



“The ability to optimize traffic management, monitor background processes, accelerate web applications, and provide application security...made F5 an easy decision for us.”

Rajan Wahal, Senior Manager (Information Systems), IOCL Marketing Division

IndianOil Reduces Bandwidth Use by 80 Percent, Improves Security with F5 ADCs

IndianOil Corporation Ltd (IOCL) is India’s flagship national oil company with business interests straddling the entire hydrocarbon value chain. The 20th largest petroleum company in the world, IOCL is 80 percent owned by the Indian government and has more than 1.25 lakh of non-government shareholders. As IOCL grew and the number of users requiring access to company data increased, the firm’s servers could not cope with the higher traffic volumes.

By deploying F5® BIG IP® Application Delivery Controller (ADC) solutions, IOCL is now able to deliver a superior user experience with fast, reliable application access. F5 solutions have also helped IOCL bolster IT efficiency and support the company’s broader business goals.

Business Challenges

IOCL is involved in activities ranging from refining, pipeline transportation, and marketing of petroleum products to exploration and production of crude oil and gas and marketing of natural gas and petrochemicals.

The company is highly dependent on information technology to operate its business in India and overseas. It runs more than 60 applications, including email, financial, human resource management, supply chain, and sales management. Apart from Lotus Notes

and SAP applications, many other applications are developed in-house.

All these applications rely on two reverse proxies—CentOS reverse proxy for Lotus Domino mail and Apache reverse proxy for all web applications.

As the number of users quadrupled and server load increased, IOCL began to experience performance degradation and delayed application response. The oil firm also had challenges in ensuring optimum application availability for about 10,000 users across India and in overseas branches.

Overview

Industry

Oil, Gas, Petroleum, and Refineries

Challenges

- Improve user experience with faster access
- Reduce server load to improve performance
- Increase application security and availability by fixing vulnerabilities

Solution

- BIG-IP® Local Traffic Manager™
- BIG-IP® WebAccelerator™
- BIG-IP® Application Security Manager™

Benefits

- Enhanced security
- Operational expenditure cut by 20%
- 80% bandwidth savings
- Improved application performance and stability
- Savings in IT team development time

Even more challenging was the fact that there was no redundancy plan in place. If the network crashed, every application would be affected and had a severe impact to business operations. All the servers and services would need to be restarted manually.

With the previous infrastructure model, 35 public IP addresses were necessary to support the organization's employee, distributor, and customer portals. The availability of these portals is vital for ongoing business efforts, and access management duties became very time consuming for the company's IT team.

In addition, using a large number of public IP addresses resulted in developers spending a considerable amount of time fixing web application vulnerabilities such as distributed denial of service, cross-site scripting, and other threats.

The combination of these issues prompted a search for a flexible solution to better support the company's user base.

Solution

IOCL evaluated products from various vendors before deciding on F5 Application Delivery Controller solutions.

"None of the rest could meet our technical requirements and help us accomplish our business objectives. After evaluating the features and functionalities of F5 BIG-IP Local Traffic Manager (LTM) and BIG-IP WebAccelerator, we decided that F5 was the clear winner. The F5 solution not only resolves our current challenges but also provides flexibility for our application environment to help address future needs," said Rajan Wahal, Senior Manager (Information Systems), IOCL Marketing Division.

Wahal continued, "The ability to optimize traffic management, monitor background

"Put these savings together and we are looking at a payback period of under 20 months for the solution."

processes, accelerate web applications, and provide application security on the same platform made F5 an easy decision for us."

IOCL has since deployed F5 BIG-IP ADC solutions, including BIG-IP WebAccelerator and BIG-IP Application Security Manager (ASM). The company also used F5 iRules®, an event-driven scripting language that allows for direct control and management of IP application traffic.

"Even though we previously used a command-line interface, we appreciate the user-friendly web interface, easy-to-read statistics, and management capabilities of the integrated BIG-IP system," said Wahal.

Benefits

Since implementing the F5 solution to support its infrastructure, IOCL has been able to provide a better user experience and improve business results in an efficient and cost-effective manner.

Enhanced security

With the help of ProxyPass iRules, the company has replaced the Apache Reverse proxy. ProxyPass iRules also helped to reduce unnecessary use of public IP addresses. Using just a single IP address instead of 35 public IP addresses to access Lotus Domino externally greatly enhances security.

Because BIG-IP ASM logs every activity, IOCL now has visibility into layer 7 web

applications and attacks needing fast application protection. F5 will log and report on web application attacks, including where they are coming from using IP geolocation and the type of attacks being blocked.

Reduced expenditure

Annual operational expenditure has been reduced by about 20 percent while capital expenditure was also lowered due to the ability of BIG-IP LTM to offload SSL certificates and SSL processing, resulting in a reduction in the number of SSL certificates needed across multiple web servers.

Faster access

The efficiency enhancing features of BIG-IP WebAccelerator, such as intelligent browser referencing, eliminate the need for web browsers to download repetitive data. These features have reduced overall bandwidth use by 80 percent.

TCP offload in BIG-IP LTM together with BIG-IP WebAccelerator static and dynamic data caching migrates CPU utilization from the servers to the F5 device. Content is redirected dynamically, and this significantly reduces the load on the servers.

Development time saving

Adopting F5 application deployment best practices has also saved development test time and cost.

"Put these savings together and we are looking at a payback period of under 20 months for the solution. F5 advanced ADCs give us the confidence to move the business forward without worrying about whether we will be overtaxing our application delivery infrastructure. With BIG IP solutions, we no longer have to worry that adding a new application will affect the stability of the other applications or the network as a whole," said Wahal.

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