gas customers	“LIFT” digital transformation, started in 2015	Hybrid cloud, starting on-premises on bare metal	Nexus, Jenkins, Splunk, HAProxy and Nirmata

§01 CHALLENGE

The project mission

For approximately 150 years, this Fortune 500 energy leader has been the largest electric and natural gas power holding company in the US, serving over 7.6M electrical and 1.6M natural gas customers across multiple states. The rising demand for energy solutions, the cost of energy production and shifting customer expectations prompted the company to embark on digital transformation, focusing on its most business-critical applications first.

Legacy systems and infrastructure posed significant challenges:

- **Bridging the skill and cultural gap.** Adopting cloud-native technologies required upgrading the skills of development and infrastructure teams, and changing how the teams worked with each other.
- **Inefficient operations due to silos and lack of automation.** Silos between development and infrastructure resulted in redundant efforts, taking time away from building critical capabilities.
- **High maintenance costs.** Maintaining legacy systems required specialized knowledge and training.

- **Lack of flexibility.** Releasing new features on legacy platforms was time-consuming and tightly coupled to the infrastructure, so the company needed a platform that abstracted that complexity and let developers deploy and manage applications anywhere, consistently.
- **Incompatibility.** The legacy platform did not easily support third-party integrations that required API access, stifling innovation.
- **Delayed releases.** All of the above made the rapid delivery of new technical services and products slow and sometimes impossible.

§02 SOLUTION

Choosing a cloud native partner

The company's "LIFT" initiative began in 2015, focusing on Lean IT, DevOps, Agile, and revamping the IT supply chain to support the cloud native approach. An evaluation of current tools, processes, platforms and people confirmed that legacy IT systems, processes and structure were the biggest hindrance to efficient app development.

To speed up digital transformation, the executive team knew they needed a partner to help them adopt Kubernetes quickly, bridge the skill gap, foster collaboration between teams, and provide a flexible technology platform to innovate. The team evaluated five vendors on criteria including an open-source based solution with minimal lock-in, end-to-end automation for developers, operations and security, support for hybrid cloud with any distribution of Kubernetes, and integration with existing tools and processes.

Of the five vendors considered, Nirmata stood out as the most suited to transform the company's legacy systems and IT operations into a multi-cluster and multi-cloud Kubernetes system, optimized for enterprise development and operations:

- A flexible, multi-cloud solution on cloud-managed and on-premises infrastructure.
- Shorter app delivery cycles and an agile development process, saving the company time and money.
- Integrated security for workloads and the deployment pipeline.

§03 RESULTS

The Kubernetes journey

The in-house team worked closely with Nirmata to define requirements for different roles in the cloud native adoption and built experience workflows based on their use cases. This bridged the developer skills gap, simplified application modeling and deployment, and completely abstracted the underlying infrastructure from the developers. Alerting and analytics provided the visibility to quickly troubleshoot applications.

The platform and redefined processes significantly reduced deployment times and increased feature velocity 4 times. Over the next 3 years, the company scaled its cloud native platform 700% in terms of number of applications, going from 120 to 930 applications and from 80 to 680 developers, and increased overall deployment size 4 times.

- Nirmata met the needs of different teams in an open and flexible manner, leveraging standard Kubernetes constructs.
- Migrating applications required minimal investment, training and changes in tools.
- Developers got self-service environments that are compliant with the platform team's standards from the start, with zero ops team involvement.

- Workloads were secure by default, with integrated policy management ensuring pod security and best practices compliance.

nirmata

Nirmata created Kyverno, the CNCF graduated policy engine for Kubernetes. We help platform and security teams govern clusters, workloads, and AI agents with policy as code.

TALK TO THE KYVERNO MAINTAINERS

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