

Portsmouth University

At a Glance

Customer:

Portsmouth University

Industry:

Education

Network Type:

Complex Ethernet network using Cisco and Netgear active equipment with approximately 200 users.

Challenge:

Visibility into and across a complex switched network with VLAN's.

Solution:

The Fluke Networks OptiView® Workgroup Analyzer gives a complete overview of a network in seconds, providing visibility into every piece of hardware, every application and every connection on the network.

Results:

Faster troubleshooting. Greater visibility and monitoring of network traffic, 24/7. Heightened network security. Hands-on practical user experience.

Products:

OptiView® Workgroup Analyzer

Background

The University of Portsmouth is a leading modern university with a strong reputation for teaching and research as well as high levels of student satisfaction. The University has approximately 19,000 students, including 3,000 from overseas, with over 3,000 staff to support them.

Portsmouth University is active in research and knowledge transfer across the spectrum of its activities. Its aim is to give their students the best possible experience of university life. Portsmouth has received awards for excellence in teaching and learning and is one of only 16 institutions to receive more than one award. This resulted in an extra £9million of funding.

The University has excellent links with industry and a strong record of student employability.

First degree graduates from the Department of Electronic and Computer Engineering (ECE) have the highest average starting salary out of all of the Departments in the University – £23,247. Employers recognise that Portsmouth graduates have thoroughly developed their analytical, numerical and problem solving skills.

Challenge

The Department of Electronic and Computer Engineering has its own computer network, which is an autonomous network group, centrally managed by the Department. The network consists of a total of about 200 Desktop Workstations running Linux and Windows. All the routing is through the several owned subnets of the network and is performed by Cisco and Netgear routers and switches.

The Department runs its own servers for anything the network needs (DNS, DHCP, Kerberos, NIS etc). It is a multiplatform transparent network and all computers can be accessed remotely for greater flexibility and use from home, with great care given to security, with sophisticated Firewalls and VPNs in place.

Frank Margrave, Principal Lecturer Electronic & Computer Engineering comments “We have 800 users in the departments so the network is quite substantial. This set up allows our students to do hands on work on a live network. We test, configure, fault find, manage and monitor. A live network means we need to have the tools to monitor it in real time.”

“We also have many users accessing the network remotely so security as well as bandwidth capacity are issues for us. It is essential the users (students and staff) have a good experience. Performance is crucial”.

As part of their courses, the students also design and manage their own networks and need to be able to see how they work in practice and the implications on traffic of minor tweaks and adjustments. Networks are not static, they are in a constant state of flow and maintaining good performance levels relies on data from network monitoring tools.

The Solution

The Department of Electronic and Computer Engineering use Fluke Networks OptiView Workgroup Analyzer*. It gives a complete overview of a network in seconds. OptiView Network Analyzer provides visibility into every piece of hardware, every application and every connection on the network. It enables the user to deploy new technologies and applications, manage and validate infrastructure changes, solve network and application performance issues as well as secure the network from internal threats.

Every machine running Linux is accessible from outside the department, and applications can be run remotely for external users.

Frank Margrave comments,
"The OptiView Analyzer really does give us 24/7/365 information into the network."

Margrave continues "Remote access could potentially cause bottlenecks. Students tend to work at odd hours, in no fixed pattern, so we need to be able to monitor the traffic flow so that real-time adjustments can be made if necessary. In this way user experience is never compromised by lack of bandwidth. We also need to ensure the network is secure. Our firewalls and encryption are extremely sophisticated, but there is still the potential threat from inside, from something as innocuous as a wireless access point at home, a laptop or even instant messaging. A diagnostic tool such as the OptiView Analyzer scans the network for potential problems and enables us to isolate them before them become a real cause for concern."

The graduates also design their own networks – they set them up and they see how well they work. "Fluke Networks' technology allows students to work on live networks, to see the real time effect of modifications and changes. By seeing how traffic flows across the network they have the information they need to change and manage it more effectively. Knowledge gained from use of equipment such as Workgroup Analyzer enables them to improve utilisation and set priorities".

"The key thing is the ability to have hands on experience on technical equipment. We send our students out for a year's placement in industry and companies always comment on how much practical experience our students have. You can teach theory but you need to be able to apply it in the real world. Using Fluke technology gives our students the ability to do this."

"Businesses, and how they work, is rapidly changing. There has been a huge growth in the use of wireless networks. These include not just laptops but multimedia phones, portable devices, VoIP and multimedia streaming. The result is that companies need to constantly monitor wireless traffic to ensure security is not compromised, bandwidth is sufficient and that end user experience is not compromised. Employers need graduates who can hit the ground running and have the relevant hands on experience of use of network technology, such as Fluke."

“Virtual LANs and outsourced services and data storage also cause network issues of their own. Engineers dealing with environments need to understand the different techniques that can be applied to ensure optimum efficiency. Our graduates’ use of Fluke technology solutions means we are able to produce the network engineers of tomorrow. Fluke has given them the tools to do the job. Their knowledge is second to none. What we teach, and what they experience on our courses, is what industry is doing today. They are engineers who can do, not think they can do.”

*Product purchased through Fluke Networks channel partner AJP Solutions.

Contact Fluke Networks: Phone 800-283-5853 (US/Canada) or 425-446-4519 (other locations).
Email: info@flukenetworks.com.

NETWORK SUPERVISION

Fluke Networks
P.O. Box 777, Everett, WA USA 98206-0777

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Printed in U.S.A. 1/2009 3447602 A-US-N Rev A