# InTechnology Plc

PSN Gateway

Service Definition
G-Cloud edition

InTechnology Plc overview

In 2013, InTechnology plc entered its fourth decade at the forefront of the IT industry in the UK, it all began in 1983 from a small office in Wetherby where Peter Wilkinson the founder and owner started the first Storage Only solutions distribution business which grew over a period of time to be the UK's largest. Impressively growing revenues to £320m Peter sold this to Arrow ECS at the end of 2006.
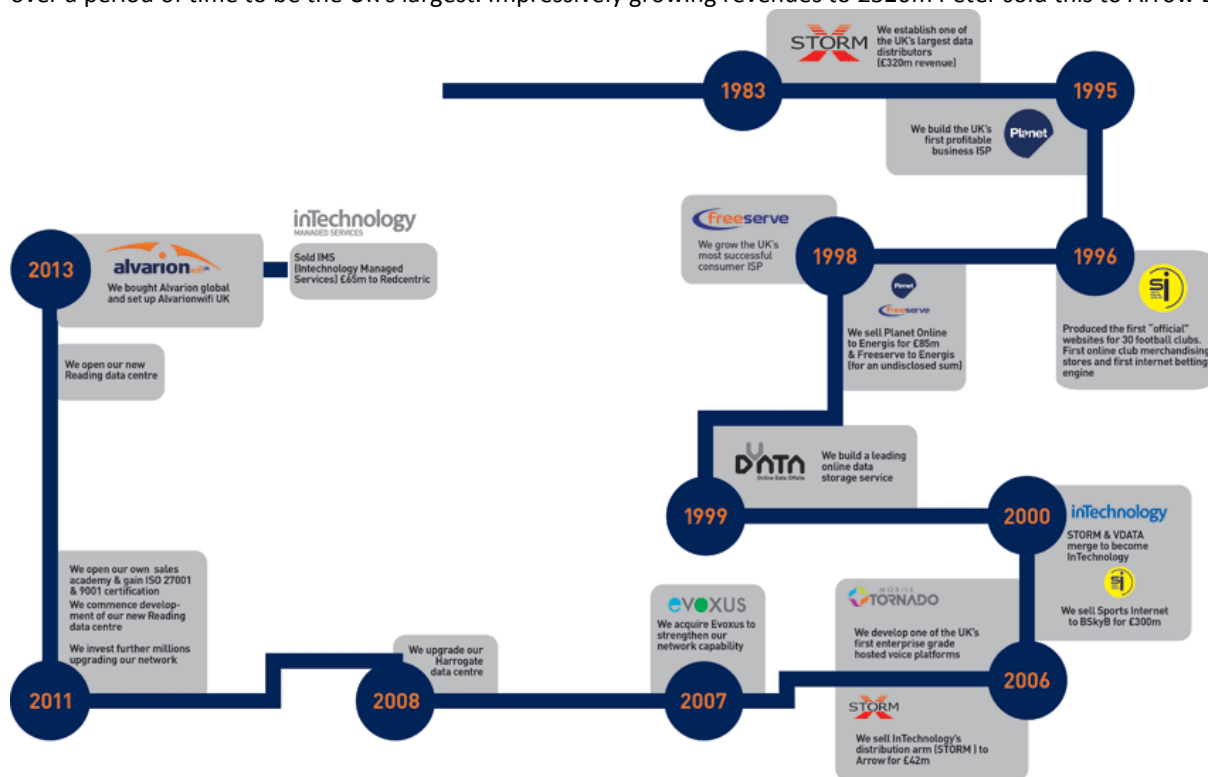
With his interest in communications and networks in 1995 Peter started the first business only internet service provider "Planet Online".

In 1998 "Planet Online" was the largest UK business ISP which was sold to Energis in the same year.

During 1998 Peter invented the business model to provide free internet access to home users in the UK. In order to bring this to the mass market Peter partnered with Dixon Stores group to launch under the brand of "Freeserve" the UK's most successful domestic internet service provider.

During the period of Planet Online Peter became extremely interested in the provision of content realising that connectivity was becoming a commodity. He founded Planet Football and became the official provider of football club websites to over 25 clubs in the old first and second divisions.

Peter reversed Planet Football into the AIM listed Sports Internet group and continued to find revenue streams for the huge traffic that the football club websites were attracting. Peter acquired Opta statistics to provide analytics to the fans and then purchased Surrey Sports (a betting company). This enabled Sports Internet to be the first company in the UK to provide online betting on football matches on the internet.

This business was sold to BSkyB in 2000 and became Skybet.

In 2000 Peter reversed his Storm business into the AIM listed InTechnology PLC and also started InTechnology Managed Services. This became one of the most respected and largest Infrastructure managed services businesses in the UK. This was sold to Redcentric in November 2013.

In 2006 Peter took a stake in the leading PTT (push to talk) technology business "Mobile Tornado". The technology is so impressive and has so many different applications including security camera technology and the communication protocol that really is superior to the standard PMR devices InTechnology plc took a further stake in the business.

InTechnology plc has also developed a voice recording solution which trades under the Live-PA brand, InTechnology also passionately believes that Digital Healthcare is vital to the future of both the NHS and its patients and to this end under it's brand "Inhealthcare"

InTechnology has developed the first accredited patient platform in the cloud along with a number of clinical pathways, enabling patients to monitor their conditions from home.

With the rapid development and uptake of mobile devices and tablets the lack of good WiFi has left a huge hole in the marketplace. Having spent years searching for a technically advanced WiFi manufacturer Peter eventually found and bought "Alvarion" in November 2013. Once he'd acquired this business he saw a huge market opportunity in the UK for Smart Cities, Stadiums, Arenas, Greenfield events etc. which wasn't being fulfilled by the predominantly US WiFi manufacturers or any of the large UK telecom providers.

In January 2014 InTechnology Plc launched InTechnology Wi-Fi Ltd where it will use its previous models and expertise to deliver content rich WiFi solutions to cities, stadiums, arenas and greenfield sites.

An overview of the G-Cloud Service (functional, non functional);

Redcentric PSN Gateway Services enables customers to take advantage of the new technology applications offered within the Governments Public Services Network.

Redcentric PSN Gateway Services offer secure and reliable connections at a variety of speeds and technologies to deliver PSN connectivity to customers with different communication profile requirements.

Redcentric PSN Gateway Services will offer customers the opportunity to take advantage of new approaches by government for ICT communication / collaboration and which are designed to help reduce overhead expenditure, facilitate data exchange and enhance customers' experience.

These PSN services include access to both commercial and government databases / applications, secure conferencing services, telephony and Wide Area Networking.

SUMMARY

Redcentric PSN Gateway Services are deployed over LANnet, which provides private, secure, IP connectivity between various organisation locations, the PSN connected community, suppliers and 'extranets'.

Redcentric PSN Gateway Services are protected by Managed Firewall Services which include Intrusion detection / prevention, CPA cryptography and packet inspection through to layer 7.

Internet and other Private VPN connectivity can be provided to one or more customer organisation locations using 'single circuit' connectivity if this is required.

Customers will gain 'single circuit' access to Redcentrics portfolio of services.

BENEFITS
INCREASED FRONT-END FOCUS
Redcentrics fully managed PSN Gateway Services allow organisations to concentrate on their core business activities.

SCALABILITY AND FLEXIBILITY
LANnet delivers best-of-breed connectivity so that organisations can scale systems up or down easily on demand, and enjoy the benefits of a pay-as-you-grow, save-if-you-shrink monthly charging model.

ACCESS TO VALUE-ADDING SERVICE PROPOSITIONS
The service is designed to support and enhance the entire Redcentric Services portfolio of services, from VoIP and data management to software as a service (SaaS), Infrastructure as a Service (IaaS) and unified communications applications.

FEATURES
HASSLE-FREE INFRASTRUCTURE SERVICES
Redcentric takes responsibility for network design, as well as the supply and configuration of a terminating equipment on the customer site that acts as the demarcation for managed bandwidth services. Ongoing CPE and core firewall configuration support and fault management are also included.

A SECURE, MANAGED MPLS CORE NETWORK
You enjoy maximum control, we remove the headaches of managing a network.

AN OVERVIEW OF THE G-CLOUD SERVICE (FUNCTIONAL, NON FUNCTIONAL)

ONLINE SERVICE PORTAL
This offers almost real-time access to statistical data and reporting information.

MULTIPLE CIRCUIT OPTIONS
A choice of Fibre, Ethernet and Leased Line circuits, that can be used on a mix-and-match basis to offer connectivity solutions that meet most requirements.

MANAGED FIREWALL SERVICE

The managed firewall service refers to any firewall device (or pair of devices) that is hosted on behalf of the customer within the core MPLS network or the customer location(s). The service is used to confirm compliance with the PSN code of connection for the provision of PSN secure services and are able to encrypt traffic and perform packet inspection as required.

To ensure availability and quality of service, the service is polled periodically so that Redcentric can automatically identify, and begin to address, any problems as they arise.

Service	IP Address Ranges Provided and Managed By:	Private / Public
PSN Provate VPN	Redcentric / PSNA	PSN Provate Space
N3 NHS Private VPN	Redcentric	NHS Private Space
Corporate Private VPN	Customer	Either but customers usually use RFC1918
Customer Telephony VPN	Customer	Either but customers usually use RFC1918
Redcentric IP Telephony VPN	Redcentric	Private RFC1918 space
Internet	Redcentric	Public

IP ADDRESSING

Details of IP addressing schemes for the various services are provided below:

ACCESS CIRCUIT OPTIONS
Redcentric offers various circuit options, that connect customer sites to the managed MPLS core and PSN Gateway Services. The various circuit types each have their own merits, and can be considered for suitability according to a number of characteristics including cost, capacity, scalability, geographic availability, delivery timescales and so on. The details of each service option can be found in their respective 'Service Specs', which are available separately and should be read in conjunction with this document.

CUSTOMER PREMISE EQUIPMENT (CPE)
Customer Premises Equipment refers to any device which is located on the customer site and is used to deliver a fully managed, converged IT & Communications solution for PSN access.

CPE IS PROVIDED AS PART OF REDCENTRIC'S LANNET SERVICE.
To ensure availability and quality of service, CPE is polled periodically so that Redcentric can automatically identify, and begin to address, any problems as they arise.

The CPE serves as the service demarcation point within the LANnet service, and as such is designed to provide a straightforward means of delivering services to a single site. For sites with more than one circuit, it is standard practice to have a separate piece of CPE terminating each circuit – this ensures improved availability and provides on-going reassurance for customers, particularly those seeking to consolidate business continuity and disaster recovery plans.

The Redcentric CPE can be configured to identify various traffic types based on IP addresses, protocol numbers, customer DSCP packet markings and so on. The CPE will 'classify' each packet by marking, remarking or trusting any existing customer markings as required. Redcentric treats individual packets according to its classification at various places in the network and inline with PSNA requirements for service operation using PSN.

Please note: CPE specification is largely determined by the type of circuit(s) it will be used to terminate. More details can be found within the various Access Circuit 'Service Specs'.

IMPROVED RESILIENCE

Redcentric recommends the provision of multiple circuits to sites that require enhanced resilience and availability. The idea is that, should the 'primary' circuit fail, customer data traffic will be routed over the back-up circuit instead. Most commonly, Redcentric uses a layer 3 routing protocol to automatically route traffic down the 'backup' link.

For the majority of circuit combinations, an outage of around five minutes may be experienced as the network detects failure and routes traffic via the alternative connection. For certain circuit combinations, (currently only when both primary and back-up links are delivered using Enhanced Ethernet) this can be 30 seconds or lower. More details can be found within the various Access Circuit 'Service Specs'.

INFORMATION ASSURANCE

Business Impact Level / Government Security Classifications for protected assets

- Redcentric's data centre services and supporting operations have been approved to the "Confidential" standard.
- Advent-IM are our chosen CESG Government approved assurance partners for BIL & Government protected assets and services
- Redcentric are progressing "PSN" certification for all appropriate services. All services will be certified using the relevant Government security classifications (BIL / O,S,TS), to be completed within calendar year 2014.

SUPPORTING CERTIFICATIONS

The below formal certification demonstrate the capability and alignment with Information Assurance requirements as mandated by the Public Sector.

- ISO27001 Certified – all Business areas, Harrogate & Reading locations.
- ISO9001 Certified – all Business areas, Harrogate & Reading locations.
- Authorisation to process HM Government data protectively marked 'Confidential'
- Authorised to transmit, process and store Person Identified Data (PID)
- Health and Social Care Information Centre (HSCIC) accreditation – "N3 ISP" (Network Access Agreement 0740)
- HSCIC IGSoC-compliant commercial third party (NACS code: 8GY91)
- HSCIC accredited and compliant data centre hosting facilities, including for Clinical Systems environments (Reference: YGMAP)
- HSCIC-accredited N3 Service Provider (Network Access Agreement Number: 0740)
- PCI Compliant for physical hosting services – Harrogate & Reading locations.
- Accreditation to connect to and supply services over Janet into all connected institutions and organisations
- Become a formal PSN (Public Services Network) certified service provider / supplier (already in progress)
- Become a PSNH certified service provider (extension of PSN) (already in progress)
- Formally transition and certify our cloud services from BIL to meet the new Government security classified (already in progress)
- Implement ISO22301 Business Continuity (already in progress)
- Implement ISO14001 Environmental Management (planned 2014)
- Implement ISO20000 Service Management (planned 2014)

GOVERNMENT SECURITY CLASSIFICATIONS

- Redcentric PSN Gateway Services do not store data; they offer high performance, cost effective and resilient access to the Governments PSN network

- Redcentric PSN Gateway Services and supporting operations have been approved to the BIL2,2,4 and BIL3,3,4 standards / OFFICAL-Assured and OFFICAL-Protected

- Advent-IM are our chosen CESG Government approved assurance partners for protected assets and services.

CONNECTION CODE AND PRACTISE

The Connection Code and Practice for partners and customers using PSN Gateway Services into the UK Governments Public Services Network has been designed to assist the implementation of healthcare projects and is based in part upon elements of ISO27001:2005 and PSN's Acceptable Use Policy. All organisations are required to sign up to the policy documents making up the PSN.

ON / OFF-BOARDING PROCESSES / SCOPE

CONNECTION CODE AND PRACTICE

The Connection Code and Practice for partners and customers using PSN Gateway Services to support access into the Governments Public Services Network has been designed to assist the implementation of Government projects including data sharing and collaboration. It is managed in its entirety by the PSNA who ultimately approves the organisations connection to including any the services organisations wish to connect to the PSN. Please refer to the Cabinet Offices PSN Internet portal for further information and how to become a PSN supplier or user.

CHANGE REQUESTS

The majority of customer change requests for the PSN service are dependent on changes, approvals or authorisation by the PSNA and/or Redcentric. Redcentrics target for undertaking changes requests reflects these supplier commitments and is currently 10 working days.

LEAD TIMES

The various circuit types referenced above each have different delivery lead times, typically ranging between 10 and 75 days depending on the availability of existing infrastructure.

On request, Redcentric will provide details of estimated delivery timescales.

ON-BOARDING PROCESS

Redcentric support the process of migration from an existing PSN service provider in addition to greenfield deployments, Redcentric's design consultants will work with you on building a transition plan that will include all end-end solution design and design management, for example migration of IP addressing, Domain Name Server information and logical security tier configuration. In addition Redcentric consultants will ensure that absolute Information Assurance is maintained by working with you through all information assurance documentation.

During the installation of PSN Gateway Services, Redcentric service delivery consultants will provision and install the hardware and software components of applicable services. There are a number of elements to the installation, which include:

- Connection installation
- Installation, configuration and testing of the customer site and core devices
- Service testing and hand-over

Where appropriate, Redcentric will arrange, just prior to the final delivery of the connection circuit, a convenient time to install and configure the CPE. When the circuit has been delivered, the CPE installed and the service tested, the customer is issued a 'hand-over certificate' which marks the official commencement of the service.

SERVICE CONSTRAINTS

MAINTENANCE WINDOWS

Redcentric is committed to continually improving and expanding its core network and data centre capabilities, thus striving to provide the highest levels of service to its customers. In order to facilitate these improvements, it is necessary to carry out essential work from time to time. These activities are carefully scheduled through the use of an internal change control process which is designed to present maximum visibility of that change and thereby ensure that planning and implementation are carried out to minimize the effect on customers and their network services.

For the benefit of our customers Redcentric will allocate a pre-determined planned window which will be utilised to carry out any core infrastructure changes which may carry a minimal risk of disruption to service, or in some instances a period of service downtime which would be kept to an absolute minimum. In either instance, customers will be notified of the full details of the requirement with a minimum of 14 days' notice prior to the maintenance window. Generally Redcentric will endeavour to carry out any improvements in the reserved windows listed below; however unforeseen circumstances might dictate that improvements are carried out at other times. Notwithstanding such notice Redcentric shall still provide the Services in accordance with the applicable Service Level.

Redcentric will endeavour to give customers as much notice as possible.

In very exceptional circumstances, there may be an emergency requirement to instigate work outside of these maintenance windows, however, every effort will be made to avoid disruption during core service hours and prior notification will be issued at the earliest possible opportunity.

There may be occasions when there is a requirement for an Emergency Change to be carried out (e.g. a hardware failure to a core network device which has caused loss of resilience). Emergency Change allows for Change to be fast tracked with <14 days customer notification. Emergency Change is only used in exceptional circumstances, where there will be a significant business impact should the change not be expedited. Emergency Change records are thoroughly reviewed by the Redcentric Change Advisory Board (CAB) to assure they were justified.

LEVEL OF CUSTOMISATION PERMITTED

Redcentric will configure the service based upon requirements set by the customer; elements of the service which can be customised include:

- IP addressing
- Routing protocols
- Access Control Lists (ACL)
- Encryption options

SCHEDULE FOR DEPRECATION OF FUNCTIONALITY / FEATURES

- No access to PSN from outside England is permitted using Redcentric

- Redcentric will only provide access to the PSN for an organisation with whom it has a direct contractual relationship

PRICING

SOLUTION PRICING

PSN GATEWAY SERVICE	
Bandwidth	Price per Mb/sec per Month
1Mb – 10Mb	£150.00
11Mb – 50Mb	£125.00
50Mb or more	£80.00

STANDARD DELIVERABLES (NO ADDITIONAL CHARGES)

- PSN Bandwidth

- PSN Network Access

ADDITIONAL CHARGEABLE SERVICES

- Managed Firewall

- Access Circuits

- PSTN Circuits

DISCOUNTS

Volume discounts are displayed in the table above.

SERVICE LEVELS

Redcentric understand the importance of the services that our Customers are looking to contract for as defined this service definition. Redcentric already have SLA's and Penalties (service credits) as standard offerings for each of our managed services.

CORE NETWORK DESIGN

The Redcentric MPLS network core has been designed with extremely high levels of resilience and redundancy to minimise a fault having an effect on customers.

- Redcentric only use only carrier-class devices with extremely high MTBF which are populated with redundant power provision and control cards where available

- Redcentric house the devices in environments (power, cooling etc.) designed with N+1 redundancy. Percentage availability across the core infrastructure is therefore very close indeed to 100%

- Redcentric use standard, pre-tested core and access designs that we understand well, repeatedly deploy, know will converge (re-route) quickly, know are predictable under fault, and know how to diagnose and repair.

PERFORMANCE

Redcentric has identified a set of qualitative parameters, which characterise the 'health' of the LANnet core. These measurements help to identify network anomalies or emerging problems in the core, and therefore form part of the commitment to provide customers with a high quality service. The LANnet Service quality parameters, average round trip time, average packet loss rate and jitter (all detailed below) are continually measured between several points on the Redcentric core network.

Please note that while the figures given are, in the main. comfortably exceeded, they do not constitute a contractual commitment on the part of Redcentric, who will not be liable on any ground for a failure to meet these illustrative figures.

AVERAGE ROUND TRIP TIME

The average Round Trip Time (RTT) is defined as two-way delay time of an IP packet. It describes the quality of the Redcentric IP/ MPLS network and therefore the quality in respect of the delay times. For the measurement of the RTT, Redcentric uses the results from the time between transmission and reception of an IPv4 ICMP ping message (64 byte packet size) to a valid unicast-address within the Redcentric IP/MPLS network.

AVERAGE PACKET LOSS RATE

The Average Packet Loss Rate refers to the quality of the Redcentric LANnet Service in terms of the loss rate along the way. The Packet Loss Rate is defined as a proportion between the differences of transmitted and received IP packets to the total number of transmitted IP packets belonging to the same data stream.

JITTER

Jitter is defined as the deviation in, or displacement of, some aspect of the digital signal or the variance on the average round trip time.

SERVICE LEVELS

SEVERITY DEFINITIONS

The following table defines examples of the priorities to be used by the Customer and Redcentric when logging calls. Redcentric shall respond to all requests for support in accordance with the table below.

Priority 4 (Low)	Typical Event
Classification:	• Monitoring Phase if required for a previously categorized
	Monitoring of an open Incident. P1-P3 Incident (for example health-check/performance monitoring of a customer's CPE).
	• Not to be treated as Advice and Guidance as this should be an Interaction.
Redcentric call handling process: Logged service calls will be progressed between the hours of 09:00 - 17:30 hrs until resolved.	

Priority 3 (Medium)	Typical Event
Classification:	• Admin change of one users telephony account.
Single user issue but not a VIP. Redcentric call handling process:	
• Call Logging: 24/7/365 Logged service calls will be progressed between the hours of	
• Response: Within 1 business day 09:00 - 17:30 hrs until resolved.	

Priority 2 (High)	Typical Event

Classification: • Backup task/agent failure

Error or fault with the installed product or service but which has • Remote LAN/WAN circuit errors or IP packet loss no critical effect. Operational but degraded product or service. • System performance degraded Temporary work-around may be available

• Non specific fault or problem

Call Logging: 24/7/365

Redcentric call handling process: Logged service calls will be
Response: Within 4 Hours - 24/7/365   progressed 24/7/365 until resolved

Priority 1 (Critical)	Typical Event

Classification: • Escalation of Priority 2 call

Error or fault with the installed product or service, which is • Complete failure/unavailability of backup service causing severe impact to Customer operations. Product or • Data Circuit failure
Service unusable.

• Customer unable to connect to Internet

Major incidents.

• Major problem with firewall

• Call Logging: 24/7/365

• System Failure

• Response: Within 1 hour - 24/7/365

Redcentric call handling/escalation process: Logged service calls will be progressed
• 24/7/365 until resolved

Routine notification to Team Leader

"Typical events" are illustrative only and are not limited to the events listed.

SERVICE CREDITS

The Parties agree that the payment of Service Credits is a reduction in Charges for the receipt of a deficient Service and that Service Credits are the only remedy for failure to meet a Service Level. The Service Credits are calculated by reference to the Charges for the Service affected.

AVAILABILITY AND PERFORMANCE CALCULATIONS

The calculation that Redcentric uses for calculating the Service Credits is as follows:

$$\text{Availability \%} = ((T_{total} - T_o) / T_{total}) \times 100$$

T_o = the total duration (in minutes) of all outages

T_{total} = the total minutes in the audit period, normally 525,600

SLA calculations cover the service slide from the PSN network through to the Ethernet port of the Redcentric CPE located within the customer site(s).

Any reduced charges under this Service Level Agreement will be confirmed by credit note issued by Redcentric to our customers, confirming the adjustment to be made to the following monthly charge.

An overview of Redcentric's SLA's are detailed below:

Service	SLA Type	SLA
PSN Gateways	Percentage up-time over 12 months	99.95
Resilient Ethernet over Copper / Fibre	Percentage up-time over 12 months	99.97
Core Network Infrastrcuture	Percentage up-time over 12 months	99.95
Data Centre Ports	Percentage up-time over 12 months	99.95

GOVERNMENT ICT STRATEGY

The service supports and complies with all relevant areas of the Government ICT Strategy and information Principles for the UK Public Sector.

GREENING GOVERNMENT ICT STRATEGY

Redcentric Limited is a professional and environmentally conscious organisation, which acknowledges the impact that our operations may potentially have on the environment. The clear objective of Redcentric is to minimise any impact on the environment by:

- Preventing pollution, reducing waste and ensuring wherever practical measures are implemented to protect and preserve natural habitats, flora and fauna
- Considering the effects that our operations may have on the local community
- Taking action to eliminate or reduce as far as practicable, any potentially adverse environmental impacts
- Promote environmental awareness amongst our suppliers, contractors and partners by implementation of operational procedures
- Seek to work in partnership with the community by behaving in a considerate and socially responsible manner
- Ensure effective and expedient incident control, investigation and reporting Management and supervisory staff have responsibilities for the implementation of the policy and must ensure that environmental issues are given adequate consideration in the planning and day-today supervision of all work
- Design systems to reduce energy consumption.

Redcentric will fully comply with the duties placed upon it within the requirements of Statutory Legislation, whilst at all times complying with, as a matter of best practice, the requirements and duties set out within Approved Guidance as issued by the Environment Agency and other organisations. In addition to this Redcentric has taken on board the 'Green Government: ICT Strategy' and our service supports and complies with all relevant areas of the Government ICT Strategy and Information Principles for the UK Public Sector.

All employees and sub-contractors are expected to co-operate and assist in the implementation of this policy, whilst ensuring that their own works, so far as is reasonably practicable, are carried but without risk to themselves, others or the environment. This includes co-operating with management on any environment related matter.

Redcentric will take all practical steps to ensure that potential hazards and risks to the environment are identified and that suitable and effective preventative and control measures are implemented. All employees will be provided with the necessary resources, equipment, information, instruction and training to fulfil the requirements of this policy.

The Directors have overall responsibility for all Environmental matters. The operation of this policy and the associated procedures will be monitored and reviewed on a regular basis to ensure that they remain current and applicable to the company's activities. This policy has been endorsed by the Board of Directors who gives their full support to the implementation of the policy.

ISO14001

Redcentric are about to embark on the implementation of an Environmental Management System, aligned to ISO14001, with the aim to have this operational by late 2014/early 2015.

Redcentric's platform is primarily based on energy efficient Cisco Systems technology, an organisation certified as ISO14001. Using Cisco as our network hardware supplier offers the following environmental features:

ECO-DESIGN

Cisco Systems design environmentally-conscious products to promote both ecological responsibility and sound business practice. As part of the Design for Environment (DfE) programme, Cisco Systems' engineers design products that consume less energy to manufacture and less energy to operate; an approach saves money for customers and reduces environmental impact. DfE also accounts for the materials used in product components and the manufacture of products to ensure that no hazardous materials are used and that the products can be recycled when they reach the end of their useful life.

GOVERNMENT ICT STRATEGY

PRODUCT LIFE CYCLE

Redcentric is involved in the Use and End-of-Life areas of the product life-cycle and takes its responsibilities very seriously. Part of this responsibility is ensuring we procure from manufacturers that are equally concerned with the overall Life Cycle. Key suppliers for this service are Cisco Systems.

Cisco focuses on using equipment efficiently through the Cisco Resource Exchange and Disposal Online (CREDO) programme. The CREDO virtual equipment exchange allows departments within Cisco to post equipment they no longer use, making that equipment available to other departments and reducing the need to purchase additional and potentially unnecessary equipment. Extending the useful life of equipment and avoiding unnecessary equipment purchases uses resources efficiently and reduces environmental impact.

Redcentric will deploy Cisco equipment to support the managed MPLS service and will ensure that it is used to its maximum effectiveness during the Use phase and that it is managed responsibly when it reaches the End of Life phase.

RECYCLABILITY

Sustainability is a key part of being a managed service providers. All decommissioned equipment is initially tested for reuse as a whole and if not suitable it is assessed for reuse as spares. Only then is it passed for WEEE processing. Following a policy of reuse where ever possible, Redcentric is avoiding the creation of waste where ever possible.

PRODUCT SUSTAINABILITY VERIFICATION

The products used within Redcentric are Energy Star or Cisco EnergyWise compliant products.

CUSTOMER PREMISES WASTE

The functions most likely to generate waste are the facilities department, the Mechanical and Electrical Engineering (M&E) department, commissioning and decommissioning fi services and project management. During the due diligence and transition phase, Redcentric will carefully monitor the manufacturer's estimates of the amounts and types of waste that will accompany each piece of equipment.

CARBON EMISSIONS REDUCTION AND WASTE REDUCTION

Where Redcentric are providing new services or upgrading services, Redcentric will make every effort to source more energy effi equipment than is currently deployed and to introduce server virtualisation where possible. This will immediately have an impact on overall carbon emissions.

Increasingly, the environment is a key consideration when choosing a new Managed Service Provider. Data centres need to work more efficiently, with smarter use of power and better cooling systems. By their very nature, managed services allow customers to reduce their physical footprint by removing the need for on-site generators, power distribution units and cooling units. As for carbon footprint reduction, Unified Communications will lead to fewer face-to-face meetings & planet-harming travel, while Redcentric's rolling, multi-million pound investment in infrastructure will ensure eco-friendly operations in the long-term. Working more efficiently for the environment will result in us working more effectively for our customer's budget.

PEOPLE

With our hosted OCS service and high quality communications capability (via presence based HD audio, HD video conferencing, desktop video calling and Microsoft Live Meeting) reduce the number of face-to-face meetings Redcentric staff need to attend.

GOVERNMENT ICT STRATEGY

PARTNERING WITH THE NATIONAL GRID

By joining a STOR (Short Term Operating Reserve), companies can be called upon by the National Grid at short notice when there's a surge in demand, and be asked to generate their own electricity.

In using its own generators to do this, our data centre will qualify for carbon offsets, and enhance our green credentials. In addition, by consuming our own electricity and relieving the load on the National Grid, the need for them to build extra generators to cope with surges in demand is removed.

DATA CENTRE INNOVATIONS

Redcentric are aware of the significant power used by the traditional (Legacy) data centres.

As a consequence we have recently completed our most recent data centre in reading, which has effi   use of power as a core to its design. We have introduced the latest technology with free air cooling and use of the best technology in cold aisle containment to reduce the amount of power usage effectiveness (PUE) from 2.0 to a targeted 1.2 thereby reducing the data centres power use by 40%.

Our data centres are built to a tier 3 specification and also employ the best security, UPS, generators and energy management systems available.

TRAINING
Redcentric PSN Gateway Services does not require training, thus is non-applicable

TERMINATION TERMS

Redcentric will provide assistance where possible to facilitate a transition to any replacement service.

Redcentric will not be obliged to disclose any confidential information to the customer or replacement supplier, or to transfer any assets, contracts, employees or third party licences.

Redcentric will provide an inventory of all data relating to the services that is under the control of the Redcentric and details of the data structures in which the Customer Data is stored.

Redcentric will transfer all the customer data relating to the services to the customer.

Note that there are no additional charges for storing patient data other than the service charges listed. If, at the end of the contract, the customer decides that Redcentric will continue to store data for archiving purposes instead of being transferred to the customer, this will be covered in a subsequent Service Agreement and the commercials will be agreed at the time of that Service Agreement.

At the end of the contract with the customer and if the customer does not wish to renew their service.

Redcentric will assist the Customer in facilitating the orderly transition of the Redcentric Services (in whole or part) from Redcentric to the Customer or any replacement supplier upon the expiry or earlier termination of the agreement. This section sets out the principles regarding the service transition that form the base of an Exit Plan.

Redcentric shall produce an Exit Plan upon notification of termination of the agreement, in accordance with the principles set out in this section, as soon as practicable (but not later than 60 days) after any notice of termination of the agreement.

EXIT PLAN

The Exit Plan shall, unless otherwise agreed with the Customer:

- Address each of the issues set out in this Exit Plan in order to assist the Customer in facilitating the transition of the Redcentric Services from Redcentric to a replacement supplier or the Customer ensuring to the extent reasonably possible that there is no disruption in the supply of Services and that there is no deterioration in the quality of delivery of the Services during any period of transitional assistance;

- Provide an estimate of the scope of transitional assistance that may be required by the Customer and suggest how such assistance might be provided (if required); and

- Provide an estimate of Redcentric's personnel that may be required to provide transitional assistance and suggest the management structure to be put in place and employed to provide such transitional assistance.

AGREEMENT TERMINATION

On termination or expiry of the Service Agreement, the Customer must undertake the following responsibilities:

- Agree a time and date for the Customer's equipment to be removed; and then

- Remove the Customer's equipment at the agreed time on the agreed date in a sequence to be specified by the Customer

TERMINATION TERMS

ADDITIONAL TRANSITION ASSISTANCE

Where the Customer requests the provision of additional transitional assistance, in addition to that required under the section, Redcentric shall provide such assistance as an additional service. The additional transitional assistance detailed here shall be chargeable at the Redcentric prevailing time and materials consultancy day rates.

The transitional assistance shall, at the Customer's option, include any one or more of the following, but in each case only in relation to assets which are the subject of the Redcentric Services:

- Notifying the Customer or replacement supplier of procedures to be followed and providing management to ensure these procedures are followed in relation to the transfer of the Redcentric Services;

- Providing assistance and expertise as reasonably necessary to identify all material operational and business processes (including all supporting documentation) used by it or the Customer or replacement supplier in the provision of the transferring Redcentric Services;

- Documenting the current status of work in progress and transferring such work in progress, including any partly completed developments and any partly completed Service Agreement changes to the Customer or any replacement supplier;

- To the extent that Redcentric is reasonably able to do so, providing assistance and expertise as reasonably necessary for examining all relevant roles and responsibilities in place for the provision of the Redcentric Services and the transitional assistance;

- Providing information within Redcentric's possession about capacity and performance requirements;

- Providing reasonable assistance to the Customer in procuring and receiving replacement services;

- Co-operating in the execution of the plan for the migration of the Customer data (if any) compiled or used in the performance of the Services to the Customer or the replacement supplier providing skills and expertise of a suitable standard;

- Assisting the Customer and the replacement supplier in the execution of a parallel operation involving the provision of the Redcentric Services (in whole or part) at the same time as the replacement services;

- The provision of all reasonable assistance required by the Customer to ensure the smooth transfer of the Redcentric Services to the Customer or the replacement supplier;

- Providing any technical advice as may be reasonably required by the replacement supplier or the Customer to facilitate the provision of the replacement services to commensurate service levels and standards to those required by this Service Agreement; and

- Answering all reasonable questions including requests for technical advice from the Customer or its replacement supplier regarding the general nature of the Services.

DATA RESTORATION / SERVICE MIGRATION

PSN Gateway Services do not store, process or hold data and as such Data Restoration and or Migration and as such are not applicable.

RESPONSIBILITIES

CUSTOMER RESPONSIBILITIES

The customer is required to successfully complete and evidence the PSN application and approval process with the PSNA prior to being permitted to gain access to the PSN or its resources through Redcentric. In addition;

- All IT equipment beyond the PSN CPE at the end site

- PSN CPE accommodation and environment

- Provision of site access when required

- All LAN Infrastructure

REDCENTRIC RESPONSIBILITIES

Redcentric is responsible for the following activities;

- Ensure full compliance with the PSN application process

- Design, installation and configuration of the service in line with customers' requirements

- Applying and maintaining appropriate access controls for access to resources for each connected organisation. This access control will provide access only to the services / sites essential to the connected organisation; all other traffic will be disallowed

- Maintenance of the Service for the term of the contract

- 24/7 proactive management of the Service

- Change Management

- Billing.

TECHNICAL REQUIREMENTS

SERVICE DEPENDENCIES

The customer is required to provide the following information to provision PSN Gateway Services

- IP addressing

- Routing information including details of locations within PSN that require reachability

- ACL configuration

- Encryption characteristic (to support PSN-Protected deployments if applicable)

DETAILED TECHNICAL INTERFACES,

e.g. client side requirements, bandwidth/latency requirements etc.

There are no detailed technical interface restrictions to provision the service other than sufficient client side switch / router port capacity be required to terminate the service connections.

SERVICE MANAGEMENT

Redcentric is a managed communications and IT company. We don't like to think of ourselves as selling you a product; we prefer to think of it as us becoming part of your telecom and IT team.

SERVICE SUPPORT

Redcentric's customer service operation is available 24/7/365 and can be contacted by telephone, email or via the customer portal. The customer call is routed directly to the Service Management Centre (SMC) who will log your service call, agree the call priority and assign a customer interaction number which will allow your request to be identified efficiently and tracked at all times.

Redcentric has one direct point of contact for customer support, which deals with all aspects of the Service. The Redcentric Customer Services team takes full responsibility for supporting and logging problems and technical support queries. Their specific role is to ensure that all telephone, email and portal queries are answered and resolved as promptly as possible.

They will provide the customer with a customer interaction number and the engineer will then deal directly with the query. The customer interaction number is useful to quote if making enquiries to the progress of the call and it also helps Redcentric monitor the progress of that call. Redcentric employs over 470 staff, 80% are customer facing.

The skills vary from server and storage specialists (EMC, NetApp and Isilon), to Microsoft and VMware specialist, to network and routing specialists (Cisco, Riverbed etc), data management and protection specialists (e.g. Symantec, IBM, i365, etc).

SERVICE MANAGEMENT

Redcentric prides itself on the service that it provides to its customers; an assigned account management team will be provided from the outset, the account team consists of a Client Account Manager (CAM), and a Service Manager (SM).

Specifically, Redcentric's Customer Account Managers will:

- **Be the client advocate** – Redcentric's Account Management team is measured and rewarded against client satisfaction

- **Provide an empowered point** within Redcentric to which issues surrounding satisfaction of service may be escalated and resolved

- **Offer assurances** that Redcentric will be acting in their interest at all times

- **Act as a single point of contact** for all non-technical issues - working collaboratively at all times with the Client Account Manager to develop a thorough understanding of your business needs and growth. Through understanding the Client's goals and the technology that is used, we are able to give proactive recommendations that are customer / site specific and will facilitate and support growth

- **Act as a communication channel** – the Service Manager (SM) will be the key point of contact for Clients wishing to develop their critical applications or infrastructure. They are responsible for organising meetings and / or conference calls with developers, systems integrators and Redcentric staff to discuss performance and upgrades.

- **Troubleshoot and provide problem resolution** – although the Client Support Desk will provide immediate technical assistance for faults, the Technical Relationship Manager will co-ordinate medium-term projects with the intention of resolving recurring problems should they arise.

- **Provide trusted advice** – the Redcentric Account Management Team becomes an extension and trusted advisor of the Client's IS/IT department and will foster additional business relationships with the client to achieve common goals.

- **Take a proactive approach** – the Redcentric Account Management Team will take a proactive approach to the Client's critical application or infrastructure environments.

ABBREVIATIONS

Acronym	Description
BGP	Border Gateway Protocol
BIL	Business Impact Level
CAPS	CESG Assisted Products Service
CAS	CESG Assured Service
CESG	Communications-Electronics Security Group
CLAS	CESG Listed Advisory Scheme
CTAS	CESG Tailored Assurance Service
DNSP	Direct Network Service Provider
GPG	Good Practice Guide
IPED	Intra-Provider Encryption Domain
ITHC	Information Technology Health Check(Performed using CHECK)
OSPF	Open Shortest Path First
PGA	Pan Government Accreditation
PSN	Public Services Network
PSNA	Public Services Network Authorirty
PSNB	Public Services Network Board
PSNSP	Public Services Network Service Provider
RIP	Routing Information Protocol
RMADS	Risk Management and Document Set
SyOps	System Operations