Gallagher Command Centre

SQL TDE Compatibility

Technical Information Paper

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Document History

Edition	Date	Author	Comment
1.0	02/10/2020	Aaron D	Release
1.1	27/10/2020	Aaron D	Wording change “TDE Encryption Scan”

1 Background

This Technical Information Paper contains information on the compatibility of Command Centre with SQL TDE.

This document does not explain how to setup TDE as this function lives in the realm of the SQL Administrator.

2 Compatibility

SQL 2019 TDE was tested against Command Centre 8.30, the testing was not exhaustive but was sufficient to prove compatibility.

Command Centre is compatible with SQL 2019 TDE with some notable items.

TDE (Transparent Data Encryption) as it suggests is transparent to Command Centre's calls to the database; encryption and decryption occurs on the fly at the database level, Command Centre is not aware of this occurring hence "Transparent".

Dataflow between SQL and Command Centre is not changed. The purpose of TDE is to address security of data at rest.

Both "CCFTCentral" and "CCFTEvent" were encrypted.

There are several notable items as listed below.

- Command Centre Backups ARE encrypted.
    - A Command Centre backup is basically an SQL backup that is requested / facilitated by Command Centre, hence the data remains encrypted.
- Command Centre Archives ARE NOT encrypted.
    - Archives are not an SQL backup, they are basically small files that contain incremental event information, these are created by Command Centre and used to assist in maintaining CCFTEvent database size.
- SQL Transaction logs are only encrypted from the moment encryption is enabled.
    - This concern lives in the SQL Administrators realm to manage, however noted here.
- No notable performance overhead was seen during testing, testing did include significant load to the Command Centre server. All tests were comparable with the control server.
- Command Centre can continue to run during the "TDE Encryption Scan" (encrypts the database).
    - Under heavy load to Command Centre, the TDE Encryption Scan of 7GB database was completed in ~2 minutes.
    - It is SQL best practice not to run an TDE Encryption Scan during heavy load.

3 Summary

- Command Centre is compatible with SQL 2019 TDE
- No notable overhead
- Archive files are not encrypted by TDE

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