Database as a Service (DBaaS)
MongoDB
1 Intro to MongoDB Database as a Service

Enterprises are increasing opting for NoSQL technology to underpin their new application strategy. With a lack of skills and experience in the market to support NoSQL the SCC DBaaS offering takes away the hassle and day to day maintenance overhead of running a NoSQL environment.

SCC MongoDB Database as a Service (DBaaS) leverages the efficiencies of the cloud to provide a comprehensive solution for organisations wanting to remove the resource overhead of deploying and managing a NoSQL database environment. This service is delivered from the Sentinel platform which has achieved both Pan Government Accreditation (PGA) and PSN Accreditation for systems at Impact Level 2 and Impact Level 3.

MongoDB Database as a Service is available for the following database releases:
- MongoDB 3.0.x

Highlights

The Sentinel Database as a Service Offering includes the following highlights:

<table>
<thead>
<tr>
<th>Around the clock management</th>
<th>Gain peace of mind with a service that is backed 24x7x365 with experienced NoSQL DBA’s looking after you database environment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Management</td>
<td>Our consultants are driven to optimise the performance of your database using the latest tools and years of tuning experience.</td>
</tr>
<tr>
<td>Access to UK Database Experts</td>
<td>Managed by a UK based support team; Database Consultants are available with SC clearance.</td>
</tr>
<tr>
<td>Up to 99.95% Availability</td>
<td>SCC offers a range of database architectures which are backed by availability SLAs.</td>
</tr>
<tr>
<td>Free up resources to drive your business forward</td>
<td>Our services therefore allow customers to reduce their operational costs and allow resources and cost savings to be repurposed into transformational projects that drive the business forward.</td>
</tr>
<tr>
<td>Delivered from the UK’s first Pan Government accredited cloud</td>
<td>The entire platform inclusive of hardware, software and network is pan-government accredited for a multi-tenanted environment and we are a compliant PSN service provider.</td>
</tr>
</tbody>
</table>
2 Service Definition

Our Services

MongoDB DBaaS enables customers to provision MongoDB NoSQL technology on-demand without the need to purchase hardware or manage complex database deployments.

SCC will provision the environment to fit your application, performance tune it and then manage the solution on a 24x7 basis. DBaaS will provide everything you need to deploy a mission critical application through one simple model. Database experts ensure that all areas from administration and backups to tuning and security have been taken into consideration to deliver a true “enterprise class” database environment.

Why Use DBaaS to Outsource Database Management?

- **Lower:**
  - Opex
  - Recruitment Costs
  - Overtime
  - Training
  - Tooling

- **Enable:**
  - Increased Business focus
  - Guaranteed KPIs
  - Larger knowledge pool

- **Guaranteed:**
  - SLAs
  - Best Practice
  - Specialist knowledge
  - Vendor access

- **Enhance:**
  - Performance
  - Availability
  - Workload
  - Security

Reduce IT Costs

Reduce Risk

Increase Agility

Increase Quality of Service
Core Service Features

<table>
<thead>
<tr>
<th>DBaaS Features</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Support Stance</td>
<td>Proactive</td>
</tr>
<tr>
<td>Support Hours</td>
<td>24x7</td>
</tr>
<tr>
<td>Severity One Response Time</td>
<td>30 Mins</td>
</tr>
<tr>
<td>Customer On-Boarding</td>
<td>✓</td>
</tr>
<tr>
<td>Event &amp; Incident Management</td>
<td>✓</td>
</tr>
<tr>
<td>Request Fulfilment</td>
<td>✓</td>
</tr>
<tr>
<td>Proactive Monitoring</td>
<td>✓</td>
</tr>
<tr>
<td>Performance Tuning</td>
<td>✓</td>
</tr>
<tr>
<td>DB Backup Management</td>
<td>✓</td>
</tr>
<tr>
<td>Enhanced Patching</td>
<td>✓+</td>
</tr>
<tr>
<td>Disaster Recovery Test Support</td>
<td>✓+</td>
</tr>
</tbody>
</table>

2.1 Customer On-Boarding

Prior to the service live date SCC shall provide a DBaaS On-Boarding Service in order to address a range of development, design, configuration and data migration requirements subject to any conditions specifically agreed with the customer.

The initial review that provided will incorporate the following:

- Environment Familiarisation (Data Model, Application Understanding)
- Operational Needs (Patching, Backups, DR Tests, Escalation)
- Architecture Review
- Database Migration (charged additional as a professional service)
- Business Requirements (Understand critical business processes and impact on IT)

2.2 Event & Incident Management

Database as a Service operates a mature event and incident Management methodology to sustain our solutions, enabling detection and management of issues that arise through alarms (events), proactive health-checks or contact from customers. Our support team work 24x7x365 to analyse the health of your environment and monitor the operating environment. Our proactive approach ensures best practice service assurance and maximised availability.

Events and Incidents are categorised by Impact Severity as follows:
## Severity

<table>
<thead>
<tr>
<th>Severity</th>
<th>Description</th>
</tr>
</thead>
</table>
| Severity 1 (Critical) | - Database or application inaccessible.  
- There is a critical need and a total inability to deliver or use a required business function of a Service. |
| Severity 2 (Major) | - Database or application component degraded.  
- A database, system, component or application is not available but a temporary fix may be available.  
- Where there is not a critical need to resolve but there is an impact to the delivery or use of the Service. |
| Severity 3 (Low) | - Where there is not a critical need and no impact to the delivery or use of the Service. |

### 2.3 Request Fulfilment

The request fulfillment service module allows our customers to request database service changes and enhancements without any additional fees. We completely remove the need for our customers to have an in-house database administrator. The below table provides an overview of the included service requests:

<table>
<thead>
<tr>
<th>Service Request</th>
<th>Included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start/Stop Database Services</td>
<td>✓</td>
</tr>
<tr>
<td>Create New Bucket</td>
<td>✓</td>
</tr>
<tr>
<td>Remove Bucket</td>
<td>✓</td>
</tr>
<tr>
<td>Pause / Resume / Restart / Stop an instance of the Database</td>
<td>✓</td>
</tr>
<tr>
<td>Configure a database user and role/permissions</td>
<td>✓</td>
</tr>
<tr>
<td>Perform/ modify/ apply a backup of a database transaction log</td>
<td>✓</td>
</tr>
<tr>
<td>Clear down of database logs</td>
<td>✓</td>
</tr>
<tr>
<td>Perform Database Backup</td>
<td>✓</td>
</tr>
<tr>
<td>Verify a backup operation</td>
<td>✓</td>
</tr>
<tr>
<td>Perform a rebalancing operation</td>
<td>✓</td>
</tr>
<tr>
<td>Create/ Modify/ Remove a database Maintenance job</td>
<td>✓</td>
</tr>
<tr>
<td>Create/ Amend Cluster Replication/RZ Awareness or XDCR</td>
<td>✓</td>
</tr>
</tbody>
</table>
### 2.4 Proactive Monitoring

Our advanced monitoring platform combines the best of breed commercial tools with internally developed technology. Having managing customer databases for over 17 years our highly tuned platform contains all our experience, base-lining the optimal threshold alerts and performance criteria.

The highly resilient architecture is built to maximize uptime and offer extendibility to monitor customer systems in third party or on-premise locations. This hybrid approach to monitoring allows SCC to provide a proactive service for our customers regardless of where your systems are and whether they sit on physical servers or the cloud.

### 2.5 Performance Tuning

Over time as configuration changes are made and data workloads grow our DBAs will work to ensure the database performance doesn’t degrade and is tuned to deliver optimum performance out of the platform for the application. Working from an initial performance benchmark we continually measure our progress and challenge the DBAs to improve the speed of interaction of the database with the application layer.

### 2.6 Back Up Management

SCC are able to configure the native backup to provide customers with a more granular solution. The Database as a Service pricing allows for monitoring and management of the backups, however additional charges will apply for associated compute or storage.

### 2.7 Enhanced Patching

With emergency patching to address security vulnerabilities being delivered via the Event & Incident Management service, this patching module is intended as a quarterly service covering the following:

**CPU Patches (Cumulative Patch Updates)**

- Quarterly - vendor recommendations for the customer apply these patches to have proactive rather than reactive maintenance.

**RUP Patches (Roll-Up Patches)**

- Vendor release of occasional Patches to resolve bugs. SCC will identify the suitability of these in the context of our understanding of the customer environment.

### 2.8 Disaster Recovery Testing

Ensuring that your database is operational and retains its data integrity in the event of a disaster is key to any recovery plan. For customers who have a disaster recovery plan which includes the Database as a Service, this module provides a DBA to assist with a failover test once per annum.
3 Differentiators

With over 17 years’ experience in delivering Database service our team are experts in their field. We offer the below key differentiators:

- **Accredited**: Consultants are accredited in a wide range of technologies
- **Experienced**: Many of our consultants have 10 years plus experience
- **A choice of technologies**: Service are available across relational and NoSQL technologies
- **Proven Best Practice**: Leading with industry and vendor best practices
- **UK Based**: All our Database Consultants are based in the UK
- **SC Cleared**: We are able to offer SC Cleared Database Consultants
- **Performance Optimisation**: Ensuring the database performs to deliver the service your users need.

This service is supported by a number of organisational features that further enhance the offering, our capability and differentiate SCC from a number of other providers within the CloudStore. These features are:

- **Solutions Provider** – As a solutions provider this means we will bring to bear our experience of building IT solutions across the last 40 years, to ensure the return on investment or critical spend is valued to its maximum.
- **Security Practice** – SCC utilises its own Information Assurance Practice to support the delivery of IT solutions into the government marketplace
- **Professional Services Practice** – this practice within SCC offers a wide range of complementary IT skills and capabilities to support any implementation of an IT solution
- **Public Sector experienced specialists** – SCC offers a dedicated team of focussed individuals and excellence in helping our public sector organisations meet the demands within the IT service arena.
- **Wider framework access for full solution delivery** – Additional infrastructure components and services are needed to deliver a full end to end solution.
- **Financial stability** – a privately owned multi-billion pound organisation, SCC has many years of financial stability and investment capabilities that will ensure continuity of service throughout the life of the engagement with your organisation.
- **Greening Government experience and credentials** – SCC are leading the way in responding to the Governments Greening ICT strategy and sustainable procurement agenda, by adopting CAESER (Corporate Assessment of Economic, Social and Environmental Responsibility), an online toolkit which helps companies to demonstrate a commitment to society and the environment.
4 Commercials

4.1 Pricing

Step 1: Core Agreement

<table>
<thead>
<tr>
<th>Service</th>
<th>Monthly Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>24x7 Managed Service Base Agreement for a 1-3 Server environment</td>
<td>£1,209</td>
</tr>
</tbody>
</table>

Step 2: Add Additional Nodes

<table>
<thead>
<tr>
<th>Service</th>
<th>Monthly Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional Server Node</td>
<td>£315</td>
</tr>
</tbody>
</table>

Step 3: Add Additional Service Modules

<table>
<thead>
<tr>
<th>Service</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disaster Recovery Test</td>
<td>£125 per month</td>
</tr>
<tr>
<td>Consulting Day Rate (e.g. Migration)</td>
<td>£1,114 per day</td>
</tr>
</tbody>
</table>

Step 4: Add Software Licences

<table>
<thead>
<tr>
<th>Service</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>MongoDB Enterprise Advanced</td>
<td>POA</td>
</tr>
</tbody>
</table>

Step 4: Add Sentinel Infrastructure as a Service

Please see IaaS Service Description and pricing.
5 Information Assurance

- Suitable for IL0, IL1, IL2 and IL3 assets under the GPMS (Government Protective Marking Scheme)
- Suitable for OFFICIAL and OFFICIAL-SENSITIVE assets under the GSC (Government Security Classifications)
- PGA approved Inter-Domain Gateway – designed to facilitate assured connectivity between higher security domains (e.g. IL3) and lower security domains (e.g. IL2) or for organisations that wish to move more sensitive data assets between OFFICIAL and OFFICIAL-SENSITIVE
- SCC also holds ISO9000, ISO14001, ISO20000 and ISO27001 accreditations which underpin our business operations and Cloud Platform
- SCC is a registered sponsor with the Defence Business Services National Security Vetting (DBS NSV) which enables us to sponsor and administer the applications of Security Check (SC) and also Developed Vetting (DV) with the appropriate sponsorship from a customer
6  Service Levels

Target Availability

<table>
<thead>
<tr>
<th>Deployment Architecture</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Node</td>
<td>99%</td>
</tr>
<tr>
<td>3+ Node Cluster</td>
<td>99.9%</td>
</tr>
<tr>
<td>3+ Node Cluster + XDCR</td>
<td>99.95%</td>
</tr>
</tbody>
</table>

Service Assurance

<table>
<thead>
<tr>
<th>Incident/ Request</th>
<th>Description</th>
<th>Support Hours</th>
<th>Response Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity 1 (Critical)</td>
<td>• Database or application inaccessible. • There is a critical need and a total inability to deliver or use a required business function of a Service.</td>
<td>24x7</td>
<td>30 Mins</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severity 2 (Major)</td>
<td>• Database or application component degraded. • A database, system, component or application is not available but a temporary fix may be available. • Where there is not a critical need to resolve but there is an impact to the delivery or use of the Service.</td>
<td>Business Hours</td>
<td>2 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severity 3 (Low)</td>
<td>• Where there is not a critical need and no impact to the delivery or use of the Service.</td>
<td>Business Hours</td>
<td>4 Hours</td>
</tr>
</tbody>
</table>

Request Fulfilment

As standard the customer is entitled up to five requests per database instance per month.

<table>
<thead>
<tr>
<th>Request</th>
<th>Description</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Request</td>
<td>• Implementation of a standard request.</td>
<td>Next Business Day</td>
</tr>
<tr>
<td>Major Change</td>
<td>• Customer request which needs change board approval</td>
<td>Next Change Window</td>
</tr>
</tbody>
</table>
7 Additional Information

7.1 Service Constraints

The service shall be allocated a maintenance window between the hours of 23:00 and 06:00 and the window shall be allocated during service initiation.

The service shall be Change Managed in accordance with SCC change schedules, change boards will sit weekly and changes shall be carried out during the subsequent change window.

Configuration changes that cause a reboot/downtime but are deemed urgent shall not impact Availability metrics and SLAs and the associated charging mechanism.

Customers requiring major version upgrades of the database are only available via an additional professional service.

SCC will not provide any application or middleware level support as part of the service offerings described within this agreement.

SCC is not responsible and cannot be held liable for degraded performance in case of physical limitations of the purchased platform (memory, CPU, disk space, throughput) or software. SCC will notify the Customer of such limitations and will make recommendations.

The Customer will require network connectivity either via the Internet or via a Government Network in order to access the Sentinel platform.

The Customer will be responsible for ensuring they meet the requirements of the associated Code of Connections.

A migration on to the Sentinel platform will be possible once necessary due diligence and infrastructure sizing exercises have been undertaken. These exercises can be undertaken via SCC as part of a professional services engagement.

As part of any migration on to the Sentinel service, the Customer would be responsible for the following activities:

Meet the documented requirements as detailed for the database migration in the Scope of Works.

In the event the Customer wishes to implement any database software which is not identified on the SCC supported software list, then prior to such implementation the Customer must first agree such with SCC.

Procurement, maintenance and management of any data communications lines not identified in the Order Form and/or Agreement.

Provision, maintenance and management, of any Customer software, operating systems, applications and data which resides on the Sentinel Infrastructure which is not within the scope of the Agreement.

Administration, management and control of Users access to the Customers applications and/or data stored on the Sentinel Infrastructure.

Should SCC determine that the Customers usage of the Sentinel Infrastructure is not compliant with best practice guidelines then the Customer must comply with SCC’s reasonable requests for change.
Exclusions

SCC will provide service and support for all aspects of the service as defined within scope of the service. The Service Levels Agreements (SLA’s) will measure SCC’s success in the delivery of those services.

Where external factors influence SCC’s ability to deliver against the contractual defined Service then SCC will not be liable for failure to meet the associated SLA’s. These include but are not limited to the following circumstances:

3rd Parties, not engaged by SCC, fail to deliver services in accordance with their contractual commitments

3rd Parties use the Sentinel environment outside recommended best practice

Where the workload or the levels of utilisation of the Database cause the system to become unresponsive or suffer from poor performance and where those levels of utilisation are deemed outside of the forecasted demand or sizing criteria of the service

Where customer requested configuration changes cause application downtime

Application Configuration causes Database or Operating System instability

Application Level and End User Testing of all patches and security updates

Any materials and labour provided in these circumstances will be subject to agreement of the parties in writing and;

Provided on a reasonable endeavours basis (i.e. outside of the Service Levels) unless agreed otherwise by SCC in writing, and

Charged as additional Ad-hoc Charges.

7.2 Termination

If, at any time either party makes default or commits any breach of its obligations under this Agreement and (upon receiving written notification from the other of such default or breach) fails to remedy the default or breach within 14 days, or is involved with any legal proceedings concerning its solvency, or commences liquidation or threatens to cease trading, or if serious doubt arises as to its solvency, then the other party shall immediately become entitled (without prejudice to its other rights) to terminate this Agreement forthwith by notice in writing to the other.

a) Upon termination of this Agreement by the Supplier for whatever reason the Supplier shall, without prejudice to its other rights and remedies, be paid: -

(i) the outstanding balance of charges due in respect of any works or Services carried out or provided under this Agreement prior to the date of termination and:

(ii) the price of equipment, software or services ordered by the Supplier on behalf of the Customer for which the Supplier has paid or is legally bound to pay.

Termination of this Agreement for whatever reason shall not bring to an end any provision hereof which expressly or by implication comes into or continues in force after the date of termination.
7.2.1 By Consumers (i.e. consumption)
A G-Cloud service shall commence on the Effective Date and shall, unless specified otherwise in the Order Form, continue for the Initial Term and shall remain in force thereafter unless and until terminated by either Party giving to the other not less than 60 days written notice, but shall be subject to earlier termination as referenced within the Termination/Consequence of Termination section of the standard SCC G-Cloud terms and conditions.

7.2.2 By the Supplier (removal of the G-Cloud Service)
A G-Cloud service shall commence on the Effective Date and shall, unless specified otherwise in the Order Form, continue for the fixed term, but shall be subject to earlier termination as referenced within the Termination/Consequence of Termination section of the standard SCC G-Cloud terms and conditions.

7.3 Ordering and Invoicing Process
SCC will provide ordering of G-Cloud services via an Account or Customer Service Manager.
A list of G-Cloud services can be compiled with quotations for those specific services. Once The Customer is satisfied that the requirement is met, it can then be converted into an order.
Once the services are enabled and confirmation of the ordered G-Cloud services is delivered to The Customer an invoice will be generated against the order based on the agreed commercial terms.
Should The Customers usage of the Service increase beyond the contracted volumes during any period then this will be retrospectively invoiced, at the next month end, as additional services.

7.4 Customer Responsibilities
The customer responsibilities will be as follows:

- To request all system restores via the service change process or via the service desk
- To provide a Data Governance policy for the backup, restore and data retention of the Customer data incorporating policies for possible media handling, where required
- To appropriately licence the database environment or acquire licences through SCC
- Agree and approve in a timely manner (via the Service Change Procedure) the purchase of additional IaaS resource capacity when advised by SCC
- Responsibility for the content or validity of the data residing on the service
- To ensure there is no excessive system restores required as a result of inappropriate use of the system or negligence by the User community
- Procurement, maintenance and management of any Customer data communications lines not identified in the Technical Specification. This shall need to be properly defined and provided according to the appropriate code of connection
- Provision, maintenance and management, as the case may be, of any Customer managed software or equipment.
- Administration, management and control of Users access to the Customers applications and/or data stored on the Secure Storage as a Service, Sentinel Infrastructure
- Should SCC determine that the Customers usage of the Sentinel Infrastructure is not compliant with best practice guidelines, the Customer must comply with SCC’s reasonable requests for change
- Agreeing a Patch Schedule including maintenance windows with SCC
- Raising any Customer Request Tickets for patching
- Providing its consent, not to be unreasonably withheld or delayed, to the implementation of any new patches by SCC.
- The Customer acknowledges that SCC is reliant on the Customer for direction as to the extent to which SCC is entitled to use and process personal data.

7.5 Training

Any training provided will be charged for as a professional service.

7.6 Trial Service

SCC is happy to invite paid for trial periods for this service based on a minimum term of 3 months.
For more information contact

Kelvin Ayre

kelvin.ayre@scc.com

0121 766 7000