

GXSHL\$ - Execute Windows Shell Command on GX

The GXSHL\$ routine can be used to execute a Windows Shell command on the PC that is running the current GX session.

1. Invocation

To execute a Windows Shell command on the PC that is running GX code:

```
CALL GXSHL$ USING sh
```

where *sh* is a control block of the following format:

```
01  SH
02  SHVERS      PIC 9(2) COMP      * Block version number
                                VALUE 1      * This must be set to 1 or 2
02  SHWAIT      PIC 9(2) COMP      * 0 = Do not wait for program to exit
                                * 1 = Wait for program to exit
02  SHDIRL      PIC 9(4) COMP      * -1 = No directory specified
                                * 0 = Zero-terminated directory path
                                * N = Length of directory path string
02  SHDIRP      PIC PTR            * pointer to directory string
                                * for the working directory
                                * for the program executed in
02  SHFILL      PIC 9(4) COMP      * association with the file name
                                * 0 = Zero-terminated file string
02  SHFILP      PIC PTR            * N = Length of file string
02  SHEXIT      PIC 9(9) COMP      * Pointer to file string
                                * program exit code (but only if SHVERS >
                                * 1; and SHWAIT = 1)
```

2. STOP Codes and Exception Conditions

The following STOP codes may be generated by GXSHL\$:

STOP code	Description
23901	GXSHL\$ has been called by an application that is not running on GX.
23902	Unknown version of SH control block (i.e. SHVERS does not contain 1)
23903	GX command buffer overflow
23904	Incompatible version of GX
23905	A document filename was not specified

The following exception conditions may be returned by GXSHL\$:

EXIT code	\$\$COND	Description
23911	11	Unable to allocate data page for GX command buffer.
23912	12	The Windows ShellExecute operation failed. The Windows 32-bit error code is available in the \$\$CRES System Variable.
23913	13	The replaceable file parameter is not present in the GX.INI file.

3. Programming Notes

GXSHL\$ is only available when running on GX. Any attempt to use GXSHL\$ on a non-GX terminal will result in a STOP code.

If the SHFILL field is zero, the filename string MUST be terminated by a byte of binary-zero (i.e. #00, LOW-VALUES). If the SHDIRL field is zero, the directory string MUST be terminated by a byte of binary-zero (i.e. #00, LOW-VALUES).

Unlike the SHCMD\$ or GXCMD\$ routines the GXSHL\$ command does not require the name of the executable program to be supplied. The parameter supplied to GXSHL\$ should be the name of a "document file" (e.g. *.txt, *.doc, *.pdf, *.htm etc.). The Windows File Association between the supplied "document file" and the associated executable will be used to execute the appropriate command. See section 4 for some examples.

The file name parameter can specify either:

- an absolute filename (on the filing system of the PC that is running GX);
- an absolute UNC filename on a shared directory (as "seen" from the PC that is running GX);
- a file on, or under, the current directory on the PC that is running GX;
- a file on, or under, the Windows directory on the PC that is running GX;
- a file on, or under, the LocalTempDirectory specified in the GX.INI file;
- a file on, or under, the folder "PFPrintImage", relative to the current GX folder;
- a file on, or under, the folder "XML", relative to the current GX folder;
- a file on, or under, a free-format directory keyword specified in the GX.INI file;
- a file on, or under, a free-format directory keyword specified as a Windows environment variable;

For example assuming that the "current directory" for GX is "C:\GX"; the "Windows directory" is "C:\Windows"; the GX.INI file contains the following setting in the [general] section:

```
LocalTempDirectory=C:\TEMPORARY
```

and the following settings in the [folders] section:

```
DTEMP1=D:\TEMPORARY
DTEMP2=F:\TEMPORARY
```

And the following Windows environment variable is defined:

```
DTEMP3=G:\TEMPORARY
```

then the following *filename* parameters will be mapped to the following pathnames on the PC running GX:

Filename field in FD	Filename on PC running GX.EXE
C:\WINDOWS\EXAMPLE.TXT	C:\WINDOWS\EXAMPLE.TXT
\\SERVER1\SHARE\EXAMPLE.TXT	\\SERVER1\SHARE\EXAMPLE.TXT
EXAMPLE.TXT	C:\GX\EXAMPLE.TXT
.\EXAMPLE.TXT	C:\GX\EXAMPLE.TXT
SUBDIR\EXAMPLE.TXT	C:\GX\SUBDIR\EXAMPLE.TXT
%TEMP\EXAMPLE.HTML	C:\TEMPORARY\EXAMPLE.HTML
%WINDOWS\EXAMPLE.XML	C:\WINDOWS\EXAMPLES.XML
%DTEMP1\EXAMPLE.TXT	D:\TEMPORARY\EXAMPLE.TXT
%DTEMP2\EXAMPLE.TXT	F:\TEMPORARY\EXAMPLE.TXT
%DTEMP3\EXAMPLE.TXT	G:\TEMPORARY\EXAMPLE.TXT
C:%DTEMP3\EXAMPLE.TXT	The results of including a variable parameter in the middle of a filename string are undefined.

If a %variable exists both as a Windows environment variable **and** as an option in the [folders] section of the GX.INI the GX.INI file setting will be used.

The %TEMP and %WINDOWS strings are effectively reserved words and cannot be used to define either Windows environments variables or options in the [folders] section of the GX.INI file. The %TEMP string is mapped to the value of the LocalTempDirectory setting in the [general] section of the GX.INI file. If the LocalTempDirectory setting is not defined, the %TEMP string is mapped to the Windows temp directory. The %WINDOWS string is always mapped directly to the Windows folder.

The %XML and %TCPIIMAGES strings are also reserved words and cannot be used to define either Windows environments variables or options in the [folders] section of the GX.INI file. Both these special strings are reserved for internal use only. The %XML string is always mapped directly to the folder "XML", relative to the current GX folder. The %TCPIIMAGES string is always mapped directly to the folder "PFPrintImage", relative to the current GX folder;

The GXSHL\$ interface is relatively complex. The GXSHX\$ routine, which performs the same Windows function, only requires the name of the target file to be supplied.

For GSM SP-12 (or GSM SP-11 with Global ESP 000003 applied), GXSHL\$ has been extended to return the exit code from the Windows program back to the application. This facility is only available if the version of GX is V3.1e, or later. The 4-byte exit code is only returned, in SHEXIT, if the following conditions are met:

SHVERS	higher than 1;
SHWAIT	1

4. Examples

[EXAMPLE REQUIRED]

5. Copy-Books

See copy-book "s\$" in copy-library S.SYS32. Note that this copy-book **MUST** be expanded using a SUBSTITUTING clause. For example:

```
COPY "s$" USING "SH"
```

6. See Also

GXSHX\$ - Execute Windows shell command on GX.

SHCMD\$ - Execute Windows application

GXCMD\$ - Execute Windows application on GX