Exaquantum services don't start, and a database is marked as (Suspect) in SQL Server

Exaquantum/PIMS

KB-0008-23

Document Summary	
Article Type	User Guide
Products Affected	Exaquantum/PIMS
Versions Affected	All versions
Function Affected	Historian service / QHistorianData database
Available Resolution	Restore from database backup or attempt a database repair
Audience	System Administrators
Summary	If the Exaquantum services cannot be started and a database is marked as suspect in SQL server, this may indicate database corruption. This article describes the procedure for recovering a database marked as suspect.
Review Date	Document to be reviewed before end of January 2024

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KB-0008-23 Historian service doesn't start and database is marked as (Suspect) in SQL Server Exaquantum/PIMS All versions

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Chapter 1 - Introduction

If SQL server detects corruption in an Exaquantum database, it will be marked as suspect and Exaquantum services will not start.

This document explains the recovery options for this situation. These should only be carried out if the database is showing as suspect in SQL Server Management.

1.1 Audience

This guide is intended for system administrators.

Chapter 2 – Recovery Of A Suspect Database

There are two options to recover from a suspected corrupt database:
1. Restore from the most recent good database backup.
2. Attempt a database repair using SQL Studio.

If no recent or good backup is available, then a repair of the database can be undertaken. However, a repair is not a substitute for maintaining a good backup strategy.

Performing a repair on a database should always be considered as the last option for recovery. A repair can result in data loss of the affected area if it cannot be recovered.

2.1 Recovery Using SQL Server Management Studio

If the database cannot be restored, it is possible to attempt a repair by following the procedure outlined below. The steps below assume that it is the QHistorianData database that is in suspect status.

SQL commands can be executed in a New Query window and are in **Bold**.

1. Confirm that the Exaquantum Services are stopped

2. Turn off the suspect flag on the database
   EXEC sp_resetstatus 'QHistorianData'

3. Perform a consistency check on the database
   DBCC CHECKDB ('QHistorianData')

4. CHECKDB will advise of any errors and the minimum repair level.
   A repair will likely result in some data loss from around the time the database became unavailable.

To Run a Repair
If advised in step 4 to attempt a repair allowing data loss, the steps below must be followed:

5. Set the database to Single-User Mode
   ALTER DATABASE QHistorianData SET SINGLE_USER WITH ROLLBACK IMMEDIATE

6. Attempt to repair the database:
   DBCC CHECKDB ('QHistorianData', REPAIR_ALLOW_DATA_LOSS)

7. CHECKDB will return the result of the repair.
   If there are any outstanding errors, rerun steps 4-6 until there are no further errors reported.

8. When there are no further errors reported, set the database back to Multi-User mode
   ALTER DATABASE QHistorianData SET MULTI_USER

9. Verify database connectivity by selecting the top 1000 rows on a number of tables.

10. Start Exaquantum Services from the Exaquantum Service Manager.

If the above procedure does not resolve the issue, contact a support channel for further assistance.

Chapter 3 - Further Information

If you have any questions or queries about the information contained in this document, then please contact Yokogawa Marex at customer.services@ymx.yokogawa.com

The Yokogawa Marex support website is available at https://ymx.yokogawa.com/support

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Highlights

The Highlights section gives details of the changes made since the previous issue of this document.

▪ ## Summary of Changes

This is Issue 1.0 of the document related to Product Library version 1.0.

▪ ## Detail of Changes

The changes are as follows:

Chapter/Section/Page	Change