



## “Everything ICT”

Full range of ICT Products, Solutions, Services and Support for the  
Public Sector framework.

OJEU Ref: 2019/S 157-387932

## INVITATION TO TENDER

Return Date of ITT 12 noon Tuesday 31<sup>st</sup> October 2019

## EAST OF ENGLAND BROADBAND NETWORK (E2BN)

### INVITATION TO TENDER

TENDER REFERENCE NO: OJEU Nov 2019 MT 216831

TO BE RETURNED BY 12 noon ON Tuesday 31<sup>st</sup> October 2019

TENDER FOR: "Everything ICT" - full range of ICT Products, Solutions, Services and Support for the Public Sector Framework Tender

CONTRACT PERIOD FROM: November 2019 – November 2023

IN CASE OF QUERY CONTACT: E2BN TEL NO: 01462 834588

EMAIL: [tender@e2bn.org](mailto:tender@e2bn.org)

### NOTICE TO TENDERERS

**Return of Tenders.** You are invited to submit a tender for the above in accordance with the conditions of contract and requirements of this invitation and any documents, schedules and specifications attached.

The completed tender and all supporting documents should be combined into one file (or 'zipped' as one file) and should be uploaded before the deadline to <https://www.e2bn.org/Everything-ICT> on the upload page provided to you when you registered. You will receive a confirmation to the email address you supply that the upload was successful.

In the event of any problems accessing the documentation or uploading your submission please contact [tender@e2bn.org](mailto:tender@e2bn.org), 01462 834588, East of England Broadband Network, Unit 1 Saltmore Farm, New Inn Road, Hinxworth, Hertfordshire SG7 5EZ.

Tenders received after the due deadline or which are returned incomplete or which infringe these instructions may be rejected without consideration of offer. Tenderers are therefore requested to make every effort to meet the submission requirements of this tender invitation.

Any tender that is found to have had the requirements below altered in any way may be disqualified from the process.

A tender shall be subject to the general and special conditions (if any) set out herein but in the event of inconsistency the special conditions shall prevail. Any other terms or conditions of contract or any general reservations which may be printed on any correspondence from the tenderer in connection with this tender or with any contract resulting from this tender shall not be applicable to this tender or to the contract.

Unless otherwise stated all information supplied (whether in these documents or otherwise) is for general guidance in the preparation of tender and shall not be binding on E2BN. E2BN does not guarantee that any such information is correct or complete although reasonable endeavours have been used with a view to correctness and completeness.

It is a condition of making a tender that the tenderer agrees that it has and will have no claim against E2BN in respect of costs, expenses and claims incurred in this procurement process save in respect of any fraud by or any death or injury occasioned by E2BN.

E2BN does not bind itself to accept the lowest or any tender.

Any alterations or corrections on the returned tender must be initialled by the tenderer.

All prices quoted in any tender shall, unless otherwise stated, include profit, transport, labour, materials, fuel, plant charges, insurance and all other expenses of every kind which under the conditions of contract are borne by the tenderer. Prices quoted in the tender shall be exclusive of Value Added Tax. VAT shall be applied at the rate as applicable to any invoice.

Any successful tenderer(s) may be required to enter into a formal contract incorporating the tender, all the conditions and terms upon which it is based and any subsequent clarifications (“an Agreement”). Until execution of that Agreement there shall be no binding agreement between E2BN and any tenderer for services including ancillary works and provision of goods other than the commitment by the tenderer embodied in the attached Declaration.

Requirement	Proposed solution/Response
<p><b>1 – Contract</b></p> <p>Please see the contract and contract schedules at <a href="https://www.e2bn.org/cms/online-resources/everything-ict">https://www.e2bn.org/cms/online-resources/everything-ict</a> , E2BN do not intend to negotiate on these and will expect the successful tenderer to sign the contract in its current form. Please confirm that, if successful, you will sign the contract.</p>	<p>If successful, we confirm that we will sign the contract.</p> <p>The new contract is broadly the same as the previous contract. We’ve been working with previous iterations of the framework contract for over five years so are very familiar with it and the way it works. During that time we’ve had no major issues or challenges with the contract or schedules.</p> <p>The framework contract has been scrutinised and passed by lawyers on behalf of customers, suppliers, Local Authorities (LAs) and the Ministry of Defence (for their overseas service schools). The framework has also been scrutinised by the Department for Education (DfE) Commercial Services Team (CST) and in on the DfE list of approved frameworks for ICT (<a href="https://find-dfe-approved-framework.service.gov.uk/find/type/on-going/services-categories/ict/ict-services/cloud/ict-cloud">https://find-dfe-approved-framework.service.gov.uk/find/type/on-going/services-categories/ict/ict-services/cloud/ict-cloud</a>).</p> <p>In our response to this ITT, please note the following:</p> <ul style="list-style-type: none"> <li>• Unless explicitly stated, wherever we use the term “school” we use it to cover any educational establishments or related body, including, but not limited to: Infant Schools; Junior Schools; Primary Schools; Middle Schools; Secondary Schools; Free Schools; University Technical Colleges; Sixth Form Colleges; FE Colleges; Universities; Multi-Academy Trusts (MATs); Academy Chains; and LAs and their education related Traded Service organisations.</li> <li>• In addition, the term “school” could be substituted for any Public Sector or charity organisation covered by the framework.</li> <li>• We have tried to answer every question in each section in full. We’ve taken this approach in case you choose to use different people to mark each section. This gives them the information they need where they need it and minimises the need for cross-referencing. This approach has resulted in some repetition through the sections but ensures complete answers.</li> <li>• We refer throughout to ‘Think IT’, the brand name for the current framework contract. If successful in winning the new framework, we will change the brand name to ‘Everything ICT’.</li> </ul>

## 2 - Framework Management, Sustainability, Marketing & Promotion

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*“Technology in education is increasingly important for PROVIDERS AND FOR learners of all ages. I welcome Think IT’s approach, the way they focus on outcomes rather than specific technologies and putting people at the heart of everything that they do. That is so CRITICAL TO SUCCESS, both in the state and in the independent school sectors.”*

**Dame Christine Ryan DBE, Ex-Chief Inspector, Independent Schools Inspectorate**

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WCL (UK) Ltd. (trading as Think IT) have been successfully running the E2BN School Cloud Services framework since August 2014. We therefore have extensive experience of managing, sustaining, marketing and promoting this type of framework. We started in 2013 with no customers. We now provide products and services to nurseries, primary, junior, middle, secondary and independent school, FE colleges, universities, local authorities (LAs), Multi-Academy Trusts (MATs) and other organisations representing over 6,000 schools.

Because of the ‘managed dynamic procurement’ approach, and the reputation and success of the framework, we have expanded into other Public Sector areas including NHS Trusts, housing associations, museums and Public Bodies such as Arts Council England.

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*“The Think IT framework provides a great route to market for any contracting authority considering IT products/services.*

*It’s compliant, transparent, agile and support is offered at every step by the Think IT team.”*

**Zobair Mehmood, Head of Procurement, Arts Council England**

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E2BN are looking for one company who can demonstrate a clear track record of managing a comprehensive range of suppliers to deliver products and services to the public sector with a clear focus on Education.

We have developed close relationships with some of the best educational suppliers, including Microsoft, Google, Dell and Cisco, as well as specialist SME providers like 2Simple, Groupcall and Education Britannica. Our personnel are steeped in the education sector with many years' experience as consultants and advisers. We therefore have some of the best-connected people with links into the Department for Education (DfE), local authorities, trade organisations, educational suppliers and professional bodies.

We don't run any other frameworks, we focus all our efforts on making the E2BN framework successful.

We don't provide any of the products or services associated with the framework directly ourselves, enabling us to offer a completely independent and vendor-neutral advisory and support service. This ensures we are always acting in the end customer's best interests. We have not found any other commercial organisation operating a framework on behalf of a public body in this way and we therefore believe we are in a unique position to deliver a very successful and high-profile framework for E2BN.

Think IT started with 13 suppliers in 2014. We now have over 100, ranging from SMEs to some of the biggest and best suppliers in the ICT and education sector and are adding to our portfolio all the time. From big names like Microsoft, Google, Dell, Cisco Intel, Fujitsu and Epson, to SMEs specialising in areas fundamental to education, such as Groupcall, MyConcern, Gooseberry Planet and Airhead. We also have many locally and regionally-based ICT support service companies. We deliver products, services and solutions that cover everything related to ICT that a school could need.

We have grown from the original 13 suppliers through a proactive process of identification and rigorous selection, looking for companies that contribute something special to education; are innovative; offer value for money; and, most importantly share our core values of public service. Those values are born out of our extensive experience and our true belief in education as a force for good.

Between them, our staff have over 70 years of experience in the education sector, including working with the DfE, local authorities, colleges, and hundreds of state and independent schools. In the DfE we worked on the design and implementation of many of the key policies that have shaped the education sector in the last 20 years, including the Academies Programme, Every Child Matters and the 14-19 strategy.

We believe that every child and young person deserves the best possible education. And in the 21<sup>st</sup> Century, technology must play a big part in that education if they are to survive and thrive in a rapidly changing world. Every school, college and university therefore need technology that engages, supports and inspires their learners, teachers, staff and stakeholders (like parents and employers). Think IT helps those organisations work out what technology they want and need, and then delivers it through the E2BN DfE compliant procurement framework, saving them time and money.

We also work with professional bodies in the sector such as the National Association of Advisors on Computing in Education (NAACE), NEN (the National Education Network), the association for Information Technology in Education (ITTE) and the Independent Schools Council (ISC).

While our focus to date has been first and foremost on education, we have proven that our managed, dynamic and flexible procurement approach is easily transferable to the rest of the Public Sector. We now have clients in the NHS, housing associations, charities and Public Bodies, and more requesting information about the framework all the time.

Our people have extensive experience of other Public Sector organisations including Central Government Departments, such as: HM Treasury; Home Office; Business Innovation and Skills; Communities and Local Government; Transport; and Culture, Media and Sport. We've worked with a number of education-related Non-Departmental Public Bodies, such as UCAS, Ofsted, Ofqual and ACA. We've also worked with Health-related organisations and charities, including: The National Youth Agency; NSPCC; British Heart Foundation; World Health Organisation; and Small Steps.

We require an open, honest and transparent approach to collaborative working and as such all pricing is to be based on an 'open book accounting' approach throughout the supply chain, detail your experience with examples and provide your options to address this requirement.

To ensure the framework is constantly relevant how will you ensure new and innovative products and services are available throughout the term of the framework?

We believe we have delivered an open, honest and transparent approach to collaborative working with E2BN. We have seconded staff to E2BN, outsourced work to the E2BN team, promoted E2BN products and services, run joint marketing initiatives, attended team meetings and supported E2BN events.

We've also run open-book accounting for the previous two iterations of the framework with E2BN for over five years and would propose to run the new framework in exactly the same way.

Proof that we have kept the framework constantly relevant and have brought new and innovative products and services to our customers comes in the number of new supply partners that have joined the framework since 2014. Since our inception we've added over 90 suppliers with new products and services including innovations that just weren't available when the original framework started, such as:

- 3-D printers for schools
- Virtual, Augmented and Mixed reality solutions for the classroom from Google and Microsoft
- Cloud-based movie and animation tools for learners of all ages
- Accessibility tools such as text and voice activation built into productivity applications for learners with dyslexia and SEND
- Cyber security solutions, which are constantly evolving as threats change and attacks on schools increase so we maintain close links with vendors like Microsoft and Sophos.

All key personnel at Think IT have considerable experience in providing services to Education and as such have good contacts within the sector including at DfE in ICT, procurement and senior policy civil servants.

New technical and innovative developments in the sector are closely monitored, and where relevant will be added to the framework so schools can benefit from these new and evolving technologies. For example, in the last month Microsoft have released their new Remote Virtual Desktop which will enable a full suite of solutions to be accessed

<p>How will you address due diligence with the supply chain while keeping the framework up to date?</p>	<p>remotely. We're currently investigating the potentially significant advantages in availability, cost and performance for rural schools.</p> <p>One of the great strengths of the framework lies in its ability to act as a 'managed dynamic procurement system'. This enables us to add new suppliers throughout the lifetime of the contract. After the BETT show in January, we are usually inundated with companies wanting to join the framework. We also use trade events such as BETT and sector conferences to 'horizon scan' and ensure we are keeping abreast of new developments and suppliers. We review each potential new supplier on their merits, focusing on what they could bring to the framework that is new or innovative. We only accept those that pass our rigorous supplier evaluation process (see below). We also use our media and PR contacts to keep abreast of new developments in both the sector and the IT marketplace.</p> <p>In order to maximise the value from the supply chain, we plan to appoint Oliver Pearson as our Supplier Partner Manager. As you know, Ollie has been integral to the growth of Think IT and already has great working relationships with many of our key suppliers. His key role will include the identification and onboarding of new suppliers, and the monitoring of existing suppliers for new and innovative products.</p> <p>Supply chain due diligence starts when a supplier applies to join the framework. Our supplier selection and on-boarding process incorporates elements of best practice public procurement policy (including all elements related to the mandatory and discretionary exclusion for the award of contracts with public bodies) and is based on the process we produced for another DfE framework that was reviewed and approved by the DfE. It includes the following steps:</p> <ul style="list-style-type: none"><li>• Sourcing; Application</li><li>• Evaluation</li><li>• Selection</li><li>• Ongoing support</li><li>• Contract Management</li><li>• Removal (where required).</li></ul>
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Due to the complexity of some of the expected orders through the framework running a competitive dialogue under the framework would be seen as a best practice option, being fair and open to the supply chain. Detail your methodology to this and what experience you have with this approach.

Due diligence includes checks against all current elements of central government mandatory and discretionary exclusion criteria from the award of public contracts, as well as other important criteria, such as checks on GDPR compliance and appropriate levels of insurance.

Once on board, Think IT constantly monitors suppliers to ensure their products and services are relevant to the education sector and are the best of breed available. We monitor the quality of service enjoyed by the framework users. As a result, we've had to remove a small number of suppliers from the framework when their service fell below the high standard expected. Finally, we constantly monitor pricing to try and ensure end users are never charged more for using the framework.

The application process itself is regularly reviewed to ensure it is keeping pace with any changes to EU and UK procurement legislation and public procurement good practice. For example, we recently introduced questions relating to prospective suppliers' compliance with the Modern Slavery Act and their approaches to skills and apprenticeships.

We have run the E2BN framework for the last five years, and over that period have honed the practice to ensure we deliver best value, no matter how complex the requirements. Customers asking for three quotes (in order to adhere to their individual financial regulations) has become very commonplace.

The methodology for delivering this is usually very simple: the customer tells us what they want (or we recommend a solution); we identify a range of suppliers that can deliver the requirement; we give every supplier the same information so that there is fair competition (any clarifications shared with everyone); suppliers submit their quotes; and we give the quotes to the customers to choose.

We also give feedback to suppliers who don't win (based on what the end customer tells us) so that they have a chance to understand the reasons for failure and adapt their approach for future bids.

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### **CASE STUDY – Exceed Academies Trust**

Exceed Academy Trust had an incumbent ICT Managed Service Provider but wanted to test the supplier against others in the market. In particular, Exceed were looking for a supplier that could add value by helping to develop and deliver an ICT strategy that would enable their schools to deliver excellent teaching and learning.

Think IT created a tender process and asked four managed service suppliers on the framework to bid, including the incumbent. Two suppliers were rejected at the presentation stage and were given comprehensive verbal and written feedback, along with an offer to provide coaching on how to present to MATs. Both have accepted the feedback and the offer of coaching. All suppliers were complimentary about Think IT when asked directly by the Trust about working with the framework.

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In situations where the customer lacks internal procurement expertise, our in-house team can also provide a fully-managed independent procurement service, helping them to specify the requirement, devise an evaluation and scoring strategy, carry out/moderate the evaluation process, and provide advice on the correct application of procurement rules and law. Recently we did this very successfully for a Housing Association in the West Midlands who wanted to procure a new Managed Print Service contract, and for a MAT (of 7 primary schools) who wanted to procure a fully managed ICT Support Service.

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### CASE STUDY – Housing 21

Housing 21 were recommended to Think IT by another Housing Association who had previously used the framework.

Housing 21 needed to run a Managed Print tender process in a tight timescale. Think IT used their relationships with print manufacturers to set up a “beauty parade” where each present their unique propositions.

Think IT managed the tender and award process in a compressed two-month timescale. This included spotting a change to the leasing arrangements by the supplier which would have cost Housing 21 many thousands of pounds over the contract.

*“Housing 21 approached the Think IT Framework to support our MFD procurement. Their innovative approach for selecting bidders and their support throughout the whole process helped simplify what would normally be a complex procurement.”*

**Sarah Carrington – Senior Category Buyer – Housing 21**

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Where a customer is not sure about what they want, we would first attempt to advise them ourselves. If required however, we can run a ‘competitive dialogue’-style procurement process. This would involve:

- Identifying a range of suppliers with relevant offers
- A ‘managed dialogue’ process between those suppliers and the end customer to develop a standard specification
- Issue of that specification to those (and perhaps other) suppliers to bid against
- Evaluation and selection process.

We've managed this style of process successfully several times. One example is where we procured a new print contract for Bedfordshire Schools Trust (BEST). In our experience however, this process is best avoided if possible as there is the potential for the specification to become 'skewed' towards one specific supplier's offer. It also creates significant additional effort for all the suppliers involved (which may discourage unsuccessful suppliers from bidding for future competitions) and potentially for the procuring body.

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#### **CASE STUDY – Bedfordshire Schools Trust (BEST)**

BEST Multi Academy Trust approached Think IT via our procurement portal requesting assistance with a Print Management contract to service all 6 of their schools.

Think IT managed the process from initial dialogue with the suppliers regarding the specification, ITT distribution through to short list interviews and finally the award and implementation. The process was made more complex by a challenge from one of the unsuccessful bidders. BEST called upon the experience and expertise of Think IT's procurement team to guide them through the challenge professionally and efficiently.

BEST now enjoy a smooth and effective service across all 6 of its sites.

*"Many thanks to both of you for helping get this project over the line in trying circumstances over the last few weeks"*

**Chris Earp, IT Strategic Operations Manager**

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How will you ensure end customers investment is protected in the event that an ordered product or service ceases to be delivered or supported within the term?

We have a number of trusted partners with varying specialisms who have experience in working together to provide complete multifaceted solutions, ranging from: a managed service to nearly 70 schools in North Tyneside; to complete IT Infrastructures for new builds or refurbished schools. Think IT never hides the name(s) of the supply chain from the end customer, and in some cases, will engage and manage the suppliers directly on behalf of the customers.

Additionally if a product purchased by the end user is not able to live up to the users expectations what will your approach be?

Our policy is not to pay suppliers until we get paid by the customer. That focuses suppliers on delivering a fast, efficient, high quality service. Where there is an ongoing service delivery element which customers pay annually in advance (for example, the managed IT service for North Tyneside), we pay the suppliers on a quarterly basis. That way, if there's a problem we can resolve it, or replace the supplier, and the customer's investment is protected. We provide a 90-day guarantee for all works carried out under the E2BN framework. Whilst this doesn't apply to hardware, or client specified learning software (both of which are covered by manufacturers guarantee) it does apply to all services. In the event of a supplier failing for whatever reason, we will replace the supplier with another, with no additional cost to the school, ensuring the end user is inconvenienced as little as possible and receives the desired service. The failing supplier will then be reviewed, and if necessary, removed from the supply chain.

Our natural reaction is to take the customer's side, but to do that we need to understand the problem and why the product isn't living up to their expectations. For example, is the problem aesthetic (size, shape, colour), functional (doesn't do what they thought it did), fit for purpose (doesn't do what they need it to), mis-sold (thought they were getting something else) or training (staff don't know how to use it)?

But because we're a supplier-based organisation, we also need to protect our supplier partners. That means we need to understand things from their perspective too before coming to a judgement. For example: have they delivered what was specified; has the product been installed correctly; have the users been trained?

Wherever possible we try to ensure that the customer's expectations are managed from the very beginning. That way, they don't have unrealistic expectations that fail to be met. Obviously, this is not possible in every case. Where cases of mismatched expectations or other problems occur, we attempt to broker a 'deal' where the supplier delivers to the customer's satisfaction. In most cases, problems have occurred because of a simple lack of communication, and that is relatively easy to fix. That's not always the case however and sometimes we need to remove a supplier from the framework (see case study below).

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#### **CASE STUDY – The case of the dropped Chromebooks**

Last summer The Beeches Primary School in Peterborough ordered 90 Chromebooks through the framework. The appointed supplier arranged for delivery during the summer holidays. On delivery day, the school Business Manager drove around the corner, just in time to see the driver drop a pallet of Chromebooks off the back of his lorry. As you would expect, the Business Manager rejected the Chromebooks that had been dropped, and wisely took a note of the serial numbers of those devices.

Unfortunately, the supplier then proceeded to send the same Chromebooks back to the school claiming they were a new batch, not once, but twice. Think IT got involved, got new Chromebooks delivered, and then removed the supplier from the framework.

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One of the big benefits for customers is that we don't pay the suppliers until we've been paid. Not only does that protect the customer, but it's a big lever in getting suppliers to deliver for our customers.

What conflicts of interest could manifest themselves within the supply chain and how will you address such conflicts that could undermine the frameworks success?

The most obvious potential conflict of interest lies with E2BN because it is both the framework owner and a supplier to the framework. We believe our primary role is to ensure open and fair competition in order to ensure the best deal for the customer. Over the last five years we have proven our impartiality by putting E2BN forward in several open competitions that they haven't won.

In our experience of framework contracts over the last 15 years, conflicts of interest usually arise when a set of contractors form a Joint Venture (JV) or consortium to deliver contract services themselves. It is not unusual in such situations for the JV /consortium partners to seek to award most of the work arising from the contract among themselves. This is exacerbated if they are the ONLY contractors on the framework providing those services. In our view this approach does not offer the end customer the choice and contestability which a framework such as Everything ICT should be providing. It is also an approach that is practically guaranteed to create conflicts of interest.

As a totally independent, vendor-neutral organisation acting in the role of prime contractor, Think IT does not operate in this way and therefore we avoid such conflicts of interest. We have quite deliberately architected our own supplier base to ensure that there is supplier choice across every area of ICT.

The only service we would 'sell' directly to customers is our advisory 'Readiness Assessment' service and we do not view this as a conflict of interest since any recommendations for improvement we may make to the end customer are totally vendor-independent and will not be implemented by us directly.

There is often a perceived conflict of interest with 'direct award' contracts. When a customer chooses to direct award through the framework, we check that they have done their own due diligence and are satisfied that they are getting value for money. If appropriate we can look at alternative suppliers or provide benchmark data, thereby helping both customer and supplier avoid a conflict of interest.

As one of the main criteria is choice of products and services within all categories how will you ensure there are competing companies in all categories and how do you intend to manage them?

We haven't had any obvious conflicts of interest come up in the last five years, but were they to occur, we will deal with them in the same open, honest and transparent way in which we deal with any problem.

Where potential conflicts of interest may arise, we will try and identify them up front and avoid or mitigate against them as best we can. Any conflict will be dealt with fairly and swiftly, wherever possible without customers becoming involved, through an escalation process that goes through a Director, then to the Managing Director for final arbitration.

If there ever were a situation where a customer is potentially compromised by conflicting suppliers, we would simply remove those suppliers and refer the project to a supplier not previously involved.

We already offer significant choice of products and services on the current framework. Every supplier that comes to the framework knows that we are, and need to be seen as, completely independent. Suppliers therefore know that we will not offer exclusivity. In every area we have a minimum of two suppliers to ensure customer choice and competitive pricing. In highly competitive commodity areas such as Equipment, we have over 20 suppliers that can service customers.

We manage suppliers as described elsewhere in this section, including: through initial on-boarding; regular dialogue and monitoring meetings; joint marketing activities; participation in partner events; feedback on successful and unsuccessful bids for work; independent project management and quality assurance of their work; and importantly, customer feedback. We will also appoint a Partner Manager whose role is to manage suppliers.

Earlier in this section we made some points about conflicts of interest relating to the JV/Consortium framework approaches. These architectures may claim to offer choice by co-opting smaller suppliers as part of their initial bid, however, in our experience over the last 15 years in the Public Sector that customer choice this is rarely delivered in practice. This is because the 'big players' keep most of the work for themselves and rarely contract work to specialist or small providers,

Detail how you propose to offer flexibility, choice and options of products and services within every category?

How do you intend to Market and Promote the framework, its products and services, throughout the term of the contract to ensure best value choice for customers while managing fairness and expectations from the supply chain?

thereby limiting choice. In our view, the only way of truly ensuring choice is to have a primary contractor or a totally independent consortium partner such as Think IT who has no vested interest in delivering the goods and services themselves.

As described above, we already have more than one supplier in every category, and in key commodity categories (such as equipment) have many more than two so that customers have flexibility and a wide range of choices and options.

In addition, we constantly monitor the education technology sector to ensure we understand the trends, concerns and issues facing schools. As a result, we are adding to our supplier base all the time to increase flexibility, choice and options.

Importantly, we listen to our customers and evaluate their recommendations for both partners and their products and solutions. The Readiness Assessment (RA) process we run with schools enables us to be responsive to customer needs and stay up to date on wider school improvement initiatives and choices.

We have a multi-faceted marketing plan to promote the framework products and services, including:

- Promoting the DfE endorsement of the framework (see Case Study below)
- Engaging with the DfE to ensure the ongoing framework endorsement
- Growing the existing customer base by offering excellent, responsive & responsible service
- Making ICT Procurement easy
- Advising on solutions to provide the best possible outcomes for learners
- Local geographical events, asking existing customers to hold and host small meetings with other local institutions promoting the benefits of using the framework
- Regular use of social media, video case studies from customers and blogs on special subjects made available via the supply chain

- Regular newsletters including special offers, as well as providing a number of fact sheets containing useful and relevant information on key subjects, including:
  - What's your three-year IT strategy?
  - GDPR need not be scary or expensive
  - Are you making the right cloud computing decisions?
  - Can Gamification change education for good?
  - When things go wrong, who you gonna call?
- National and regional events, including, but not limited to:
  - BETT UK
  - BESA Regional Events
  - Microsoft Roadshows
  - The Academy Show
  - NEN Conference
  - Google Symposium
  - GDPR Training
  - Local product roadshows
- Aligning ourselves with key academic organisations (NAACE, NEN, ISC, MirandaNet, ITTE )
- Regular networking with colleagues at LAs MATs and traded services (see recent joint promotion of Windows 7 solution "Device as a Service" with Norfolk County Council)
- Getting our supply chain to promote the framework (a mandatory requirement of them becoming a framework supplier)

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## CASE STUDY – DfE Approved Framework

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ind-dfe-approved-framework.service.gov.uk/find/type/on-going/services-categories/ict/ict-services/cloud/ict-cloud



Find a DfE approved framework for your school

**BETA** This is a new service – your [feedback](#) will help us to improve it.

Your recommendation

### ICT, cloud, support and related services (Think IT)

Based on your answers, we think you should use the Think IT (E2BN) framework.

#### What it offers

- Hardware such as PCs, laptops, tablets, servers, printers, multi-functional devices.
- Software such as Microsoft O365, Google, Adobe, cyber security, mobile device management, educational content, MIS and financial packages.
- Connectivity such as broadband, dedicated lines, 4G, 5G and satellite.
- Infrastructure such as wifi, cabling, wide area networks and network management.
- Cloud services, including Microsoft Azure, automated backup services, remote desktop, disaster recovery, VoIP systems.

#### Related content

[Buying for schools guidance](#)

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## CASE STUDY – Joint Marketing with Norfolk County Council



**Solve your Windows 7 Problem**

From as little as £9\* per device per month

**with our new Device-as-a-Service through DfE approved procurement framework**

In January 2020 Microsoft will stop supporting Windows 7. This creates a security and GDPR risk for schools still running Windows 7 PCs and laptops. Some devices can be upgraded to Windows 10, but many cannot and need to be replaced. If you don't have the budget to buy new devices, NCC's ICT Solutions service have partnered with the DfE approved procurement framework, Think IT, to bring you "Device-as-a-Service". This gives you can the latest kit now but spreads the payments over three years. With prices starting from the equivalent of £8 per month per device (depending on device and availability) it includes the latest Microsoft software and technical support. Let us help you solve your Windows 7 problem for you.

	Student	Teacher		Admin/Tech
Cost per device per month (from)*	£8	£15	£18	£33
Example Device	Lenovo 100E	HP Pro Book X360	Surface Go	Surface Laptop
Microsoft 365	A1	A3		A5
Support	ICT Solutions	ICT Solutions		ICT Solutions

Add-on options also available \* Prices subject to confirmation, device availability and price changes

Contact [info@think-it.org.uk](mailto:info@think-it.org.uk) to find out more today.

ICT Solutions Transforming EdTech

thinkIT making IT easy for schools

## CASE STUDY – The Academies Show

The Academies Shows in April and November are some of the largest events in the education sector. Neil Watkins has presented at four events on the theme of intelligent procurement for schools using frameworks. Some of our biggest customers, including Nottinghamshire County Council and Community Academies Trust have come directly as a result of those presentations.

*“Your session always gets very good feedback”*

**Rhys Moffat, Senior Programme Manager, GovNet Exhibitions**

How will you support and collaborate with E2BN to market the service to schools and LAs and other public sector institutions?

As described above, we have multiple suppliers in each category. This promotes competition and ensures best value by driving down pricing to the customer.

We manage fairness and expectations in the supply chain by offering everyone the same opportunities. For example, any of our suppliers can offer to work with us on special offer promotions, targeted marketing campaigns or events. Nowhere in the world of education is there a more intense rivalry than the one between Google and Microsoft. We regularly run regional events for schools with both organisations. It is exactly this kind of impartiality that makes Think IT attractive to our customers and local authority partners.

We have supported, and will continue to support, E2BN in marketing and promoting the framework and its services to customers. We have run numerous marketing campaigns and events, such as the E2BN conference, E-Safety events, promotional events, newsletters and email campaigns targeted at schools and LAs in the East of England and nationally. We have also worked directly with a number of E2BN member authorities such as Thurrock and Cambridgeshire. We also promote the service to schools and LAs outside of the E2BN region, such as Derbyshire, Nottinghamshire and North Tyneside.

We are also talking to other Regional Broadband Consortia such as SEGfL and WMNet, and the cities of Nottingham, Derby and Coventry, about using the framework to provide services to their LA members and schools. All of these activities will continue and be expanded upon should we be successful in winning the new framework.

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## CASE STUDY – Nottinghamshire County Council

*“Over the summer a number of our ICT Supplier contracts came to an end and in order to improve our services and stay ahead of the curve in this rapidly changing market while also addressing some supplier management issues we had encountered NCC ICT Services chose to join the Think IT Framework, underpinned by E2BN rather than directly re-tendering the time expired contracts.*

*Our decision was driven by the fact that the framework is OJEU tendered, thus we avoided the cost of running our own procurement exercises. Additionally, the framework provides access for schools to support and guidance across the full spectrum of educational IT suppliers without the need for mini competitions.*

*As this is also now the approach that the DfE recommend so schools can buy direct without having to get 3 quotes or go out to tender, our view was that framework offered us a vastly improved route to market, saving both time and money while providing easy access to a far greater range of education products and services, guidance and expertise from the best education suppliers in the market.”*

**Kirstie Phillips, ICT Traded Services Manager, Nottinghamshire County Council**

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For promotion to other Public Sector institutions, we would start with LAs, their Trading Services and partners. We’ve already had requests from LAs about applying the service to the non-education parts of their organisations and related bodies. We’ve also had requests from a number of other public bodies and charities.

What is your experience of, and how would you address, the conflict of interest that can occur within LAs, and similar public sector institutions, between different departments?

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### CASE STUDY – Small Steps Charity

Small Steps helps parents in South West London to help their own children with cerebral palsy or other forms of motor and sensory impairment. They had a number of significant IT issues, including very slow internet speeds, security and system resilience. We ran the RA visioning session with the senior leadership team, and the technical audit highlighted the issues and made recommendations for improvement which are being implemented that revolutionise the way the Charity uses and embraces ICT.

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We have also leveraged our relationships with key suppliers who we know have Public Sector teams, such as Microsoft, Dell and Cisco. For example, Microsoft have recently introduced us to their team working with a Police Force that are interested in using the framework.

Given our collective experience of working in Central and Local Government, schools, MATs and other public bodies, we have extensive experience of these types of conflict of interest, as well as the scars and war-stories to go with them.

There are many reasons for internal conflicts of interest. They include (but are not limited to): ill-defined roles and responsibilities; poor communications; legacy issues from re-organisations; and power struggles for control of an agenda.

As an external organisation, our roles have always been to consult or support. It has never therefore been sensible for us to get 'caught in the crossfire' of cross-departmental conflicts. Our approach has always been to be neutral and focus on 'outcomes' to defuse tensions. Getting people to focus on outcomes for the end-user is a great way to flush out real, artificial and perceived issues. Once out in the open these issues are always easier to address.

Detail your approach to contracting and marketing to manage the range of services required while maximising the E2BN name and reputation.

Also explain any issues you perceive in this area and what steps you would take to mitigate such issues.

When working in the DfE for WCL, Nigel Hall was working for the Schools directorate and Neil Watkins for the Children, Young People and Families directorate. These were the two biggest directorates in the Department and competed for money, resources and talent. In part to help overcome some of the inter-directorate challenges, WCL helped to found, resource and train an internal consultancy group so to support both directorates on new, important and challenging policy areas, such as Academies and Every Child Matters.

The reputation of E2BN and Think IT is paramount to the success of the framework. All Think IT marketing materials, proposals and contract order confirmations clearly show the E2BN name. It's even embedded in our logo.

As the framework is let by E2BN, Think IT effectively acts as a division of E2BN and everywhere we promote the Think IT brand, we also promote E2BN. We push heavily on the fact that E2BN is one of the Government created Regional Broadband Consortia (RBCs) and is backed by eight LAs to help ensure customers perceive the framework as publicly let and therefore fair and fully compliant with procurement law. We also refer customers directly to E2BN in cases where they require independent reassurance of the Framework's bona fides.

As the framework expands into other parts of the public sector, we will continue to promote the Public Sector ethos and values that are central to both E2BN and Think IT.

It is possible there may be political and competition issues amongst other RBCs or LAs. Think IT's approach is to offer to work with all for the betterment of educational outcomes, and provide best value solutions. In some cases, we can take specialisms offered by LAs or traded services and offer them to some wider audiences outside existing territories, thereby increasing their revenue while continuing to promote the Framework and therefore E2BN.

One way to mitigate potential issues with LAs or RBCs is to focus on products and services they either don't provide, or don't deliver well. In areas where E2BN is not a known brand, or might be perceived in conflict to another RBC, it may be that we promote the Think IT brand ahead of E2BN.

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## CASE STUDY – South East Grid for Learning (SEGfL)

One example of where we've overcome potential issues with an RBC is South East Grid for Learning (SEGfL). Over a number of years' we have cultivated the relationship to the point where they now actively promote Think IT to their LAs and schools and we have run joint marketing campaigns.

The screenshot shows the top navigation bar of the SEGfL website with links for HOME, ABOUT US, SERVICES, NEWS, EVENTS, LEARNING RESOURCES, STEM, and ONLINE SAFETY. Below the navigation is the SEGfL logo, which includes a stylized orange bird icon and the text 'SEGfL South East Grid for Learning'. A secondary navigation bar contains 'Home' and 'Services', with 'Services' being the active page. The main heading is 'SERVICES' in large orange letters. To the right, there is a 'Services' sub-heading and a 'SHARE' button with social media icons for Facebook, Twitter, LinkedIn, and YouTube. The main text describes the organization's mission since 2000, its focus on broadband and ICT, and lists various services like infrastructure, SSL certificates, and Data Protection Officer packages. It mentions that some services are delivered through partner organizations and others through EU Frameworks. A section titled 'The procurement Frameworks we use:' features the 'thinkIT' logo. At the bottom, a line of text states: 'Think IT is a DfE recommended ICT procurement framework specialising in cloud solutions for schools. With over 50 of'.

<p>How would you ensure visibility of products and services throughout the term of the framework?</p>	<p>All the marketing plans and activities detailed above are designed to ensure continuous visibility of the products, services and solutions offered by the framework. These plans are reviewed and refreshed every quarter and will be delivered and further enhanced throughout the lifetime of the new framework. Think IT was created as a vehicle to promote the framework. Its sole reason for being is to improve the outcomes of learners with the use of technologies and the only way we do this is via the framework. Unlike other organisations, we don't 'collect' frameworks or derive any revenue outside the framework.</p>
<p>Detail your companies approach to ensuring that all products and services that are provided continue to achieve best value.</p>	<p>DfE guidance is clear that best value doesn't necessarily mean the cheapest price. Best value can be measured using multiple factors, including quality, usability, expertise, learning outcomes, experience as well as price. Think IT works with vendors/manufacturers and its supply chain to ensure best value is achieved. For example, we work with both Google and Microsoft, which, when combined, can make the best possible communication and collaboration tools. We have a partnership with Smart Technologies which provides the framework access to the lowest pricing available through its own supply chain. We have similar agreements with a number of other manufactures such as Dell and Cisco, who provide price guarantees through their own supply or distribution systems ensuring our end users receive the best possible pricing nationally when procuring via the framework.</p> <p>Other activities to ensure best value are described elsewhere in this section, including regular meetings with the Partner Manager, mini-competitions, evaluation of supplier performance, customer feedback and regular horizon scanning of pricing in the technology marketplace to ensure our pricing remains among the cheapest to be found anywhere whilst continuing to deliver excellent value.</p>
<p>What will your approach be to price through the supply?</p>	<p>Our view is that schools are spending tax-payers' money so they need to go through the proper procurement channels and should always be seeking value for money. We believe that our customers should be able to use the framework without incurring additional costs. In fact, using the framework should offer considerable savings both in pure costs terms and by providing a range of products, services and solutions that</p>

Please detail how you will ensure all services comply with GDPR legislation, including any amendments to the legislation, throughout the term of the framework?

combine to ensure best value. The framework supply chain finances the operation by providing Think IT with additional discounts over and above that they would normally offer directly to a learning institution. We will also continually work with the supply chain in the ways described in this section to keep costs down.

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#### CASE STUDY – L.E.A.D. Academy Trust

*“L.E.A.D. Academy Trust has chosen Think-IT as the preferred framework for IT procurement across the trust. We have benchmarked their costs against other leaders and found not only their prices are lower but their support is outstanding. Their dedicated procurement team ensure all elements of the transaction and installation go smoothly. All parties are communicated with effectively ensuring expectations are met.”*

**Lee Jepson, Director of IT, L.E.A.D. Academy Trust**

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We currently offer training for schools and LAs on GDPR compliance through our supplier partners and have delivered sessions to representatives from over 500 schools. We monitor the Information Commissioners Office (ICO) and DfE for any announcements and guidance specifically targeted at the education sector.

As an organisation we are fully GDPR compliant and we ensure that all of our suppliers warrant that they are GDPR compliant as part of our application and onboarding process.

We are working with Microsoft to promote their O365 suite for education which is fully GDPR compliant and has some excellent features, such as document retention policies and the ability to identify every instance of a named individual in the event of a Subject Access Request.

How will you evidence compliance with the Modern Slavery Act through your proposed supply chain?

We will closely monitor the legislation for amendments throughout the lifetime of the framework to ensure that we and our suppliers continue to deliver a fully compliant service. If any significant change were to occur, we would ask all current suppliers to re-warrant that they are compliant and would remove any that elect not to do so.

We have a zero-tolerance policy towards modern slavery. As an organisation with annual turnover below the required threshold of £36m, Think IT is not currently legally required to comply with the obligations set out in the Modern Slavery Act 2015. However, if we are successful, the new Framework will almost certainly bring us within the scope of the Act. Even though not currently required to, we already acknowledge our responsibilities under the principles and spirit of the Act and are committed to preventing slavery and human trafficking within both our own business and our supply chains. We already have a modern slavery policy in place (this can be supplied upon request) and we expect all our suppliers to self-certify that they are compliant with both the spirit and the principles of the Act as part of a newly instituted revision to our application process, regardless of whether they are over the turnover threshold. We will refrain from entering into business, and will discontinue any current business, with any other organisation which knowingly supports or is found to have involved itself in slavery, servitude and forced or compulsory labour.

What is your experience of, and philosophy to, working with UK Education, Local Government, Central government and devolved administrations and other areas of the Public Sector?

As mentioned above, we have extensive experience of working with UK education, Local Government, Central Government, devolved administrations and across the Public Sector, including: individual schools; multi-academy trusts; FE colleges; independent schools; Welsh Government; DfE; HM Treasury; Home Office; Business Innovation and Skills; Communities and Local Government; Transport; Environment; Culture, Media and Sport; Derbyshire County Council, Nottinghamshire County Council, Luton Council, North Tyneside Council; Cambridgeshire County Council; UCASS; Ofsted; Ofqual; National Youth Agency; NSPCC; British Heart Foundation; World Health Organisation; and Small Steps.

We are committed to working in the Public Sector. We share the same public service ethos and values. Two of our Directors are former Public Sector employees. We understand how it works and what makes it tick. We like working with public servants because we share the same desires to serve for the public good. This is the reason why we deliberately keep our own charges and overheads low. We all know, particularly in current times when funds are tight and every penny is precious, that being perceived as corrupt or profiteering from public bodies and charities is a complete anathema. As such, one of our overriding philosophical principles is that in everything we do or say, we should always avoid any potential for what we refer to internally as 'Daily Mail' headlines...

## CASE STUDY – The Welsh Government

The Welsh Government have ambitious plans to improve broadband and network infrastructure for schools ahead of implementing a new digitally focused schools curriculum in January 2020.

They contracted Think IT to undertake almost 200 Digital Readiness Assessments in a range of schools with the specific aims of investigating Cloud readiness, with a specific focus on existing hardware, networking devices, networks (LANs) & Wi-Fi networks.

Think IT mobilised a team using partners in Derbyshire & Cambridgeshire to provide on-site engineering resources, together with technical and commercial project managers to deliver this challenging project within tight time scales.

After successfully delivering the Digital Readiness Assessments, Think IT were commissioned to write the Digital Standards for Welsh Schools.



All systems and products offered through the framework must be interoperable if required, if it occurs some are not that an institution procures the cost to make them interoperable must fall to the supply chain and NOT the customer. Please details how you will achieve this.

There is a move to cloud, 'Pay as you go' and/or 'Products as a service' and many institutions are looking to move to this approach, please indicate which products/services you are able to provision in this manner and the advantages and dis-advantages inherent in either approach.

We already do this. Where possible we ensure that all new systems and solutions offer interoperability with the institutions existing infrastructure. We also insist that suppliers bear the cost of any integration, not the customers. This was the case with MyConcern, the safeguarding software, where the team created an API and paid for integration with both Groupcall Exporter and Wonde to ensure compatibility with all school MIS systems. In particular they had to pay Capita a significant amount to access their API for SIMS.

Depending on the items ordered, we ask key questions to make sure any additions can be integrated without conflict. We will advise in advance should a potential conflict be identified and take further instruction. Where necessary, or if requested, we have the ability to organise our supply chain with the correct expertise to carry out site surveys thereby removing the risk of incompatibility. We are then able to advise the optimum solution to meet the schools' requirements based on best value and learning outcomes.

The ONLY exception to this is where interoperability issues arise as a result of a customer buying something through Think IT that does not operate properly with something they already own or later procure from a source other than Think IT. Even in these cases we will do our best to ensure such issues are solved by our own suppliers with minimal impact and expense to the customer, but we cannot offer guarantees of interoperability with non-Framework products and systems.

As the IT industry move towards off-premise, cloud-based services, more computing, content, management, communication and collaboration tools are becoming subscription based. In 2016 DfE published its cloud guidance, encouraging schools to move to the cloud to save money and improve effectiveness. Also, in 2016 it agreed a new Memorandum of Understanding with Microsoft, whereby the educational discounts on Microsoft on-premise licences would be removed by July 2018, effectively forcing schools into cloud solutions to mitigate cost increases. Google have been offering free cloud-based educational tools and applications for years and are promoting them heavily to schools.

Think IT became a Microsoft tier 1 CSP and Authorised Academic Reseller in order to provide the best possible pricing and support to schools. This delivers a range of O365, Azure, Mobile & classroom management tools all based on either annual, monthly or 'consumption' (pay-as-you-go) basis.

We are also able to offer the Google Classroom suite of products as well as a range of other SaaS (Software as a Service) products including, but not limited to: Parental engagement; Single Sign On; GUI; Payment; E-Safety; Safeguarding; network management; data analytics; MIS; and classroom learning materials.

In addition to SaaS offerings, we can provide:

- Fully managed services
- Helpdesk, support and training
- Infrastructure as a Service (IaaS) – network infrastructure, wifi etc.
- Identity Management as a Service (IDaaS) – Single Sign-on and management of email accounts
- Desktop as a Service (DaaS) – virtual desktop for anytime, anywhere, any device access to resources, data and applications
- Device as a Service (DVaaS) - PCs, laptops, notebooks, Chromebooks etc. including parental pay options where the student gets to own the device after two years; and reconditioned and refurbished devices for further savings
- Platform as a Service (PaaS) – hosted computing and hybrid solutions

The advantages of the 'pay-as-you-go' approach include being able to better budget, spread cash flow, convert CAPEX to OPEX and avoid up-front costs. It also helps schools avoid the 'feast and famine' approach to IT funding which has been and still is so prevalent across the sector. It enables schools to access always up-to-date equipment and software. This has two big advantages: continuous service, rather than only replacing or upgrading equipment when it fails and can no longer be repaired; and constantly up-to-date security with the latest software patches.

Financing may be required in a number of areas please detail what agreement or provision you can make in this area to address this requirement.

The disadvantages can include: potentially large bills for consumption of hosted compute (e.g. Azure or AWS), though this risk is easily mitigated by placing caps on spending; suppliers 'switching off' services if schools don't pay the bills on time, leading to outages and potential loss of data; and the need to ensure that data is stored in the UK (currently a big problem for UK Universities where research teams regularly buy hosted solutions without checking).

Part of the Think IT service is an option for schools to take advantage of our Readiness assessments. This includes a complete financial investigation into current and anticipated IT expenditure to ensure every penny spent is being spent wisely. Our reports regularly identify the scope for significant savings (in one MAT we advised that harmonising their HR function with a central HR system could potentially save them over £1m a year in staff costs alone).

Where external funding is required, Think IT can offer traditional external operating lease style funding through our partner Syscap (now Wesleyan) who helped write the DfE guidance on leasing contracts for schools, or Room 12, another DfE approved supplier. Other leasing arrangements purely for equipment are available through Axis Leasing. Alternatively, some manufactures, specifically of high-end networking equipment and print devices, offer their own extended finance packages. Think IT can offer guidance and best advice on funding from experienced CIPFA-certified accountants.

### 3 - Networking (Carrier/WAN/Co-location/Hosting)

Please provide full details of your overall approach to the provision of wide area networking, networking equipment, carrier services, support, management and consultative services on a framework basis.

Do you have a standard discount level from recommended retail price, or a cost plus approach, or some other approach?

Please define your logistical arrangements and processes inclusive of delivery of equipment to site.

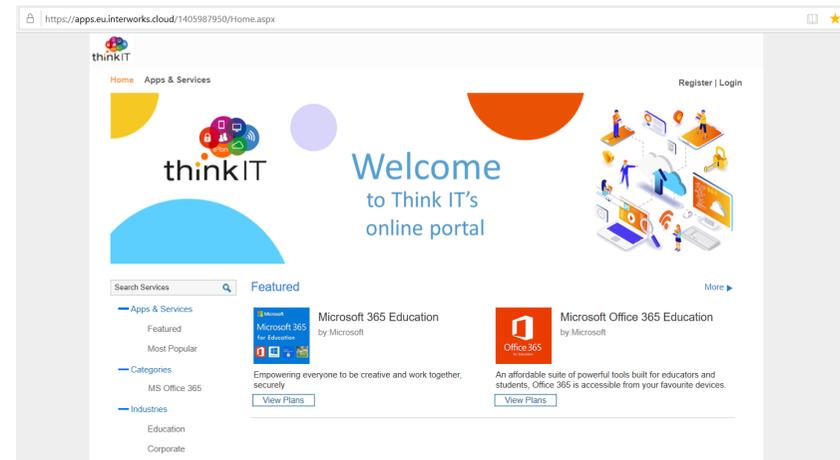
Supply partners we work with in this category include: E2BN, Cisco, ITGL, Riverbed, Ruckus, Wave9, Novus, Microsoft, Toranet, Ampito, CDW, Levett, FWD-IP and The ICT Service.

We provide a full range of WAN, networking, equipment, carrier services, support, management and consultancy services through the biggest and best suppliers. We have a range of the big multi-national manufacturers (e.g. Cisco, Xirrus, Ruckus) and local implementers who know the local schools and are trusted by the LAs (e.g. Levett, FWD-IP). Our preferred approach is for a customer to take a fully managed service so that we can control all the elements, but of course, we have customers who only want partial solutions, so we enable them to cherry-pick the solutions they want and need to suit their specific requirements. We use both large and small suppliers for consultancy services depending on the size and nature of the customer requirement.

We work with the manufacturers/vendors to secure nationally best pricing for equipment, solutions and services. These prices include our standard framework levy (1.5% for equipment; 5% for solutions; 10% for services). A key stipulation for partners wanting to join the framework is that even with the addition of the framework levy, customers must not be able to buy cheaper through any other route, including distribution channels, resellers or direct with the vendors themselves.

We believe in giving customers choice and flexibility. We have multiple routes for them to buy, including telephone, email and an on-line portal (this can be branded for our Local Authority and MAT schools).

## EXAMPLE – Think IT Online Portal



<https://apps.eu.interworks.cloud/1405987950/Home.aspx>

When a customer contacts us (could be a general enquiry, a request for one or more quotes, or to place a specific order) they are assigned to one of the sales and administration team who is responsible for handling the enquiry. Our process is to call the customer to confirm the details and where necessary, gather further information. We call rather than email for three key reasons: 1) it shows we are being responsive; 2) it enables us to build a rapport with the customer; and 3) to ensure we have the details correct and fully understand the requirement and customer expectations. It also allows us to add value by asking about things they may not have considered, such as interoperability of systems, or installation and setup charges.

If the requirement is simple (such as a single piece of equipment) the team member will contact one or more of our suppliers to get the best quotes, including information on availability, price, delivery and implementation. Where the requirement is complex (for example, requiring integration or interoperability) the team member will contact multiple suppliers to discuss the implications and identify the best value sources. Once we have that information the team member will go back to the customer.

Once the customer is happy and wants to proceed, they are sent an electronic version of the framework Schedule 3 Order Form for e-signature. On receipt of the customer's signed order form we automatically send a sub-contract to the supplier based on their quote. The supplier then electronically accepts the sub-contract and fulfils the order.

Typically, the team member will track the order and keep the customer informed of progress. If it is a large or complex project, this task may be passed to the Project Manager to control communications. Wherever possible we aim for next-day delivery. We know that speed is often vital for our customers.

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### CASE STUDY – Cardinal Newman College

Cardinal Newman College is one of the top-performing Sixth Form Colleges in England. They wanted to procure and implement a new and complex networking solution in a very short timescale.

Working through Think IT they identified the solution and provider they wanted. Think It provided the due diligence and benchmarking of cost to ensure value for money. The Cisco-Meraki solution was implemented by Wave9, one of Think IT's preferred solution providers.

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What escalation or other management processes will be applied to any framework arrangements with E2BN in particular relation to connectivity?

Our three-stage management and escalation process is as follows:

1. All customer complaints and concerns are very important to us. When a complaint is raised (verbally, email, in writing) it is the responsibility of their regular point of contact person (e.g. administrator, sales team or project manager) to address it immediately. Where necessary, we work with the relevant supplier, raising helpdesk tickets so that issues can be rapidly and systematically resolved. Most of our suppliers have standard Service Level Agreements (SLAs) e.g. within 4 hours for business-critical issues; within 24 hours for issues affecting productivity; within 5 working days for non-critical issues etc.
2. If for any reason it can't be resolved at the first line, the issue falls outside of standard SLAs, or there is a wider concern or reputational risk, the issue is escalated to a line manager or Director. At this point, if it is deemed necessary, the issue will be raised with the CEO of E2BN
3. If the Director can't resolve the issue, it is raised to the Managing Director for immediate attention.

Regarding connectivity, customers are encouraged to contact the technical team at E2BN directly in the event of any connectivity issues. If for any reason the customer contacts us, we will immediately contact the technical team. E2BN procures connectivity through established companies that have industry standard and agreed SLAs in place for service or problem escalations. This includes raising tickets, requesting an estimated resolution time and regular updates for the customer. Where necessary, issues would be escalated to Think IT Directors and/or the E2BN CEO (see above).

What support services will be available to assist with any customer complaints, delivery time-scales or other queries throughout the sales/implementation processes? Please describe fully.

In addition to the process described above, the support services to assist with customer complaints include:

- Automated email updates on SLA tickets
- Direct access to second- and third-line support from suppliers where required
- Site visits and remote support to resolve issues
- For larger implementations requiring project management, regular progress and issues meeting involving update reports with key stakeholders
- For sales process queries, regular daily updates for customer on progress by suppliers
- Senior level Think IT intervention with the relevant suppliers (at management and Director level) to escalate issues and complaints and ensure they are managed through to resolution, ultimately with the threat of removal from the framework if they do not perform well

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#### CASE STUDY – National Museum of Wales

The National Museum of Wales selected Think IT as its procurement route for 80 smartphones to be delivered in two shipments. One shipment went 'missing' and Think IT acted on behalf of the customer to coordinate and investigation with the reseller, distributor and courier.

The investigation showed the shipment had been stolen in transit and Think IT acted quickly to get replacement devices to the customer as fast as possible.

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What project management resources and methodology would you propose to use during any project activity provided as part of the framework?

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### CASE STUDY – Cotmanhay Infant School

Cotmanhay Infant School bought 2 SMART interactive panels through the Think IT framework. Our approved supplier CBC sourced and installed the boards under direction from staff at the school. Following installation however, the school complained that the boards were hung too low on the wall and weren't "fit for purpose".

Think IT contacted CBC on behalf of the school and arranged for them to go back and move the boards to the desired height. Even though the supplier took direction from staff the first time and could have argued that it was a chargeable event because the school changed it's mind, they fixed the issue free of charge.

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Think IT's sister company, WCL, is a recognised expert in Project, Programme and Change Management, especially in the Education Sector. Think IT Directors have decades of project experience in DfE, Central Government, Local Authorities, Schools, MATs, Colleges and Universities.

We have an associate base of over 120 experienced project managers we can call on, enabling us to ensure we have the right people for any given project. All of our project work is overseen by our Director Nigel Hall, our most experienced project manager.

The methodology for each project will depend on the scope, scale and complexity of that project, and perhaps most importantly, the culture of the client organisation we are working with. Our experience, and common sense, shows that one approach does not work for all. We select the most appropriate elements from industry standard methodologies such as PRINCE2, Managing Successful Programmes (MSP), Management of Risk (MOR); Association for Project Management Book of Knowledge (BOK) and the Project Management Institute's

PMBOK. Many of our project managers have formal accreditations in these methodologies.

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*"It was important to me that I had a group of very professional people who understood what I needed to achieve and the timescales I needed to achieve it in"*

**Alan Johnson, Aldercar High School**

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The minimum standard elements that we would expect to see on all client delivery projects include:

- Project Initiation Document (PID) setting out the high-level scope, deliverables, resource requirements and benefits
- Project Plan showing timelines, milestones, activities, resources and interdependencies
- Issues Log showing current problems, severity and status, responsible owner, actions and resolution dates
- Risk Log identifying potential risks, likelihood and impact ratings, responsible owners and mitigating actions.

Where more detailed planning is required, we might use tools such as:

- Stakeholder mapping and stakeholder management arrangements
- Communication and social media plans
- Document and release controls
- Detailed Governance arrangements
- Decision logs
- Deliverable quality assurance and sign-off procedures.

For product development projects, many of the suppliers use the Agile methodology for rapid design, development, testing and deployment.

For each of the consultative services identified, please detail the standards and processes that will be applied to their operation and delivery.

What specific products do you propose initially to meet requirements for WAN Wireless Networking, both licensed and unlicensed, within the framework arrangements?

The main consultative service we provide in relation to Networking, is the technical part of the Readiness Assessment. We apply industry leading standards, including adherence to DfE guidance on network attributes such as reliability, scalability, security, latency, and the ability to assign a quality of service to various types of network traffic. We use suppliers whose staff have industry recognised qualifications and education experience. We also require our suppliers to conform to other related sector standards, such as supplying staff who have been Disclosure and Barring Service (DBS) checked.

Our process involves sending each school a questionnaire to gather as much information as possible in advance to save the schools time and money. Once on site, the engineers review the information, test for problems and make recommendations for improvements or upgrades required. Those recommendations include ongoing service and support as often schools don't have the requisite skills in-house to support modern network solutions. Nor is it often necessary that a school has those expensive resources in-house as the bulk of the monitoring and support can be done remotely at a fraction of the cost.

In line with ISO9001 good practice regarding quality management, we always appoint a Quality Assurance (QA) manager to every consultative project. The QA is always independent of the staff carrying out the work, and will QA-check all outputs before issue. For larger jobs and/or significant customers we would also appoint a separate independent customer account manager who can act as customer escalation route for issues and complaints.

We propose to provide products from the following manufacturers:

- [Ruckus](#)
- [Riverbed](#)
- [Cisco-Meraki](#)

Please describe the warranty offered for all network hardware items referred to.

We estimate that there are over 1,000 products and service variations from these manufacturers, so to list them all would be inappropriate in this tender document. To save time and space, each manufacturer listed above has been hyper-linked to their products page. Products and services available include:

- Switches
- Access Points
- Routers
- Network Storage
- Networking software
- Network management services
- Network Automation
- Analytics software
- Mobile networking
- Transceivers.

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*"We used Think IT to procure a full site-wide replacement for our network switches. Knowing exactly what we were after using their framework took all the headaches out of purchasing, saving us the time and effort of running a full tender. Everything from ordering to paying the invoice was simple and straight forward with Think.IT keeping us up to date on progress throughout."*

**Matt Atkinson, IT Director, Northworthy Trust**

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Warranties vary on the type of product and by each manufacturer. The 'standard' industry warranty is 12 months, though a number offer extended three- and five-year options. Some offer 'lifetime' warranties' which cover a product for as long as it is supported by the manufacturer and the product stays with the initial registered user (often the case in education).

Also, what level of warranty will be provided to ensure that items offered through framework arrangements will be fully supported by the manufacturer (Please include information about 'source of origin' for products).

Please identify and describe your proposal for all required operating and other system software required for any of the network hardware referred to, including provision of warranty, maintenance and support.

Please identify proposed costs for the maintenance and support of all network hardware and software referred to above, broken down into the various elements if necessary.

Also, at what point does the service becomes active (Proposed SLA/s to be included).

All products offered through the framework are guaranteed to be supported by the manufacturer. Given that we are either buying directly from the manufacturer, or through their appointed and approved reseller, equipment comes with documentation relating to the source of origin.

All the manufacturers we use provide operating and system software for all their products. We always recommend the relevant and up-to-date software. Each manufacturer provides warranties (see above). Maintenance and support are delivered through their distribution and reseller channels. Where we are dealing with manufacturers directly on a customer project, we get the manufacturer to appoint the reseller responsible for the maintenance and support. In that way, we ensure the manufacturer has a direct interest in the success of the project and there won't be any 'finger-pointing' if there are any problems on the job.

Identifying individual costs for the maintenance and support of the over 1,000 products and services mentioned above would be inappropriate in this ITT. In principle though, you are aware of our pricing approach, i.e. suppliers need to give us nationally best pricing, even including the framework fees. In that way we can control costs and ensure value for money. Illustration pricing is included in the Shopping Basket spreadsheet, but as an example: item 1.5.1 - Ruckus Wireless P300 Pair 901-P300-WW02 - £XXX, estimated £XXX install (2 days), no on-going cost, lifetime warranty, all prices excluding VAT, support to be provided by Ruckus nominated reseller.

The service typically becomes active at the point the customer signs for delivery or implementation. Some products require the input of a licence key to switch on the service. Our standard Service Level Agreement (SLA) and End User License Agreement documents are attached to the submission as appendices. In relation to networking, SLAs are specific to manufacturers and products and services, so there are too many to include here so please refer to example links below (other SLAs are available upon request):

Please provide details of spares holding policy for the services to be supplied.

How would the maintenance and support service, both for new and existing equipment (some institutions may wish to procure support and maintenance on existing equipment), be provided?

Please describe in detail the provision of maintenance and support services including resources available within that service.

- <https://documentation.meraki.com/>
- <https://www.ruckusworks.co.uk/Ruckus-Supports.asp>

The spares policy is the responsibility of the appointed reseller. Courier and distribution networks are now so efficient that we know for many of our manufacturers products like Wireless Access Points can be delivered to any school in the country within 4 working hours.

We know this is currently a major perceived issue due to the ongoing uncertainties surrounding Brexit. We are working with our supply base to ensure that supplies of equipment and spares will not be interrupted if and when the UK leaves the EU.

We provide maintenance and support, both for new and existing equipment, through our supply partners. We have partners that cover the entire manufacturer range, and every part of the country. A school can request maintenance and support in the same way they request any other product or service, via email, telephone or our on-line portal. Depending on the circumstances, we may select a specific supplier. For example, in Cambridge, we know that our supply partner FWD-IP have extensive knowledge of Cambridgeshire schools, their typical infrastructure and the local 'ways of working'.

The maintenance and support services available include:

- Site surveys and recommendations
- On-site support, testing and emergency repairs
- Remote support
- Regular (termly, quarterly, annual) maintenance
- Security
- Network design
- Network build
- Consultancy support and advice
- IT Strategy Planning

<p>Network Cabling may be required, please describe the standards you adhere to and the resources available to undertake this.</p>	<p>Depending on the specific service, if there is an issue, the customer will log a call via telephone or email with either our, or a suppliers' helpdesk. Where possible, we will try and resolve any issue there and then on the phone, or via remote session. If the issue still isn't resolved at that point, it is escalated through the appropriate channels and further action taken as required. That can include an engineer being sent to site and or equipment being replaced.</p> <p>Network cabling design and installation is governed by a set of standards that specify wiring for data or voice communications using various kinds of cable, most commonly category 5e (CAT5e), category 6 (CAT6), and fibre optic cabling and modular connectors. All of our suppliers adhere to those standards and their engineers are trained and certified on all the relevant products and services.</p>
<p>Please indicate your ability to upgrade sensitive sites such as schools while the schools are open and teaching.</p>	<p>We ensure disruption to teaching and learning is kept to an absolute minimum by thoroughly surveying and planning each project before we begin. We liaise with the school to understand their crucial dates (e.g. when exams are taking place) so that teaching and learning is not affected by the works unless absolutely necessary. Where we have to deliver during teaching time we work with the school senior leadership team to ensure minimum disruption (e.g. no irritating drilling in lesson time, no workmen coming in and out of classrooms, no shouting to colleagues etc.) Obviously, we do as much work out of hours as possible, including weekends and holidays.</p> <p>We ask all suppliers to confirm that their engineers have a valid DBS certificate before going to a school.</p>
<p>Please describe your co-location provision in detail including costs.</p>	<p>Depending on the customer's requirements Think IT can provide co-location services from a number of providers. All offer a 99.99% SLA based in Tier III or Tier IV fully owned datacentres with 24x7 manned security and diverse connectivity and power solutions for resilience. Typical security and accreditation include: ISO 9001, 14001 and 27001; Security Trust and Assurance accreditation; and ITIL support. As an example of pricing, a 4Kw rack starts are around £Xk p.a.</p>

What level of security do your hosting centres offer?  
Please include any related Service Level Agreement for individual services within your tender response.

Please supply details of any Management Information (specifically on service delivery and financial controls) that will be made available to E2BN, and its authorised users, as part of the operational responsibility on network services provided under the framework.

What carrier services are you proposing to offer as framework provision and how is this costed?

We offer hosting centres from a number of providers, but predominantly from Microsoft. They have UK based data centres that have been approved for Government and education use. Their security features are typical of all reputable providers and include: physical security, with 24x7x365 highly restricted access, CCTV, secure buildings, permanent on-site security, uninterruptable power supplies etc.; International Security standards such as ISO 27001; ITIL level support; Service standards such as SOC1 and SOC2; and data standards such as GDPR. Each hosting service (e.g. compute; networking; storage etc.) comes with its own SLA, for a sample please see the ones relating to Microsoft Azure at <https://azure.microsoft.com/en-us/support/legal/sla/>

Management Information of the purchase, delivery and implementation of network services can be made available to E2BN, including information on costings and financial controls. In section 2 above we confirmed our commitment to open book accounting. Please also refer to Appendix I for an example of the types of report we provide. Our approach to Management Information is "if you specify it, we'll share wherever is available".

In addition, details of Microsoft CSP subscriptions and Azure resource consumption could also be made available either via our portal or via regular management reports. As more offerings from our partners are added to the portal these details could be added also to enable views from various perspectives (i.e. by establishment; product etc).

Our approach has been to offer schools carrier services through the E2BN framework. As this is an EU tendered framework, prices are pre-tendered and regularly checked for value for money. Carrier services include: Point-to-Point circuits; Long Distance Ethernet Service - point to point; Unbundled Local Loop Services; Direct Internet Fibre-to-the-Cabinet based Services (BT Openreach FTTC); and Direct Internet Fibre-to-the-Exchange.

<p>Please indicate what access to other contractual arrangements you have whereby carrier service costs are aggregated.</p>	<p>Through several of our suppliers, such as Wave9 and Novus, we can access other contractual arrangements with the major carrier providers, and where appropriate these can be aggregated.</p>
<p>Please describe fully any benefits attributable to aggregation of such services.</p>	<p>The main benefits of carrier aggregation are: increased bandwidth proportionate to number of aggregated carriers and bandwidth per carrier, helping to achieve higher data rates. Other benefits include: better pricing to the customer because of volume purchasing; reduced purchasing costs and time savings for the customer because they don't need multiple quotes; and increased negotiation leverage with the provider on key points like implementation priorities and value-added services.</p>
<p>Please indicate what percentage of your current provision of carrier services meet or exceed their agreed and stated delivery dates.</p>	<p>Over 99% of our current provision meet or exceed their agreed and stated delivery dates.</p>
<p>Please detail your proposed pricing structure, including any breakpoints, and associated costs for network access bandwidth provision.</p>	<p>Example pricing structures for network access bandwidth provision are provided in the Tender Shopping Basket. Each provider has different pricing structures and are constantly being revised, with quotes often valid for only 30 days. That being the case, we recommend review at the time of requirement. More detail can be provided on request.</p>
<p>Please describe your proposed solution for the provision of optional resilient circuits.</p>	<p>Our proposed solutions for optional resilient circuits include: second fibre route to the same building entry point, with automatic fail-over if the primary line goes down; fibre to a different building entry point; microwave (line of sight) links; and 4G and 5G.</p>
<p>Detail you approach to breaks in service provision e.g. service credits.</p>	<p>All suppliers have their own standard SLAs and approaches to breaks in service provision and any relevant regime for service credits. These will be specified by suppliers as part of the SLAs they agree with the customer. Where relevant we will act on the customer's behalf by encouraging them to think about and include such clauses in the specifications they issue. We will also broker any agreements required where the customer and the supplier terms differ.</p>

Internet provision, please confirm that any ISPs on the framework are/will be members of the IWF - Internet Watch Foundation.

Detail the range of suppliers you can provide through the framework to offer choice.

Internet Filtering is a requirement, especially within Education, and any products offered should be able to dynamically filter both URLs and Content of the web page (both HTTP & HTTPS, Provision of flexible filtering profiles that are appropriate to the user, real time list updates, search filtering, file extension blocking and anti malware, authenticated access, UK support base, BYOD and mobile device filtering, transparent filtering as well as flexible and detailed reporting by the user. Please describe in detail how you will achieve this.

We can confirm that our ISPs are members of IWF and we will ensure that any new ISPs joining the Framework will also be IWF members.

Suppliers we provide through the framework include E2BN, Cisco, ITGL, NowComm, Ruckus, Wave9, Novus, Microsoft, Toranet, Ampito, CDW, Levett, FWD-IP and The ICT Service.

There are several products available through our supplier base that provide education level filtering. The principle product we offer is Protex, which provides the following features through a simple to use user interface:

- Dynamic URL and Content Filtering, including the real-time checking of all content on a web page for both http and https
- Flexible filtering profiles for different users and scheduling for different times and days
- Real-time updates to lists for instant filtering
- File type checking and blocking
- Blocking of known malware sites
- Authenticated access, including filtering by user name and AD group membership
- Free UK-based support with a managed service as standard and telephone and email support
- Guest filtering for BYOD and mobile devices including iOS, Android and Chromebooks
- Transparent filtering, including checking and blocking inappropriate searched across all search engines
- Flexible and detailed user reporting, for example daily or weekly "Top 100" web use reporting.

Unlike other products on the market, Protex was designed specifically for schools by education experts.

Other products with internet filtering capabilities that can be provided by suppliers include NetSupport, Smoothwall, Lightspeed and Sophos.

#### 4 - ICT Equipment, LAN infrastructure & hardware support and maintenance; office equipment, support and installation

Detail the range of LAN infrastructure, hardware and wireless devices and associated equipment you are able to provide and explain how you will ensure optimum price discount while maintaining good support and maintenance. (note: pricing examples to be included in the separate 'shopping basket')

Supply partners we work with in this category include: Microsoft, Dell, Cisco/CBC Computers, Novus, IDNS, Epson, Fujitsu, Kyocera, Ricoh, Intel, ITGL, Google, Microsoft, NowComm, Smart, Promethean, Haptic, Crystal and The ICT Service.

The range of LAN infrastructure, hardware, wireless devices and associated equipment we are able to provide includes (but is not limited to):

- Cabling
- Hubs
- Switches
- Access Points
- Routers
- Network Storage
- Networking software
- Network management services
- Network Automation
- End user devices.

We work with the manufacturers/vendors to secure nationally best pricing for equipment, solutions and services which include the standard framework levy (1.5% for equipment; 5% for solutions; 10% for services). A key stipulation for partners wanting to join the framework is that even with the inclusion of the framework levy, customers must not be able to buy cheaper through any other route, including distribution channels, resellers or direct with the vendors themselves.

We maintain excellent support and maintenance, both for new and existing equipment, through our supply partners. We use suppliers that cover the entire manufacturer range, and every part of the country, and whose staff have industry recognised qualifications and education experience. Where we are dealing with manufacturers directly on a customer project, we get the manufacturer to appoint the reseller responsible for the maintenance and support. In that way, we ensure the manufacturer has a direct interest in the success of the project and there won't be any 'finger-pointing' if there are any problems on the job.

What options will be available to institutions to deliver their LAN requirements and how will you manage expectations?

The options available to institutions depend on whether they know what it is that they want and need. If they know, they can buy direct, taking responsibility for the specification, implementation, support and maintenance. If they are not sure what they want and need, we can help them work it out through our Readiness Assessment (RA) process. In the RA process we use expert engineers to review the school network infrastructure, and where necessary make recommendations for fixes, improvements or upgrades. As we are independent, we can make recommendations on the best solutions from across the full range of our vendors.

Where the customer does not want to pay for a full RA we can also commission one of the framework suppliers to undertake a site survey. Often these will be done free of charge if the relevant supplier has already been selected to provide any required equipment and services.

In terms of managing expectations, we work closely with customers through the sales and RA processes. Where there are complex projects to be completed, the assigned project manager is responsible for developing, maintaining and reporting on project plans, including working with the vendors on implementation issues if they arise. Constant communication is the key to expectation management. If required, we can also run a 'competitive dialogue'-style mini-tendering process to help a customer develop a specification for what they need.

How will you work with institutions to manage the delivery of infrastructure to meet the strategic outcomes for customers' educational, financial and commercial needs?

We believe that schools make better strategic choices when they focus on the outcomes they want to achieve, rather than the technology available. We work closely with institutions to understand the outcomes they want for their learners, teachers, staff and other stakeholders like trustees, governors and parents.

We do that through our Readiness Assessment which looks at three areas:

- 1) Visioning session
- 2) Technical audit
- 3) Financial audit.

Where working in sensitive, and live, situations such as schools, how are you able to manage an infrastructure installation while minimising the negative impact that accompanies such upheaval?

The visioning session is specifically designed for the Senior Leadership Team to look at the Outcomes the team want for students, teachers, parents and governors, and the role the new cloud-based solutions and new ICT developments can play in delivering those outcomes.

The technical audit looks at the infrastructure the schools has and will need to implement new solutions. The financial audit looks at the total cost of ownership of the current IT estate, and the costs and savings of implementing recommendations.

All of that information is combined into a report for the SLT and governors. If the school decide to go ahead, in order to work with the institutions to manage the delivery of infrastructure to meet the strategic outcomes, we will appoint a project manager. Their role is to work with the school and suppliers to create, implement, monitor and manage a plan that meets the school's specific strategic outcomes.

If a school wants to buy infrastructure without going through the RA process, we will supply them with what they ask for, but they are responsible for the correct specification. Even in these circumstances we try and ensure that a customer has thought about everything they need to consider. For example, some customers may not have considered the costs of integration and interoperability of solutions, or installation and setup when buying individual pieces of equipment.

We do all the obvious things like trying to schedule work outside of school hours or during holidays. Where that can't be avoided, for example, on a new school build or refurbishment (like we did with Aldercar High School) we work closely with the SLT and building contractors to schedule works to minimise disruption. Examples include: scheduling the move of IT kit from an old classroom to temporary accommodation to enable teachers to continue teaching; or avoiding work that disrupts the learning of students close to or during exams. High touch communication with all parties is the key to making this work.

What wireless product options can you provide?

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### CASE STUDY – Aldercar High School

*After a successful phase 1 implementation, Aldercar High School returned to Think IT to help design and procure the technology for phase 2 of their school rebuilding project.*

*Think IT attended project kick-off meetings, liaising with staff and building contractors to ensure the school got the best possible technology solution within the bounds of their budget and the build programme. Engaging trusted partners, Think IT oversaw a successful implementation and training programme with no negative impacts on teaching and learning.*

*“It was important to me to work with a company that could deliver my vision and not force on me their beliefs”*

**Alan Johnson, Headteacher**

*Aldercar continue to engage with Think IT on a regular basis as their IT partner and have in 2019 signed a new three-year managed service contract through the framework.*

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Wireless products options include (but are not limited to):

- Switches
- Access Points
- Routers
- Network Storage
- Networking software
- Network management services
- Network Automation
- Analytics software
- Mobile networking
- Transceivers.

What experience have you in the delivery, management and maintenance of wireless networks?

These products are available from a range of manufacturers, including: Brocade; Xirrus; Ruckus; and Cisco Meraki. We can provide the full range of scalable wireless solutions, from a small school requiring a small 1 or 2 room system to an entire university campus. We can offer physical controller-based systems if required with redundancy or cloud provided virtual appliances. These options provide secure, reliable access to applications and services.

Other than customers who just buy equipment (PC's, laptops, printers etc.), practically every other solution requires an element of wireless networking because most modern products and services are delivered online or remotely, all of which requires good wireless infrastructure. Our suppliers can provide the full range of products and services, from one wireless access point for a Primary school, for a fully managed 24x7 service for a University. Each solution is bespoke to the customer because it takes into account the site circumstances, existing network features/brand and any client preferences. We have key relationships with several vendors which enable us to give the customer a wide range of product choice.

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#### CASE STUDY – Cardinal Newman College

*Cardinal Newman is a large and successful FE College in Preston. They contracted Think IT to survey, design and implement a network solution for their main building. Specifying and implementing a Meraki-based solution, the project was successfully delivered on time and on budget by our supplier Wave9. The contract was worth in excess of £75,000 and included remote support and on-site maintenance for two years.*

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Can you provide laptops, desktops, tablets, phones, photocopiers and other equipment? Please provide examples of the ranges that can be delivered.

Yes, we can provide all IT related equipment, including laptops, desktops, tablets, phones, photocopiers and other equipment. We use a range of different manufacturers, distributors and resellers (see the rest of this section for a sample list of suppliers that we work with).

The lists below show a sample range of equipment manufacturers we can supply. All the up-to-date ranges, product lines and specifications are available from the relevant manufacturers' websites.

#### Laptops

- Lenovo
- Fujitsu
- HP
- Dell
- Acer
- Toshiba

#### Desktops

- Lenovo
- Fujitsu
- HP
- Toshiba
- Dell
- Viglen

#### Tablets

- Apple
- Asus
- Acer
- Linx
- Samsung
- Lenovo

What range of printers (including 3D); plotters; photocopiers can you provide...

#### Phones

- Apple
- Samsung
- Huawei
- Google
- Microsoft
- Siemens

#### Servers

- Lenovo
- Fujitsu
- HP
- Toshiba
- Dell
- Lenovo

We can supply the full range of Printers/Photocopiers/Plotters/Multi-Function Devices from manufacturers including but not limited to:

- Epson
- Ricoh
- Canon
- Konica Minolta

While these manufacturers can supply 3D printers, schools most frequently buy from lower-cost providers such as:

- Prusa
- Snapmaker
- Ender
- Makerbot
- Ultimaker

Full descriptions of product ranges, models and specifications are available from the relevant manufacturers' websites.

...and how will you provide choice for the customer, support and where necessary financing that meets Government and, in schools, DfE guidelines on finance and leasing arrangements?

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## CASE STUDY – Derbyshire County Council

*Derbyshire County Council IT Support Service and its school's customer base have accessed the services and products available through the Think IT framework for over five years.*

*In almost all cases, the suppliers on the framework have exceeded expectations on price and service quality time after time. Last year they spent over £600,000 on equipment, including PCs, laptops, servers, interactive AV and other equipment from a wide range of suppliers including SMART, Fujitsu and HP.*

*“Our partnership with the framework has not only been hugely positive for both our IT service and schools. It's also been beneficial for the Council as we've secured additional revenue by providing the framework with a range of services outside the Authorities normal geographically boundaries.*

*“Engagement with the framework and the supply chain of framework suppliers has been a positive one. Where issues have arisen, though few and far between, suppliers have responded with speed to remedy the issues. Many of the suppliers on the framework have exceeded expectations on price and service quality time after time.”*

**Paul Livingstone, IT Support Service for Schools Manager,  
Derbyshire County Council**

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We provide choice for the customer by having a wide range of options from several of the main education suppliers. Customers can specify what they want, and we can provide three (or more) quotes. If they want support, or help in choosing, one of team can help them. Where applicable we go out to the suppliers for technical queries to help the customer.

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### CASE STUDY – Romero Academy Trust

*Romero Academy Trust has eight schools in the Coventry area. They approached the framework with a significant infrastructure requirement across all their schools.*

*Think IT devised an innovative tendering approach. Instead of engaging resellers as is standard practice, Think IT invited five manufacturers to present their products and bid for the contract. This guaranteed support in the both design and price from the manufacturer, and, just as importantly, their support to their chosen reseller in delivering the solution.*

*The winning manufacturer was Riverbed and their reseller was framework approved supplier CBC. Together they delivered a successful and heavily discounted solution to the trust.*

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We have a range of financial instruments available depending on the customer requirement. Where a customer wants a simple operating lease contract for kit (e.g. photocopiers) we can provide leasing through our suppliers Axis. Where the purchase is larger and more complex (a mixture of kit, installation, software and consultancy) then we would recommend using a supplier like Room 12 (ACF) who are a recommended DfE supplier in their own right, or Syscap or who helped the DfE write the leasing guidance for schools.

In all cases we are careful to ensure that financing arrangements meet published Government and DfE guidelines. We also offer advice and guidance to customers on the correct application of such guidelines as many are confused about what is and is not permissible, or how to ensure best value.

What products can you provide to address IP telephony and VOIP solutions for institutions?

Describe the features and level of service associated with the telephony offerings and the typical savings that can be achieved.

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### CASE STUDY – Penistone Grammer School

*Penistone Grammar School approached Think IT to direct award an audio-visual contract to one of our approved framework suppliers. The supplier had identified an operating lease provider for the school, however, during Think IT's standard due diligence process, it was found that the original lease was not providing the school with best value.*

*Think IT, working with one of our preferred suppliers, were able to provide a more economical operating lease and have saved the school more than £10,000 over the lifetime of the contract.*

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Some manufacturers can provide financing options, and some supply partners will buy kit to install and charge schools on a pay-as-you go basis to ease budget issues (for example, Novus did this in The Swinton High School with the network infrastructure for a new extension).

Microsoft now bundle Skype for Business, PTSN Conferencing and Cloud PBX as part of their 365 A5 bundle for education. This will be an attractive telephony option for institutions that are going to buy A5 anyway because they want the other productivity and security features – the 'free' telephony will be an added bonus. Other hosted telephony solutions are available through other suppliers, such as Hello Telecom who have developed the award-winning telephony solution Contrex.

Features can include: free handsets; free calls; business continuity; keep your existing numbers; voicemail (including sending messages to email); and call recording. Levels of service are typically high at over 99.8% availability or higher as all our providers use major data centres such as Microsoft Azure. Some provide 24x7 helpdesk support. Savings of between 30% and 70% over traditional telephone providers can routinely be achieved.

With many mobile devices there is a need for mobile device management - MDM. Please detail what products and service you can provide to address this requirement.

We provide a number of products and services for MDM, the primary two being Microsoft Intune and Mobile Guardian. Microsoft Intune is part of the Microsoft Education 365 offering, but can be purchased separately as a stand-alone solution. It covers all types of device, including Windows, Android and iOS. It enables the control of devices, including enrolment, configuration, compliance, management of apps, access, users and groups, all through one central interface.

Mobile Guardian has all of those capabilities, but comes with the added feature of a geo-fence option whereby as soon as a tagged device crosses the GPS-set boundary, selected features are enabled (e.g. switching to a filtered network when coming into school) or disabled (e.g. locked down if leaving the school premises).

Other MDM solutions we can offer through partners include Lightspeed, Senso, NetSupport and Meraki. All the solutions have powerful features that can start to make Bring Your Own Device (BYOD) a reality for schools.

What Audio Visual devices and or services can you provide?

Through our suppliers we provide the widest possible range of AV devices, including (but not limited to): projectors (wall mounted, roof mounted, short throw, touch interactive); interactive screens; interactive whiteboards; device projection solutions; TV screens; and digital signage. Services we can provide include installation, maintenance, on-site and remote support, and training.

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### CASE STUDY – LEAD Academy Trust

LEAD Academy Trust have utilised the Think IT framework every year for the past three years to procure large audio-visual implementations during the summer holidays. This includes interactive boards from several different manufacturers to meet the preferences of individual schools.

Think IT leverage relationships with manufacturers and resellers in order to ensure best value and timely delivery of the projects.

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We also provide audit and consultancy services to advise schools on the best solutions to fit their unique circumstances. Manufacturers we can supply include:

- SMART
- Promethean
- Clevertouch
- C-Touch
- Epson
- iBoard

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### CASE STUDY – Ripley Junior School

*"After a hectic first day of our new academic year Think IT rushed to the aid of a broken classroom projector. Think IT ordered, delivered and installed a new projector in less than 24 hours. Fantastic service. Thank you."*

**Angela Archer, Business Manager, Ripley Junior School**

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What video conferencing solutions can you provision?

Microsoft now bundle Skype for Business and Skype Meeting Broadcast as part of their 365 A3 bundles. This will be an attractive video conferencing option for institutions that are going to buy A3 anyway because they want the other productivity and security features – the ‘free’ video conferencing will be an added bonus.

While it may not have all the ‘bells and whistles’ features of other video conferencing solutions, Google Hangouts has many of the most useful features, along with the added benefit of being free to schools.

Other solutions available through the framework include the AVer ClassHD which offers education establishments a cost-effective, all in one HD video conferencing system.

CCTV is an increasingly valuable asset especially in the area of security for many institutions. Describe what products and supporting service you can provide.

Access control systems are required by many public sector bodies and not least schools, please describe your experience and options to provide these services.

CCTV is an increasingly important solution for schools, and we offer a number of solutions such as Dynamic CCTV. The safeguarding capabilities of such systems are becoming more and more intelligent. For example, the ability to configure a trigger on an item of clothing that when caught on camera, the system delivers a notification to the administrators. To make the most out of the system, we can deliver an extensive training programme to ensure the equipment is used to its full potential.

Access control is an important feature for many organisations and is used for more than just physical access to buildings, it can also be applied to digital assets requiring management and control. One of our suppliers, BioStore, have an integrated Access Control solution that defines access permissions and monitoring across: building access, including visitor control; asset protection systems, such as lockers for laptops; computer login; and print and copy management. Access can be controlled by a number of interfaces, including identity card or biometric fingerprint reader. Middleton Technical School in Manchester use identity cards to manage print for staff and students across their fleet of 50 printers.

Cashless catering is required in many areas and specifically schools, what products can you provide?

Other solutions are coming onto the market include facial recognition and eye-scanners. The facial recognition software for people entering and leaving buildings was demoed by Mintclass, one of our partners, at BETT and will be available in schools this year. It will also be used to quickly take registers, and in emergencies for tracking pupils, for example in the event of a fire alarm.

We can provide a number of cashless catering and related payment systems, including ParentPay and FasTrak from BioStore. FasTrak's cashless catering solution combines features such as in-class pre-ordering, free school meal management, dinner money management and warning and alert reporting for schools and parents. They also provide a cashless vending solution that can be accessed by ID card or biometric reader linked to a user's on-line account. This is an area that seems to be attracting new providers, so we will continue to scan the marketplace for new and innovative solutions.

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#### CASE STUDY – Star Academies Trust

Star Academies Trust approached Think IT as an alternative route to market for their BioStore Cashless Catering solution. They had grown frustrated with their current framework route and were looking to save both time and money by using Think IT.

BioStore have been on the Think IT framework from the start and have an excellent working relationship. That meant ensured a smooth and rapid smooth process for the Trust. In addition, we secured a further discount, over and above the price the trust was paying under the previous framework.

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Increasingly the management and improvement in efficiency with energy use of electricity, gas and water is vital. What products and services can you provide and how else can you assist in supporting organisations 'Green' agenda?

What other office and/ICT products and/or services can you provide in these areas?

ICT consumes electricity, so making savings on power consumption is important. We promote our serverless school solution (as implemented in The Beeches Primary and the Peterborough PRS) which cuts electricity costs. One of our suppliers is Bright Spark Energy which implements solar panel solutions for schools and MATs, saving them money on their electricity bills. Using funding arrangements (in some cases sponsored by DfE) these installations can be completed with no up-front capital, and a number create a net surplus within the first year.

We also have suppliers like NetSupport and Senso that provide power management tools that can be set to power devices off when not in use or out off hours, avoiding devices being left on overnight, or even longer. These solutions also have print management tools which enforce printing quotas or stop unnecessary printing, saving money on paper, energy and ink.

Even where schools decide not to implement such solutions, as part of our Readiness Assessment survey process we routinely suggest 'simple' fixes (like plugging laptop charging trolleys in via timer switches) to save on electricity and prolong battery life as part of energy (and money) saving recommendations.

Many of the equipment manufacturers have some very environmentally friendly products. For example: Epson has a range of inkjet printers that they claim are three times faster, 96% more energy efficient and produce 92% less CO<sub>2</sub> than traditional laser printers; many also have refillable ink tanks that totally avoid having to buy and dispose of expensive and polluting plastic print cartridges; and thin-client devices from Fujitsu, HP and others can reputedly save up to 90% of the energy of traditional PCs.

Other products and services we can provide include: finance and HR solutions; messaging and alerting solutions; on-line learning and educational content; 1<sup>st</sup> and 2<sup>nd</sup> line support, either remotely or on-site; print management solutions; hosted back up; strategic consultancy, including reviews of all aspects of education delivery; support for IT in new buildings and refurbishments; alumni services for schools and colleges; and staff recruitment services, including in-house IT support staff.

How will you present a 'pay-as-you-go' service to deliver any, or all, of the above?

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### Case Study – Star Academies Trust

Manchester Health Academy were recommended to use Think IT through the DfE's buying hub initiative. They had an urgent onsite support requirement because their Network Manager had given one months' notice.

They urgently needed to secure on-site support, but a tender process would have taken too long. Instead they asked Think IT for a best value recommendation procured via direct award.

After assessing the customer's requirements, Think IT recommended Red Arrow Consultancy who were able to offer a solution that went above and beyond the needs of the Academy within budget. This included working on-site unpaid whilst the current Network Manager was still in post to ensure a detailed hand-over was carried out, leading to a successful transition.

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Our approach is that we need to be as flexible as possible for schools. We present 'pay-as-you-go' as an option to our clients for everything apart from small equipment sales (if they're buying one laptop, they're unlikely to need a funding option). For everything else, so far, we have always managed to find a way to make it work for our customers. We know there are limits on the amount of software, implementation and training that can be included in operating lease arrangements, but in general our suppliers are happy to work with pay-as-you-go options because it provides a guaranteed and predictable revenue stream.

For our customers, we know that DfE is looking to be more flexible on how the switch from CAPEX to OPEX is accounted for in education, but that will happen because it makes financial sense for schools. We also recognise that some schools have capital monies they can use, as well as existing reserves, grants and other sources of income. We always look to accommodate any legitimate payment options requested by the school.

## 5 - Consultancy, Audit & Change Management

There is a need to recognise and address the issues surrounding Change Management, and its magnitude, in implementing new ways of working, especially in the Education market.

Change management shall be pervasive throughout the vendor's proposal especially, but not exclusively, in components such as: Legacy systems, Installation & Configuration, Support & Maintenance, Management, Continuing Professional Development, Documentation, Quality Assurance, Interoperability and elsewhere as appropriate.

What is your companies experience of, and approach to, Change Management and how do you propose to deliver it?

We agree. There is a solid argument for saying that Change Management is THE biggest issue in education IT. We often say to our customers that we can sell them the best IT system in the world, but it will be a waste of money if their people don't, won't or can't use it. Human beings are often resistant to change, especially where they fear the unknown or losing their jobs. And when high profile IT projects have failed in the past, one of the most common reasons is that the change has not been effectively managed. The best Change Management is sensitive to the context and the situation. It requires clear and continuous communication to win over hearts and minds.

Think IT's sister company, WCL was created as a Change Management company. It is therefore built into our DNA and culture. The strapline of WCL's logo is "making change happen" and our personnel have extensive experience of successful change programmes in Central Government, Local Government, Academy Chains, Multi-Academy Trusts, FE Colleges and individual schools.

If you're doing anything with the components listed in the question, by definition, change is involved. And if that change is not effectively planned and managed, you end up with unintended consequences. This occurs for any number of reasons: people inadvertently or deliberately misinterpreting information, intent or instructions; not understanding background or culture; not being aware of other organisational drivers such as promotions or politics; not understanding personal motivations such as fear or greed. We therefore build our Change Management approach into every aspect of our work, not just for customers, but internally and with our partners like E2BN.

The phrase 'Change Management' can have different interpretations depending on the context, and the individuals and schools in question. In relation to this ITT we will consider two interpretations: the first in relation to managing the change to people, policies and working practices, including defining outcomes and creating Change Programmes to deliver those outcomes; the second interpretation is in relation to changing of software or hardware, and is often referred to as 'Change Control'.

## Change Management

Our approach to Change Management focuses on helping the school to achieve the outcomes it wants for students, teachers, parents and governors, ensuring that the service is fit for purpose, affordable and new ways of working are embedded in the school's working practices. The service is made up of four component parts:

1. Before a school buys any full-service options, we offer to conduct a Readiness Assessment (RA). This reviews the school's current infrastructure, current total ICT related spending and runs a Vision workshop with the Senior Leadership Team (SLT) on the outcomes the SLT want for their school and how they see technology supporting those outcomes. The output from the RA is a recommendations report to the Governing body enabling them to make a well-informed go/no-go decision. If necessary, we can support the school in presenting that report and making the case to the governing or trustee body, something we have done on numerous occasions.
2. Once the school buys the service, we initiate a Change Programme of three workshops with the school from the outset:
  - a. Implementation planning – who needs to do what by when to successfully implement the solution;
  - b. Communications Planning – Who are the key stakeholders and how do we engage them successfully; and
  - c. Change Management – What are the new working practices, how do we embed them, identifying and training change champions in the school staff, setting up peer-to-peer learning and identifying the barriers to be overcome
3. Implementation Project Management – overseeing and managing the implementation of the solution, liaising with partners, resolving issues and the first point of contact for the school. On very large implementations (for example if we are implementing a full-service solution across every school in a MAT) we may engage several project managers and/or appoint a separate change and/or programme-level manager

4. An annual review with the SLT each year for the lifetime of the contract on the latest developments in technology, teaching and learning, and what they want to achieve in the next year.

In general, to deliver change you must be able to tell the change story. To do that, you need to answer the following five (simple) questions:

1. What are we doing?
2. Why are we doing it now?
3. What will we do to get there?
4. What will we achieve?
5. How will we know we've achieved it?

To answer them, your Senior Management Team need to understand and agree:

- The reason for change (the “burning platform”)
- The Vision of where they want to take the organisation
- The Outcomes and Benefits from the change (they especially need to be able to answer the inevitable “what’s in it for me?” question)
- The plan for getting there

The other important aspect of our approach is matching the right person to the job. We recognise that each school is unique, with a different culture, different challenges and different personalities. Matching the right Change Manager to the right environment can mean the difference between success and failure, so wherever possible we hand-pick the consultant with the relevant skills to deliver in each environment. All our consultants have training in facilitation, including handling different and difficult personality types.

All our suppliers have experience and expertise in identifying, delivering and managing change requirements. All of them design, develop and implement solutions in schools and colleges that require robust change management to be successful, including implementing new solutions, applications and tools that require new ways of working, training and education, and good stakeholder management and communication to overcome the blockers and issues that always come with changes to working practices.

Detail your proposed solution/s, with particular emphasis on who you will you engage with and over what period to transform, for example, a whole schools approach to ICT delivery and a radical change in teaching and learning, as well as the management and administration of the institution.

## Change Control

All our technical partners employ change control tools, processes and procedures to ensure that changes to their products and systems are introduced in a controlled and coordinated manner so as to minimise any impact on schools' day to day operations. These are linked to quality standards such as ISO 9001 and 27001.

The section above details our proposed solution to Change Management. Our approach to Consultancy and Audit is very similar in that we use the following principles:

- Highly consultative – by that we mean that we listen to what the customer is (and sometimes isn't) saying
- Sensitive – we know every organisation is political, has stars, blockers and other personality types such as luddites; we know we need to work with, through and sometimes around them
- High touch – we work with customers to create solutions, we don't "do" things to them or try and impose our ideas on them
- Highly communicative – we use a wide range of communication tools to ensure that we build lasting relationships and ensure engagement from across the organisation
- Honest – while being sensitive, we know it is important that we are candid with our customers, even when they don't always like the message

Who we engage with depends on the individual school. For schools this will include (but may not be limited to):

- The Head and senior leadership team to set the vision and direction and to take responsibility for the overall change
- A nominated school implementation manager who will oversee the implementation from the school's perspective and act as a day to day conduit for project management progress updates and communications
- Teaching staff to engage them in the change, training them in the new tools, applications and ways of teaching and learning, overcoming blockers and identifying change champions

- One or more in school 'change champions', usually drawn from the pool of teaching staff, who will lead and promote the changes, be the first recipients of any external training, and carry out peer to peer training with their colleagues
- School support staff to engage them in the change and train them in new tools
- Bursars, or other Finance related staff because they will have different budgets to set and control;
- Students, engaging them in new ways of learning, new applications and techniques, including what's acceptable and what's not with policies like Bring Your Own Device
- Governors so that they can understand the decisions being made about spending and the way the school operates;
- Network Managers who will have new tools at their disposal and to help them operate in new ways that are more focused on teaching and learning rather than admin tasks like changing passwords;
- Parents who can be given access to information on their children's work, attendance and attainment, and even given access to the learning tools so they can get new qualifications too;
- Other suppliers and stakeholders who work with the school, such as community groups, clubs and volunteering organisations.

For Local Authorities this could include:

- Senior officers such as the Chief or Deputy Chief Executive
- School Improvement Teams who are working directly with schools
- Technical staff responsible for network, hardware and software purchases.

With regard to the length of engagement, there are three components that need to be considered: Pre-Sales; Readiness Assessment; and Contract.

<p>What type of report/s would you provide the school and how do you envisage they would use it?</p>	<p>In the Pre-Sales process, we will be talking to potential clients about the service, their issues and what they might want to achieve. Our experience shows that the Pre-Sales process can be as short as six weeks, but as long as one year depending on the specific circumstances and challenges of the particular client. We would obviously engage with whoever was required from with the client and their advisors and stakeholders during that period to convince them of the benefits of the E2BN service.</p> <p>The Readiness Assessment (detailed above) period typically lasts anywhere between 1 to 3 months where a decision is required from a governing body. The audit and report can be done in a week, but typically takes a month with the longest lead time being getting a slot in the Head and Senior Leadership Team’s diaries to run the vision and outcomes workshop. There then is typically a delay before the next scheduled Governors meeting, hence the two- to three-month engagement period in this phase.</p> <p>In the Contract phase we would expect to be in contact with the Head, Senior Leadership Team and Network Manager over the lifetime of the contract. One of the features of our approach is to review the Vision and Outcomes on an annual basis with the school so that they can build on improvements in the school and take advantages of new tools, applications and services. We would normally expect the minimum contract length to be 3 years.</p> <p>One of the main reports we provide is the Readiness Assessment which looks at four key areas:</p> <ol style="list-style-type: none"> <li>1. Total cost of ICT ownership across the school estate, including cost of replacing hardware, training, consumables and energy costs, and identifying areas of potential savings</li> <li>2. The current state of infrastructure, including connectivity, networks, user devices (PCs, laptops, tablet etc.) and software licences, highlighting those areas that would need to be upgraded or replaced in order to take the Think IT service</li> </ol>
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3. The outputs from the Senior Leadership Team visioning workshop, looking at the Outcomes the team want for students, teachers, parents and governors, and the role the new cloud-based solutions and new ICT developments can play in delivering those outcomes (we always try to ensure the Outcomes relate to improved learning outcomes for pupils – one of the reasons they chime with non-tech-savvy governors)
4. Options, recommendations and proposed next steps (including a provisional implementation timetable) taking into consideration 1, 2 and 3 above.

The report is delivered as a Word document. A sample report is attached as an appendix. Our expectation is that this would be presented by the Head at the next Governors or Trustee’s meeting for approval to go ahead with implementing the solution. We have seen this done very effectively in many schools where governors who weren’t very technically savvy were able to understand and therefore engage in critical debate about the future direction of the school. The report also provides initial material for stakeholder communications, and acts as a baseline for monitoring progress.

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*“Thank you for the report. I found it compelling reading.”*

**Carole Reich, Headteacher, Norman C of E Primary School**

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During the implementation phase we would use a series of standard Project and Change Management reports, such as: weekly progress against plan; issues list (i.e. things that have gone wrong and need fixing); risk log (things that could go wrong and need to be avoided, managed or mitigated). It is very easy for schools to fall into the trap of seeing this kind of project management as unnecessary bureaucracy, but it is important to get this right to ensure delivery, especially on big projects with multiple suppliers and lots of moving parts.

What obstacles could occur and how would your company mitigate them?

We've described many of the obstacles above, but the major change risks some from active or passive resistance. Schools may need to deal with or even remove individuals who are actively trying to sabotage what the school is trying to achieve (and we have seen that in several cases). Other issues can include:

- Picking the wrong change champions (so will need to find new ones)
- Inadequate training of champions (for us to fix with our supply partners)
- Inadequate training of school staff by the change champions (for the school to fix, though we can highlight the issues and provide extra training ourselves at additional cost if required)
- Training in wrong order (result of other implementation issues) so it can't be used immediately afterwards (repeat training later)
- No follow up training so all done in one hit and people forget most of it (repeat sessions, tailored follow ups, drop ins).

Ultimately, we could do a lot here, but most schools won't want to pay for it because they are working on tight budgets. There are also providers on the current framework who specifically offer a range of self-directed, bite-size training solutions.

At what point would you engage with the school in terms of seniority and timing?

We always want to deal with the Head/CEO/Principal right from the start and throughout our engagements with a school. Successful change starts at the top. If you don't start at the top, in our experience, projects can stall, and do so for several reasons, including:

- Senior and middle managers waiting to see if the boss gives the project the official stamp of approval
- Lack of clarity about where the initiative fits into the overall priority list for the school
- Personal and inter-departmental in-fighting for power, influence and promotions.
- School IT staff unwilling and don't support (sometimes actively block) implementation out of a fear of losing their jobs or their existing level of control

Detail your offering for Consultancy to advise and support the public sector, but with emphasis on Schools, decision making.

What types of consultancy are you able to provide?

Without strong leadership from the top, most organisational change is doomed to fail, it's only a matter of time.

We have extensive experience of providing consultancy, delivery and advice, to a wide range of Public Sector organisations, including: Central Government departments; Local Authorities; Non-Departmental Public Bodies; Regional Broadband Consortia; schools, MATs and colleges. Through our relationships with LAs and MATs, we also have access to specialists related such as educational psychologists and ICT subject leads.

While the emphasis to date has been on education, we have worked across many public areas such as health, transport, communities and charities. We also have extensive Private Sector experience including financial services, pharmaceuticals, manufacturing, retail and fast-moving consumer goods. These Private Sector organisations can often have valuable lessons for the Public Sector, if they are interpreted and implemented correctly, but are all too often ignored because many public bodies often do not see any relevance or connection with private sector companies.

Our consultancy offerings include:

- Project Management
- Programme Management
- Change Management
- Customer Experience
- HR
- Procurement
- Financial and Accounting
- Strategy development and implementation
- School Improvement
- Specialist Curriculum support
- IT Strategy
- IT Service management and delivery.

In addition to our in-house expertise, we have an extensive network of associates and suppliers that we have worked with over the last 20 years that we can draw upon for tried and trusted resources.

We work with some of the best and most respected curriculum specialists in the country. Through our curriculum audit we can review, design and deliver pupil and student-focused learning pathways to secure their rapid and sustained progress and good outcomes. This may include:

- Curriculum modelling for an individual school, a consortium of schools, or a consortium which includes FE College provision
- Timetabling options and supporting individual school timetablers
- Researching, working with employers and universities, plus other key stakeholders to develop bespoke curricula such as for University Technical Colleges
- Development and delivery of staff training courses to implement new curriculum approaches at all levels (senior, middle, mainstream).

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*“And the reason I chose Think IT, apart from seeing that they understood the complexity, was that I found everyone I met in Think IT to be a) exceptional in their expertise, and b) really interested in education itself”*

**Paul Begbie, South Lee School**

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Auditing of organisations, especially schools, helps them understand their current situation and enables them to make the right decision to progress. Describe your skill and experience in this area with a particular emphasis of providing impartial advice for the benefit of the institution rather than the supply chain.

We have described above our Readiness Assessment process and how it helps schools understand where they are, where they want to get to and how they get there. We have conducted RAs in a wide range of Primary and Secondary schools, Alternative Provision settings, Independent Schools and across MATs. Because we are a totally vendor-neutral organisation our advice is always independent and impartial, so when we make recommendations, we try (wherever possible) to give schools a choice of suppliers. If schools know who they want to use, and that supplier is on the framework then it is open to them to do so. Where

we go out for quotes, we offer fair and open competition to suppliers. We have been using the strap line “Think IT – Independent, Impartial IT Procurement” because we want to be, and must be seen to be, impartial.

Perhaps the best example is with productivity tools. We don’t care whether a school wants to use Microsoft or Google. Both have pros and cons. It is our job to point out those benefits and weaknesses and help the school decide what is best for them. And that may involve a solution that mixes both. For example, in a recent RA for a small Academy chain of five schools in south east London there was a strong desire among internal champions to move to a fully Google environment, yet some of the back-office staff felt that the functionality of the suite of Google Office products was not as strong as Microsoft Office. We therefore recommended a mixed environment with both product suites, but with the data stored wholly on one platform.

In all of our RA advisory work, the customer rather than the supply chain is always front and centre in our minds. In another recent example, where we carried out an RA for a small Academy chain of four schools in north west London, we recommended they centralise and bring their IT support function in house, as one of the schools already had some excellent internally-employed personnel and the Trust had been plagued by problems caused by previous external providers. However, they lacked sufficient internal technical expertise to direct and manage an internal IT team so our recommendation also included a limited amount of external senior-level advice and support. A consortium organisation with an IT support partner as one of its members would almost certainly have tried to sell their own services to this Trust which, in our view, would not have been an appropriate solution in this instance.

## 6 - Single Sign-On (SSO)/ Identity Management (IDM)

The Public sector are increasingly making use of SSO, especially in Education and Local Authorities, so it is important to have a range of services that provide a seamless access to all resources, data and products in a secure and easy way.

Detail what SSO's you can provide.

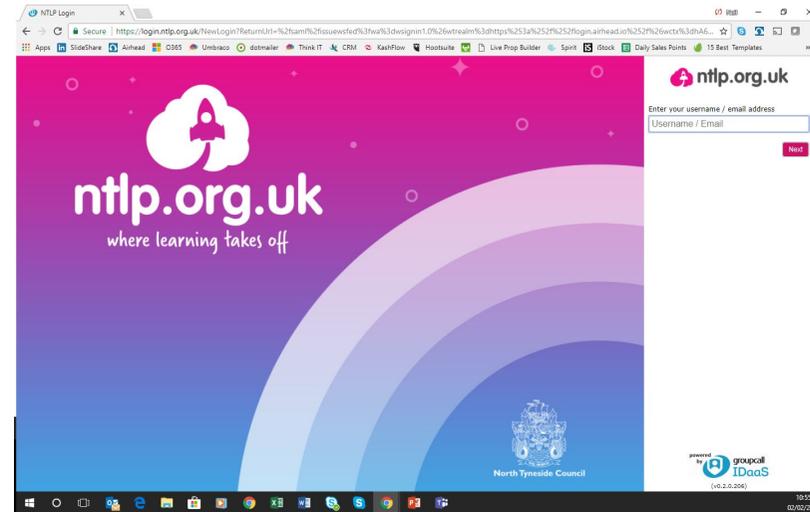
Supply partners we work with in this category include: Google, Microsoft, Airhead, Groupcall and BioStore.

SSO is increasingly important in education, especially in primary schools, where ease of access to the right tools is important for younger learners. The benefits of SSO don't stop there however, right across the age range, and across organisations, SSO facilitates anytime, any device access, increasing productivity, efficiency and collaboration by giving instant access to resources, data and applications. SSO is typically through a secure username and password, though two-factor authentication is also available, typically using text messages to mobile phones. This is often impractical for learners in schools as teachers don't want students using phones in class. Several devices can use biometrics (fingerprint recognition) and a number of suppliers are experimenting with facial recognition as a security feature.

Our main solution is through Groupcall and Airhead. Groupcall provide the IDaaS (Identity as a Service) component, linking the MIS and active directories to identify users and groups. Airhead is the web-based interface that provides access to web-based resources and tools. Through IDaaS and Airhead we can manage the necessary user passwords to create seamless SSO provision for almost all end user software. We use this solution in many of our schools. The biggest installation is in North Tyneside where it is deployed across 68 schools, managed by the school improvement team there and customised to meet local requirements.

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## CASE STUDY – North Tyneside Council



*“As we run the procurement for schools, we have worked with several companies over the years, and are therefore well aware of most suppliers’ objective of ‘selling’ us a product regardless of whether it actually aligns to our needs. They would all pay us lip service, get the money, and then commonly we would never see them again until it was time to renew the contract. Think IT is the first company we have worked with who are very different; they want us to succeed”*

**Mags Cowan, ICT Business Manager, North Tyneside Council**

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Microsoft’s Active Directory (AD) is becoming more important as schools and MATs move to cloud solutions, especially around O365. For MATs especially, ensuring that multiple ADs are configured correctly is important in ensuring user accessibility.

<p>Confirm that any SSO and IDP provision is federated to the UKAMF.</p> <p>Describe the full functionality of your SSO for learners, citizens and public sector workers with particular attention to the need to access all their resources, support and data from anywhere and on any device.</p>	<p>Yes, our SSO and IDP provision is federated to the UKAMF. In addition, the Groupcall/Airhead solution supports the following authentication protocols: WS-Federation; Open IDconnect/oAuth; SAML2; and Shibboleth</p> <p>Our SSO solutions allow learners, citizens and public sector workers to access their data and resources anytime, anywhere and on any device (with an internet connection). It gives users access to different types of resources, including:</p> <ul style="list-style-type: none"> <li>• Productivity tools such as Microsoft Office or Google Education Apps</li> <li>• Lesson plans</li> <li>• On-line content and digital media</li> <li>• Web-based applications.</li> </ul> <p>The SSO functionality includes:</p> <ul style="list-style-type: none"> <li>• It is configurable and customisable providing different 'views' and access for different users or groups (e.g. different views for staff and students)</li> <li>• Login can be facilitated with QR passcodes, numeric PIN numbers or phonics-based passwords for younger users</li> <li>• Administrators create and manage user accounts through: syncing with the school MIS; CSV uploads; or manual input.</li> <li>• It works on any platform; at the BETT show we demonstrated a live SSO account, accessing the full Microsoft virtual desktop running on an iPhone over 4G</li> <li>• Access to thousands of web-based applications, with auto-log on if the application has the authentication protocols mentioned above</li> <li>• Launchpads – for launching web-based applications</li> <li>• Flightdecks – for curating content such as twitter, YouTube, Vimeo, maps, notes and documents – schools use this feature for their VLE</li> <li>• Collaboration and sharing of resources within and across schools</li> <li>• Secure Social Media platform in the tool that teachers can monitor and curate for safe communication and collaboration</li> <li>• Quick and easy discovery of new teaching and learning resources.</li> </ul>
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Given the solution is cloud-based, support is provided remotely, though on-site training can be provided on request (as we did in North Tyneside for the 68 schools). Issues are raised and ticketed through a dedicated support function, providing global hourly updates as required.

## 7 - Classroom Management

Classroom management systems are required and should be able to manage a full range of devices and operating systems in the educational setting. Teachers require control of what their student's access and utilise, detail how your solution achieves this.

Does your system include analysis of use and to what extent?

Suppliers we work with in this category are NetSupport and Senso.

Our classroom management solutions give teachers control of what their student use and access. They do this through internet and application metering controls, enabling the teacher to control what students can and can't access. The applications also provide the teacher with the ability to interact with the student, individually or in groups, give individual instructions to the desktop, visually and audibly monitor what students are doing, and select exemplar work from individual students for instant display to the whole class. The solutions provide the ability to deliver lesson content, simultaneously monitor all student PCs and work collaboratively, ensuring that student attention and focus is maintained at all times. Standard features include; digital student revision aids; lesson planning tools; and the option for teachers to reward students for good effort; a customised testing suite; and a dedicated technician console.

Our systems include analysis of use so that during a lesson a Teacher can see both current and historical activity for each student for the entire lesson, including:

- Internet Metering and Control:
  - Monitoring of all student internet use
  - Viewing of background websites open on all PCs
  - Open and closed websites on all selected PCs
  - Recording the full history of internet use for the class
  - Preventing access to any or selected restricted websites
  - Allowing access only to approved websites
- Application Metering and Control:
  - Monitoring of all student application usage
  - Viewing of all background applications running on all PCs
  - Open and closed applications on all selected PCs
  - Recording the full history of application use for the class
  - Preventing restricted applications from running
  - Allowing only approved applications to run.
- Instant Messenger Monitoring: In addition to the ability, when needed, to prevent Messenger applications running

How does your classroom management system/s address licensing?

- within the classroom, we can also provide real-time monitoring of specific Messenger applications, presenting the teacher with a real-time view of chat activity and content
- **Real-time Keyboard Monitoring:** Designed to be used in conjunction with application control, this component provides teachers with a real-time insight into student activity and topic understanding. During a lesson, while all students are working using any approved application, the teacher can monitor the entire class and see quickly and easily their typed content and activity levels. Also provides "Target" keywords for tracking of student understanding and a full history of keyboard usage by student and application.

Our classroom management solutions include a licence management module that keeps a centralised record of all software licences at the network level. Managing licence compliance at the network level means one licence can be shared between multiple computers, cutting down on software spend and essentially providing more for less. Acting as a schools' virtual licence manager, the intelligent monitoring functionality highlights how many licences are being used at any one time and restricts access to the software before this exceeds its legally licenced limit. For example, when a student tries to access an application with no license allocations left, or they are not permitted to use the particular application, the license management tool will not allow the application to be opened. Features included in the licence management modules include:

- Add applications at an organisation level
- Count the number of licences purchased
- Set up alerts or restrictions to licencing violations
- Apply customisable rules for licencing enforcement
- Report on licencing compliance
- Centralise the approach to licence management
- Support auditing processes
- The ability to run specified searches across the network.

Using the licensing module, software vendors are able to install their software applications to the VDI gold image. The licensing manager

To what extent can remote management be utilised, describe the functionality?

module would be utilised to restrict or allow specified applications to run based on the user, session or computer, the number of available licenses and the commercial arrangements between the school and the vendor.

Our classroom management solutions include a dedicated technical component that provides for remote screen and systems management of every device in the school so that they can be managed and maintained and are always available for teaching. The Tech Console, typically used by Lab Technicians and Network Managers, includes the following features:

- Monitor all computers across the school network in a single view
- Monitor Application and Internet usage on each Student PC
- Transfer files and folders to individually selected or all computers
- Group all computers by classroom / physical location
- Generate a full Hardware Inventory summary for a selected PC
- Generate a full Software Inventory for each PC including Hotfixes
- View and Control Services, Processes and Applications running on each PC
- Provide direct technical assistance to any classroom Teacher
- Power on, Power off, Reboot and Login to classroom computers remotely
- Display all Students and Teachers by active class
- Review individual school security settings remotely
- Conduct Chat with one or multiple students or teachers
- Broadcast messages to groups or all network users in seconds
- Perform 1:1 PC Remote Control on any selected computer
- Shows real-time USB memory stick status on all Student PCs.

Can the system manage power and print and enforce policies?

Our solution can manage power, print and enforce policies. The solutions for Power Management include the following features:

- Schedule power on/off
- Set rules for hibernation, standby and shutdown
- Monitor and report usage and idle time
- Customise power policies by device/location/user
- Produce desktop utilisation reports
- Customise reports on energy and cost analysis
- Export reports to CSV or PDF
- Identify potential cost savings
- Manage centrally within group structure
- Customise access to policies by group
- Detect and exclude applications
- Report on the overall cost of wasted energy
- View comparative reports.

The classroom Print Management features include:

- Preventing students printing in the classroom
- Limiting printer usage by number of pages and by colour and black and white print, for individuals and groups
- Require Teacher authorisation prior to printing
- Prevent printers being added, deleted or modified
- Control access and usage for each individual printer
- Displays real-time print indicator identifying who is printing
- Show the number of paused print jobs requiring attention.

The classroom print management features can be enhanced by our multi-functional devices print management service including the ability to log into any device around the school to release print jobs; redirect to more cost efficient devices; and delete duplicated print jobs.

The solution can be used to create and enforce a range of policies, including:

- Access policies
- Acceptable usage
- Differentiated E-Safety policies based on severity or user type
- Applying E-Safety policies and filters to laptops when not connected to the network

What Analytical tools are provided to improve student achievement in the curriculum?

- Print enforcement policies
- Differentiated power policies based on device, location or user.

We have a number of analytical tools that can help improve student achievement in the curriculum, including a range of interactive assessment tools for use in the classroom. Built around current best teaching practices for the continual assessment of learning, the tools allow a teacher to verbally ask questions to the class, gauge student answers and understanding, introduce new questioning styles to the lesson (such as basketball questioning), develop peer assessment opportunities, as well as track rewards against both the individual and, where appropriate, teams. Key features of the tools include:

- First to Answer - When the question has been asked, the teacher can set a 'thinking time' after which students indicate if they know the answer and the teacher's desktop shows the order in which students answered. The teacher can choose the 'top x' fastest responders and the quickest student is asked for their answer. The teacher confirms if right or wrong and has the option to bounce the question to subsequent students. Points can be awarded or deducted
- Enter an Answer - The teacher enters the answer to a question in advance and students are prompted for their response. Results are instantly displayed to the class and points awarded or deducted
- Pot Luck - An alternative to First to Answer, the teacher can involve several randomly selected students
- Team Mode - Students can be placed in teams allowing them to compete for rewards as a group. Teams can be created randomly, or students can pick a team to join. Each team member enters their answer and the group's combined total is displayed
- Peer Assessment - This encourages students to give feedback in response to an answer given by one of their classmates. They indicate if the answer given was correct or incorrect and the teacher's screen displays the results
- Exclude Students - To ensure all students are involved equally in the process, the teacher can choose to exclude

Evaluation of learning activities are important, detail how this would be achieved.

specific students – for example, those that have already answered a question correctly - from the next round of questioning

- Student Surveys – The teacher can find out if students have understood the content covered during the lesson by conducting an instant survey using pre-supplied or custom responses. See instantly all responses and a summary for the class and create groups dynamically based on student responses. Choose to publish survey results to all students
- Student Testing - Design tests and examinations with the minimum of effort, including text, picture, audio and video questions. Create a library of resources and questions that can be shared. Create any number of tests using questions from your library. Utilise any of 8 different question styles, including questions with between 2 and 4 possible answers. Set examination grading levels (i.e. over 75% = A grade). Track student progress and see question success or failure in real time. Auto-mark the test so results are available as soon as it is completed. Display individual results back to each student. Deliver results (including highlighting the correct answers) to the class.

The tools listed above, because of the way they are built and structured, also incorporate the ability and functionality to review, evaluate and improve all learning activities. Without repeating the answer directly above, these include features like: team mode; peer to peer assessment; student surveys and student testing.

- Team Mode - Students can be placed in teams allowing them to compete for rewards as a group. Teams can be created randomly or students can pick a team to join. Each team member enters their answer and the group's combined total is displayed
- Peer Assessment - This encourages students to give feedback in response to an answer given by one of their classmates. They indicate if the answer given was correct or incorrect and the teacher's screen displays the results

The Management tool must review, evaluate and improve all learning activities, detail how this is achieved.

In addition to recording a lesson, observation of resource use, recording and managing a school visit, (confirm these are available) what other features can be provided? Describe the functionality.

- Student Surveys – The teacher can find out if students have understood the content covered during the lesson by conducting an instant survey using pre-supplied or custom responses. See instantly all responses and a summary for the class and create groups dynamically based on student responses. Publish survey results to all students;
- Student Testing - Design tests and examinations with the minimum of effort, including text, picture, audio and video questions. Create a library of resources and questions that can be shared. Create any number of tests using questions from your library. Utilise any of 8 different question styles, including questions with between 2 and 4 possible answers. Set examination grading levels (i.e. over 75% = A grade). Track student progress and see question success or failure in real time. Auto-mark the test so results are available as soon as it is completed. Display individual results back to each student. Deliver results (including highlighting the correct answers) to the class.

In addition to the assessment, testing, survey and journaling features described above, additional features can help evaluate and improve learning activities in real time. These include: online chat where a student can confidentially ask for help; monitoring real-time audio, great for language lessons; and the most obvious feature for all classroom management tools, monitoring a student's screen so a teacher can see what they're doing and intervene if necessary, to support their learning. The keyboard monitoring feature, which records keystrokes (though not passwords) can monitor activity in a lesson but can also be programmed with 'target' words for tracking of student understanding.

We confirm that the recording of a lesson, observation of resource use, and recording and managing a school visit are available. Depending on the specific requirements, some of those features are better delivered through solutions not traditionally called "classroom management", for example: classroom observation tools that capture video recordings of lessons are available. These are especially useful for teacher training and assessment.

How can the management tool be utilised for support?

Additional classroom management features that can be provided include: handing out and collecting files; lesson details such as objectives, resources available and time remaining; restrict USB and CD/DVD drives; central software updates; virus monitoring; synchronisation to Active Directory; and error event management. Several solutions provide resource centres where teachers can go to access shared content, such as exams, surveys, quiz questions and lesson resources. This is an extremely valuable resource available at no extra cost.

The classroom management tool includes a dedicated technical component that provides for remote screen and systems management support of every device in the school so that they can be managed and maintained and are always available for teaching. The Tech Console, typically used by Lab Technicians and Network Managers, includes the following features:

- Monitor all computers across the school network in a single view
- Monitor Application and Internet usage on each Student PC
- Transfer files and folders to individually selected or all computers
- Group all computers by classroom / physical location
- Generate a full Hardware Inventory summary for a selected PC
- Generate a full Software Inventory for each PC including Hotfixes
- View and Control Services, Processes and Applications running on each PC
- Provide direct technical assistance to any classroom Teacher
- Power on, Power off, Reboot and Login to classroom computers remotely
- Display all Students and Teachers by active class
- Review individual school security settings remotely
- Conduct Chat with one or multiple students or teachers

- Broadcast messages to groups or all network users in seconds
- Perform powerful 1:1 PC Remote Control on any selected computer
- Shows real-time USB memory stick status on all Student PCs

## 8 - Desktop as a Service

To facilitate flexible learning and teaching users need to be able to connect to a virtual desktop via any device. Confirm your solution addresses this requirement and detail any limitations.

**Supplier partners we work with in this category include: Microsoft, Bridge1Solutions; Groupcall; Airhead; and Novus**

Our virtual desktop solutions are compatible with all internet connected devices that support HTML5. In reality this includes practically all devices less than five years old, though we have also had it running on devices as old as nine years. This includes Windows, iOS, Android and Google devices. All new devices provided in an equipment service contract, whether through this E2BN framework, or purchased directly by the school, would be compatible with the virtual desktop solution. There are some limitations with using older versions of Internet Explorer (IE8 for example), but often this can be overcome by re-provisioning old hardware and creating thin client devices.

Watch the video Microsoft produced at BETT to promote our virtual desktop solution: <https://www.youtube.com/watch?v=HpU1YIt3qWM>

The single biggest limitation for most schools is connectivity. We can therefore configure the solutions so they require very little bandwidth (48 Kbits per second) and can easily run, even on a 3G connection. For schools, we can overcome the concern by implementing back up connections, including 4G and 5G connectivity where available if there is no or poor fibre availability.

We've come across several schools that have a good internet connection to the door, but the internal network or wireless infrastructure is old, ill-configured or no longer fit for purpose, or the filtering is managed by a third party that is blocking access, which obviously affects the performance in school. We often hear the refrain "I have no trouble accessing it at home".

It is this core technology that allows us to deliver a "serverless school" offering. This was of huge interest to schools and MATs at BETT where we were demonstrating the solution on the Microsoft stand. It allows MATs in particular to offer a consistent user experience to all of their schools, at the same time as saving them up to 60% of the cost of traditional on-premise server solutions.

This solution should be fully managed detail how you achieve this.

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### CASE STUDY – The Beeches Primary School

*The Beeches is a large, 600 pupil Primary school in Peterborough. When they approached Think IT their old servers were creaking and their WIFI network was no longer up to the task. We upgraded their network, refreshed old devices (to save money) and moved them to our Virtual Desktop solution. Now staff and pupils have anytime, anywhere, any device access and the school is saving money on devices and support.*

*“Since using the services of Think IT and their partners, we have seen improvements in staff productivity and collaboration, and an increased use of innovative technology to support teaching & learning.”*

**David French, Curriculum Manager**

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Our desktop as a service is fully managed. In practice, it must be as most schools do not have the technical expertise to design, configure, install and manage such a solution. Our approach is to have a lead supplier manage the component parts. The virtual desktop itself resides in a Microsoft Azure data centre based in the UK. The lead supplier manages the licensing and access. For example, because of the way the solution is configured, we can ‘spin up’ and ‘spin down’ servers as and when required (e.g. shutting down between 10pm and 7am and over the weekends) producing significant savings for the schools. Any queries that the school have are sent directly to our helpdesk where we deal with first- and second-line support. Third line support lies with the vendor/manufacturer and we liaise with them on behalf of the school.

The solution is managed as an infrastructure service using proactive monitoring software. This monitors the environment and its associated services for any issues prior to any impact on the client service. The

<p>To what extent can your solution support legacy equipment?</p> <p>Detail the impact on school internet connectivity of your DaaS offering.</p> <p>What availability has your solution met to date?</p>	<p>service monitors all aspects of the service layers including but not limited to:</p> <ul style="list-style-type: none"> <li>• Hardware health</li> <li>• Operating System health</li> <li>• Capacity management both desktop and storage</li> <li>• Desktop pre-provisioning to ensure a number of desktops are always available to be utilised if required</li> <li>• Performance management and capacity</li> <li>• Data Protection and business continuity capacity</li> </ul> <p>All service delivery layers are resilient within the service provision and a layer failure will not impact on the overall service delivery. We always provision at least 20% capacity in the desktop headroom and 10% capacity in computing and network layers.</p> <p>As mentioned above, the solution is compatible with any device which supports HTML5. This includes practically all devices less than five years old, though we have had it running in devices as old as nine years. This includes Windows, iOS, Android and Google devices. Some even older devices may also capable of running the solution although this may necessitate re-provisioning them as 'thin client' devices.</p> <p>The solution has very little impact on the internet connectivity of a school. This is because there is relatively little data transfer (48Kb per second per user) between the end user device and the hosted server as all the 'compute' processing power is at the server end. In practice we've had multiple classes in a school connected at the same time with no impact in terms of lag or quality (see Beeches case study above).</p> <p>We've had over 99.9% availability to date.</p>
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What experience have you in supporting DaaS in education, Local Authorities and wider public sector?

We're running our virtual desktop solution in several schools across the country. According to Microsoft we are the only provider they know of in the education space doing it this way, everyone else is going for a hybrid-cloud model rather than going straight to a serverless solution to realise the full savings potential. We haven't yet deployed DaaS in a LA, though we have demoed to several who are interested. Although not under the Think IT framework, elsewhere in the Public Sector the solution is running in the following City of London libraries:

- Guildhall
- City Business
- Artizan Street
- Barbican
- London Metropolitan Archives.

We're currently prompting DaaS as a Windows 7 solution to schools in conjunction with Norfolk County Council (see below). We are currently investigating providing a similar solution to schools and local authorities through South East Grid for Learning (SEGfL).

## CASE STUDY – Joint DaaS Marketing with Norfolk County Council

# Solve your Windows 7 Problem



From as little as £8\* per device per month



## with our new Device-as-a-Service through DfE approved procurement framework

In January 2020 Microsoft will stop supporting Windows 7. This creates a security and GDPR risk for schools still running Windows 7 PCs and laptops. Some devices can be upgraded to Windows 10, but many cannot and need to be replaced. If you don't have the budget to buy new devices, NCC's ICT Solutions service have partnered with the DfE approved procurement framework, Think IT, to bring you "Device-as-a Service". This gives you can the latest kit now but spreads the payments over three years. With prices starting from the equivalent of £8 per month per device (depending on device and availability) it includes the latest Microsoft software and technical support. Let us help you solve your Windows 7 problem for you.

	Student	Teacher		Admin/Tech
Cost per device per month (from)*	£8	£15	£18	£33
Example Device	Lenovo 100E	HP Pro Book X300	Surface Go	Surface Laptop
Microsoft 365	A1	A3		A5
Support	ICT Solutions	ICT Solutions		ICT Solutions

Add-on options also available

\* Prices subject to confirmation, device availability and price changes

Contact  
[info@think-it.org.uk](mailto:info@think-it.org.uk)  
to find out more today.



**ICT Solutions**  
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**thinkIT**  
making IT easy for schools

## 9 - Software/Licensing/Resources

Managing and maintaining legal and up to date software licensing is increasingly difficult and expensive.

Detail how you can ease the burden, enforce legal licensing and ensure all licenses are at the optimum level?

Supply partners we work with in this category include: Microsoft; Google; NetSupport; BrainPoP; Britannica; Senso; MyConcern; Levett; Wave9; Novus; BioStore; Groupcall; Airhead and others.

Managing and maintaining legal and up to date software licensing can be difficult for schools. Let's take one of the biggest (if not the biggest) vendor of licensing in the Public Sector, Microsoft, as an example.

Some of the reasons why keeping up to date with Microsoft licensing is difficult for schools include: Microsoft licensing is notoriously complex, with lots of product variations that change with the size of organisation and licencing route selected; Microsoft resellers are not informing schools about the implications of changes to Microsoft starting to close down on-premise licensing; many schools pay for licenses they no longer need or use; users download and install software on devices without permission; many schools don't understand the differences between perpetual and Software as a Service (SaaS) offerings, they have an old-fashioned notion that "owning" the software is best, when that can lead to compatibility issues, software not being upgraded and security threats appearing (take for example the well-publicised cyber-attack on the NHS which affected devices running old Windows software).

To ease the burden, enforce legal licensing and ensure all licenses are at the optimum level we provide several services:

- Licensing checks – very simply, on behalf of a school we can check with software providers whether their licensing is legal and up to date. When we run Readiness Assessments we often find schools that have software that has lapsed licenses, but is still being used. Not only is this illegal, it represents a significant security risk because they don't have the latest patches and upgrades.
- We are a Microsoft Tier 1 Cloud Solution Partner (CSP), providing Office 365, Education 365 and Azure storage and compute solutions at discounted rates to individual schools, MATs and LAs. For MATs and LAs that want to manage their own licenses across several schools, we can provide a

branded portal to allow them to manage the licenses as required. We in turn provide additional discounts to the LA to enable them to make a small margin on each license, increasing their sustainability and allowing them to put investment back into their schools. See the video Microsoft produced at BETT where we are promoting CSP licensing and our associated virtual desktop solution

<https://www.youtube.com/watch?v=HpU1Ylt3qWM>

- Concurrent licensing – is a solution that utilises a smaller number of licenses than the maximum number of users (students and staff) because we know that not everyone will be logged to the applications at the same time. The typical ratio for a primary is 4 users to 1 license, 3:1 in a secondary. This pragmatic solution can realise cost savings of up to 75% over on-premise licenses for each machine
- SaaS solutions enable schools to ensure they keep their licenses up to date because suppliers will provision all software updates automatically (with appropriate notification) and will simply switch off the service after a reasonable amount of time and repeated reminders if the school haven't paid their bill

We can provide software for the organisations listed below. In effect we act as reseller for most, though for some (e.g. Microsoft) we can also act as a distributor for other resellers:

- Microsoft
- Google
- NetSupport
- Senso Cloud
- BrainPoP
- Britannica Digital
- ScholarPack
- SMART
- Promethean
- Groupcall
- Airhead
- BioStore
- Xirrus

- Ruckus
- Scholastic
- Arbor
- Mobile Guardian
- Sophos
- Gooseberry Planet
- MyConcern
- Educational App Store
- Earwig

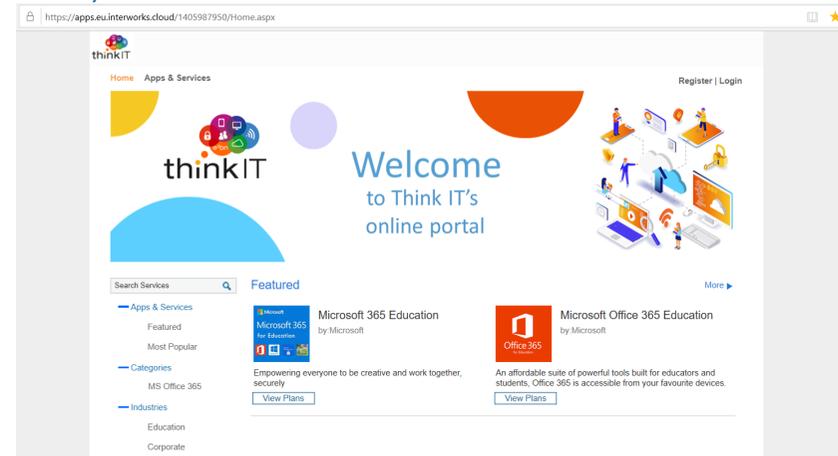
Examples of other software we can deliver through partners includes (though not an exhaustive list):

- PaperCut
- Sage 200
- PS Financials
- Dropbox
- Cisco Meraki
- VM Ware

Of course, any other software provider may be added to the framework at any stage to meet a specific customer requirement, assuming they pass our rigorous selection process

## EXAMPLE – Think IT Online Portal

In the new framework we will be heavily promoting our online portal for selling licenses to schools. For some of our key partners such as Norfolk County Council we can setup up a branded portal so that they can manage license subscriptions for their schools directly.



<https://apps.eu.interworks.cloud/1405987950/Home.aspx>

Describe the full range of operating, application and resource licensing you can provision and at what discount rate? Please detail any assumed bulk purchases or other assumptions.

We can provision any version of operating, application and resource licensing above which is still supplied and supported by the relevant manufacturer. Microsoft is one of our key partners so let us use them as an example. Through our reseller agreement we are a Tier 1 CSP which allows us to sell Office 365, Education 365 (O365, Windows 10, Enterprise and Mobility Security (EMS) suite and Minecraft) and Azure for education. We can also sell to government and businesses. As an indicator of scale, the Azure price list for education has over 960 line items that are revised and updated monthly. The full list is available upon request. In addition, we can access OVS-ES and EES licensing for education through our partners. Microsoft have confidentially shared with us that OVS-ES will be removed as a licensing route in education completely within the next few years. The average discount rate for Microsoft products in education is approximately 75% over corporate pricing. On top of that we aim to provide schools pricing that is 7% to 10% below other education resellers to ensure we're giving the best possible price.

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*"I see us working together to deliver deep cloud-based Education solutions to the entire UK market at scale. I foresee our work covering joint proposition building, marketing and sales and given the early figures we have explored, if executed correctly will represent a good portion of the transformative business into Microsoft UK Education"*

**Craig Parker, UK Partner Lead, Microsoft Education**

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Our working assumption is that if a customer wishes to make a bulk purchase we will negotiate additional discounts with the vendor and pass those on to the customer.

Online resources are an important aspect of learning and to support the use of teaching and learning a range of education resources are needed by educational establishments. Please detail the range of applications, resources and activities you can provision through the framework.

We provide a wide range of online resources. As exemplars, here are three that give a flavour of what's available:

### **BrainPoP**

<https://www.brainpop.com/>

BrainPOP is a trusted learning resource used by thousands of schools to help students master curriculum concepts. It covers over 800 topics using animated videos and thousands of high-quality interactive activities that motivate classes and improve curriculum engagement, including animated videos, learning games, assessment tools, concept mapping, movie making. For teachers it includes lesson ideas, webinars, a certification program, curriculum mapping so teachers can quickly access relevant content and a free educators CPD community.

### **Britannica Digital**

<https://britannica.co.uk/>

Britannica Digital provide a range of products that support learning at all ages and all ability levels, including: ImageQuest which has approximately 3 million images rights-cleared for educational use; E-Books with over 1,000 non-fictional titles for all ages and all subject areas; and Britannica School which delivers engaging content that is editorially checked, fully cited and regularly updated.

### **Scholastic**

<https://resource-bank.scholastic.co.uk/>

Scholastic Reading Pro is an online tool for testing children's reading ability, recommending children the right book to read, at the right time, and checking to ensure they have understood the book.

We also heavily promote the use of free learning resources from E2BN and other NEN members, such as: History Cookbook; Myths and Legends; The Gallery; Victorian Crime and Punishment; and MuseumBox.

<https://www.e2bn.org/cms/online-resources/learning-resources>

Can you provide licensing on a 'software as a service' basis?

Describe the benefits and limitations.

We can provide licensing on a software as a service basis, see above for more information.

The potential limitations of SaaS can include: vendors switching off access to the software if the bills aren't paid (though the vast majority usually give a grace period to education customers); some vendors sell annual or one-off subscriptions rather than pay-as-you-go, which could be advantageous to schools that only need access to software for a single term or for a specific project; you need to be on-line to access the solution which can be a problem where there's poor connectivity; and concerns about security (though most vendors encrypt data in transmission – the biggest risk to security is still human error such as writing down passwords or leaving devices unattended).

## 10 - Safeguarding

Describe your overall approach to supporting responsibilities to the safeguarding agenda including delivery.

Detail your system/s for secure case management to address all aspects of child protection.

**Supply partners we work with in this category include: E2BN; MyConcern; Gooseberry Planet; NetSupport; and Senso Cloud.**

Neil Watkins, one of our Directors, was the original Programme Manager for the DfE's Every Child Matters (ECM) Programme from 2003 to 2010. During that time, he was seconded to the DfE's safeguarding team working on legislation and reconfiguring public services around protecting children and young people. One of our other Directors, Nigel Hall, was also heavily involved in several DfE safeguarding programmes, including the Laming review into the death of Baby P where he led several interdisciplinary consultation workshops designed to foster more effective multi-agency cross-team working and sharing of data.

We therefore fully understand the importance of safeguarding and the challenges it brings to schools and everyone working with the most vulnerable in society. We also understand the important distinction between e-safety and safeguarding more generally and know that delivering high quality safeguarding is more than just making sure children don't access inappropriate websites or engage in cyber-bullying. There is a whole process of education and support that is needed for teachers, staff, parents and the children and young people themselves. We believe that technology can play an important role in preventing, spotting, reporting, monitoring and stopping abuse of all kinds and we and our partners in this category are committed to doing everything we can to deliver that.

As part of our commitment to safeguarding, all of our own staff have enhanced DBS checks in place, and we insist that all relevant staff in our supply chain who may have dealings with schools have them too.

Designed by two former Senior Police Officers with broad ranging responsibility for safeguarding issues in London and South West England, our comprehensive software solution and associated advisory services fully and meticulously support schools in meeting their safeguarding responsibilities, including delivery. Our detailed approach to Safeguarding is based on managing a wide range of concerns, issues

and incidents that we believe exceeds the current requirements for schools.

We use an integrated model for Safeguarding in Schools that focuses on the eight key elements of:

- (1) Governance, Leadership and Management
- (2) Preventing Harm
- (3) Managing Concerns
- (4) Case Management
- (5) Information Sharing
- (6) Recruitment, Vetting and Training including the Single Central Register)
- (7) Allegations of Abuse Against Staff
- (8) Managing Data.

The wide range of concerns issues and incidents that the solution can be used to record and manage includes:

- Child Protection - physical abuse, sexual abuse, emotional abuse, physical and emotional neglect and the challenges facing young carers
- Attendance - managing ongoing issues associated with poor attendance
- Behaviour - supporting teachers managing poor behaviour
- Bereavement - supporting those who have experienced or who are dealing with a bereavement within a family or within the school
- Bullying - physical, verbal and cyber bullying
- Discrimination - managing concerns about discrimination in relation to all of the protected characteristics – age, disability, gender reassignment, marriage and civil partnership (e.g. early and forced marriage), pregnancy and maternity, race, religion and belief (e.g. Honour Based Violence – HBV, Female Genital Mutilation - FGM), sex, sexual orientation – Equality Act 2010
- Domestic violence - affecting pupils
- Drug and substance misuse
- E-Safety
- Looked After Children

- Parental Mental Illness - affecting pupils
- Parental Substance/Alcohol Misuse - affecting pupils
- Pupils' Health Needs - including intimate care and first aid
- Pupil Mental Health - including self-harm
- Pupils Welfare Needs - reported by pupils, peers, staff and parents/carers
- Pupils Missing From Home
- Pupils Not Living At Home and
- Teacher/Staff/Volunteer conduct - e.g. managing allegations recording the use of force and restraint.

The solution has the following safety features built in:

- ISO27001:2013 certified
- Data recorded and transmitted via 2,048 bit SSL encryption technology
- Hosted in DfE approved, enterprise-level, secure & resilient Azure data centres within the EEA
- Fully encrypted database - no data held in human readable form
- Certified under the Government's Cyber Essentials Scheme
- DfE Cloud Service self-certification - see us on the DfE website [www.gov.uk/government/publications/cloud-software-services-and-the-data-protection-act](http://www.gov.uk/government/publications/cloud-software-services-and-the-data-protection-act)
- GDPR compliant and Registered with the Information Commissioner's Office (ICO)
- Comprehensive Data Sharing Agreement

Detail how your system/s supports staff members and other key personnel in their legal duties to cover actions by them and the school.

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### CASE STUDY – Blackpool Council

*In February 2016 Think IT presented the MyConcern safeguarding solution to the local meeting of Safeguarding Leads in Blackpool schools. Martin Baker from One Team Logic demonstrated the powerful features in MyConcern, including the new flexible reporting tools that save schools time, and the ability to invite in outside agencies safely and securely.*

*There was then a lively and robust debate about the importance of sharing and transferring information, the need for schools to 'own' their data and the need to store records for 7 years, or longer in the case of vulnerable children and young people.*

*Now over 20 schools in the North West use MyConcern, at a specially discounted Think IT rate.*

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The system will support the governing body, the Head, the DSL and other members of staff and key personnel to meet their legal and policy responsibilities in the following ways:

- Provides a simple and stream-lined process for concerns to be recorded by staff, reducing the possibility of issues not being reported
- Automatically provides an effective audit trail of decision-making and intervention activity linked to safeguarding concerns
- Alerts the relevant staff quickly to emerging problems or trends
- Supports notification and sharing of lessons learned (e.g. from local cases and from Serious Case Reviews)
- Supports the development of a curriculum which promotes safeguarding and well-being
- Enables the DSL and senior managers to identify emerging problems, potential risks and trends more easily

Detail the reporting facility handling from initial concern through to inter-agency referral and case management.

- Allows the DSL to monitor concerns more closely and ensure that appropriate interventions can take place
- Provides secure storage of sensitive data reducing the risk of loss or damage
- Acts as a repository for relevant school and DfE policy, compliance and legal documentation to ensure they are always kept updated and available to all users
- Enables the Head and DSL to hold staff to account for reporting, recording and management of safeguarding concerns.

Schools are encouraged to make access to the system widely available to all staff (teaching and non-teaching staff) and students to enable them to report and record a wide range of safeguarding concerns. Being a cloud-based solution, it will be available anytime, anywhere and on any internet enabled device. The system makes it easy for users to create, complete and submit a simple Concern Record to capture any and all safeguarding concerns they may have. The Concern Record is a simply formatted screen with fields for date, time, the individual who is the subject of the concern, and a free text area for the nature of the concern.

As soon as the Concern Record is submitted, the Designated Safeguarding Lead (DSL) for the school will be notified which will ensure effective management of all concerns. The DSL is also sent automated alerts and reminders for any actions that require urgent attention or are overdue. The DSL can also record decisions, link documents and allocate actions to a Concern Record.

The system can store, search and retrieve Concern Records and related information by text, individual or categories of concern. It also produces an automated chronology of events based on the Concern Record. Reports and individual case file information can be exported or printed for use in referrals, case conferences and or other briefings with multi-agency teams. These features are very important for DSL's and others working on cases. Evidence from Serious Case Reviews shows that poor record-keeping, lost or untimely information and missed trends from sequences of events have all contributed to child neglect and deaths.

<p>How does your system support safer recruitment?</p>	<p>The system has links to help, support and guidance, including links to template forms that are in common use and appropriate to the particular Local Safeguarding Children Board (LSCB) area.</p> <p>The DSL can create a group of users in the system to form a multi-agency TAC (Team Around the Child), including from other agencies, to share information and manage meetings and tasking activity. A future development could be to extend the capability for parents or carers to raise safeguarding concerns (albeit this facility will depend on the appetite and maturity of a school in this regard).</p> <p>The system supports safer recruitment by providing a structured workflow for the recruitment and vetting process for each member of staff, governor, volunteer and visitor (in accordance with DfE Guidance - Keeping Children Safe in Education 2014). The system will also maintain an online Single Central Register (SCR) for the recording of Disclosure and Barring Service (DBS) and other checks which form part of the recruitment and vetting process. It also maintains a record of training for each member of staff, governor and volunteer linked to the SCR and provides automated alerts for training requirements (e.g. safeguarding refreshers) and maintain staff profiles in order to link key information on recruitment, vetting and training. Subject to any necessary GDPR/Data Protection requirements, we are also working with MyConcern to enable the system to provide individualised reports that staff can take with them when they leave (or which could be notified by the school as part of their references process) so that a new employer can access evidence of their past training and experience. That way we are encouraging better and safer recruitment across the whole sector wherever My Concern is installed.</p>
<p>Can the safeguarding service and systems be delivered as a service?</p>	<p>Yes, the safeguarding service and systems can be delivered as a service. It can be delivered as either a hosted, or on-premise solution, dependent on school preference and is charged on a on a flexible pay as you go basis on a monthly, termly, quarterly or annual basis. In addition to the core option, schools, group of schools or local authorities can purchase additional safeguarding support, including process reviews, reports for governing bodies or senior leadership training, coaching or mentoring.</p>

All systems must be GDPR compliant, please confirm.

In addition, E2BN are recognised experts in E-Safety and Safeguarding training and deliver training as a service for individual schools and groups.

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#### **CASE STUDY – Cambridgeshire County Council and The ICT Service**

*Facilitated by Think IT, MyConcern is now being offered as a service to Cambridgeshire schools via their ICT Service. The Council's education safeguarding manager, Sara Rogers and The ICT Service facilitated three large 'face to face' group demos and a webinar to Cambridgeshire schools in December 2017. In the first 8 weeks, 27 schools have signed up and 65 are in the pipeline ready for the new financial year. Under a licencing arrangement, The ICT Service are delivering the MIS integrations and provide the DSL training, generating revenue for their service.*

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Our safeguarding solution is GDPR compliant. We insist that any new potential suppliers will be GDPR compliant and must self-certify as part of the joining process.

## 11 - MIS (Management Information Systems (school)) & Learning Platforms(VLE)

Detail the range or options of Schools Management Information Systems that you can provide and the associated costs.

**Supply partners we work on in this category include: Arbor, ScholarPack and various providers of SIMS training and support.**

Think IT is fully conversant with all the major UK Management Information System providers. We believe that schools should have a choice and be able to choose the best system for their individual needs. Costs vary by provider and change on a regular basis. Variables used in the various cost models include: number of pupils; number and size and schools; and modules accessed. One of the biggest costs (and concerns) with switching to a new provider is related to migration of data from one system to another. Schools perceive this as a very big risk because if it goes wrong, they won't be able to operate.

Capita SIMS has over 80% market share of English, Welsh & Northern Irish Schools. All suppliers in the sector now provide cloud-based solutions, though a number have reportedly significant performance issues. Many suppliers focus on a specific school type. For example, RM Integris (G2) & Scholarpack are fundamentally designed for primary schools. Arbor is gaining significant traction in the Academy Sector and provides excellent cross-MAT reporting. iSAMS was originally designed for the independent sector but has been targeting Academies. In Scotland SEEMiS has 100% of state schools and is also developing a cloud based, next generation of MIS

We can introduce schools to a range of MIS suppliers, and as almost all now have a subscription model, we are able to include these costs into a managed service framework. Additionally, some of our LA Trading Services providers specialise in MIS support, which we can also include in the framework. Examples of this are Nottinghamshire LA whose support desk specialise in SIMS and Scholarpack support. They are now starting to provide services via the framework to other regional LA's and MATS. An organisation called OSMIS have also recently joined the framework who run the Northern SIMS user group and support over 600 schools in the North West and wish to expand their services. We're in discussion with SCOMiS who have agreed to join the framework, and support over 700 schools in the South West.

Schools MIS should have (please confirm):  
Ability to comply with DfE statutory data returns.

Compliance with DfE common basic data set standards.

Compliance with DfE common transfer CTF standards.

Facilitate interoperability to SIF standards across other suppliers and other applications e.g. Admission authorities, cashless systems etc.

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**CASE STUDY – Nottinghamshire County Council**

Nottinghamshire County Council (NCC) approached Think IT in order to efficiently procure a standard MIS solution across their managed schools.

Working collaboratively, NCC, ScholarPack and Think IT agreed a single renewal date for all schools then prorated individual schools' pricing. Notts CC then issues a single PO for all schools to ScholarPack via the Think IT framework.

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All our MISs providers comply with current DfE standards for statutory returns.

All our MISs providers comply with current DfE standards for common data set standards.

All our MISs providers comply with current DfE common transfer CTF standards.

All our MISs providers have APIs for Data Integration to 3rd party systems. We don't believe that any are fully SIF compliant with SIF implementation Specification (UK) 3.0 which is not a DfE requirement. However, Think IT partner with Groupcall and where necessary use their Xporter data integration services to ensure compliance. We also use Xporter & other similar systems to allow organisations with differing MIS systems, to extract data to provide a flow to centralised systems.

Ability to handle dual and multiple registrations, including attendance across multiple sites.

User-friendly management reporting tools to support leadership decision-making.

Ability to export in CSV/EXCEL format and re-import with additional information.

Ability to export changed data items for updating central LA systems.

All the cloud-based MIS solutions have the ability to handle dual and multiple registrations, including attendance across multiple sites.

Most MIS solutions have a comprehensive suite of user-friendly reporting tools that support leadership decision-making at all levels through the school. They embed the reporting tools in the service, linking them to all the data held and delivered within and across the system. The management reporting tools include:

- Attendance
- Attainment
- Attainment against predictive data
- Physical Classroom management, including timetabling
- Teacher performance
- Behavioural issues
- Parental engagement

Access to reports can be granted or restricted by user type or individual.

All of the major MIS solutions have the ability to export and import data in CSV or Excel format as part of the bulk import function and user management function.

For all the cloud-based MIS solutions, data is dynamic, which means that it is always up to date, including any data items that may be relevant to central LA systems. An admin user with the appropriate permissions can export any data requirements, including changed data updates, to a central LA system via CSV or Excel export function. All MIS systems have this ability, though on-premise solutions tend to run overnight batch processing.

<p>Functionality to record and manage behaviour issues.</p>	<p>There is a discrete area within the system where teachers and other relevant staff such as learning assistants, can add an unlimited number of reports on behaviours, both positive and negative. For those negative behaviours, concerns can be shared across the appropriate staff, an action plan agreed with updates and progress recorded on the system. Links can also be made to the safeguarding solution. The recording of positive behaviours can be used in many ways, including rewarding students for good performance.</p>
<p>Functionality to record and track pupil attainment progress in the classroom environment with built-in analysis tools.</p>	<p>Files can be attached to the reports to give further detail that can be used for reference at a later date. This Anecdotal Records feature provides the capacity to share important information with pastoral leads, enabling quick and efficient communication and follow-up actions.</p>
<p>Functionality to report on individual or custom groups of pupils or staff.</p>	<p>All of the major MIS solutions have the ability to record and track pupil attainment progress efficiently and in real-time. As soon as data is entered, the entire system updates the relevant fields and is available to all the built-in analysis tools and reports. Users are able to track an individual, class, cohort or year group's progress, including comparisons year on year progression and comparing against target or predictive data. Analytics allow users to accurately reflect on teacher progress as per Schemes of Learning and pupil progress in their levels and grades achieved. Importantly this allows for the sharing of data across any feeder primary schools and a secondary for a smooth and comprehensive transition.</p>
<p>Ability to handle school federations, multiple school or centralised LA versions.</p>	<p>Most MIS solutions have been developed specifically to handle school federations, multiple school or centralised LA versions. This means that any group of 2 or more schools can set agreed and appropriate levels of school interaction, joint administration and data exchange, while at the same time allowing each school to retain its own individual operational, management and academic style. Typically, there will be a lead administrative school or authority which manages easily centralised functions such as creating and updating of staff records, however all schools will (depending on user permissions) will be able to access and report on date relevant to them. This multiple school approach has</p>

Functionality to meet school attendance registration requirements.

significant benefits in areas like transition between primary and secondary schools as no new data needs to be recorded, teachers in the secondary school will be able to see, pupil data around performance and achievements, any behavioural issues - positive and negative, merely from accessing past academic year records.

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#### CASE STUDY – Red Kite Schools Trust

Red Kite Learning Trust approached Think IT to help procure a consistent MIS solution across their three schools. They were aware the procurement would go over the OJEU threshold and wanted a compliant procurement route.

Working through Think IT the Trust selected and implemented Arbor, one of the leading MIS solutions.

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All of the major MIS solutions fully meet the school attendance registration requirements, allowing teachers to easily mark the register at key times, defined by the school, throughout the day as well as at the start of lessons. Extra tools allow for the quick input of reasons for any absence, registers can be 'locked', so that any arrival after a set time needs a follow up action, and tools can be set that enable teachers to only mark either absent or present in single action, depending on what best suits the school. Systems also capture staff attendance for management of all staff as well as students. These modules also provide reports such as an overview of attendance which, with the data in real time, gives any relevant Senior Management Team accurate information to identify potential issues and implement proactive actions.

<p>Real-time remote data access and updating.</p>	<p>For the cloud-based MIS solutions, any registered authorised user can access their permitted areas anytime, anywhere from any internet enabled device. Because all the information entered is recorded and stored in real-time, it means that users are always looking at accurate, up-to-date information, regardless of their location. As will be noted from some of the answers above, real-time access to information can help a school's leadership team proactively address problems.</p>
<p>Appropriate access for parents and pupils.</p>	<p>All users are allocated their own login details and permissions that dictate which parts of the service they can use, including students and their parents. All have their own dashboard of relevant information and enabled functionality appropriate for their use. This can include attendance information, access to schoolwork, grades and behaviour reports, all as defined and allowed by the school. Access for parents (and other stakeholders) to the MIS solution is free of charge for most providers.</p>
<p>Financial and budget management.</p>	<p>Financial &amp; Budget Systems tend to be 'bolt on' or separate systems. Some MIS suppliers like Capita have their own software, whilst it is now more common for schools, groups of schools, federation &amp; MATs to choose a separate financial system. Think IT is working with PS financial which is the most popular systems with Academies &amp; MATs.</p>
<p>Timetable management.</p>	<p>Timetable modules can be very comprehensive with fully automatic timetable generators that takes into account user-defined parameters such as number of rooms, size of rooms (only allocating for appropriate number of students), distance between classrooms, break times, length of week, holidays, teacher availability, number of each type of lesson (core or elective) and after school activities. This means that once all the parameters are factored in, changes and updates to the timetable can be done in seconds, not days or weeks using manual processes as is still the case for many schools. For example, on any particular day that a teacher is absent, the timetable can be used to find other teachers named as being an alternative for a set class and who have free time. It can also be used to find new rooms if there are any issues with scheduled ones. A significant feature of some of the timetable modules is the ability to</p>

<p>Personnel Management linked to financial management.</p>	<p>schedule across multiple sites and multiple resources. We feel this feature will be particularly useful for groups of schools such as federations or academy chains.</p> <p>As mentioned above in relation to financial and budget management, Personnel Management Solutions tend to be bolt-on solutions from third parties rather than embedded in the MIS solution.</p>
<p>Examinations management.</p>	<p>There are a number of MIS solutions which support examinations management, for example, linking calendar functionality to timetabling modules and communication tools to share appropriate timings and information for all relevant examinations, external as well as internal. Invigilators and room allocation can also be managed through the timetable modules. Alerts can be sent by teachers to a student, or group of students regarding up and coming exams and requirements around them. They can also share relevant content, documents, revision aides, exam advice and guidance through content and file managers.</p>
<p>Workflow and letter/e-mail generation.</p>	<p>Workflow and letter/email generation are common features in most of the major MIS solutions.</p>
<p>Recovery options for user data which may include learner or practitioner-generated content.</p>	<p>Cloud-based solutions are constantly backed-up, so user generated content is easy to recover and restore. On-premise solutions require either remote back-up to the cloud, or manual (often tape-based) backup.</p>
<p>Payment and invoicing system.</p>	<p>Payment and invoicing systems these tend to be either integrated with the schools' financial systems or bolt-on solutions from third parties rather than embedded in the MIS solution.</p>

Integrate with existing financial/accounting systems, e.g. SAGE, QuickBooks etc.

### Learning Platform/VLE

Many public sector customers, particularly schools, may require the facility of a Learning Platform, sometimes called a VLE (Virtual Learning Environment) please describe your experience in this field.

Any system provided should take account of the existing products that may be in place and ensure a smooth transition. Please provide detail on how you achieve this.

Products must address the following criteria:  
Anytime anyplace education; access to commercial products and services, user data – including the necessary transfer of existing materials, school materials;

Integration with other third-party systems, including finance and accounting systems tend to be through the standard APIs, though there are a number of third-party solutions that provide additional functionality such as specialist cross-MAT reporting.

### Learning Platform/VLE

Think IT are fully conversant with the traditional VLE, MLE and Learning Platform providers, but are seeing the current trend for schools to move toward the Microsoft & Google cloud models to provide a range of services for the schools to choose those that are the most relevant and cost-effective solution. Think IT is a Microsoft AER (Authorised Education Reseller) & Tier 1 CSP licencing supplier. Think IT is also a Google G-Suite / Classroom partner.

A smooth transition requires a plan and good project management. We have defined our approach to project management in Section 3 above. For a project of this type it requires liaising with the school and the various vendors to agree deliverables and due dates. Often cut-over is planned for a holiday, and there is often a period of parallel running to ensure there is no loss of service for the school.

All the major platforms have experience of 'on-boarding' or 'releasing' data to other providers. It is a relatively small market and they need to make transitions work, otherwise they risk denting their reputation and schools being fearful of being "locked-in". Where we have facilitated the transition between providers, the process is very simple. Data is exported (typically in a CSV file) from the old system and imported into the new system to populate pre-defined data fields. There then needs to be a process of data checking, and potentially additional data input, such as documents, spreadsheets, videos and other materials being correctly assigned to the right users.

<p>ability to flex with the school's student population without becoming a costly burden;</p>	<p>The majority of solution providers are cloud-based, so scaling up or down is easy as a school's student population fluctuates. Typically, most suppliers provide the ability to flex annually, though some are moving to monthly. Where there is an increase in requirements, many providers work within 'bands' so that minor changes don't end up costing the school money.</p>
<p>how training will be delivered, frequency and cost;</p>	<p>All solution providers provide a mix of training, including: on-site self-service (via video or internet) webinar or group sessions. Everyone provides initial training when a new system is purchased, and on-line training is available through videos, document, webinars etc, often at no extra cost. A number of providers run 'paid-for' training courses and certifications throughout the year that anyone can attend. Costs depend on the type of training and the numbers of staff involved.</p>
<p>management reporting;</p>	<p>All our VLE solutions provide management reporting. The importance of personalised learning makes this an imperative for managing both learners and staff. Management reports include data on usage (logins, duration in the tools/applications, documents up/downloaded etc.).</p>
<p>limitations on interoperability and the adherence to standards,</p>	<p>Solutions that have limitations don't last long because there is an escalation in features brought on by new tools and cloud solutions delivering anytime, anywhere, any device access. Also, solutions that don't comply to the standards are of little or no use to the school.</p>
<p>please detail; any additional resources that would be supplied as part of any purchase;</p>	<p>Some solutions are modular, enabling schools to pick those that they want and need. The benefit for the school is that they are only paying for what they use and can add additional modules only as and when required.</p>

<p>dynamic link to the schools MIS, please detail the range of MIS that are linked and highlight any limitations;</p>	<p>Dynamic data links to MIS are via the Groupcall Xporter model (or similar), however Microsoft are currently developing their own MIS integration tools called schools data sync, as well as classroom management tools that are including with the O365 solution. Groupcall links to all the main solutions in the UK.</p>
<p>what tracking is available, range of tools available;</p>	<p>Typical data being tracked includes tracking of individual and class progress, grades, marking and homework completion. Add-on tools to track pupil and school performance at KS4 (Progress 8, Attainment scores and Progress scores) and KS5 (Value Add scores and Attainment scores) are being developed which we are monitoring with a view to making them available to schools.</p>
<p>backup and restore potential, options for cloud and institution base or hybrid thereof, Broadband impact?</p>	<p>Most solutions are cloud-based, offering anytime, anywhere, any device access. Cloud-based solutions require good connectivity, but with the solutions available through Think IT, including back-up connectivity using alternative lines or 4G, connectivity isn't an issue. The major benefit from being cloud-based is that the data is always up-to-date and constantly backed-up. Because the constant back-up is only transferring data changes, there is no discernible impact on the broadband.</p>
<p>Describe the tools available to the teacher and the functionality to manage and interact;</p>	<p>For schools that have on-premise or hybrid solutions, there are a number of options, including: remote back-ups to a data centre; tape; external hard drive; or (we have seen) USB backups. The remote back-up to a data centre can have an impact on broadband if it is set to back up the entire database, which is why most run overnight. There is no broadband impact for physical backups (tape, hard drive, USB), but there are real risks around security. The devices should be encrypted and stored off site in a secure location that protects against fire and theft. Too often the back-ups are kept in school, or at a staff member's house, which isn't appropriate.</p> <p>In addition to the assignment setting, grading and marking tools mentioned above, solutions include links to the MIS so that teachers can get access to lesson plans, class lists, and their daily or weekly schedule.</p>

<p>Maintenance and management overheads to be described;</p>	<p>In turn, this information can be shared, such as to new joiners or teachers covering lessons</p> <p>These solutions by necessity are very 'light' on maintenance and management overhead, otherwise teachers and senior school leaders wouldn't use them. We often come across schools that have old fashioned VLE's that are not being used because they are a bureaucratic burden. For the cloud solutions, all the maintenance can be done remotely by the supplier.</p>
<p>Parent and governor engagement options?</p>	<p>Parental and governor/trustee engagement is included in many on line learning systems but tend to concentrate on learning &amp; collaboration rather than providing a complete engagement tool.</p>
<p>Reduce admin and ease communication with students, teachers, SMT and parents;</p>	<p>Over the last few years we have seen a growth in third-party tools specifically designed to reduce admin and ease communications. These often provided by parental payment providers, cashless caterers or parental communication experts. We believe schools should be offered a range of 'best of breed' providers and choose the most relevant.</p>
<p>Compliance with GDPR, Security and systems interoperability;</p>	<p>All suppliers are aware that they need to be GDPR compliant and to have up-to-date security. It is one of the biggest issues in the sector at the moment. All of our existing suppliers in this category are GDPR compliant. All new suppliers will be asked to self-certify their compliance as part of the application process</p>
<p>How will any system address authentication and authorisation and at what levels?</p>	<p>All solutions require a secure login with a specified user name and password. Several suppliers provide two-factor authentication, and the use of biometrics and facial recognition software, those these would typically be used for teachers or administrators who have access to confidential information, and not usually for students.</p>

How could any proposed product help reduce teacher workloads?

Highlight any additional costs that would need to be factored in, in the event an institution changed their platform?

By being able to work online, anytime and on any device, and with the ability to share their information and content, teachers can be more productive, saving time and do not have to carry and mark books or record grades, because that's done automatically.

It's not specifically an additional cost, but most organisations significantly underestimate the cost of training and change management. And because they are seen as 'soft' costs, they are often cut to save money, but it's a false economy. Google recommend that 30% of any project cost should be assigned to training in order to make solutions stick and become productive. We think that's an important message.

## 12 - Cyber Security

Cyber Security is increasingly an issue in all organisations in both the public and private sector. In education the matter is compounded by the fact that institutions need to balance the need for security with the need for learners of varying degrees of ability and age to explore the online world but still be protected.

Please detail the areas you can deliver on, and how you will address the varying levels of cyber security needed for the multitude of organisations that will use the framework. Areas include:

Supply partners we work with in this category include: E2BN; Microsoft, Chess Cyber, Cisco, ITGL, Red Arrow, NetSupport; and Senso Cloud.

Having run the Think IT framework for five years, we have seen the increasing importance of robust cyber security because of the rapidly escalating attacks on schools, which are often seen as 'soft' targets for cyber criminals. In addition, many schools have experienced hacking from pupils, and very occasionally staff. Striking the right balance between security and access can be tricky and schools need expert advice to get it right.

As just one example we recently came across a school whose website had been repeatedly hacked but they were unable to do anything about it (or even take the website down) because all the details of the original web designer and hosting organisation had been lost over time.

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### CASE STUDY – Summit Learning Trust

Summit Learning Trust engaged Think IT to run a full tender process in order to procure a trust wide connectivity and security contract covering their seven schools over three years.

Through that process they chose to implement Sophos XG because of the superior product performance and the best value pricing through Think IT approved supplier Wave 9. In addition to implementation, Wave 9 offered free training to ensure the product is utilised to its full potential.

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Cyber security is a massive and rapidly changing topic. We will cover each of the bullet points in turn to demonstrate the depth and quality of the resources available to organisations through suppliers on the framework.

- Network security

## Network security

We view Network Security as the process of taking physical and software preventative measures to protect the underlying networking infrastructure from unauthorised access, misuse, malfunction, modification, destruction, or improper disclosure.

These preventative measures create a secure platform for computers, users, and programs to perform their permitted critical functions within that secure environment.

To deliver that secure environment, we can take a multi-channel approach to delivering network security. A school can select from the following tests and assessments to identify weaknesses in their network environment:

- **Network Infrastructure penetration test (Internal/External)** - Identifying vulnerabilities such as full administration access gained through the exploitation of running network services.
- **Wireless Penetration Test** - Attempt to gain access to wired networks through vulnerable or rogue access points in the wireless network.
- **VOIP Penetration Test** - This will identify any routes from a VOIP network into the main IT network (this can allow external access into IT infrastructure).
- **Internet exposure penetration test (Information Disclosure)** - Testing for sensitive company information that may be available on the internet.
- **Social engineering assessment** - Testing employees' susceptibility to disclosing sensitive organisational information.
- **Physical security assessment** - Testing the robustness of the access mechanisms that protect organisation's assets.
- **On-host and infrastructure security test mapped to security policies** - Designed to reveal missing patches, blank passwords and other vulnerable areas of security settings, this test also examines the implementation of the organisation's security policy at a technical level.

- Application security

- **VPN (virtual private network) assessment** - Testing for flaws in authentication mechanisms and the configuration state to ensure that network boundaries are not compromised by the external VPN.
- **Firewall assessment – technical and physical audit review** -Testing firewall effectiveness to ensure it meets the standards set by security policies. This can prevent dangerous services traversing the firewall from the internet.

We recommend delivering three phases of network security which forms the underlying framework for network security strategy. This consists of:

- **Protection** - Systems and networks should be configured as correctly as possible
- **Detection** - An organisation must be able to identify when the configuration has changed or when some network traffic indicates a problem
- **Reaction** - After identifying problems quickly, an organisation must respond to them and return to a safe state as rapidly as possible

This delivers a defence in depth strategy by layered security which can be implemented at any level of a complete information security strategy. Whether an administrator of only a single server in a school or running a thirty thousand user enterprise Wide Area Network, a layered approach to security tools deployment will help improve any organisation's security profile.

We understand that any single defence may be flawed, and the most certain way to find the flaws is to be compromised by an attack. We will design and test a series of different defences should each be used to cover the gaps in the others' protective capabilities.

#### **Application security**

Our supplier application security services are designed to protect software from undesired access and mishandling, as well as viruses or other cyberattacks. We can assist organisations with application design

- Endpoint security

review, application code review, and secure application development. If security flaws are discovered during review, we will recommend fixes and work with developers to bolster protection across each platform.

Application security best practices include several common-sense tactics, including:

- Defining coding standards and quality controls
- Adopting a cross-functional approach to policy building
- Creating policies based on both internal and external challenges
- Focusing on security rather than on program participation
- Using industry standards as a benchmark
- Addressing vulnerabilities rather than flaws
- Balancing the cost of remediation versus mitigation
- Integrating testing into software development

Vulnerability assessment is a major component of application security processes. Through our suppliers we can provide a range of services, including static, dynamic, interactive and mobile testing.

We can also deliver application shielding services. The main objective of these services is to harden the application so that attacks are more difficult to carry out. The goal of these services is to do more than just test for vulnerabilities and actively prevent applications from corruption or compromise.

### **Endpoint security**

Endpoint security services aim to protect every 'endpoint' on a network, including end-user devices such as mobile devices, laptops, and desktop PCs. Hardware such as servers in a data centre and network infrastructure should be treated as endpoints as they provide an entry point for threats.

As best practise, schools should require endpoint devices to meet recommended and agreed security standards prior to being granted network access. This will give greater control and more effectively block threats and access attempts prior to entry. Beyond simply controlling

access, endpoint security tools also provide capabilities such as monitoring for and blocking risky or malicious activities.

Endpoint security services we can deliver contain features and functionality such as:

- Anti-virus / anti malware protection
- Device firewall management
- Data loss prevention
- Insider threat protection
- Disk, endpoint, and email encryption
- Application whitelisting or control
- Network access control
- Data classification
- Endpoint detection and response
- Privileged user control
- Endpoint device hardening

We also provide device management and application security services as these are central to endpoint security. In addition, we can help define strong mobile policies and easy-to-implement default profiles. We can also provide over-the-air enrolment services, antitheft provision, remote data wipe services, remote management and patch management to ensure comprehensive device management.

As part of our Readiness Assessment process we also take steps to ensure that schools immediately remove any obvious threat to endpoint security. For example, we regularly come across schools still running Windows XP machines. Microsoft ceased support for Windows XP in 2014 and will stop support for Windows 7 in 2020. This creates a major security risk for any schools who have devices running these operating systems (it was an attack on a Windows XP machine that caused the major security breach in the NHS two years ago). Whenever we find devices using these operating systems, we tell the school to immediately disconnect them from network and internet access and ensure they are prioritised for replacement.

- Data security

## Data security

Schools are increasingly aware of the need for data security. GDPR has helped increase awareness, but we've also heard of increasing numbers of ransomware attacks where denial of access to data has had a devastating impact on a school.

We recommend schools start with security awareness. They are obliged to conduct audits and training as part of GDPR but making conscious decisions about the types of data collected, accessed and stored is very important.

Controlling access to data using tools like Microsoft Teams can ensure that only users with the correct level of access can see data. Microsoft 365 also has tools such as data retention policies which can delete data after a certain period or stop sensitive information (e.g. bank account numbers) being accessed, saved or sent to external devices. This is commonly referred to as Data Loss Prevention.

Forcing secure passwords and features such as Multi-Factor Authentication can secure data against forced entry attacks. Time and again though it is human behaviour that causes problems in this area. We still find schools with passwords written on Post-It notes or shared between multiple staff members.

Data should also be secured during transmission using secure protocols such as Transport Layer Security/Secure Sockets Layer (TLS/SSL) encryption. We highly recommend that schools store data in the cloud for security, but where data is stored on local devices, it too should be encrypted.

Backing up data is common sense, and vital for disaster recovery. We still come across schools backing-up to tape, and the tapes being taken home by an administrator and not being securely stored. We highly recommend encrypted cloud back-ups for all organisations. Once data is encrypted, it stays encrypted—allowing organisations to meet disaster recovery and archival requirements without compromising data security.

- Identity management

When considering data security, in addition to devices such as laptops and tablets, schools need to consider paper and physical media like memory sticks and portable hard drives. A number of solutions we provide (e.g. Netsupport and Senso) include features that disable USB ports and CD-Writers. Microsoft 365 also includes features to prevent data being stored to external drives. Paper containing sensitive or confidential information needs to be securely stored. One of the challenges with paper is that it is highly portable and combustible. There are approximately 10,000 acts of arson, burglary and malicious damage on schools each year. We know of one incident where 25 years' worth of confidential paper files were lost when the school was set on fire.

### **Identity management**

Identity and Access Management (IAM) enables the right individuals to access the right resources at the right times for the right reasons. Getting it right is a critical for all schools.

Through our suppliers we can deliver a range of IAM solutions, including a Software-as-a-Service (SaaS) access management solution with advanced user authentication and Multi-Factor Authentication (MFA). This enables the school administrator to grant access rights, provide Single Sign-On from any device, enhance security with multi-factor authentication, enable user lifecycle management and protect privileged accounts.

It complies with the latest industry standards including OIDC, SAML and OAuth. It can also support user authentication methods like biometrics, FIDO2 U2F, FaceID, Touch ID, email/SMS one-time-passwords, and soft tokens.

With this solution schools can confidently and securely grant access rights and entitlements within an organisation. They can provision, audit and report on user access and activity, improve visibility into the way access is being used, prioritise compliance actions with risk-based insights, and make better decisions about the appropriate actions to take.

- Database and infrastructure security

## Database and infrastructure security

Our database security services provide real-time protection for business-critical databases from all types of threats: external, internal, and even intra-database exploits. This software-based offering provides robust security, streamlined database security management, and continuous compliance without requiring architecture changes, costly hardware, or downtime. It's an efficient, affordable way to protect databases while preserving database performance and helping to ensure continuous business operations.

Our solutions help to mitigate the top threats to database security

1. Default or weak passwords
2. SQL injection
3. Excessive user and group privileges
4. Unnecessary DBMS features enabled
5. Broken configuration management
6. Buffer overflows
7. Privilege escalation
8. Denial of service
9. Un-patched RDBMS
10. Unencrypted data

By monitoring and reporting on these issues, automatically repairing issues such as installing latest patches. We can also perform a fully automated discovery of all databases within an environment, along with a thorough scan to identify which of those contain sensitive data, such as payment information, bank account numbers or other personal identifiable information. The solution provider will give a detailed, actionable information to help prioritise and remediate security gaps.

Our service also provides, recommends and advises on:

1. Isolating sensitive databases—maintain an accurate inventory of all databases deployed across the enterprise and identify all sensitive data residing on those databases.
2. Eliminate vulnerabilities—continually assess, identify and remediate vulnerabilities that expose the database.

- Cloud security

3. Enforce least privileges—identify user entitlements and enforce user access controls and privileges to limit access to only the minimum data required for employees to do their jobs.
4. Monitor for deviations—implement appropriate policies and monitor any vulnerabilities that cannot be remediated for any and all activity the deviates from authorised activity.
5. Respond to suspicious behaviour—alert and respond to any abnormal or suspicious behaviour in real time to minimise risk of attack.

### **Cloud security**

We can provide hybrid IT security solutions across on-premises and multi-cloud deployments for platforms such as Amazon Web Services (AWS), Microsoft Azure and Google Cloud. Services include: security consulting; security monitoring; configuration management; vulnerability management; endpoint security; security testing; and incident response.

Without the right security infrastructure and operational framework in place, the cloud presents serious security challenges for schools and MATs that can have far-reaching repercussions. Business-critical applications and data can be scattered across multiple clouds. We can provide a coherent set of tools and processes that integrate with cloud service providers and provide organisations with a consistent security view across their cloud and hybrid cloud estate.

To secure organisation’s multi-cloud environments, we follow three principles:

- Integration with all major cloud providers
- A coherent suite of security tools that cover the entire attack surface
- Centralised management of security, including automation of workflows and threat-intelligence sharing

We can provide Cloud Security Consultancy Services that will identify the most appropriate strategy for each school – there is no “one size fits all” solution in this sector. The team can scan a school’s cloud

- Mobile security

applications, APIs, and devices, and can extend vulnerability scanning into virtual cloud environments including AWS, Azure, and Google. They can also monitor, correlate, and analyse cloud data sources 24x7 to identify security events and support remediation.

### **Mobile security**

We provide a comprehensive mobile device security platform. Our solution defends against all threats that put an organisation's data at risk of exposure, theft, and manipulation—while respecting user privacy and facilitating productivity by:

- Actively protects school resources with immediate protection from risky devices
- Blocking malicious apps and terminate malicious processes before they expose sensitive data.
- Protecting infrastructure by blocking compromised devices from accessing school Wi-Fi.
- Preventing data copy, transfer or deletion by blocking access to known malicious command and control servers.
- Predicting attacks and detects zero-day exploits (where an attack happens the same day a vulnerability is identified) using machine learning and the global intelligence network of multiple suppliers.

- Disaster recovery/business continuity planning

### **Disaster recovery/business continuity planning**

Our Business Continuity Planning (BCP) service offering works to the international business continuity requirements of ISO 22301 and the professional best practise outlined in the Business Continuity Institute (BCI) Good Practice Guidelines (GPG).

We provide service in three areas of BCP

1. Business Continuity Services including:
  - Auditing and conducting gap analysis against a recognised maturity model
  - Development of the full business continuity lifecycle

- Developing strategy as part of the business continuity life cycle
- Business Impact Analysis
- Writing business continuity plans
- Developing and carrying out continuity exercises

## 2. Cloud Recovery Services

We can deliver a fully-managed cloud based recovery solution for ICT environments. Services can be tiered to address a range of Recovery Time Objectives (RTO) and Recovery Point Objectives (RPO).

To protect a school's data, it will be copied to a secure recovery centre and refreshed as often as required and ready for restoration. For mission-critical data, replication services will deliver a fully working copy of the school's environment in a ready-to-use state, while the back-up and vaulting service is ideal for less urgent requirements or long-term data retention.

If disaster strikes, we'll connect the school's data to their back-up infrastructure and recover their network and applications as part of the cloud recovery solutions, backed by robust service level agreements.

## 3. Recovery Management

We know that many schools fail to regularly test their disaster recovery plans. That means that when a real disaster strikes then most schools fail to deliver their own RTO and RPO objectives. There is a better alternative. Disaster recovery management can be outsourced to specialist suppliers who will assume responsibility for a schools' recovery. Experts will help schools to develop recovery plans and procedures, maintain them to ensure synchronisation with changes to the school environment, and completely manage the testing of IT application recovery plans.

- End-user education

## End-user education

We can provide a multilingual, packaged security awareness program. It delivers assessments, security awareness training and phishing simulations through integrated learning paths. Using 15+ years of enterprise cyber security expertise we have 3 off-the-shelf solutions to help organisations of any size or experience.

1. Security Awareness Essentials

Learn to make safe, security-conscious decisions regarding phishing and malware on a day-to-day basis. Topics covered include Phishing and Malware.

2. Preferred Security Awareness Essentials

Learn to prevent, detect, and respond to security threats like password management, identity theft and more. Covers General Security Awareness: Phishing, Malware, Physical Security, Password Management, Mobile Security, Social Engineering, Social Media, Data Security, Cloud Security, Working Remotely, IoT, and Incident Reporting.

3. Elite Security Awareness Essentials

Practice good security habits by guiding virtual characters through real-world security situations. Covers General Security Awareness, In-Depth: Phishing, Malware, Physical Security, Password Management, Mobile Security, Social Engineering, Social Media, Data Security, Cloud Security, Working Remotely, IoT, Incident Reporting.

We can also provide specific cyber aware education and exercises in specific critical issues such as:

### Phishing

Successful phishing campaigns are the number one cause for data breaches. Routinely running phishing simulations on a school's staff helps prepare them to be the first line of defence

and is a key part of any effective security awareness program. We can provide a sophisticated anti-phishing simulator tool to prepare your organisation for all four phishing attack methods – email, phone, text, and USB baiting. Schools of any size can test, train, measure, and improve their phishing preparedness all under one unified experience.

### **Regulation awareness**

The landscape for data privacy is complex and ever-changing. This simple and comprehensive privacy training is web-based and designed to foster a privacy-conscious culture across a school. For staff who deal with sensitive information, this enhanced privacy training solution is the best way to keep up to date and mitigate risks.

### **Ransomware**

The most common method of introducing ransomware is via a link in an email, text message, or social media post. When the target clicks the link, the ransomware is downloaded onto their device, quickly spreading throughout the school's network and encrypting all files, rendering them unreadable until the hackers are paid. And because hackers are eager to cast a wide net with their attacks, everyone is a potential target. These courses and educational material teach staff to recognise potential dangers before they have a chance to become actual problems, then reinforce that learning with dynamic simulations of ransomware attacks. Analytics track improvements and provide further actionable data, driving a culture of security awareness and ensuring that staff are engaged in active cybersecurity defence.

Provide detail of the different levels as well as services level and options.

The sections above provide detail on the different levels as well as services level and options.

Please add further areas of protection you can cover.

Explain the standards your services can deliver against.

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### CASE STUDY – Bolton Council

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With a fluctuating market, Bolton Council wanted to lock in a long-term deal for Sophos. By procuring through the Think IT framework, Bolton were able to secure a five-year contract with one of our approved Cyber Security suppliers, Chess Cyber, without having to go through a protracted procurement process.

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We can provide further areas of protection, including:

- ISO27001/2 Assessment (Audit) / PCI DSS Assessment (Audit) - Assessment to ensure compliance to critical standards.
- Information Assurance - HMG CLAS - Providing business driven advice on the management of information risk. Influencing the design of information systems to meet security requirements and assessing compliance with security policies and standards
- Network Security Infrastructure Design - This can be implemented either at the start of a project or at any time during the infrastructure life-cycle
- Application Security Design - Security design is implemented in a phased approach that integrates with the development life-cycle of the application
- Security Solutions Design / Assessment - Conducted as a cost saving exercise to integrate solutions functionality or to enhance infrastructure security by identifying the correct security solution mapped to the business requirements
- Network Forensics - The detailed monitoring and analysis of computer network traffic for information gathering, legal evidence or intrusion detection

In addition to full compliance with ISO 27000, which comprise the recognised international standards for IT security, we follow the Minimum Cyber Security Standards as set out by Government and the

National Cyber Security Centre. Adapting those standards for schools, in summary they are:

1. IDENTIFY

- a. Schools shall put in place appropriate cyber security governance processes
- b. Schools shall identify and catalogue sensitive information they hold
- c. Schools shall identify and catalogue the key operational services they provide
- d. The need for users to access sensitive information or key operational services shall be understood and continually managed

2. PROTECT

- a. Access to sensitive information and key operational services shall only be provided to identified, authenticated and authorised users or systems
- b. Systems which handle sensitive information or key operational services shall be protected from exploitation of known vulnerabilities
- c. Highly privileged accounts should not be vulnerable to common cyberattacks

3. DETECT

- a. Schools shall take steps to detect common cyberattacks

4. RESPOND

- a. Schools shall have a defined, planned and tested response to cyber security incidents that impact sensitive information or key operational services

5. RECOVER

- a. Schools shall have well defined and tested processes in place to ensure the continuity of key operational services in the event of failure or compromise

Click below for further information from the .GOV website.

<https://www.gov.uk/government/publications/the-minimum-cyber-security-standard>

List the qualifications, affiliations and quality marks adhered to.

Detail any consequences of any solution that may be implemented especially in a school environment.

Qualifications, affiliations and quality marks adhered to include:

- Cyber Essentials
- Crest Accredited
- OPST Professional Security Tester
- Global Information Assurance Certification
- CLAS – CESG Listed Advisor Scheme
- CISSP – Certified Information Systems Security Professional
- CEH – Certified Ethical Hacker
- CHFI – Computer Hacking Forensic Investigator
- ISO27000
- ISO22301
- ISO20000

The consequences of implementing any of the solutions listed above will be that the school is better protected. However, there are two significant challenges for schools related to cyber security. The first is the one you mentioned at the start of this section: how do schools balance the need for security with the need for learners of varying degrees of ability and age to explore the online world but still be protected. The second challenge is cost. To provide any school with the most sophisticated protection available on the market would be prohibitively expensive. We therefore need to help schools decide on the level of risk they are prepared to tolerate for the budget they can afford. This is not an easy conversation, but a very important one.

Other consequences are changes in the way that staff operate. We have seen many instances of staff being reluctant to change working practises, and that brings its own security risks. Schools therefore need to be disciplined, not only in managing change, but in ensuring policies and procedures are comprehensive, up-to-date and enforced. If there are no incentives or sanctions them policies will fail.

One final consequence is the constant need to be up-to-date with software, hardware, policies and training. Threats are constantly evolving and technology constantly changing. A very simple example is

Windows 7. There are an estimated 100,000 Windows 7 devices deployed in schools today. In January 2020 they will no longer be supported by Microsoft updates becoming an instant security risk. We are working with Norfolk County Council and South East Grid for learning to offer a Device-as-a-Service offering for schools with new devices running the latest Windows 10 Operating Systems and security features.

This is even more of a problem where operating systems are often an embedded 'hidden' part of a piece of equipment (for example medical scanners and diagnostic equipment, Point of Sale systems, and digital signage systems). This applies to the whole of the Public Sector, not just Education

## 13 - All Areas

In many of these areas there will be a need to fully integrate a whole range of services as a fully managed service. Please detail how you will achieve this and especially how this will be supported, including the processes involved, help desk, remote and on-site support and how these will be managed.

The core principle underpinning the Think IT offer is to have products and services that can be fully integrated to provide a seamless service to schools and educational establishments. Having every aspect of a schools' IT within our fully managed service means that we are in control of all the suppliers and stops issues of "finger pointing" when issues do arise.

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### CASE STUDY - Maritime Trust

*In April 2019, following a five-supplier mini-tender process led by Think IT, Maritime commissioned ATS to deliver support services for their eight schools.*

*"On IT I am delighted to feedback how positive every Head Teacher was on the support they are getting from ATS. E.g. Timbercroft and Millennium were glowing in their praise of Jack and Harry.*

*Please pass on our thanks to Jack and Harry - they are clearly doing a superb job in supporting our schools."*

**Susan Matheson, COO, Maritime Trust**

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Not every school wants a fully managed IT service. Some don't think they want one until they find out about the benefits, including increased productivity and saving money. Many are not aware that they can have such a service, how to specify their requirements or go about procuring IT. A number of Heads we've talked to aren't aware of procurement legislation, which we find incredible. Part of our role is to educate schools about all of those.

One of the key tools we use is the Readiness Assessment (RA). As described in other sections, there are four key components:

1. The outputs from the Senior Leadership Team visioning workshop, looking at the Outcomes the team want for students, teachers, parents and governors, and the role the new cloud based solutions and new ICT developments can play in delivering those outcomes
2. The current state of infrastructure, including connectivity, networks, user devices (PCs, laptops, tablet etc.) and software licences, highlighting those areas that would need to be upgraded or replaced in order to take the Think IT service
3. Total cost of ICT ownership across the school estate, including cost of replacing hardware, training, consumables and energy costs, and identifying areas of potential savings
4. Options, recommendations and proposed next steps (including a provisional implementation timetable) taking into consideration 1, 2 and 3 above.

Where appropriate, the options and recommendations will include fully or partially managed IT services. If the school decides to go ahead, we will appoint a project manager as there is always significant change and potential risks that need to be managed with a move to such a service. Even switching from an existing managed service provider to Think IT is not necessarily straightforward and needs to be managed. The project manager, in conjunction with the relevant suppliers and the school, will put together a project plan to ensure delivery on time and within budget. As part of the implementation, initial training and support are always provided and ongoing support can be provided as required. Often this can be remote training or support, provided through videos, online documentation, user groups and video conferencing. Helpdesk, on-site and remote technical support can all be provided, depending on the school's requirements and existing staff and infrastructure. This includes helpdesk ticketing providing 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> line support as required. Remote support is delivered as routine now for practically every supplier of services as it is the most secure, efficient and effective way to support customers.

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## CASE STUDY – The Swinton High School

*For the last 3 years we have provided a fully managed IT service that covers connectivity, network infrastructure, wifi and applications delivered by 11 different suppliers under one overarching contract. When the school's existing IT support manager left, the school asked Think IT to provide on-site support in addition to the helpdesk and remote support that was part of the original contract. Buying the support through Think IT resulted in an approximate 25% cost saving over the employment costs of the original IT support. The new IT support person works for the main supplier, so has the added benefit of being able to rapidly resolve issues because of his contacts in the main supplier.*

*“There was a really proactive approach from Think IT, even after the initial deal was done and dusted, where they tried to make us further savings, and an honesty about it as well.”*

**Mark Harrison, Headteacher, The Swinton High School**

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Using Swinton as an example, we pay all the suppliers on a quarterly basis. This enables us to ensure there is constant quality of delivery from all the suppliers because, were they to stop performing, or go into liquidation, we would be able to provide a new supplier without interruption to the school.

Detail which services can be provided 'Pay as you Go'.

In practice, we can provide every part of the service on a pay-as-you-go basis. Even the Readiness Assessment can be broken into its constituent parts and paid for separately. Our pay-as-you-go services include:

- Fully managed services
- Helpdesk, support and training
- Infrastructure as a Service (IaaS) – network infrastructure, WIFI etc.
- Identity Management as a Service (IDaaS) – Single Sign-on and management of email accounts
- Desktop as a Service (DaaS) – virtual desktop for anytime, anywhere, any device access to resources, data and applications
- Device as a Service – (DVaaS) PCs, laptops, notebooks, Chromebooks etc. including parental pay options where the student gets to own the device after two years; and reconditioned and refurbished devices for further savings
- Software as a Service (SaaS) – all cloud based solutions we deliver can be done on a pay-as-you-go basis.

Detail financing options and limitations.

Under existing regulations, the only type of lease agreement that can be taken on (without prior specific approval) by a state-funded school is an operating lease. Finance leases are viewed as a form of borrowing and are prohibited unless prior approval is obtained from the Secretary of State so are rarely allowed. The DfE “highly recommend that schools make use of public sector framework agreements specifically set up to provide value for money agreements for public bodies”.

Think IT is one such framework agreement and we were delighted when the DfE recognised and started recommending Think IT to schools through its “Approved Framework” programme. This is testament to the significant effort E2BN have put in to creating a truly novel approach to frameworks that meets all schools’ IT needs and minimises the cost and effort of procurement and contract management, whilst remaining fully compliant with UK and EU procurement law.



Please provide any other supporting statements, evidence or information within each category that you consider is pertinent to the specific areas to be delivered through the framework.

We have provided supporting information such as quotes and case studies through the relevant sections. We would like to make the following points in support of our application:

- **Independence** – we strongly believe that this framework remains unique in the marketplace and that we are the only completely independent, vendor-neutral provider who is currently operating a framework of this kind. Most frameworks such as CCS are operated and administered entirely by the public bodies who originally let them, and the level of support and direct service provision from the framework owner is therefore low or non-existent, forcing the customer to do all the supplier sourcing and procurement work for themselves. Other frameworks are let to JVs or consortia who, while they may claim to have a range of available providers, are far from being market-independent and have a vested interest in awarding any competed work between the partners themselves. We've proven over the last five years that we can operate this framework successfully and that our independent approach has demonstrable benefits to the customer in terms of choice, contestability and best value pricing. Our regular reports to DfE as part of the framework's listing as one of their recommended 'Approved Frameworks for Schools' has identified savings to the public purse in excess of £400k in the 12 months to the end of August 2019.
- **Continuity** – If Think IT are re-appointed then there will be consistency of message to customers, LA partners, suppliers and other stakeholders. Any new brand and messaging may create confusion and uncertainty, leading to reduced sales
- **Momentum** – There will be no disruption in the momentum with key customers like Derbyshire County Council, North Tyneside Council, SCOMiS, Nottinghamshire County Council and LEAD Academy Trust. Any new provider would take time to come up to speed while they build their brand, service and reputation with both new and existing customers
- **Supply Chain** – We have worked extremely hard to create a deep and diverse supply chain of the best educational suppliers and are attracting more all the time because vendors and manufacturers understand the benefits being part of the Think

IT framework. We do not believe any other supplier would be able to offer your customers the same range of choice in all product/service categories without again building it over time as we have done, and we believe that most if not all other bidders will almost certainly seek to operate the framework on a Joint Venture or consortium basis with all or the vast percentage of the services to be delivered by the individual consortium members themselves, creating conflicts of interest and reducing choice and contestability for the customer.

- **Lessons Learned** – we started from scratch over five years ago and have learned what works, and what doesn't, the hard way through hard work and perseverance. Any new provider is likely to have to repeat those experiences before they learn from them
- **Profile** – Our alignment with industry groups such as NAACE and NEN and with major industry players like Microsoft and Google has raised our profile across the education sector, which, combined with our ever-increasing marketing efforts, and our broad and deep personal networks across the sector, means that more and more people now recognise the brand, who we are and what we stand for. Any new brand may take significant time to establish and require that profile to be re-established
- **Support** – We've supported E2BN in the past and will continue to do so with people, promotion and opportunities for new revenue stream for E2BN
- **Commitment** – no one is going to work harder for you than we will. We've proven that over the last five years and will do so for the next four. We understand you, your organisation and what you stand for. That level of trust is earned through hard work and commitment. We won't let you down.

In addition, below are a series of quotes from customers on why they like Think IT.

**Robin Casson, Head Teacher of secondary school and director of education and skills for Northumberland City Council.**

*“What impressed me with Think IT is the understanding that they have of the schools’ situation and their openness and clarity about what they do and the way that they do it. They are very different from our experience of many sales people from other suppliers; Think IT doesn’t push schools into a corner, they do it the way it should be done. It’s all about being a partnership and making decisions together through consultation and clear explanation of the options available.”*

**Mags Cowan, Schools ICT manager at North Tyneside Council**

*“Think IT will never put us under pressure to buy; quite the opposite. We are encouraged to trial products to ensure they are right for us. We recognized the value of working with a managed service provider like Think IT who understands the specific needs of the education sector. They recommend several ideas that apply to our individual needs. Think IT works with us as a partnership; they offer old fashioned values driven by customer needs.”*

**Stephen Honeywood, Governor South Lee School**

*“Thank you for your time yesterday and for your dedication and diligence over the past few months in ensuring that we achieve the very best IT systems and solutions for South Lee School. Now we are nearing the end of the first phase of the school’s IT development, it is clear to see what huge strides forward the school has taken; this has only been achieved by the considerable effort which yourself and your partners have put into the project. Could I pay special thanks to Mike Brown who has been quite exceptional in his attention to detail and commitment to ensuring the project has been a success. The efficiency and effectiveness of what has been achieved in such a short space of time is quite remarkable, and clearly a testament to your team and the excellent partners you are working with. On behalf of everyone at South Lee “Thank You” and we look forward to our continued partnership to develop South Lee into a school of IT excellence”*

**Paul Turner, Assistant Headteacher, The Swinton High School**

*"The Think IT framework is a god-send for anyone tasked with buying IT because they do it all for you"*

Below are a series of quotes from some of our SME supply partners on why they like working with Think IT.

**Jason Taylor, Director, Bridge1Solutions**

*"Think IT are a key strategic partner. They open doors for us we wouldn't be able to open on our own. The Single Lot sole supplier framework has made it easier for companies, especially the smaller ones to participate. Due to the nature of the E2BN framework it has certainly opened up opportunities for us to participate in bids and quote for new contracts where it would not be possible before due to our size. The testing of Bridge1Solutions ability to deliver the product and the company worthiness to participate in the Framework was very robust, as much, so if not more than, any other due diligence Bridge1Solutions has been subject to."*

**Martin Baker QPE, Director, OneTeamLogic**

*"One Team Logic provides its safeguarding software MyConcern to schools and colleges across the UK through the E2BN Think IT framework. The opportunity for us as a 'start-up' SME to bid to become a framework supplier as part of a Single Lot was a critical moment in our development, as we would never have been able to bid on our own, both through lack of experience and of capacity in terms of such a complex and demanding bidding process. Despite being part of a Single Lot bid, the due diligence process for us as a company was still incredibly challenging and very thorough but this actually helped us to 'raise our game' to ensure that we met the framework's requirements. This has subsequently been of significant assistance to us in demonstrating to framework customers that we operate to the highest standards of information security and commercial practice. It has also enabled us to partner with other framework suppliers of all shapes and sizes on a level playing field. Had the framework been let as individual lots we would not have been able to promote and support the framework in the way that we have since the framework's inception. We are proud to say that three years on we have this year won two Wales Start-Up Awards in the categories of digital innovation and customer service. Our ability to grow as a company from a handful of*

*staff to a workforce approaching 60 people and achieve all that we have achieved has been significantly supported by our membership of the framework”.*

**Phil Dawson, Commercial Director and Co-Founder of Airhead Education Ltd**

*"Airhead was a start-up in 2011 and winner of a Bett 'Innovation in ICT' award in 2015. Even though we have a great product, it requires hard work and support to grow a company from nothing. Think IT is an example of a partner that's been an important part of our growth strategy. As a small company, we've benefited from the profile and exposure we've received on an equal footing with larger suppliers on the framework. We're also a member of frameworks such as G-Cloud too but, in all honesty, we lose out to larger companies with big budgets to spend on sales and marketing. It's certainly the case that, as a small company, we would not have responded to some of the tenders we've been awarded as a result of our membership of the Think IT framework. Although it was tough to get through Think IT's due diligence, I felt it was suitably stringent and selected partners that really did understand education and were therefore capable of delivering high quality products and services. Being part of Think IT has worked really well for us because we've been able to network at Think IT events and develop our product into integrated solutions with other framework partners. Overall, I think that the approach taken by Think IT facilitates better quality, more integrated solutions that meet customers' real requirements rather than just selling products. For example, Think IT's 'Readiness Assessment' has been an excellent foundation for supporting customers to purchase technology in a sensible and considered manner that delivers best value in terms of outcomes."*

If you have read this far, we hope that our passion, commitment and desire come through the words on the page. The last five years have been hard, exciting and rewarding. But there is more, much more, that we want to, can and will do with E2BN to improve the teaching and learning outcomes for our children and young people. We will provide technology that engages, supports and inspires to help them to survive, thrive and succeed in the 21<sup>st</sup> Century. We also have the opportunity to offer our dynamically managed procurement approach to the whole of the Public Sector. Now that is an exciting prospect.

## Example Secondary School

E2BN Think IT

Education Cloud Services Readiness

Assessment Report

CONFIDENTIAL



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making IT easy for schools

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## Executive Summary

This school is a mixed 11-18 school in Derbyshire. The school has approximately 550 pupils, and some 90 staff of which around 50 are in teaching roles. The school achieved an overall rating of 'Requires Improvement' in its last Ofsted inspection in June 2015, with a rating of 'Good' for its leadership and management and 'Requires Improvement' in all other categories.

As part of its ongoing aim to improve teaching and learning the school wishes to make improvements to its current ICT infrastructure and invited Think IT via Derbyshire County Council to undertake a Readiness Assessment of its current IT provision. The assessment, which was carried out in February 2016, covered the following three areas:

- A senior team visioning workshop to determine the school's desired future strategy for IT and to identify current issues from a staff and leadership perspective
- A high level technical evaluation of current IT provision in the school
- An analysis of all current IT-related spend to derive an annual per pupil cost

This report summarises the findings of our assessment and presents some potential recommendations for future strategy and investment.

The head and her team feel that the school is already delivering great teaching to its students. However participants at the workshop recognised that, to a certain extent, the current IT in the school is not as optimal as it could be and, in some case, is holding the school back in its aim of delivering even better teaching and learning.

In summary they want a modern up-to-date network and equipment that works, is reliable and well-maintained, and that supports better teaching and learning for students both within and outside the classroom; and enables better communication between staff, students and parents. It was felt quite strongly that the school should not view ICT as an end in itself and that they did not necessarily need the 'newest, shiniest, latest thing' but that the equipment and software they do have should be fit for purpose and enable them to work effectively. The key themes raised as outcomes for new and improved ICT were:

- Better WiFi and improvement of the existing network
- More (and newer, faster) equipment for teachers and students
- Ability of students to use their own equipment
- Remote access to school systems and better communications facilities for teachers, students and parents
- Single sign in to eliminate 'forgotten password' syndrome
- Better print solutions
- A baseline of shared competency for staff underpinned by clear school policies and procedures with respect to ICT

From a technical perspective, the current school ICT infrastructure (virtualisation, SAN, networking) is relatively well specified, and is sufficient in capacity to last several more years, although some aspects (eg configuration or wireless routers) need attention. The school has an extensive hardware estate and an extremely good device: pupil ratio.

However the majority of desktop devices are currently underpowered for the school's requirements and are impacting on the schools ability to teach effectively using these devices.

Our financial analysis identified that this school currently spends around £285 per pupil per annum on its IT. This is at the top end of the range we have found for similar schools (the mean per pupil per annum cost across all secondary schools is £230) and primarily reflects the age profile of the school's IT equipment (the full replacement value of which is some £240,000) and the amount spent on software, print, and internal IT support staff.

Based on standard accounting methods for calculating the depreciation and replacement value of hardware, we would typically expect a school with equipment of the age profile of this school to budget for an annual cost of around £55,000 for the regular replacement of old or failing IT computer hardware. Finance data supplied indicates however, that the school has spent a total of £55,000 on computer hardware in total over the last three years. This is by no means unusual in that many schools tend to adopt a policy of only replacing kit when repair becomes unviable, but it results in classroom frustrations with ageing and poorly performing equipment and in our view it may also be storing up a significant financial problem for the future should a large tranche of equipment all fail at the same time.

In total our findings indicate that the school needs some urgent 'tweaks' to its networking setup and that it would also benefit greatly from further investment in new hardware as well as the potential to move to a fully cloud-hosted IT solution. We would therefore recommend a programme of action in the following three phases:

**Phase 1 – Network Optimisation.** Ensure the current Network and Wireless Infrastructure is fit for purpose both now and to support a possible future move to cloud-based technology

**Phase 2 – Cloud Implementation.** Introduce a range of new cloud-based teaching and learning technologies

**Phase 3 – Other IT Improvements.** Provide any new classroom IT, printing and telephony equipment required and make any other necessary IT improvements as required by, and agreed with, the school

We believe this approach will deliver the following benefits:

- New solutions can happen quickly, making an impact on teaching and learning in this school year
- Staff will have greater confidence in using new technology, how it is there to enable them to teach better, and ensuring it will work first time every time, enabling them to be more creative in teaching excellence both within and outside the classroom;
- Time efficiencies through the elimination of wasted staff time currently spent resolving IT issues – we estimate a minimum of five minutes time saved per teacher per lesson across the school;
- Teachers can control what all pupils are doing from a single screen, allowing more able children to progress more quickly while at the same time providing more support to those who most need it;

- Older equipment will run more efficiently and have its useful lifetime prolonged, generating real cash savings in reduced power consumption and hardware replacement costs;
- Reduced reliance on technical support at the school site as it will all be hosted in the 'cloud' – adding to the potential for cash savings through redeployment or downsizing of IT support functions;
- Staff and pupils can work wherever and whenever they want, making them more productive and effective;
- Parents can engage fully with their children's learning at home on their own devices;
- The school will be more secure from the risks of equipment failure and data loss;
- A more 'future-proof' service that can adapt and change as the school changes, and as new technologies and solutions come along.

We estimate the costs for delivering an example solution for phases 1 and 2 (ie excluding any new end-user hardware) will be in the region of £53,000 or £97 per pupil in year one, dropping to approximately £31,000, or £56 per pupil in years two and three (and subsequently); an average of approximately £69 per pupil per year over three years. Based on our current information, we believe we can implement Phase 1 within 2-3 weeks and Phase 2 within 2-3 months.

To offset the necessary investment we believe the introduction of more modern cloud-based IT solutions could save the school significant money in the longer term. Areas where potential savings have been identified (and where the school would benefit from further internal work to identify the value of potential savings) are:

- |                           |   |
|---------------------------|---|
| <b>Energy</b>             | We estimate an annual saving of around 75% of current IT power costs  |
| <b>Telephony</b>          | Savings on line rental and call charges through the use of internet-based VOiP telephony  |
| <b>Software licensing</b> | Reduction in numbers of licences and associated costs through a 'concurrent licensing' approach, and avoidance of vastly increased software charges due to the stated withdrawal of Microsoft education discounts in 2018 |
| <b>Printing</b>           | Savings in cost of consumables (primarily ink and paper) through more effective print management  |
| <b>Staff time</b>         | Efficiency savings through the elimination of staff time currently wasted in dealing with poorly performing equipment – estimated saving is of the order of five minutes per teacher per lesson.                          |

It may also, over time, be possible to reduce the amount spent internally on IT support staff if much of the school's server infrastructure can be hosted and supported externally, but we have not examined this area.

We believe a cloud-based solution like the one we are suggesting will represent significant value for money for the school and deliver benefits that a 'standard replacement' strategy could never deliver, by extending teaching and learning beyond the classroom, enabling greater levels of collaboration, setting the foundation for 1:1 devices, and future proofing the school's technology, so enabling the Head and her staff to achieve the outcomes they want for the school and its pupils.

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## School Background and Context

This school is a mixed 11-18 school in Xxxxxx. The school has approximately 550 pupils (544 currently on roll) 11-18, with 35 full time teaching staff including the Head, 15 teaching assistants, 11 admin support staff (including 2 dedicated to IT support) and 28 other staff including Pastoral/Technicians/Cover Supervisors/Premises/Cleaners.

The school is rather smaller than the average secondary. The vast majority of the pupils are White British. The school has lower than average numbers of pupil premium children and broadly average numbers of SEN children, including some with statements. A small number of children from the school attend alternative provision at a local school.

The school achieved an overall rating of 'Requires Improvement' in its last Ofsted inspection in June 2015, with a rating of 'Good' for its leadership and management and 'Requires Improvement' in all other categories.

## Visioning Session

The Visioning Session took place on 1<sup>st</sup> February 2016 and was facilitated by Nigel Hall. Nigel is a founding Director of Think IT and has over 20 years' experience working in education, including over 10 years with the Department for Education, and many Local Authorities, large Academy Chains and individual schools.

Attached at Appendix I are the outputs from the workshop session transcribed from the notes made by staff themselves as well as some verbatim comments from participants.

The head and her team feel that the school is already delivering great teaching to its students. However participants at the workshop recognised that, to a certain extent, the current IT in the school is not as optimal as it could be and, in some case, is holding the school back in its aim of delivering even better teaching and learning.

In summary they want a modern up-to-date network and equipment that works, is reliable and well-maintained, and that supports better teaching and learning for students both within and outside the classroom; and enables better communication between staff, students and parents. It was felt quite strongly that the school should not view ICT as an end in itself and that they did not necessarily need the 'newest, shiniest, latest thing' but that the equipment and software they do have should be fit for purpose and enable them to work effectively.

The key themes raised as outcomes for new and improved ICT were:

- Better WiFi and improvement of the existing network
- More (and newer, faster) equipment for teachers and students
- Ability of students to use their own equipment
- Remote access to school systems and better communications facilities for teachers, students and parents
- Single sign in to eliminate 'forgotten password' syndrome
- Better print solutions
- A baseline of shared competency for staff underpinned by clear school policies and procedures with respect to ICT

### **Better WiFi and improvement of the existing network**

Participants raised a number of current issues experienced on a daily basis with the school's current network and wireless infrastructure. These included:

- Slow speed of the network
- Inability to access wifi in certain parts of the school
- Slow/erratic broadband even when connected

- Inconsistency in the way that wireless routers are set up, requiring them to have all routers and their access passwords stored on their machines
- Overly harsh broadband filtering settings, meaning that staff and students cannot access certain websites. “We need our ‘nanny’ software to be more sensitive.” “It sometimes feels like staff are being treating just like children.” “Why can’t we set our own filtering policy?”

### **More (and newer, faster) equipment for teachers and students**

Staff highlighted several problems typically associated with old and/or failing equipment, including:

- slow login and shutdown speeds;
- slow performance;
- inability to access shared/storage drives;
- unreliability leading to system crashes;
- some software being old or out of date;
- different software versions leading to confusion;
- older kit not being able to cope with modern software;
- some kit without ‘modern’ capabilities (eg flash);
- system updates not always happening at the right time meaning they sometimes need to be done in class time.

Some rooms in the school do not have fixed IT or network access so IT can’t currently be used in all lessons

### **Ability of students to use their own equipment**

Staff felt that a ‘Bring Your Own Device’ (BYOD) approach would be of huge benefit in removing completely the battleground over use of mobiles and other student devices in the classroom, and suggested the school should move further towards a 1:1 device ratio for students. It was recognised that a pool of school devices would need to be maintained for those students who did not have a device of their own, given the socio-economic characteristics of the school’s catchment area. It was also recognised that BYOD would require a fairly significant philosophical change within the school and its staff.

### **Remote access to school systems and better communications facilities for teachers, students and parents**

Although some degree of remote access is currently possible, staff felt this could be better as it mostly involves the use of transferable storage media such as USB memory sticks. It was felt that a system enabling all to have access remotely would be a great advantage in enabling staff to set and communicate homework which could be done remotely (and results notified to parents); and that systems supporting better communication with parents more generally (eg notifications of awards and prizes, detentions of their children, informing them of school events, safeguarding issues, etc) would be enormously helpful.

Staff also felt it would be extremely useful for them to be able to carry out some school tasks (eg lesson planning) at home rather than being tied to school machines to do it.

Such facilities could also support more effective communications with school Governors and Ofsted/LA

### **Single sign in to eliminate ‘forgotten password’ syndrome**

The problems of having numerous different logins for different systems was raised – this leads to ‘forgotten’ password’ syndrome and teachers therefore tend to use class-based login-ids rather than each student having their own. Not only does this lead to potential confidentiality issues (with the possibility of students being able to see each other’s files), it is highly likely that it is adding to the slow network speeds which are sometimes experienced. Staff therefore felt that a system giving each user a single sign in for all the applications they use would be of huge benefit.

### **Better print solutions**

While specific print issues were not raised other than a perceived lack of reliability, many felt that more effective print solutions were needed and that more staff should be able to carry out basic functions (eg loading paper, changing toners and basic troubleshooting) themselves.

### **A baseline of shared competency for staff, underpinned by a clear school culture, policies and procedures with respect to ICT**

The importance of targeted, tailored training and support to staff – both teaching and non-teaching – was a repeated and constant theme. At the moment staff feel there is a general lack of training and that what training is given is not always provided consistently.

IT failures sometimes lead to increased teacher workload, and/or lost teaching time trying to sort out IT issues in the classroom and this leads some staff (and students) to lack faith in the school’s IT. Some of this could be avoided if staff were able to carry out simple fixes themselves rather than always relying on IT support personnel for it.

While there is a stated need for ‘basic’ IT training in the fundamentals of some Office-related packages in order to ensure all staff are starting with the same foundation of skills and capability, training for staff tended to focus on ensuring easy availability of useful training sessions on target areas specifically helpful to staff.

It is acknowledged that IT knowledge and skills vary widely among staff and that there is a strong subset of IT-literate staff who often lead on matters of training, formally and informally.

While existing IT support arrangements in the school are effective, they do not always provide staff with the support they need at the time they need it. In the words of one staff member: “There simply aren’t enough people who can ‘waggle the wires’ in a timely way.”

Some staff felt that they did not always know or understand what is now available to them in terms of technology support in the classroom and that the school needed more “21<sup>st</sup> Century thinking”.

CPD (in addition to formal training) was also raised as an issue – with some staff saying they lack time to undertake CPD activity that is IT related. All recognised however that CPD should be viewed as everyone’s responsibility and approaches such as informal rapid 10-minute knowledge sharing sessions at the start of staff meetings, with a focus on a single topic each time, were discussed and all agreed that this was a good idea.

A lack of clearly communicated school policies with respect to ICT was identified. And it was also felt that any new arrangements would need rigorous and well-enforced control mechanisms (eg privacy controls, appropriate controls over students’ own mobile devices to ensure e-safety and no access to inappropriate sites or use of phones for non-approved purposes during class time, effective monitoring of what students are doing on their machines in class).

## Total Cost of IT Ownership (TCO) Review

The Total Cost of Ownership review was prepared by Paul Miller, after a conference call with the finance manager, and based on a number of key documents provided by the finance manager and the IT team. Paul is a highly experienced accountant with over thirty years' post-qualification experience. He is a school Governor and works with a number of schools and Academy chains on their financial arrangements.

The Total Cost of Ownership values have been based upon the school's itemised IT spend over the last few years (revenue and capital), the school's draft final figures for 2015-16, the school's 2016-17 draft budget, and a number of detailed asset, IT equipment and software license lists which were provided as part of the technical review. The asset information was used to identify the replacement cost of existing IT equipment and to form a judgement of the current replacement cost of IT in the school. The table below also includes IT-related costs such as power and staffing costs that are normally included within more general school cost categories.

Total Cost of Ownership	2015-16
ICT infrastructure/small equipment costs	£7,755
Broadband costs	£9,800
Education IT Supplies and Services	£11,500
Software licenses	£32,706
Printer Lease, Usage, paper costs	£20,846
Annual lease costs (77 computers from 13-14)	£9,985
IT Staff costs	£52,400
IT-related Electricity Costs	£11,100
<b>TOTAL</b>	<b>£156,092</b>

These costs reflect the recognition of IT related costs as they have been incurred during the year. The figures in the table include the costs of IT staff, energy, and printing. The figures do not reflect the costs of larger expenditure items over the whole of their useful life, nor do they make an allocation for the regular replacement or renewal of IT equipment. This is standard practice for school accounting.

With a reported student population of approximately 550 these figures give an **average annual spend of roughly £285 per pupil**. This is at the top end of the range we have calculated for secondary schools (the mean per pupil per annum cost of IT across all secondary schools is £230 when calculated using the same methods).

The equivalent total costs in 2014-15 were £145,000, and per pupil costs approximately £265.

Example Secondary School  
Readiness Assessment Audit

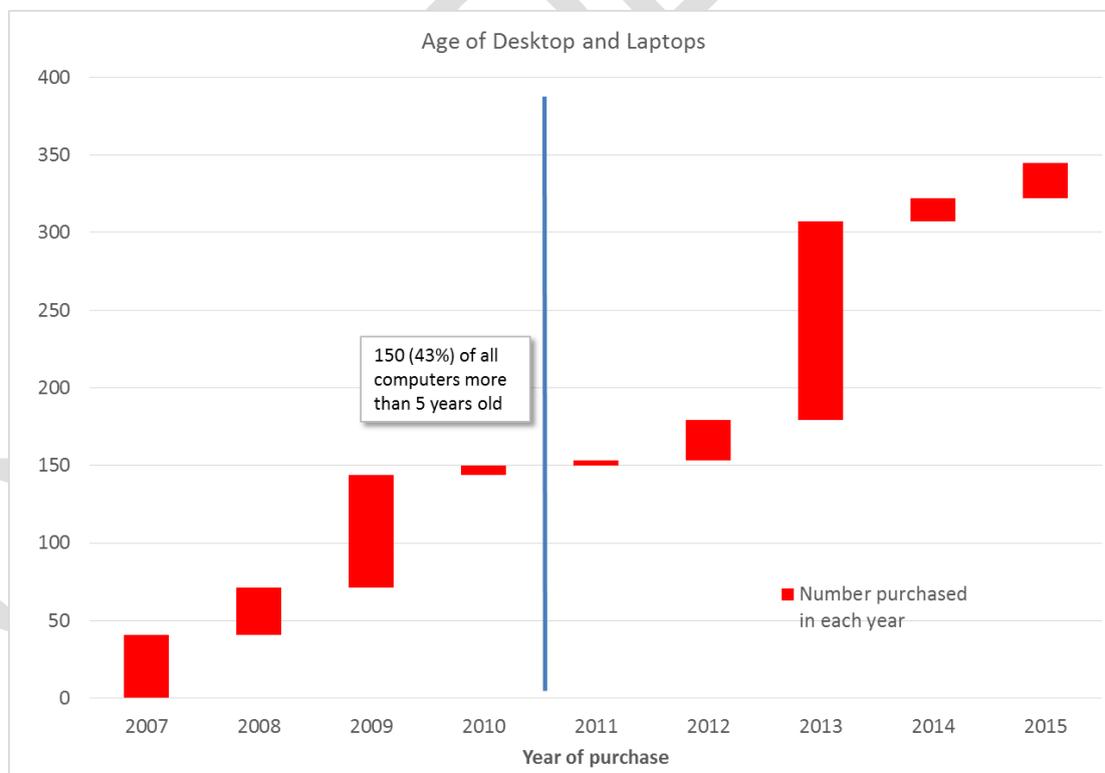
In 2014-15 a further £48,000 was spent for the first year licenses, installation, configuration and staff training on the schools management information system, Capita SIMS. These costs were supported in full by Derbyshire County Council as part of their 'Additional Schools Funding' programme. The annual licenses for the Capita SIMS management information system and associated support cost £15,800 per year and are paid by the school. These costs have not been included in the table above.

The draft Budget for 2016-17 suggests that the equivalent total costs of IT will be approximately £156,000 for the year, a per pupil average cost of £285.

There are also a number of non-repeating IT costs, as shown in the table below, that have been funded from the Devolved Formula Capital 'account' over the last three years.

Devolved Formula Capital	2013-14	2014-15	2015-16
Computer hardware	£2,992	£6,594	£2,524
Network equipment	£56,724	0	£7,339
<b>Total</b>	<b>£59,716</b>	<b>£6,594</b>	<b>£9,863</b>

Based on information provided by the school the full replacement value of currently deployed IT equipment (much of which is several years old – see age profile below) is £241,000.



The normal useful life of school IT equipment ranges from 3 years (high usage pupil equipment) to 10 years (resilient hardware such as Uninterruptible Power Supplies). Using a

widely adopted standard accounting method for spreading the cost of replacing each piece of equipment over its expected lifetime we would expect an annual cost of around £55,000 for the replacement of IT computer hardware. Over the last three years the school has spent a total of some £55,000 on computer hardware (leasing costs, DFC expenditure and hardware costs).

In common with many schools, this school tends to invest in new IT in 'tranches' when funds can be made available. This 'boom and bust' approach to IT funding means that the school goes through cycles of having tranches of modern up-to-date kit which then becomes obsolete and is not replaced until it fails and can no longer viably be repaired. Whether the school decides to implement Think IT solutions, or not, we would recommend that an annual IT budget closer to £55,000 is considered to enable the school to remain up-to-date with its ICT and prevent you from storing up significant financial problems in future years if large amounts of equipment were to fail together.

The school has an (old) fixed line telephone system. The equipment costs and communications costs of this system have not been included in the IT equipment costs. However we believe that the school could potentially realise savings through the introduction of a more modern internet-based VOiP telephony system.

Support for the IT infrastructure and equipment is provided by a team of two school staff, their costs are shown within the IT Staffing costs. Other support elements are included in the costs borne by Derbyshire County Council within the overall 'new build' costs.

The annual cost of educational software licences held by the school is some £24,600. We assume that each desktop and laptop is pre-loaded as a minimum with standard Microsoft Office products. The school's current IT architecture requires separate licences for each machine on which software is installed. Not every machine is in constant use and there is therefore the potential for significant savings to be made through the adoption of a virtual desktop solution which only requires the school to fund the maximum number of licenses which might be being used at any given point in time by staff and pupils typically this is around 25% of the total number of users). Cloud-based software licensing will also enable the school to avoid the large increase in software charges which are coming in 2018 when Microsoft have announced the complete withdrawal of all education discounts on existing 'single-install' licenses.

The Think IT solution also supports the scope for significant efficiency savings through reduced administration and wasted time. Many of those we met told us that they often waste valuable teaching time in lessons each day either dealing with IT issues and 'glitches' or waiting for machines to start up or respond.

We appreciate that this wasted time is difficult to measure objectively, and that people tend to overestimate based on their negative experiences, but the startup and response speed of modern cloud-based machines is typically measured in seconds rather than minutes and typically we would therefore expect every teacher to save at least five minutes of teaching time in each lesson simply through more efficient start up and log off processes, in addition

to any time saved through not having to solve issues associated with failing devices. This gives a huge potential gain in time which can be devoted to teaching and learning rather than the technical resolution of ICT issues.

Other potential areas of direct cash savings include energy and printing and related consumable costs (through more effective print management), and power costs (from more effective power management). These potential energy savings cannot be quantified without further more detailed investigation but as a guideline, a PC or laptop operating in 'thin client' mode uses typically less than 25% of the power of the same PC or laptop operating in 'local' mode because in 'thin client' mode almost all software access and processing is being done remotely rather than using the computer's hard drive. The school is currently spending over £11,000 on IT-related power costs each year. Switching all desktops and laptops to operate under a solution such as Think IT's 'thin client' solution and introducing more effective power management could save the school in excess of 75% of its current IT power costs (some £8,000 per year). This is a direct cash saving that could be used elsewhere, whether or not to fund other IT investment.

## Technical Review

The Technical Review was conducted in late February 2016 by Ken Zygmunt of Novus Networks.

In summary our view is that the current school ICT infrastructure (virtualisation, SAN, networking) is relatively well specified, and is sufficient in capacity to last several more years, although some aspects (eg configuration or wireless routers) need attention. The school has an extensive hardware estate and an extremely good device: pupil ratio. However the majority of desktop devices are currently underpowered for the school's requirements and are impacting on the schools ability to teach effectively using these devices.

Our view of current issues identified during our visit can be broken down into three areas:

### Currently broken or needs attention

- Active Directory – There appear to be two obvious/outstanding issues; DNS replication, and removal of obsolete domains from the NMS domain.
- SAN – a warning light on one of the SAN SAS disks would appear to indicate that the disk has failed/is about to fail.
- Backup – determine why backup to tape is not working/reporting an error
- Backup – increase the amount of space available to DPM for disk-to-disk backup as this has ran out of space to expand.
- The air conditioning unit does not switch itself on if for any reason it shuts down. In the past this has happened and the server room reached a temperate in excess of 79 degrees Fahrenheit. A solution to this problem needs to be found.

### Needs to be upgraded in the future

- Old/slow PCs should be replaced with devices with better performance.
- The Wireless environment needs to be replaced with a managed solution that provides better coverage and central management, allowing central configuration to all network devices. Additional features that this could provide would include a guest wireless environment, allowing staff and students to use their own devices within the school environment, but without the risk that this could bring to the school network.
- The core Windows systems are running Server 2008 R2. This is now end of life, and while security hotfixes will still be available, non-security hotfixes are no longer available without Extended hotfix support/Premier Support. It is recommended that upgrading this environment to Server 2012 R2 or Server 2016 be investigated in the near future.

- Investigate whether the UPS'ed Hypervisors and DPM server will make a controlled shutdown in case of a power failure. If not, then a system will need to be put in place to achieve this.

#### Recommended additions to the environment

- Remote access to the internal school systems. This will provide staff and students with the ability to do school work while away from the school.
- Both the original data, disk backups and tape backups are in the same server room. Additionally, the tapes are never rotated out, so if there was to be a disaster, all data (original and backups) would be lost. It is recommended that either off-site backups be performed or the DPM Server and tape library be moved to another part of the school.
- Install Microsoft System Center Operations Manager to monitor the environment and generate alerts when problems are detected.
- Print Management / Monitoring. Currently the school has no print management solution on site. It was noted that the school have no visibility on how many pages are printed out on a daily basis.
- Some tablets are being used on site, but there is no Mobile Device Management in place. There are multiple possible solutions available that will suit the needs of the school

The full technical report is included as Appendix II.

## Recommendations

Based on the Visioning Session and the TCO and Technical Reviews, we believe the school needs some urgent 'tweaks' to its networking setup and that it would benefit from further investment in new hardware as well as the potential to move to a fully cloud-hosted IT solution.

We would therefore recommend a programme of action in the following three phases:

**Phase 1 – Network Optimisation.** Ensure the current Network and Wireless Infrastructure is fit for purpose both now and to support a possible future move to cloud-based technology:

1. Fix existing equipment faults (replacing network equipment only where necessary)
2. Ensure the existing broadband and wireless infrastructure is fully fit-for-purpose for current usage
3. Remove redundant domains and reconfigure access controls where required
4. Make any necessary infrastructure improvements to support a future move to the cloud
5. Review in more detail the school's current printing and telephony arrangements to support potential new solutions in these areas in later phases

**Phase 2 – Cloud Implementation.** Introduce a range of new cloud-based teaching and learning technologies:

1. A cloud-hosted desktop service to support anytime, anywhere, any device access to school systems, supported by full Microsoft licensing (including Office 365 email)
2. Re-provisioning of existing IT hardware across the school estate, including identification of any hardware that is not technically capable of running new cloud-based solutions and will require immediate replacement
3. A cloud-based learning environment to support teachers and pupils in their everyday classroom work
4. New classroom management software to enable teachers to exercise greater control over what pupils are doing with technology in the classroom
5. New e-safety software to control access on the school's network by mobile devices and support any future move to a BYOD philosophy
6. New safeguarding software including powerful collaboration tools to support the online recording, management, tracking and resolution of safeguarding concerns
7. A hosted service desk to support rapid remote resolution of IT issues relating to the services we provide
8. Change and implementation support for the Head and the school staff

**Phase 3 – Other IT Improvements.** Provide any new classroom IT, printing and telephony equipment required and make any other necessary IT improvements as required by, and agreed with, the school:

1. Implement new printing/copying solutions as required, where possible seeking early exit from any overly onerous current contracts

2. Implement new Voice Over Internet Protocol (VoIP) arrangements to replace existing fixed telephone lines
3. Procure additional desktop, laptop and tablet hardware as required by the school
4. Implement any other IT improvements which have been agreed with the school

This will include implementing the following elements of the Think IT Solution:

- LAN and Wi-Fi optimisation
- Virtual Desktop Service and 4TB of storage and MS Licensing
- Office 365 e-mail
- Single Sign On
- AirHead
- E-Safety
- Safeguarding
- Service Desk (Single Point of Contact)
- Change Management and Project Management

and, optionally, as part of phase 3:

- VoIP telephony
- New printing/copying facilities
- New classroom hardware

We believe this approach will deliver the following benefits:

- New solutions can happen quickly, making an impact on teaching and learning in this school year
- Staff will have greater confidence in using new technology, how it is there to enable them to teach better, and ensuring it will work first time every time, enabling them to be more creative in teaching excellence both within and outside the classroom;
- Time efficiencies through the elimination of wasted staff time currently spent resolving IT issues – we estimate a minimum of five minutes time saved per teacher per lesson across the school;
- Teachers can control what all pupils are doing from a single screen, allowing more able children to progress more quickly while at the same time providing more support to those who most need it;
- Older equipment will run more efficiently and have its useful lifetime prolonged, generating real cash savings in reduced power consumption and hardware replacement costs;
- Reduced reliance on technical support at the school site as it will all be hosted in the 'cloud' – adding to the potential for cash savings through redeployment or downsizing of IT support functions;
- Staff and pupils can work wherever and whenever they want, making them more productive and effective;
- Parents can engage fully with their children's learning at home on their own devices;
- The school will be more secure from the risks of equipment failure and data loss;

- A more ‘future-proof’ service that can adapt and change as the school changes, and as new technologies and solutions come along.

One of the comments we frequently hear from staff during the Readiness Assessment process is that: “We don’t know what’s available and we don’t have the time to find out.” We can, if required, put together a demo environment with the above solution components to show the school and its leadership team what it could look like in practice, or arrange a visit to a school where the solution is already in operation. In this way the staff can be assured that the solution will meet their needs, both now and in the future.

We estimate the costs for delivering our recommended solution for phases 1 and 2 (i.e. all services listed in the first blue box above) will be in the region of £53,000 or £97 per pupil in year one, dropping to approximately £31,000, or £56 per pupil in years two and three (and subsequently); an average of approximately £69 per pupil per year over three years.

A breakdown of these costs by individual element is given below:

Service Element	Quantity	Price	Year 1 cost <sup>1</sup>	Year 2 cost	Year 3 cost	Total 3-year cost
Virtual Desktop, 4TB of storage and full MS- Licensing <sup>2</sup>	200	£85.10	£17,020	£17,020	£17,020	£51,060
Office 365 email	-	-	Included	included	included	-
Single Sign On/Airhead	550	£2.94	£2,618	£1,618	£1,618	£5,854
E-Safety			£1,560	£960	£960	£3,480
Safeguarding			£1,480	£880	£880	£3,240
Service Desk	1	£7,200	£7,200	£7,200	£7,200	£21,600
Classroom Management	550	£3.82	£2,100	£2,100	£2,100	£6,300
LAN and WiFi optimisation (labour only)	5	£600	£3,000	-	-	£3,000
Change and Project Management <sup>3</sup>	25	£800	£18,400	£800	£800	£20,000
<b>Total</b>			£53,378	£30,578	£30,578	<b>£114,534<sup>4</sup></b>
<b>Per Pupil Per Annum cost</b>			£97.05	£55.60	£55.60	<b>£69.40<sup>5</sup></b>

<sup>1</sup>Year 1 costs include setup and management costs not incurred in subsequent years

<sup>2</sup>This cost may be lower depending on the school’s current licensing arrangements

<sup>3</sup>Cost predicated on estimated 25 days support: if not all required this cost could be lower

<sup>4</sup>This excludes VAT and essential only expenses (charged at cost and capped at £2k)

<sup>5</sup>This is the average annual per pupil cost across the three years

These estimates are based on current pupil numbers of 550 and are subject to more detailed information about the school's current network and firewall and any further work necessary with the school to define the exact solution required. They exclude replacement end-user, classroom and network hardware costs, current broadband, printing costs, telephony, VAT and essential-only expenses. They are also subject to us being given access to the school's key personnel, information and equipment, and the active and timely co-operation of all current third party suppliers. While we would do our utmost to ensure that the implementation is carried out within the agreed cost profile and to the timescales we develop with the school, we cannot be responsible for any delays or subsequent cost overruns (e.g. in additional project management time) which may arise as a result of a failure by the school or its current third party providers to deliver what is required of them.

Should the school opt to go ahead, payment profiles can be discussed with you to enable you to pay over a time period to suit the school's budget profile and available budget. In addition, through the Think IT procurement framework we have access to preferential lease rates that schools can use to spread the cost of equipment over a number of years.

The above prices do not include the cost of replacing end user hardware. We believe it will be possible to re-provision the vast majority of existing equipment to run the new services but equipment which is broken or not technically able to run the new services will need to be replaced. It is difficult to cost hardware items without an agreed specification (and this will require further discussion) but we have direct arrangements with many manufacturers in order to get the most competitive pricing available. Just as one example, we can source low-specification tablet devices for as little as £70.

We believe much of the existing network equipment can be reconfigured, however it is possible after further investigation that some may need replacing at additional cost. The school may also need a small number of additional access points.

We have included a recommendation to review and potentially replace existing print facilities. A detailed cost for this will require further information about the makes and models of existing printers, the type and nature of printing the school requires, the specification of replacement devices required, and, most importantly of all, the current contractual arrangements and likely penalty payments for exiting any contracts with existing providers.

We believe our proposed solution represents significant value for money. It also delivers benefits that a 'standard replacement' strategy could never deliver, by extending teaching and learning beyond the classroom, enabling greater levels of collaboration, setting the foundation for 1:1 devices, and future proofing the school's technology, so enabling the Head and her staff to achieve the outcomes they want for the school and its pupils. And an additional benefit would be that, since everything is bought and implemented under one simple-to-administer contract, the school has only one point of contact for all contract negotiation and management.

Based on our current information, we believe we can implement Phase 1 within 2-3 weeks and Phase 2 within 2-3 months. There would of course be ongoing change activities such as ongoing support, training and communications which would extend beyond this period, and an annual review of the Visioning Strategy to ensure the school is getting the benefits it wants, and to make you aware of new technologies and solutions you might find beneficial. All of this additional activity is included in the above cost estimates.

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## Conclusion

This school is a school that the Head believes can be excellent, but she recognises that certain aspects of the school's IT require improvement. She is keen to take advantage of the possibilities that refreshing the IT infrastructure will bring to the whole teaching and learning experience in the school, as well as improving communications with pupils, parents and other stakeholders.

We believe that we can implement the core of a solution that will deliver the outcomes the school wants and needs in a very rapid timeframe, and at a far lower cost than traditional hardware replacement models.

We are very excited at the possibility of working with the Head and her team at this school to ensure it becomes an even better place to teach and to learn.

## Appendix I – Notes of Visioning Session

The session was held on 1<sup>st</sup> February 2016 and was facilitated by Nigel Hall and Rob Woon of E2BN Think IT. Present were:

- Head
- Assistant Head
- Governor
- Teacher
- Teacher
- Teacher

Note that this appendix provides a verbatim write up of the notes that were made by participants during the workshop. The visioning section in the main report gives a little more nuance to the conversations that took place.

### Summary

The school's most immediately pressing issue is the typical ageing network and hardware problem (old, unreliable, failing kit; can't access network in some parts of the school). The school are up for a total cloud solution – especially if it meant they could go BYOD with decent MDM and remove the battle over use of mobiles at school.

### OUTCOME STATEMENTS

#### FOR STUDENTS

- Speed
- Easy access
- Individual input to education
- Use own kit
- Security
- Less grief for using phones
- Rapid response form teachers, etc
- Software is 'real word' not arcane
- Share stuff more easily
- Privacy
- Print reliably
- Exams are computer-based
- Feedback on concerns raised
- Continuity of resources
- IT fit for purpose – tasks can be done on the hardware/software we have
- Used to set homework that can be done remotely

#### FOR STAFF

- Universal access to decent wifi and equipment

## Example Secondary School Readiness Assessment Audit

- Equipment that is working, reliable (maximum 'uptime') and well-maintained
- Control – management system
- Remote access
- Access to a range of resources and ability to make bespoke learning resources
- Print solution!
- BYOD – policy to allow smartphones (requires philosophical change)
- One login for staff available across all devices (MIS, apps, shared area, email)
- Effective CPD

### FOR PARENTS

- Safety
- Homework results
- Notification of detentions, events, praise, etc
- General communication facility/liaison
- Ability to monitor/report

### FOR GOVERNORS

- Wifi access
- Access to resources
- Notification of events
- General communication facility

### FOR OFSTED/LA

- Ability to produce/analyse evidence

## KEY ISSUES

### NETWORK INFRASTRUCTURE/WIFI

- Lack of wifi/No wifi
- Erratic broadband
- Reliability (crashes)
- Speed
- Access
- Downtime! - Updates at wrong time
- Unreliable internet access
- Internet filter too broad and no option for flexibility
- Takes ages to log on
- Teachers treated like students (eg access to control panel/note pad)
- External network resilience
- 'Backup' and recovery
- Mobile (ie home/out of school) access
- Shared area

#### EQUIPMENT

- Old kit
- Broken kit
- Reliability
- Equipment can't handle modern software
- PCs without modern capability (eg flash)
- Software out of date
- Numerous logins

#### INTEGRATION

- Organisation of resources
- Too many systems (eg MIS, SISRA, Outlook, OneDrive, etc)
- Systems that seem like they should link up but don't

#### PLANNING & MANAGEMENT

- Investment cost
- No forward planning
- Resources/software
- Can't afford 'real world' software – have to buy school versions

#### TEACHING & LEARNING

- Effective monitoring of what students are doing
- Excuses based on IT (It never got to me)

#### SCHOOL INFRASTRUCTRE

- Few rooms with IT – so it's not in 'normal' use

#### PRINTING

- Unreliable printing
- Printing issues

#### IT SUPPORT

- Not enough staff to 'waggle the wires' in a timely way

#### E-SAFETY/SAFEGUARDING

- Safety
- Inappropriate use of...
- Banned devices (headphones/mobiles)
- Use of phones for non-agreed purposes
- Can't be flexible (ie use students devices)

#### STAFF SKILLS & TRAINING

- Workload increased by poor use of IT
- Lack of training – inconsistent levels of skill
- Knowledge/ability varies
- Not enough belief that IT works in a reliable way

## CULTURE

- Thinking not up to date (need 21<sup>st</sup> century thinking!)
- Technology not seen as an 'enabler'

## OTHER

- Power consumption!

## POSSIBLE SOLUTIONS

Note – participants were asked to prioritise these suggestions. The numbers in parentheses represent the number of points awarded to each suggestion.

### INFRASTRUCTURE

#### ***Sticking Plaster***

- Rationalise current hardware/software (redistribute & streamline) (7)
- Universal login (2)
- Unburden the network (2)
- [Not good investment – is it cheap enough?]

#### ***Better***

- Better wifi (8)
- BYOD + stock for those that can't BYOD (are of social deprivation) (1)
- Allow charging (universal chargers + multiplugs)

### OTHER

- Baseline of shared staff competency (8)
- Clear policies/procedures/expectations (5)
- Better, more reliable remote access (4)
- Not one size fits all access to system tools – tiered so some are allowed to install software on their own machines (1)
- More 'sensitive' nanny software
- Trusting in hardware and software
- Increased technical policing of mobile devices
- Printing (staff able to do simple things like loading paper and troubleshooting)

## Appendix II – Result of Technical Audit

### 1. Introduction

Novus Networks were asked to produce a Readiness Assessment report in regards to the ICT environment within this school as part of the Readiness Assessment carried out by E2BN Think IT.

ICT within schools covers a broad range of technologies, from the obvious desktop computers, to digital signage, and from security and safety software, to electronic door access. This report will give an overview of the environment, with a general overview of whether the school believes their systems are fit for purpose.

This report should be read in conjunction with several other documents;

- *IT Inventory.xlsx* - A spreadsheet prepared by the school and containing an itemised list of desktop computers, laptops, printers, amplifiers, projectors and whiteboards.
- *E2BN Think IT RAA - Data Gathering Questionnaire - xxxxxxxx.xlsx* – An initial assessment spreadsheet supplied by the school.
- *Curriculum Learning Support Software.xlsx* – a list of software used by the school (supplied by the school).
- *Readiness Assessment xxxxxx.xlsx* – a second spreadsheet similar to the E2BN data gathering questionnaire, but completed by the Novus technical person while on-site.
- *xxxxxxx Documentation.xlsx* – Spreadsheet containing detailed information of physical and virtual systems, IP addresses, etc.

The above documents give a detailed overview of the school's ICT systems, but this report is designed to give a less clinical, more subjective view of what's available and whether it is meeting the school's needs.

Several photographs were also taken during our visit to show the reader the layout of the server room and give an instant visual impression of the system – where applicable these are included within the report.

### 2. Server and Infrastructure Overview

#### Server Room

The current server room is really a store room attached to one of the school's classrooms, and is not a dedicated server room. There are no windows, but there is an air vent near the top of one wall, with an air conditioning unit below it, with its output pipe attached to it.



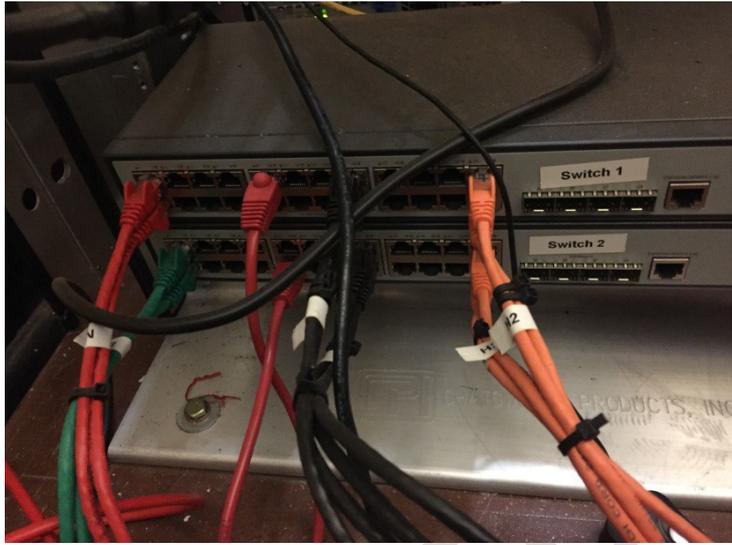
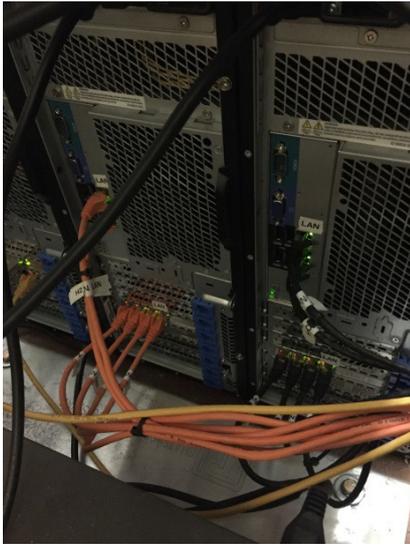
The server room has a single comms rack containing the switches and patch panels for the copper Ethernet and fibre cables coming into the room from all around the school. All the Ethernet switches are powered by a bank of 13amp wall sockets, and are not UPS'ed.

The main servers used by the school are three floor-standing units supplied/rebadged by Stone Computers. Two of the servers are running VMware ESX and are running 11 virtual machines documented in *xxxxx System Documentation.xlsx*. The third server is similar to the other two, but is running Microsoft Windows Server, and is used as the system backup server. It performs a backup of the virtual machines to its local hard disks at scheduled times, then once a week performs a backup to tape. There is a large Tape Library positioned on top of the three servers for this purpose. Finally, also sitting on top of the three servers but below the tape library, is a Storage Area Network ('SAN') appliance. This is accessed by the two hypervisor servers and is used to store the virtual machine disks. See photograph below



The SAN and the two hypervisors are connected via dedicated switches in the comms rack.

Example Secondary School  
Readiness Assessment Audit



The orange cables are connected to hypervisor 1, the black to hypervisor 2, and each SAN controller both a red and green cable connected between themselves and the switches.

Additionally, there is a large UPS behind the comms rack that is used solely to power the servers, the SAN and the dedicated SAN switches. The other Ethernet switches are powered from the wall sockets and are not UPS'ed.



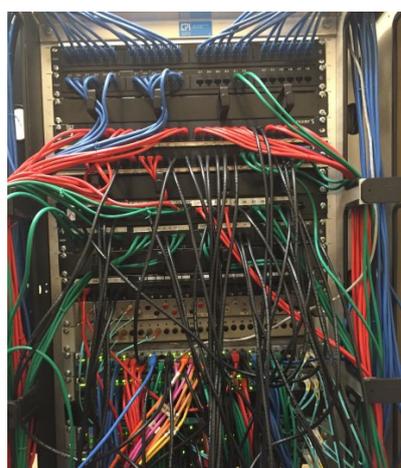
There are no dedicated comms rooms around the school. All classrooms that have computers have a small wall-mounted comms cabinet with an Ethernet switch for those computers. The Ethernet switches which are more than 100 meters from the server room are connected to the server room via fibre-optic cables.

The 'core' switches in the server room consist of four HP ProCurve 2910AL-48G (J9147A) which are 'stacked' via 10GB modules at the back of them.

Example Secondary School  
Readiness Assessment Audit



The comms rack cabling is shown below (the four core switches are hidden behind the largest bunch of cables near the middle of the rack), with the second photo showing the cabling coming into the six rows of patch panels at the top of the rack)

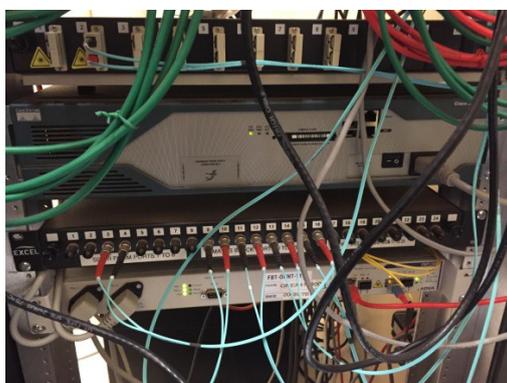


Front



Back

Internet connectivity is provided by a company called K-Com, and is a 100Mb link. The system is protected by a Cisco 2800 Series router.



### 3. Infrastructure Environment

#### Virtualisation

The virtualisation consists of two physical servers running VMware ESX (version 5.1.0, 838463) Servers. Each host has an Intel Xeon E5-2420 processor, with 64 GB RAM. These two hosts are running 11 virtual machines, but all the VMs are running on one of the ESX hosts, with the other host having no load.

#### SAN

The two hosts are connected to a dot HILL Storage Array 2332. This storage array has 12 drive bays, which are fully populated with 6 x 600GB SAS disks and 6 x 2 TB SATA disks.

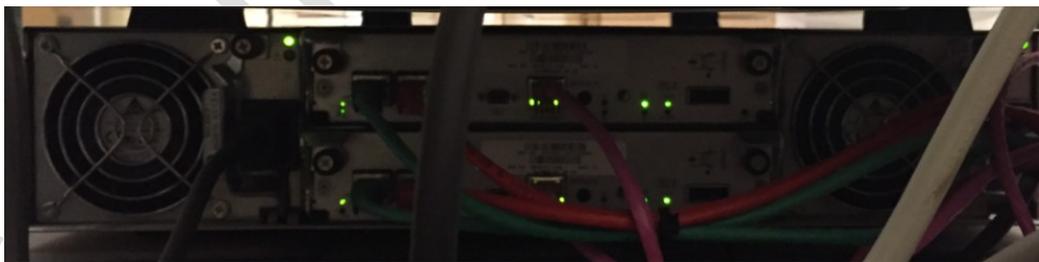
The storage on the SAN is divided into two separate data stores known as *SAS Datastore* and *SATA Datastore*. All the system/boot drives for the virtual machines are stored on the SAS Datastore, while the majority of the DATA disks are stored on the SATA Datastore.

One of the SAS disks appears to show a fault light, so it is assumed that the SAS disk array is now not fault tolerant.



#### SAN Network

The SAN has two controllers at the back, each with two 1 GB network interfaces. These are connected to the dedicated SAN switches.



Rear view of Storage Array



Dedicated SAN Switches

#### 4. Active Directory

Both Active Directory servers are virtual and are running on the same ESX host. The Operating system is Windows Server 2008 R2, and the domain functional level is also Server 2008 R2. The current NetBIOS domain is called NMS and the current FQDN is called NMS.internal

There used to be another domain called ADMIN, and a third domain called NMSCC, but were removed. Unfortunately, remnants of these older domains still linger within the Active Directory of NMS, and are generating errors within the current domain controllers.

Additionally, DNS replication between the two domain controllers is not working correctly. The DNS Admin on the first domain controller does not contain any DNS A records, while the DNS Admin console on the second domain controller does.

#### 5. System Management

##### System Monitoring and Alerting

Currently there is no system in place to monitor and alert the IT department if there are any faults. The School is licensed for System Center, as they have System Center Configuration Manager (SCCM) Installed and working. This would allow the school to implement System Center Operations Manager (SCOM) at very little cost. SCOM can monitor most devices, including network switches if they support the SNMP protocol.

##### Overview

System Center Operations Manager monitors, reports and alerts against multiple criteria for client and server systems by way of a local agent. The local agent can be configured to gather information on multiple alerting types like performance (RAM, CPU, Disk, I/O), running processes, running services, event logging. This would then generate alerts when certain conditions are met.

Here is a sample set of items that can be monitored and alerts generated:

- Active Directory services replication failure
- Windows Server agent not responding
- Windows Server RAM usage critically high
- Linux server CPU usage critically high
- DPM backup has failed to complete
- Disk that SQL server database is located on is running low on free space
- DHCP scope is running low on available IPs
- Print Spooler service has stopped working
- Unable to ping a router or default gateway

System Center Operating Manager would help the onsite Technical Team have greater visibility of potential issues across the various sites they are supporting.

### Operating system software patching and Updates

The school currently runs a WSUS server internally, which is their primary method of patching their Microsoft Windows™ systems. This is controlled via a GPO on their Active Directory server. This is sufficient to meet their needs.

### Deployment of new applications

Currently it takes several days to deploy new software across the entire school. All deployment of applications is done via System Center Configuration Manager. This has been implemented by a third party and is used by the IT department for major deployments. This system is quite a complicated system to learn, and it has not been documented on what level of expertise the current IT staff have on this system, and whether they'd benefit from additional training/knowledge transfer.

### Provisioning of new systems

There is no dedicated operating system deployment system other than SCCM. Systems are either built manually or via SCCM.

### Backup strategy

The school has a dedicated, physical server running System Center Data Protection Manager 2012 (SCDPM, also abbreviated to 'DPM'). The DPM server has approximately 5.5 TB of local storage for disk-2-disk backup, and an OverlandStorage Neo 200s tape library. This can hold up to 24 Tape cartridges and 2 tape drives to decrease the backup window.

All virtual machines have the DPM agent installed, with protection groups configured for regular backup to the local disk on the DPM server. Additionally, the DPM server will also back up to tape on a weekly basis, using the local copy of the data already backed up on the local 5.5 TB storage.

At the time of this report, the current free storage space on the local disk is less than 38GB out of a total of 5.5 TB. This is insufficient and the system should either be expanded, or the short-term retention period should be decreased. Additionally, the backup to tape is failing for all the protection groups. This could either be a physical tape drive issue, or a drive cleaning issue.

The screenshot shows a Microsoft System Center console window with a table of alerts. A 'Dataprotection Error Details' dialog box is open, displaying error information for a DPM backup failure. The dialog box has three columns: Protected Member, Error Details, and Recommended Action.

Protected Member	Error Details	Recommended Action
C:\ (NMS-SR-LE-NMS-Intern)	DPM could not reserve the drive resource because one of required drive resources is not online or it needs cleaning or servicing (ID: 24052)	1) View and resolve all alerts for the library and its drive(s). Retry the operation after resolving the alerts. 2) Go to the Library tab in the Management console and click on Rescan. Once the rescan operation has completed successfully, retry the operation.
NMS-SR-LE-VMS-SECLIPS (NMS-SR-LE-NMS-Intern)	DPM could not reserve the drive resource because one of required drive resources is not online or it needs cleaning or servicing (ID: 24052)	1) View and resolve all alerts for the library and its drive(s). Retry the operation after resolving the alerts. 2) Go to the Library tab in the Management console and click on Rescan. Once the rescan operation has completed successfully, retry the operation.
NMS-SR-LE-GIMS2012\NMS-SR-LE-NMS-Intern	DPM could not reserve the drive resource because one of required drive resources is not online or it needs cleaning or servicing (ID: 24052)	1) View and resolve all alerts for the library and its drive(s). Retry the operation after resolving the alerts.

Below the dialog box, the main console shows a list of alerts with columns for Occurred Since, Affected Area, Computer, Protection Group, and Alert. The description at the bottom of the console reads: "The backup to tape failed for the following reason: (U: 3311) More information".

## 6. Security and Safety

### Appropriate access rights for users

Currently the school does not have a remote access solution in place. In previous years a Remote Desktop Gateway solution was available to allow staff access to the internal systems, but this was discontinued several years ago.

Remote Desktop has been disabled for all virtual machines, running on the hypervisor (VMware ESX Server) and the only way to connect to these VMs is to connect via the vCenter console.

Each user's home directory is effectively secured, with best practice employed on the shares.

Each user's roaming profile directory is limited to only SYSTEM and the user having access to it. Not even the administrator can see it.

### Effective Antivirus protection

The Antivirus software used is Microsoft Endpoint Protection, which is a part of System Center. This is deployed to all servers and desktop devices.

### Wireless security configured and in place

This school does not have a structured Wireless network in place. All wireless access points are standalone devices, and are a mixture of TP-Link, Dlink, Meraki, etc. There is no single Wireless controller to configure each device, and instead, each device is configured individually. Many of the SSIDs configured on the access points are inconsistently named, so users cannot roam between access points without ensuring that they have all the different SSIDs pre-configured within their mobile devices.

### Appropriate web filtering

The internet connection is currently configured so that it only allows access to the Google search engine, and to webshield.embc.uk.com, which is a filtering proxy server. All users must go through this proxy to be able to visit any web site other than Google.

### Mobile Device Management in place for tablets

Currently there is no Mobile Device Management solution at the school.

### E-safety monitoring software

All classroom monitoring is performed using Impero and Netsweeper software.

## 7. Performance & Reliability

The school currently have a mix of three "classes" of desktop computers; New, intermediate, and old, scattered across the school campus. Each area of the school campus is connected by fibre-optic cable to the core switches in the server room.

### Are User login speeds acceptable during mass login periods?

Some classrooms have a mix on new and old desktop computers, and the old ones can take up to 15 minutes to log in. The newer one's log in a lot quicker, so the performance is due to the age of the computers rather than the location of the desktops within the network.

A typical specification for an "old" desktop PC is;

RM All-in-one unit	Intel Core 2 T5500 1.66 GHz processor
	1 GB RAM
	32 bit Windows 7 Enterprise
	80 GB IDE HDD

A typical specification for a "new" desktop PC is;

Stone ECO Saver 80+	Intel Core i3-3220 @ 3.30 GHz
	4 GB RAM
	32 bit Windows 7 Professional
	300 GB SATA HDD

All students have roaming profiles. These are copied from the server room down to the local disk of the computer. Depending on the size of the roaming profiles and the speed of the local hard disks, this can be one of the causes of the slow logins.

### Do applications launch in a timely fashion?

The older desktop computers only have 1 GB of RAM and are running Windows 7. This is too low for modern applications and they can take an excessively long time to start. The newer desktop computers have 4GB RAM and fast disks, and performance of those is satisfactory.

### Is end user equipment specification appropriate?

The old desktop computers are unsatisfactory for learning, and should be replaced as soon as possible.

### Is wireless performance as required in a teaching environment?

The Wireless network is very patchy, with large areas of the school having no wireless coverage. Parts of the school are approximately a 100 years old, with very thick walls, reducing the range of the wireless access points within those parts of the school. That, along with the mix of unmanaged access points, means that the management of the wireless system is extremely poor.

### Is the system designed to deliver appropriate availability levels?

While the main wired network appears to be sufficient, the wireless network, along with the old desktops with 1GB RAM, are inappropriate for a modern school.

## 8. ICT Accessibility

### Computer to pupil ratio

There are currently 544 pupils within the school, with 397 fixed devices, 45 laptops and 45 tablets. This gives a very good device to pupil ratio.

### Number of devices typically offline for repair

The school technicians have spare desktop devices ready to be swapped out with any failed desktops in the classrooms. This means that normally, there are very few or no devices that are out of action within a classroom.

### Device mobility

Device mobility is very poor due to the limited wireless coverage, and the inconsistent SSID naming.

### School wireless coverage

Wireless coverage is patchy and short range, due to the age and construction of the building.

### Remote Access to systems

There is no remote access to the internal systems from the internet for general users. Some systems have Teamviewer installed so can be accessed for remote support purposes.

## 9. Classroom Environment

### Docking stations for laptops

All classrooms that I visited had fixed desktops at the teacher's desk.

### Whiteboards reliable and functioning

All whiteboards were working, and reliable.

### Classroom management software

Classroom management software is Impero. This is used to control access to resources, including the internet. Teachers can dynamically control access to web sites using this software. Additionally, Impero allows the teacher to view each students screen within their classroom to ensure that the students are performing their assigned school work and not doing other things.

### Visualizers

There are six visuals within the school, all working reliably.

## 10. Summary

The ICT infrastructure (virtualisation, SAN, networking) is relatively well specified, and is sufficient in capacity to last several more years, The majority of desktop devices are

currently under-powered for the schools requirements, and are impacting on the school's ability to teach effectively using these devices.

ICT issues and limitations can be broken down into three sections:

#### Currently broken or needs attention

- Active Directory – There appears to be two obvious/outstanding issues; DNS replication, and removal of previous domains from the NMS domain
- SAN – A warning light on one of the SAN SAS disks would appear to indicate that the disk has failed/is about to fail.
- Backup – determine why backup to tape is not working / reporting an error
- Backup – increase the amount of space available to DPM for disk-2-disk backup as this has ran out of space to expand.
- The air conditioning unit does not switch itself on if for any reason it shuts down. In the past this has happened and the server room reached a temperate in excess of 79 degrees Fahrenheit. A solution to this problem needs to be found.

#### Needs to be upgraded in the future

- Old/slow PCs need to be replaced with devices with suitable performance
- The Wireless environment needs to be replaced with a managed solution that provides better coverage and central management, allowing central configuration to all network devices. Additional features that this will provide will be the provision of a guest wireless environment, allowing staff and students to use their own devices within the school environment, but without the risk that this could bring to the school network.
- The core Windows systems are running Server 2008 R2. This is now end of life, and while security hotfixes will still be available, non-security hotfixes are no longer available without Extended hotfix support/Premier Support. It is recommended that upgrading this environment to Server 2012 R2 or Server 2016 be investigated in the near future.
- Investigate whether the UPS'ed Hypervisors and DPM server will do a controlled shutdown in case of a power failure. If not, then a system will need to be put in place to achieve this.

#### Recommended additions to the environment

- Remote access to the internal school systems. This will provide staff and students with the ability to do school work while away from the school.
- Both the original data, disk backups and tape backups are in the same server room. Additionally, the tapes are never rotated out, so if there was to be a disaster, all data (original and backups) would be lost. It is recommended that either off-site backups be performed or the DPM Server and tape library be moved to another part of the school.
- Install Microsoft System Center Operations Manager to monitor the environment and generate alerts when problems are detected.

- Print Management / Monitoring. Currently the school has no print management solution on site. It was noted that the school have no visibility on how many pages are printed out on a daily basis.
- Some tablets are being used on site, but there is no Mobile Device Management in place. There are multiple possible solutions available that will suit the needs of the school

### Investment Option Recommendations

The following areas represent potential areas for due consideration in terms of financial investment. The list is not exhaustive, however it provides some key areas for initiating dialogue and discussions for financial planning around the ICT environment.

#### a) Virtual Desktops

As mentioned there are a mix of old and new devices on the network. The older devices are creating some performance issues and there are noticeable delays in the login speeds with these devices, which is expected and not unusual given the specification of the machines.

In order to tackle this issue, the school could choose to invest in virtual desktop technologies to centralise the processing of the applications and then turn these devices into a kiosk mode terminal type device or replace the devices with very low cost devices that connect to the virtualised desktops.

#### b) Remote Access

In order to address the lack of remote access into the school, both for staff and students, the school could extend the availability of the virtual desktop solution to provide browser based access to all of the schools applications and resources from any devices over any network connection. This would help extend the teaching and learning as well as general access to resources far beyond the country physical boundaries of the school.

#### c) Wireless

The school lacks an enterprise wireless solution and this could be limiting to the options available in terms of the schools client device strategy moving forwards. There has been an explosion of uptake of tablet based devices both in the home and within organisations across the world. Tablet adoption is driving down the price of access to devices and providing a full range of device options in terms of specifications and operating systems. However the lack of a robust and high performance wireless solution is going to be increasing detrimental to the potential adoption of such technologies moving forwards. The school should give appropriate consideration to the adoption of wireless AC to provide high density gigabit performance wireless across the school. This will not only support the schools internal mobile devices but will provide opportunities to extend the connectivity securely out to anonymous devices in terms of a Bring Your Own Device (BYOD) strategy.

#### d) Mobile Device Strategy

In line with the recommendations to expand and introduce a robust wireless infrastructure, the school should give consideration to the full spectrum of options around mobile device management. This includes looking at the types of devices and range of operating systems that the school could introduce (iOS, Android, Chrome books), but also give consideration to the way in which to control and manage these devices and their access to applications through mobile device management software. As has been identified, the current mobile devices are not managed through such software.

The introduction of a virtual desktop environment can provide cross over with the mobile device management strategy by enabling all the legacy Windows applications to be made available on any non-Windows tablet devices.

#### e) Platform Upgrade

The server and storage platform is not underperforming and there is headroom. This could remain the case for the next 12 to 18 months, however the supportability of the platform should be given due consideration and plans to begin budgeting for a replacement of the environment should be started.

As an interim strategy, the school may wish to look at the potential to upgrade the operating systems of the majority of its server from Windows Server 2008 R2 to either Windows Server 2012 R2 or Windows Server 2016 once released. This can be done on the existing hardware platform or deferred until a new hardware platform is purchased.

#### f) System Monitoring & Management

Currently there is no monitoring and management system for the server and storage infrastructure to help ensure that it remains operational, reliable and high performance. We would strongly recommend the implementation of Systems Centre Operations Manager to provide the functionality required to enable this. Introducing this technology can help to introduce proactive support and maintenance and allow the IT function to address issues before they manifest themselves as performance or reliability issues.

#### g) Print Management

Currently, as highlighted within this document, there is not print management solution in place within the school. Print is typically a high cost item in terms of use of the operational budget within a school's ICT environment. The ability to monitor, manage and control the print cost base is imperative to protecting the ICT investment and having visibility of the financial spend.

We would recommend a review of the print strategy and an assessment as to the current spend on print related activities within the school. Options for print management software, types of printers, cost control measures and the potential to adopt a pay per click should be given due consideration.

**End of Document**

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