

LifeCheck Technical Note

ID: TN006
Created: 20 September 2019
By: Chris Drew
Description: Remote access and working with LifeCheck

The purpose of this technical note is to detail the ways in which LifeCheck can still be used when a physical connection to the server hosting the LifeCheck database cannot be made most often when operating track side where the necessary internet connection is either inadequate or non-existent.

Link and Detach

In older versions of LifeCheck, Link and Detach was the primary mechanism by which teams could work track-side without an Internet connection however it is probably the most limiting method offered in the product today.

In Link and Detach, a user within LifeCheck may 'detach' from the factory database and attach to a local database server running on their laptop or PC. As part of this operation, LifeCheck will copy the factory database to the local database server and 'lock' all of the components currently located within any of the locations owned by the detaching user/department and 0 or more chassis selected as part of the detach operation.

Those chassis and components which have been locked cannot be modified by any users remaining connected to the factory database and conversely any chassis and components not locked may not be modified by the detached user.

The detached user may perform most normal operations on the detached chassis and components but many more administrative operations are not permitted to avoid clashes with changes made at the factory. The chassis may however be built, modified and have sessions recorded for it.

On return to the factory the detached user, re-attaches which applies any changes made while detached to the main factory database and unlocks the locked chassis and components.

Advantages

- This is a pretty simple wizard driven operation needing knowledge only of the credentials for the local SQL Server – these details are cached and as such will be remembered the next time the user detaches.
- The user can work pretty much as normal and to all intents and purposes has normal access to their data

Disadvantages

- Requires a local install of SQL Server

- The user must know beforehand that they want to detach and perform the detach operation prior to leaving the factory
- Although multiple users can detach at the same time they each have their own copy of the database and as such cannot see any changes other users have made nor any changes made at the factory.
- Time consuming – both the detach and re-attach can take several minutes if a lot of work has been done.
- Vulnerability – with a local database there is always the risk of the loss or damage to the laptop resulting in loss of data.

Race Server

The 'Race Server' mode is similar in some ways to link and detach but avoids many of the limitations. It is however only suitable when no LifeCheck users remain at the factory as all access to the factory database is denied.

In Race Server mode, prior to leaving the factory, one user will use a Wizard to copy the entire factory database to a server travelling with the team. This action locks the factory database and directs all users to the race server. All access to LifeCheck is then via the Race Server and all users work as normal but now connected to the race server and not the factory server.

On return to the factory, this process is reversed. The entire race server database is copied back to the factory server, the race server is then disabled and all users directed back to the factory server.

Advantages

- Once attached to the race server all users work as normal with no interruptions.
- Any changes made are instantly available to all users
- Simple wizard driven process

Disadvantages

- Both the factory and race server must be on the same network when changing between the factory and race servers as the database is copied over
- All users must be connected to the same database – no users can use LifeCheck at the factory once race mode has been selected.

Remote Desktop

Use of remote desktop is a highly recommended option to continue using LifeCheck when track-side as it removes the overhead of either having to connect to a different server while away or send LifeCheck data across a potentially slow Internet connection.

With remote desktop, users connect using software such as TeamViewer, Skype, Microsoft Remote Desktop or similar to a PC/server situated at the factory and run LifeCheck on that PC.

With this approach no LifeCheck data is transmitted across the Internet just screen updates meaning that low bandwidth connections can be used without a drop in performance.

Advantages

- Simple to setup and is often already available
- Performance is largely unaffected
- Does not require any specialised knowledge or preparation once configured

Disadvantages

- Security concerns – remote desktop software can open up internal IT systems.
- Users are not using their local LifeCheck installation so configuration may not be carried over.

VPN

Use of a Virtual Private Network (VPN) provides some of the benefits of Remote Desktop but adds a layer of security on top of this although remote desktop is often used in conjunction with a VPN providing an optimal solution.

A VPN allows a secure connection to be established back to the factory server connecting the users PC to the factory network and thus allowing LifeCheck to continue accessing the factory database.

Advantages

- Simple to setup once configured
- Secure
- Users can work as if still at the factory

Disadvantages

- Can be slow as SQL queries and LifeCheck data is transmitted across the Internet – unless used in conjunction with RDP.

Cloud Based Database

Holding the LifeCheck database in the cloud / online is a different approach to the problem of remote access as inherently the database is accessible from any location. LifeCheck natively supports Microsoft Azure databases but it is likely that most if not all cloud based SQL databases would be compatible.

Advantages

- True access anywhere capability
- Removes the requirement to administer the database and server
- Secure – most cloud database providers will include firewalls etc and backup

Disadvantages

- Your data is not local – regardless of whether you are or are not at the factory you will need an Internet connection to use LifeCheck

- Cost – while LifeCheck is a lightweight database user, the amount of data being accessed depends on how much LifeCheck is used and costs vary from provider to provider.
- Control – you do not have direct control over your data – for instance you cannot create a backup of an Azure LifeCheck database from within LifeCheck – this must be done from the Azure console. While Azure assures your data is safe, this does not account for times where you may want to restore an older copy of the database because someone has messed something up!

Disclaimer:

Please note that while every effort has been made to ensure the accuracy of this document, Trenchant Technology, Ltd may not be held responsible for any errors or omissions or any data loss which may occur through the use of this document. It is highly recommended that a backup of the LifeCheck database is made prior to making any changes such as importing parts.