587202 - Restrictions when using SAP GUI Scripting

Component: BC-FES-GUI (Basis Components > Frontend Services (SAP Note 1322184) > SAP GUI for Windows), Version: 23, Released On: 08/04/2022

Symptom

During the use of SAP GUI Scripting in SAP GUI for Windows, transactions or functions sometimes work differently than without scripting. In addition, there are other technical restrictions that we explain in this SAP Note.

Other Terms

Limitations, restrictions, script, not supported

Reason and Prerequisites

Some technologies are not supported during scripting.

Solution

- If several sapgui.exe processes are used in parallel, SAP GUI Scripting can be used to address only one of these processes, since it is technically not possible to identify which of the sapgui.exe instances might be intended. In this case, we recommend that you use the delegation to SAP Logon, which means that only one process runs. For more information, see also SAP Note 844095.
This restriction also means that screen reader software that works via the SAP GUI Scripting API (for example, JAWS) cannot be used for multiple sapgui.exe (sapguiserver.exe) processes in parallel.

- If SAP GUI Scripting is executed in an SAP GUI embedded in the SAP Business Client, the following restrictions occur:
  - Just like for sapgui.exe (see above), multiple sapguiserver.exe instances cannot be uniquely identified (in the case of embedding in the SAP Business Client of the SAP GUI process). For this reason, SAP GUI Scripting can be supported only within a single SAP Business Client instance.

- The use of more than one SAP GUI connection (for example, using "OpenConnection") is not supported.
- Scripts that navigate out of or into the Easy Access menu (transaction SESSION_MANAGER) are not supported.
- SAP GUI scripts that run in the SAP Business Client must also be recorded in the SAP Business Client. In addition, scripts that are recorded in the SAP Business Client cannot be used in SAP GUI outside the SAP Business Client.

- F4 search help control (amodal): The control is not supported in the scripting. Instead, a standard dialog is opened. In some transactions, this dialog does not open; instead, an ABAP short dump occurs due to an error in the application. Until the application has been corrected, you can avoid the error by explicitly selecting the modal dialog in the main menu at "Help -> Settings -> F4".

- Security dialogs: There are dialogs that are displayed due to actions triggered by ABAP applications on the client PC (for example, due to the deletion of a file on the client PC). These dialogs cannot be automated using SAP GUI Scripting. This is a required security feature because if a script could suppress these dialogs, a potentially hostile action could be triggered by malicious ABAP source code without the user being able to prevent this. In such cases, an interaction (confirmation) or the creation of an appropriate security rule is required to be able to continue the script.

- SAPscript: The text control of the SAPscript component is not supported. It can be replaced by a line editor, as described in SAP Notes 64634 and 100358 (point 10). If you have additional questions, contact the component BC-SRV-SCR.

- Missing support for certain ActiveX components: So that an ActiveX control can be reached from SAP GUI Scripting, scripting support must be explicitly developed. This has happened for the standard controls used in SAP GUI. However, some applications have special controls for which there is no scripting support (for example, the assignment control). For more information on the status of the individual controls, see the SAP GUI Scripting API documentation. You can call this documentation from an SAP GUI window by choosing ALT+F12 -> SAP GUI Scripting Help (or, in the Belize theme, by choosing ALT+F12 -> SAP GUI Settings and Actions -> SAP GUI Scripting Help).

- The enhanced search in input fields and cells of table controls is not supported while scripting is running. However, a selection of values can take place via the corresponding input help.

- Actions in the input history, apart from the transfer of values to the corresponding fields, are not recorded.

- No support for Microsoft common dialogs (see also https://docs.microsoft.com/en-us/windows/win32/dlgbox/open-and-save-as-dialog-boxes): Scripting for common dialogs such as FileSave, FileOpen, and DirectoryBrowse is not supported. Since the provision of SAP Note 1974590, when FileSave dialogs and FileOpen dialogs are called while SAP GUI scripting is running, the system automatically displays a dynpro-based FileSave dialog or FileOpen dialog instead of the Microsoft dialog (this can be configured using a setting in the SAP GUI options dialog). This means that actions can be recorded and run again on these dialogs, but the usability of the dialogs is limited. They offer only the option of entering file names and directories, but not, for example, a search help. In

addition, note that only with SAP Note 3065184 was it possible to replace FileOpen dialogs with the option of multiple selection in this way. There is no replacement for the selection dialog for directories that is suitable for SAP GUI Scripting. This dialog must be avoided when scripts are recorded.

- Drag and Drop: Drag and Drop is not supported in scripting. However, you should have the option of using the function without drag and drop in all applications.

- Low Speed Connection: If the low speed connection indicator is set for a connection, less information is transferred to SAP GUI. As a result, the scripting component is missing the field names that are required for the names and IDs of the objects in the scripting model. Errors then occur (for example, with FindById).

- Missing support in individual transactions due to use of dynamic IDs: Certain transactions use dynamic keywords when communicating with the SAP system; these dynamic keywords change each time the transaction is called. This problem may occur when you select entries from the menu of the toolbar control in particular. If the script that is recorded in this transaction is run again, errors occur due to invalid parameters (for example, in the method SelectMenuItem). SAP Note 217437 contains a list of affected transactions from the MM area. If you have questions about this problem, contact the application component MM-PUR-PO-GUI. There are similar problems in some applications due to the use of dynamic names for subscreens (for example, in transaction ME23N).

- No recording of key combinations or actions that do not change the state of the control: Key combinations or other actions that do not result in changes to the control state - for example, "Copy to Clipboard" (CTRL + C) - are not recorded.

- It is important to note that SAP GUI Scripting emulates the behavior of a user. In particular, SAP GUI scripting works synchronously. Although it is technically possible to simultaneously use two different pushbuttons in SAP GUI across multiple threads of an automation tool running in parallel, such a procedure will lead to an undefined behavior. Therefore, the recommendation for automation tools is always to react to events triggered synchronously by SAP GUI. If such an event is triggered, you can be sure that you can forward calls to the SAP GUI Scripting API at this time.
  When starting automation calls asynchronously, automation tools must take special care to check whether SAP GUI is in a state in which it is possible to call the scripting API at all. This can be done, for example, by checking the property "Busy" of "GuiSession".

- Encoding format of script files: When using the SAP GUI script recorder to record scripts, we recommend that you use the "Unicode" format. If you use this format, the files are saved as UTF-16 LE with BOM (byte order mark) (see SAP Note 3004168, which corrects an error in the script recorder). The use of Unicode ensures that as many characters as possible can be saved correctly. Scripts saved in this format are therefore more likely to be played on other platforms without any problems. For these reasons, we generally recommend that you use the "UTF-16 LE" format with BOM - regardless of how a script is created.
  The recording of a script with the Windows standard code page (for example, Western Europe 1252) may cause special characters to be destroyed. The sigma character is an example of a special character that is destroyed by this kind of recording because it does not

necessarily occur in the corresponding character set. In addition, scripts created or recorded in this way that contain special characters can be played only on Windows and if exactly the same code page is used.

- Use of commands that work with a pixel metric in combination with multi-monitor scaling: For example, the command ResizeWorkingPaneEx allows you to increase or decrease the size of the SAP GUI window to a certain size in pixels. Such commands always work with the metric of the primary monitor. If you have activated multi-monitor scaling (as of SAP GUI for Windows 7.70), the size of the SAP GUI window on monitors other than the primary monitor is not changed as expected. We recommend that you use commands that do not work with pixels, but characters (in this case, ResizeWorkingPane). In this context, also refer to SAP Note 3046558.

- Use of saprotwr.dll with a 64-bit version of SAP GUI for Windows 8.00 or later (running objects table wrapper - see also the documentation https://help.sap.com/docs/sap_gui_for_windows/b47d018c3b9b45e897faf66a6c0885a8/3c48aec0416442eaa8667bd95a1cd8c8.html?locale=en-US)

Some components or products use the library saprotwr.dll to be able to use SAP GUI Scripting via COM. Since saprotwr.dll, which is delivered with 64-bit versions of SAP GUI for Windows, is of course a 64-bit version and there is no option to use a 64-bit COM component from a 32-bit process, this means that components or products that want to use saprotwr.dll with a 64-bit version of SAP GUI for Windows must also be 64-bit processes. If this is not the case, an error occurs when saprotwr.dll is called. Although there is a way to call 32-bit COM components from 64-bit processes ("DllSurrogate"), this option does not exist for 32-bit processes that want to use 64-bit COM components.

This document refers to

SAP Note/KBA	Component	Title
844095	BC-FES-GUI	Delegation from sapgui.exe to SAP Logon/SAP Logon Pad
64634	BC-SRV-SCR	SAPscript: New editor and Form painter
619459	BC-FES-SCR	Support for SAP GUI scripting in SAP applications
612454		
527737		
3065184	BC-FES-GUI	Multiple file selection via FILE_OPEN_DIALOG while scripting
3046558	BC-FES-GUI	Support of multi monitor dpi for several methods and properties while using SAP GUI scripting

3004168	BC-FES-GUI	When recording with the Record and Playback dialog special characters are saved garbled
217437	MM-PUR-PO-GUI	ME21N/ME51N: Batch input and CATT not possible
2114256	XX-PART-MFS-LOR	Scripting NWBC for SAP Loadrunner by Micro Focus
1974590	BC-FES-GUI	file save dialog during scripting
1168241	BC-FES-GUI	F4 (SAP.TabControl) creation error when scripting active
100358	BC-SRV-SCR	SAPscript: General questions on PC Editor

This document is referenced by

SAP Note/KBA	Component	Title
3242201		How to capture a scripting trace from the SAP GUI for Windows.
2343079	KM-SEN-PRO	F4 Help dialogue boxes look different while recording SAP GUI
1771772	KM-SEN-PRO	Search Help not initialized during recording
2038061	BC-FES-GUI	File open dialogs cannot be handled in SAP GUI Scripting
2114256	XX-PART-MFS-LOR	Scripting NWBC for SAP Loadrunner by Micro Focus
2714160	BC-FES-BUS-DSK	SAP Business Client 7.0: Prerequisites and restrictions
161053	BC-FES-GUI	Use of SAP GUI in WAN
619459	BC-FES-SCR	Support for SAP GUI scripting in SAP applications
1168241	BC-FES-GUI	F4 (SAP.TabControl) creation error when scripting active