GX System Requests

1. Introduction

The GX System Request Evaluation Kit was released between GSM SP-7 and GSM SP-8. All the features of the evaluation kit that was released as an upgrade to GSM SP-7 have been included in GSM SP-8 and GX V2.8. See gsmsp8.doc and the GX V2.8 Notes for further details.

The rest of section 1, all of sections 2 and the first part of section 3 refer to the GX System Request Evaluation Kit that was supplied before the release of GSM SP-8. These sections should be ignored for GSM SP-8, and later.

IF YOU HAVE INSTALLED GSM SP-8, OR LATER, PROCEED DIRECTLY TO SECTION 3.1.

The GX System Request Evaluation Kit consists of the following components:

P.$SDLM0	Post GSM SP-7 "external" DLM's
P.$GSDLM	Post GSM SP-7 "private GSM" DLM's
P.$CMLB1	Command library containing $RUNMAIN and post SP-7 $STARX
$$RUNMEN	Default Run Menu Definition file
GX.EXE V2.6c	
GXIO.EXE V3.5a	
GXCAL.EXE	SYSREQ-D look-alike (see below)

Subject to feedback, most of the features described below will be released with GSM SP-8.

The basic GX System Request Evaluation Kit is available from:

ftp://www.tissoft.co.uk/pub/gsm/eval/gxsysreqeval.zip

The gxcalc.exe extension is available from:

ftp://www.tissoft.co.uk/pub/gsm/eval/gxcal.zip

2. Pre-Requisites

This section should be ignored for GSM SP-8, and later.

The GX System Request Evaluation Kit must only be used on a GSM (Windows) system that has been upgraded to GSM SP-7. The results will be unpredictable if this Evaluation Kit is applied to GSM SP-6, or earlier.

Important Note: The GX System Request Evaluation is incompatible with the DBX Alpha Test.

3. Installation

This section should be ignored for GSM SP-8, and later; and GX V2.8, and later.

To install the GX System Request Evaluation Kit:

- Copy the GX.EXE, GXIO.EXE and GXCAL.EXE to the current GX directory (no INI file changes are required);

- Copy P.$SDLM0, P.$GSDLM and P.$CMLB1 to the SP-7 SYSRES ($DP);

- Copy $$RUNMEN to the master SYSRES ($M).

3.1 Installation of GXCAL.EXE

As explained in section 7, several 16-bit System Requests have been replaced by Windows programs. The 16-bit <SYSREQ> D functionality (in OVD) has been replaced by the GXCAL.EXE Windows program. Two versions of GXCAL.EXE have been supplied. A pre-release version, supplied in the GX System Request Evaluation Kit, dated 06/06/2002, is now considered obsolete and has been replaced by a new version dated 09/08/2002.

3.1.1 Installing the version of GXCAL.EXE dated 09/08/2002

The GXCAL.EXE program relies on a Microsoft control for its calendar displays. This control is not supplied as part of the standard Windows installation so it must be installed manually as follows:

1. Copy the control file, MSCOMCT2.OCX, to the Windows system directory. This is either the SYSTEM32 subdirectory of the Windows directory on Windows NT/2000/XP systems (e.g. C:\WINNT\SYSTEM32) or the SYSTEM subdirectory of the Windows directory on Windows 98 (e.g. C:\WINDOWS\SYSTEM);

2. Register the control on the Windows system by running the supplied REGSVR32 program:

```
REGSVR32 C:\WINNT\SYSTEM32\MSCOMCT2.OCX
```

or:

REGSVR32 C:\WINNT\SYSTEM\MSCOMCT2.OCX

Note that the full path name **must** be supplied.

3.1.2 Installing the obsolete version of GXCAL.EXE dated 06/06/2002

[This section is documented for completeness only].

The GXCAL.EXE program relies on a Microsoft control for its calendar displays. This control is not supplied as part of the standard Windows installation so it must be installed manually as follows:

1. Copy the control file, MSCAL.OCX, to the Windows system directory. This is either the SYSTEM32 subdirectory of the Windows directory on Windows NT/2000/XP systems (e.g. C:\WINNT\SYSTEM32) or the SYSTEM subdirectory of the Windows directory on Windows 98 (e.g. C:\WINDOWS\SYSTEM);

2. Register the control on the Windows system by running the supplied REGSVR32 program:

   REGSVR32 C:\WINNT\SYSTEM32\MSCAL.OCX

   or:

   REGSVR32 C:\WINNT\SYSTEM\MSCAL.OCX

   Note that the full path name **must** be supplied.

4. Using GX System Requests

If the above installation is successful upon reloading GX a new "Run" option should appear on the Windows Taskbar Menu. Select this option to produce a drop-down menu of GX System Requests.

5. Technical Information

GX System Requests are considerably more powerful that the 16-bit System Requests that are available on GUI-1, the GLOBAL.EXE "fat client" console or GX Window-Zero mode. The term "System Request" doesn't really do them justice and they should be considered as "Independently Run-able Programs".

Whereas 16-bit System Requests are specialised 16-bit programs that are shoe-horned to fit in a 20K System Request Address Memory space, "GX System Requests" can be either "normal" 32-bit Global programs or Windows applications.

The 16-bit System Requests that are supplied with GSM are "hard-coded" (e.g. SYSREQ-C is always the Calculator, SYSREQ-D is always the Calendar etc.). End-User 16-bit System Requests can be added to the standard GSM System Requests but the selection of an End-User system request involves extra dialogue. The format of the Run menu, and thus the list of available GX System Requests, is **completely customisable**. End-User System requests can be added "naturally"; GSM System Requests can be removed; End-User System requests can replace GSM System Requests. The Run Menu is defined by the $$RUNMEN file, which is maintained by the $RUNMAIN command (see section 6).

16-bit System Requests can be nested to any level. "GX System Requests" can also be nested to any level.

Warning: A 32-bit Global program that has been designated a "GX System Requests" (i.e. merely by being included in the $$RUNMEN file) should not attempt to access a Speedbase database that is being accessed by the underlying program. This restriction is under review.

GX System Requests can be initiated anywhere within the dialogue of a 32-bit Speedbase application, including from within the Menu Handler. GX System Requests will **not** be honoured while in GX Window-Zero mode. In GX Window-Zero mode, the 16-bit System Request handler is invoked.

6. $RUNMAIN

The $RUNMAIN utility is used to maintain the $$RUNMEN file that defines the format of the "Run" drop-down menu.

Each menu "line" can be either:

- a "Start Program" menu line;
- a "Next Menu" line;
- a horizontal line to separate groups of options.

Horizontal "break" lines contain no further information. Next Menu lines merely contain the long description of the next menu. Start Program lines contain the following information:

- Description;
- Name of 32-bit Global program; or pathname of Windows application;
- Flag to indicate a Global program or a Windows application;
- Accelerator key;

For Global programs the following extra information may be supplied:

- Program Library (optional);
- Program Unit;
- Up to 70 bytes of optional "Start Data". The Start Data is intended to be used to pass information regarding the particular GX System Request to a generic loader/initiator program.

Note that in the default $$RUNMEN file, $RUNMAIN itself is defined as GX System Request.

Important Note: The default $$RUMEN file released with this Evaluation Kit is very "raw" has been changed for the GSM SP-8 release.

The updated $$RUNMEN file is downloaded to the GX thin-client that was used to run $RUNMAIN. If the central $$RUNMEN file is updated by one user the "cached" copy of this file on all the other GX thin clients will be obsolete. Any attempt to select an option from an obsolete cached file will result in a warning dialogue box that allows the cached copy to be refreshed by the new "central" $$RUNMEN file.

7. Comparison with 16-bit System Requests

Although GX System Requests have developed into a much more powerful feature they were developed to replace 16-bit System Requests. A review of 16-bit System Requests is appropriate. This section describes every existing 16-bit System Request and its relevance vis-à-vis the GX application interface when GX is operating in Speedbase mode or Menu

mode. For completeness, this section includes every possible <SYSREQ> function (i.e. not just the contents of the P.OV library).

<SYSREQ>	Description	Comments
1-9	Change Partition	These internal functions are supported by GX.EXE.
0 (ZERO)	Redisplay Current Screen	This function is meaningless on GX and is ignored.
+	Next partition	This function is meaningless on GX and is ignored.
-	Back partition	This function is meaningless on GX and is ignored.
=	Previous partition	This function is meaningless on GX and is ignored.
<SPACE>	System Request Menu	**Replaced by the built-in "Run" menu.**
A	ASCII to Hex. Table	**Mapped to Windows charmap.exe in the default $$RUNMEN.**
B	Establish Key Translation	Not currently supported (except in GX Window-Zero Mode). Are programmed function keys required on GX?
C	Invoke the Calculator	**Mapped to Windows calc.exe in the default $$RUNMEN. Although calc.exe is not a complete super-set of OVC we have no intention of writing a 32-bit version of OVC. However, the source is available.**
D	Invoke the Calendar Facility	**Mapped to gxcal.exe in the default $$RUNMEN. Although gxcal.exe is not a complete super-set of OVD we have no intention of writing a 32-bit version of OVD. However, the source is available.**
E	Invoke End-user System Request	**Replaced by the built-in "Run" menu.**
F	Invoke Programmed Function	Not currently supported (except in GX Window-Zero Mode). Are programmed function keys required on GX?
G	Application Dependent Planned Interrupt	Not a System Request

H	Invoke the Help Facility	Not required. Replaced by Speedbase Notes <F8> and application specific external Help.
I	Unit Assignments	**A 32-bit, GX equivalent of SYSREQ-I is available with GSM SP-8, and later.**
J	Jot Telephone Message	No plans to port to 32-bit.
K	Program Function Keys	Not currently supported (except in GX Window-Zero Mode). Are programmed function keys required on GX?
L	Shift Display Window to the Left	Not a System Request. Meaningless on GX.
M	Display Temporary Status Line	Under review
N	Read Mail System Request	No plans to port to 32-bit.
O	Invoke Picture Print Utility	No plans to port to 32-bit.
P	Print Current Screen Contents to Unit $PR	**No plans to port to 32-bit. Replaced by in-built Print Window/Print Screen facility in GX V2.7, and later.**
Q	Record/Playback Initiation	Larger project required. Beyond the scope of this evaluation.
R	Shift Display Window to the Right	Not a System Request. Meaningless on GX.
S	Specify Screen Reset Sequence	Not required for GX.
T	Talk to Another Operator	A 32-bit, GX equivalent is required.
U	Clear Type-Ahead Buffer	Not a System Request.
V	Select Printer	**A 32-bit, GX equivalent of SYSREQ-V is available with GSM SP-8, and later.**
W	The Break Function	Not a System Request.
X	Invoke Transfer Facility	No plans to port to 32-bit.
Y	List Full Operator-id Details	**A 32-bit, GX equivalent of SYSREQ-Y is available with GSM SP-8, and later.**
Z	Remove Message/Display Temporary Status Line	Under review
*	Send Screen Reset Sequences	Meaningless for GX
:	Convert Diskette Format Code to Unit Number	Obsolete
?	Display Task Information	**A 32-bit, GX equivalent is available with GSM SP-8, and later.**

;	PCWS Screen Print	Obsolete
%	Translation Edit System Request	Obsolete
>	MSG$ System Request	**A 32-bit, GX equivalent is available with GSM SP-8, and later.**