

Revolutionizing Oil & Gas Industry with Cloud Solutions: HMEL'S Digital Transformation Journey



About: HPCL - Mittal Energy Limited

Formed in 2007 as a Public Private Partnership joint venture between the Fortune 500 company, Hindustan Petroleum Corporation Limited (HPCL, a Government of India Enterprise) and Mittal Energy Investments Pte Limited. (MEIL), Singapore, HMEL's production assets represent the single largest investment in any sector in the state of Punjab.

The company was set up with a state-of-the-art refinery and petrochemical complex in Bathinda, Punjab, India. The refinery has a capacity of 11.3 million metric tons per annum (MMTPA) and is one of the most modern and complex refineries in Asia. It has a crude oil processing capacity of 9 MMTPA and a petrochemical production capacity of 1.4 MMTPA. The refinery produces a range of high-quality products, including motor fuels, aviation fuels, and petrochemicals.

HMEL has been able to achieve remarkable growth in a short period of time. The company's focus on operational excellence, safety, and environmental sustainability has been a key driver of its success. It has implemented various initiatives to improve efficiency and reduce emissions, such as the use of advanced technologies, process improvements, and renewable energy sources.

The company has also established a strong reputation for its commitment to corporate social responsibility (CSR). It has implemented various CSR initiatives in areas such as education, healthcare, and community development. The company has set up schools, provided scholarships to students, and conducted health camps in the local communities. It has also undertaken various infrastructure development projects, such as building roads and providing water supply facilities.

One of the key strengths of HMEL is its focus on innovation and technology. The company has set up a state-of-the-art research and development center in Gurgaon, Haryana, which is equipped with modern laboratories and advanced equipment. The center is focused on developing new products, processes, and technologies that can improve the efficiency and performance of the refinery.

HMEL has also established a strong supply chain network to ensure the efficient delivery of its products to customers. The company has a network of over 900 retail outlets across North India and has been able to build strong relationships with customers through its focus on quality, reliability, and customer service.

In addition to its core business of refining and petrochemicals, HMEL has also diversified into the power sector. The company has set up a 135 MW captive power plant to meet the energy requirements of the refinery. It has also set up a 30 MW solar power plant, which is one of the largest single-location solar power plants in India.

HPCL-Mittal Energy Limited is a leading player in the Indian refining and petrochemicals industry. The company's focus on operational excellence, innovation, and sustainability has enabled it to achieve remarkable growth in a short period of time. With its strong supply chain network, commitment to CSR, and diversification into the power sector, HMEL is well positioned to continue its growth trajectory in the coming years.

Business Need

HPCL is a Navratna public sector oil and gas company in India that wanted to develop an application for oil and gas distribution across PAN India. The company was looking for a one-stop solution that could provide end-to-end services, from application development to cloud hosting.

The application needed to be cloud-hosted, ensuring multicore elasticity and providing the best IOPS. This would ensure that the application could handle high loads of data and transactions without any performance issues. By hosting the application on the cloud, HPCL could also benefit from the scalability and cost-efficiency of cloud computing.

Moreover, HPCL wanted the entire development and cloud hosting to be done under one roof, ensuring

seamless integration and reducing operational costs. This would eliminate the need for HPCL to work with multiple vendors, thereby reducing coordination efforts and streamlining the development process.

To meet these requirements, HPCL needed a reliable partner that could provide a one-stop solution for application development and cloud hosting. The partner would need to have expertise in both areas, as well as a proven track record of delivering high-quality solutions.

A reliable partner could have provided end-to-end services, including application development, cloud hosting, testing, deployment, and maintenance. The partner could have used cloud-native technologies, such as containers and micro services, to ensure high performance, scalability, and availability of the application.

Additionally, the partner could have used DevOps practices to ensure seamless integration between development and operations teams, thereby reducing the time to market and improving the quality of the application.

Overall, HPCL's requirement for a one-stop solution for application development and cloud hosting is a smart move to ensure cost-efficiency and streamline the development process. By partnering with a reliable and experienced vendor, HPCL can ensure that it gets a high-quality solution that meets its business requirements and is delivered within the stipulated timeframe.

Business Solution

Cyfuture Cloud provided its full capabilities to HPCL, including its Cyfuture Cloud portal named Cloud Enterprise, powered by VMware. The portal offers a wide range of cutting-edge features such as containers, object storage, data protection, advanced networking, load balancing, and more, all in one place. This comprehensive solution ensured that HPCL got a high-quality application that met its business requirements, was hosted on a reliable cloud platform, and was managed by a team of experts. By partnering with Cyfuture Cloud, HPCL could focus on its core business activities while leaving the application development and hosting to the experts. Cyfuture Cloud is a leading provider of cloud hosting solutions, and their cloud platform is built to ensure high availability, scalability, and performance.

As a part of the cloud infrastructure provided to HPCL, Cyfuture Cloud offered the following services:

Advanced Networking:

Cyfuture Cloud's cloud platform is built to ensure high availability, scalability, and performance, including advanced networking capabilities. This was beneficial to HPCL as it allowed them to optimize their application for high performance, which is critical for applications that handle large amounts of data and transactions. With advanced networking, HPCL's application could communicate more efficiently, leading to faster response times and improved user experiences.

Standard Storage:

Cyfuture Cloud provided standard storage to HPCL, ensuring that their data was stored safely and securely. With standard storage, HPCL could store and retrieve data efficiently, leading to faster processing times and improved application performance. The storage was designed to be highly available and durable, ensuring that the data was always accessible when needed.

Autoscaling:

Cyfuture Cloud provided autoscaling, which allowed HPCL's application to scale up or down depending on the traffic volume. This ensured that the application could handle high loads of data and transactions without any performance issues. With autoscaling, HPCL could ensure that their application was always available and responsive, even during peak usage periods.

Load Balancing:

Cyfuture Cloud provided load balancing, which helped distribute traffic evenly across multiple instances of HPCL's application. This helped to improve the application's overall performance and ensure that it could handle a high volume of requests. With load balancing, HPCL could ensure that their application was always responsive, even during periods of high traffic.

Managed Services:

Cyfuture Cloud provided HPCL with complete assistance, including managing the entire application development lifecycle, hosting, monitoring, and support services. Cyfuture Cloud's team of experts managed the application development, ensuring that the application was built to meet HPCL's requirements. They also provided hosting, monitoring, and support services, ensuring that the application was always up and running. This comprehensive solution ensured that HPCL could focus on its core business activities while Cyfuture Cloud managed the application development and hosting.

Cloud Hosting:

Cyfuture Cloud provided cloud hosting, which allowed HPCL to host their application on the cloud. This was beneficial to HPCL as it allowed them to scale their infrastructure on-demand, reducing the need for expensive physical servers. With cloud hosting, HPCL could ensure that their application was always available and accessible from anywhere, ensuring seamless access for their users.

Kubernetes:

Cyfuture Cloud provided Kubernetes, an open-source platform that automates container orchestration. This was beneficial to HPCL as it allowed them to manage their containers efficiently, leading to faster deployment times and improved application performance. With Kubernetes, HPCL could ensure that their application was always up-to-date and running on the latest technology.

Threat Detection:

Cyfuture Cloud provided threat detection services, which helped HPCL to identify and mitigate potential security threats. This was beneficial to HPCL as it ensured that their application was always secure, reducing the risk of data breaches and other security incidents. With threat detection, HPCL could ensure that their application was always protected from potential security threats.

Network Firewall:

Cyfuture Cloud provided network firewall services, which helped HPCL to secure their network and protect against potential security threats. This was beneficial to HPCL as it ensured that their network was always secure, reducing the risk of unauthorized access and other security incidents. With network firewall, HPCL could ensure that their application was always protected from potential security threats.

Virtual Data Center:

Cyfuture Cloud provided virtual data center services, which allowed HPCL to manage their infrastructure in a virtualized environment. This was beneficial to HPCL as it allowed them to reduce their physical infrastructure costs, while still maintaining a high level of performance and availability. With virtual data center, HPCL could also easily backup and recover their data, with built-in disaster recovery and business continuity solutions provided by Cyfuture Cloud. This ensured that in case of any unexpected events, HPCL's critical data and applications would remain safe and accessible.

Conclusion:

Overall, by partnering with Cyfuture Cloud, HPCL was able to benefit from a comprehensive cloud hosting solution that enabled it to host its application on a reliable cloud platform, manage its infrastructure more efficiently, and focus on its core business activities.

1. **Cloud hosting with Multicore Elasticity:** Cyfuture Cloud provided cloud hosting with Multicore Elasticity, which allowed the application to scale up or down depending on the traffic volume. This ensured that the

application could handle high loads of data and transactions without any performance issues. Additionally, the cloud platform was built to ensure high availability, scalability, and performance, which ensured that the application could operate efficiently.

2. **Best IOPS:** Cyfuture Cloud provided HPCL with the best IOPS, ensuring high-speed access to data and reducing latency. IOPS is a measure of how many read and write operations the cloud storage can perform in a second. By providing the best IOPS, Cyfuture Cloud ensured that the application could access data quickly, which was critical for an application that required high-speed access to data.
3. **Managed Services:** Cyfuture Cloud offered complete assistance, including managing the entire application development lifecycle, hosting, monitoring, and support services. Cyfuture Cloud's team of experts managed the application development, ensuring that the application was built to meet HPCL's requirements. They also provided hosting, monitoring, and support services, ensuring that the application was always up and running. This comprehensive solution ensured that HPCL could focus on its core business activities while Cyfuture Cloud managed the application development and hosting.

In summary, Cyfuture Cloud's solution for HPCL included cloud hosting with Multicore Elasticity, the best IOPS, and managed services. This solution ensured that HPCL got a high-quality application that met its business requirements, was hosted on a reliable cloud platform, and was managed by a team of experts. By partnering with Cyfuture Cloud, HPCL could focus on its core business activities while leaving the application development and hosting to the experts.

Business Results

By adopting Cyfuture Cloud services, HPCL achieved several key results:

- **Seamless Integration:** HPCL was able to ensure seamless integration of application development and cloud hosting, resulting in reduced operational costs and improved project management. This means that the entire project was managed by a single vendor, eliminating integration issues that can arise when working with multiple vendors. By having a single vendor managing the project, HPCL was able to save on operational costs and streamline project management.
- **Improved Scalability:** With Multicore Elasticity, HPCL's application was able to scale up or down depending on the traffic volume, resulting in improved scalability. This meant that HPCL could handle an increase in traffic without worrying about the infrastructure. In other words, the application was able to automatically adjust its resources to handle increased traffic, resulting in a better user experience and reduced infrastructure costs.
- **Reduced Latency:** Cyfuture Cloud's best IOPS (Input/ Output Operations per Second) ensured high-speed access to data and reduced latency. This means that the application was able to perform faster, improving the user experience. By reducing latency, the application was able to retrieve data quickly and respond to user requests faster, resulting in a better user experience.
- **Better Project Management:** With complete project management by Cyfuture Cloud, HPCL was able to focus on its core business while ensuring that the application development and cloud hosting were managed efficiently. This resulted in improved project management, reducing the burden on HPCL's internal IT team. In other words, by outsourcing the project management to Cyfuture Cloud, HPCL was able to focus on its core business, while the vendor managed the project efficiently. This resulted in improved project management and reduced workload for HPCL's internal IT team.

Conclusion

Cyfuture Cloud provided HPCL with a comprehensive service for developing an application for oil and gas distribution across PAN India, including cloud hosting with multicore elasticity and best IOPS. This allowed HPCL to focus on its core business while ensuring that the application development and cloud hosting were managed efficiently. By adopting this one-stop solution, HPCL achieved several key results, such as seamless integration, improved scalability, reduced latency, and better project management, all of which helped HPCL reduce operational costs.

Cyfuture Cloud's expertise in cloud infrastructure and managed services makes it a crucial partner for businesses that are looking to drive digital transformation and enhance their operations. Cyfuture Cloud has a proven track record of delivering value and driving business growth, which makes it well-equipped to help businesses navigate the complex and rapidly evolving digital landscape.

As the world continues to embrace digital technologies, companies such as HMEL will need to continue to adapt and innovate to stay competitive. Cyfuture Cloud's expertise in cloud infrastructure and managed services positions the company as a key partner for businesses looking to achieve digital transformation and enhance their operations. This means that businesses can rely on Cyfuture Cloud to provide the necessary support to develop and manage applications, enabling them to focus on their core business while driving growth and innovation.

Cyfuture Cloud's expertise in cloud infrastructure and managed services positions the company as a vital partner for businesses looking to drive digital transformation and enhance their operations. With its proven track record of delivering value and driving business growth, Cyfuture Cloud is well-equipped to help businesses navigate the complex and rapidly evolving digital landscape.

To know more about Cyfuture Cloud, you can visit: <https://cyfuture.cloud>

