Automatic Registry Update

1. Introduction

This document describes a facility in GLOBAL.EXE that will automatically update the Global registry during the load process from a text "update file" read from the current Global directory. This facility is intended to allow GLOBAL.EXE **AND** related registry updates to be achieved by simply "dropping" a new GLOBAL.EXE and "update file" into the current Global folder (e.g. by an end-user download or by a simple (file copying) installation process from a distribution CD).

Note that the facility to update the registry will only be supported by GLOBAL.EXE (or the equivalent Global Client service). The facility to update the registry will not be supported by GLSERVER.EXE (or the equivalent Global Server Service). The facility to update the registry will not be supported by SPEED*.EXE (or the equivalent Gateway Service).

2. Using REGEDIT to Perform the Update (NOT IMPLEMENTED)

One **possible** method to update the Global registry during the Global Client load process, is for GLOBAL.EXE to detect the presence of a standard *.reg file (e.g. globalupdates.reg) and to invoke REGEDIT.EXE to apply the upgrade. While this technique involves the least amount of effort it does assume a common .reg format for all versions of Windows. If the issue of different .reg format files for different versions of Windows is a problem then perhaps there could be a range of .reg files. For example:

Globalupdates_win98.reg	Use if running on Windows 98
Globalupdates_winnt.reg	Use if running on Windows NT
Globalupdates.reg	Use for all other versions of Windows

3. Updating Within GLOBAL.EXE

Instead of implementing the option of simply executing REGEDIT.EXE with a .reg file GLOBAL.EXE will have to parse the "update file" and apply the changes using the well-known Registry Access API calls. Although this option requires more effort, it is much more flexible than merely using REGEDIT.EXE to apply the changes.

Two update files will be recognised:

Glmachupdate.new	HKEY_LOCAL_MACHINE\Software*gsmkey*
Gluserupdate.new	HKEY_CURRENT_USER\Software*gsmkey*

where *gsmkey* is normally "global" but can be changed by the -g command line option.

When an update file has been used to amend the registry the Last Modification Date (LMD) of the file will be saved in the registry to prevent multiple updates from the same

file. The following registry settings will be used to hold the LMD of the most recent update file:

HKEY_LOCAL_MACHINE\Software*gsmkey*\LastUpdateFileTime
HKEY_CURRENT_USER\Software*gsmkey*\ LastUpdateFileTime

Important Note: At the time of writing the update file Gluserupdate.new is ignored and should be considered as reserved for future use.

3.1 Adding and Updating ValueNames

The update file will be a Windows text file. Each line should be in one of the following formats:

Key1\key2\....*keyN**ValueName=nnn*
Key1\key2\....*keyN**ValueName*="*string*"
Key1\key2\....*keyN**ValueName==nnn*
Key1\key2\....*keyN**ValueName*=="*string*"

For example, to add a new WinPrint printer, with a timeout of 10, and validation disabled:

Client\Printers\WinPrint\555\Name="new_printer"
Client\Printers\WinPrint\555\DisableValidation="On"
Client\Printers\WinPrint\555\+PrinterExecTimeout=10

If the new value starts with a " character the registry setting is assumed to be a REG_SZ setting. If the new value does **NOT** start with a " character the registry setting is assumed to be a REG_DWORD setting.

A single "=" character between the ValueName and the string or numeric value indicates the ValueName is only added, and the new value associated with it, if the ValueName does **not** already exist in the registry. If the ValueName already exists in the registry no action is taken. This provides a "do not update if already exists" option. A simple update using REGEDIT.EXE will not allow this selectivity.

Double "=" characters between the ValueName and the string or numeric value indicates the ValueName is added if necessary, and the new value **always** associated with it, even if the ValueName already exists in the registry. This provides an "always update" option.

3.2 Deleting Keys and ValueNames

It is also be possible to remove a ValueName:

Key1\key2\....*keyN**ValueNameX*=***REMOVEVALUE

It will also be possible to remove a Key (and all ValueNames underneath that key):

Key1\key2\....*keyX*=***REMOVEKEY

The results will be undefined if keyX is not a key or ValueNameX is not a ValueName.

Note that this option is potentially very dangerous as the following line will empty the Client section of the registry:

Client=***REMOVEKEY

3.3 Restrictions

The following restrictions will apply:

- It is not possible to add a "hanging" key (i.e. a key without any associated ValueNames). Actually this could be done by adding a Key/ValueName combination then removing the ValueName;
- It is not possible to add a ValueName without an associated value;
- It will not be possible to amend any part of the Windows registry outside the "Global" keys in the HKEY_LOCAL_MACHINE and HKEY_CURRENT_USER hives.

GLOBAL.EXE will not attempt to validate the update file(s) for supported keys and valuenames although such a validation process is possible now that the registry template, for the purposes of automatic GLMACH.TLT and GLUSET.TLT file-creation, is encoded within GLOBAL.EXE.

3.4 Disabling the Automatic Registry option

The absence of the Glmachupdate.new file will effectively disable the automatic registry update option. However, it is possible to avoid the search for the Gluserupdate.new file by setting the following registry setting to "Off":

HKEY_LOCAL_MACHINE\Software*gsmkey*\Client\AutomaticRegistryUpdate

The default setting is "On".

Note that the following entry in the Gluserupdate.new file will disable the automatic registry update option until the AutomaticRegistryUpdate registry setting is deleted, or set to "on":

Client\AutomaticRegistryUpdate=="Off"

If the following registry setting, **which is reserved for internal use only**, is enabled the normal file date/time checking is by-passed so that the registry is updated regardless of the Last Modification Date of the Glmachupdate.new file:

HKEY_LOCAL_MACHINE\Software*gsmkey*\Client\AutomaticRegistryUpdateAlways

The default setting is "Off".

3.5 Diagnostics

The following log file is **always** created when the automatic registry update option is enabled:

.\log\AutomaticRegistryUpdate.log

Please supply both .\log\AutomaticRegistryUpdate.log AND Glmachupdate.new when reporting problems with the automatic registry update option.

3.6 Registry Changes

The Automatic Registry Update processing within GLOBAL.EXE is performed very early on in the load process so that **most** of the changes to the registry that are automatically applied at the start of a GSM session are recognised immediately during that session. However, there are some exceptions to this rule:

- ..\Client\AutomaticRegistryUpdate
- ..\Client\AutomaticRegistryUpdateAlways
- ..\Client\BootDevice
- ..\Client\Diagnostics\DiagnosticDisplays
- ..\Client\Diagnostics\GlobalErrorLog
- All settings under ..\Client\Screens\GUI

Automatically applied changes to the above registry settings will only be recognised **after** GSM is unloaded ($BYE) and subsequently re-loaded.

3.7 Using GLREGED.EXE to examine the changes

Note that GLREGED.EXE does not automatically refresh its view of the registry, nor does it currently support a refresh option. Thus, any changes to the registry automatically applied by GLOBAL.EXE while GLREGED.EXE is running will only be detected by closing the GLREGED.EXE session and starting a new session.