

BUSINESS NEEDS

The company's digital transformation initiative, known as 'LIFT,' had the following goals:

- Accelerate new feature delivery
- Adopt best in class open source solutions to drive innovation
- Overcome organization silos and evolve to a new platform based approach to application infrastructure
- Upgrade its IT systems to include microservices and other complementary technology
- Move to Kubernetes and leverage containers for app development, testing, and release
- Redesign processes, systems, and infrastructure to increase the capacity and capability of in-app production

INFRASTRUCTURE AND MANAGEMENT

- Nexus Registry
- Jenkins
- Splunk
- COTS
- ADC, CPX, VPX, HA Proxy
- Nirmata Management Platform

ORCHESTRATION

Hybrid Cloud Deployment Model, starting with on-premise with bare metal and moving to the cloud in the future.



Fortune 500 Energy Leader transforms its legacy systems to Kubernetes-based microservices, delivering innovation with agility

COMPANY BACKGROUND

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 in the United States.

The rising demand for energy solutions, cost of energy production, combined with shifting customer expectations, prompted the company to embark on digital transformation, focusing on most business critical applications first. As the energy sector becomes more competitive and complex, digital transformation is critical to meet changing market demands and maintain long-term viability in the sector.



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The Project Mission

MAIN CHALLENGES

As a major utility, digital transformation was deemed critical to increase operational efficiency, revenue diversity, and competitive services. Legacy systems and infrastructure pose significant challenges:

- **Bridge the skill and cultural gap** – Adopting the cloud native technologies required both upgrading and bridging the skills of development and infrastructure teams, as well making cultural changes in how the teams worked with each other.
- **Inefficient operations due to silos and lack of automation** – The organization silos between different development and infrastructure resulted in redundant efforts, which take time away building critical capabilities relevant to transforming the customer experience and services.
- **High maintenance costs** – Maintaining legacy systems required specialized knowledge and training. By standardizing on a Kubernetes-based platform and cloud infrastructure, the cost of application management could be significantly reduced.
- **Lack of flexibility** – Releasing new features on legacy platforms was a time-consuming task and required tight coupling with the infrastructure it was being deployed on. The company needed a platform that could abstract the underlying infrastructure complexities for the developers and allow them to deploy and manage applications anywhere, consistently.
- **Incompatibility** – The company's legacy platform did not easily support third-party integrations which required API access, stifling innovation.
- **Delayed product and service release phases** – All of the above made the rapid delivery of new technical services and products slow and sometimes impossible.

Evaluation: Towards the Digital Transformation

The 'LIFT' initiative began in 2015 focusing on:

- **'Lean IT'** – Making IT leaner and more efficient
- **'DevOps'** – Automating processes to increase operational and development efficiency

- **'Agile'** – Becoming more flexible so the company can respond quickly to changing market and customer needs.
- **'IT Supply Chain'** – Revamping the IT supply chain to support the cloud native approach.

IT: THE BIG BARRIER

The team started with an evaluation of the current tools, processes, platforms, and people to identify areas of improvement and efficiencies. The evaluation confirmed what the company already knew – legacy IT systems processes, and structure was the biggest hindrance to efficient app development. The operational culture of siloed departments inhibited synchronization, which resulted in delays and dependencies between departments and personnel.

Even before the evaluation, several possibilities were being considered. Although Kubernetes was gaining widespread adoption, the organization did not immediately realize the benefits of adopting Kubernetes.

EVALUATION RESULTS: TIME TO LOOK FOR CLOUD NATIVE PARTNER

The executive leadership team determined that success depended on transforming the approach to managing their critical applications. This involved changing their approach to application development, deployment and ongoing lifecycle management. To speed up digital transformation, the executive team knew they required a partner to help them adopt Kubernetes quickly, bridge the skill gap, foster collaboration between the teams, and flexible technology platform to innovate.

The team evaluated five vendors on the following criteria before choosing their cloud partner:

- Would they be able to deliver a flexible open-source based solution with minimal lock-in?
- Can the solution deliver end-to-end automation, meeting the needs of developers, operations and security team?
- Is the platform flexible enough to support Hybrid Cloud solutions with any distribution of Kubernetes and broad integration support?
- Does it integrate with existing tools and processes?
- Do they have ways to help the company keep pace with disruptive technologies (digital transformation, IoT, AI)?
- Can they provide a control plane that can support multiple application deployment methodology?



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Nirmata, Expert Partner in Kubernetes and Cloud

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. Nirmata provides solutions for Enterprise Kubernetes deployment, management, and governance.

Other benefits of partnering with Nirmata include:

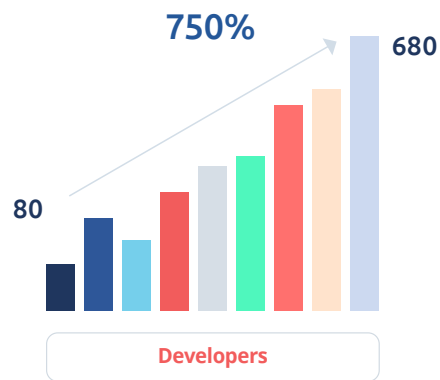
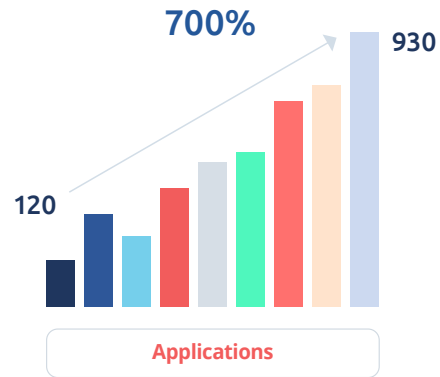
- A cloud-based, open-source Kubernetes platform
- Flexible, multi-cloud solution on cloud-managed and on-prem infrastructure
- Agility to keep pace with customers' ever-changing needs and expectations for better interaction and access to more information
- Shorter app delivery cycles, and an agile development process thus saving the company's time and money
- Integrated security for workloads and deployment pipeline

THE KUBERNETES JOURNEY

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

The platform and redefined processes significantly reduced deployment times and increased feature velocity 4 times.

Over the next 3 years, the utility company scaled its cloud native platform 700% in terms of number of applications, going from supporting 80 to nearly 700 developers, and increasing overall deployment size 4 times.



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FOSTERING COLLABORATION BETWEEN DEVELOPERS, PLATFORM AND SECURITY TEAMS

The Nirmata Team accelerated the company's digital transformation by creating an environment, infrastructure, operations, systems, processes, more conducive to app development and innovation. The company is now capable of producing more apps, in less time, with higher efficiency, and releasing apps sooner.

Nirmata continues to be platform for innovation for them:

- Nirmata met the needs of different teams in an open and flexible manner, leveraging standard Kubernetes constructs, enabling different use cases as they added new requirements.

- Migrating applications required minimal investment, training and changes in tools, abstracting away the underlying infrastructure complexities.
- Nirmata's enabled self-service environments for developers that are compliant with platform team's standards from the get go with zero ops team involvement.
- Nirmata supported new deployment models and enabled leveraging rich cloud capabilities while adopting different cloud providers.
- The workloads were secure by default leveraging integrated policy management to ensure pod security and best practices compliance.



Nirmata is a proud member of the Kubernetes community



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