



**Norfolk County Council**

# Connectivity for Educational Establishments Service Specification

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### 1. Requirements

- 1.1. Norfolk County Council has a requirement for partners to supply and install broadband connectivity suitable for education environments, in line with the Department for Education Digital and technology standards for schools and colleges (March 2022).
- 1.2. The Framework Agreement will be open to all education establishments (e.g., Schools, Academies, Trusts, Federations, Adult Learning centres, Nurseries, Preschools, Alternative provisions) to purchase from, within East of England (Norfolk, Suffolk, Cambridgeshire, Essex, Lincolnshire, Peterborough, and Southend).
- 1.3. The Framework Agreement does NOT guarantee the award of contracts.
- 1.4. Education establishments using the Framework will have the option of
  - 1.4.1. Direct award
  - 1.4.2. Undertake a mini competition within the Framework
- 1.5. Norfolk County Council require suppliers to pay a rebate to Norfolk County Council of 1% on contracts valued over £2,000 per annum, this should be paid by the supplier and not passed onto the Customer.
- 1.6. The scope of this Framework Agreement includes the supply, installation, management, maintenance, technical architecture, system design and project management associated with the provision of the services.
- 1.7. The primary drivers are:
  - 1.7.1. Primary schools should have a minimum 100Mbps download speed and a minimum of 30Mbps upload speed (or as close to this as possible for the current technology available in the area).
  - 1.7.2. Secondary schools, all-through schools and further education colleges should have a connection with the capacity to deliver 1Gbps download and upload speed (or as close to this as possible for the current technology available in the area).
  - 1.7.3. Enabling teachers to have the confidence to make full use of online resources as integral parts of teaching and learning.

- 1.7.4. Deliver cost savings by using cloud-based solutions.
  - 1.7.5. Enable resilience and adaptability.
  - 1.7.6. Safe and secure services.
  - 1.7.7. Simplify and manage the migration from the current legacy managed network for education establishments at the end of their current contracts.
- 1.8. Norfolk County Council, by issuing this Statement of Requirement is not committing to purchasing a solution. Norfolk County Council reserves the right to stop this change exercise at any point prior to signing any contract change or to change its requirements.

## 2. Introduction

- 2.1. Several factors have caused Norfolk County Council (NCC) to review how network services are delivered and consumed. These include:
- 2.1.1. Schools and Academy Trusts require choice in providers to meet their requirements; no one size fits all.
  - 2.1.2. Most of the schools are on our current managed network contract ending in March 2024, but this Framework will be in place from Q4, 2022 to allow for schools on alternative contracts to join during 2023 and to allow for the phased migration of new services for 2024 contracts.
  - 2.1.3. The proliferation of gigabit capable fibre-based infrastructure across the county under the Local Full Fibre Network (LFFN) and Better Broadband for Norfolk (BBfN) projects means that fast and reliable internet-based services are now available to meet the Broadband internet standards advised by the DfE.
  - 2.1.4. The migration to cloud-based service. As more services move to cloud-based solutions the requirement and reliance of a network is essential to effective running of an education establishment.
  - 2.1.5. The service will be offered on a menu-based approach – the following two options must be available for education establishments to be able to select from:

<b>Requirement</b>	<b>Option 1 - Managed Service</b>	<b>Option 2 - Partial Service</b>
Fibre Connection to site	Yes	Yes
Speed (or as close as possible for the area)	Primary – 100/30Mbps Secondary Capability of 1GBps	Primary – 100/30Mbps Secondary Capability of 1GBps
Back Up connection	Optional	Optional
Router	Yes	Optional

<b>Requirement</b>	<b>Option 1 - Managed Service</b>	<b>Option 2 - Partial Service</b>
Firewall	Yes	Optional
Filtering	Optional	Optional
Transparent Proxy	Yes	Optional
Security Vulnerability monitoring	Yes	Optional
Connection to multiple sites (Site to site access)	Optional	Optional
Remote access into LAN	Optional	Optional
Distributed Denial of Service (DDoS)	Yes	Optional
Access to Learning Resource content	Optional	Optional
Contract length	3 Years + 1	3 Years + 1

### **3. Statement of Requirements – Technical Infrastructure**

- 3.1. A full fibre connection is provided, or where this is not currently possible an opportunity to change to fibre services as soon as they become available. The connection should provide the following recommended speeds (or as close to this as possible for the current technology available in the area).
  - 3.1.1. Primary and Special Schools must have a minimum of 100Mbps download speed and a minimum of 30Mbps upload speed
  - 3.1.2. Secondary schools, all-through schools and further education colleges must have a connection with the capacity to deliver 1Gbps download and upload speed
  - 3.1.3. Other educational establishments (i.e., Nursery, Adult Learning) to be treated on a case-by-case basis.
  - 3.1.4. All connections can support IPv4 and IPv6 networks.
  - 3.1.5. Ability to have a static RIPE IPv4 range for use with other services i.e. telephony services/remote support services.
- 3.2. A back up broadband connection to ensure resilience and continuity of services can be offered to meet the recommended requirements:
  - 3.2.1. Multiple broadband connection services (of different service types). For sites that have an FTTP/C primary service a 4G/5G backup service would be favoured.
  - 3.2.2. Appropriate routing to provide failover options when required.
- 3.3. Provision of a suitable router at site that will allow:

- 3.3.1. Remote management and support.
- 3.3.2. VLAN segregation for local segments.
- 3.3.3. Trunking capability to LAN switches.
- 3.3.4. Firewall capability.
- 3.3.5. Network address translation capabilities.
- 3.3.6. Able to support IPv4 and IPv6 networks.
- 3.4. Internet filtering is an optional requirement for customers to purchase. It must be capable of:
  - 3.4.1. Category based filtering
  - 3.4.2. Optional SSL inspection
  - 3.4.3. Filtering policies based on either:
    - Client location (in and out of the education site)
    - AD group membership
    - Client IP address
    - Client type / configuration
  - 3.4.4. Full logging and reporting functionality.
    - Log retention of at least 6 months, or the ability to upload log information to a cloud service
    - Customisable log reporting and alerting that gives all browser activity, included policy violations, to a group, individual client, or individual user level.
- 3.5. Transparent proxy. Where a proxy server has not been explicitly set, all internet-bound traffic must be routed via a transparent proxy, or alternative, that can provide the required web filtering.
- 3.6. At present some schools can access resources at other sites (i.e., Schools. MAT offices, Council base) securely via their current network. An alternate solution must be considered to replicate site to site access for the sharing of IT resources (i.e., AD & file shares)
- 3.7. A remote access solution should be an optional requirement based on:
  - 3.7.1. Staff to access resources located within the school
  - 3.7.2. Pupils to access resources located within the school
  - 3.7.3. Pupils to securely access resources located on the internet, using school provided devices, when working from public locations, including their home
  - 3.7.4. 2FA should be mandatory on all privileged accounts as a minimum, although 2FA on all accounts would be preferred
- 3.8. Educational Establishment services are managed by many different parties, this includes NCC IT staff, Individual schools IT support staff, Academy

trust/chain IT support teams. All services must be capable of offering distinct management domains and policy/security groups to allow for the management by different organisations, and the implementation of multiple policies. 2FA must be enabled on all support staff accounts.

3.9. Where a managed firewall is provided, it must be capable of:

- 3.9.1. Filtering traffic source/destination address/port
- 3.9.2. Stateful traffic inspection
- 3.9.3. Deep packet inspection to identify attacks, anomalies, and applications
- 3.9.4. Zero Day Protection – Same day coverage of newly found vulnerabilities
- 3.9.5. Mitigation of an Internet-based Denial of Service attack
- 3.9.6. Transmission of live connection logs to security aggregation and analysis service i.e. Police CyberAlarm service.

3.10. The following additional wireless/device types may be hosted within education sites:

<b>Service</b>	<b>Requires access to internal resources</b>	<b>Requires filtered access to the internet</b>
Schools Wireless		Yes
Guest Wireless		Exceptions may be required
Eduroam Wireless		Yes
VoIP and SIP services – including PBXs, and physical handsets	Yes	Exceptions may be required
Multifunction devices (MFD)		Exceptions may be required
Smart Devices i.e. TVs, Alexa, etc		Exceptions may be required
Entertainment devices i.e. Xbox, Playstation, etc		Exceptions may be required
CCTV and Building management systems		Exceptions may be required

3.11. The following service enhancements have been included and MAY be required dependent on risk appetite and cost. These include:

- 3.11.1. Distributed Denial of Service (DDoS) protection
- 3.11.2. Quality of Service (QoS)
- 3.11.3. Domain Name Management (incl. hosting)
- 3.11.4. SMTP Relay functionality

## 4. Statement of Requirements – Service Delivery

- 4.1. Experience and suitability:
- 4.1.1. The appointed suppliers and any staff working on site must have experience of working with education establishments.
  - 4.1.2. Engineers must have appropriate identification and be enhanced DBS checked and able to provide evidence of such on request.
  - 4.1.3. Any hosted products (i.e., Filtering) must be UK based for the duration of this contract.
- 4.2. Support and Maintenance:
- 4.2.1. Provision of Support via:
    - Service Desk
    - Call logging portal available 24/7
    - Visits when required
    - 24/7 system monitoring with automated reporting of incidents to be provided
  - 4.2.2. Provide a minimum of 'read only' access to the monitoring system.
  - 4.2.3. Provide documentation and guidance on how to utilise the monitoring system to its full capacity.
  - 4.2.4. Ability to allow technical staff providing support to the education site to make Router / Firewall changes, with audit trails and 2FA enabled on all accounts.
- 4.3. Service Level Agreement times for Incidents and Standard Changes:
- 4.3.1. The Service Level Agreements (SLA)/ Response times must include details of the following information as a minimum:

Priority	Impact
Availability of broadband connectivity	99.9% uptime minimum
Priority 1 / Critical	Service affecting incident that has a Severe impact on the business affecting a large number of staff or disadvantages teaching and learning.
Priority 2 / Significant	Service affecting incident that has an impact on the business, affects some staff and may inconvenience teaching and learning.
Priority 3 / Moderate	Non-service affecting incident that may impact some staff delivering service as more effort will be required.
Priority 4 / Minor	Non-service affecting incident that does not affect staff or customer but requires attention to prevent it increasing.

Change Request – Routine and Normal	i.e., Firewall Rule Change
Change Request – Critical and/or security changes	i.e., Emergency Firewall Rule change Filtering Safeguarding change

#### 4.4. Account Management:

- 4.4.1. Appointed Suppliers will provide a named account manager who will take responsibility for and progress to conclusion any issues under this Agreement that the Council may have. The account manager will need to attend regular service review meetings and share new technology advances/roadmaps.
- 4.4.2. The Account Manager will need to provide a monthly report of service availability, performance against SLA's and other issues/concerns raised.
- 4.4.3. Appointed suppliers will provide named contacts and clear escalation paths in the event of any issues or complaints.

### **5. Statement of Requirements – Additional Services**

- 5.1. The following additional services MAY be required dependent on individual customer requirements and cost. These include:
  - 5.1.1. SIP Trunks
  - 5.1.2. E-safety monitoring application(s).