



Case Study: Network Rail

Next Generation Railway Communications

The operational railway relies upon data communications with high levels of security, integrity and performance – all at an affordable price. The advent of Carrier Ethernet provides the basis for such a network where the use of standardised IP/Ethernet interfaces can significantly lower overall equipment costs.

As a stepping stone towards a converged network, Network Rail has installed IP/Ethernet points of presence across Scotland within equipment buildings recently deployed for the advent of GSM for Railways (GSM-R). This network supports Remote Condition Monitoring of railway assets as well as Public Address systems and CCTV security monitoring.

Cisco Metro Ethernet Switches

The Cisco ME3400 switch was selected for the initial network because of its favourable price and versatility as either an access or aggregation/core network device with Layer 2 and Layer 3 functionality. The ME3400 support a variety of short (10km) and long range (80km) optical interface modules with the option of using digital optical monitoring (DOM) to monitor link performance.

The main protocol components of the network architecture are Resilient Ethernet Protocol (REP), Hot Standby Router Protocol (HSRP), Open Shortest Path First (OSPF) routing protocol, and a Virtual Routing and Forwarding (VRF) technology.

Tailored CCNA Training

In order to successfully install and maintain the network, it was necessary to train engineers with the appropriate Cisco networking skills. This would require the delivery of a course that could provide delegates with a comprehensive CCNA-type level of training whilst being carefully tailored to the specific technologies being deployed in Central Scotland.

Network Rail approached a number training providers in mid 2009 but finally selected Commsupport based on expertise, flexibility,

price, on-going support and the ability to deliver courses at the company's new purpose-built training centre at Larbert.

The delegates on the course commented favourably on the lively presentation style and the in-depth, hands-on afternoon laboratory sessions. Furthermore, the delegates welcomed the ability to work at their own rate completing the modules, sometimes well after 6pm, demonstrating the interest and commitment on both sides.

The flexibility in accepting additional delegates onto the course was appreciated and the project was extremely pleased with the value-for-money that the 5-day course provided to the business. Another useful aspect of the Commsupport training package is the on-going free online seminar series.

Future Developments

As IP/Ethernet networking plays an ever greater role in the running of the operational railways, the skills learned by engineers on the course will undoubtedly be of great benefit to the business.

Based on the project's experience with the trainers and support staff at Commsupport, it is likely that there will be further business between Network Rail and Commsupport for the delivery of future training programmes.

Please contact us to discuss customised onsite training or bespoke Cisco training requirements at courses@commsupport.co.uk .