



**FOUNDRY**  
NETWORKS

## CASE STUDY: THE PETROLEUM INSTITUTE

### Foundry Makes the Grade at the Petroleum Institute



#### SUMMARY

The Petroleum Institute of Abu Dhabi is establishing an internationally accredited higher learning center in the United Arab Emirates. The college is focused on developing the engineering skills needed to support the Persian Gulf region's ubiquitous oil and gas industries. Graduates are guaranteed employment with Abu Dhabi National Oil Company, which is among the world's top 10 oil companies.

#### OBJECTIVE

The Petroleum Institute wanted to create a cost-effective, robust network environment that would serve the university's administration, student, and research facilities. The greenfield network deployment must accommodate a growing user population, the addition of new facilities, and a range of bandwidth-hungry applications.

"Our geosciences research and other academic projects depend on modeling and simulation programs that move vast amounts of data across a network," says Mohammed Moussa, network engineer at the Petroleum Institute. "We knew we needed a robust network to support this traffic."

To build and deploy its network, the Petroleum Institute needed a best-of-breed, wire-speed, non-blocking Layer 3 Gigabit Ethernet switch and a load-balancing solution that would allow the network to scale; support convergence of voice, data, and multimedia; and serve the campus population reliably.

#### SOLUTION DESCRIPTION

The Petroleum Institute designed a network with a standard star topology that links three campus buildings. A Foundry BigIron® Layer 3 switch delivers 10-Gigabit Ethernet over the network backbone, and the FastIron® Workgroup switches manages load balancing at the network edge and distributes 1-Gigabit Ethernet to the desktops. A Foundry ServerIron® traffic manager serves as the Web application switch, maintaining optimal intranet performance.

More than 600 students, 250 faculty members, and 500 administrative employees depend on the Petroleum Institute's network. A variety of administrative applications run across the network, as well as all communications between students and faculty.

Every classroom is equipped with computers linked to the network, and every course includes some computer-based component.

[HTTP://WWW.PI.AC.AE/](http://www.pi.ac.ae/)

#### INDUSTRY

Education

#### COMPANY DESCRIPTION

Established in 2001, the Petroleum Institute of Abu Dhabi is the United Arab Emirates' main postsecondary college. The educational institution is focused on developing the engineering skills needed to support the Persian Gulf region's oil and gas industries. The Petroleum Institute looks forward to becoming an accredited research and education institution, offering Master of Science and Doctor of Philosophy degrees, as well as establishing a women's college by 2007.

#### OBJECTIVES

- Deploy robust network to support growing 1,500-plus user community
- Support bandwidth-intensive applications, such as modeling and simulation programs, to enhance the students' learning experience
- Implement a network solution that can easily scale as the campus grows and the user population expands

#### SOLUTIONS

- Foundry BigIron, FastIron, ServerIron, and IronView Network Manager provide performance, reliability, and scalability for the Petroleum Institute's bandwidth-intensive data traffic
- A star network topology connects three buildings, with 10-Gigabit Ethernet in the backbone and Gigabit Ethernet at the network edge
- IronView Network Management eases switch administration and management of more than 40 network devices
- Load-balancing solution maintains optimal intranet and Web application performance

#### RESULTS

- The Petroleum Institute deployed a network with 10-Gigabit Ethernet in the backbone and Gigabit Ethernet to the network edge
- Foundry equipment will allow the Petroleum Institute to easily expand to other campus buildings, including the sports club and canteen
- The Petroleum Institute can easily upgrade to a more complex network design
- Foundry equipment will scale to support the Petroleum Institute's growing user population and new applications such as videoconferencing and wireless access
- The Petroleum Institute can attract high-quality students with its future-oriented networking technology that supports the latest engineering applications

## THE RESULTS

The Petroleum Institute has deployed a high-performance network that supports 10-Gigabit Ethernet at the core and Gigabit Ethernet at the edge. The network features rich Layer 3 and Layer 4-7 application switching functionality that proactively manages network performance, distributes content intelligently, and maintains high availability.

In an effort to create a paperless environment, the Petroleum Institute encourages students and teachers to communicate electronically, and the institute has developed teaching resources that streamline and enhance the academic experience.

As the new school expands—adding more students and faculty, building facilities, and introducing study areas—the network can easily adapt to the additional requirements.

“We did not want to be hampered by a technology that would not scale with our growing network requirements. Foundry gives us the flexibility and capacity to support future demands,” says Moussa.

Upcoming enhancements include expanding the network to other campus facilities and adding more services, such as wireless access. And videoconferencing, now on the institute’s drawing board, can be easily supported by the high-performance network.

“Foundry has met all our technical needs and more. Our decision came down to the best blend of performance and price, and Foundry was by far the better price-performance option,” says Mohamed Khalifa Almubarak, head of information technology at the Petroleum Institute. The solution has met our needs, and we have not experienced any failures.”

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— Mohamed Khalifa Almubarak,  
Head of Information Technology,  
Petroleum Institute

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