CASE STUDY
National Physical Laboratory

Full IT Support	Unified Communications	Cloud	Security & Compliance	Network & Infrastructure

REQUIREMENT: LAN AND WIRELESS INFRASTRUCTURE

The National Physical Laboratory required a LAN and Wireless infrastructure to provide stability for large data transfers.

THE CLIENT

The National Physical Laboratory (NPL) is an internationally-respected centre of scientific research and development into measurements used in science, specifically focusing on the uncertainty and conformity of measurement standards across the world. It is the UK's National Measurement Institute and has been a world-leading Centre of Excellence whose standards ensure accuracy and consistency of measurement for more than a century. NPL's roster of ground-breaking discoveries and elite scientists include the invention of radar and the world's first caesium atomic clock, plus Alan Turing - the man credited with cracking the codes of the enigma machine, who produced one of the first designs for a stored-program computer whilst at NPL.

NPL employs around 700 people across 388 laboratories at the site in Teddington in Middlesex and is still growing, with plans to take on at least another 150 extra scientists over the next couple of years. Between them they were using 3500 endpoints, and this large amount of bandwidth data requires a high-performance network to hold it. The size of files involved in the research undertaken were getting also larger, meaning that a faster, more reliable and "state-of-the-art" network was required. The existing system was nearing its natural end of life, and so to remain on the cutting edge of precision-based research, NPL needed to upgrade to a "future-proof" network that could handle the large amounts of data involved in the scientific discoveries that the organisation is famous for. The solution had to provide the site with technology suited to the modern age, such as Wi-Fi in communal areas as well as technology that was sensitive to the special nature of NPL's work – e.g. the risk of electromagnetic interference. GCI's extensive expertise in Unified Communications, IP Telephony, Voice, Contact Centre and Converged Voice and Data Services resulted in NPL selecting them for this sizeable project.

SECTOR: Public

TECHNICAL SOLUTION

GCI implemented a LAN and Wireless infrastructure solution for The National Physical Laboratory, which included 50 access points and controllers. The existing infrastructure was also enhanced to allow for a 10GB backbone, and NPL also hopes to add VoIP phones in the future. The switches also have Power over Ethernet (PoE) capability which helps to ease the burden of the power drain of computers on their power supplies. The new solution supports the needs of the scientists at NPL, future-proofing the network that will be needed to store the large files of the future, and was implemented over a series of weekends to keep disruption to an absolute minimum.

SUCCESS AND COMPANY BENEFITS

The National Physical Laboratory has seen immediate benefits including the safe availability of Wi-Fi in communal areas and an easier-to-use interface, but the majority of benefits are still to come as research continues in the future.

Claire Moore, Head of IT at The National Physical Laboratory, said: *"This new network is setting up the National Physical Laboratory for the future by providing capacity for the large amounts of data produced in the research we undertake. NPL now have a more reliable network which includes endpoints in use by 700 staff. We anticipate even more benefits as time goes on, as this is a project completed with the needs of future research in mind."*