

# How to Encrypt the Communication Connection Between MS SQL Server and the C•CURE 9000 Services

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If the site has an SQL Support Team, please ask them to perform this task. If no SQL IT support is available, you can follow the steps below. This should only be completed by an SQL Administrator familiar with MS SQL Server.

## Summary

**NOTE:** This document does NOT cover the checkbox to "Encrypt the Connection Strings". Encrypting the Strings only encrypts the text of the string in the configuration file. On the other hand, this document covers encrypting the communication between C•CURE 9000 Services and the MS SQL Server.

This document will cover the steps needed to ensure that the communication between MS SQL Server and the C•CURE 9000 services are encrypted.

The first step is to reconfigure C•CURE 9000's connection strings via the .config file. This will tell the services to connect with encryption and to trust the built-in server certificate. Do not make the change in the Server Configuration Application as it does not always show all the connection strings.

**NOTE:** This step does not encrypt anything else such as Databases, Files, logs, connection strings, etc. This only forces C•CURE 9000 to encrypt the communication between C•CURE 9000 and SQL.

## Steps

1. As with any install, upgrade, configuration file changes, etc. Log in as the C•CURE 9000 Service account. The account should have full Administrator access to the C•CURE 9000 Application Server OS, and to the SQL Server.
2. Verify you have a good recent back up of databases (we are not doing DB modifications, but this is always a good thing to do before any changes.)
3. Shut down all C•CURE 9000 services.

4. The file we will be working with is "*SoftwareHouse.CrossFire.Server.exe.config*".  
The default location is "*C:\Program Files (x86)\Tyco\CrossFire*".
5. Make a copy of the file for backup purposes.
6. Locate the **<configuration/connectionStrings>** section in the "*SoftwareHouse.CrossFire.Server.exe.config*" file.
7. Modify each connectionString:

- a. To the end of each connectionString, add:

**;*Encrypt=true;TrustServerCertificate=true***

"*SoftwareHouse.CrossFire.Server.exe.config*" before changes:

```

59 <connectionStrings>
60 <add name="ACVS.Enterprise.Common.Audit" connectionString="Data Source=SQLSERVER01;Initial Catalog=ACVSAudit;Integrated Security=True"
61 <providerName="System.Data.SqlClient" />
62 <add name="ACVS.Enterprise.Common.EventManagement" connectionString="Data Source=SQLSERVER01;Initial Catalog=ACVSCore;Integrated Security=true"
63 <providerName="System.Data.SqlClient" />
64 <add name="ACVS.Enterprise.Common.Journal" connectionString="Data Source=SQLSERVER01;Initial Catalog=ACVJournal;Integrated Security=True"
65 <providerName="System.Data.SqlClient" />
66 <add name="ACVS.Enterprise.Common.Services" connectionString="Data Source=SQLSERVER01;Initial Catalog=ACVSCore;Integrated Security=True"
67 <providerName="System.Data.SqlClient" />
68 <add name="ACVS.Enterprise.Common.Services.Application_Server"
69 connectionString="Data Source=SQLSERVER01;Initial Catalog=ACVSCore;Integrated Security=True"
70 <providerName="System.Data.SqlClient" />
71 <add name="ACVS.Enterprise.Common.Services.Authorization" connectionString="Data Source=SQLSERVER01;Initial Catalog=ACVSCore;Integrated Security=True"

```

"*SoftwareHouse.CrossFire.Server.exe.config*" after changes:

```

59 <connectionStrings>
60 <add name="ACVS.Enterprise.Common.Audit" connectionString="Data Source=SQLSERVER01;Initial Catalog=ACVSAudit;Integrated Security=True;Encrypt=true;TrustServerCertificate=true"
61 <providerName="System.Data.SqlClient" />
62 <add name="ACVS.Enterprise.Common.EventManagement" connectionString="Data Source=SQLSERVER01;Initial Catalog=ACVSCore;Integrated Security=true;Encrypt=true;TrustServerCertificate=true"
63 <providerName="System.Data.SqlClient" />
64 <add name="ACVS.Enterprise.Common.Journal" connectionString="Data Source=SQLSERVER01;Initial Catalog=ACVJournal;Integrated Security=True;Encrypt=true;TrustServerCertificate=true"
65 <providerName="System.Data.SqlClient" />
66 <add name="ACVS.Enterprise.Common.Services" connectionString="Data Source=SQLSERVER01;Initial Catalog=ACVSCore;Integrated Security=True;Encrypt=true;TrustServerCertificate=true"
67 <providerName="System.Data.SqlClient" />
68 <add name="ACVS.Enterprise.Common.Services.Application_Server"
69 connectionString="Data Source=SQLSERVER01;Initial Catalog=ACVSCore;Integrated Security=True;Encrypt=true;TrustServerCertificate=true"
70 <providerName="System.Data.SqlClient" />
71 <add name="ACVS.Enterprise.Common.Services.Authorization" connectionString="Data Source=SQLSERVER01;Initial Catalog=ACVSCore;Integrated Security=True;Encrypt=true;TrustServerCertificate=true"

```

8. Save the file and you can start the C•CURE 9000 services as normal.
9. Verify the connections are encrypted by using SSMS:
  - a. "SELECT DEC.session\_id,DEC.auth\_scheme,DES.login\_name,dec.encrypt\_option FROM sys.dm\_exec\_sessions AS DES JOIN sys.dm\_exec\_connections AS DEC ON DEC.session\_id = DES.session\_id;"
  - b. The encrypt\_option column would show **TRUE** for encrypted connections to SQL.

## Optional Steps

The second step (optional) is to configure the MS SQL Server to force connection encryption. By default, MS SQL Server will accept either encrypted or non-encrypted

connections. This will require all connections to SQL Server to use Encryption. If enabled, encryption is not used the application connecting will get an error.

1. Stop all C•CURE 9000 services and any other service connected to the SQL Server.
2. Open "SQL Server Configuration Manager".
3. Expand "SQL Server Network Configuration".
4. Right click on "Protocols for MSSQLSERVER" (MSSQLSERVER will be different if the instance name is different).
5. Under the Flags section, change "Force Encryption" to **Yes**.
6. Click OK.
7. You will need to restart the MS SQL Services for this to take effect.
8. Once SQL is running again you can start the C•CURE 9000 Services.
  - a. If you have not changed the C•CURE 9000 connection strings as from step 1, C•CURE 9000 will not run, and you will get error messages.

