

1. What is ZenZefiT?

With the introduction of the MechPack23-architecture a new security architecture is used. Access to the electronic control unit (ECU) of Daimler Truck vehicles will be secured by using certificates.

Access will only be granted to authorized users / roles.

ZenZefiT is an application which is deployed and executed on diagnostic testing devices in the Daimler Truck environments "R&D", "Production" and "Aftersales". ZenZefiT is a tool that allows the management of the user- and role-specific certificates. This includes selection of certificates as well as the import and deleting of certificates as well as a series of cryptographic functions e.g. chain of trust validation, signature creation and signature validation.

On a technical level, ZenZefiT is responsible for managing the certificates and computing signatures for coding data on the diagnostic testing devices. Upon request from client systems ZenZefiT retrieves certificates and computes signatures that will eventually be propagated to the electronic control unit in the Daimler Truck vehicle. ZenZefiT will also be responsible for accessing a Public Key Infrastructure (PKI) in the Daimler Truck network.

According to the role of the user, which can be determined from the certificate, the control unit will allow access to the diagnostic service provided by the control unit.

2. Interacting with ZenZefiT

Users can interact with ZenZefiT via UI, the REST API and the CLI. Depending on the action a user wants to perform with ZenZefiT the UI, the REST API or the CLI can be used.

2.1 The ZenZefiT UI

The UI can be used to visualize the users certificates, do updates or change user settings. The user must authenticate against the Daimler Truck PKI via UI. The ZenZefiT UI can be started by a Standard Internet browser (Internet Explorer 11 is the only supported browser). To start the ZenZefiT UI navigate to <https://localhost:62000/ZenZefiT/ui/index.html> (can be changed/configured on request).

2.2 The ZenZefiT REST API

The ZenZefiT REST API is the normal communication channel for external applications such as Xentry, Monaco to interact with ZenZefiT. Most actions the user can perform via the UI can also be done via the REST API, except the authentication against the Daimler Truck PKI or the manual selection of certificates for test purposes. All functions which are available through the REST API are made available through the so called "Swagger". The swagger interface enables a user to enter individual parameters and to communicate remotely with ZenZefiT. The swagger interface can be accessed via the browser by navigating to <https://localhost:62000/swagger-ui.html> (can be changed/configured on request). The ZenZefiT Public API contains all relevant REST API functions.

2.3 The ZenZefiT CLI

The CLI is a simple interface to access ZenZefiT via a Command Line Interface. Almost all functions which can be accessed via the REST API are available via CLI. However it is also not possible to authenticate a user against the Daimler Truck PKI via the CLI ("login" command does not exist). To start the CLI open a Windows command shell and navigate to the location where ZenZefiT is installed.

3. Information about User data

After a user login to the Daimler Truck Backend via ZenZefiT the name of the user and the user ID are stored AES-encrypted in ZenZefiT.

The DCS-T-certificates and the according private keys will also be stored encrypted into the users ZenZefiT database. For local logging purposes (only on the user pc) the user id of the user will be used. Each user-interaction like login/logout/... and also each user-specific certificate-operation like get Diagnostic Certificate/calculate signature/... will be logged for locally for support purposes.