



DATABASE AS A SERVICE SERVICE DEFINITION DOCUMENT

GCloud Edition – April 2014

For further details please contact: tenders@redcentric.com

08000 501 700

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Originator / Author	Peter Nailer – Senior Bid Manager
Reviewer	Peter Nailer / Jonathan Birch
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INTRODUCTION AND SERVICE OVERVIEW

Whilst being a relatively new name, Redcentric are a mature, experienced and well-funded organisation, ideally sized and uniquely positioned as a UK midmarket focused network service provider to deliver the scalable network needed now, and provide the next generation of Cloud, LAN and ICT services that may be required by the business in the future.

Ours is not a 'one size fits all' approach - we take a holistic view of our client's estate, taking the time to learn their business practices, data flows and user behavior before providing insights based on over a decade of network building experience.

In summary Redcentric provide:

- Demonstrable capacity and scale in our network
- Appropriate governance and certified processes
- Unique networks designed for customer requirements based on years of experience
- Support from multiple Network Operation Centres (NOC) against an industry leading SLA
- Transparent customer access to all monitoring tools for scrutiny against SLA and capacity planning

Deciding to choose Redcentric as your IT communications partner provides the high service level, security and governance that you would expect from any Public Limited Company (PLC) provider, but with a key difference;- Our focus is on delivering services that our customers expect, and as such we have learned to be flexible and dynamic in our approach, which translates to our customers in increased business advantage and agility, and highly competitive and transparent cost models.

HISTORY

Redcentric was incorporated on 11 February 2013. The business of the Redcentric Group is made up of the demerged Managed Services components of the Redstone Group, as enhanced by the acquisition of Maxima in November 2012. The acquisition of Maxima augmented the network assets owned by Redstone, including its connectivity, Cloud and hosting capabilities with a well-regarded mid-market business specialising in ICT managed services, managed security, unified communications and Cloud services. Further, the acquisition provides the Redcentric Group with an enhanced onshore and offshore 24 hour/365 day support function to underpin its service level agreements. The combined businesses enjoy a scale that has enhanced their presence in the marketplace and provided an enlarged customer base to cross-sell a broad suite of well-regarded and supported services.

TRULY FOR THE JOURNEY

Very few service providers have a portfolio as complete or joined-up as ours.

It has been purpose-built to help our customers leverage their investment in their network and make the journey into Cloud services affordable and deliverable, at a pace and time that works for them.

- Our analysis of the market shows that many service providers have big capability gaps in their portfolio.
- Additionally, where they do provide a given service (be it network, Cloud telephony, hosting etc.) it can often be supplied via a third party, which may raise doubts regarding accountability and service levels.
- Beyond this there are wider considerations when selecting a service provider. Aspects such as track record, financial stability, churn levels and their growth strategy also need to be considered.

REDCENTRIC KEY DIFFERENTIATORS

- Serious about resilience – all our key platforms are replicated and geographically dispersed to robustly underpin our resilience commitment.
- Genuine 24/7 support – we monitor our end-to-end Cloud infrastructure 24 hours a day, every day from our own UK support centre. We are a single point of contact for all network, voice and data issues.
- More than a piece of wire – we understand completely that our customers' network needs to be the enabler of services, not just perceived as a piece of wire. Ours is a well-engineered composite from leading carriers and is multi-meshed (braced) to ensure lightning-fast self-healing in the event of a fibre break, or breaks.
- End-to-end ownership – aside from the fibre in the ground, we own the end-to-end delivery infrastructure. There are virtually no other owner-managed service providers that can lay claim to the same.

If you are serious about wanting to transition from old to new and need a bit of help thinking it through, we are happy to help with no obligation whatsoever. All we ask is that you give us enough detail (under NDA if you prefer) to enable us to shape some considered ideas. Our aim is to help and get to know you better.

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

Redcentric's Cloud Platform (also known as Platform as a Service or PaaS) provides a shared and elastically scalable platform for consolidation of existing and new databases. Private Database Clouds (also known as Database as a Service or DBaaS) are a proven model for the delivery of database services. Private database clouds enable the customer to consolidate servers, storage, and database workloads onto a shared hardware and software infrastructure. By providing on-demand access to database services in a self-service, elastically scalable and metered manner, private database clouds offer compelling advantages in cost, quality of service, and agility. Accelerate and optimize deployment by leveraging Oracle Database, Oracle Real Application Clusters and Oracle Engineered Systems.

SERVICE FEATURES & FUNCTIONALITY

PLATFORM

Redcentric provide the Service from Oracle Engineered Systems hosted and managed by Redcentric within its UK data centres. From this platform the customer is able to provision Oracle Databases and virtual compute through a self-service portal to be used for production or disaster recovery workloads.

The use of Oracle Engineered Systems provides an: optimised, scalable and highly available, platform to deliver Oracle Databases. The Oracle Exadata Database Machine is engineered to be the highest performance and most available platform for running the Oracle Database. Built using industry-standard hardware from Sun, and intelligent database and storage software from Oracle, the Exadata Database Machine delivers extreme performance for all types of database workloads including Online Transaction Processing (OLTP), Data Warehousing (DW) and consolidation of mixed workloads.

Redcentric can provide the Oracle Engineered Systems as part of the service activation, or this can be provided by the customer. The service is scalable to encompass utilisation of Oracle Engineered System such as:

- Oracle Exadata Database Machine
- Oracle SuperCluster
- Oracle Database Appliance

Redcentric can either provide the Oracle Engineer System as part of the service activation or utilise customer provided Oracle Engineered Systems.

Redcentric and Oracle work with the customer to specify the:

- Oracle hardware and licenses required to meet the customer requirement
- Redcentric hosting required to support the Oracle Engineered System
- Oracle support services required to maintain the Oracle Engineered System
- Oracle professional services required to perform service activation
- Redcentric network services required to support the service

COMPLEMENTARY SERVICE OPTIONS

Redcentric can provide additional services to complement the core Service. Redcentric and Oracle work with the customer, as part of the pre-contract phase, to scope the additional services required. This can include additional Oracle Engineered Systems such as:

- Oracle Exalogic Elastic Cloud
- Oracle Exalytics In-Memory Machine
- Oracle Big Data Appliance
- Sun ZFS Storage Appliance

Redcentric can provide additional Redcentric such as:

- Network appliances, such as firewalls, load balancers, LAN switches
- Network services, such as Internet, N3, private WAN connectivity
- Infrastructure as a Service, to support additional compute workloads
- Virtual Desktops, to support access to the service by end users or customer administrators
- Managed Backup Service to support offsite backup and restore of customer data

OPEN STANDARDS & SOFTWARE

Redcentric utilise various open standards and open software in delivery of the service, such as:

- Database server to storage server communication is built on open standard Reliable Datagram Sockets (RDS) protocol
- RDS runs over open standard InfiniBand
- The database and storage servers utilise open software Oracle Linux operating system

ELASTIC / BURSTABLE RESOURCES

Redcentric manage the Service to support scaling and bursting of workloads. Redcentric operate to a 25% capacity on demand in addition to the committed DBUs. Additional capacity can be provisioned, but is subject to procurement lead-time.

GUARANTEED / NON-GUARANTEED RESOURCES

Redcentric will provide the committed DBU specification during the term of the agreement.

PERSISTENCE / NON-PERSISTENCE OF STORAGE

The database storage is non-persistent. Terminating the database will terminate the associated data files and render the data inaccessible.

TECHNICAL REQUIREMENTS

The Service provides a platform that customers can provision databases from. These databases use Oracle Database and Redcentric offers:

- Oracle Database 11g and 12c enterprise edition
- Oracle Real Application Cluster (RAC) 11g and 12c
- Pluggable databases

SERVICE LOCATIONS

The Service, along with backup and disaster recovery options, is provided from Redcentric's data centres. The customer can nominate a primary and secondary data centre to meet each project requirement. Redcentric's data centres are located in the United Kingdom.

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 certifications 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 Identifiable 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 classifications (already in progress)
- Implement ISO22301 Business Continuity (already in progress)
- Implement ISO14001 Environmental Management (planned 2014)
- Implement ISO20000 Service Management (planned 2014)

DETAILS OF THE LEVEL OF BACKUP/RESTORE AND DISASTER RECOVERY THAT WILL BE PROVIDED:

The service default does not include any level of backup / restore or disaster recovery.

Redcentric and Oracle work with the customer to specify the backup / restore and disaster recovery required as part of the solution.

ON-BOARDING PROCESSES/SCOPE

The service is inclusive of Redcentric's standard service delivery implementation process covering design, supply, implementation and transition into support. The delivery components are detailed as follows.

Redcentric and Oracle work with the customer during the pre-contract phase to understand the on-boarding requirements. At a high level this process will involve:

- Customer and Redcentric engage via g-cloud
- Oracle, Customer and Redcentric scope the project to specify:
 - Oracle hardware and licenses required
 - Oracle consulting services required for on-boarding
 - Oracle support services required during the contract term
 - Complementary services required, such as backup, disaster recovery, middleware platforms, network connectivity
 - Database on-boarding requirements, such as database migration technique and professional services required
- Contracted awarded
- Hardware procured, commissioned and tested
- Network connectivity procured, commissioned and tested
- Complementary services procured, commissioned and tested
- Database on-boarding commences
- Database transitions into production

Redcentric can facilitate use of Oracle Consulting Services to assist the customer with database on-boarding. The quantity and level of skills is agreed during the pre-contract scoping phase. The charge for these is detailed in the SFIA rate card.

Redcentric will assign a dedicated Project Manager as a single point of contact for the delivery of all services to the customer, who will engage with the relevant customer staff at the earliest possible stage, to ensure full project lifecycle management. In addition, there will be a minimum of 2 (PRINCE2 qualified) Project Support staff assigned to assist the Project Manager throughout the delivery, ensuring continuity of service. In addition, the Service Delivery department operates a clearly defined escalation hierarchy to ensure the prompt resolution of any concerns or queries.

The implementation of the Service will be managed by a dedicated team of delivery engineers and project managers. Redcentric's Project Managers are registered PRINCE2 Practitioners, having a wide and diverse portfolio of skills based on previous experience and the requirements for delivering Redcentric's services. The team has a combined wealth of experience, gained from a variety of I.T. industry sectors.

THE REDCENTRIC PROJECT MANAGER WILL:

- Contribute to Project Initiation Documentation as and when desired;
- Agree and adopt a well-defined Communication Strategy and Communication Plan with customer at the earliest opportunity;
- Liaise with customer to ensure that a Project Kick-off Meeting is held at the earliest opportunity, between all resources involved, to discuss and agree roles and responsibilities, deliverables, timeframe, migration strategy and testing procedures;
- Hold regular planning Meetings/Calls (as defined by the customer) throughout the lifecycle, where the previous stage of work is reviewed and the next stage of work examined in detail;
- Issue regular project updates (frequency determined in agreement with the customer), in addition to regular Checkpoint and Highlight Reports as required by the customer;
- Ensure the customer approval and signoff of migration plans and any associated documentation
- Hold a full project "lessons learned" review when all services have been delivered/migrated and fully document these, to be issued to both parties with the aim of continual improvement.

OFF-BOARDING PROCESSES/SCOPE

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 Redcentric 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

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.

OUT OF SCOPE FEATURES

The following elements are out of the scope of the IaaS service:

- Customer software application software licenses agreements

The customer will work with their software application vendor to ensure that the application software used is correctly licensed. Redcentric will support the process where necessary, for example provide processor specifications for processor based licenses.

- Customer application, design, installation and support

The customer shall be responsible for design, installation and support of the software applications operating on the IaaS service.

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 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-to-day 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, as far as is reasonably practicable, are carried out 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.

Beyond the products themselves, another focus of DfE is product packaging. Designing environmentally-conscious packaging consumes fewer materials and reduces transportation costs by allowing more units to be shipped in each vehicle

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 field 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 efficient 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.

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 efficient 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.

SERVICE MANAGEMENT

REDCENTRIC OVERVIEW

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 will monitor and manage the Service up to and including:

- The Oracle database platform level for Oracle databases
- The Solaris operating system for Oracle servers

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).

ALL SERVICES 24/7 MANAGED AND MONITORED

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

- Genuine 24 / 7 / 365 support, manned, monitored and maintained.
- UK based technical support.
- Best in class secure monitoring tools, designed to ITIL guidelines.
- Customer reference site for HP .

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.

SERVICE CONSTRAINTS

SERVICE CONSTRAINTS / LIMITATIONS

Each Service implementation utilises a customer dedicated Oracle Engineered System, with no multi-tenancy of separate customers within each system.

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

The service is deployed on customer dedicated Oracle Engineered Systems and is build bespoke to meet the customers requirements.

SCHEDULE FOR DEPRECATION OF FUNCTIONALITY/FEATURES

Software Updates

Redcentric will monitor the product lifecycles of supporting platforms that deliver the service such as; Oracle Database, Oracle Exadata, Oracle Real Application Clusters. Critical patches, and patches required in response to published security alerts, will be applied as appropriate.

Redcentric will occasionally perform platform upgrades as new versions of software become available. These will be planned and managed through Redcentric's change process with appropriate notification issued to customers where necessary.

CAPACITY AND PERFORMANCE MANAGEMENT

Redcentric will monitor and manage the capacity of the platforms supporting the service to provide headroom for:

- Scale up of existing database workloads
- Burst capacity of existing database workloads

Redcentric will set a provisioning limit for the Customer within the self-service portal. This ensures that Customers cannot instantly over provision platform resource. Customers can request an increase in platform provisioning limits via a support request or by contacting their account manager.

PRICING

SOLUTION PRICING

The following table details the chargeable elements associated with the activation of the service.

Service Element	Details
Service activation	Redcentric will provide the Customer with access to the Service platform to provision Oracle Databases
Professional Services	Redcentric provide professional services to assist with service activation

MONTHLY CHARGES

Redcentric provide the service on Redcentric or customer provided Oracle Engineered Systems.

Where Redcentric provides the service on Redcentric procured Oracle Exadata Database Machine, a charging unit of database unit (DBU) will be used. The DBU will be charged monthly in arrears as detailed in the table below.

Service Element	Details
Database Unit (DBU)	<p>The variable charge based on the CPU, RAM and storage resources allocated to the Customer in any given month. Redcentric will measure the peak DBU allocation each month. This is subject to a minimum commitment of 2 DBUs Each DBU will provide:</p> <ul style="list-style-type: none">• 2 processing cores (1 Compute and 1 Storage)• 16 GB RAM• 1.6 TB usable storage

Where Redcentric utilises customer provided Oracle Engineered Systems the following charges will apply:

Service Element	Details
Hosting	The fixed charge for the hosting and power footprint required to support the Oracle Engineered System
Oracle Support	The fixed charge for the support of the Oracle Engineered System
Network Appliances	The fixed charge for the network appliances required as part of the service
Network Connectivity	The variable charge for network connectivity required as part of the service
Backup / Restore	The variable charge for storing backup data at a second Redcentric data centre

STANDARD DELIVERABLES (NO ADDITIONAL CHARGES)

- Presales consultation for Redcentric services
- Completion of all supporting documentation (Schematics and schedules)
- Provision of services as per the supporting documentation

ADDITIONAL CHARGEABLE SERVICES

- Professional Services consultancy to assist with database on-boarding
- Excess engineer time (incurred through additional onsite works required, customer delays or lack of site readiness)
- Specialist Disaster Recovery / Business Continuity planning and implementation
- Business and Technical strategy planning
- Out of business hours installations
- Failed appointments
- Follow up technical consultations such as redesign workshops
- Specialist post implementation design work – for example full migration planning, documentation and implementation

DISCOUNTS

Should the total monthly charge exceed £50,000 the discount available is 1%.

Should the total monthly charge exceed £100,000 the discount available is 2%.

EXAMPLE 1 – SMALL DEPLOYMENT

An Oracle Exadata Database Machine deployed by Redcentric consuming 16 database units, supports:

- 32 processing cores (16 compute and 16 storage)
- 256GB RAM
- 25.6TB usable storage

EXAMPLE 2 – LARGE DEPLOYMENT

An Oracle SuperCluster T5-8 deployed in two Redcentric data centres with supporting Sun ZFS Storage Appliances and T5-2 Servers. This utilises customer provided Oracle Engineered Systems.

This is charged as:

- Hosting and power to support 4 racks per data centre with a 100 amp power draw per data centre
- Oracle ACS support for the Oracle Engineered Systems
- Network appliances to provide LAN, firewall, load balancing and intrusion/detection services

SERVICE LEVELS

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

PERFORMANCE

Redcentric provide a performance service level for the database service.

AVAILABILITY

These SLA's and Penalties are laid out in the table below.

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

$$\text{Service Credit} = \frac{(\text{Monthly Service Charge}) \times \text{Full completed hours in excess of SLA}}{\text{Number of hours in a month}}$$

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:

Redcentric Service	Service element	Measurement parameters	% Service Level	Measurement Period	Service Credit Value
Database as a Service	% core system availability	Pro-active fault detection by the Redcentric service management centre or when Redcentric acknowledges the Customer's reported fault.	99.99%	Calendar Month	Sum equal to one hour's Service Charge (exclusive of VAT) for each fully-completed hour in excess of the Service Level based on the following calculation: Service Credit = (Monthly Service Charge) x Full completed hr(s) in excess of Service Level / number of hours in a month

SUPPORT HOURS

The Customer Service operation is available 24x7x365 and can be contacted by telephone, email or via the Customer Portal. Your call is routed directly to our 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.

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 on the following page:

Priority 4 (Low)	Typical Event
<p>Classification:</p> <ul style="list-style-type: none"> Monitoring of an open Incident. 	<ul style="list-style-type: none"> Monitoring Phase if required for a previously categorized 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. <p>Redcentric call handling process:</p> <p>Logged service calls will be progressed between the hours of 09:00 - 17:30 hrs until resolved.</p>
Priority 3 (Medium)	Typical Event
<p>Classification:</p> <p>Single user issue but not a VIP.</p> <ul style="list-style-type: none"> Call Logging: 24hr x 7 day x 365 days Response: Within 1 business day 	<ul style="list-style-type: none"> Admin change of one users Broadsoft account. <p>Redcentric call handling process:</p> <p>Logged service calls will be progressed between the hours of 09:00 - 17:30 hrs until resolved.</p>
Priority 4 (Low)	Typical Event
<p>Classification:</p> <p>Error or fault with the installed product or service but which has no critical effect. Operational but degraded product or service. Temporary work-around may be available</p> <ul style="list-style-type: none"> Call Logging: 24hr x 7 day x 365 days Response: Within 4 Hours - 24x7x365 	<ul style="list-style-type: none"> Backup task/agent failure Remote LAN/WAN circuit errors or IP packet loss System performance degraded Non specific fault or problem <p>Redcentric call handling process: Logged service calls will be progressed 24x7x365 until resolved</p>
Priority 4 (Low)	Typical Event
<p>Classification:</p> <p>Error or fault with the installed product or service, which is causing severe impact to Customer operations. Product or Service unusable.</p> <p>Major incidents.</p> <ul style="list-style-type: none"> Call Logging: 24hr x 7 day x 365 days Response: Within 1 hour - 24x7x365 	<ul style="list-style-type: none"> Escalation of Priority 2 call Complete failure/unavailability of backup service Data Circuit failure Customer unable to connect to Internet Major problem with firewall System Failure <p>Redcentric call handling/escalation process: Logged service calls will be progressed</p> <ul style="list-style-type: none"> 24x7x365 until resolved <p>Routine notification to Team Leader</p>

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 availability Service Level is calculated at the end of each Measurement Period and is calculated as follows:

Where:

MP = Measurement Period. This is the total number of minutes in the measurement period.

SU = Service Unavailability. This is the total number of minutes in the measurement period when the Service is not available for use by the Customer for reasons other than those set out below.

The following events shall be excluded from any assessment of Service unavailability:

Service unavailability due to the acts or omissions of the Customer or its employees, agents or subcontractors (excluding Redcentric).

SERVICE SPECIFIC DETAILS

The Service availability measure will be the percentage of the period in the measurement period that the core database hosting platform is available to operate the Customer's database(s).

Service availability measurement will be measured from when the fault is logged by the Customer or identified by Redcentric (whichever is earlier) to the time when the core database hosting platform becomes available for operational use.

ORDERING AND INVOICING PROCESS

Payment will be made by bank transfer (BACS) to the Supplier's account as specified on the invoice. Redcentric's standard payment terms are 30 days from the date of the invoice received.

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

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.

RESPONSIBILITIES

CUSTOMER RESPONSIBILITIES

The customer will be responsible for the following:

- Management of the database through the self-service portal provided with the Service

REDCENTRIC RESPONSIBILITIES

Redcentric will be responsible for the following:

- Provide, support and maintain the physical data centre environment.
- Provide, support and maintain the Oracle Exadata Database Machine
- Provide, support and maintain the support platforms required to deliver the Service

TECHNICAL REQUIREMENTS

SERVICE DEPENDENCIES

Redcentric will utilise additional complementary chargeable services to support the database service, such as network connectivity.

DETAILED TECHNICAL INTERFACES.

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

Access is specific to the customer application tooling involved.

DETAILS OF ANY TRIAL SERVICE AVAILABLE.

Redcentric does not provide trials of the service.

HARROGATE (HEAD OFFICE)

Central House
Beckwith Knowle
Harrogate HG3 1UG

THEALE

2 Commerce Park
Brunel Road
Theale, Reading
Berkshire RG7 4AB

CAMBRIDGE

Newton House
Cambridge Business Park
Cowley Road
Cambridge CB4 0WZ

READING

3-5 Worton Drive
Reading
Berkshire RG2 0TG

LONDON

John Stow House
18 Bevis Marks
London EC3A 7JB

INDIA

405-408 & 410-412
Block II, 4th Floor, White House
Kundan Bagh, Begumpet
Hyderabad 500016

0800 983 2522

info@redcentricplc.com

www.redcentricplc.com

redcentric
business technology. managed.



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