



Shared Datacentre

Operational Requirement

This document and the information it contains are provided solely for the purpose of allowing potential Suppliers to provide a tender for the services being procured. It is issued under the Open Procedure of the European Procurement Directive.

Any Supplier wishing to submit a response to this Operational Requirement (OR) must register its intent with Janet(UK) before submitting the proposal. Janet(UK) will not accept proposals from suppliers who have not registered according to the procedure described in this document.

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I. INTRODUCTION

This document is the Operational Requirement (OR) for Datacentre Co-Location Services. Janet(UK) is establishing a single supplier framework agreement and will be the framework agreement operator.

The procurement process will be managed according to the open procedure as specified by the Public Contracts Regulations 2006 (as amended), and this document is an integral part of the open procurement announced by Janet(UK) in the Supplement to the Official Journal of the European Union.

I.1 Contracting Authority

The contracting authority is Jisc Collections and Janet Ltd. trading as Janet(UK).

I.2 Background Information

Janet(UK) and a number of Universities, Institutes and Academic Health Science Centres (AHSC) and Academic Health Science Networks (AHSN) (and their members), of which University College London (UCL), King's College London (King's), The Francis Crick Institute (Crick), The Wellcome Sanger Institute (Sanger), Queen Mary University of London (QMUL) and The London School of Economics (LSE) – collectively called the Anchor Tenants – have identified the need for a shared datacentre facility. University College London (UCL), King's College London (King's), The Francis Crick Institute (Crick), The Wellcome Sanger Institute (Sanger), Queen Mary University of London (QMUL) will be the first movers. The London School of Economics (LSE) is also a possible first mover. Such a shared facility will replace and/or complement existing datacentre facilities and provide some combination of an external primary facility disaster recovery, resilience and expansion space.

Initially it is expected the shared datacentre facility will provide separate co-location spaces for each participating University or Institute or NHS organisation within the overall shared datacentre facility within a common set of terms and conditions covering all tenants. Over time this might develop with some participants sharing infrastructure and support services (for instance maintenance staff in the datacentre) and potentially could grow into some participants sharing technology (such as a high performance computing facility) or applications hosted in the shared datacentre facility.

The Anchor Tenants, as described in section 1.3, have worked with Janet(UK) to develop this Invitation To Tender (ITT) and their requirements are integrated into this OR. It is expected that two Anchor Tenants will place initial orders shortly after the framework agreement has been signed; a further two Anchor Tenants will place orders within two months of the Datacentre being ready for service; and a further Anchor Tenant within six months; with the sixth Anchor Tenant placing their order within 24 months. It is anticipated that other Universities, Institutes and NHS partners will utilise the framework agreement at some future time at known costs and where all share in the economies of scale.

I.3 Anchor Tenants

I.3.1 The Francis Crick Institute

The Francis Crick Institute will be a world-leading centre of biomedical research and innovation. It will promote collaboration between researchers, disciplines, and academic institutions, healthcare organisations and businesses. Dedicated to research excellence, the institute will have the scale, vision and expertise to tackle the most challenging scientific questions underpinning health and disease.

Due to open in 2015, it is a consortium of six of the UK's most successful scientific and academic organisations - the Medical Research Council (MRC), Cancer Research UK (CRUK), the Wellcome Trust, University College London (UCL), Imperial College London and King's College London. Much of the early science to be undertaken by the Crick will be driven by the work at the MRC National Institute for Medical Research (NIMR) and the CRUK London Research Institute (LRI). The Crick will be world-class with a strong national role – training scientists and developing ideas for the public good.

The Crick will be a brand new research facility located in the heart of London, next to Kings Cross and St Pancras. Science will be at the heart of the 100,000sqm institute, with more than 120 laboratories leading science, innovation and collaboration and a scientific staff base of more than 1,250 within a total potential population of more than 1,500. The core activities will be a significant number of science programmes, projects and business support services.

It is intended that some core Crick services will be ready for operations from early 2014, if required, a full year prior to the new facility being ready. Information and Communications Technology (ICT) implementation has started to enable and support a 2014 date, and it is foreseen that the offsite data centre will support the early requirements.

The ICT will support an onsite/offsite data centre model to ensure the Crick has sufficient capacity to provide computing for the future science and also the disaster recovery and business continuity functionality.

The Francis Crick Institute is a registered charity.

1.3.2 King's College London

King's College London is one of the top 20 universities in the world (2013 QS world university rankings), and has risen more places in the recent Times Higher Education World University Rankings (2013-2014) than any other UK university. A research-led university based in the heart of London, it has nearly 23,500 students (of whom nearly 9,000 are post-graduate students) from 150 countries and approximately 6,000 employees. King's has an outstanding reputation for providing world-class teaching and cutting-edge research. In the latest Research Assessment Exercise for British universities, 23 departments were ranked in the top quartile of British universities; over half of our academic staff work in departments that are in the top 10 per cent in the UK in their field and can thus be classed as world leading. The College is in the top seven UK universities for research earnings and has an overall annual income of over £550 million. King's has a particularly distinguished reputation in the humanities, law, the sciences (including a wide range of health areas such as psychiatry, medicine, nursing and dentistry) and social sciences including international affairs. It has played a major role in many of the advances that have shaped modern life, such as the discovery of the structure of DNA and research that led to the development of radio, television, mobile phones and radar. It is the largest centre for the education of healthcare professionals in Europe; no university has more Medical Research Council Centres.

King's IT strategy is to move all on campus data centre equipment that can be moved off-site to an external shared data centre supported by connectivity to Cloud based services (AWS and Azure) so that services running in the off-site facility can failover into the cloud, or be run permanently from the cloud as required. King's has moved all staff and students to Microsoft Office 365 and is running a number of services on Azure and AWS. It is envisaged that after an initial location of equipment to the shared datacentre facility all new equipment will be installed there and existing equipment with an expected life of more than two years will also be re-located.

King's also has HPC servers and other IT equipment currently located in NHS partner data centres. King's wants this equipment to also be moved to the shared data centre, but for reasons of data security, this is will require IL3 security provision and connectivity to the NHS N3 network.

The criticality of the shared data centre to King's is such that the requirement is for dual, diversely routed network connections into the data centre. These should be in an active/active configuration to enable utilisation of otherwise redundant bandwidth, recognising a service reduction in the event of loss of a single link.

1.3.3 The Sanger Institute

The Wellcome Trust Sanger Institute is a world-leading, charitably-funded genome research centre focused on understanding the role of genetics in health and disease. The Institute is located about 9 miles south of Cambridge. It has more than 800 staff, and numerous collaborative research projects with scientists worldwide.

The Institute currently has a purpose-built datacentre at its primary location in Hinxton. To enable disaster recovery and business continuity provision, and to provide expansion space over the coming years, the Institute has a requirement for provision of off-site facilities to support its ever-expanding scientific research projects.

It is currently anticipated that critical data archives will be mirrored between its primary site and a secondary site before the end of 2014. Self-contained HPC facilities with associated storage are also envisaged in the medium term

1.3.4 London School of Economics and Political Science (LSE)

The London School of Economics and Political Science (LSE) is the world's leading centre for social sciences.

Founded in 1895, the LSE is one of the largest colleges within the University of London and has an outstanding reputation for academic excellence both nationally and internationally. LSE alumni and former staff include 13 Nobel Prize winners, 29 past or present Heads of State, 31 current UK MPs and 40 current peers of the House of Lords. LSE is consistently ranked in the top four UK universities in a variety of league tables.

The LSE;

- employs over 2,800 members of staff
- educates around 9,300 full-time and 1,000 part-time students from over 140 countries

Staff and students are drawn from all over the world and approximately half the student body are from outside the EU. Annual turnover is approximately £247m.

More general information about the LSE may be found at www.lse.ac.uk

LSE hosts server and storage based IT services in two data centres, one of which is a managed co-location facility 8km from our campus which hosts 15 racks of equipment. A further 12 racks are hosted in our onsite data centre. A number of services such as Oracle, Exchange and NetApp filers replicate data between the two data centres. LSE currently uses a Tivoli based managed backup service with backups totalling 120TB replicated by the supplier to alternate data centres.

1.3.5 University College London (UCL)

UCL is a large research intensive university with 25,000 students and a turnover of over £1bn pa. The majority of the university's activities are located around Bloomsbury in London although these are supplemented by overseas outposts in Adelaide and Qatar together with several other units based elsewhere in London.

UCL is moving to two datacentres providing symmetrical core services. One datacentre will be located in Bloomsbury, run and operated by UCL, the other datacentre will be located outside of Bloomsbury and will be the HEI co-location facility sought through this tender. Each datacentre shall be able to support the core time critical UCL services if the other datacentre is rendered non-operational. There may be some services such as High Performance Computing which may not need to be symmetrical and so, for performance reasons or otherwise, most or all of the HPC facility may be located in one or other of the datacentres. Where a service is operationally critical, such as the Finance systems, then these will be fully mirrored across the two datacentres. For operational reasons one of the datacentres needs to be located in the proximity of the Bloomsbury campus. The other needs to be located outside the Bloomsbury campus to provide resilience against location risks.

Currently UCL has over 7 significant datacentre facilities, some with UPS and generator protection others not. These are all located in the Bloomsbury area but distributed over several buildings and are sufficiently far apart that they operate independently. Moving from the current situation to two symmetrical datacentres covering the vast majority of UCL IT services will take some time and require a multi-year plan.

1.3.6 Queen Mary University of London (QMUL)

Queen Mary University of London (QMUL), is a Russell Group university located across several locations in Central and East London, the largest sites being at Charterhouse Square, Whitechapel and Mile End. QMUL has around 5,000 staff and 18,000 full-time students, and has a strong reputation for research in the life sciences.

The College is currently working towards consolidating multiple data centres scattered across the sites into three facilities. Business-critical IT services, such as finance applications, student records and HR systems, for example, have been, or are in the process of being migrated into a new data centre at Mile End. To minimise service disruption to these services, a mirror data centre to the Mile End facility operates from a co-location facility 12 miles away in Enfield. The third QMUL data centre hosts the infrastructure to support centrally provisioned and supported research services, such as HPC and research data management. This facility is located in Mile End, and is currently constrained by limited floor space and power feeds. As part of a strategic aim to improve the strength of computational research in the life sciences at QMUL, and to accommodate considerable future expansion, the College is actively looking to move this research infrastructure to an improved data centre facility.

1.3.7 Anchor Tenant base locations

For the purpose of ensuring that the geographical and accessibility criteria of the Datacentre are met (as defined in section 5.4.2), the base locations of the Anchor Tenants are given in Table I below:

Anchor Tenant	Base Location
LSE	Houghton Street London WC2A 2AE
King's College London	The Strand London WC2R 2LS
Queen Mary University of London	Mile End London E1 4NS
The Sanger Institute	Hinxton Cambridgeshire CB10 1SA
The Francis Crick Institute	Gibbs Building 215 Euston Road London NW1 2BE
UCL	Gower Street London WC1E 6BT

Table I: Anchor Tenant base locations

1.4 Definitions

For the sake of clarity in the following sections, the following terms are defined:

- **Janet(UK):** Is the contracting authority and framework agreement operator. Janet(UK) may become a Tenant under the agreement at some future point although will not be an Anchor Tenant.
- **Janet:** “Janet” is the name given both to an electronic communications network and a collection of electronic communications networking services and facilities that support the requirements of the UK research and education community.

- **Supplier:** Having won this framework agreement, the entity, including any sub-contractors and fellow consortium members, providing datacentre space including power, cooling and shared services such as security to the Tenants.
- **Alternative Provider:** An alternative provider to the Supplier of service elements such as power and maintenance.
- **Tenant:** Any organisation that has purchased from this framework agreement that is eligible to do so as defined by the scope in section 2. Such Tenants may provide services to other Tenants in a shared service model.
- **Anchor Tenant:** The Crick, King's College London, Sanger, LSE, QMUL and UCL
- **Datacentre:** A single physical building over which the Supplier has full operational control in which the offered services are provided.
- **RMA:** Return Materials Authorisation.
- **M&E:** Mechanical and Electrical.
- **CPE:** Telecommunications Customer Premise Equipment.
- **IL3:** Business Impact Level 3, a government standard defining a particular risk profile.
- **Shared Tenanted Area:** The designated area within the Datacentre that has been separated by the Supplier from its other customers for the purposes of providing Tenant Areas.
- **Tenant Area:** A space within the Shared Tenanted Area that is designated to each Tenant. A Tenant may have one or more Tenant Areas.
- **Shared Communications Room:** A room located in the Datacentre housing Tenant shared telco WAN links and routers, e.g. the Janet connectivity.
- **Rack:** May refer to combinations of types of rack, the standard size being: 1400mm x 800mm x 42u up to 48u. Racks of non-standard size may also be required. The choice of four types of power levels for racks are required: 4kW; 10kW; 20kW; 30kW. Higher power racks may be required in the future.

1.5 Outline of Requirement

Janet(UK) is seeking to establish a single Supplier framework agreement for the detailed design, supply, installation, configuration, commissioning and maintenance of a co-location datacentre facility with power, cooling and shared facilities including security.

It is expected that the successful Supplier will offer services from an existing, established facility. Janet(UK) and the Anchor Tenants have identified their requirements for off-site datacentre co-location space over both in the short term (Summer 2014) and medium term (Summer 2017). A number of other Universities and Institutes have also identified the potential need for a shared datacentre facility. It is expected that the facility will grow upto 500 racks and between 7MW and 14MW after 3-5 years, with scope to grow beyond this.

The shared facility within the Datacentre (the Shared Tenanted Area) will be separate from other areas provided by the Supplier to its other customers and each Tenant will require its own defined area (a Tenant Area) within the Shared Tenanted Area, with the option of caged areas as required. At least two of the Anchor Tenants intend to place an immediate order as a consequence of this procurement activity being successful according to the timetable in section 3.5. The remaining Anchor Tenants intend to place orders within this timescale or shortly afterwards.

It is the intention of Janet(UK) and the Anchor Tenants that this framework agreement will enable the long-term utilisation of the datacentre environment for a range of activities including:

- High performance computing (HPC) systems with high power requirements but moderate availability requirements

- Administration, teaching and learning systems with moderate power requirements but high availability requirements
- Other research systems that may have a requirement for higher levels of data confidentiality, and to operate in an NHS/Higher Education secure research zone

Therefore Janet(UK) and the Anchor Tenants are looking for:

- **Scalability** – The Anchor Tenants will be looking to scale up the total offsite data centre operations over the next five plus years, so it is important that the provider takes this into account. Individual Tenants will need the flexibility to be able to scale up and scale down their specific requirements within the facility during the framework agreement duration paying on a usage basis as they do so.
- **Support for High Performance Computing (HPC)** – A significant portion of the offsite data centre will be used to provision high performance computing. The Anchor Tenants need to ensure the Supplier will be able to deliver the power and services to support this including the commitment to meet the new and emerging power and cooling requirements that come with HPC. Although not necessarily in the first instance, expansion of the HPC provision over the 5 year period may require specific clusters of GPU compute or other specialist architectures and other configurations with large scale shared memory or large scale local data caching.
- **Self-contained secure cages** – some Anchor Tenants may wish to protect some or all their equipment within secure caging inside the facility.
- **High capacity access to the Janet academic network** – Much of the scientific work undertaken by the Anchor Tenants will be carried out using resources at the off-site location. It is therefore critical that a high capacity diverse and separate connection to the Janet network is available to Tenants. This connection will be provided by Janet(UK).
- **Support for the provision of a high capacity connection to the NHS N3 network, its successor PSNH or the PSN for the purposes of research and education activity** – much of the scientific work of the Tenants may involve collaboration with NHS and other national and international health organisations. Therefore it is important that the chosen Supplier is able to support the provisioning of such an N3 connection by any of the NHS related organisations that may become Tenants, including meeting the necessary physical and electronic security requirements.
- **Support for the development of Caldicott 2 Accredited Safe havens** - The Caldicott 2 report of March 2013 “The Information Governance Review”

<https://www.gov.uk/government/publications/the-information-governance-review>

sets out in Chapter 6 a proposal for accredited safe havens which provide the necessary safe guards for protection of patient data in situations where linkage of de-identified but still potentially identifiable information from more than one organisation may be undertaken. These specialist, well governed, independently scrutinised environments will be known as “accredited safe havens”. It is highly likely that the Anchor Tenants will wish to establish such a facility during the lifetime of the contract and it will be important for the Supplier to be willing to support the development and accreditation of such a facility.

- **Partnership** – The Anchor Tenants and other subsequent Tenants will be collaborating with a number of national and international organisations, institutes and health service agencies and organisations. These collaborations will be dynamic and may change rapidly over the 5 year period, for instance depending on grants and other funding opportunities. Shared cloud capacity management between academic organisations is likely to be required in the future.
- **Security and integrity of the Datacentre** – The services that are supported by the equipment that the Tenants will install in the Datacentre are mission critical and the Tenants expect to be handling sensitive personal data that is protected by UK and EU regulations, so have a duty of care towards the individual data owners. The security and integrity of the datacentre is therefore key.

2. SCOPE OF SERVICES REQUIRED

The scope of the framework agreement will cover purchases by the following:

- the Anchor Tenants as defined in section 1.3.
- other higher education institutions and further education colleges in the UK and their purchasing consortia;
- establishments of the research councils and other organisations whose principal activity is the conduct of publicly or charitably funded research;
- the Department of Health and arm's length organisations including NHS England and their successor bodies for the purposes of research and education;
- privately funded research and development organisations to further their collaborations with any of the above.
- Janet(UK) in the delivery of its co-location and similar services to the above and to others of its customers and beneficiaries; and for its other business purposes.

The services required from the Supplier fall into two categories: A core service and additional services.

The core service covers the provision and maintenance of:

- Datacentre co-location space;
- supply of power to the Tenant Areas sufficient to supply the installed racks to their rated requirements and supply of cooling sufficient to maintain a defined temperature profile throughout the seasons.
- passive assets (cable and fibre etc.) that are outside the Tenant Areas within the Datacentre. These would include fibres out to wide area network connections located on site;
- Datacentre environmental equipment; and
- Datacentre building structure and security.

Besides core services, a range of additional services (all within the scope of this tender) may be called upon by some or all of the Tenants and must be offered by the Supplier:

- Provision and maintenance of passive assets (cable, fibre and racks etc.) that are within a Tenant Area within the shared Datacentre facility.
- 'Smart hands' services including;
 - server and network installation services;
 - back-up process (tape rotation facilitation etc.) support services;
 - data loading services;
 - hardware restart intervention services;
 - infrastructure documentation services; and
 - decommissioning and disposal services.
- An option to be able to source electrical power directly while using shared Mechanical and Electrical (M&E) equipment;
- on-site Tenant shared secure build area and goods storage area with power, lighting and network/internet access;
- on-site Tenant shared parking;
- on-site Tenant shared office space. One to two desks with internet access, desk, and phone;

- goods in and out services to receive deliveries and dispatch items when Tenant staff are not present.

The solution needs to:

- Demonstrate a high quality fully resilient, standards based, cable and power design;
- provide modern fire detection and suppression capability and independent VESDA system and be linked to the main site fire alarm and monitoring system. The solution should also reflect industry good practice;
- provide water detection systems;
- supply fire suppression zones sufficient to limit the effects of fire across the equipment as a whole;
- provide indemnity for third party damage un-intentional or otherwise;
- be in a location where there are no significant risks to the Datacentre and where the Datacentre is accessible by road and public transport.

Janet(UK) and the Anchor Tenants are now seeking a suitable Supplier to provide operate and maintain such a facility as meets the requirements of this OR. This will include design, supply, installation, testing, training, commissioning, and maintenance services together with documentation of the Datacentre services as set out in this OR. Janet(UK) is also establishing a framework agreement with Open Book accounting principles, or similar transparency of costs from the Supplier.

2.1 Janet(UK) support

Subject to the letting of the framework agreement, and the placement of at least two orders from amongst the Anchor Tenants, Janet(UK) will provision resilient connection of the Supplier's Datacentre to the Janet network, and thence to individual Tenant areas. This will be at an initial bandwidth capacity commensurate with the needs of the Anchor Tenants. Janet(UK) will also manage and as necessary increase this capacity as there is further take-up and use by the Anchor Tenants and potential additional Tenants.

The costs of provisioning and maintaining connectivity to Janet need not be met by the Supplier, so suppliers do not need to include such costs when completing the Pricing Spreadsheet. Supplier's attention is however drawn to the relevant parts of section 5.5.5 where are set out the technical requirements and services the Supplier will need to meet to allow Janet(UK) to install the Janet connection; and the relevant section of the Pricing Spreadsheet where all charges to be made to Janet(UK) for such services are to be detailed.

Suppliers should note that the connection to Janet will be available only for use by the Tenants, and not for use by the Supplier, by its subcontractors, or by any other customer of the Supplier, unless by explicit prior agreement of Janet(UK).

Subject to the precise nature of the Supplier's proposal, Janet(UK) may, in agreement with the Anchor Tenants, provide technical, administrative or other support to the initial fitting out and set-up process, to enable timely occupancy by Anchor Tenant.

2.2 Duration of framework agreement

The framework agreement will be for an initial period of five years with the possibility of extension for two further periods of five years subject to review at each five year break point with an overall period of up to 15 years.

The framework agreement is for greater than four years due to Janet(UK)'s long-term commitment to connectivity (long-term fibre lease) and Tenants long-term datacentre strategy which needs assurance of continuity with the supplier selected.

If an Anchor Tenant wishes to place and order then they will use the master services agreement and call-off contract. The initial term of the master services agreement will be five years with a contractual break point after three years.

2.3 Likely take-up of framework agreement

Janet(UK) cannot guarantee the level of expenditure through the framework agreement in any given year, however we estimate an expenditure of £40 million – £130 million for the overall duration of the framework agreement (15 years).

3. PROCUREMENT PROCEDURE

The responses to this OR will be evaluated against the evaluation criteria listed in section 3.8 of this document. Included in the ITT pack is a copy of Janet(UK)'s standard form of framework agreement, a master services agreement, and a pro forma call-off contract. These documents will be used to conclude a contract with the preferred Supplier.

3.1 General Issues

All communication with Suppliers over the course of the procurement will be handled or arranged by Janet(UK).

3.2 Registration

Each interested supplier is required to register its intention to submit a response to this ITT via the Janet(UK) e-tendering portal at:

<https://tenders.ja.net>.

Note: if your company is not already registered as a user of the Janet(UK) portal it is necessary first to register as a user of the portal. Once this registration is accepted by Janet(UK), a username and password will be issued, and should be used for all future accesses to the portal. Note also that Janet(UK) will reject a supplier's registration if there is already a registration on the portal for that supplier. Please remember also that this initial registration is **not** a registration for a particular contract, it is **only** the registration of the supplier on the Janet(UK) portal. When the username and password are received, it is necessary then to login and register interest in a specific contract.

When registering, it is recommended that a generic mailbox (such as *sales@supplier*) is set up, so that information from the system can be sent to more than one representative at the company.

A detailed Supplier User Guide on how to use the Janet(UK) portal can be downloaded from the portal itself, or from or the Janet website at:

<http://www.ja.net/company/invitations-to-tender/index.html>.

Please note that Janet(UK) will not accept any registration requests after the close of registration date given in the timetable in section 3.5.

3.3 Clarifications to the requirements

Suppliers will be provided with clarification of Janet(UK)'s requirements in accordance with the European Directive.

Suppliers should raise any issues of clarification via the Janet(UK) e-tendering portal at <https://tenders.ja.net>. Where issues of clarification arise which are relevant to more than one candidate, each will be notified via the Janet(UK) portal. Any clarification request should be submitted by no later than the date given in the timetable in section 3.5, as Janet(UK) cannot guarantee to answer any requests submitted after this date.

3.4 Supplier briefing day

A briefing day for potential **bidders** will be held in London on Monday 24th February at Janet(UK)'s headquarters on the Harwell Oxford Campus, Oxfordshire. If a supplier wishes to attend the briefing day they should register by emailing procurement@ja.net. Details of the joining instructions, venue, agenda and timing of the day will be distributed to the suppliers that have registered to attend the event.

3.5 Timetable

The steps and timetable for this procurement are as follows:

Activity	Date
Issue contract notice in OJEU	7 February 2014
Final date for clarifications	21 March 2014
Final date for registration	12:00 (GMT) 26 March 2014
Closing date for tenders	12:00 (GMT) 28 March 2014
Selection of preferred supplier	2 May 2014
Framework agreement in place	Mid May
At least two initial orders placed	Mid May
Supplier must fully meet the requirements of MR10	1 July 2014

Table 2: Procurement timetable

Janet(UK) reserves the right to vary this timetable if the need arises, within the constraints of the European Procurement Directive.

Tenders will be expected to remain valid for six months after tender submission.

Janet(UK) may invite Suppliers to attend tender clarification meetings if required.

3.6 Award of framework agreement and orders

Once a preferred Supplier has been appointed, Janet(UK) and the Anchor Tenants will wish to proceed to framework agreement signature as quickly as possible commensurate with due diligence and within the constraint of the mandatory standstill period. Suppliers should therefore be prepared to engage in framework agreement and initial order finalisation in a timely manner so as to meet the timetable above.

Janet(UK) reserves the right not to award a framework agreement if in its judgement no tender received meets the technical, commercial and contractual requirements expressed in this OR and the accompanying draft contract documents. It also reserves the right not to award a framework agreement if the highest-ranked tender is either unaffordable, or otherwise economically disadvantageous to the Anchor Tenants, or to Janet(UK).

Suppliers should note also that, should during framework agreement and order finalisation and associated diligence it become apparent to Janet(UK) that the preferred Supplier's tender is in any material respect inaccurate, untrue or incapable of delivery to the requirements set out in this OR, Janet(UK) may decide at its sole discretion not to award a framework agreement to the preferred Supplier.

The individual Anchor Tenants each reserve the right not to award an order under the framework agreement if the Supplier's proposal is insufficiently economically advantageous.

3.7 Document notation

MR.....A mandatory requirement.

A solution that does not meet all mandatory requirements will not be acceptable.

Suppliers must state how all requirements will be met, considering the issues and the points raised. A statement of the form 'this requirement will be met' is not sufficient. Tenders must satisfy all mandatory requirements. Failure to satisfy a mandatory requirement will exclude a tender from further consideration.

IR.....An information requirement

It is vital that Suppliers provide full information on specific topics. These topics are identified as information requirements. Failure in a tender to provide full, relevant information in answer to information requirements will lead to the Supplier losing marks. Assessment of the quality of the tender will be based on the responses to these requirements, and will influence the selection process.

3.8 Evaluation

The contract will be awarded on the basis of the offer that is the most economically advantageous. The main criteria to be used in determining which offer is the most economically advantageous will be:

Marking	Item
Pass/Fail	The Supplier's ability to meet the mandatory requirements in sections 4 and 5 of this OR document. Tenders must satisfy all mandatory requirements. Failure to satisfy a mandatory requirement will exclude a tender from further consideration.
60% of total marks.	<p>Charges quoted for each service item within the Pricing Spreadsheet included with this OR and for the responses to the Information Requirements associated with pricing as detailed in Appendix II, section 9.2. 1800 marks out of the total of 3000 for the complete tender have been allocated to charges.</p> <p>The charges requested in IR101 and IR107 and IR110 will be scored through the four use case scenarios using the formulae:</p> $\frac{\text{Lowest price for use case 'x'}}{\text{Price being evaluated for use case 'x'}} \times \text{Marks for use case 'x'}$ <p>Note:</p> <ul style="list-style-type: none"> • The "Lowest price for use case 'x'" means the lowest price across all bidders for use case 'x' • Zero marks will be awarded if no pricing response is provided for a pricing element.
40% of total marks.	Janet(UK)'s assessment of the Supplier's technical capability, experience and quality of the solution offered, and the ability of the Supplier to deliver the services to the required timescales based on Janet(UK)'s assessment of the responses to the information requirements. A summary of the marks per area for this part of the assessment is given in Appendix II, section 9.1.

Table 3: Marking breakdown

3.8.1 Guideline to scoring:

As noted in each subsection of sections 4 and 5 scores will be allocated as follows:

- A maximum score will be given where the response fully meets the requirement and answers the question;
- a score of up to two thirds of the maximum will be given where the response meets most of the requirement and answers most of the question;
- a score of up to one third of the maximum will be given where the response partially meets the requirement and answers part of the question;

- a zero score will be given where the response does not meet the requirement and/or does not answer the question at all.

The breakdown of marks per area is given in Appendix II.

3.8.2 Pricing Spreadsheet

Additional notes on Pricing Spreadsheet:

- There are seven worksheets in the Pricing Spreadsheet. The first worksheet provides some definitions and also states the assumptions used in the other worksheets. The second worksheet labelled Rate Card must be completed by Suppliers with their proposed pricing for the services sought. The third worksheet labelled Aggregate Discount must be completed by Suppliers with their proposed volume discount breakpoint levels. **Note the elements of the rate card and the Aggregate Discount levels are not scored.**
- The other four worksheets in the Pricing Spreadsheet specify use case scenarios. The Supplier shall price each of these use case scenarios using the prices given in the rate card. Where applicable the PUE given in IR56 must be used in the Pricing Spreadsheet for the calculation of electricity consumption. Improved values of PUE can be used in the Pricing Spreadsheet for subsequent years but these along with the value given in IR56 will be the contractual minimum PUE for the relevant year of the contract. The Supplier must apply the aggregate volume discounts stated in the third worksheet to the volumes in each use case scenario. If the Supplier does not have three rack type Categories (A, B or C) as defined in Table 6, then an equivalent Supplier rack Category that at least meets the requirements of each Category in Table 6 must be used. **Note each of the use case scenarios is scored.**

The breakdown of marks per scenario is given in Appendix II.

3.8.3 Clarifications

Janet(UK) may seek clarifications prior to the preferred Supplier being selected. Once the preferred Supplier has been selected Janet(UK) will seek to confirm commitments and sign the framework agreement with the preferred Supplier.

3.9 Delivery of tenders

Each Supplier is required to upload its response to the Janet(UK) e-tendering portal by the time and date specified in section 3.5.

The documents must be provided in PDF format with the exception of spreadsheets that should be provided in Excel format. Any non-standard fonts used in submissions must be embedded in the document.

Please do not try to upload documents very close to the closing time of the procurement, because the tender boxes will be locked at 12:00 and any documents that are part way through being uploaded will be rejected.

In order to assist in the evaluation of tender responses, each Supplier is asked to provide its response in one PDF document¹ rather than submit a main document with reference to other separate documents. As part of this process, each Supplier should provide the pertinent information within the response document rather than submitting a large annex document that procurement panel members need to read in its entirety in order to obtain the key facts.

It is the responsibility of the Supplier to make sure that a tender is fully and accurately completed (including any Mandatory Requirements). Janet(UK) is under no obligation to clarify a Supplier's tender or to obtain missing information or Mandatory Requirements.

¹ But please note the single PDF document can contain attachments within it

A detailed Supplier User Guide on how to use the Janet(UK) e-tendering opportunities portal can be downloaded from the portal at <https://tenders.ja.net>

A response submitted after the deadline will not be considered.

3.10 Format of tenders

The response to the specific requirements must take the following format:

A Management Summary

This section should be a single page summary describing the main points of the bid.

B Description of Services Proposed

This section must describe the services proposed. The information required to satisfy all the specific requirements must be provided in this section.

The response must address all the requirements both Mandatory Requirements (MR) and Information Requirements (IR) detailed in all sections of this OR.

The order of replies to requirements (MR and IR) must be given in the same numerical order as they are stated in this document. The reference number and the text of the requirement to which it relates must precede each response.

4. SUPPLIER REQUIREMENTS

4.1 Personal Situation of the Candidate or Tenderer

MRIThe supplier must warrant that none of the following circumstances set out in Regulation 23(1) of the Public Contracts Regulations 2006, applies to the supplier or sub-contractors:

- (a) conspiracy within the meaning of section 1 or 1A of the Criminal Law Act 1977 or article 9 or 9A of the Criminal Attempts and Conspiracy (Northern Ireland) Order 1983 where that conspiracy relates to participation in a criminal organisation as defined in Article 2 of Council Framework Decision 2008/841/JHA;*
- (b) anything which would constitute an offence under sections 1, 2 or 6 of the Bribery Act 2010;*
- (c) the offence of bribery, where the offence relates to active corruption;*
- (d) fraud, where the offence relates to fraud affecting the European Communities' financial interests as defined by Article 1 of the Convention on the protection of the financial interests of the European Communities, within the meaning of–*
 - (i) the offence of cheating the Revenue;*
 - (ii) the offence of conspiracy to defraud;*
 - (iii) fraud or theft within the meaning of the Theft Act 1968, the Theft Act (Northern Ireland) 1969, the Theft Act 1978 or the Theft (Northern Ireland) Order 1978;*
 - (iv) fraudulent trading within the meaning of section 458 of the Companies Act 1985, article 451 of the Companies (Northern Ireland) Order 1986 or section 993 of the Companies Act 2006;*
 - (v) fraudulent evasion within the meaning of section 170 of the Customs and Excise Management Act 1979 or section 72 of the Value Added Tax Act 1994;*
 - (vi) an offence in connection with taxation in the European Union within the meaning of section 71 of the Criminal Justice Act 1993;*
 - (vii) destroying, defacing or concealing of documents or procuring the execution of a valuable security within the meaning of section 20 of the Theft Act 1968 or section 19 of the Theft Act (Northern Ireland) 1969;*

(viii) fraud within the meaning of section 2, 3 or 4 of the Fraud Act 2006; or

(ix) making, adapting, supplying or offering to supply articles for use in frauds within the meaning of section 7 of the Fraud Act 2006;

(e) money laundering within the meaning of section 340(11) of the Proceeds of Crime Act 2002;

(f) any other offence within the meaning of Article 45(1) of the Public Sector Directive as defined by the national law of any relevant State.

MR2.....The supplier must warrant that none of the following circumstances set out in Article 45 items 2(a), (b), (c), (d) and (g) of EU directive 2004/18/EC applies to the supplier or sub-contractors

- {item 2(a)}: is bankrupt or is being wound up, where his affairs are being administered by the court, where he has entered into an arrangement with creditors, where he has suspended business activities or is in any analogous situation arising from a similar procedure under national laws and regulations;
- {item 2(b)}: is the subject of proceedings for a declaration of bankruptcy, for an order for compulsory winding-up or administration by the court or for an arrangement with creditors or of any other similar proceedings under national laws or regulations;
- {item 2(c)}: has been convicted by a judgement which has the force of res judicata in accordance with the legal provisions of the country of any offence concerning his professional conduct;
- {item 2(d)}: has been guilty of grave professional misconduct proven by any means which the contracting authorities can demonstrate;
- {item 2(g)}: is guilty of serious misrepresentation in supplying the information required under this Section or has not supplied such information.

4.2 Economic and Financial Standing

Janet(UK) now routinely runs credit checks on Suppliers and any subcontractors submitting tender responses. This is being undertaken through financial checking services such as Creditsafe and Dun and Bradstreet. This information will be used to assess the risk of contracting with a supplier and could lead to potential disqualification should an unsatisfactory explanation be given.

MR3.....The Supplier must provide evidence of financial and economic standing, as specified in Article 47 of EU directive 2004/18/EC by providing verification of the undertaking's overall turnover the last three financial years available.

MR4.....The Supplier must provide its company registration number and address for credit checking.

MR5.....The Supplier must be able to demonstrate a strong financial backing providing assurance to the Tenants of the likely continued viability of the Supplier's business over the expected contract term.

4.3 Technical Capability and Experience

Section 4.3 Marks: 22

MR6.....The Supplier must provide a description of its measures for ensuring quality as indicated in article 49 of 2004/18/EC. For this item, a copy of the Supplier's ISO 9000 certificate will be adequate. If the Supplier is not registered under ISO 9000, then a brief description of the policy used to ensure quality will be acceptable.

MR7.....The Supplier must confirm and demonstrate that it is materially compliant with ISO 27001 or equivalent.

IR8..... The Supplier shall describe how it will support Tenants in achieving ISO 27001 compliance. For some or all their services which utilise the Supplier’s underlying co-location and other services

MR9..... The Supplier must confirm its service management processes are ITIL v3 2011 conformant.

MR10..... The Supplier must confirm that for the entire period of any call-off contract that it enters into that it has Operational Control (as defined in the master services agreement) of a fully functioning Datacentre facility capable of fulfilling the Anchor Tenants initial orders (assuming that at least two initial orders have been placed by the date in the timetable outlined in section 3.5) by 1 July 2014. In addition it must be scalable to the volumes shown in table 7 of section 5.3.

4.4 References

Section 4.4 Marks: 71

IR11 Please provide details of up to three contracts that are relevant to Janet(UK)’s and the Anchor Tenant’s requirement. Contracts for the supply of goods or services should have been performed during the past three years. It is the supplier’s responsibility to provide sufficient information in order to convince Janet(UK) and the Anchor Tenants that the Supplier is capable of meeting Janet(UK)’s and the Anchor Tenant’s requirement. Janet(UK) will seek a reference from each customer so the supplier must supply all the information requested below, and the contact should be prepared to speak to Janet(UK) to confirm the accuracy of the information provided. If the Supplier had a contract within the last three years or has an existing contract with Janet(UK) or Anchor Tenant(s) for this type of service then these must be included as a reference(s).

	Contract reference 1	Contract reference 2	Contract reference 3
Customer organisation (name)			
Customer contact name, phone number and email			
Contract start date Contract completion date Contract value			
Brief description of contract including evidence as to your technical capability in this market			
If work was sub-contracted, details of the subcontractors and the nature of the work that they undertook			

Table 4: References

5. REQUIREMENTS FOR AWARD OF THE OFFERED SERVICE

5.1 Service and Definitions

5.1.1 Service Definitions

It is anticipated that the shared facility will offer a range of services to Tenants. Any one Tenant can choose to take any of the services offered beyond the core services. Core Services will be taken by all Tenants. Tenants may take one or more of the Additional Services and over time the services a Tenant takes may change within the terms of the agreement. The Core Services and Additional Services are defined as:

Service Type	Service elements – reference and description
Core Services	<ul style="list-style-type: none"> ▪ C1: Datacentre co-location space services (designated Tenant Area within the Datacentre facility with power and environmental controls), with the ability to provide secure caged areas as required by the Tenants. ▪ C2: Datacentre building structure and security.
Additional Services	<ul style="list-style-type: none"> ▪ A1: Smart Hands services to cover activities such as, but not limited to: <ul style="list-style-type: none"> ○ Server and network installation services ○ Back-up process (tape rotation facilitation etc.) support services ○ Data loading services ○ Hardware restart intervention services ○ Infrastructure documentation services ○ Decommissioning and disposal services ▪ A2: Provision and maintenance of passive assets (cable, fibre and racks etc.) that are within a Tenant’s area within the Datacentre facility ▪ A3: Provision of passive assets (cable and fibre etc.) that are outside the Tenant’s areas within the Datacentre facility. These would include fibres to the Shared Communications Room for access to external network connectivity. ▪ A4: Option to be able to source electrical power directly while using shared M&E. ▪ A5: On-site Tenant secure build area and goods storage area with power, lighting and network/internet access. May be shared between Tenants with their mutual agreement. ▪ A6: On-site Tenant parking shared across all Tenants. ▪ A7: On-site Tenant office space. One to two desks with internet access, desk, and phone. Shared across all Tenants. ▪ A8: Goods-in receipt and goods-out dispatch services to receive and dispatch deliveries when Tenant staff are not present.

Table 5: Service elements

Within a Tenant Area, the Tenant shall have the freedom to install assets it may require (racks, networking equipment, servers, SANS etc). In the shared Tenanted Area protocols will be agreed for the installation of dedicated Tenant assets (such as fibre runs) in such areas.

5.1.2 Alternative Providers

Where the Tenant chooses an Alternative Provider to provide services other than Core Services then the Supplier shall agree to provide access and other services to the Alternative Provider that are materially equivalent to those provided to the Tenant.

5.1.3 Datacentre requirements – Category levels

While the Supplier is not required to have formal certification of compliance to the Uptime institute’s tier level categories for datacentres, it will be expected to show how it can meet the requirements specified by reference to the standards.

The Tenant’s requirements range between the UpTime Institute’s Tier 1 and Tier 3 classifications. Line of business services will require Tier 3 whereas research computing infrastructure sometimes do not require the fully commercial mission critical service of Tier 3 (100% guaranteed) and maybe more akin to Tier2 or even Tier 1. Table 6 describes three categories into which the Tier and power requirements are mapped. These categories are used in this document.

Category level	Datacentre requirements
<i>Category A</i>	1) All Tier 1 requirements 2) No UPS or power generator
<i>Category B</i>	1) All Tier 1 requirements. 2) Has UPS but no power generator
<i>Category C</i>	1) All Tier 3 requirements 2) Has UPS and power generator

Table 6: Datacentre categories

5.2 Contractual Elements

The following elements make up the contract structure:

- **Framework agreement:** The framework agreement governs the overall arrangement is a contract between the Supplier and Janet(UK). The framework agreement defines the overall terms and conditions and defines the master services agreement that will govern the relationship between the Supplier and any Tenant.
- **Master services agreement and schedules (collectively known as the MSA):** The master services agreement sets out the terms and conditions which will govern the relationship between the Supplier and any Tenant. There is one standard master services agreement for all Tenants.
- **Call-off contract:** The call-off contract will be used by Tenants to place orders with the Supplier against the framework agreement. A Tenant could enter into one or more call-off contracts over time. The parties to the call-off contract are the Supplier and a Tenant.

It is recognised by the Anchor Tenants that efficiencies are gained by working closely together and collectively with the Supplier whilst recognising and respecting the contractual relationship between each Tenant and the Supplier. Whilst it will not form part of the contractual structure with the Supplier, the Tenants intend to put in place a collaboration agreement between themselves that will define how they work together and with Janet(UK) to enable efficient working with the Supplier.

5.2.1 Contract Form

The ITT includes a copy of Janet(UK)'s standard form of framework agreement, master services agreement and pro forma call-off contract which will be used for this service. When using the open procedure, contracting authorities are prohibited from negotiating with Suppliers in respect of the agreement (typographical errors excepted). Therefore Suppliers are required to confirm that if they are appointed as preferred Supplier they will accept the terms of these agreements. Failure to accept these terms will result in a Supplier's tender being treated as non-compliant and therefore rejected. Suppliers should also note that there are a number of areas in the agreements that are solution specific (denoted by square brackets – []). In these cases the Suppliers responses to this OR will be used to complete these areas in the agreements.

MR12.....The Supplier must indicate that it will accept the terms of Janet(UK)'s standard form of framework agreement, master services agreement and pro forma call-off contract provided with this document.

5.2.2 Exit

Section 5.2.2 Marks: 20

The Supplier is required to ensure the orderly transition of the Services from the Supplier to the Tenant and/or any Replacement Contractor in the event of termination or expiry of the master services agreement as defined in Schedule 15 of the master services agreement.

MR13.....The Supplier must acknowledge that orders from the Tenants will not automatically renew. The Supplier must commit to provide information (including but not limited to power consumption and rack utilisation per Tenant) to support the re-tender process 12 months before the end of each five year contract term.

The Supplier must commit to provide an exit management period of at least 12 months after notice of termination to allow transfer of service to new arrangements.

MR14.....The Supplier must provide guarantees concerning the retention of ownership of equipment and access by the Tenant's staff in the event of a transfer in ownership of the Datacentre facility or liquidation of the Supplier.

IR15.....The Supplier shall describe the processes by which an extended exit management period can be provided after contact termination. The Tenant prefers an exit management period of at least 24 months.

IR16.....The Supplier shall provide details of support services available to the Tenant to prepare and execute an exit management plan. Any additional charges over and above the ongoing service charges shall be itemised in the pricing schedule.

IR17.....The Supplier shall provide details of the options available to the Tenants for assets (equipment cabinets or racks) provided by the Supplier to transfer to a Tenant at the termination of the contract. This should include straight line depreciation over a five year period to zero value.

5.3 Service Volumes

Over the initial period of the framework agreement the following forecast growth has been provided for information to the Supplier. Note these figures are indicative and no commitment is made to meet this growth forecast from the Datacentre becoming available to Tenants.

Timeframe	Upper Forecast level		Minimum Forecast level		Tenants
	Racks (cumulative)	Usable power (cumulative)	Racks (cumulative)	Usable power (cumulative)	
Initial 2 orders	25	325kW	25	325kW	Two Tenants (Crick and King's)
Within 2 months	50	500kW	30	300kW	Four Tenants (Crick, UCL, QMUL and King's)
Within 6 months	150	1,500kW	105	1,050kW	Five Tenants (Crick, UCL, King's, Sanger, and QMUL)
Within 12 months	180	1,800kW	120	1,200kW	Five Tenants (Crick, UCL, King's, Sanger, and QMUL, LSE)
Within 24 months	225	2,250kW	120 +	1.2MW +	Six Tenants
Within 48 months	300	3,000kW	120 +	1.2MW +	To be determined
Within 60 months	500	5,000kW	120 +	1.2MW +	To be determined

Table 7: Forecast service volumes over 5 years

5.3.1 Ability to meet service volume needs

Section 5.3.1 Marks: 71

IR18.....Based on the forecasted growth given in Table 7, the Supplier shall explain how it will meet this level of demand.

5.4 Core Service Elements

5.4.1 Co-location services

Section 5.4.1 Marks: 206

IR19.....The Supplier shall describe how the Shared Tenanted Area is enclosed in which individual Tenant Areas will be assigned, and therefore separated from other customers of the Supplier, making reference to floor and ceiling slabs, cage or enclosure specification width, and height where appropriate.

IR20.....The Supplier shall detail the maximum amount of contiguous space at the Datacentre within the Shared Tenanted Area that will be available to a Tenant at the introduction of the service.

IR21.....The Supplier shall describe any restrictions inside the Shared Tenanted Area including change management procedures noting that within a Tenant Area, the Tenant shall have reasonable freedom to install assets as it requires (racks, networking equipment, servers, SANs etc).

IR22.....The Supplier shall state what processes and protocols will need to be followed to install assets outside a Tenant Area (such as fibre runs and network connections).

- IR23..... *The Supplier shall describe any services that are run under floor and explain how electrical, IT and water services are protected and segregated from each other. The Supplier shall describe the raised floor type.*
- MR24..... *The Supplier must confirm the Datacentre does not present a material zinc whiskers risk or other significant particulate or corrosive gas risk and has been constructed in-line with Industry good practice.*
- IR25..... *The Supplier shall describe any pre-requisites that must be satisfied or tests which must be undertaken before Tenant equipment can be located in the Datacentre. Janet(UK) reserves the right to undertake tests to validate compliance with any pre-requisites stated by the Supplier and to reject any tender where the Anchor Tenants are not able to reasonably meet the pre-requisites.*
- MR26..... *The Supplier must confirm that a Tenant will be able to supply and install its own racks in the Datacentre space allocated to it. Power must be supplied to such Tenant supplied racks using industry standard datacentre power connection techniques.*
- MR27..... *The Supplier must commit to provide secure build and storage area for a Tenant. This would be used for technical work and to store Tenant owned out of service equipment and spares. This needs to be equivalent to at least 5% of the Tenant's Tenant Area (with a minimum of 5 sqm). This secure build and storage area may be shared between multiple Tenants with their mutual agreement. Such space would need to be accessible with hand-propelled trolley carrying equipment from both the goods-in receipt / goods-out dispatch area and the Tenant Area.*
- IR28..... *The Supplier shall describe how it will provide the build and storage area based on a typical layout with location identified and illustrate proximity to the proposed Shared Tenanted Area within the Datacentre.*
- MR29..... *The Supplier must commit to provide goods-in receipt service and a goods-out despatch service for the Tenant equipment and related items, including disposal of all packing materials. The Supplier shall describe in detail its goods-in and goods-out process and facilities.*
- IR30..... *The Supplier shall describe how it will provide secure space and M&E services at each of the Category levels A, B and C as specified in Table 6. The services will include power distribution, UPS, generators, cooling & security for racks with a power capacity up to 4kW, 10kW, 20kW, and 30kW.*
- IR31..... *The Supplier shall state which rack sizes may be accommodated up to and including 800mm x 1400mm x 42u up to 48u and whether any additional charges apply for racks which are non-standard or a larger size, the spacing between rows of racks must be suitable to allow the easy loading and unloading of these deep racks.*
- IR32..... *The Supplier shall state the maximum rack load for the Datacentre. The Supplier shall also describe how enhancements can be made in the future to increase the capacity and floor loading as/and if required.*
- MR33..... *The Supplier must commit to providing a facility with a load rating that can accommodate a load per rack (1.4mx0.8m rack) of up to 1,500 Kg even with racks adjacent to each other.*
- IR34..... *The Supplier shall describe how racks will be grouped and whether only racks of similar power demand and Category rating may be installed contiguously. Many new technologies often have a requirement for close physical coupling, so contiguous high power density racks is likely to be important for anyone deploying HPC equipment, or even some storage technologies.*

IR35..... Schedule 6 of the master services agreement requires the Supplier to provide and maintain a security plan for the Datacentre. The Supplier shall describe how it will meet the requirements of Schedule 6 and how it will specifically ensure the security and integrity of the Datacentre, including how access is controlled into the Datacentre and into the Shared Tenanted Area.

MR36..... The Supplier must confirm that Tenant and their agents shall have 24 hour, 365 days a year access to the Datacentre with the following notice periods:

- Accredited Tenant staff including any accompanied Tenant, agent or third party staff: no more than 15 minutes' notice;
- accredited agent staff: no more than 15 minutes' notice;
- third party hardware engineers: 15 minute's notice by an accredited member of Tenant staff or accredited agent;
- non-accredited Tenant staff: by prior agreement; and
- other non-accompanied agent and third party staff: by prior agreement.

Accredited means pre-notified by an authorised representative of a Tenant.

IR37..... The Supplier shall state if a chaperone service must be used by a Tenant whilst a third party engineer is working on a Tenant system, e.g. a hardware engineer. If a chaperone service is required then the Supplier shall provide details of the chaperone service including:

- The hours it is available (it will be required on a 24 hour 365 days a year basis with prior arrangement), and activities undertaken; and
- the amount of notice which must be given during normal business hours and outside these periods.

MR38..... Tenants expect to be handling sensitive personal data that is protected by UK and EU regulations and therefore the Tenants have a duty of care towards the individual data owners. As the Supplier will not be involved in storing, accessing or controlling any Tenant data then any extraterritorial access laws (such as the US Patriot Act) do not apply in this context. The Supplier must confirm our understanding.

5.4.2 Site Characteristics

Section 5.4.2 Marks: 90

MR39..... The Supplier must confirm that the Datacentre is:

- Located at a safe distance from any location representing significant risk to the Datacentre (for example aircraft flight paths, significant petro-chemical facilities, low lying areas subject to flooding etc.);
- Is not within 15 miles (direct point to point distance) of the base location for any of the Anchor Tenants (in Table 1);
- Is outside the urban area in which the base location of any of the Anchor Tenants is located (in Table 1);
- Is not more than a total of four hours travelling time by car and is also not more than four hours travelling time by public transport (excluding air travel) from the base locations of any Anchor Tenant. For both travelling by car and by public transport there must be no significant risk the facility could be rendered inaccessible by typical seasonal weather and other events.

MR40..... The Supplier must confirm that the Datacentre is monitored by a Building Management System (BMS) installation.

IR41..... The Supplier shall provide a risk assessment for its location describing any specific risk factors and measures taken for mitigation.

- IR42.....The Supplier shall state the proximity of the facility to the National rail network and, if applicable, to underground rail connections. The Tenant will need to send its staff to the Datacentre. The ease of access to public transportation will enable more efficient use of the Datacentre.
- IR43.....The Supplier shall explain how BMS events are monitored alarmed and how response actions are managed. The Supplier shall provide a list of management tools together with a brief description of their functionality and their role in delivering the proposed service. The Supplier shall state whether the Tenants will have read-only access to these management tools.
- IR44.....The Supplier shall detail its preventative maintenance and testing plan for the site and how this impacts on the resilience of each system during the maintenance period.
- IR45.....The Supplier shall detail any additional similar facilities it may have, which are directly network connected to this facility by the Supplier, so that Tenants may locate equipment in the second location for example for fail-over purposes.

5.4.3 Power Supply

Section 5.4.3 Marks: 74

- MR46.....The Supplier must confirm that the following is available: 230Volts, +10% -6%; three phase power supply.
- IR47.....The Supplier shall describe in detail how its power supply is made resilient paying attention to the following areas:

HV supply:

- Does the HV supply come from a single sub-station or from two sub-stations? In either case is the supply fed from an HV ring with two connections per sub-station to the proposed site? The Supplier shall describe the connectivity to the National Grid for HV supply and type of power connections to the facility, for example spur from the main grid, end of line, overhead, underground etc.
- How many transformers are there installed onsite at the Datacentre?

Generators:

- Is the HV supply covered by backup generators? If so how many?
- Does the generator capacity match the HV supply capacity? If not what are the HV and generator capacities?
- Does the generator configuration cover the whole facility or is the design split into modules to cover specific data hall spaces? If so, please detail the modular design.
- Describe the processes to ensure generator readiness and testing.
- State the time the facility can run on generator backup before the fuel supply requires replenishing.
- Is there a redundant storage and fuel supply system? If so how many hours/days fuel is stored onsite at the Datacentre? Are the fuel supplies for redundant fuel storage sourced independently to avoid concurrent contamination?
- Is there a back up fuel supply agreement with a 3rd party to supply emergency fuel in the event of onsite fuel running out or becoming unusable? If so what is the turnaround time from order to delivery?

UPS

- What type of UPS is used - static or rotary? What provision is there for mitigating mains sag and spiking?
- State the configuration of the UPS design (n+1, n+2, etc.)

- Does the UPS configuration cover the whole facility or is the design split into modules to cover specific data hall spaces? If so, please detail the modular design.
- State the Maximum run time of the UPS on full load.
- State the frequency of UPS tests.

LV switchgear.

- Are there redundant power supplies from different UPS sources available at each user cabinet position?
- Can each power strip be fed from different UPS sources?

IR48.....The Supplier shall state how the power capacity can be increased in the future to meet the forecasted future demands of the Tenants (see Table 7 on forecast service volumes).

IR49.....The Supplier shall state whether it can provide in cabinet power supply static transfer switches to change the input source? In addition the Supplier shall describe how it provides this and state if this is automatic or requires a manual change.

IR50.....In an environment shared with other clients the Supplier shall state how it assures the proper maintenance of mechanical and electrical equipment.

IR51.....The Supplier shall state whether the electrical supply to each cabinet is single phase, three phase or can be either.

IR52.....The Supplier shall confirm the electrical socket types or other forms of connector that can be made available in the Tenant's area.

5.4.4 Tenant Supplied Power

Section 5.4.4 Marks: 83

Many universities and research institutions operate under a VAT regime which means they are eligible for a preferential VAT rate of 5% VAT on electricity charges rather than the usual 20% for businesses. In the context of datacentre provisioning this is particularly relevant to the provision of power since this will typically drive a large part of the cost. However the preferential VAT is only available on power purchased directly by the institution.

This means it may be beneficial for a Tenant to purchase and pay for power directly rather than through the provider of the Datacentre facility. This requirement must therefore must be available as an option to Tenants and if taken up a Tenant must be able to renegotiate this option on an annual basis. All Tenants taking the option of sourcing electricity directly are expected to use the same supplier.

MR53.....The Supplier must confirm that it can provide a mechanism whereby a Tenant can source power for the Datacentre facility at any preferential rate it is entitled to.

IR54.....The Supplier shall state how it will provide an option to allow a Tenant to provide power through a direct contractual relationship with a electricity utility company of its choice. The Supplier shall confirm whether this would be technically and commercially acceptable for:

- Usable (IT equipment) power;
- cooling power;
- UPS supported power

The Supplier shall explain how the amount of power consumed by any shared electrical and mechanical environmental equipment (such as cooling equipment) would be handled if a Tenant chooses to source power directly. The Tenants expect to appoint a common electricity utility company but want to be able to have separate billing.

5.4.5 Power Efficiency and Carbon Reduction Commitment

Section 5.4.5 Marks: 58

The power efficiency performance of the Datacentre is important to the Tenants. In particular the current PUE (or similar measure) of the facility and how this may be improved over time through new and innovative technologies is important as Tenants may be faced with carbon emission reduction targets imposed by funding bodies.

MR55..... *The total power consumed by the Tenant will be calculated from the usable power going into the Tenant's racks multiplied by a factor (Gross Power Factor) to take account of power consumed by environmental or shared equipment such as cooling. The Supplier must confirm that the Gross Power Factor used to calculate the total power consumed by a Tenant will never exceed the PUE given in IR56. The total power cost (paid by the Tenant to their chosen provider) will be calculated by multiplying the total power consumed by the unit cost (per kWh) for electricity. If the PUE of the Datacentre improves then the benefit of this will be shared between the Supplier and the Tenant according to IR57.*

IR56..... *The Supplier shall state the expected PUE of the Datacentre, how that was established and explain how further improvements might be achieved with particular reference to the following:*

- *How the Supplier intends to improve PUE power and annual energy efficiency at the Datacentre over a one year, three year and five year timescale;*
- *how the Supplier would propose assessing and using new or innovative technology over the life of the framework agreement to improve the PUE further. For example how waste energy from the facility could be used elsewhere to reduce the net PUE of the Datacentre facility. The Supplier shall outline any expected impact on a Tenant from these changes.*

The stated PUE above must be used in the total cost of all the pricing scenarios.

IR57..... *The Supplier shall explain how the benefit of improved PUE in the Datacentre will be shared between the Supplier and the Tenants (a gain share arrangement). For instance, 70% of the gain accruing to the Tenants and 30% to the Supplier after the deduction of prorated (for the volume of the Tenant usable power compared to overall Datacentre consumption) depreciation charges for any reasonable and necessary investment to achieve the improved PUE.*

MR58..... *The Supplier must support the statutory Carbon Reduction Commitment reporting requirements of the Tenants as these may change through legislation from time to time.*

IR59..... *The Supplier shall describe how it will enable the Tenants to optimise their costs through use of allowable Government initiatives (such as those relating to climate change) as these exist for the period of each call-off contract. For example, the Government announced last Autumn that datacentres would be granted a more favourable tax regime for CRC:*

<http://www.computerweekly.com/news/2240210568/Chancellor-George-Osborne-announces-datacentre-carbon-tax-break-in-Autumn-Statement>

http://www.wrage.com/analysis_10811.asp#Utw-ixBFDIU]

IR60..... *The Supplier shall describe how it proposes to reduce the tonnes CO₂ equivalent emissions over the life of the contract for Supplier provided power and in this context how it might share its carbon credits earned in any one year with the Tenants.*

5.4.6 Environmental Services

Section 5.4.6 Marks: 32

MR61.....The Supplier must confirm that it will supply security for the Tenant in areas of the Datacentre that will enable Tenants to operate services at IL3 – for example the provision of a secure caged area extending between floor and ceiling slabs (including below any raised floor).

IR62.....The Supplier shall describe the methods it has in place to provide:

- Smoke Detection;
- fire Suppression.

The Supplier shall state if any modifications, additions or enhancements need to be made or are proposed to these systems to cover the space required by the Tenants. The Supplier shall also confirm whether these systems are zoned.

The Supplier shall demonstrate that it has fire detection systems which comply with BS 5839 throughout the entire facility. The Supplier may describe any enhancements to this provision that it has, or proposes, for the Tenant areas.

IR63.....The Supplier shall describe the methods it has in place to provide:

- Leak Detection;
- alerting and monitoring; and
- the Supplier shall confirm connection of these alerts to the BMS.

IR64.....The Supplier shall commit to provide enough collateral to allow the Tenant team to review security including but not limited to securing any cages including locks, card access, and pin code. The Supplier should state any security alternatives available as part of its standard offering.

5.4.7 Facilities for Tenant's Staff

Section 5.4.7 Marks: 33

IR65.....The Supplier shall outline the on-site facilities available to a Tenant and its Supplier's personnel including the delivery and removal of IT equipment and staff operation on site to carry out support tasks. The Supplier will provide any required safety equipment needed by Tenant staff to access areas of the site (eg. PPE, ear/eye protection) as required by law and installed technologies.

5.4.8 Disaster Recovery Plan

Section 5.4.8 Marks: 19

Schedule 13 of the master services agreement details the Tenant's requirements for ensuring continuity of the business processes and operations supported by the Datacentre services in circumstances of service disruption or failure and for restoring the Datacentre services through business continuity and as necessary disaster recovery procedures.

IR66.....In the context of Schedule 13 of the master services agreement the Supplier shall provide full details of its and, if appropriate, its sub-contractors, disaster recovery plans and any standards (in addition to those specified in the master services agreement) with which these comply, and how they apply to the Tenant Areas.

5.5 Additional Service Elements

5.5.1 Smart Hands

Section 5.5.1 Marks: 69

IR67.....The Supplier shall provide details of:

- *The normal hours and days for smart hands Service;*
- *the liability cover in the event of damage caused by their smart hands service;*
- *the minimum qualifications of the resources used for this service;*
- *the Supplier should describe all available services in detail noting the Tenant's expectations in Table 8; and*
- *the ability of the Supplier to service the number of expected Tenants where simultaneous use of Smart Hands may be required.*

Shared Datacentre

Reference / Item	Tenant responsibilities	Supplier responsibilities	Tenant's agent responsibilities
SH1:Tape Backup: Cassette exchange and strongbox storage, retrieval and transport	Tenant to check backups etc and authorise cassette change	Upon request, the Supplier is required to provide suitable resource to remove tape media from a Tenant's Tape Library installed within a Tenant's Area, complete media transport forms and secure the media in media transport cases to be collected by an approved courier. The Supplier is also required to accept media (checking media sent against delivery documents) and loading media in the Tenant's Tape Media Library. Quarterly disk backup for business audit purposes.	Store offsite or similar solution e.g. Service provided by a company like Iron Mountain or similar.
SH2: Equipment installations and configurations #1-	Tenant to build servers away from the Datacentre and then ship to Datacentre	Upon request, the Supplier is required to provide suitably competent personnel to fit the server or other equipment within a Tenant cabinet in the Datacentre.	
SH3: Equipment installations and configurations-#2	Tenant to provide server image	Upon request, the Supplier is required to provide suitably competent and qualified personnel to build a server from an image (MS Windows, Sun Solaris, Linux, VMware ESXi or similar) and fit within a Tenant cabinet in the Datacentre.	
SH4 Interface card removal, installation and configuration	Tenant to provide server card and installation instructions	Upon request, the Supplier is required to provide suitably competent and qualified personnel to install server cards within a piece of equipment within a Tenant cabinet within the Datacentre, configuring as required and requested.	
SH5: Testing carrier circuits		Upon request, the Supplier is required to provide suitably qualified personnel and tools to test interconnect connections to the carrier demarcation points.	

Reference / Item	Tenant responsibilities	Supplier responsibilities	Tenant's agent responsibilities
SH6: Assembling, installing and maintaining cabling		Upon request, the Supplier is required to install and maintain cabling within a Tenant data space to the relevant European Cabling Standards. Labelling convention for ports is as follows: Building no or name/ floor or room/ Cab number/outlet.	
SH7: Relaying status of equipment and typing appropriate UNIX/Windows commands	Tenant to provide direction and instructions	Upon request, the Supplier to provide suitably qualified staff to assist in providing onsite 'Eyes and Ears' in the relaying of equipment status and where required enter basic Unix/Linux/Windows commands	
SH8: Verify cable integrity on installed equipment		Upon request, the Supplier is required to provide hands-on support in the testing and analysis of patch cables (fibre/copper), linking equipment together, using industry standard, certified, cable testing tools	
SH9: Inventorying of equipment, recording digital pictures and recording serial numbers	Tenant to provide asset tags and assign asset numbers	Upon request, the Supplier is required to provide an inventory audit of equipment (manufacturer, model number, serial number), plus, the provision of digital photographs of equipment installed in a Tenant data space	
SH10: Installing, replacing or removing equipment components		Upon request, the Supplier is required to provide suitably qualified resource to install/remove the Tenant's equipment and components of equipment (such as a router/switch card, infiniband card/switch ,disk drive, memory, etc.)	
SH11: Labelling of equipment and cable connections	Tenant to provide asset tags or label up at the Tenant's site	Upon request, the Supplier is required to label Tenant owned equipment following the Tenant's defined naming and labelling standards	

Reference / Item	Tenant responsibilities	Supplier responsibilities	Tenant's agent responsibilities
SH12: Power cycling a router, server, switch and soft-booting a server		Upon request, the Supplier is required to provide suitably qualified resource to locate and power cycle equipment as required, under the instruction of the Tenant	
SH13: Moving equipment within the Tenant's space and cabinets		Upon request, the Supplier is required to provide suitably qualified resource upon request to remove and re-install equipment within the Tenant's space and cabinets	
SH14: Un-crating equipment from boxes, RMA and shipping of replaced equipment		Upon request, the Supplier is required to provide suitably trained personnel to accept deliveries on behalf of the Tenant, un-crate equipment within a suitable environment, as well as pack equipment ready to be returned to the Supplier or the Tenant along with an accurately completed RMA document	
SH15: Escorting of Third Party Engineers within the Tenant's space		Upon request, the Supplier is required to provide suitable personnel for the escorting of Third Party Engineers to the Tenant's data space and provide access to defined cabinets under the instruction of the Tenant	
SH16: Storage of spares or replacement parts on site at Datacentre		Upon request, the Supplier is required to store equipment as required within a space allocated to the Tenant.	
SH17: Disposal of equipment		Upon request, the supplier is required to dispose any item of equipment (conforming to WEEE regulations), including secure disposal of all data holding devices.	

Table 8: Smart Hands activities

5.5.2 Value Added Service

IR68.....The Supplier shall describe any value added services for example back-up and other services that it would be willing to offer Tenants. Any associated charges must be included in the pricing. **(This IR is for information only and will not be scored).**

IR69.....If any value added services proposed by the Supplier involves it storing, accessing or controlling Tenant data, then the Supplier shall state what assurances it can provide against extraterritorial access (an example of which is the US government's Patriot Act) or unlawful access to the data. **(This IR is for information only and will not be scored).**

5.5.3 Passive Assets Outside Tenant Area

Section 5.5.3 Marks: 24

IR70.....The Supplier shall detail how passive assets (cable and fibre etc.) that are outside the Tenant areas are provisioned and maintained.

These would include fibres out to a Telco (such as Janet) connection on site.

This may also include inter Tenant passive assets such as connections to support some form of shared service.

IR71.....The Supplier shall state whether it is able to provide passive assets to at least the following specifications and requirements:

- Cable specification: Cat 6a ISO 11801;
- fibre : Single Mode OS1 & Multimode OM4, terminated on LC & SC; or
- all cables installed should be provided with test results and certification.

5.5.4 Passive Assets Inside Tenant Area

Section 5.5.4 Marks: 28

IR72.....The Supplier shall state if it can offer the following options and provide details of how these would be provided.

- Tenants to supply, install and maintain the rack; the Supplier to supply power and cooling to the rack;
- Tenants to supply and the Supplier to install and maintain the rack. The Supplier to supply power and cooling to the rack;
- supplier to supply, install and maintain the rack. Supplier to provide the power and cooling to the rack;
- all racks must be adequately labelled to uniquely identify them within the Tenant area and also within the overall facility;
- basic equipment required to fit and connect equipment in the rack (such as PDUs) should be provided, installed and maintained by the Supplier at the request of the Tenant but must be priced separately;
- more advanced equipment such as metered or remotely controlled PDU strips may be supplied and fitted by the Tenant as an alternative to the Supplier's offering; and
- other equipment required for managing the contents of the equipment racks (KVM switches rack-mount LCD monitors) which will allow for remote management of the systems (where applicable) will be provided by the Tenant.

IR73.....*The Supplier shall detail how a secure and independent cable/fibre route (such as a duct) can be provided between the cages of one Tenant or between those of other Tenants if they are non-contiguous in different parts of the Datacentre.*

5.5.5 External Network Connectivity

Section 5.5.5 Marks: 61

The proposed facility will be connected to the Janet network using two diversely routed connections to two separate points on the Janet network which Janet(UK) will be responsible for providing. The entry points of the connections into the facility provided by the Supplier must be a minimum of five metres apart. The Supplier will provide rack space and power in a Shared Communications Room into which Janet(UK) will terminate its network connections. Janet(UK) will also be responsible for providing connectivity to each of the tenant Areas, and for this purpose the Supplier will provide to Janet(UK) a fibre pair from the Janet(UK) rackspace in the Shared Communications Room to each Tenant Area. Janet(UK) or any of the Tenants may need to install additional network connectivity into the Facility during the lifetime of the Agreement (for example, but not restricted to, connections to N3, its successor PSNH and the wider PSN).

The specific requirements that the Supplier must meet are:

- Provide rack space and power in a Shared Communications Room into which Janet(UK) will terminate its network connections;
- Janet(UK) will be responsible for providing connectivity to each of the Tenant Areas, and for this purpose the Supplier will provide to Janet(UK) a fibre pair from the Janet(UK) rackspace in the Shared Communications Room to each Tenant Area;
- provide diverse network connection entry points into the Facility that are a minimum of five metres apart, with diverse single mode fibre pairs terminated with LC or SC connectors, which will be specified at the time of installation, between these entry points to the Shared Communications Room;
- two 800mm wide footprints, each capable of housing a 1200mm deep and 2000mm high rack. The racks will be supplied by Janet(UK);
- single mode fibre pairs terminated with LC or SC connectors, which will be specified at the time of installation, from either one of the two racks to each of the Tenant Areas in the facility;
- 2 x 32A AC power to each of the racks. Rack earthing for each rack delivered as a 16mm clean earth cable;
- UPS cover for the power supplied to the Janet(UK) racks to support the live load until a generator has powered up and its output has been stabilised and switched over;
- access to the Shared Communications Room by authorised personnel from Janet(UK) and its representatives, and the Tenants and their representatives, on a 24 hour, 7 day a week 365 days per year basis within four hours of it being requested;
- the Supplier must allow Janet(UK) and any of the Tenants to install network infrastructure services from any provider into the Facility; and
- the capability of having additional rack footprints with the same size specification, power and earthing requirements to enable Janet(UK) and any of the Tenants to support additional network connectivity requirements in the future.
- If Janet(UK) is unable to commission its network connectivity into the Datacentre by 1 July 2014, then it will require the Supplier to work with Janet(UK) to enable use of the Supplier's external network connectivity by the Anchor Tenants for an agreed period of time up until Janet connectivity has been established.

MR74.....*The Supplier must confirm that it will meet each of the requirements described directly above to enable both Janet((UK) to provide Janet network connectivity, and Janet(UK) or any of the Tenants to provide network connectivity to other network providers.*

IR75.....*The Supplier shall describe how it will meet the requirements for facilitating network connectivity as described above and provide costs associated with this in the Pricing Spreadsheet. In doing this the Supplier shall provide a diagram showing the external network connectivity entry points, and how these will be routed diversely, in duct infrastructures, to the Shared Communications Room.*

Much of the scientific work of the Tenants involves collaboration with the NHS. This means that the Datacentre must be capable of connectivity to the NHS network in England, N3, its successor PSNH, and the wider PSN (including the PSN initiatives for the NHS in the other countries of the UK). If required, this connectivity will be ordered directly by the Tenant or Janet(UK) and installed directly into a Tenant area or into the Janet telecommunications areas. The Tenant using this connectivity will be responsible for any information governance accreditation which may require appropriate support from the Supplier in this matter. If the Supplier is required to support any accreditation process, the scope of this involvement will be restricted to the services provided by the Supplier. However, if the Supplier has existing or future N3, PSNH or PSN connectivity to the Datacentre then Janet(UK) or any Tenant may reserve the option to purchase the NHS connectivity through that route with the appropriate accreditation support from the Supplier.

MR76.....*The Supplier must confirm that it will allow any of the tenants or Janet(UK) to install a N3, PSNH or PSN connection into the Datacentre and support any accreditation process that the Tenants or Janet(UK) might need to undertake.*

IR77.....*The Supplier shall describe how it will meet the requirements for facilitating network connectivity to N3, PSNH or PSN as described above and provide the costs associated with this in the Pricing Spreadsheet.*

5.6 Other Elements

5.6.1 Service Monitoring

Section 5.6.1 Marks: 29

MR78.....*The Supplier must commit to provide the Tenant each month a consolidated electrical power usage report for a Tenant's areas.*

MR79.....*The Supplier must commit to provide the Tenant each month a UPS and generator operation and testing report for the Tenant's area where a UPS and generator are part of the service taken by a Tenant.*

MR80.....*The Supplier must commit to provide the Tenant with generator power utilisation alerts by SMS or email (as per SLA) if power fails. Where generator cover is part of the service taken by the Tenant then to also confirm that the generator has taken over.*

IR81.....*The Supplier shall describe how it will use all reasonable endeavours to provide information on energy and space utilisation which will assist each Tenant to operate as efficiently as practicable.*

IR82.....*The Supplier shall describe how it will be able to provide the Tenant with a consolidated cooling energy consumption report for the Tenant's area.*

IR83.....*The Supplier shall detail whether and how it can provide the Tenant with electrical power usage broken down by rack.*

IR84.....*The Supplier shall detail whether and how:*

- *It can provide PUE data for the Datacentre*

- It can provide PUE data for the Tenant's areas.

IR85.....The Supplier shall identify to the Tenant whether the elements monitored above will be available 'live' online by the Tenant including historical data through a web browser or other interface.

5.6.2 Change Management Process

Section 5.6.2 Marks: 36

Schedule 11 of the master services agreement details the general principles of change control associated with the contract. The Supplier responses to the Information Requirements below should be provided in the context of Schedule 11.

IR86.....The Supplier shall describe in detail its change management process for each of the following:

- Tenant changes;
- miscellaneous Supplier changes which may affect the Tenant;
- network service provider changes;
- supplier changes affecting mechanical, electrical and environmental e.g. Power, Generators, UPS, HVAC etc;
- the Supplier shall provide a statement of demarcation describing which changes need Tenant approval to carry out and which changes it expects to make without approval.

IR87.....The Supplier shall define its understanding of and its process for the following and describe how it will categorise a particular change:

- Emergency change;
- urgent (but non-emergency);
- major change;
- planned / normal change;
- standard change;
- for Information change.

IR88.....The Supplier shall describe in detail how contact list and escalation procedures are provided and form part of the change process.

IR89.....The Supplier shall propose a mechanism whereby a set of freeze periods can be agreed on a rolling 12 month period and if these need to be agreed across all Tenants, a subset of Tenants or by an individual Tenant. For information some Tenants may seek the following example change freeze periods for their areas:

- 'A' Level weekend: mid-August;
- student Registration: Between September and October – two week period for new university entrants.

5.6.3 Site Induction or Training

Section 5.6.3 Marks: 17

IR90.....The Supplier shall provide full details of any site induction or training requirements for Tenants or Alternative Providers visiting Tenant areas or telecommunication facilities. Such site induction or training shall be included within the base charge for the co-location service.

5.6.4 Transition and Service Commencement Timetable

Section 5.6.4 Marks: 49

MR91.....*The Supplier must confirm that it will fulfil the initial orders (assuming that at least two initial orders as detailed in Table 7 have been placed by the date in the timetable outlined in section 3.5) by 1 July 2014.*

IR92.....*The Supplier shall provide a project plan covering activities up to the point of delivery of the initial orders by 1 July 2014. This should include a timeline specified in terms of days following contract signature. This plan shall include as a minimum the following key milestones:*

- *Order placement;*
- *construction of Shared Tenanted Area;*
- *availability of the required services in the Shared Communications Room for Janet(UK) to install network connectivity;*
- *security;*
- *power / cooling;*
- *ready to accept IT cabinets and cabling;*
- *cabinets and cabling ready (If carried out by the Supplier).*

The plan shall state when the first Tenant can have access in order to install cabinets and cabling, unless the Supplier is providing this service. It will also confirm any notice required for access, security requirements for Tenants and the Supplier, restricted access periods and cable route management guidelines

IR93.....*The Supplier shall provide details on its capacity planning process.*

5.7 Service Level Agreement

The Service Levels play a key role in the master services agreement by:

- Clearly defining the Tenant's service delivery expectations in respect of the Services.
- the Supplier providing measurable key performance indicators and satisfaction targets in relation to the Services.
- Setting out a service credit structure that is capable of addressing 1) the severity of any under-performance, and 2) any consistent long-term repetition of failure by the Supplier to meet any single Service Level.

Severe and/or longer term service failures will be remedied by the Supplier in accordance with the terms of the master services agreement and the Tenant's remedies for such Service Failure including (without affecting any other rights or remedies to which the Tenant may be entitled within the master services agreement) Service Credits, which will be calculated as described in this section.

Failure to meet the defined Service Levels is defined as a Service Failure. Service Failures are categorised into one of three classes as shown below. The Service Levels are described in Table 9:

- **Class A failures:** are those that lead to a material impact on the Tenant's service (i.e. loss of critical services – e.g. Total power loss).
- **Class B failures:** are those occurring to a resilient plant item where the primary plant continues to operate as normal. In this case the designed level of resilience has been lost, but the service continues to operate.
- **Class C failures:** are those that do not impact on the Tenant's critical service to its clients but could have an indirect impact on the Tenant overall services (e.g. Goods Lift not working).

5.7.1 Delay Payments

Section 5.7.1 Marks: 15

Clause 11 of the master services agreement defines the requirement for delay payment in the event that certain types of criteria or milestones are not met by the Supplier.

IR94.....The Supplier shall propose a delay payment structure for failure to comply with Clause 11 of the master services agreement.

5.7.2 Meeting service levels

Section 5.7.2 Marks: 77

IR95.....The Supplier shall describe how it proposes to meet and measure the Tenant specified SLAs defined in Table 9 and the process for payment of any service credits as defined in Table 10 should any SLAs be breached. It is expected that the following availability requirements shall be met in any one month. The response should cover:

- *Service levels: How is it proposed to meet or exceed the SLAs as defined? In the event the Supplier cannot meet these Service Levels it must clearly present alternative service levels.*
- *escalation process: How, in the event of a problem being identified with the service, does escalation take place?*
- *account management/governance: Describe how an account management structure will work with the Tenant;*
- *processes.*

The Supplier shall describe and illustrate how its incident and problem management processes operate including the following:

- *An incident flow diagram to aid the Tenant's understanding*
- *definition of out of hours (OOH) cover, incident categories - Priority 1 (P1), Priority 2 (P2), Priority 3 (P3) and Resolver groups;*
- *emergency procedures summary document, including the contact list and escalation procedures for both emergency and non-emergency type incidents.*

If the Supplier is unable to meet the below SLAs then the Supplier should specify any changes they propose. Note: full marks will be given to a response where the Supplier is able to conform to the Tenant specified SLAs.

IR96.....The Supplier shall propose tools and methodology to be used in the calculation of these availability requirements including all proposed exclusions and mitigations service levels & Classification of Failures.

Table of key Service Levels:

The SLA measuring period is a calendar month unless otherwise stated.

Service level reference & name	Service level description	Class A service failure	Class B service failure	Class C service failure
SL1: Category C Power provision	Availability of power to either the A or B supply to each Tenant rack with a minimum uptime requirement SLA of 99.982% (Uptime Institutes' Tier 3 rating together with industry best practice e.g. when assessing factors outside the facility e.g. the number of feeds and type of feeds coming in, and site physical location etc.)	Total power failures to one or more racks over the course in the period which breaches the 99.982% SLA. Note for clarification purposes this means that if there is more than 7.86 minutes of total power failure within a calendar month to one or more Category C racks in aggregate within a Tenant's Category C set then a Class A failure is triggered	Either A or B supply to one or more racks within the Tenant's Category C area breaches the 99.6% SLA (for the avoidance of doubt the failed time for both the A & B supply in aggregate will be taken to calculate performance against the 99.6% SLA) but all rack(s) continue to operate	
SL2: Category A Power provision	Availability of power to both the A and B supply for each Tenant rack with a minimum uptime requirement SLA of 99.6%.	Total power loss to one or more racks over the period that breaches the 99.6% SLA. Note for clarification purposes this means that if there is more than 2.91 hours of total power failure within a calendar month to one or more Category C racks in aggregate in the Tenant's Category A set then a Class A failure is triggered		
SL3: Ambient air temperature	Ambient Air temperature (as highest measured rack air inlet) of Tenant's area between 15°C and 28°C for a minimum of 98% of the period. Ambient air temperature variation in any one (1) hour period is not more than 5°C. Ambient Inlet Air Temperature never exceeds 34°C	Ambient air temperature exceeds 34°C and/or variation over one hour is greater than 5°C, and at least one piece of Tenant IT equipment ceases operation as a result (such as over temperature shutdown or server hang)	Ambient air temperature exceeds 34°C for more than one hour in the period Ambient air temperature variation in any one hour is more than 5°C on at least 2 occasions in the period.	

Shared Datacentre

Service level reference & name	Service level description	Class A service failure	Class B service failure	Class C service failure
SL4: Ambient air humidity	Ambient humidity of data suites within 25% - 80% RH for a minimum of 98% of the period	Ambient humidity is outside the 25% - 80% parameters and at least one piece of Tenant IT equipment in that area fails	Ambient humidity is outside the 25% - 80% parameters for more than 5 hours in the period	
SL5: Security incidents	No security incidents per year (unauthorised entry into Tenant equipment space)	One or more incidents in the period		
SL6: Fire, water or other incidents	No occurrences of fire, water or other incidents that cause Tenant equipment damage	One or more incidents in the period		
SL7: Provision of new racks #1	Provision of up to 5 racks supplied within a month		Racks not supplied installed or working within the 1 month SLA	
SL8: Provision of new racks #3	Provision of up to 20 racks supplied within 3 months		Racks not supplied installed or working within the 3 month SLA	
SL9: Goods lift	Goods Lifts minimum availability requirement of 96%		No Goods Lift for more than 29 hours in a calendar month	
SL10: Office and cage availability	Office and cage minimum availability requirement of 98%			Office and cage not available for more than 14.5 hours in a calendar month
SL11: Health & Safety compliance	Health and Safety compliance to be 100% based on existing legislation and best practice		Health and Safety breaches that impact the Tenant's IT services	
SL12: Lighting	Internal Datacentre lighting functionality available 100%		Lighting not available requiring Tenant to use task lighting to undertake work on its IT equipment	Lighting not available but no impact to Tenant's work on its IT equipment

Table 9: Service levels

5.7.3 Service Credit Remedies

MR97.....*The Supplier must confirm it agrees to the service credit remedies listed in the Table 10. Note the service levels are defined in Table 9.*

The levels of Service Credits shall be calculated using the following matrix:

Service credit class	Attribute	Consequence
CLASS A Service Credit	Number of service level failures	Service Credit for each occurrence
	1	15% of monthly service fee
	2	20% of monthly service fee
	3	25% of monthly service fee
	Subsequent failures	There is a cap of 25% of monthly service fee for all Class A failures in a given month
CLASS B Service Credit	Number of service level failures	Service Credit on each occurrence
	1	4% of monthly service fee
	2	6% of monthly service fee
	3	10% of monthly service fee
	Subsequent failures	There is a cap of 10% of monthly service fee for all Class B failures in a given month
CLASS C Service Credit	Number of service level failures	Service Credit on each occurrence
	1	2% of monthly service fee
	2	4% of monthly service fee
	3	6% of monthly service fee
	4	8% of monthly service fee
	5	10% of monthly service fee
	Subsequent failures	There is a cap of 10% of monthly service fee for all Class C failures in a given month

Table 10: Service credits

5.7.4 Minor Service Failures

MR98.....The Supplier must commit to accepting the following service credit for minor failures in service:

- Scheduled reports not delivered on the scheduled date: £50 for each day delayed;
- smarts hands service not provided at the agreed date/time: £20 for each hour delayed.

5.7.5 Post Service Failure remediation

MR99.....The Supplier must confirm that the following activities will be initiated upon any Class A and Class B incidents and Class C incident on request.

- Root Cause analysis (initial report within 48 hrs for Class A, and 5 days for Class B);
- rectification and service improvement plan;
- implementation of the service improvement plan;
- scheduled reports not delivered on the scheduled date: £50 for each day delayed.

5.7.6 Contract Management Mechanisms

Section 5.7.6 Marks: 16

IR100.....Both parties will pro-actively manage risks attributed to them under the terms of this Agreement. The Supplier shall outline how it will develop, operate, maintain and amend, as agreed with the Tenant, processes for:

- The identification and management of risks (a risk register will be completed by the Supplier and submitted for review by both parties at the relevant Governance Body);
- the identification and management of issues;
- monitoring and controlling project plans;
- benefit management;
- document control and management.

5.8 Pricing Elements

5.8.1 Service Pricing

Section 5.8.1 plus pricing from IR107 and IR110 Marks: 1313 (use case 1: 359 marks, use case 2: 384 marks, use case 3: 285 marks & use case 4: 285 marks)

IR101.....The Supplier shall provide full details of all its proposed charges in Appendix I (the attached Pricing Spreadsheet) for implementing and providing the services over the term of the framework agreement, (initial five year initial term, with two five year renewals subject to review).

All prices quoted must be in £ Sterling and exclude VAT.

All charges must be included in this response in the Pricing Spreadsheet. Any charges not included here will be deemed to have been waived.

In providing pricing a breakdown of charges and the total value on an annual basis must be provided in Excel format.

The score relating to this IR will be calculated using the formulae in the charges section of Table 3 applied to the four use case scenarios.

5.8.2 Value for Money and Benchmarking

Section 5.8.2 Marks: 103

MR102.The Supplier must confirm that it will supply to the Tenant (or agent) at least once a year, if required, during the Contract all reasonable information to assess value for money.

MR103.....The Supplier must accept that Tenants reserve the right to exchange price information with other Tenants under this agreement and the Contracting Authority in respect of services provided under this Contract.

IR104.The Supplier shall describe a commercial approach which ensures Tenants benefit from competitive prices throughout the life of the framework agreement and any call-off contract. For instance:

- *Open Book Pricing:*
- *index linked pricing with periodic external benchmarks: including details of the index proposed and how external benchmarks that would be used to validate pricing over the life of the framework agreement and any call-off contract.*

It should be assumed that all Tenants will adopt the same value for money and benchmarking mechanism.

5.8.3 Economies of Scale

Section 5.8.3 Marks: 153

IR105.The Supplier shall detail whether there is a minimum rack order quantity associated with the prices given in the Pricing Spreadsheet. This information should be shown in the Pricing Spreadsheet.

IR106.The Supplier shall describe if an additional discount is available for larger orders and detail the break points and associated discount levels. All discounts should be specified in the Pricing Spreadsheet and be relative to the unit prices given in the Pricing Spreadsheet.

IR107.The Supplier shall describe how a common Tenant discount percentage based on aggregate volume across all Tenants under the framework agreement would operate including the discount break points and the discount levels. Detailed pricing information should be provided in the relevant sections of the Pricing Spreadsheet.

The Supplier shall describe how often the discount level is reviewed based on aggregate demand and the point at which it is applied.

The Supplier shall describe how a reduction in aggregate demand would be handled.

Note, the pricing provided in IR107 will be evaluated as part of Service Pricing, section 5.8.1.

IR105, IR106 and the descriptive part of IR107 will be evaluated as part of this section.

5.8.4 Optimising Costs, Innovation and Continuous Service Improvement

Section 5.8.4 Marks: 145

IR108The Supplier shall describe its continuous improvement process that will deliver price improvements over the course of the framework agreement and any call-off contracts for the Tenants through greater efficiency or other mechanisms. As an example, this may take the form of identification and implementation of technology innovation in the areas of power and cooling.

IR109The Supplier shall detail how it will:

- Reduce units costs for Tenants through increased efficiency and continuous service improvement;
- innovate the methods of service delivery to improve service to Tenants and reduce Tenant costs; and
- innovate to introduce new and advantageous services for Tenants.

5.8.5 Other Service Charge Elements

Section 5.8.5 Marks: 86

*IRI 10. The Supplier shall detail its travel and related expense charges if any. If there are any charges then these should be added in the 'other costs' row in the use case scenario spreadsheets and to the 'any other charges' row in the rate card spreadsheet. **Note the information from this IR will be evaluated as part of Service Pricing, section 5.8.1.***

IRI 11. The Supplier shall describe the mechanism for buying blocks of time for Smart Hands services either on a monthly or annual basis.

6. FREEDOM OF INFORMATION (FOI)

While Janet(UK) is not obliged to respond to any requests for information, whether under the Freedom of Information Act (the "FOIA") or otherwise (except where it has a legal obligation for other purposes), we endeavour to respond in the spirit of the FOIA, where we are reasonably able to do so, taking into account the resource implications in preparing a response.

If the Supplier considers that any information supplied in its response is either commercially sensitive or confidential in nature, this must be clearly marked and the reasons for the sensitivity given.

In such cases, the relevant material will, in respect of any request for information made by a third party to Janet(UK), be examined in the light of the exemptions provided in the FOIA. However, by virtue of its submission of a Tender, the Supplier accepts that the decision as to whether to disclose such marked parts of the Tender will rest solely with Janet(UK).

*IRI 12. The Supplier must highlight any information that is either commercially sensitive or confidential in nature and reasons for the sensitivity should be given. **Note this is not scored.***

*IRI 13. The Supplier must provide contact details (name, telephone number and e-mail address) of the person within its organisation that is responsible for dealing with FOI requests. **Note this is not scored.***

7. RECORD RETENTION

By submitting a tender response to this procurement, a Supplier accepts that Janet(UK) will keep a copy of the tender and all other documentation and correspondence received from the Supplier relating to this procurement for seven years. Janet(UK) will keep this information in order to maintain the records required for audit purposes. At the end of the seven year period Janet(UK) will destroy any information that it holds relating to this procurement.

8. APPENDIX I: SCHEDULE OF PRICES

(See separate Excel document: Shared Datacentre Pricing Spreadsheet)

9. APPENDIX II: SCORING WEIGHTING MATRIX

Tables I 1 and I 2 detail the distribution of marks between the elements of this ITT:

9.1 Requirements (40% of marks):

Section Nos.	Section	Marks
4.3	Technical capability and experience: Support for Tenants to achieve ISO27001 compliance	22
4.4	References	71
5.2.2	Exit	20
5.3.1	Ability to meet service volume needs	71
5.4.1	Co-location services	206
5.4.2	Site Characteristics	90
5.4.3	Power Supply	74
5.4.4	Tenant Supplied Power	83
5.4.5	Power Efficiency and Carbon Reduction Commitment	58
5.4.6	Environmental Services	32
5.4.7	Facilities for Tenant's Staff	33
5.4.8	Disaster Recovery Plan	19
5.5.1	Smart Hands	69
5.5.3	Passive Assets Outside Tenant Area	24
5.5.4	Passive Assets Inside Tenant Area	28
5.5.5	External Network Connectivity	61
5.6.1	Service Monitoring	29
5.6.2	Change Management Process	36
5.6.3	Site Induction or Training	17
5.6.4	Transition and Service Commencement Timetable	49
5.7.1	Delay Payments	15
5.7.2	Meeting Service Levels	77
5.7.6	Contract Management Mechanisms	16
Total		1200

Table I 1: Breakdown of marking for requirements elements

9.2 Pricing (60% of mark):

Section Nos.	Section	Marks
5.8.1	Service Pricing – IR101, pricing element of IR107 and IR110.	
	Use case scenario #1	359
	Use case scenario #2	384
	Use case scenario #3	285
	Use case scenario #4	285
5.8.2	Value for Money and Benchmarking	103
5.8.3	Economies of Scale	153
5.8.4	Optimising Costs, Innovation and Continuous Service Improvement	145
5.8.5	Other Service Charge Elements	86
	Total	1800

Table 12: Breakdown of marks for pricing elements