



Software defined-WAN Service definition

SD093 v1.2

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redcentric

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1. Service overview

Redcentric's Software Defined – Wide Area Network (SD-WAN) Service is designed to complement traditional private IP-VPN networks. It allows Customers to make optimum use of the available bandwidth at their sites, and to supplement private connections with cellular, low-cost Internet and other links. Application visibility, control and performance can be enhanced, delivering greater levels of efficiency and user satisfaction. The system is configured to meet a Customer's specific requirements. Redcentric monitors the status of all links for both failure and service degradation and acts accordingly.

1.1. Feature summary

- Based on appliances from one of the market-leaders in cyber security products
- Per-application tuning and traffic steering
- Makes use of bandwidth that would otherwise be reserved for back-up
- Facilitates local Internet breakout which frees-up bandwidth on private connections and is efficient for traffic destined for Internet-facing applications. e.g. O365 and apps in AWS & Azure

2. Service Description

2.1. Related products

The SD-WAN Service is designed to augment Redcentric's Managed IP-VPN portfolio. Together they represent hybrid WAN, offering a combination of unbeatable features - robust end-to-end assurance and SLA where required plus cost-effective improvement to application performance. Redcentric has a portfolio of services intended to help Customers migrate their compute environments to large public cloud platforms and to help customers implement hybrid compute strategies. The SD-WAN Service has aspects in common with Redcentric's Managed Firewall Service. Redcentric also recommends use of its cellular SIM/data bundles to provide quick and simple Internet connectivity to Customer sites.

2.2. Location for access

The SD-WAN Service is currently available at sites in the United Kingdom. Occasionally Redcentric may offer the service at non-UK locations when it is agreed by both parties in writing.

2.3. Change notice

Redcentric occasionally updates, improves services and adds new features as it strives to provide customers relevant and valuable services. The Redcentric Master Service Agreement details the implications of Service Change and how it will be communicated.

2.4. Maintenance notice and scheduled downtime

In order to provide a robust service, Redcentric occasionally performs upgrade and maintenance tasks on systems and platforms. Details of maintenance windows and how they are communicated are detailed in Redcentric's Customer Service Plan and Master Service Agreement documents which are available on request.

2.5. Pre-requisites

In most cases, the SD-WAN Service is intended to augment new or existing Redcentric supplied broadband and Ethernet connectivity.

Each of the SD-WAN CPE devices delivers enterprise firewall functionality to protect the customer's network perimeter so the SD-WAN Service has, as a base component, a Redcentric Managed Firewall.

2.6. Service overview

A piece of SD-WAN CPE equipment located on the Customer site connects to both the Customer's LAN and the various WAN circuits. The centralised management platform is configured by Redcentric staff with specific details of the Customer network. The SD-WAN CPE routes the Customer's application traffic according to the policy on the management platform. Traffic can be encrypted over private links as well as public (i.e. Internet) links. Thresholds for delay, jitter and packet-loss can be set 'per application'. The system measures these parameters and routes application traffic accordingly. If desirable, the system can be configured to share application traffic across multiple links. Redcentric monitoring systems poll the devices periodically to identify problems with system parameters (eg CPU utilisation), link failures and sustained link quality issues. Redcentric investigates issues relating to services it provides. Issues relating to 3rd-party supplied connectivity are reported to the Customer.

For sites that have a link to the Internet (ie a direct Internet access [DIA] circuit), the system can be configured to provide local break-out. This is optimal for traffic destined for public Internet facing applications (eg applications hosted in Azure or AWS). Providing local break-out also frees up valuable bandwidth on private links that would otherwise be used to carry the traffic to a central breakout point. Valid concerns associated with having many Internet ingress/egress points on the corporate private network are addressed by the fact that the SD-WAN devices are essentially enterprise class firewalls, centrally managed with a single common security policy.

2.7. Product limitations

The Redcentric SD-WAN Service currently has the following limitations, each of which are due to be addressed in future revisions of the product:

- Limited scope for deploying devices Internationally
- Customers do not have visibility of the device management dashboard
- While the service has the potential for extending corporate WAN connectivity to sites very quickly using cellular technologies, an expedited deployment process has yet to be finalised
- A single SD-WAN CPE device is supported at each spoke site
- The level of Hardware Support must be the same for all Customer locations. E.g. ALL sites: 12hour fix

2.8. Device sizing

Redcentric offers a wide range of SD-WAN spoke CPE and hub devices to meet even the most demanding requirements.

Devices are chosen according to a combination of required features, anticipated throughput and future growth.

Redcentric also offers a cellular modem which can be deployed as part of an SD-WAN solution. This is optimised for use with Redcentric's range of cellular SIM/data bundles, which are optionally available.

2.9. Service implementation

A pre-requisite to deployment is a technical information gathering exercise. Information required to deploy the Service includes but is not limited to the following aspects:

- Technical details of 3rd-party connections – IP addressing, DHCP servers etc.
- Applications - priorities & performance parameters
- Firewall security policy which is to be deployed on all end-points (as per managed firewall)
- Precise address, floor, room & location of circuit termination and CPE location
- Contact details for report recipient(s)

A Redcentric Project Manager will engage with the Customer and establish a project plan. The Project Manager coordinates procurement/ordering, configuration, deployment, testing and hand-over tasks.

In most cases, SD-WAN CPE is installed by a Redcentric engineer. For larger rollouts, it is possible for Redcentric to provide straight-forward instructions which can be used by a Customer representative on site, to connect the device(s) to the corporate LAN, and to the WAN links.

If the CPE devices are to be deployed by a Redcentric engineer, they will visit the site and undertake installation, configuration and basic testing between 9:00am and 17:00pm.

2.10. Monitoring

Redcentric polls SD-WAN CPE every minute and retrieves information relating to:

- System parameters (E.g. CPU utilisation and memory usage)
- Layer-2 and Layer-3 detected link failures
- Delay, jitter and packet-loss characteristics on SD-WAN links

The platform is configured with threshold values and quell-times for each of the attributes listed above. If the measured values cross the threshold and stay that way beyond the quell-time, the system automatically triggers an event.

2.11. Incident management

When an event is triggered or identified and validated by a member of the Redcentric support team, a fault ticket is raised. Tickets are managed by engineering professionals in Redcentric's operations centre 24x365.

If the issue relates to the SD-WAN platform (CPE or Management elements) or a Redcentric supplied circuit, Redcentric are responsible for managing the fault through to resolution.

If the issue relates to an element not supplied by Redcentric, Redcentric will notify the Customer contact. Redcentric does not deal with 3rd-party suppliers directly. The Redcentric support team will communicate with the Customer representative in accordance with the Redcentric Customer Service Plan.

2.12. Hardware maintenance

If a piece of SD-WAN hardware develops a fault, hardware support results in replacement of the faulty unit.

Redcentric aims to replace faulty hardware the next working day. This level of hardware support is included within the charge. Expedited hardware replacement options are available to meet specific Customer requirements. Requirements and provision for expedited hardware replacement must be agreed in writing by both parties prior to finalising a Service Agreement.

If the firmware or hardware version of your CPE is forecast to become End of Support (EoS) / End of Life (EoL) during an initial contract term or a renewal of that contract term, Redcentric will no longer be able to provide security or critical firmware updates for that EoS or EoL CPE.

In order to continue to receive security and critical updates, a hardware refresh of the CPE will be required. Any hardware refresh, including the provision of new CPE, is outside the scope of this Service and will be chargeable. New CPE would need to be provided by Redcentric for an additional charge.

2.13. Change

Redcentric support staff manage the configuration of the SD-WAN components, evaluating and implementing formal change requests submitted by the Customer.

The validation and subsequent implementation or rejection of change requests will be performed Monday to Friday between 8 am and 6 pm, with a target completion time of 48 hours for routine changes. Emergency changes are prioritised accordingly, and performance targets are detailed in Redcentric's Customer Service Plan (CSP). In accordance with the Redcentric change request procedure, all change requests must be submitted by a designated and authorised Customer technical contact. If Redcentric's security engineer cannot validate the change requester against the authorised list, then Redcentric will place the change request on hold and attempt to contact one of the alternative authorised contacts. Redcentric must wait for the request to be ratified by a known authorised contact before proceeding with any firewall change. It is therefore essential that Customers provide accurate and current contact information for their designated and authorised staff.

It is extremely easy to weaken network integrity and/or security by submitting a seemingly innocuous change request. Redcentric staff review change requests based only on the information they have available, and therefore Redcentric cannot take responsibility for network weakness resulting from rule-base changes. If Redcentric support staff believe that a rule-base change request compromises the security of the Customer's network, Redcentric may ask the Customer to sign a disclaimer stating that they wish to go ahead regardless of the advice offered. In extreme cases, staff reserve the right to reject the change outright; for example, if the weakness could affect other Redcentric Customers.

2.14. Reporting

The SD-WAN platform will generate three reports monthly for each SD-WAN CPE device and email them to a list of recipients issued by the Customer. The three reports are outlined below.

- SD-WAN & link performance: Covering link SLA parameters and traffic routing
- 360 Protection Report. Includes: CPU, Memory & disk utilisation, max concurrent sessions, session rate
- 360 Security Review. Includes: High risk applications in use, malware, Intrusion and attacks

Additional standard and tailored reports are available at additional charge.

2.15. Redcentric responsibilities

Redcentric staff are responsible for the following aspects:

- Connectivity design based on information supplied by the Customer
- Configuration of SD-WAN devices and systems
- Physical installation / deployment of devices on Customer locations when optionally chosen
- Organise replacement of faulty SD-WAN hardware
- Visit site to identify suitable location of Cellular modem – optional chargeable service
- Upkeep / upgrade / patching of management, reporting & alerting platforms
- Notify Customer of 3rd-party connectivity issues

2.16. Customer responsibilities

The Customer is responsible for all other aspects including but not limited to the following:

- Define firewall rule base and other security parameters
- Provide Redcentric with up-to-date list of staff authorised to submit change requests
- Report and manage faults directly with connectivity suppliers other than Redcentric
- Establish suitable location for cellular modem if required and Redcentric not contracted to undertake this
- Provide Redcentric technical and admin details required for delivery including those detailed in section 2.9 Service Implementation
- Preparation of Local Area Network incl. cabling between SD-WAN CPE location and cellular modem

2.17. Commercials

Each of the SD-WAN CPE devices delivers enterprise firewall functionality to protect the customer's network perimeter. Consequently, the Customer is essentially charged for Redcentric's Standard or Advanced Managed Firewall Service depending on requirements. The Standard option offers application-layer firewall capability, and the Advanced option also includes Content filtering, Anti-virus and Intrusion Detection. (Please see Managed Firewall Service Definition for details).

In addition, a monitoring and management charge applies to each SD-WAN CPE end-point and cellular modem.

If chosen, Redcentric connectivity services and SIM/data bundles are charged separately.

No bandwidth or usage charges are associated with the Redcentric SD-WAN Service.

3. Implementation and acceptance

3.1. Acceptance criteria

The following are the acceptance criteria applicable to the SD-WAN service:

- Confirm Redcentric support contact details have been supplied
- Check the LAN connections to the SD-WAN device(s) for speed and duplex mismatches and errors (where possible).
- Test IP connectivity by using permitted protocol traffic from permitted devices on each interface destined for permitted addresses on the other interfaces (e.g. test traffic on port 80 from a device on the internal network destined for a server on the outside network)
- Test functionality and notification mechanisms of UTM capabilities if chosen
- Provide Customer access to the monitoring dashboard

4. Service levels and service credits

4.1. Service levels

Service Levels for the SD-WAN service elements are detailed in the table below.

Service Levels for underlying connectivity provided by Redcentric is detailed in the applicable Service Definition.

SD-WAN service element	Service availability
Single SD-WAN spoke or hub appliance on a customer site	≥99.0%
Single SD-WAN hub appliance located in a Redcentric data centre	≥99.5%
Portal access for analysis and visibility etc.	≥99.5%

4.2. Exclusions from availability

In calculating Availability, in addition to the exclusions listed in clause 6.7 of the General Terms the following shall be excluded:

- Unavailability due to tasks required to implement and test change requests.
- Unavailability due to malicious activity of any kind. E.g. a Denial of Service attack (DOS)

4.3. Floor service level

The Floor Service Level applicable to the SD-WAN Service in respect of Availability shall be 85% in any given Month.

4.4. Service credits

The Service Credits applicable to the SD-WAN service shall be calculated as follows.

In the following table:

“≥” means “greater than or equal to”

“<” means “less than”

“MS” means the Charges payable in respect of the SD-WAN service for the same Month for the effected site(s)

Applicable SD-WAN service	Service Availability	Service Credit
Single SD-WAN spoke or hub appliance on a Customer site	≥99.0%	none
	≥98.0% but <99.0%	5% of MS
	≥96.0% but <98.0%	15% of MS
	<96.0%	20% of MS
Single SD-WAN hub appliance located in a Redcentric data centre	≥99.5%	none
	≥99.0% but <99.5%	5% of MS
	≥97.0% but <99.0%	15% of MS
	<97.0%	20% of MS
Portal access for analysis and visibility etc.	≥99.5%	none
	≥99.0% but <99.5%	1% of MS
	≥97.0% but <99.0%	2% of MS
	<97.0%	5% of MS

5. Data processing

5.1. Data processing scope

- Redcentric's SD-WAN Service delivers a degree of IP network perimeter protection.
- Redcentric's SD-WAN Service may involve the storage of summarised traffic and user activity.

5.2. Data storage and encryption

- Devices may be configured to encrypt traffic across certain networks.
- By the very nature of the Service, it is necessary for Redcentric to capture, inspect, analyse, and store the Customer's traffic/data.
- Redcentric would not have access to the content of the Customer's traffic/data in normal circumstances. Under certain circumstances, when managing a support ticket, Redcentric may further capture, inspect, analyse and/or store samples of the customer's traffic in order to investigate and diagnose specific problems. Such actions will only be undertaken at the request of and in conjunction with the Customer.
- The period for which data is stored in relation to the SD-WAN Service is decided by the Customer.

5.3. Data processing decisions

- Redcentric does not make any data processing decisions in relation to the Redcentric SD-WAN Service. Any processing of data over Customer systems when using Redcentric SD-WAN Service is instigated, configured and managed by the Customer.
- Redcentric Support can be asked by the Customer to intervene in the event of an issue with the Redcentric SD-WAN 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.

5.4. Sub-processors

- Redcentric's SD-WAN Service may make use of services provided by the selected hardware vendor (Eg. Fortinet, Cisco Systems etc.). These services assist with the identification of security vulnerabilities, weaknesses, exploits, virus, worms etc.
- No other parties are involved in delivering the Redcentric SD-WAN Service, and no other sub-processors are appointed by Redcentric.

5.5. Customer access to data

- The Customer controls its own platforms which use Redcentric's SD-WAN Service to carry data, and the Customer therefore has full access to its own data.

5.6. Security arrangements and options

- The Redcentric SD-WAN Service is hosted at both Redcentric and third party locations. All locations meet physical security standard ISO27002 section 11.1 or equivalent.

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