

A man with a beard is looking at a server rack in a data center. The server rack is filled with various components, including cables and hardware. The lighting is dim, with some green lights visible on the server units. The man is wearing a dark shirt and is looking intently at the server.

**NODE4**

Technology Enabled Outcomes

# **DATABASE HEALTH-CHECK**

## **SERVICE DESCRIPTION**

# OVERVIEW

The Node4 DBA Health-Checking service is designed to give a point-in-time assessment of the health and performance of a critical database environment. In today's world, database environments can change rapidly and we understand that it's often difficult to take a step back and take stock of how the database and applications are really performing.

This Health-Check service provides an in-depth, analytical review of the system performance alongside and easy to understand Management Summary so all recommendations can be quickly digested and follow-up actions can be agreed upon quickly.

## HIGHLIGHTS

### **MAXIMISE YOUR TECHNOLOGY INVESTMENT**

A robust database deployment can prove a considerable investment. Our services ensure that you maintain best practice advice to optimise the environment and ensure you maximise the return on your investment over the full life time.

### **EXPERIENCE AVAILABLE ON DEMAND**

Our consultants are available when you need them for as little as one day to supporting long term projects.

### **MULTI-PLATFORM DBA'S**

Having an independent view point and accreditations across multiple database platforms, provides our customers with the right advice to enable to best choice of technology.

### **SYSTEM PERFORMANCE IMPROVEMENTS**

Even with an experienced internal team, we understand it is often difficult to ensure all aspects of critical systems remain optimised.

### **UK BASED CONSULTANTS**

Our consultants will deliver expert advice and ensure database performance is maximised. Our Database Consultants are available with SC clearance and based in the UK.

### **FIXED COSTS**

We agree to a project outcome and provide a clear overview of the scope of works and a fixed cost for completion.

### **OPERATIONAL SUPPORT**

Any customers who also have a Database as a Service agreement will be guaranteed the ability to extend support coverage following any configuration or architecture changes made further to recommendations agreed from the Health-Checking service.

# SERVICE DEFINITION

## OUR SERVICES

Node4 offers a range of database Health-Checking services to support the full lifecycle of a deployment.

The Health-Checking service is typically a short consultancy engagement that results in a full system performance review to aid performance, scalability and recoverability. Our DBA consultants will deliver an initial onsite review (or remote if appropriate) to understand the system architecture and gain insight as to where perceived problems exist. Thereafter, we will analyse the environment using proprietary scripts which will generate statistics relating to all required aspects of the system. This process does not create any additional load on the system and typically it is advised that the scripts are run during busy periods to provide the best results.

The Node4 consultant will then analyse the results and draw-up a comprehensive report that provides full system diagnostics and a summary of recommendations to highlight where improvements can be made. This report is then delivered to the customer and the recommendations are reviewed so any subsequent actions can be agreed.

Given the complex nature of many environments, Node4 will often liaise with the application provider to provide a more comprehensive picture of the system. Our experience in working with the applications providers can be invaluable and we have experience across many application types.

## CORE TECHNOLOGY VERSIONS

Our range of skills covers the below core technologies, but assistance with databases such as PostgreSQL, Couchbase and Cassandra is also available through our partner network.

<b>PRODUCT</b>	
<b>MICROSOFT SQL SERVER</b>	Azure SQL, latest release, 2019, 2017, 2014, 2012, 2008
<b>ORACLE DATABASE</b>	Latest release, 19c, 12c, 11g, 10g & 9i, 8i
<b>MYSQL</b>	8x, 5.x
<b>COUCHBASE</b>	6.x

# KEY FEATURES

The Health-Checking service will typically be delivered through a couple of days spent with the customer followed by running of the analysis tools which then allows for the Node4 consultant to draw-up a comprehensive report with recommendations.

The specification of the service may be customised by the customer to account for bespoke aspects of the environment although typically the Health-Check service will cover as a minimum:-

- Hardware and operating system
- Analysis of RAID configuration
- Hardware capacity planning
- Memory / CPU benchmarking
- Server specification
- Patch levels
- File system configuration
- Network interfaces
- Instance analysis
- I/O activity
- Current data block buffer usage
- Data dictionary cache statistics
- Shared SQL pool area statistics
- Management statistics
- Tablespace fragmentation statistics
- Segment fragmentation statistics
- Free space fragmentation statistics
- Overall data dictionary overhead
- Calls to the data dictionary
- Tablespace and datafile I/O statistics
- Tablespace utilisation
- I/O throughput
- I/O bottleneck resolution statistics
- Disk read/write rate
- Sort status statistics and sort area size utilisation
- Rollback segment statistics
- Initialisation parameter settings
- Indexes in same tablespace and their associated tables
- Backup and recovery
- Verify existing back-ups
- Optimise strategy recommendations
- Capacity planning
- Schedule maintenance and purging

As highlighted previously, this standard service is customisable for each client environment and Node4 will also incorporate working with application provider where appropriate.

The end result of the health-check service is a thorough report that highlights any bottlenecks and gives clear recommendations for any system improvements. These recommendations can then be picked up by the customer's internal technical team or Node4 can draw-up a plan for implementing any changes and assist to whatever extent is required.