

Report to: Lead Member for Resources

Date of meeting: 19 December 2018

By: Chief Operating Officer

Title: East Sussex Public Services Network – Business Case for a Local Full Fibre Network scheme (LFFN).

Purpose: To seek approval to progress the business case for an East Sussex Local Full Fibre Network Scheme (LFFN) as the Public Services Network and include within the County Council’s Capital Programme.

RECOMMENDATIONS: The Lead Member is recommended:

1. To note the background and the scope of the LFFN proposal;
 2. To agree to the principle of replacing a leased public service network core infrastructure with a public sector owned fibre spine;
 3. To agree to the inclusion of the proposal to the capital programme;
 4. To delegate authority to the Chief Operating Officer to take all actions necessary to give effect to recommendations 2 and 3 above, subject to the Council’s bid to the Department for Digital, Culture, Media and Sport (DCMS) being approved and receipt of the DCMS funding
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1 Background

The Link Consortium and Leased Wide Area Network (WAN)

1.1 East Sussex County Council has a need for network connectivity within its buildings to allow access to both the internet and to distributed network applications. This access, as in most organisations, is vital for the operation of the organisation and its services. This is similarly the case for other public sector organisations and has been the case for many years.

1.2 Previously, each public sector organisation within the region had run their own network services to connect together their individual sites, also managing the external connections from these networks to central government services. In 2012 a consortium of interested public sector partners within East Sussex combined to develop a joint infrastructure and associated services to build a single ‘Public Sector Network’ within East Sussex for all partner organisations to share. This enabled savings for all organisations involved, through sharing of costs and removal of duplication. A procurement exercise was undertaken centrally on behalf of the consortium that became known as ‘The Link’.

1.3 The services have been consumed by a number of public sector organisations through the Link consortium since 2012, with the venture proving to be successful for all partners involved. This has included several additional partners joining over the subsequent years.

1.4 The network infrastructure services are operated by a supplier called GTT (previously named MDNX) which acts as a service integrator. This means that the supplier is

responsible for seeking the best and most cost effective solutions from the telecoms market, meaning that the underlying services are delivered through a range of suppliers (BT, Virgin, Talktalk), with GTT acting as the overarching supplier with which the Link contracts and engages. Each of the different network services used to connect our sites is leased from GTT, with different contracts lengths depending on the specific service. The Link and its partners pay for the initial installation of services as well as the recurring cost for leasing the circuits. Services leased range depending on the connectivity requirements, service availability and affordability. These leased services include ADSL, Fibre to the Cabinet (FTTC) and Fibre.

What is Fibre?

1.5 Fibre connectivity forms the backbone of virtually all types of network connectivity across the world. This technology is the leading solution for high-speed, high-capacity networking, is comparably cost effective and doesn't degrade over time in the same way that alternative solutions (copper) might. The technology is also eminently upgradeable, simply replacing the technology at either end can allow significant increases in speed. It is the best solution for delivering connectivity services in the long term.

1.6 Typically speaking, a fibre service to an end premises can offer speeds in the region of gigabit (1000Mb) and upwards. That is over 15 times the speed of the theoretical maximum offered by conventional 'Fibre to the Cabinet' (FTTC) services, and more than 40 times the speed of the commonly described 24Mb Superfast service that is generally available.

What is the need for high speed fibre connectivity?

1.7 Many medium to large size organisations may already be utilising services at gigabit speed, but will likely be privately leasing services, generally at a significant cost. Due to the increased use of computing and digital services, most organisations have a reliance on their staff being able to access computing technologies, often accessing services over the internet. Depending on the number of concurrent users and potential services being used, it is quite plausible that existing conventional network services will simply not be sufficient to handle this increased demand in the future.

1.8 It is now often said that connectivity is the fourth utility after water, electricity and gas. Many organisations would list the availability of suitable network connectivity services as critical to their organisation. Therefore the availability of connectivity services can make the difference between choosing one location against another.

1.9 The drive for Gigabit services is being led by the Digital sector where there is already a strong demand. However this demand is expected to grow much further, with the Department for Digital, Culture, Media & Sport (DCMS) targeting, through the 2018 Future Telecoms Infrastructure Review (FTIR), 15 million premises connected by 2025 and the availability of full fibre to all by 2033. This infrastructure is seen as critical to deliver the next generation of services such as driverless cars, smart cities and advanced healthcare through technologies such as 5G.

LFFN – The challenge

1.10 Whilst fibre networks are the recommended approach, there is a cost to install them. Fibre services are typically run through subterranean ducts, which involve the complexity of digging to install. It can be difficult for the commercial market to stimulate a model to launch the introduction of fibre services to a region, generally due to the capital costs involved in doing so. Larger suppliers have less incentive to expand these services, as they are likely already delivering alternative services at premium prices. Unless there is a clear market proposition where a supplier can guarantee a return from the local market, it is difficult for suppliers to justify installation.

1.11 The UK is currently well behind the average for connectivity speeds when compared to the rest of Europe, with only 4% of UK premises currently able to access Full Fibre services. In comparison, Spain has 71% connected and Portugal 89%. Based on previous market failure and current analysis the FTIR predicts that only up to two thirds of the UK would organically attract market investment in full fibre. We know from our experience with the provision of Broadband Services in East Sussex that provision of such services is not commercially viable for a significant proportion of the county.

1.12 Therefore, DCMS are providing funding to stimulate this market, seeking proposals through an LFFN Challenge Fund that will provide cost effective models of delivering fibre infrastructure. This is generally through providing base service to public sector anchor tenancy sites, which then offer opportunities to deliver further services to additional locations in the neighbouring locality. This provides an opportunity within East Sussex, as it could enable the build and ownership of our own fibre network services, removing the need to continue to lease network services from the market as is currently the case.

1.13 This initial installation can act as the catalyst to offer further development from the commercial market, stimulating the further distribution of fibre services across a wider region.

2 Supporting information

Our Proposal

2.1 Following discussion with a range of stakeholders, there is a desire to raise an ambitious project to provide a high-speed backbone of infrastructure across the East Sussex and Brighton & Hove geography. The aim is to deliver high speed fibre services to central points across the wider region, reaching as many towns and villages as feasibly possible. This backbone could be described as the fibre ‘veins’ which would provide a distributed core network across the geography. This infrastructure would be built to replace the existing infrastructure currently leased through the Link WAN, reducing future revenue spend on leased connectivity services.

2.2 Within these towns and villages, connected to these ‘veins’ would be breakout cabinets. These would be located as frequently as there was a need, and would act as junction points to delivery more discreet, local services. The services from these cabinets would allow the end access into buildings, both business and residential, along with the existing public sector sites connected through the Link WAN (approximately 400 sites) within the local region. The cabinets could also offer breakout to other technologies, such as 5G

masts, or even to devices built onto street furniture (such as lampposts). These discreet services could be considered as the 'capillaries', delivering the services to the end locations.

2.3 Our proposal is to deliver the initial backbone infrastructure (the veins), connecting up the various towns and villages within the region. This would also allow us to replace our current core Link WAN infrastructure services and connect initial key public sector locations. This public sector owned full fibre network would replace many aspects of the existing leased Link WAN infrastructure.

Interested Partners

2.4 This model offers benefit to a wide number of public sector organisations (including the current members of the Link Consortium) within the region who would all be able to utilise the core fibre network to deliver fibre services from the local breakout points. Partners who have already raised a strong interest in being included are Brighton and Hove City Council, Coast to Capital LEP, the District and Borough councils within East Sussex and potentially some Blue Light services. The current leased infrastructure is delivered through the ESCC led Link Consortium which acts as a logical vehicle for this new proposal.

Approach

2.5 Included as an Appendix to a further report on the agenda is the Expression of Interest (Appendix 1) that was submitted to DCMS at the end of September outlining a possible Full Fibre infrastructure project within East Sussex. This proposed to build a full fibre network across the region, covering as many towns and villages as possible. This approach described how this infrastructure could be utilised for both public sector and private sector purposes, replacing the existing Link WAN infrastructure. Following the Expression of Interest, further dialogue has been held with DCMS who have progressed the proposal to the next stage in their structure.

2.6 Within ESCC, governance has been created to support the various work streams for the further bid activity and actual delivery and realisation of benefits. This includes work streams for the delivery of the Digital Infrastructure to connect the existing 400 public sector sites within East Sussex, and for the Digital Place, to develop the sharing of the infrastructure with the private sector to develop hyper-local digital investments to grow East Sussex as a digital region.

The Next Steps

2.7 Following our current successful progress with DCMS, we are now required to present a full business case to form a bid proposal. This will be assessed by DCMS through an Investment Panel with funding then allocated (if successful). It is important that this business case is supported and demonstrates that there is strong organisational and political support for the project within the region and that this is directly referenced within the business case document.

2.8 The Appendix to the further report on the agenda identifies the estimated gross costs of construction and the expression of interest that has been made to the DCMS.

3. Conclusion and reasons for recommendations

3.1 In summary, the LFFN Challenge Fund scheme provides an opportunity for East Sussex County Council and partners within the Link Consortium to move from a lease model to an ownership model for the core component of the Link WAN. It is anticipated that this transition from leasing to ownership would reduce operating costs and also allow for the delivery of a higher capacity and more scalable infrastructure. Alongside these benefits the ultra-fast infrastructure would also contribute to the development of the rural digital economy, enabling the private sector to leverage the infrastructure assets to offer a Full Fibre service beyond public sector, which in turn would offer a greater opportunity for small and medium sized digital enterprises to operate within the County.

3.2 The Lead Member is therefore recommended to:

- note the background and the scope of the LFFN proposal;
- agree to the principle of replacing a leased public service network core infrastructure with a public sector owned fibre spine;
- agree to the inclusion of the proposal in the capital programme; and
- delegate authority to the Chief Operating Officer to take all actions necessary to give effect to recommendations 2 and 3, subject to the Council's bid to DCMS being approved and receipt of the DCMS funding.

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