

Digital Transformation With New Network For Newcastle

The adoption of DNA architecture is enabling Newcastle City Council to recognise and embrace the full benefits of the Cisco DNA Center, with great potential for the future.



It's far from an understatement to say that life today is extremely challenging for local government throughout the United Kingdom. Following years of funding cuts as a result of austerity measures, many are forced to do much more with far fewer resources.

Newcastle City Council (NCC) is no exception here. Jenny Nelson, Digital Lead at NCC, said the council's budget has been reduced by £300 million over the past ten years, leaving it with some difficult decisions to make about where best to allocate its more limited funds.

But rather than being daunted by the pressures it faces, NCC has seized this as an opportunity to transform itself from the ground up, positioning itself as a more effective and responsive organisation to meet huge challenges such as climate change and an aging population.

"Just continuing as we have been is no longer an option. We know that we have to be able to do more with less," said Nelson. "We're now on a fantastic journey with our digital transformation work. Our three main objectives include improving how people live their lives in the city and reducing costs. Fundamentally, however, we want to ensure that Newcastle, as a city, is seen as a place for technology innovation, investment and growth. Delivering on all of those three objectives is really key to our digital programme."

(BDMs). Answer the question, "Why Cisco?" Save technical details for the optional section, "Technical Implementation." If you use that optional section you can keep this section more succinct, closer to 200-300 words. Include a high-level description of the deployment.

From smart city to smart council

NCC had already been working with Cisco on the implementation of smart city initiatives in Newcastle-on-Tyne, including a ground-breaking Internet of Things (IoT) project that turned Mosley Street in Newcastle City Centre into the smartest street in the UK in June 2018. In June 2019, Newcastle was also named Smart City of the Year at the Digital Leaders Awards.

Emboldened by the success of such projects, NCC turned to Cisco and network solutions partner SCC to help transform the internal operational structure of the council itself.

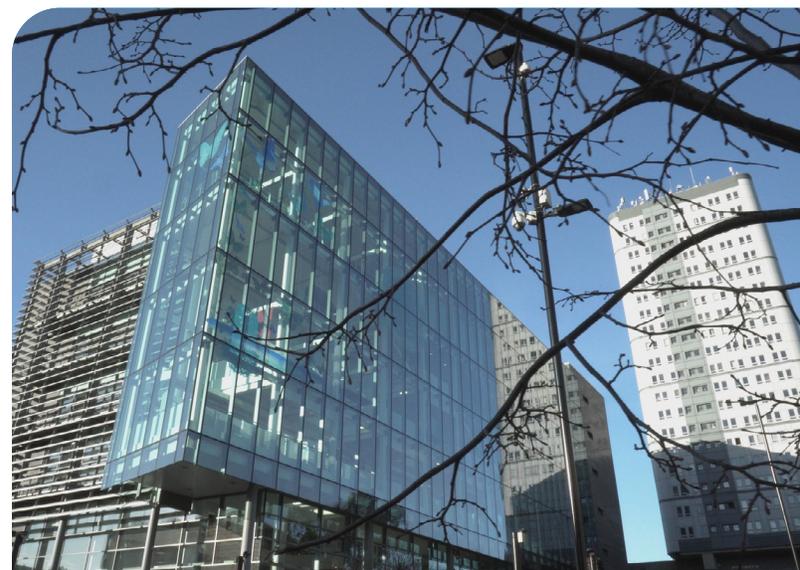
"It was really important to us to make sure we had those underpinning IT infrastructures in order to deliver the solutions that are going to make a difference to the people in the city," said Nelson. "What we're really trying to do within Newcastle is show our citizens the benefits technology can bring to their lives and the improved outcomes that it can deliver. That means it's more important to ensure that we have a network infrastructure in place that is robust, secure, fit for purpose and meets our needs. The work that we're doing with Cisco and SCC is really helping to deliver that."

NCC's ultimate aim is to move towards a full software-defined access (SDA) network that allows single-point network visibility and management across multiple government sectors and locations, with a significant reduction in capital and operational costs and increased efficiency.

It's no easy task. Paul Monaghan, infrastructure operations manager at NCC, said the council is responsible for about 200-300 sites. "We look after all the corporate services, but also schools, libraries, and museums, and they are spread across the whole of Newcastle. Internally, we wanted to improve network visibility for better management, and be in a position to quickly troubleshoot network problems to ensure increased network uptime."

The council required more control over the huge number of switches and routers that access its network, along with increased client mobility and security. NCC is also looking to simplify its network operations and management to be ready to incorporate IoT devices as part of its smart city initiative.

NCC is now well on its journey towards achieving its goals. And the progress made so far has been made possible through the strong collaboration between the customer, Cisco and SCC, underpinned by support from Cisco customer experience (CX) representatives to ensure a customer-centric approach is maintained throughout the business transformation process.



First steps already bringing early benefits

Although the project is still in the implementation phase, it's already showing signs of success as the NCC's desired business and operational outcomes start to come to fruition.

Following the delivery of new network equipment from SCC as part of a network refresh solution, the council implemented Cisco Digital Network Architecture (DNA) Center for full network visibility and management from a single point. Alongside Cisco DNA Center, it deployed the Cisco Identity Services Engine (ISE) for adaptable and trusted access everywhere, and is in the process of adopting next-generation firewall (NGFW) technology to tackle policy compliance and security concerns.

NCC has already been able to see business benefits from the deployment of Cisco DNA assurance and some automation features on its network, gaining full network visibility and a single point of management.

NCC's Monaghan said: "We went from a point of having fragmented network visibility to full visibility. We can now see exactly what we need to address, and are able to resolve issues more quickly than before. We can patch systems where we never previously could. We have improved our security posture, and we have been able to upgrade the firmware on the switches. This in turn reduces downtime and improves our overall network security. At the same time, the automation of patch roll out and management software means we can make upgrades to sites out of normal office hours, reducing the time it takes to fix faults from days to hours."

In addition, the customer has implemented the Software Image Management (SWIM) feature that provides a single point to manage multiple resources. Tom Bone, ICT solutions architect at NCC, points out that this further enhances network visibility by enabling the council to maintain a consistent view across its network estate, whereby all network devices adhere to the status of a defined "golden image".

As an example of how the increased visibility has benefited network management, Monaghan said engineers were able to immediately detect that a particular switch was overheating and swiftly determine the cause: employees had been inadvertently blocking the cooling apparatus for the equipment.

Next steps

NCC expects to complete the main deployment of the network refresh over the coming months, including the ongoing project to migrate to the next-generation firewall. According to Monaghan, the council should then be able to move towards a full SDA network deployment starting from summer 2020.

"We are looking for efficiencies in how to manage our whole estate," Monaghan said. He noted that NCC is about to embark on a dark fibre procurement process, and will therefore have even more hardware to manage in future. The council will also be looking at upgrading its public and corporate WiFi networks and integrating them with the DNAC in the next few months.

"I sense much greater confidence in the team," said Monaghan. "So far, it's been a highly rewarding and collaborative experience, and we feel we're now going in the right direction to achieve our long-term goals."

Nelson concluded: "I think it's really exciting to be in Newcastle now. We're putting the infrastructure in place to make things happen, and working collaboratively on the challenges we face. Not only can we deliver outcomes for people within our city, but we will also be able to share that expertise broadly within the country and around the world."

Adding value with the CX approach

These are just some of the early tangible benefits of Cisco DNA Center, with many more to come. By focusing on NCC's desired business outcomes and keeping them at the centre of the project, it has been possible to address obstacles and pain points in a timely and effective manner as the customer goes through the process of adopting the Cisco solutions.

As part of their commitment to realising the customer objectives, Cisco CX and SCC ran discovery sessions to help the customer understand what it had purchased and how best to implement the technology. The CX team helped to upskill NCC's own IT and network infrastructure engineers to enable the council to make the most of its investment and technology.

As explained by Ben Martinek, Technical Account Manager at SCC: "Customer success is a key part of SCC's strategy for delivering the best customer outcomes, and SCC is focused on helping NCC realise the value from its investment. The collaborative approach and support from Cisco through the CX model was second to none in helping accelerate the DNAC journey for NCC. The Cisco technical and CX teams helped contextualise some bleeding-edge technology through deep-dive sessions. The Cisco CX team is helping to meet NCC's goals by co-ordinating the right people to support NCC, ultimately with the customer outcomes at heart."

The consequence of this collaborative and customer-centric approach is that the NCC now has full confidence in Cisco and SCC to deliver other Cisco solutions, opening the door to further collaboration in future.

"This is the first time an infrastructure vendor has invested in the whole experience," acknowledged Bone from NCC. "The CX experience has made it happen much sooner than we expected, as they showed us exactly what the technology can do. The continual coaching by the CX team has kept up the momentum to move the project forward – and helped us to gain the confidence to try new things in the wider Cisco portfolio. It was a really positive experience for us."