THE RESULT:

Following the deployment of the hybrid solution from Pinacl, Birmingham City University have noticed a significant difference in the quality of their internet. BCU is required to carry out a large database transfer each year, this previously took 8 hours to complete however with the new solution in place it now takes less than 3 hours; a 66% saving in time.

BCU are now able to carry out network migrations during opening hours without affecting the Production networks. This is down to high bandwidth and resilience and the ability for dark fibre network to support multiple VLANs.

The new network has overcome the issue of bottlenecks and single points of failure that were present in the previous network. Part of the network that was served by a 1Gbps circuit prior to dark fibre network installation is already running 3% higher utilisation since increasing the capacity to 10Gbps. Pinacl Solutions provided Aberystwyth University with a dark fibre network infrastructure where the University would own the fibre assets within the financial constraints of the project.

THE PROJECT:

Birmingham City University (BCU) has a number of teaching sites which are located around the Birmingham area. They have operated a Wide Area Network between these sites for a number of years. However, due to advances in technology and the growing demands on available bandwidth, the University went out to tender through the JANET Framework for a new Wide Area Network Data Provision.

The purpose of the JANET Framework is to provide a comprehensive purchasing platform for Higher Education institutions, further education, specialist colleges and council establishments in the UK.

Through this framework Birmingham City University (BCU) were able to run a mini-competition amongst eligible suppliers. This process meant that BCU could evaluate all responses against technical merit and price to select the Most Economically Advantageous Tender that meets their requirements.

KEY BENEFITS:

- **OWNERSHIP OF DARK FIBRE NETWORK AFTER JUST 5 YEARS**
  
  Our Dark Fibre proposition provided the most benefits to BCU as they will achieve a significant ROI meaning that the University will realise substantial cost savings for many years.

- **NEAR “LIMITLESS” BANDWIDTH**
  
  Dark Fibre enables BCU to increase their bandwidth at any time by simply changing the equipment interfaces. Bandwidth increases would typically result in sizeable charges but with the Dark Fibre Infrastructure BCU will realise substantial savings.

- **BESPOKE HYBRID SOLUTION FOR THE MOST PRACTICAL AND COST EFFECTIVE DEPLOYMENT**
  
  Due to the location of a number of teaching sites, Dark Fibre alone was not a practical solution. Therefore, existing leased line circuits were used in conjunction with the Dark Fibre network to create a flexible and cost effective solution.
THE SOLUTION:

Pinacl Solutions are a supplier on the JANET Framework and have a wealth of experience in designing, delivering and supporting a range of services, including Wide Area Networks. Pinacl strive to create bespoke solutions based on the specific requirements of their customers to deliver a cost effective solution.

Pinacl recognises that high speed fibre optic connectivity has become one of the greatest enablers for disparate campus sites as it allows Universities and Colleges to control the bandwidth between sites and produces significant cost savings over a fairly short period of time. However, due to the location of some BCU sites, a purely Dark Fibre solution was not feasible.

Pinacl identified that in order to deliver a best fit/best value solution for BCU it was necessary to combine multiple technologies from multiple providers into one contract.

BCU divided their tender into three separate lots to account for the differing requirements of their sites:

- Lot 1 – BCU City Centre to BCU City South
- Lot 2 – City Centre Campus to City North Campus
- Lot 3 – Other Inter Site Links

BCU City Centre and BCU City South (Lot 1) are two of the main campuses at BCU and it is expected that the number of services being delivered at these sites is set to increase; which will significantly affect the amount of bandwidth required. For this lot, Dark Fibre was deemed the most appropriate solution as BCU has the ability to increase their bandwidth through simply upgrading equipment interfaces, to meet any increased internet traffic, at no additional network cost.

The key differentiator with the dark fibre solution from Pinacl is that after completion of the five year payment period, BCU will take ownership of the dark fibre cable and related subduct. This means that BCU will realise a significant ROI for the remainder of the Fibre’s life (typically 30+ years).

For Lot 2, Pinacl proposed a 10Gigabit Ethernet circuit over existing Virgin lines. The point to point circuit is on-net with Virgin and delivered using Virgin point to point services. An Ethernet circuit was deemed more suitable than Dark Fibre for these sites due to their uncertain future as part of the University Campus sites.

For Lot 3, Pinacl needed to consider a number of other outlying sites that were outside of the fibre ring. Due to the remote locations and bandwidth requirements of these sites, point to point connections from legacy circuits were selected as the best fit solution.

Due to the scale of the project, we encountered a number of challenges relating to the installation. We worked closely with Birmingham City Council and our fibre provider Concept Solutions People to schedule installation work around peak times to cause minimal disruption.

Where possible we used directional drilling as a method of installing the Dark Fibre to minimise the environmental impact on the City.

THE CLIENT:

With around 23,500 students from 80 countries, Birmingham City University is a large, diverse and increasingly popular place to study. BCU put students at the heart of everything they do, giving them the best opportunities for future success.

The University has an enviable reputation for providing quality, student-focused education in a professional and friendly environment. BCU’s superb courses, state-of-the-art facilities, first-rate staff, and focus on practical skills and professional relevance is producing some of the country’s most employable graduates.