

Triton Consulting

DB2 Database Availability

Introduction

Can you be sure that your availability and recovery plans are robust and able to meet business SLAs?

Data sits at the heart of all organisations and without it everyday functions simply cannot be performed. Whether your organisation is a large Fortune 500 or SME, reliance on data availability is growing. It is vital to ensure that your organisations' Data Availability and Recovery procedures are robust and able to meet business SLAs.

Database Availability & Business Resilience

In today's 24/7 environment organisations are expected to have services available around the clock. IT teams are under increasing pressure from the business and ultimately from customers who expect to be able to access services at any time. The fallout from a serious database outage can be disastrous for organisations and stressful for those individuals who are tasked with keeping data available.

The cost of database outages can be measured in many ways:



Lost sales revenue



Lost customers



Reputational damage



Regulatory and compliance implications



HR implications

Database Availability & Business Resilience (continued)

In whatever way you measure the cost of a database outage there will always be a negative financial effect on the organisation. Having systems offline can have a range of effects depending on your industry. From not being able to process sales orders to users not being able to perform their job roles, the potential loss of money and time is a major concern. If an organisation is unfortunate enough to hit the headlines with a major outage then the PR fallout can be catastrophic with the potential of alienating existing and new customers for good.

There are two challenges to face:

- Where am I now? What exposures do I have to face?
- From the range of options in the market which ones cost effectively provide the data availability I need?

The range of technical solutions varies from file copies to active standby servers; from the simple to the complex; and the low cost to more comprehensive! Which solution is right for you will depend on business SLA's. What is acceptable downtime, if any. What cost is incurred for an hour of unavailability.

What is the right solution for you?

Triton Consulting provide a simple three step approach to addressing Database Availability. This service is designed to enable CIOs and IT Directors to ensure that their organisations' IT infrastructure can meet growing availability demands and take away the worry of failure.

Phase 1 – Evaluation

Phase 1 includes an initial analysis of your current database availability processes and procedures. From this analysis, Triton will provide a detailed report. This will take into account your business SLAs for uptime, solutions for data corruption, back-up and recovery, a detailed impact analysis and will expose any areas of vulnerability and highlight risks in your existing system.

Business impact and needs will be assessed in the following areas:

- Availability requirements for the business applications
- Goals for Recovery Point Objective (RPO) and Recovery Time Objective (RTO)
- Impact of downtime of lack of data availability
- History of planned and unplanned outages

Whilst the current and planned systems requirements will need to be included:

- Currently deployed high availability and disaster recovery solutions and practices
- Application and database configuration/landscape
- Data Backup strategy and processes
- Data placement strategy and processes
- Planned downtime processes and documentation
- Disaster recovery



Phase 1 – Evaluation

Analysis of current availability processes and procedures

Detailed report including impact analysis

Phase 2 – Design

There are a range of different options and features available depending on your business requirements, budget and timescales. Based on the findings from our Phase 1 report and the solution recommended, the next stage is to design the availability solution in more detail. This will include detail on how the solution will fit in with your current environment, the associated costs and the implementation approach. After phase 2 you will have a detailed implementation plan for your availability solution with full cost details.

Phase 2 will include three elements:

Option evaluation

- Detailed evaluation and comparison of preferred availability options to understand impact on availability
- Feasibility and timing of options
- Best fit & recommended approaches to meet business SLAs

Costs and benefits

- Cost/benefit analysis of the preferred approaches
- Including estimate of hardware, software and services costs to implement into production

Implementation plan

- Implementation approach for preferred options according to established operational and configuration best practices
- Components and phasing
- Need for and content of a Proof of Concept
- Outline test and production cutover plans



Phase 1 – Evaluation

Analysis of current availability processes and procedures

Detailed report including impact analysis



Phase 2 – Design

Report containing technical detail, costings and business benefit cases for proposed solutions

Detailed implementation plan

Triton Consultancy (continued)

Phase 3 – Implementation

Phase 3 is to implement the solution. Based on many years of practical use of these tools and approaches the Triton team will help you deliver the design agreed in phase 2. Our team will work closely with your in-house staff to ensure detailed knowledge transfer and support along the way.

Phase 3 will also follow three stages:

Build

- Specification & purchase of hardware and software components
- Detailed plans and documentation for Proof of Concept
- Specification & build of Database environment/features

Test

- Detailed device/system test plan and documentation
- Build of new environment – Database features plus release changes if needed
- Test and demonstrate POC
- Application testing

Migrate

- Execute plans for production cutover
 - Test of availability and DR solutions to make sure they meet business SLA's
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Phase 1 – Evaluation

Analysis of current availability processes and procedures

Detailed report including impact analysis



Phase 2 – Design

Report containing technical detail, costings and business benefit cases for proposed solutions

Detailed implementation plan



Phase 3 – Implementation

Triton consultants design, implement and test the chosen solution

A Client example

World Leading POS Provider

One of the world's leading providers of integrated software for POS was embarking on a large project with DB2 as the chosen database. The requirement was to provide a resilient high availability solution for the DB2 data. Triton Consulting was engaged to provide the DB2 expertise to achieve this goal. Following the analysis done in Phases 1 and 2 the following high availability solutions were implemented:

- Considering the size of the database was in terabytes, database backup and recovery was implemented using disk based snapshots (IBM N series snap backups) augmented using the DB2 Backup utility. This enabled backups to be taken very quickly with minimum impact to the system.
- Local failover was needed to provide a high availability solution so that in the event of a server failure the database instance will automatically switch to a nominated failover server. This was implemented using the TSA cluster software.
- Remote Failover was needed to provide a disaster recovery solution in the event of a total site failure. This was implemented using DB2 HADR. The production databases have corresponding standby databases which are kept in sync by HADR shipping log pages. In the event of the primary site experiencing a total failure, processing will be moved to the standby site. TSA was used with HADR to automate the takeover of database operations from the primary HADR database server to the Standby database server in the event of a failure.

About Triton

Triton Consulting are experts in Hybrid Data Management and Digital Transformation.

The company's team of consultants represent some of the most highly experienced and qualified in the industry, and are able to advise on a range of Data Management solutions including DB2 for z/OS, DB2 for LUW plus data related infrastructure and transformation services.

As well as expert consultancy in all areas of DB2, Triton Consulting also cover a wider spectrum of high level

consultancy including senior project management, technical planning, technical architecture, performance tuning and systems programming. Triton Consulting has been providing consultancy services for over 23 years. Triton are internationally recognised for their DB2 expertise with three IBM Gold Consultants and four IBM Champions.

Find out more about Triton
www.triton.co.uk

Contacts

Rob Gould

Business Development Lead
+44 (0) 870 241 1550
+44 (0) 7766 838 904
rob.gould@triton.co.uk

Paul Stoker

Sales & Marketing Director
+44 (0)870 241 1550
paul.stoker@triton.co.uk