



HSCN gateway service service definition

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redcentric

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1) Document Ownership

Redcentric's Chief Assurance Officer is the owner of this document and is therefore responsible for ensuring that this policy is reviewed in line with the review requirements of Redcentric's ISO9001 Quality Management System.

2) Abbreviations

Acronym	Description
ANM	Advanced Network Monitoring service
BGP	Border Gateway Protocol
CAPS	CESG Assisted Products Service
CAS	CESG Assured Service
CESG	Communications-Electronics Security Group
CN-SP	Consumer Network - Service Provider
CLAS	CESG Listed Advisory Scheme
CTAS	CESG Tailored Assurance Service
GPG	Good Practice Guide
HSCN	Health and Social Care Network
ITHC	Information Technology Health Check(Performed using CHECK)
NCSC	National Cyber Security Centre
OSPF	Open Shortest Path First
RIP	Routing Information Protocol
RMADS	Risk Management and Document Set
SyOps	System Operations
SB	Secure Boundary service

3) Service Overview

Redcentric HSCN Gateway Services enables customers to take advantage of the new technology applications offered within the next generations of the NHS's Health and Social Care Network.

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

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

This includes access to the wider Health and Social Care community and also provides access to both commercial and NHS databases / applications, secure conferencing services, telephony and Wide Area Networking.

4) Service Description

4.1) Summary

Redcentric HSCN Gateway Services are deployed over Redcentric's core network, which provides private, national IP connectivity to the HSCN network and optionally to the internet via Redcentric's HSCN Internet Gateways.

Redcentric HSCN Gateway Services provide an IP connection to the HSCN network in line with the HSCN Compliance Framework. Customers may choose to complement the HSCN Gateway services with a Redcentric Managed firewall service or other 'overlay' services in the Redcentric products portfolio. These may be overlaid on the same physical circuit using logical separation.

NHS Digital, in conjunction its appointed supplier, provide a monitoring and filtering service for outbound Internet traffic. Access to this so-called Secure Boundary (SB) service (previously - Advanced Network Monitoring service) may be purchased as part of the HSCN Gateway Service where the Customer requires outbound Internet access via the same physical or logical HSCN connection. Please consult NHS Digital for more details on the SB service. Note that Inbound internet is not available via the HSCN Gateway Service.

Inbound and non SB filtered / monitored outbound Internet may be purchased as a separate 'overlay' service – please see Redcentric's Internet service definition for details.

4.2) Benefits

Increased front-end focus

Redcentric's fully managed HSCN Gateway Services allow organisations to concentrate on their core activities.

Scalability and flexibility

Redcentric delivers connectivity so that organisations accessing or delivering services to healthcare 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 HSCN Gateway Service can be deployed with other overlay services such as VoIP and data management to software as a service (SaaS), Infrastructure as a Service (IaaS) and unified communications applications.

4.3) Features

Straightforward 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 configuration support and fault management are also included.

A secure, managed MPLS core network

You enjoy control, we manage the network.

Online service portal

This offers almost real-time access to statistical data and reporting information as well as access to the Redcentric Service Desk portal.

Statistics available to the Customer include:

- Indicated Availability of the CPE router(s) delivering the HSCN Gateway Service.
- Traffic statistics over the HSCN Gateway connection, including bits per second, packets per second.
- Traffic within each HSCN QOS class, including bits per second, packets per second.

Multiple circuit options

Redcentric offers various circuit options that connect Customer sites to the managed MPLS core and HSCN 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 Definitions, which are available separately and should be read in conjunction with this Service Definition.

Note that the mandated HSCN SLAs restrict which circuit options Redcentric can deploy for the primary circuit for a HSCN Gateway WAN deployment.

Multiple Deployment Options

Redcentric's HSCN Gateway Service is typically deployed using two main models:

- **Centralised HSCN deployment**, where the HSCN Gateway Service terminates
 - in one or more of Redcentric's data centres and can be shared with multiple private WAN connections delivered over the Redcentric WAN connectivity service and the Redcentric MPLS network
- **HSCN WAN Deployment**, where the HSCN Gateway Service terminates at the customer Premises over a Redcentric WAN connection

Example diagrams for the above deployment models can be found in Section 4 (Service Levels and Service Credits) of this Service Definition.

For other deployment models such as HSCN CoIN, please contact a Redcentric sales representative who will be happy to discuss your requirements in more detail.

4.4) Optional Managed Firewall Service

A managed firewall 'overlay' service can be ordered with the Redcentric HSCN Gateway Services if required. A firewall boundary is mandatory between each Customer's network and the HSCN network.

Where a Customer has no firewall, or wishes to outsource its firewall service to Redcentric, this option may be taken. Please see the Redcentric Managed firewall Service Definition for further details.

4.5) IP Addressing

Details of IP addressing schemes for the HSCN Gateway Service are defined below:

Address Type	IP Address Ranges Provided and Managed By:	Private / Public
Transition Network Addressing (IPv4 addresses migrated from a customer's existing Transition Network connection)	NHS Digital / Redcentric RFC1918 or NHS Digital Allocated RIPE	Private
HSCN RIPE IPv4 Addressing (Maximum /30 for a single connection or /29 for a redundant connection)	NHS Digital	Public (for use only on HSCN)
Redcentric RIPE ipv4 Addressing. Allocation size to be agreed with Redcentric in-line with RIPE policies. A minimal allocation will be provided	Redcentric	Public (for use only on HSCN). Note this addressing is Provider Associated (PA) and therefore cannot be moved from Redcentric to another supplier.
Customer Allocated RIPE Addressing. Where a customer has PI RIPE addressing and wishes to set aside some of that address range for use on HSCN.	Customer	Public (For use on HSCN only).

Note: Where public RIPE addressing is allocated for use on HSCN, that address range must not be reachable via the public internet. The address block must not be dual allocated for use on both the public internet and the HSCN network.

4.6) Information Assurance

Redcentric has been providing managed services to the UK Public Sector for nearly 30 years. Some of our success has been due in part to the formal business accreditations and standards for which we are certified / accredited.

Our data centres are all located in England and are accredited to:

- The Government's Security Classification Policy ('Official-Sensitive')
- The Government's Previous Protected Marking Scheme classification (BIL4 - Confidential)

Note Redcentric can also support information and assets classified above the GSCP level of 'Official-Sensitive'

ISO

- ISO 27001:2013 Accredited (Certificate number = IS 603187)
- ISO 9001:2008 Accredited for Quality Management (Certificate Number = FS 603185)
- ISO 22301:2012 Accredited for Business Continuity Management (Certificate Number = BCMS 603194)
- ISO 20000: 2011 - Recommended for Accreditation (Certificate Number to be Assigned)

NHS Standards

- HSCN Stage 2 Compliant
- NHS Certified N3 Commercial Aggregator
- NHS Business Partner
- Authorised to transmit, process and store Person Identifiable Data (PID)
- NHS Digital accreditation – “N3 ISP” (Network Access Agreement 0740)
- NHS Digital IGSoC-compliant commercial third party (NACS code: YGMAP)
- NHS Digital accredited and compliant data centre hosting facilities, including for Clinical Systems environments (Reference: YGMAP)
- NHS Digital-accredited N3 Service Provider (Network Access Agreement Number: 0740)

HMG / Other Standards

- Cyber Essentials and Cyber Essentials Plus Certified
- Full alignment against the Security Policy Framework
- Authorisation to process HM Government data protectively marked ‘Confidential’
- PCI Compliant for physical hosting services within our core data centre locations
- All services are designed, built, implemented and supported using all relevant and appropriate NSCS GPG’s, Cabinet Office and NHS Digital standards
- Fully aligned with ITIL Service Management Standards

Networks Which Redcentric is connected to

- The NHS Transition Network
- The HSCN Peering Exchange
- Janet the Academic Network
- The Public Sector Network
- The Public Internet
- Via Private or Public IPVPN

Further information with regards to the Redcentric assurance and governance framework can be found within the Redcentric customer Security Pack which consist of the following documents;

Cloud Principles

Security Management Plan

Security Statement

Accreditations and Mappings (Lists all business accreditations and relevant controls and standards utilised for Redcentric G-Cloud services)

Penetration Testing Statement

Government Security Classifications

Redcentric HSCN Gateway Services do not store data; they offer high performance, cost effective and resilient access to the NHS Health and Social care network.

Redcentric HSCN Gateway Services and supporting operations have been approved to support and be in alignment with the requirements set out by NCSC’s CAS-T qualification.

4.7) Connection Agreement

All organisations which require access into the HSCN network are required to sign up to the policy documents making up the HSCN Connection Agreement before HSCN Gateway Services can be provisioned.

Information regarding becoming approved to become HSCN Compliant is located at <https://digital.nhs.uk/health-social-care-network>.

4.8) 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 HSCN access.

CPE is provided as part of Redcentric's HSCN Gateway Service where the HSCN Gateway Service terminates on a Customer site.

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 HSCN Gateway 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 will 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 per the HSCN compliance requirements. Redcentric treats individual packets according to its classification at various places in the network and in-line with the requirements for service operation using HSCN.

CPE specification is largely determined by the type of circuit(s) it will be used to terminate. More details can be found within the applicable access circuit Service Definitions.

4.9) 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 secondary link.

For the majority of circuit combinations, an outage of up to 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 applicable access circuit Service Definitions.

4.10) On-boarding Process / Scope

Connection Code and Practice

The Connection Agreement and Practice for customers using HSCN Gateway Services to support access into the NHS HSCN has been designed to assist the implementation of NHS projects including data sharing and collaboration. Approval to connect to the HSCN is managed in its entirety by NHS Digital who ultimately approves the organisations connection to the HSCN. Please refer to NHS Digital's website for further information and how to become a HSCN Consumer.

4.11) Change Requests

Most Customer change requests for the HSCN service are dependent on changes, approvals or authorisation by individual NHS organisations and/or Redcentric. **Redcentric's** target for undertaking change requests reflects these supplier commitments and is currently 10 working days.

4.12) 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.

4.13) Service Management

Service Support

Redcentric will monitor and manage the Service up to and including the Ethernet port(s) on the deployed managed CPE.

Redcentric's customer service operation is available 24/7/365(6) and can be contacted by telephone, customer portal or email. 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 650 staff, 80% are customer facing.

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

All services 24/7 managed and monitored

The proposed solution costs are inclusive of Redcentric's support and account management processes¹ and include:

- Tiered Genuine support, manned, monitored and maintained.
- UK based technical support.
- Secure monitoring tools, designed to ITIL guidelines.

¹ Inclusive Service Management is only available on contracts over £15,000 per month.

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 Customer Account Manager (CAM), and a Service Manager (SM).

Specifically, Redcentric Customer Account Managers will:

- Be the Customer 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 the Customer's interest at all times
- Act as a single point of contact for all non-technical issues - working collaboratively at all times with the Customer Account Manager to develop a thorough understanding of your business needs and growth. Through understanding the Customer'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 Customers wishing to develop their critical applications or infrastructure.
- Troubleshoot and provide problem resolution – although the Customer 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 aim is for the Redcentric Account Management Team to become an extension and advisor of the Customer 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 Customer's critical application or infrastructure environments.

4.14) Service Constraints

4.14.1) 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. To facilitate these improvements, it is necessary to carry out essential work from time to time. These activities are carefully scheduled using 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 minimise 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 10 working days' notice prior to the maintenance window. Redcentric will also notify NHS Digital of service-affecting maintenance windows, in-line with the HSCN Compliance Framework. Generally Redcentric will endeavor to carry out any improvements in reserved maintenance windows; 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 Levels.

In all cases, Redcentric will endeavor to give Customers as much notice as possible.

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 <10 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.

4.14.2) Exclusions from the Services

- Managed IP-VPN Service does not currently support IPv6
- Traffic filtering is not supported

- No firewall features or functions are offered as part of the HSCN Gateway Services. Redcentric offers, separately, a Managed Firewall Service. Please see the relevant Service Definition for details.
- Network Address Translation (NAT) will not be supported without prior written agreement.

4.15) 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
- IP Quality of Service (QoS)
- Levels of resilience

4.16) Contractual Restrictions

The provision of HSCN Gateway Services is subject to HSCN-specific Additional Terms, which are set out in the MSA.

4.17) Training

Redcentric HSCN Gateway Services do not require any specific training.

4.18) Termination Arrangements

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.

4.18.1) Principles

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 Order Form for the HSCN Gateway Services².

4.18.2) Removal of Customer Premise Equipment

“Customer Premise Equipment” is defined in paragraph 4.8) of this Service Definition.

On termination or expiry of the Statement of Work, the Customer must undertake the following responsibilities:

- agree a time and date for the Customer Premise Equipment to be removed by Redcentric; and then
- permit Redcentric to remove the Customer Premise Equipment at the agreed time on the agreed date in a sequence to be specified by the Customer

4.18.3) Additional Transition Assistance

Where the Customer requests the provision of additional transitional assistance, in addition to that required under this section, Redcentric shall provide such assistance as additional Professional Services upon agreement and signature of a statement of work. The additional transitional assistance detailed here shall be chargeable at the Redcentric prevailing time and materials consultancy day rates.

² Additional Charging based on the Professional services day rate may be required at Redcentric's discretion.

4.19) Responsibilities

4.19.1) Customer Responsibilities

The Customer is required to successfully complete and evidence the HSCN Connection Agreement to gain access to the HSCN or its resources through Redcentric. In addition, the Customer is responsible for;

- Pre-migration UAT testing and migration UAT testing (where a migration service is purchased) to support the service provision
- All IT equipment beyond the HSCN CPE at the end site
- HSCN CPE accommodation and environment
- Provision of site access when required
- All LAN infrastructure
- providing the following information to provision HSCN Gateway Services
 - IP addressing (for migration purposes)
 - Existing BT SIN Numbers (for migration purposes)

4.19.2) Redcentric Responsibilities

Redcentric is responsible for the following activities;

- Ensuring the customer has completed the HSCN Connection agreement prior to live service commencing
- Design, installation and configuration of the HSCN Gateway Service in line with customers' requirements
- Maintenance of the HSCN Gateway Service for the term of the Order
- 24 x 7 proactive management of the HSCN Gateway Service
- Change management
- Billing

4.20) Technical Requirements

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

5) Implementation and Acceptance

5.1) On-Boarding Process

Redcentric supports the process of migration from an existing N3 service provider in addition to greenfield deployments.

Where a migration is required between the BT N3 (Transition Network) and Redcentric's HSCN Gateway service, Redcentric will collaborate with the Customer, BT and NHS Digital where required to achieve the migration. Typically this will utilise the documented TACO process, but where another process is more appropriate and is compatible with the HSCN Compliance Framework, Redcentric may offer an alternative migration option to the Customer.

During the installation of HSCN Gateway Services, **Redcentric** Project Services 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 Agreement
- Connection installation
- Installation, configuration and testing of the customer site and core devices
- Migration Support (as required)

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.

6) Service Levels and Service Credits

6.1) Performance Measurement

Redcentric has deployed a performance monitoring solution in-line with HSCN requirements, which provides a set of qualitative measurements which characterise the 'health' of the HSCN Gateway core service. These measurements help to identify network anomalies or emerging problems in the core. The HSCN Gateway core quality parameters, average round trip time, average packet loss, and jitter (all detailed below) are continually measured between HSCN PoPs on the Redcentric core network.

Average Round Trip Time

The average Round Trip Time (RTT) is defined as two-way delay time of an IP packet and measures the delay / latency of a packet with the Redcentric HSCN Gateway service.

The value is calculated on a daily basis and then aggregated into a Monthly Average. Note that this measurement does not include the HSCN customer access circuit. Redcentric is obliged to report these figures to NHS Digital as part of its performance monitoring obligations.

Service Level: Redcentric's HSCN Gateway Service will perform with a maximum of 30ms two way delay across the HSCN Gateway Core, in-line with HSCN obligations.

Average Packet Loss Rate

The Average Packet Loss Rate refers to the quality of the Redcentric HSCN Gateway Service in terms of the packet loss rate. 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.

The value is calculated on a daily basis and then aggregated into a Monthly Average. Note that this measurement does not include the HSCN customer access circuit. Redcentric is obliged to report these figures to NHS Digital as part of its performance monitoring obligations.

Service Level: Redcentric's HSCN Gateway Service will perform with a maximum of 0.5% packet loss, in-line with HSCN Compliance obligations.

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.

The value is calculated on a daily basis and then aggregated into a Monthly Average. Note that this measurement does not include the HSCN customer access circuit. Redcentric is obliged to report these figures to NHS Digital as part of its performance monitoring obligations.

Service Level: Redcentric's HSCN Gateway Service will perform with a maximum of 30ms jitter and an average of <20ms jitter in-line with HSCN Compliance obligations.

Availability

Availability Service Level calculations cover the service slice from the Redcentric HSCN Gateway Peering Exchange point of connection (PoC) to the HSCN Ethernet port presented to the Customer.

The HSCN Availability Service Level (for the purposes of reporting to NHS digital) is calculated as follows:

$$\text{Availability \%} = ((\text{Total} - \text{To}) / \text{Total}) \times 100$$

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

Total = the total minutes in the Customer's contracted service = Minutes within a monthly period

The HSCN Service Levels are set out in the table below. Please see section 4.5) below for details of service credits.

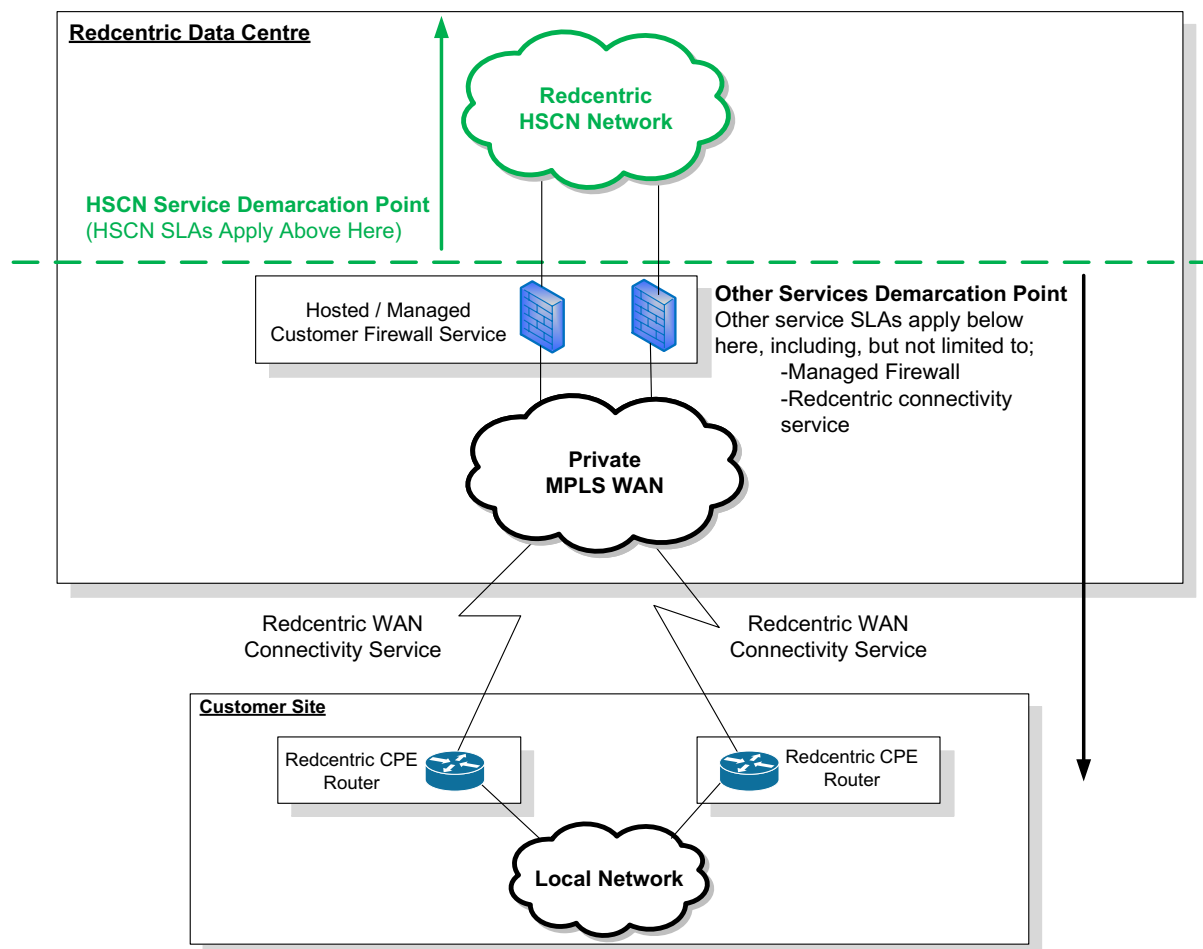
Service	SLA Type	Service Level
HSCN Gateway Consumer Connection (non-Redundant) EAD Fibre Delivery (Not FTTC, FTTP or GEA)	Monthly Availability	99.95%
HSCN Gateway Consumer Connection (Redundant) Primary Circuit EAD Fibre Delivery (not FTTC, FTTP or GEA) with Fibre or DSL / FTTC / GEA Backup	Monthly Availability	99.99%
Primary Circuit EFM, FTTC, FTTP, GEA + Broadband DSL Backup (Redundant) (Negotiated under HSCN Compliance obligation TOW16)	Monthly Availability	99.5%
Broadband (DSL) Primary with Enhanced Care (Non Redundant) (Negotiated under HSCN Compliance obligation TOW16)	Monthly Availability	99.5%
Broadband (DSL) Primary without enhanced care (Non Redundant) (Negotiated under HSCN Compliance obligation TOW16)	Monthly Availability	99.0%
Broadband (DSL) Primary with enhanced care with Cellular Backup (Redundant) (Negotiated under HSCN Compliance obligation TOW16)	Monthly Availability	99.5%
Broadband (DSL) Primary without enhanced care with Cellular Backup (Redundant) (Negotiated under HSCN Compliance obligation TOW16)	Monthly Availability	99.0%

Broadband Cellular Primary (Rapid Deployment Only) (Negotiated under HSCN Compliance obligation TOW16)	Monthly	No Service Level
SD Outbound Internet Connectivity	Monthly Availability	99.9%, or access circuit Service Level if lower

Note that the Service Levels above are linked to the HSCN Gateway Service demarcation point.

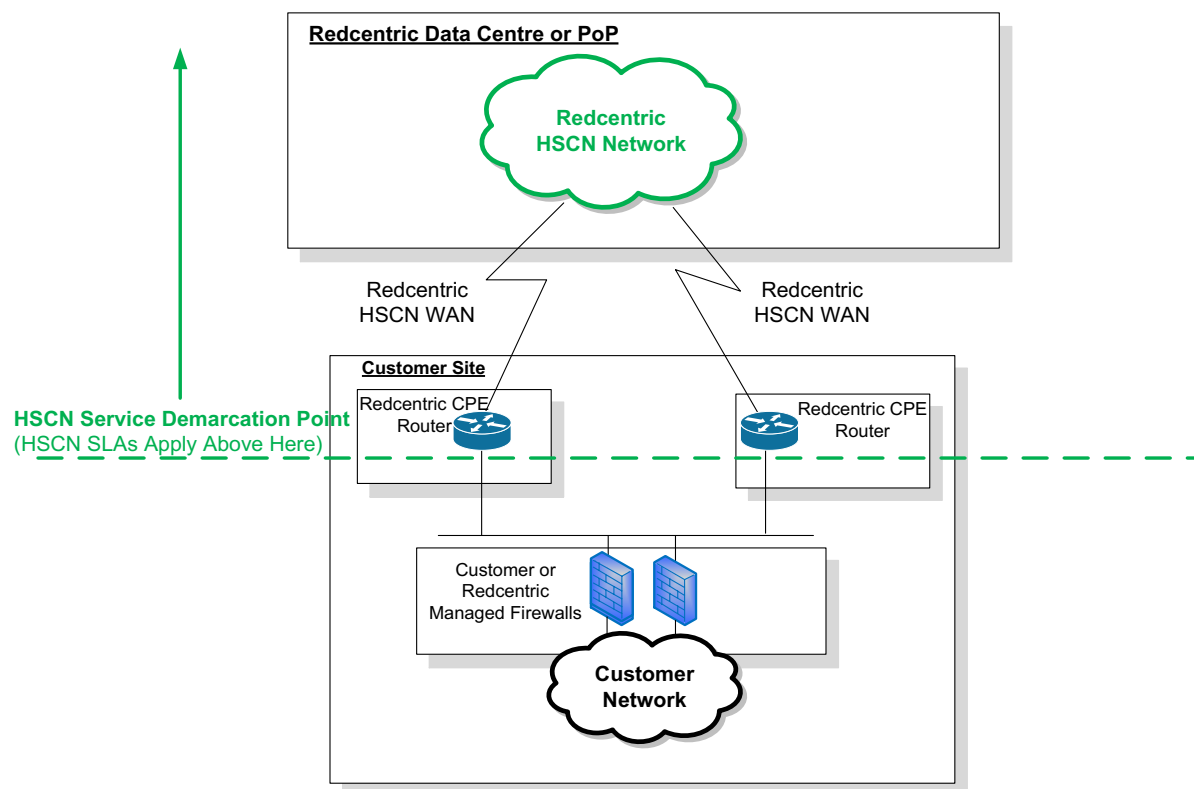
For further information the diagrams in the following sections describe the HSCN service demarcation point for the two main HSCN deployment models:

Centralised HSCN Deployment Model:



Where a Customer purchases a centralised HSCN Gateway Service which terminates within one or more of Redcentric's Data Centres, and combines that with other Services such as a centralised Managed Firewall and a private MPLS WAN using a Redcentric WAN connectivity service, the WAN connectivity service Service Levels will apply to the private WAN, not the HSCN Service Levels as per the diagram above.

HSCN WAN Deployment Model:



Where a customer takes a HSCN Gateway Service overlaid over a connectivity service such as Ethernet WAN, the Service Levels detailed above will override the underlying Ethernet WAN Service Levels. This is typically the case where the HSCN demarcation point is on the CPE router located within the Customer premises.

6.2) Exclusions from Availability

In calculating Availability, in addition to the exclusions listed in clause 6 of the General Terms the following shall be excluded:

- The failure of any third party services that are not under the control of Redcentric or its subcontractors, including the HSCN network or any part of it.

6.3) 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 5 (Informational)	Typical Event
<p>Classification:</p> <ul style="list-style-type: none"> Monitoring of an open Incident. Change Request Call Logging: 24hr x 7 day x 365 days Response: 24 hours Update Time: N/A Fix Time: N/A 	<p>An Incident which, in the reasonable opinion of the Customer has the potential to have a very minor adverse impact on the provision of the Services to the Customer, or a change request.</p> <p>Non-exhaustive example:</p> <ul style="list-style-type: none"> Information available to Customers is cosmetically incorrect. Customer requires a new static route adding
Priority 4 (Low)	Typical Event
<p>Classification:</p> <p>An Incident which, in the reasonable opinion of the Customer has the potential to have a minor adverse impact on the provision of the Services to the Customer.</p> <ul style="list-style-type: none"> Call Logging: 24hr x 7 day x 365 days Response: 24 hours Update Time: N/A Fix Time: N/A 	<p>Non-exhaustive example:</p> <ul style="list-style-type: none"> Information available the Customer is incorrect, but will only cause a minor adverse impact.
Priority 3 (Medium)	Typical Event
<p>Classification:</p> <p>An Incident which, in the reasonable opinion of the Customer has the potential to:</p> <p>(a) have a major adverse impact on the activities of the Customer which can be reduced to a moderate adverse impact due to the availability of a workaround acceptable to the Customer; or</p> <p>(b) have a moderate adverse impact on the activities of the Customer; or</p> <p>(c) constitute a non-serious / non-critical security risk.</p> <ul style="list-style-type: none"> Call Logging: 24hr x 7 day x 365(6) days Response: 4 hours Update Time: 24 Hours Fix Time: N/A 	<p>Non-exhaustive example:</p> <ul style="list-style-type: none"> Reporting capability is not available or is inaccurate.

Priority 2 (high)	Typical Event
<p>Classification:</p> <p>An Incident which, in the reasonable opinion of the Customer has the potential to:</p> <p>(a) have a major (but not critical) adverse impact on the activities of the Customer and no workaround acceptable to the Customer is available; or</p> <p>(b) cause a financial loss and/or disruption to the Customer which is more than trivial but less severe than the significant financial loss described in the definition of a Severity 1 Incident; or</p> <p>(c) constitute a serious but non-critical security risk.</p> <ul style="list-style-type: none"> • Major Incidents. <p>Call Logging: 24hr x 7 day x 365(6)</p> <ul style="list-style-type: none"> • Response: 20 minutes • Update: 90 minutes • Fix time – 8 hours 	<p>Non-exhaustive examples:</p> <ul style="list-style-type: none"> • Loss of all resilience for the HSCN Consumer • Loss of all resilience between CN-SP and the Internet • Loss of all resilience between a CN-SP and the Peering Exchange Network Provider • Service Level Thresholds are at risk of not being achieved.
Priority 1 (Critical)	Typical Event
<p>Classification:</p> <p>An Incident which, in the reasonable opinion of the Customer;</p> <p>(a) constitutes a loss of the Service which prevents any traffic from routing correctly; or</p> <p>(b) has a critical impact on the activities of the Customer; or</p> <p>(c) causes significant financial loss and/or disruption to the Customer; or</p> <p>(d) constitutes a critical security risk.</p> <ul style="list-style-type: none"> • Major Incidents. <p>Call Logging: 24hr x 7 day x 365(6)</p> <ul style="list-style-type: none"> • Response: 20 minutes - 24x7x365(6) • Update: 60 minutes • Fix time – 5 Hours 	<p>Non-exhaustive examples:</p> <ul style="list-style-type: none"> • Loss of interconnect between a CN-SP and the internet that results in a loss of connectivity for one or more HSCN Consumers • Loss of interconnect between a CN-SP and a Peering Exchange Network Provider that results in a loss of connectivity for one or more HSCN Consumers • Any HSCN Consumer service that is isolated from a CN-SP network • Service Failure Thresholds are at risk of not being achieved.

6.4) Floor Service Level

- There are no Floor Service Levels applicable to the HSCN Gateway Service.
- Where a customer takes a HSCN Gateway Service overlaid over a connectivity service such as Ethernet WAN, the Floor Service Levels applicable to that connectivity Service will apply to that Connectivity Service, as specified in the applicable Service Definition.

6.5) Service Credits

The Service Credits are calculated by reference to the Charges for the Service affected and are based on a Monthly measurement period and paid in accordance with the terms of the MSA.

In the following table:

“**Service Availability**” is to the achieved level of Availability of the relevant element of the HSCN Gateway Services for the relevant Month;

“**Service Credit**” is the Service Credit payable in respect of that element of the HSCN Gateway Services in that Month according to the level of Service Availability achieved in that Month; and

“**MS**” is the amount of the total Charges payable in respect of the HSCN Gateway Services for the relevant Month

Connection Type	Service Availability	Service Credit
Non-Redundant (Fibre Primary)	>=99.95% >= 99.8% but <99.95% >=99.0% but < 99.8% <99.0%	No Credit 5% of MS 15% of MS 20% of MS
Redundant (Fibre Primary)	>=99.99% >=99.95% but <99.8% >= 99.0% but <99.8% <99.0%	No Credit 5% of MS 15% of MS 20% of MS
Primary Circuit EFM, FTTC, FTTP, GEA + Broadband DSL Backup (Redundant)	>=99.5 >= 99.0 But <99.5 >=97.0 but <99.0 <97.0	No Credit 5% of MS 15% of MS 20% of MS
Broadband (DSL) Primary with enhanced care with Cellular Backup (Redundant)	>=99.5 >= 99.0 But <99.5 >=97.0 but <99.0 <97.0	No Credit 5% of MS 15% of MS 20% of MS
Broadband (DSL) Primary without enhanced care with Cellular Backup (Redundant)	>=99.0 >= 98.0 But <99.0 >=96.0 but <98.0 <96.0	No Credit 5% of MS 15% of MS 20% of MS
Broadband (DSL) Primary with enhanced care (non-Redundant)	>=99.5 >= 99.0 But <99.5 >=97.0 but <99.0 <97.0	No Credit 5% of MS 15% of MS 20% of MS
Broadband (DSL) Primary without enhanced care (non-Redundant)	>=99.0 >= 98.0 But <99.0 >=96.0 but <98.0 <96.0	No Credit 5% of MS 15% of MS 20% of MS

7) Data Processing

7.1) Data Processing Scope

- HSCN Gateway Services delivers the transport of IP packets between locations.
- HSCN Gateway Services does not involve any storage or backing up of data.

7.2) Data Storage and Encryption

- Redcentric does not encrypt IP-VPN inter-site traffic, nor traffic destined for external networks.
- Redcentric does not capture, inspect, analyse, store or share the Customer's traffic/data except as described in the next paragraph.
- Under certain circumstances, when managing a support ticket, Redcentric may capture, inspect, analyse and/or store a small sample of the Customer's traffic to enable the investigation and diagnosis of a very specific problem, e.g. to help resolve a problem relating to IP packet corruption. Such diagnosis would involve the examination of a small sample of IP packets only.

7.3) Data Processing Decisions

- Redcentric does not make any data processing decisions in relation to HSCN Gateway Services. Any processing of data over Customer systems when using HSCN Gateway Services for transit is instigated, configured and managed by the Customer, including any decision to use encryption.
- Redcentric's support service can be asked by the Customer to intervene in the event of an issue with the Service. In such a case Redcentric may make decisions that affect data processing, but such actions will only be undertaken at the request of and in conjunction with the Customer.

7.4) Sub-Processors

- HSCN Gateway Services supports the connectivity needs of the Customer to third parties. Products and services of third parties are contracted to the Customer, and not to Redcentric unless stated to the contrary in an Order.
- Redcentric's network over which elements of the service is delivered uses third party carriers (such as BT and Virgin) to provide connectivity. These third parties are conduits only for data, and are not involved in the processing or storing of data transmitted over the service.
- No other parties are involved in delivering the HSCN Gateway Services, and there are no sub-processors appointed by Redcentric.
- HSCN is a data processor in respect of the HSCN platform, including the Advanced Network Monitoring element of HSCN. HSCN is not a sub-processor of Redcentric. Please see Part B of the HSCN Connection Agreement for the relevant Data Protection and Data Processing terms in relation to HSCN.

7.5) Customer Access to Data

- The Customer controls its own platforms which use HSCN Gateway Services to carry data, and the Customer therefore has full access to its own data.
- Redcentric's optional Traffic Analyser service is designed to provide a Customer with insight as to the various types of traffic flowing throughout their IP-VPN; e.g. identify the mix of email, web and voice etc. Customer premises equipment (CPE) is configured to send a summary of sampled IP packets to software which collects, analyses and displays this information. Specific contents of the IP packets are not analysed; i.e. the system identifies the levels of email traffic between locations but it does not inspect or identify the contents of the emails. Both the Customer and Redcentric staff have access to this information which can be used for reporting and capacity planning, for example. Redcentric does not further inspect, analyse or share this fully anonymised information.

7.6) Security Arrangements and Options

- HSCN Gateway Services uses Redcentric's national core network which is hosted and provisioned at both Redcentric and third-party locations. All locations meet physical security standard ISO27002 section 11.1 or equivalent.

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