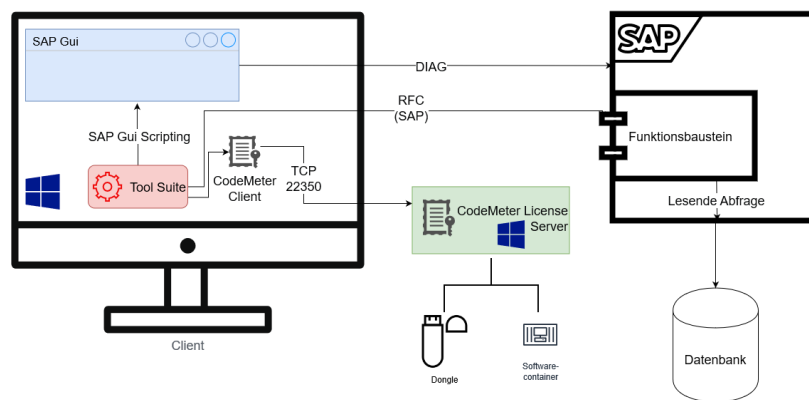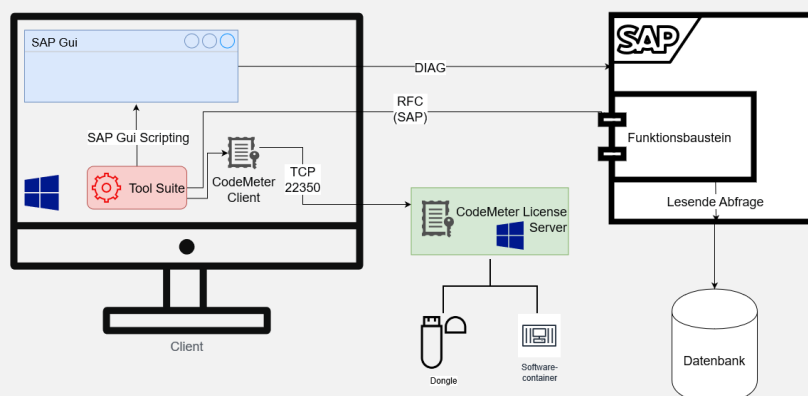![suxxesso — excellence in testautomation]

TECHNICAL DOCUMENTATION

Technical Customer Documentation Release 7

Interface Diagram

Tool Suite → SAP Gui

The suxxesso tool suite communicates with the SAP GUI via the SAP GUI Scripting API when recording or replaying test cases. This is a COM Interface that is addressed locally.

Prerequisites for a smooth operation:

- On the SAP Server:
  - Set the profile parameter *sapgui/user_scripting* to **TRUE**
  - Set the profile parameter *sapgui/user_scripting_set_readonly* to **FALSE**
  - Ensure that *sapgui/user_scripting_disable_recording* is set to **FALSE**
  - If the profile parameter *sapgui/user_scripting_per_user* is activated, the authorization object **S_SCR** must be assigned to the testers.
- On the Client:
  - Activate "Enable Scripting" in the SAP GUI and deactivate all suboptions
  - Use SAP Signature or Blue Crystal Theme. With other themes, controls may not be found via the scripting interface.

Tool Suite → SAP UI5 / WebGui

For web automation, special browser versions are required that are adapted for automation. The appropriate versions can be downloaded via the settings dialog of the Tool Suite. If users are not allowed to download directly or if a packaged distribution of the entire installation is desired, the browsers can also be copied manually to the %LOCALAPPDATA%\ms-playwright path.

To automate SAP WebGui, SAP Screen Personas must be enabled.

Tool Suite → SAP Gui 8.0

- SAP Gui 8.0 has a problem with the control of grid views (we have reported this error to SAP, no solution/bug fix has yet been delivered by SAP)
- SAP GUI 8 does not work with the Solution Manager, this is a bug from SAP and has already been reported by us.

Tool Suite → Function Module (SAP Server)

The Tool Suite communicates with the SAP Server via the SAP RFC interface using the SAP Connector for Microsoft.NET while selecting data (or in special cases while replaying scripts). The access data for this is stored in encrypted form on the client. For the most part, only the suxxesso function module is called here. However, any other remote-capable function modules can also be called. The functions that can be called must be defined on the server side.

Function Module → SAP Server

The suxxesso function module is imported via an ordinary transport on the server. This function module sets off OpenSQL Select statements. It is therefore not possible to write to the database via the function module.

System requirements

- Windows 10 1909 or newer is officially supported by suxxesso for the Tool Suite.
- 64bit CPU 8 GB Ram (recommended CPU >= 3Ghz)
- CodeMeter Client and Server >= Version 7.60d. The installer is provided by suxxesso.
- Minimum SAP GUI version 7700 PL3
- Minimum SAPUI5 version 1.82.0

Solution Manager Installation
- Windows Feature *Windows Projected File System* for the variants provider

Supported SAP Gui versions

Major	Minor	Patch Level	Comment
7700	*	> 2	
8000	*	1 - 4	Constraints with grid views
8000	*	>= 5	

The versions listed here are supported by suxxesso as long as they are supported by SAP (https://me.sap.com/notes/1053737).

Additional notes:
- An update to the current patch level is recommended.
- Before updating, we will support you with information about known scripting problems with the patch level.
- For older versions of SAP Gui: We also support SAP Gui versions that have been taken out of maintenance by SAP, but cannot guarantee that there will be no unexpected behavior of the test cases in combination with newer suxxesso Tool Suite releases.

License Protection

The suxxesso Tool Suite uses CodeMeter license protection of the company WIBU-Systems AG. The installation of the Tool Suite on the Windows client does not yet require a license.

The client running the Tool Suite must also have installed CodeMeter. The installer provided by WIBU for Windows Server is the same as for the clients. Whether CodeMeter is run as server is only a configuration setting.

The CodeMeter client gets its license

1. from a local license container (Dongle)
2. from a floating pool on a network server

If a user starts several instances of a program on one machine, only one license is occupied nevertheless. (User/Machine bound)
If the connection to the license server is disconnected, the program is stopped after 5 minutes and an info dialog is displayed to the user. After the connection is re-established, the user can continue working.

30 days before the licenses expire, a dialog will appear to inform the user about the expiration. In advance, the account manager will contact you regarding the expiring license and can renew it for you.

Server

By default, the license server is searched for via a broadcast in the subnet. However, the administration panel (http://localhost:22352/dashboard.html) can be used to specify a fixed license server instead (even from a different subnet). The communication takes place via TCP 22350 place. This can also be configured differently.

Alternatively, the license server can be run on a Linux-Host.

If a CodeMeter license server is already in use, the licenses can also be imported there in the existing license container.

CmWAN – Server provisioning by suxxesso

In this scenario the license sever is provided by suxxesso. The license server is run on an Amazon Web Service (AWS) instance in OpenSuse.

Communication from the CodeMeter client and the license server ist not over the TCP 22350, but over HTTPS (Port 443). A reverse proxy at the license server receives the requests and forwards them internally via HTTP to the CodeMeter Service. The CodeMeter Service is not accessible from outside via unencrypted HTTP.

In order to provide the licenses exclusively to the customer, suxxesso needs a list of IP ranges from the customer to which the communication should be restricted.

Monitoring

To ensure service availability for the customer, suxxesso operates a specially developed monitoring tool which decodes a test application at minute intervals. For this purpose, it is necessary that another licence for the monitoring tool is stored in the license container in addition to the customer licenses. It is also necessary that the license server can also be reached from the IP address of the monitoring tool.

Container

A license container contains the licenses provided by suxxesso. Usually, suxxesso provides the container in the form of a dongle. However, a machine-bound software container can also be generated on request.

Instructions when disconnected from the license container

If a license check fails because the license container cannot be reached (e.g.: local dongle is disconnected, license server is not reachable), the application is frozen and a license dialogue is displayed.

- In case of a local license container a license dialog appears immediately
- In case of a license server the application will be stopped until this is available again

Normally, the application will resume correctly as soon as the license is available.

Recommendations

Authorization concept and arguments

- Creation of representative user based on the existing role concept
    - No passwords of real users stored
    - Traceability, whether data sets were changed by the real users or by automation
    - Easy implementation of role switches (cross-user processes) and authorization tests
- Creation of a dedicated Data Manager user
    - Only one user needs to be given the permissions to executing RFCs
    - User does not need dialog permissions

Automatic test plan execution

If an automatic background execution of test cases is planned (e.g.: scheduled / CI build), suxxesso recommends providing an exclusive license to the executing system. This requires a separate license container. Ideally, the license is located in a local license container and is thus not affected by connection interruptions.

If the host designated for the automatic execution shares a license from the general floating license pool, test plan execution might fail because all licenses are occupied by other users.

Data handling

Configuration settings are stored in %LOCALAPPDATA%\Suxxesso. Access data will be encrypted using System.Security.Cryptography.ProtectedData on CurrentUser scope.

Data retrieved from the SAP system via RFC is stored exclusively in RAM. Only data written to a report during the test plan execution (via the Test Cockpit) is stored in the report directory.

License protection

For the purpose of decoding the Tool Suite applications these will communicate with the local CodeMeter service. This logs which licenses are requested and forwards the license request to a license server if necessary, provided the license cannot be obtained from a local license server.
If a request is received by the license server, it logs which licenses were requested by an IP. Suxxesso does not transfer the user content to CodeMeter service or server. The communication between CodeMeter and server is encrypted.

Logging during Solution Manager installation

The certification for the Solution Manager Integration requires suxxesso to implement a logging

- of COM calls between SAP GUI and the test tool,
- as well as RFC communication from test tool to SAP server

The logging can be configured via AppSettings for the respective components. By default, logging is completely disabled during the installation.

Releases

Cycle
For the client part of the Tool Suite, 2-4 releases per year are targeted. The function module will only be changed if it is necessary for a release.
Our customers will actively be informed about the new releases by our account managers.

Maintenance contract
From release 7.0 on it must be ensured before installation that there is a valid maintenance contract with suxxesso.

Support
Bug fixes are provided to active customers for the current and the previous versions.
In general, all versions are currently supported via customer support for active customers.