Managed LAN switch service service definition

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1. Service overview

Redcentric's Managed Local Area Network (LAN) Switch Service ("Managed LAN Switch Service") provides Customers with an Ethernet LAN switch located on their site to provide connectivity between compatible, hard-wired Ethernet LAN devices. Switches in combination WITH Wireless LAN Access Points, provide local connectivity for PCs, Internet Protocol (IP) phones, servers, and printers etc. In addition to the standard service, Redcentric offers enhanced hardware support and structured cabling health-checks, upgrades, and repairs.

2. Service description

2.1 Hardware options

Redcentric offers various switch models from Cisco Systems and Fortinet to cover most Customer LAN connectivity requirements.

2.2 Prerequisites

It is only possible for Redcentric to provide monitoring, reporting and support when robust, secure IP connectivity exists between the Redcentric Network Operations Centre (NOC) and the Customer site. Consequently, the Managed LAN Switch Service is only available at sites connected to the Redcentric core with a Redcentric managed circuit.

2.3 Switch configuration

Redcentric configures switches according to the template below. Any deviation from the standard template must be agreed in writing prior to contract agreement. The Order Form must detail any non-standard requirements.

Standard Template L2 switches

- Single Virtual LAN (VLAN) configured for PC/data traffic
- Single VLAN configured for IP Telephony voice traffic
- VLAN configured for Redcentric Management
- Basic spanning-tree for Layer-2 loop avoidance
- Redcentric standard IP telephony Quality of Service (QOS) template
- Physical ports connecting to Redcentric managed Wide Area Network (WAN) Customer Premises Equipment (CPE) configured as required
- Remaining ports set to auto speed negotiation
- Remaining ports set to auto duplex negotiation
- Remaining ports configured as access-ports for PC/data VLAN
- Remaining ports configured for voice VLAN
- Remaining ports configured to identify device connected using Cisco Discovery Protocol (CDP) or Link Layer Discovery Protocol (LLDP)
- Remaining ports set for port-fast and Bridge Protocol Data Unit (BPDU) guard

Standard Template L3 switches

- As above except:
- Up to 10 VLANS for PC/data traffic
- Static Routing between VLANs
- Usable ports configured for trunk or access according to Customer requirements

2.4 Local Inter-VLAN routing

It is essential that requirements for inter-VLAN routing are understood and agreed in writing prior to contract signature. The CPE that Redcentric uses to terminate wide-area network circuits is not specified, by default, to accommodate even modest amounts of inter-VLAN traffic. Customers are advised to select Layer-3 LAN switches if traffic needs to be routed between VLANs.

2.5 Spanning-tree and other L2 protocol support challenges

Redcentric deploys basic Spanning-tree (STP) configuration and assumes that no Customer switches are connected to the Redcentric managed switch. Any requirements to support multi-switch environments where more complex STP, VLAN Trunking Protocol (VTP) or similar protocols that might be required must be agreed in advance of contract signature. Redcentric will accommodate requirements where possible to deliver a robust Managed LAN Switch Service, but additional charges may apply.

Please note that Customers are advised to follow LAN connectivity operational best practice. For example, if two ports are connected on a switch, a L2 loop may result causing connectivity disruption.

2.6 SNMP and access to switch configuration

Redcentric does not offer Simple Network Management Protocol (SNMP) or other access to the switch. Redcentric will provide the Customer a copy of the running configuration, with the management detail removed, upon request.

2.7 Service delivery

A Redcentric installation engineer will take the pre-configured switch to the Customer site and install it in a rack, cabinet or table-top. The engineer will test a sample number of the ports and ensure the device can be polled and managed remotely.

2.8 LAN cabling

Charging for the basic service does not include any structured cabling checks, cable work or patching between switch and structured wiring frames. If CPE terminating the Redcentric circuit(s) and the managed switch are within one meter of one another, the Redcentric engineer will provide patch cable(s) to join them together.

Upon request, Redcentric will undertake a general or detailed survey of existing structured cabling and provide a report on its suitability for certain applications. Redcentric can arrange for cabling to be upgraded, repaired, corrected, extended, tidied, re-patched, labelled and replaced as required to ensure a Customer's entire LAN is fit for purpose (e.g. to support IP telephony). This work is chargeable and priced on application.

2.9 Monitoring/alarms

Under normal circumstances the Redcentric systems poll the switch every 5 minutes to confirm that it is available. This is in line with industry standard network management best practices. If the switch does not respond to several successive polls, an automatic alert is forwarded to the Redcentric network fault management system. This automatically raises an incident, which is placed in the technical support queue. Technical support engineers investigate these incidents 24 hours a day, 365 days a year.

Customers can become aware of network problems in the short window before the polling procedures verify a problem and issue an alert. Redcentric provides additional means for Customers to raise faults, i.e., via telephone, email, and the web portal. Experience shows that fault resolution times are largely independent of the fault identification and reporting method.

Redcentric classifies problems according to severity. This allows the prioritisation of resource on issues that have the most impact on Customers' businesses. Further details of the classifications can be found in Redcentric's Customer Welcome Pack which is available on request.

Redcentric is committed to continually improving and expanding its core network, and in order to facilitate these improvements, it is necessary to carry out essential work from time to time. In accordance with Information Technology Infrastructure Library (ITIL) service management standards, these activities are carefully scheduled using an internal change control process; this gives Customers maximum visibility of any given change and thereby ensures that planning and implementation is carried out to minimise the effect on Customers using Redcentric network services.

Maintenance windows and procedures for communicating emergency outages are detailed in the Customer Welcome Pack.

As well as availability polls, information regarding Central Processor Unit (CPU) utilisation and environment temperature is retrieved (where capability exists on the switch hardware/firmware/software). Redcentric sets alarm thresholds for these parameters and support staff act accordingly when alarms are received.

2.10 Hardware support

If Redcentric support desk staff determine that a switch has developed a fault, Redcentric will arrange to have it replaced 'next business day'. Customers can choose an expedited option which offers a target hardware replacement timeframe of 4 hours from the point that Redcentric determines a replacement is required. This timeframe is not practical for certain remote UK locations; Redcentric will notify the Customer of alternative target timeframes for these locations. Naturally, expedited switch hardware replacement will not improve repair times for faults caused by anything else. The expedited option is charged monthly in advance and is applicable regardless of the number of times it is called upon.

If the firmware or hardware version of your Managed LAN appliance 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. A new Managed LAN Switch would be provided by Redcentric for an additional charge.

2.11 Reporting

Information on switch performance and utilisation is presented on the Redcentric Inform portal. The reporting section of the portal is enabled by Infovista, an Enterprise class reporting system.

The following information is available on the reporting section:

- Availability of the switch according to the regular polls (detailed above)
- CPU percentage utilisation (Where capability exists on the switch)
- Environmental temperature (Where capability exists on the switch)
- Percentage utilisation of the first six access ports

2.12 Configuration support & change requests

Redcentric support staff respond to requests to address connectivity issues by making minor configuration changes. Examples of minor configuration changes:

- Shutdown or re-enable a port
- Change access VLAN membership
- Change a port duplex or speed setting to resolve an incompatibility issue between switch and end device.

Any change requests that Redcentric consider to be non-minor are not included in the service. Requests for non-minor changes will be accommodated where Redcentric believe it can continue to provide a robust and supportable managed service. Such changes may be chargeable.

3. Implementation and acceptance

3.1 Acceptance criteria

The following Acceptance Criteria apply to the Managed LAN Switch Service:

- Confirm that a sample of devices connected to the switch have no duplex issues
- Confirm that a sample of devices in the same VLAN can pass traffic to one-another
- Confirm that devices in each VLAN can pass traffic to a suitable device on a remote site

4. Service levels and service credits

4.1 Service levels

The Service Level applicable to the Managed LAN Switch Service is as follows:

Service Level: Availability Measurement Period: Month	
Service Level	Equal to the Availability Service Level of the access circuit that connects the Customer site to the Redcentric core. Please see the appropriate Service Definition for details.

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:

- Performance issues resulting from functionality not requested and/or throughput (load) exceeding initial documented requirements

4.3 Floor service level

The Floor Service Level applicable to the Managed LAN Switch Service in respect of Availability shall be 85% in any given Month.

4.4 Service credits

The Service Credits applicable to the Managed LAN Switch Service shall be as specified in the Service Definition for the access circuit over which the Managed LAN Switch Service is delivered and shall be payable in addition to the Service Credits arising from the non-Availability of the access circuit.

Example: Managed LAN Switch Service delivered over a Redcentric ADSL circuit with Enhanced care and achieving 99.4% availability in the relevant Month. The ADSL circuit is covered by the ADSL Service Definition. 99.4% Availability would lead to a Service Credit of 5% of the Monthly Charge for the ADSL circuit, as set out in the ADSL Service Definition; in addition, for the Managed LAN Switch Service delivered over that ADSL circuit, an additional Service Credit would apply in respect of the Managed LAN Switch Service, being 5% of the monthly charge for the Managed LAN Switch Service.

5. Data processing

5.1 Data processing scope

- The Managed LAN Switch Service delivers the transport of Ethernet packets between devices.
- The Managed LAN Switch Service does not involve any storage or backing up of data.

5.2 Data storage and encryption

- Redcentric does not encrypt LAN traffic.
- Redcentric does not capture, inspect, analyse, store or share the Customer's traffic/data under normal circumstances.
- Under certain circumstances, when managing a support ticket, Redcentric may capture, inspect, analyse and/or store a small sample of the Customer's IP packet traffic in order to investigate and diagnose a very specific problem, e.g. to help resolve a problem relating to packet corruption. Such actions will only be undertaken at the request of and in conjunction with the Customer.

5.3 Data processing decisions

- Redcentric does not make any data processing decisions in relation to the Managed LAN Switch Service. Any processing of data over Customer systems when using the Managed LAN Switch Service for transit is instigated, configured and managed by the Customer, including any decision to use encryption.
- Redcentric Support can be asked by the Customer to intervene in the event of an issue with the Managed LAN Switch 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

- No third parties are involved in delivering the Managed LAN Switch Service, and there are no sub-processors appointed by Redcentric.

5.5 Customer access to data

- The Customer controls its own platforms which use the Managed LAN Switch Service to carry data, and the Customer therefore has full access to its own data.

5.6 Security arrangements and pptions

- A Managed LAN Switch may be located at a Redcentric site or a site selected by the Customer. All Redcentric locations meet physical security standard ISO27002 section 11.1 or equivalent. Where a Managed LAN Switch is located in a non-Redcentric location, it is the Customer's responsibility to ensure physical security meets their needs.

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